

CHECKLIST OF THE
BIRDS
OF NEW ZEALAND,
NORFOLK AND MACQUARIE
ISLANDS, AND THE ROSS
DEPENDENCY, ANTARCTICA

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By the Checklist Committee
Ornithological Society of New Zealand
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D.G. Medway, R.L. Palma, R.P. Scofield,
A.J.D. Tennyson and T.H. Worthy

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It is to be hoped that we have now reached something like finality in the nomenclature of the birds of New Zealand, which has undergone many violent changes since the publication of my first edition in 1873.

A. Hamilton, 1909. *Hand-list of Birds Inhabiting New Zealand and those Birds from Other Countries that have been Observed in New Zealand as Occasional Visitors.*

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INTRODUCTION

The aim of this fourth checklist of New Zealand birds, like its predecessors, is to provide a compact guide to the nomenclature, taxonomy, classification, distribution (current, historical and fossil) and status of the birds of the New Zealand region. As with earlier editions, it was produced by a Checklist Committee of the Ornithological Society of New Zealand Inc. (OSNZ).

The three previous checklists and the respective Checklist Committee conveners were:

- *Checklist of New Zealand Birds*, 1953 (C.A. Fleming).
- *Annotated Checklist of the Birds of New Zealand*, 1970 (F.C. Kinsky).
- *Checklist of the Birds of New Zealand and the Ross Dependency, Antarctica*, 1990 (E.G. Turbott).

In 1980, a revision entitled “Amendments and Additions to the 1970 Annotated Checklist of the Birds of New Zealand” was published as a supplement to *Notornis*, volume 27 (F.C. Kinsky, Convener).

In preparing this new checklist the Committee has had in mind some guiding principles agreed at the outset. One was the need for a cautious approach. We agreed that the national checklist should develop steadily on what has gone before, without adopting novel sequences or taxonomic treatments that have not been presented, discussed and adopted in other publications. Stability of nomenclature is an important consideration, and in the interests of stability the New Zealand checklist should avoid proposing radical sequences and taxonomies, only to have them reversed in a subsequent edition.

The New Zealand avifauna is part of a larger Australasian avifauna, and a second principle was that wherever appropriate we should “harmonise” with Australia and be strongly guided by existing decisions in Australian taxonomic works. We have had the benefit of the following Australian works published since the last New Zealand checklist:

- Seven volumes of the series *Handbook of Australian, New Zealand and Antarctic Birds* (1990–2006), i.e. Marchant & Higgins (1990, 1993), Higgins & Davies (1996), Higgins (1999), Higgins *et al.* (2001, 2006), Higgins & Peter (2002).
- Two taxonomic lists of Australian birds (Christidis & Boles 1994, 2008).
- The first part (Columbidae to Coraciidae) of the avian volumes in the series *Zoological Catalogue of Australia* (Schodde & Mason 1997).
- A detailed “directory” of Australian passerines (Schodde & Mason 1999).

These Australian works do not always agree in their sequence or taxonomic treatment, so in attempting to follow Australian practice we sometimes had choice as to what seemed best for New Zealand. We have made our own decisions on taxonomy when dealing with the groups of birds endemic to New Zealand, or groups (like oceanic seabirds) where New Zealand has a larger fauna than Australia.

This checklist takes account of all the records approved by the Society’s Rare Birds Committee since the last checklist (Checklist Committee 1990) was in preparation. The text for the current checklist was finalised in November 2008. That was the general cut-off date for references although a few later ones have been included.

Contributors

In 2001, the OSNZ Council appointed the following Checklist Committee: B.J. Gill (Convener), B.D. Bell, G.K. Chambers, D.G. Medway, R.L. Palma, A.J.D. Tennyson and T.H. Worthy. In addition, R.P. Scofield was co-opted to the Committee in 2004.

The Committee agreed on style and content, and established a preliminary allocation of responsibility for the preparation of first drafts. The sections of the book, in the order in which they appear, were allocated as follows: Dinornithiformes and Casuariiformes – Worthy; Galliformes – Scofield and Worthy; Anseriformes and Podicipediformes – Worthy; Sphenisciformes, Procellariiformes, Phaethontiformes and Pelecaniformes – Tennyson; Ciconiiformes – Scofield; Accipitriformes, Falconiformes and Gruiformes – Worthy; Charadriiformes (waders) – Medway; Charadriiformes (gulls and terns) – Tennyson; Columbiformes – Worthy; Psittaciformes – Chambers; Cuculiformes – Gill; Strigiformes and Aegothelidae – Worthy; Apodidae, Coraciiformes and Passeriformes – Gill; Appendix 1 – Worthy and Tennyson; Appendix 2 – Scofield; Appendix 3 – Scofield and Chambers.

Ricardo Palma advised the committee on nomenclatorial and taxonomic matters. He edited and augmented the synonyms and their index, and collated the list of references at the end of the volume. Geoff Chambers, in addition to compiling Psittaciformes, was an advisor on molecular biology and species concepts.

Geographic Coverage

The present checklist covers the following areas (see maps on pages 497–500):

1. The main islands of New Zealand and the Chatham Islands.
2. The Kermadec Islands north-east of New Zealand.
3. The subantarctic islands south of New Zealand, namely Snares Islands/Tini Heke, the Bounty, Antipodes and Auckland Islands, and Campbell Island/Motu Ihupuku. Areas 1–3 are New Zealand territory.
4. Subantarctic Macquarie Island, which although Australian territory is part of the New Zealand biogeographic subregion.
5. The Ross Dependency, i.e. the New Zealand sector of Antarctica, due south of New Zealand. Areas 1–5 were covered in the 1990 Checklist (Checklist Committee 1990).
6. Norfolk Island north-west of New Zealand. Although Australian territory, this, like Macquarie Island, is biogeographically part of the New Zealand subregion. (Lord Howe Island has less close biogeographic links to New Zealand and is excluded.) The inclusion of Norfolk Island in this checklist is a departure from past practice.

New Zealand place names in the main text have, where possible, been updated to conform to the New Zealand Place Names Database and the New Zealand Gazetteer of Official Geographic Names. Place names in synonymies have not been updated, as these report historical records.

Format and Treatment

We have retained a similar format and style to that of the 1990 Checklist, which in turn followed that of Condon's *Checklist of the Birds of Australia* (Condon 1975). In

this edition, however, the species or subspecies have not been numbered in sequence, as in previous New Zealand checklists, because such numbers have proved of little use. Instead each species is marked by an arrowhead (▸). Extinct forms known only as fossils from before the Late Pleistocene have been removed to Appendix 1. Extinct forms in the Recent avifauna are included in the main text, where a cross (†) marks extinct species, subspecies and their higher taxa. Similarly, introduced species in our region, and higher and lower taxa represented by introduced species, are marked by an asterisk (*).

The Suspense List of the 1990 Checklist (Appendix, p. 231) has not been repeated. Readers should consult the earlier edition for species doubtfully recorded in New Zealand, and associated literature references, if they are not covered in the present checklist. Appendix 2 lists failed introductions, including species introduced in the 1800s during the acclimatisation era, and recent introductions like red-vented bulbul and rainbow lorikeet that for various reasons have not established.

Classification

Currently, bird classification is a fast-changing field, spurred on by advances in the use of molecular biology and cladistics to help resolve taxonomic and phylogenetic problems. There have been major developments affecting the classification and taxonomy of New Zealand birds since the 1990 Checklist. Each compiler has been responsible for reviewing the latest literature, weighing the evidence, and proposing a satisfactory arrangement of New Zealand species for the present list.

In general we have tried to adopt a cautious approach, accepting higher-level relationships determined by molecular studies only when there is support from other evidence and/or several studies. Because it is a time of change and uncertainty we have explained the sequences we have adopted, and the reasons for them, by adding sections of explanatory text at various taxonomic levels.

The 1990 Checklist was produced at the end of a long period when it had seemed justified to tend towards the “lumping” of taxa. That trend has now reversed, and the current climate in bird taxonomy tends to favour “splitting”. The molecular biology revolution, with its ability to establish ever-finer differences, and pressure for the conservation of genetic diversity, are forcing the recognition of more and more species, often by the elevation of subspecific taxa to specific level.

Taxa are arranged in the present list in a particular phylogenetic sequence if there is support for this. This is especially the case for higher taxa. Species within a genus, and subspecies of a species, are listed from north to south (according to their distribution) if there is no strong evidence for a phylogenetic sequence, with Chatham Islands and subantarctic taxa placed after South and Stewart Island/Rakiura taxa.

Species Concepts

How best to define species boundaries in birds is a highly contentious issue of long-standing. The debate boils down to finding the best and most practical way to impose a discontinuous classification scheme on generally uncooperative subjects and providing a sound theoretical basis for doing so (Hull 1997). For most of the latter part of the 20th Century the dominant paradigm has been Ernst Mayr’s Biological Species Concept (BSC) and his associated model of allopatric speciation (Mayr 1940, 1996). This concept has not stood the test of time and fails badly for birds, due to the existence of multiple

allopatric populations of many taxa and widespread interspecific and even intergeneric hybridisation (Grant & Grant 1992, 1997).

The vacuum left by the retreat of the BSC has been filled with several competing alternatives, none of which is entirely satisfactory (Mayden 1997). Among these contenders, Cracraft's (1983) Phylogenetic Species Concept (PSC) has found increasing favour among modern biologists, because it embraces cladistic methods of classification and accommodates molecular data. However, this concept has its difficult aspects too. In particular, it is recognised that *in extremis* each individual would become a species in its own right since each individual possesses unique genetic characters. This drawback is recognised as leading to "taxonomic inflation" (Issac *et al.* 2004).

The Committee has followed the advice of Baum & Donoghue (1995) by recognising that several alternative versions of the PSC are available, and selecting a restricted definition popularly known as the Diagnostic Species Concept (DSC or PSC₁). In this, we follow the example set by Helbig *et al.* (2002) for recognition of bird species in Britain and Europe. We have, however, rejected their use of the subordinate concepts "allospecies", "semi-species" and "superspecies" for a variety of technical reasons.

Nonetheless, we have continued to recognise "subspecies". The best definition of recognisable taxa below specific level is perhaps even more difficult for ornithologists to agree upon than the definition of species themselves. Here we have taken a conservative approach. Subspecies recognised in the 1990 Checklist have been retained unless good evidence to the contrary has been published in the intervening period. This ensures continuity of nomenclature between editions of the checklist. Where species or subspecies have been recognised in the present edition, but not in previous editions, it is generally expected that the latter will meet the 75% diagnosability criterion of Patten & Unitt (2002).

All such decisions and recommendations originate from the compilers of the individual sections of the present checklist and are supported by published sources in widely available literature. We also state the nature of the new evidence (plumage characters, DNA sequences etc.) that supports their inclusion. All such decisions have been reviewed by consultation with the Committee as a whole, whose members accept collective responsibility for them.

Scientific Names

Original citations are given for the current names of all families, genera, species and subspecies. In the generic synonymies, synonyms are mainly limited to those genera for which the type species occurs in the New Zealand region and to those which have been published in association with New Zealand species or subspecies, regardless of the present status of the latter. In the species and subspecies synonymies, we have attempted to provide full synonymies for endemic and native taxa. However, for introduced species and subspecies, we have listed those names and combinations that have been published for the geographic coverage of this checklist. In the species and subspecies synonymies, we have attempted to include at least one example of each of the different generic combinations available in the literature, but not always the earliest one. *Nomina nuda* (singular: *nomen nudum*) are not available names in zoological nomenclature (ICZN 1999: 111) and, therefore, cannot be entered in synonymy. However, we have listed those *nomina nuda* that were subsequently made available by the same or other

author/s when evidence from the literature showed that they were clearly intended for the same taxon.

In the generic, species and subspecies synonymies, scientific names (i.e. genus, species, subspecies, author and date) are followed by a colon (:) if the entries refer to original descriptions of taxa. In the species and subspecies synonymies, scientific names are followed by a semicolon (;) if they refer to subsequent uses of the species and subspecies names in association with other genera, or in cases of unjustified emendations. Important general references for the synonymies of New Zealand birds are the *Catalogue of the Birds in the British Museum* (Sharpe *et al.* 1874–98), *Check-list of Birds of the World* (Peters 1931–87), Condon’s checklist of Australian non-passerines (Condon 1975), and *Systema Avium Australasianarum* (Mathews 1927, 1930).

Various nomenclatural issues were identified that affect names and synonyms of New Zealand birds, including the following:

- The validity of the names of Brisson (1760) was restricted to those generic names that appeared in Latin on the even-numbered pages between pages 26 and 61 of the *Tabula Synoptica Avium Secundum Ordines* that appeared at the beginning of volume 1 (ICZN 1963).
- Over 35 scientific names of New Zealand bird species cited in Taylor (1870) were not included in the synonymies of the species treated in this checklist because they were either incorrectly spelt or not recognisable as belonging to any of the currently accepted taxa.
- David & Gosse (2002a,b) advocated changing the endings of numerous bird names, including several New Zealand ones, on supposed grammatical grounds. Their approach was criticised by the Standing Committee on Ornithological Nomenclature of the 23rd International Ornithological Congress (Schodde 2006), so for the present we have not followed it.
- Schodde & Mason (1999) gave reasons why the publication date of Latham’s *Supplementum Indicis Ornithologici* is 1802 instead of 1801, and we have used 1802. However, Schodde *et al.* (2007) have now given a long argument in favour of 1801 and are seeking a ruling from the ICZN to fix that date.
- We have attempted to give authorship and original citations for family-group names. The main reference sources, other than the original literature, have been Ridgway (1901, 1902, 1904, 1907, 1911, 1914, 1916, 1919), Friedmann (1941, 1946, 1950), Brodkorb (1963, 1964, 1967, 1971, 1978), Bock (1994) and Olson (1995). We heeded the criticisms by Olson (1995) of certain names advanced by Bock (1994) and checked all original literature to ensure names had a valid origin in terms of ICZN (1999).
- Olson (1995) pointed out that “Some authors have accepted names based on Illiger (1811), an important and scholarly publication that Bock [1994] categorically rejects, not without some justification. On the other hand, Bock takes many family-group names as dating from the excessively recondite and eccentric work of Rafinesque (1815). There is no rational basis for accepting any of Rafinesque’s names while rejecting all of Illiger’s, however, as the nomenclatural problems attendant on both works are virtually identical.” We have concluded that in Illiger (1811) the names Psittacidae (from Illiger’s “famille Psittacini”) and Columbidae (from “famille

Columbini”) are available, as the names appear to be “formed from the stem of an available generic name (... indicated either by express reference to the generic name or by inference from its stem ...)” (ICZN 1999: Article 11.7.1.1). For the same reason we also concluded that in Rafinesque (1815) the following names are available: Merginae (from Rafinesque’s “sous-famille Mergidia”), Pelecanidae (from “sous-famille Pelicanaea”), Rallidae (from “sous-famille Rallia”), Scolopacidae (from “famille Scolopacea”), Tringinae (from “sous-famille Tringaria”), Laridae/Larinae (from “sous-famille Laridia”), Coraciidae (from “sous-famille Coracina”), Turdidae (from “sous-famille Turdina”), Sturnidae (from “sous-famille Sturnidia”), Hirundinidae (from “sous-famille Hirundia”) and Passeridae (from “sous-famille Passernia”).

- We followed Bock (1994) and Olson (1995) in accepting Leach (1820) as author of many family-group names but amend some, at the suggestion of Olson (1995), to allow some names to be attributed to Leach (1819). Through the help of Robert Prŷs-Jones (the Natural History Museum, Tring) we were able to confirm that it was indeed the 1819 15th edition of Leach’s “11th Room-Synopsis” that first contained latinised family names.
- We found Vigors (1825) to be the first comprehensive list in Linnaean format that was an important source of new names and also indicated authorities for previously advanced ones. By checking original references wherever possible, we found and corrected several long-standing transcription errors and incorrect citations of authorship.

Common Names

For common names we have generally used those that are best-known or most widely used by New Zealanders. In some cases we have had to compromise between a desire to maintain stability in New Zealand common names as far as possible, and an attempt to use names widely accepted internationally, especially for the non-endemic species in this list. It is a difficult task and we are well aware that compromises never please everyone.

In every case we give just one common name in the species or subspecies heading so as to express a clear preference. This should help people making lists of bird records, and is one of the major uses of an “official” checklist. Alternative names may be mentioned in the text, but it is beyond the scope of this checklist to be a comprehensive directory of alternative, competing and regional common names. Māori names of native birds are given in Appendix 3.

Number of Species

The present checklist enumerates 435 species (Table 1), compared with 379 species in the 1990 Checklist. The increase in the present edition reflects changes in taxonomy (“splitting”), records of further species in New Zealand (such as new vagrants), and the inclusion of Norfolk Island. The removal of pre-Pleistocene extinctions from the main text has worked in the opposite direction. The 1970 Checklist gave 282 species, and the 1953 Checklist 254 species, but neither included the Recent extinct birds (such as moas) that are known only from fossils.

Table 1. Number of taxa represented in the main list (excluding any appendices) of this, and previous, New Zealand checklists.

CHECKLIST	SPECIES	SPECIES OR SUBSPECIES	SCOPE
1953	254	333	NZ and Macquarie I.; birds extant in historical times
1970	282	363	As for 1953 plus Ross Dependency
1990	379	448	As for 1970 plus all extinct species
present	435	491	As for 1970 plus Norfolk Island and post-Pleistocene extinct species

Fossil Distributions

The fossil record of birds in New Zealand can be considered in two sections. By far the majority of fossil remains of birds derive from during the Late Pleistocene epoch (0.05–0.01 Ma, i.e. 50,000–10,000 years ago) and Holocene epoch (0.01–0 Ma, i.e. 10,000 years ago to the present day). No avian taxa are known to have become extinct in the Late Pleistocene, therefore the Recent fauna comprises the Holocene fossil species and historically known species. The Holocene extinctions were all human-induced. Knowledge of the Early to Late Pleistocene fauna is limited (Worthy *et al.* 1991, Worthy 1997a, Gill *et al.* 2005) and such records are included in the main text. Fossils older than the Late Pleistocene (Appendix 1) are identified to age and strata if known, and the species based on them (e.g. various penguins; birds of the St Bathans Fauna described by Worthy *et al.* 2007) should be excluded from analyses of the Recent fauna.

In the species texts, statements on Late Pleistocene and Holocene fossil distributions are based mainly on the data presented in the faunal reviews of, for example, Millener (1990, 1991), Meredith (1991) and Holdaway *et al.* (2001), and compilations by area as follows:

- North Island – Yaldwyn (1956), Horn (1983), Worthy (2000, 2004), Worthy & Holdaway (2000), Worthy, Holdaway *et al.* (2002), Worthy & Swabey (2002).
- South Island, north-west Nelson – Worthy & Mildenhall (1989), Worthy (1993a, 1997b, 2001), Worthy & Holdaway (1994), Worthy & Roscoe (2003).
- South Island, West Coast – Worthy & Holdaway (1993), Worthy, Miskelly *et al.* (2002).
- South Island, Canterbury and Marlborough – Worthy (1993b, 1997d, 1998d), Worthy & Holdaway (1995, 1996), Holdaway & Worthy (1997).
- South Island, Otago and Southland – Worthy (1998a,b), Worthy & Grant-Mackie (2003).
- Stewart Island/Rakiura – Worthy (1998c,e).
- Chatham Islands – Tennyson & Millener (1994), Millener (1999).
- Norfolk Island – Holdaway & Anderson (2001).

Some distribution data is from treatments of specific taxa in the following: Millener (1981b), Worthy (1990, 1995, 1996, 2002a,b), Worthy *et al.* (1991), Holdaway & Worthy (1993), Worthy & Brassey (2000), Trewick & Worthy (2001), Worthy & Gill (2002). Distributions in archaeological sites are based on data in Worthy (1998c,d, 1999b) and references therein.

Feather Lice: a Note by R.L. Palma

Bird lice, also called feather lice (Insecta: Phthiraptera), are wingless, flat-bodied insects permanently parasitic on warm-blooded vertebrates. Most species of birds have lice in their plumage, where they shelter, feed, reproduce and die. The geographical distribution of lice is, with some exceptions, that of their hosts. Bird lice have developed morphological, behavioural and physiological adaptations to survive on their hosts. Similarly, because lice are detrimental to host health and fitness, hosts have developed adaptations to control their lice populations. This reciprocal natural selection pressure has led to the co-evolution of hosts and lice (Johnson & Clayton 2003). Thus, the phylogenetic relations of lice often parallel those of their hosts and may help both to elucidate the relationships of the latter and to distinguish closely related host taxa, which are otherwise poorly defined.

A total of 310 identified species and subspecies of feather lice—belonging to 83 genera and subgenera in four families—have been recorded from birds in the New Zealand region and the Ross Sea area of Antarctica as defined in this checklist (including Norfolk Island). Pilgrim & Palma (1982) published the first comprehensive checklist of lice known from New Zealand birds, which was updated by Palma (1999). Since that publication, a further seven new species have been described and named (see Palma & Price 2000, 2004, 2005; Palma & Pilgrim 2002; Banks & Palma 2003; Mey 2004). That total represents about 8% of all the species known from birds in the world (Price *et al.* 2003: 3).

Levels of endemism are generally low compared with other insect groups in New Zealand: only 29 louse species (9.5%) are endemic to the region, while at higher taxonomic levels the degree of endemism is even lower, with one endemic genus and two endemic subgenera representing 4% of the total, and none at the family level. As many as 54 species and subspecies (18%) of feather lice were introduced into the region together with their hosts by human agency.

The total New Zealand bird louse fauna is much greater than the figures given above. A large number of species are expected to be recorded from a considerable number of breeding and vagrant birds (mainly among the Charadriiformes and Passeriformes), which have not yet been sufficiently searched for lice in the New Zealand region. For breeding species without louse records in the region see Palma (1999: 385).

Lice are a useful tool to aid the identification of seabirds that are found dead on New Zealand beaches every year, especially in the case of immature specimens (Melville 1985) or when the bird remains are in such poor condition that they lack diagnostic features to allow proper identification. Kiwi lice are also an extremely reliable tool to identify their hosts, and not only the species but also their geographical provenance (Palma 1991, Palma & Price 2004). Suggestions for collecting bird lice are given in Pilgrim & Palma (1982: 32).

General References

The previous New Zealand checklists (see second paragraph of this Introduction) are cited in the main text as Checklist Committee (1953, 1970, 1990). Two important general works underpinning entries in the present checklist are the OSNZ's atlases of bird distribution (Bull *et al.* 1985; Robertson, C. *et al.* 2007). For taxonomic matters, we have benefited from the discussion in a recent annotated "working list" of New Zealand breeding birds (Holdaway *et al.* 2001).

The species texts have drawn on the following recent reviews for information on the birds of certain island groups:

- Kermadec Islands – Veitch *et al.* (2004).
- Chatham Islands – Holdaway (1994b), Aikman & Miskelly (2004), Miskelly *et al.* (2006).
- Snares Islands/Tini Heke – Miskelly *et al.* (2001a,b).
- Antipodes Islands – Tennyson *et al.* (2002).
- Norfolk Island – Schodde *et al.* (1983), Moore (1999).

This checklist deals primarily with classification, nomenclature and status. For information on the biology and life history of New Zealand birds and associated literature, readers should consult the multi-volume series *Handbook of Australian, New Zealand and Antarctic Birds* (1990–2006). General biology references to New Zealand species are given in the 1990 Checklist and also in Heather & Robertson (1996).

Symbols and Abbreviations

* Indicates a species (or other taxon) introduced to the New Zealand region

† Indicates an extinct taxon

a.s.l., above sea level

AIM, Auckland War Memorial Museum

BMNH, Natural History Museum (bird section), Tring, United Kingdom

CM, Canterbury Museum, Christchurch

NMNZ, Museum of New Zealand Te Papa Tongarewa, Wellington

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Brian Gill

Convener, OSNZ Checklist Committee

Auckland, November 2008

Class AVES: Birds

Subclass PALAEOGNATHAE: Palaeognathous Birds

Parvclass RATITAE: Ratites

Cracraft (1974) proposed a monophyletic origin for the entire ratite-tinamou assemblage and united them within the single order Palaeognathiformes. Houde & Olson (1981), Olson (1985b) and Houde (1986, 1988) provided compelling evidence that at least some palaeognathous birds (perhaps including ostriches, moa and kiwi) may have arisen independently (polyphyletically), by neotony, from neognathous ancestors and are, thus, secondarily palaeognathous. Recent research, summarised by Knox *et al.* (2002) and Cracraft *et al.* (2004), is virtually unanimous that palaeognaths are monophyletic, that Palaeognathae is the sister taxon to Neognathae, and that Ratitae and Tinamiformes are sister taxa within the former. Therefore, it seems prudent to revert to the more traditional arrangement (e.g. Archey 1941, Brodkorb 1963, Checklist Committee 1970) of placing the moa, and other large ratites, in separate orders. Kiwi have repeatedly and convincingly been demonstrated by molecular work (Cooper *et al.* 1992, 2001; Cooper 1997; Haddrath & Baker 2001) and morphology (Bledsoe 1988) to be the sister taxon of cassowaries and emus, so are included in Casuariiformes. For dissenting opinion see Lee *et al.* (1997).

Order †DINORNITHIFORMES: Moa

Detailed diagnoses and histories of nomenclature for all moa taxa are given in Worthy & Holdaway (2002). Bruce & McAllan (1990) showed that for several taxa the original publication of the name occurred in either *The Athenaeum* or in *The Literary Gazette*. However these were often *nomina nuda* as detailed in the synonymies listed below. If the name appeared in both publications on the same day, Bruce & McAllan (1990) acted as first revisers and selected one as the original publication for that name. Moa are listed here as in Checklist Committee (1990) with two major taxonomic amendments. Firstly, analysis of mitochondrial genomic data and the ability to sex moa bones from genomic material, led Bunce *et al.* (2003) to recognise *Dinornis novaeseelandiae* in the North Island and *D. robustus* in the South Island, each characterised by marked sexual size dimorphism. Recent analysis of morphological geographical variation within *Dinornis* supports the concept of a single highly dimorphic species on each island whose average size varies with habitat, so explaining the size variation previously attributed to three taxa (Worthy *et al.* 2005). Secondly, the recent referral of *Palapteryx geranoides* Owen to *Pachyornis* by Worthy (2005b) has resulted in *Pachyornis mappini* being synonymised under *Pachyornis geranoides*, thus necessitating that moa records previously referred to *Euryapteryx geranoides* become *Euryapteryx gravis*.

Family †EMEIDAE Bonaparte: Emeid Moa

Emeinae Bonaparte, 1854: *Ann. Sci. Nat., Zool., Paris, 4th Series. 1*: 152 – Type genus *Emeus* Reichenbach, 1853.

Subfamily †ANOMALOPTERYGINAE Archey: Anomalopterygine Moa

Anomalopteryginae Archey, 1941: *Bull. Auck. Inst. Museum 1*: 11, 77 – Type genus *Anomalopteryx* Reichenbach, 1853.

Genus †*Anomalopteryx* Reichenbach

Anomalopteryx Reichenbach, 1853: *Handb. Spec. Ornith.* 3: xxx – Type species (by monotypy)

Dinornis didiformis Owen = *Anomalopteryx didiformis* (Owen).

Graya Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43(18): 841 – Type species (by subsequent designation) *Dinornis dromaeoides* Owen = *Anomalopteryx didiformis* (Owen).

Anomalornis Hutton, 1897: *Trans. N.Z. Inst.* 29: 543. Unnecessary *nomen novum* for *Anomalopteryx* Reichenbach, 1897.

▶ †*Anomalopteryx didiformis* (Owen)

Little Bush Moa

Dinornis didiformis Owen, 1843: *The Literary Gazette* 1402: 778. *Nomen nudum*.

Dinornis didiformis Owen, 1844 (March): *Proc. Zool. Soc. London* 1843 (11): 144. *Nomen nudum*.

Dinornis dromaeoides Owen, 1844 (March): *Proc. Zool. Soc. London* 1843 (11): 145. *Nomen nudum*.

Dinornis didiformis Owen, 1844 (June): *Trans. Zool. Soc. London* 3(3): 242 – Poverty Bay.

Dinornis dromaeoides Owen, 1844 (June): *Trans. Zool. Soc. London* 3(3): 253 – Poverty Bay.

Dinornis dromioides Owen, 1846: *Proc. Zool. Soc. London* 1846 (14): 46. Unjustified emendation.

Dinornis (*Palapteryx*) *dromioides* Owen, 1846: *Proc. Zool. Soc. London* 1846 (14): 47. Unjustified emendation.

Dinornis parvus Owen, 1883: *Trans. Zool. Soc. London* 11(8): 233 – Pokororo, Nelson.

Dinornis oweni Haast, 1886: *Trans. Zool. Soc. London* 12(5): 171 – Whangarei.

Anomalopteryx dromaeoides (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 266.

Anomalopteryx didiformis (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 275.

Anomalopteryx parva (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 278.

Anomalopteryx antiquus Hutton, 1892: *Trans. N.Z. Inst.* 24: 124 – Timaru.

Anomalopteryx fortis Hutton, 1893: *Trans. N.Z. Inst.* 25: 9 – Glenmark.

Anomalopteryx antiqua Hutton, 1893: *Trans. N.Z. Inst.* 25: 14. Unjustified emendation.

Anomalornis gracilis Hutton, 1897: *Trans. N.Z. Inst.* 29: 546, pl. 47, fig. A – Opito, near Mercury Bay, Coromandel. Junior secondary homonym of *Dinornis gracilis* Owen, 1854.

Anomalornis didiformis (Owen); Hutton 1897, *Trans. N.Z. Inst.* 29: 547.

Anomalornis owenii (Haast); Hutton 1897, *Trans. N.Z. Inst.* 29: 549. Unjustified emendation.

Anomalopteryx parvus (Owen); Oliver 1930, *New Zealand Birds*, 1st edition: 45.

Pachyornis owenii (Haast); Archey 1941, *Bull. Auck. Inst. Museum* 1: 44. Unjustified emendation.

Fossil in Late Pleistocene and Holocene sites and in middens. North Island, South Island. Widespread in areas formerly with closed-canopy forests (particularly in cave deposits); rare in Canterbury, Otago and North Island coastal dunes. Stewart Island/Rakiura: middens only, but rare.

Genus †*Megalapteryx* Haast

Megalapteryx Haast, 1886: *Trans. Zool. Soc. London* 12(5): 161 – Type species (by monotypy)

Megalapteryx hectori Haast = *Megalapteryx didinus* (Owen).

Palaeocasuaris Rothschild, 1907: *Extinct Birds*: 219 – Type species (by original designation)

Palaeocasuaris haasti Rothschild = *Megalapteryx didinus* (Owen).

▶ †*Megalapteryx didinus* (Owen)

Upland Moa

Dinornis didinus Owen, 1882 (October): *Proc. Zool. Soc. London* 1882 (36): 549. *Nomen nudum*.

Dinornis didinus Owen, 1883: *Trans. Zool. Soc. London* 11(8): 257 – Queenstown.

Megalapteryx hectori Haast, 1884: *Trans. N.Z. Inst.* 16: 577. *Nomen nudum*.

Megalapteryx hectori Haast, 1886: *Proc. Zool. Soc. London* 1885 (35): 541. *Nomen nudum*.

- Megalapteryx hectori* Haast, 1886: *Trans. Zool. Soc. London* 12(5): 162 – Takaka, Nelson.
Megalapteryx tenuipes Lydekker, 1891: *Cat. Fossil Birds Brit. Museum*: 251 – Lake Wakatipu.
Anomalopteryx didina (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 277.
Megalapteryx tenuipes Lydekker; Andrews 1897, *Novit. Zool.* 4: 188.
Megalapteryx hamiltoni Rothschild, 1907: *Extinct Birds*: 197 – “Waingongoro, North Island”, error (*vide* Oliver 1949, *Dom. Mus. Bull.* 15: 151).
Palaeocasuaris haasti Rothschild, 1907: *Extinct Birds*: 220 – Maniototo, Otago.
Palaeocasuaris velox Rothschild, 1907: *Extinct Birds*: 220 – Maniototo, Otago.
Palaeocasuaris elegans Rothschild, 1907: *Extinct Birds*: 220 – Maniototo, Otago.
Megalapteryx didimus (Owen); Oliver 1930, *New Zealand Birds*, 1st edition: 42.
Megalapteryx benhami Archey, 1941: *Bull. Auck. Inst. Museum* 1: 35 – Mt Arthur [Salisbury] Tableland, Nelson.

Fossil in Late Pleistocene and Holocene sites and in middens. South Island only; the type locality for *Megalapteryx hamiltoni* must be an error (Oliver 1949). Common in subalpine zones throughout, especially north-west Nelson, Fiordland, and Otago, where fossil sites are available; rare in eastern and lowland areas (Worthy 1988b, 1989a).

Genus †*Pachyornis* Lydekker

- Pachyornis* Lydekker, 1891: *Cat. Fossil Birds Brit. Museum*: 316 – Type species (by original designation) *Dinornis elephantopus* Owen = *Pachyornis elephantopus* (Owen).

The holotype cranium of *Palapteryx geranoides* Owen has until recently been regarded as belonging to *Euryapteryx*. Thus, it was treated as the holotype for the larger of the two species placed in that genus (e.g. Worthy & Holdaway 2002). However, recent reassessment of the holotype of *Palapteryx geranoides* reveals it to be a *Pachyornis* and, therefore, *Pachyornis geranoides* (Owen) becomes a senior synonym of *Pachyornis mappini* Archey (Worthy 2005b). Therefore, all North Island records of *Pachyornis* now must become *Pachyornis geranoides* (Owen) and following from this decision, the larger *Euryapteryx* taxon reverts to *Euryapteryx gravis*.

▶ †*Pachyornis geranoides* (Owen)

Mantell's Moa

- Palapteryx geranoides* Owen, 1848 [April 13]: *Proc. Zool. Soc. London 1848* (16): 1, 7. *Nomen nudum*.
Palapteryx geranoides Owen, 1848 [April 22]: *Trans. Zool. Soc. London* 3(5): 346. *Nomen nudum*.
Palapteryx geranoides Owen, 1848 [April 22]: *Trans. Zool. Soc. London* 3(5): 361, pl. 54, figs 1–3 – Waingongoro, North Island.
Dinornis geranoides (Owen); Owen 1866, *Trans. Zool. Soc. London* 5(5): 395, 402, pl. 65, figs 5, 6; pl. 67, figs 5, 6.
Dinornis curtus; Owen 1871, *Trans. Zool. Soc. London* 7(5): pl. 44, figs 7–10. Not *Dinornis curtus* Owen, 1846.
Anomalopteryx(?) geranoides (? Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 288.
Anomalopteryx curta (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 281. In part. Unjustified emendation.
Cela geranoides (Owen); Hutton 1891, *New Zealand Journ. Sci.* (n. ser.) 1: 248. In part.
Pachyornis pygmaeus; Hutton 1895, *Trans. N.Z. Inst.* 27: 174, pl. 9. Not *Euryapteryx pygmaeus* Hutton, 1891.
Dinornis expunctus Archey, 1927: *Trans. N.Z. Inst.* 58: 152. Unnecessary *nomen novum* for *Palapteryx geranoides* Owen, 1848.
Emeus exilis (Hutton); Oliver 1930, *New Zealand Birds*, 1st edition: 49. In part.
Pachyornis mappini Archey, 1941: *Bull. Auck. Inst. Museum* 1: 41, pls 4–5, 7, 9–12, 15 – Mangaotaki.

Pachyornis (Mauiornis) septentrionalis Oliver, 1949: *Dom. Mus. Bull.* 15: 61, figs 29–37 – Te Pohue, Hawke’s Bay.

Pachyornis (Mauiornis) mappini (Archey); Oliver 1949, *Dom. Mus. Bull.* 15: 65, figs 35, 37–40.

Pachyornis septentrionalis Oliver; Brodkorb 1963, *Bull. Florida State Museum (Biol. Sci.)* 7(4): 211.

Pachyornis geranoides (Owen); Worthy 2005, *Tubinga* 16: 40.

Fossil in Late Pleistocene and Holocene sites and in middens. North Island only. Considerably larger in Pleistocene than in Holocene, and sexually dimorphic with females larger (Worthy 1987, Huynen *et al.* 2003). The “skeleton” type of *Dinornis oweni* Haast includes a skull (the type) that belongs to *Anomalopteryx*, and its post-cranials; however, the latter are small bones belonging to *Pachyornis geranoides* (Millener 1982). A full history of the taxon is given in Worthy (2005b). Also called Mappin’s moa.

▶ †*Pachyornis elephantopus* (Owen)

Heavy-footed Moa

Dinornis elephantopus Owen, 1856 (12 April): *The Athenaeum* 1485: 462 – Awamoia.

Dinornis elephantopus var. *major* Hutton, 1875: *Trans. N.Z. Inst.* 7: 276, table A – Hamilton Swamp, Otago.

Dinornis queenslandiae De Vis, 1884: *Proc. Roy. Soc. Queensland* 1: 23 – King’s Creek, Queensland, Australia, error for New Zealand midden (*vide* Scarlett 1969, *Mem. Queensland Mus.* 15(3): 211).

Pachyornis elephantopus (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 321.

Pachyornis immanis Lydekker, 1891: *Cat. Fossil Birds Brit. Museum*: 343 – South Island.

Euryapteryx ponderosus Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 249 – Hamilton Swamp, Otago.

Euryapteryx elephantopus (Owen); Hutton 1892, *Trans. N.Z. Inst.* 24: 135.

Pachyornis rothschildi Lydekker, 1892: *Proc. Zool. Soc. London 1891* (33): 481, pl. 38 – New Zealand.

Pachyornis inhabilis Hutton, 1893: *Trans. N.Z. Inst.* 25: 11 – ?Canterbury.

Pachyornis valgus Hutton, 1893: *Trans. N.Z. Inst.* 25: 12 – Enfield, Canterbury.

Euryapteryx crassa; Benham 1910, *Trans. N.Z. Inst.* 42: 354. Not *Dinornis crassus* Owen, 1846.

Euryapteryx immanis (Lydekker); Lambrecht 1933, *Handb. Palaeornithologie*: 150.

Pachyornis murihiku Oliver, 1949: *Dom. Mus. Bull.* 15: 67 – Greenhills dunes, Southland.

Pachyornis queenslandiae (De Vis); Oliver 1949, *Dom. Mus. Bull.* 15: 80.

Dromiceius queenslandiae (De Vis); Miller, A.H. 1963, *Rec. South Austr. Museum* 14(3): 417.

In fossil sites and middens (Benham 1910 [not *Euryapteryx*], Worthy 1998c): Late Pleistocene and Holocene. South Island, Stewart Island/Rakiura. There are no North Island records for this species (Worthy & Holdaway 2002, and references therein; *contra* Scarlett 1968, Millener 1981a).

▶ †*Pachyornis australis* Oliver

Crested Moa

Mesopteryx sp. β Parker, 1895: *Trans. Zool. Soc. London* 13(11): 378.

Pachyornis australis Oliver, 1949: *Dom. Mus. Bull.* 15: 70 – Salisbury Tableland, Nelson.

Pachyornis elephantopus; Cracraft 1976, *Smithsonian Contrib. Paleobiology* 27: 196. Not *Dinornis elephantopus* Owen, 1856.

Fossil from Late Pleistocene and Holocene sites. South Island only (Worthy 1989a,b). Subalpine areas mainly, but also Southland dunes. As yet, recognised from few sites; not yet verified from midden sites.

Subfamily †EMEINAE Bonaparte: Blunt-billed Moa

Emeinae Bonaparte, 1854: *Ann. Sci. Nat., Zool., Paris, 4th Series. 1*: 152 – Type genus *Emeus* Reichenbach, 1853.

Genus †*Emeus* Reichenbach

Emeus Reichenbach, 1853: *Handb. Spec. Ornith. 3*: xxx – Type species (by monotypy) *Dinornis crassus* Owen.

Syornis Reichenbach, 1853: *Handb. Spec. Ornith. 3*: xxx – Type species (by monotypy) *Dinornis casuarinus* Owen = *Emeus crassus* (Owen).

Meionornis Haast, 1874: *Trans. N.Z. Inst. 6*: 426 – Type species (by subsequent designation) *Dinornis casuarinus* Owen = *Emeus crassus* (Owen).

Mesopteryx Hutton, 1891: *New Zealand Journ. Sci. (n. ser.) 1*(6): 248 – Type species (by monotypy) *Dinornis huttoni* Owen = *Emeus crassus* (Owen).

†*Emeus crassus* (Owen)

Eastern Moa

Dinornis crassus Owen, 1846: *Proc. Zool. Soc. London 1846* (14): 46 – Waikouaiti, Otago.

Dinornis casuarinus Owen, 1846: *Proc. Zool. Soc. London 1846* (14): 47 – Waikouaiti, Otago.

Emeus crassus (Owen); Reichenbach 1850, *Avium Syst. Nat.*: 30.

Syornis casuarinus (Owen); Reichenbach 1850, *Avium Syst. Nat.*: 30.

Dinornis rheides Owen, 1870: *Trans. Zool. Soc. London 7*(2): 132 – Awamoa, Otago.

Dinornis huttoni Owen, 1879: *Extinct Wingless Birds New Zealand*: 430 – Hamilton Swamp, Otago.

Anomalopteryx casuarina (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 257.

Syornis crassus (Owen); Hutton 1891, *New Zealand Journ. Sci. (n. ser.) 1*(6): 249.

Mesopteryx didinus; Hutton 1892, *Trans. N.Z. Inst. 24*: 129. In part.

Mesopteryx didina; Hutton 1893, *Trans. N.Z. Inst. 25*: 13. Not *Dinornis didinus* Owen, 1883.

Mesopteryx casuarina (Owen); Parker 1895, *Trans. Zool. Soc. London 13*(11): 377.

Mesopteryx, species γ Parker, 1895: *Trans. Zool. Soc. London 13*(11): 378 – Hamilton Swamp, Otago.

Meionornis didinus; Hutton 1896, *Trans. N.Z. Inst. 28*: 636. Not *Dinornis didinus* Owen, 1883.

Meionornis casuarinus (Owen); Hutton 1896, *Trans. N.Z. Inst. 28*: 636.

Euryapteryx crassus (Owen); Hutton 1896, *Trans. N.Z. Inst. 28*: 638.

Megalapteryx huttoni (Owen); Rothschild 1907, *Extinct Birds*: 199.

? *Cela rheides* (Owen); Rothschild 1907, *Extinct Birds*: 207.

Cela casuarinus (Owen); Rothschild 1907, *Extinct Birds*: 207.

Emeus casuarinus (Owen); Oliver 1930, *New Zealand Birds*, 1st edition: 48.

Emeus huttonii (Owen); Oliver 1930, *New Zealand Birds*, 1st edition: 49. Unjustified emendation.

Fossil in Late Pleistocene and Holocene sites and in middens. South Island; only east of the Southern Alps/Kā Tiritiri o te Moana and always in lowland areas.

Genus †*Euryapteryx* Haast

Cela Reichenbach, 1853: *Handb. Spec. Ornith. 3*: xxx – Type species (by monotypy) *Dinornis curtus* Owen. Junior homonym of *Cela* Moehring, 1758.

Celeus Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris 43*(18): 841. *Nomen novum* for *Cela* Reichenbach, 1853. Junior homonym of *Celeus* Boie, 1831.

Euryapteryx Haast, 1874: *Trans. N.Z. Inst. 6*: 427 – Type species (by subsequent designation) *Dinornis gravis* Owen = *Euryapteryx gravis* (Owen).

Zelornis Oliver, 1949: *Dom. Mus. Bull. 15*: 117 – Type species (by original designation) *Euryapteryx exilis* Hutton = *Euryapteryx curtus* (Owen).

▶ †**Euryapteryx curtus** (Owen)**Coastal Moa**

Dinornis curtus Owen, 1846: *Proc. Zool. Soc. London 1846* (14): 48 – North Island.

Cela curtus (Owen); Reichenbach 1850, *Avium Syst. Nat.*: 30.

Anomalopteryx curta (Owen); Lydekker 1891, *Cat. Fossil Birds Brit. Museum*: 46. Unjustified emendation.

Mesopteryx, species α Parker, 1895: *Trans. Zool. Soc. London 13*(11): 378 – Te Aute, Hawke's Bay.

Euryapteryx exilis Hutton, 1897: *Trans. N.Z. Inst.* 29: 552 – Wangaehu, South Taranaki.

Anomalopteryx curtus (Owen); Oliver 1930, *New Zealand Birds*, 1st edition: 46.

Euryapteryx curtus (Owen); Archey 1941, *Bull. Auck. Inst. Museum* 1: 60.

Euryapteryx tane Oliver, 1949: *Dom. Mus. Bull.* 15: 105 – Doubtless Bay.

Zelornis exilis (Hutton); Oliver 1949, *Dom. Mus. Bull.* 15: 121.

Euryapteryx curtus (Owen); Worthy 2005, *Tuhinga* 16: 57.

Fossil in many Late Pleistocene and Holocene sites, and in middens. A few mid-Nukumaruan records (2.1 Ma; Worthy *et al.* 1991). North Island only. Common in former shrubland communities, particularly of dunes. Shows size-variation with geological age and sex (females larger; Worthy 1987, Huynen *et al.* 2003).

▶ †**Euryapteryx gravis** (Owen)**Stout-legged Moa**

Dinornis gravis Owen, 1870: *Trans. Zool. Soc. London* 7(2): 141 – Kakanui River, Otago.

Euryapteryx gravis (Owen); Haast 1874, *Trans. N.Z. Inst.* 6: 426.

Euryapteryx pygmaeus Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 249 – Takaka Hill, Nelson.

Emeus gravipes Lydekker, 1891: *Cat. Fossil Birds Brit. Museum*: 297 – Kakanui River, Otago.

Euryapteryx compacta Hutton, 1893: *Trans. N.Z. Inst.* 25: 6 – Enfield, Canterbury.

Emeus crassus; Parker 1895, *Trans. Zool. Soc. London 13*(11): 379. Not *Dinornis crassus* Owen, 1846.

Emeus, species α Parker, 1895: *Trans. Zool. Soc. London 13*(11): 379 – Shag Point, Otago.

Emeus, species β Parker, 1895: *Trans. Zool. Soc. London 13*(11): 379 – Glenmark, Canterbury.

Emeus, species γ Parker, 1895: *Trans. Zool. Soc. London 13*(11): 380 – Hamilton Swamp, Otago.

Euryapteryx ponderosa; Hamilton 1898, *Trans. N.Z. Inst.* 30: 445. Not *Euryapteryx ponderosus* Hutton, 1891.

Emeus boothi Rothschild, 1907: *Extinct Birds*: 210. Unnecessary *nomen novum* for *Emeus*, species α Parker, 1895.

Emeus haasti Rothschild, 1907: *Extinct Birds*: 210. Unnecessary *nomen novum* for *Emeus*, species β Parker, 1895.

Emeus parkeri Rothschild, 1907: *Extinct Birds*: 210. Unnecessary *nomen novum* for *Emeus*, species γ Parker, 1895.

Euryapteryx kuranui Oliver 1930, *New Zealand Birds*, 1st edition: 52 – Castlepoint, Wairarapa.

Euryapteryx gravipes (Lydekker); Oliver 1930, *New Zealand Birds*, 1st edition: 53.

Zelornis haasti (Rothschild); Oliver 1949, *Dom. Mus. Bull.* 15: 125.

Euryapteryx geranoides; Checklist Committee 1990, *Checklist Birds N.Z.*: 4. Not *Palapteryx geranoides* Owen, 1848.

Euryapteryx curtus (Owen); Tennyson & Martinson 2006, *Extinct Birds of New Zealand*: 36. In part.

Fossil in many Late Pleistocene and Holocene sites; also in middens. A few mid-Nukumaruan records (2.1 Ma; Worthy *et al.* 1991). North and South Islands. Most abundant in drier eastern regions in the Holocene; rare in the north of the North Island, but common in south Taranaki and south-eastern North Island dunes with *Eu. curtus*.

Species rediagnosed by Worthy (1992) and Worthy & Holdaway (2002). Until the recognition that the type of *Palapteryx geranoides* was a *Pachyornis* (Worthy 2005b), the stout-legged moa had been referred to *Euryapteryx geranoides* (Owen), since Cracraft (1976) synonymised *Dinornis gravis* Owen with it.

Family †DINORNITHIDAE Bonaparte: Giant Moa

Dinornithidae Bonaparte, 1853: *Compt. Rend. Séa. Acad. Sci., Paris* 37(18): 646 – Type genus *Dinornis* Owen, 1843.

Genus †*Dinornis* Owen

Dinornis Owen, 1843: *Proc. Zool. Soc. London 1843* (11): 10 – Type species (by monotypy) *Dinornis novaezealandiae* Owen.

Megalornis Owen, 1843: *Proc. Zool. Soc. London 1843* (11): 19. Unnecessary *nomen novum* for *Dinornis* Owen, 1843. Junior homonym of *Megalornis* G.R. Gray, 1841.

Palapteryx Owen, 1846: *Proc. Zool. Soc. London 1846* (14): 46 – Type species (by subsequent designation) *Dinornis ingens* Owen = *Dinornis novaezealandiae* Owen.

Movia Reichenbach, 1853: *Handb. Spec. Ornith.* 3: xxx – Type species (by monotypy) *Dinornis ingens* Owen = *Dinornis novaezealandiae* Owen.

Moa Reichenbach, 1853: *Handb. Spec. Ornith.* 3: xxx – Type species (by monotypy) *Dinornis giganteus* Owen = *Dinornis novaezealandiae* Owen.

Owenia G.R. Gray, 1855: *Cat. Genera Subgen. Birds Brit. Mus.*: 152 – Type species (by original designation) *Dinornis struthoides* Owen = *Dinornis novaezealandiae* Owen.

Tylopteryx Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 247 – Type species (by subsequent designation) *Dinornis gracilis* Owen = *Dinornis novaezealandiae* Owen.

The revision by Bunce *et al.* (2003), supported by data in Huynen *et al.* (2003), clearly indicates that there were only two species of *Dinornis* in New Zealand, one in the North Island and one in the South Island. In each case, all small birds (formerly assigned to *D. struthoides*) were shown to be males and all large ones (hitherto *D. novaezealandiae* and *D. giganteus*) females. Geographic variation, with size-depression in wetter regions with closed forest, explains size variation (Bunce *et al.* 2003, Worthy *et al.* 2005). The following taxonomy and nomenclature follows Bunce *et al.* (2003).

▶ †*Dinornis novaezealandiae* Owen

North Island Giant Moa

Dinornis Novae-Zealandiae Owen, 1843 (July): *Proc. Zool. Soc. London 1843* (11): 8 – Poverty Bay.

Dinornis giganteus Owen, 1843 (2 December): *The Literary Gazette* 1402: 778 – Poverty Bay.

Dinornis struthoides Owen, 1843 (2 December): *The Literary Gazette* 1402: 778. *Nomen nudum*.

Dinornis ingens Owen, 1844: *Trans. Zool. Soc. London* 3(3): 247 – Poverty Bay.

Dinornis struthoides Owen, 1844: *Trans. Zool. Soc. London* 3(3): 244 – Poverty Bay.

Dinornis gigas Owen, 1846: *Trans. Zool. Soc. London* 3(4): 314, pl. 39. Unjustified emendation.

Dinornis gracilis Owen, 1854: *The Athenaeum* 1412: 1402 – Opito, Coromandel.

Palapteryx ingens (Owen); Haast 1869, *Trans. N.Z. Inst.* 1(8): 84.

Dinornis struthioides Lydekker, 1891: *Cat. Fossil Birds Brit. Museum*: 242. Unjustified emendation.

Dinornis firmus Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 247 – Poverty Bay.

Dinornis excelsus Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 247 – Te Aute, Hawke's Bay.

Dinornis dromioides; Oliver 1930, *New Zealand Birds*, 1st edition: 41. Not *Dinornis dromioides* Owen, 1846.

Dinornis hercules Oliver, 1949: *Dom. Mus. Bull.* 15: 174 – Coonoor, northern Wairarapa.

Dinornis gazella Oliver, 1949: *Dom. Mus. Bull.* 15: 166 – Te Aute, Hawke's Bay.

Dinornis novaezealandiae Owen; Checklist Committee 1990, *Checklist Birds N.Z.*: 6.

Dinornis novaezealandiae Owen; Tennyson & Martinson 2006, *Extinct Birds of New Zealand*: 22. Unjustified emendation.

Fossil in many Late Pleistocene and Holocene cave, swamp and dune sites, and in middens. North Island, including Great Barrier Island (Aotea Island). One mid-Nukumaruan record (1.8 Ma; Worthy *et al.* 1991).

▶ †***Dinornis robustus* Owen**

South Island Giant Moa

Dinornis ingens var. *robustus* Owen, 1846: *Proc. Zool. Soc. London 1846* (14): 48 – Waikouaiti, Otago.

Palapteryx robustus (Owen); Owen 1851, *Trans. Zool. Soc. London* 4(1): 2, pl. 1, fig. 1.

Dinornis maximus Haast, 1869: *Trans. N.Z. Inst.* 1: 87 – Glenmark, Canterbury.

Dinornis altus Owen, 1879: *Extinct Wingless Birds New Zealand*: 361 – South Island.

Palapteryx plenus Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 248 – ?South Island.

Dinornis validus Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 247 – Glenmark, Canterbury.

Dinornis torosus Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 247 – Takaka Hill, Nelson.

Dinornis potens Hutton, 1891: *New Zealand Journ. Sci.* (n. ser.) 1(6): 247 – Heathcote, Canterbury.

Dinornis strenuus Hutton, 1893: *Trans. N.Z. Inst.* 25: 8 – Enfield, Canterbury.

Dinornis robustus (Owen); Bunce *et al.* 2003, *Nature* 425: 174.

Fossil in many Late Pleistocene and Holocene cave, dune and swamp sites, and in middens. South Island, including D'Urville Island; Stewart Island/Rakiura. Widespread. Largest individuals were in lowlands and eastern regions.

Order CASUARIIFORMES: Cassowaries, Emus and Kiwi

Family APTERYGIDAE G.R. Gray: Kiwi

Apteryginae G.R. Gray, 1840: *List Gen. Birds* (1st edition): 63 – Type genus *Apteryx* Shaw, 1813.

Genus *Apteryx* Shaw

Apteryx Shaw, 1813: *Nat. Miscell.* 24(286): pls 1057–1060 – Type species (by monotypy) *Apteryx australis* Shaw.

Apternyx Swainson, 1837: *Nat. Hist. Classif. Birds* 1: 119. Unjustified emendation.

Apternix Agassiz, 1846: *Nomen. Zool. Index Univ. Aves* 2. Unjustified emendation.

Pseudapteryx Lydekker, 1891: *Cat. Fossil Birds Brit. Museum*: 218 – Type species (by monotypy) *Pseudapteryx gracilis* Lydekker = *Apteryx owenii* Gould.

Stictapteryx Iredale & Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 76 – Type species (by original designation) *Apteryx owenii* Gould.

Kiwi Verheyen, 1960: *Bull. Roy. Soc. d'Anvers* 15: 10. Unnecessary *nomen novum* for *Stictapteryx* Iredale & Mathews, 1935.

Kiwi were once throughout the main islands of New Zealand: North, Hauturu/Little Barrier, Great Barrier (Aotea), South, D'Urville and Stewart/Rakiura Islands; probably originally in all vegetated habitats. Increasingly restricted since European settlement to residual forests and adjacent scrub and rough farmland. North Island brown kiwi, but not other forms, have colonised exotic forests.

Since compilation of the last Checklist (Checklist Committee 1990), preliminary work has been published on the molecular biology of kiwi (e.g. Baker *et al.* 1995, Burbidge *et al.* 2003, Shepherd & Lambert 2008). Kiwi, particularly brown kiwi, are marked by mostly allopatric mitochondrial genetic diversity in both modern and extinct populations. This is not closely associated with morphological differences, making delineation of species limits difficult (Shepherd & Lambert 2008). For the brown kiwi we cautiously follow Holdaway *et al.* (2001) and Tennyson, Palma *et al.* (2003) in recognising a North Island species (*A. mantelli*) and two extant South Island species (*A. rowi*, *A. australis*—the latter having two subspecies). This departs from the previous arrangement (Checklist Committee 1953, 1970, 1990). With the recognition of more than one species of brown kiwi, and more than one in the South Island, historical names not based on localised specimens or adequate descriptions are unable to be referred to known taxa. These include the following names:

Dromiceius Novae Zealandiae, Lesson, 1828: *Manuel d'Ornith.* 2: 210.

Apteryx major Ellman, 1861: *The Zoologist* 19: 7468 – New Zealand.

Apteryx fusca Potts, 1873: *Trans. N.Z. Inst.* 5: 196 – West Coast. Not *Apteryx fusca* Rowley, 1875.

The authorship of *Apteryx* and *Apteryx australis* is restricted to Shaw, following ICZN (1916), and as supported by Dickinson *et al.* (2006).

▶ *Apteryx mantelli* Bartlett

North Island Brown Kiwi

Apteryx Mantelli Bartlett, 1852: *Proc. Zool. Soc. London* 1850 (18): 275, pl. 30, figs 3–4; pl. 31, fig. 2 – North Island.

Apteryx mantellii Bartlett; G.R. Gray 1862, *Ibis* 4: 233. Unjustified emendation.

Apteryx australis var. *Mantelli* Bartlett; Finsch 1872, *Jour. für Ornith.* 20: 263.

Apteryx bulleri Sharpe, 1888: *Proc. Wellington Phil. Soc.*: 6 – North Island.

Apteryx australis mantelli Bartlett; Checklist Committee 1953, *Checklist N.Z. Birds*: 13.

Apteryx mantelli Bartlett; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 125, 175.

Apteryx mantelli is re-elevated to species rank because of the marked differences in plumage noted in its original description and significant genetic differences (Baker *et al.* 1995, Burbidge *et al.* 2003), as accepted by recent authors (Holdaway *et al.* 2001, Worthy & Holdaway 2002, Tennyson, Palma *et al.* 2003). Originally recorded throughout North Island. Now restricted to isolated and declining populations in Northland, Taranaki, western slopes of Ruapehu, King Country, inland northern Hawke's Bay, Urewera and Coromandel. Introduced to Ponui, Kawau, Kapiti (1910–40) and Hauturu/Little Barrier Islands. Birds introduced to the latter were from Taupo in 1913 (Oliver 1955: 49), but lice from Hauturu/Little Barrier Island birds indicate survival of the former resident population reported by Reischek in 1887 (Palma 1991). Studies of mtDNA (Baker *et al.* 1995, Burbidge *et al.* 2003, Shepherd & Lambert 2008) have revealed a high degree of genetic variation in remnant populations. Moreover, fossil bones from Wairarapa (Martinborough) and Hawke's Bay (Lake Poukawa) clustered with *A. rowi* in analyses of ancient mtDNA (Shepherd & Lambert 2008). This suggests that the now extinct brown kiwi populations from the south of the North Island may have been *A. rowi* not *A. mantelli*. Common in Late Pleistocene and Holocene fossil sites and in middens throughout much of the North Island.

► ***Apteryx rowi*** Tennyson, Palma, Robertson, Worthy & Gill **Okarito Brown Kiwi**

Apteryx australis australis Shaw & Nodder [sic]; Checklist Committee 1953, *Checklist N.Z. Birds*: 13. In part.

Apteryx rowii Burbidge, Colbourne, Robertson & Baker, 2003 (April): *Conservation Genetics* 4: 172, 176. *Nomen nudum*.

Apteryx rowii Marsh, 2003 (July 5): *New Zealand Listener* 5: 29. *Nomen nudum*.

Apteryx rowi Tennyson, Palma, Robertson, Worthy & Gill, 2003: *Rec. Auck. Inst. Museum* 40: 57 – South Okarito Forest, South Westland.

Currently Okarito, South Island, only; former distribution unknown (but see below). Brown kiwi have been recorded from Okarito since at least 1867 under the names of roa, rohi and rowi, and have been recognised as distinct from South Island brown kiwi since the 1950s (for nomenclatural history see Tennyson, Palma *et al.* 2003). Genetic studies of mtDNA supported morphological differences and suggested that the Okarito brown kiwi is the sister taxon of the North Island brown kiwi (Baker *et al.* 1995, Burbidge *et al.* 2003, Shepherd & Lambert 2008), and not closely related to *A. australis*. Closer relationship to *A. mantelli* than to *A. australis* is also supported by evidence from lice (Palma & Price 2004). The Okarito population was accepted as a distinct taxon, and managed as such by the Department of Conservation, from 1991. Study of museum specimens obtained only in 2002 confirmed its morphological distinction and the species was described in 2003 (Tennyson, Palma *et al.* 2003). Endangered; 150–250 birds remaining (2003), restricted to South Okarito Forest, West Coast.

A recent study of ancient mtDNA sequences (cytochrome-*b*, control region; derived from fossil bones) indicates that fossil brown kiwi north of Okarito on the South Island West Coast (Buller, Takaka Hill) and from Martinborough (Wairarapa) and Lake Poukawa (Hawke's Bay), in the south-east North Island, form a single clade with extant *A. rowi* that is sister to remaining North Island brown kiwi (Shepherd & Lambert 2008). This suggests *A. rowi* had a former range from Okarito, up the South Island West Coast and into the southern North Island.

▶ ***Apteryx australis* Shaw****Southern Brown Kiwi**

As postulated by Rothschild (1893), fossil distributions (Worthy & Holdaway 2002) show that the southern brown kiwi was formerly abundant all over the South Island at low elevations, but its range had already contracted by 1893 to Fiordland. Fossil bones of large kiwi from Late Pleistocene and Holocene deposits from throughout the South Island may be of this species or of *A. haastii*, as the bones of these species are morphologically similar (Worthy 1997d). Shepherd & Lambert (2008), in a combined study of modern and ancient DNA sequences, demonstrated that populations of *A. australis* at Haast, Fiordland and Stewart Island/Rakiura, and extinct populations in Southland and east of the Southern Alps/Kā Tiritiri o te Moana, formed a single clade with deep diversity. These include the populations of “large” kiwi from eastern areas that Worthy (1997d, 1998b) found to be significantly smaller and stouter than extant *A. australis*. The Stewart Island/Rakiura birds formed a monophyletic clade divergent from South Island birds (Shepherd & Lambert 2008; see also Burbidge *et al.* 2003), supporting the subspecies status attributed them below. Extant populations in Haast and Fiordland were not significantly different from each other (Shepherd & Lambert 2008). Historically recorded from western Marlborough and Otago Harbour (Oliver 1955), Lake Brunner (Moana), Westland (Smith 1889), and Fiordland, including Secretary and Resolution Islands. Introduced to Kapiti Island where the stock is now hybrid between *A. australis* and *A. mantelli* (Checklist Committee 1990).

Apteryx australis australis* Shaw*South Island Brown Kiwi**

Apteryx australis Shaw, 1813: *Nat. Miscell.* 24(286): pls 1057–1060 – New Zealand, restricted to Dusky Sound, Fiordland (*vide* J.E. Gray 1852, in Bartlett, *Proc. Zool. Soc. London 1850* (18): 275).

Apterynx australis (Shaw); Swainson 1837, in D. Lardner, *The Cabinet Cyclopaedia* 2(92): 346. *Apteryx australis australis* Shaw & Nodder [sic]; Checklist Committee 1953, *Checklist N.Z. Birds*: 13. In part.

South Island; Haast River to Arawata River, and Fiordland. Disjunct populations, the result of postulated recent and ongoing population declines. Differences between disjunct populations (Burbidge *et al.* 2003), not recognised by taxonomic distinction, have been treated as distinct management units by the Department of Conservation.

Apteryx australis lawryi* Rothschild*Stewart Island Brown Kiwi**

Apteryx maxima Buller, 1891: *Trans. N.Z. Inst.* 24: 602 – Stewart Island. Junior primary homonym of *Apteryx maxima* Sclater & Hochstetter, 1861.

Apteryx lawryi Rothschild, 1893: *Bull. Br. Ornith. Club* 1: 61 – Stewart Island.

Apteryx australis lawryi Rothschild; Checklist Committee 1953, *Checklist N.Z. Birds*: 13.

Stewart Island/Rakiura (main island, and Ulva Island in Paterson Inlet/Whaka a Te Wera), in forest and scrub; widespread and locally common. Several midden records.

▶ ***Apteryx owenii* Gould****Little Spotted Kiwi**

Apteryx Owenii Gould, 1847 (12 June): *The Literary Gazette* 1586: 433 – Middle [South Island], restricted to Nelson District (*vide* Oliver 1930, *New Zealand Birds*, 1st edition: 61).

Apteryx mollis Potts, 1873: *Trans. N.Z. Inst.* 5: 196 – Martins Bay.

Apteryx fusca Rowley, 1875: *Ornith. Miscellany* 2: 8. South Island. *Nomen novum* for “dark coloured *A. owenii*”.

Pseudapteryx gracilis Lydekker, 1891: *Cat. Fossil Birds Brit. Museum*: 218, fig. 53A – New Zealand.

Apteryx oweni occidentalis Rothschild, 1893: *Bull. Br. Ornith. Club* 1: 61 – “west coast of the South and North Islands”, restricted to Dusky Sound, Fiordland (*vide* Hartert 1927, *Novit. Zool.* 34: 31). Unjustified emendation.

Apteryx occidentalis Rothschild; Buller 1905, *Suppl. Birds N.Z.* 1: 23.

Apteryx owenii owenii Gould; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 205.

Stictapteryx owenii iredalei Mathews, 1935: *Bull. Br. Ornith. Club* 55: 180 – North Island.

Apteryx oweni Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 13. Unjustified emendation.

Kiwi owenii (Gould); Verheyen 1960, *Bull. Roy. Soc. d'Anvers* 15: 10.

Apteryx owenii Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 8.

On European settlement, rare in the North Island: a specimen in BMNH from Mount Hector, Tararua Range (Buller 1876a); reported from Wangapopo Range, near Pirongia, King Country, by Reischek on 15 Feb. 1882 (Reischek 1930: 177; the species name *A. owenii* was also recorded in the original German text, i.e. Reischek 1924). On European settlement, common in the South Island throughout forest areas of Marlborough, Nelson, Westland and Fiordland (e.g. Potts 1873). Rapidly declined in the late 19th Century. Over the past 50 years, few verified mainland records: a specimen from Orepuki, Southland (1938); bones from a specimen dead for some time at the Junction Burn, Fiordland (1974). An adult breeding female from Banjo Creek, Westhaven Inlet, 25 Jul. 1978 (NMNZ 23036; Worthy & Holdaway 1994: 307) and an adult female from Smyth River, South Westland, 1978 (NMNZ 23043) are *A. owenii*, not *A. haastii* (*contra* Marchant & Higgins 1990: 81). *A. owenii* also survived on D'Urville Island until the last birds were transferred to Long Island, Queen Charlotte Sound, in 1982 and 1987. Common on Kapiti Island, where long believed to have been introduced, but they are possibly native (Marchant & Higgins 1990: 81). Kapiti birds have different lice from those of all mainland skins examined (Pilgrim & Palma 1982, Marchant & Higgins 1990: 85). Successfully transferred in the 1980s from Kapiti to Red Mercury (Whakau) Island (Coromandel), Hen Island/Taranga Island (Hauraki Gulf) and Long Island (Marlborough Sounds). In 1993 transferred from Kapiti to Tiritiri Matangi Island (Hauraki Gulf), and in 2000 to Karori Sanctuary, Wellington. Frequent in Late Pleistocene and Holocene fossil sites, and in middens, throughout North and South Islands. Bruce & McAllan (1990), as first revisers, selected *The Literary Gazette* as the original publication of the name *Apteryx owenii*.

► *Apteryx haastii* Potts

Great Spotted Kiwi

Apteryx maxima Sclater & Hochstetter, 1861: *The Natural History Review*: 506 – near Charleston, West Coast. *Nomen oblitum* (*vide* Palma *et al.* 2003, *Tuhinga* 14: 7).

Apteryx maxima Hutton, 1871: *Cat. Birds N.Z.*: 23, 75 – Westland. Junior primary homonym and junior synonym of *Apteryx maxima* Sclater & Hochstetter, 1861.

Apteryx haastii Potts, 1872 (January): *Ibis* 2 (3rd ser.): 35 – West Coast. *Nomen protectum* (*vide* Palma *et al.* 2003, *Tuhinga* 14: 7).

Apteryx Haastii Potts, 1872 (May): *Trans. N.Z. Inst.* 4: 204 – Westland.

Apteryx Haastii Potts; Finsch 1872, *Jour. für Ornith.* 20: 271. Unjustified emendation.

Apteryx maximus Verreaux [sic]; Rothschild 1893, *Ibis* 5 (6th ser.): 576.

Apteryx grandis Grieve, 1913: *Proc. Roy. Phys. Soc. Edinburgh* 19: 63 – South Island.

Apteryx haasti Potts; Checklist Committee 1953, *Checklist N.Z. Birds*: 13. Unjustified emendation.

Apteryx haastii Potts; Checklist Committee 1980, *Notornis* (*Suppl.*) 27: 4.

Originally probably throughout Westland (from Bruce Bay north) and north-west Nelson. Now only in forests and montane zone of north-west Nelson and Paparoa Range; present in some headwaters as far south as the Karangarua River, but gaps apparent in distribution between the Paparoa Range/Māwharanui and the upper Grey River, and between the Taipo and Smyth Rivers. Extends across the divide (in high-altitude beech forest) at various points between Arthur's Pass and the Hope River. Fossil record largely indeterminate, as bones are generally morphologically inseparable from those of *Apteryx australis* (e.g. Worthy 1997d), but fossils likely to be this species are known in high-altitude sites in north-west Nelson (Mount Owen, Mount Arthur) and in sites in the Honeycomb Hill cave system, Oparara. Some fossils have recently been identified as *A. haastii* by DNA-typing (Shepherd & Lambert 2008), but this method is limited to relatively few well-preserved specimens. Not recorded from the North Island. Nineteen individuals from Goulard Downs were introduced to Hauturu/Little Barrier Island in 1915 in a failed bid to establish an island population (Oliver 1955). Both *Apteryx maxima* Sclater & Hochstetter, 1861 and *A. maxima* Hutton, 1871 have date priority over *A. haastii* Potts, but the name *A. maxima* Sclater & Hochstetter, 1861 was made a *nomen oblitum* and the name *A. haastii* Potts conserved by Palma *et al.* (2003). From accounts in Grieve (1913) it is clear that in the late 1880s *Apteryx haastii* was called *A. grandis* by various commercial collectors, notably James Dall.

Subclass NEOGNATHAE: Neognathous Birds

Order GALLIFORMES: Game Birds and Allies

The order of galliform taxa in Checklist Committee (1990) appears to have been based on Peters (1934). Johnsgard (1986) synthesised available data, came up with similar groupings of taxa, and produced a dendrogram indicating that turkeys (Meleagridinae) were the most primitive (outside Cracidae and Megapodiidae), with grouse (Tetraoninae), guineafowl (Numidinae), New World quails (Odontophorinae) and pheasants and kin (Phasianinae) successively more derived. Genetic evidence (DNA-hybridisation data) provided by Sibley & Ahlquist (1990) suggested Odontophorinae were the most basal phasianoids and guineafowl the next most basal group. A basal position of the New World quails among phasianoids has been supported by other genetic data (Kimball *et al.* 1999, Armstrong *et al.* 2001). A recent analysis based on morphological characters (Dyke *et al.* 2003) found support for megapodes as the most basal group in the order, then Cracidae, then Phasianidoidea, and within the latter, Numididae the most basal group. In contrast to the above genetic-based analyses, Dyke *et al.* (2003) found the Odontophorinae to be the most derived group within the order. A recent analysis using both mitochondrial ND2 and cytochrome-*b* DNA sequences, however, reinforces the basal position of the Odontophorinae (Pereira & Baker 2006). Here we follow a consensus of the above works and place Odontophorinae basal in the phasianids.

Worthy & Holdaway (2002) considered that Cheeseman's (1891) second-hand record of megapodes from Raoul Island, Kermadec Group, before the 1870 volcanic eruption has veracity. However, we feel that Holocene fossil evidence is required before this record is accepted.

Family PHASIANIDAE Vigors: Partridges, Quails, Pheasants and Turkeys

Phasianidae Vigors, 1825: *Zoological Journal* 2: 402 – Type genus *Phasianus* Linnaeus, 1758.

Subfamily *ODONTOPHORINAE Gould: American Quails

Odontophorinae Gould, 1844: *Monograph Odontophorinae* 1: 1 – Type genus *Odontophorus* Vieillot, 1816.

Genus **Callipepla* Wagler

Callipepla Wagler, 1832: *Isis von Oken*, Heft 2: col. 277 – Type species (by monotypy) *Callipepla strenua* Wagler = *Callipepla squamata* Vigors.

Lophortyx Bonaparte, 1838: *Geogr. Comp. List. Birds*: 42 – Type species (by subsequent designation) *Tetrao californicus* Shaw = *Callipepla californica* (Shaw).

▶ **Callipepla californica* (Shaw)

California Quail

Tetrao californicus Shaw, 1798: in Shaw & Nodder, *Nat. Miscell.* 9: text to pl. 345 – Monterey, California, USA.

Western North America from southern British Columbia to Baja California. Introduced to Hawai'i, Chile, Australia and New Zealand.

**Callipepla californica brunnescens* (Ridgway)

California Quail

Oryz. californica Stephens [sic]; Hutton 1871, *Cat. Birds N.Z.*: 67. Not *Tetrao californicus* Shaw, 1798.

Lophortyx californicus brunnescens Ridgway, 1884: *Proc. Biol. Soc. Washington* 2: 94 – “Santa Barbara, California”, error for San Francisco, California, USA (*vide* Peters 1934, *Check-list Birds World* 2: 44).

Ortyx californicus; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 226. Not *Tetrao californicus* Shaw, 1798.

Lophortyx californica brunnescens Ridgway; Checklist Committee 1953, *Checklist N.Z. Birds*: 37. Emendation.

Lophortyx californica; Wakelin 1968, *Notornis* 15: 162. Not *Tetrao californicus* Shaw, 1798.

Callipepla californica brunnescens (Ridgway); Checklist Committee 1990, *Checklist Birds N.Z.*: 113.

South-west Oregon and California. Introduced to New Zealand from 1865 to 1875 in both North and South Islands (Thomson 1922) with subsequent liberations of New Zealand-bred stock. Now widely distributed on both main islands, and some settled offshore islands, with small numbers on the Chatham Islands (Williams 1963, 1967; Robertson, C. *et al.* 2007).

Subfamily *NUMIDINAE Reichenbach: Guineafowl

Numidinae Reichenbach, 1850: *Avium Syst. Nat.*: 26 – Type genus *Numida* Linnaeus, 1766.

Genus **Numida* Linnaeus

Numida Linnaeus, 1766: *Syst. Nat.*, 12th edition, 1: 273 – Type species (by monotypy) *Phasianus meleagris* Linnaeus = *Numida meleagris* Linnaeus.

▶ **Numida meleagris* (Linnaeus)

Helmeted Guineafowl

Phasianus Meleagris Linnaeus, 1758: *Syst. Nat.*, 10th edition, 1: 158 – Africa, restricted to upper Nile, Nubia (*vide* Peters 1934, *Check-list Birds World* 2: 134).

Numida ptilorhyncha Lesson, 1831: *Traité d'Ornith.* 7: 498 – Africa.

Numida ptilorhyncha Licht. [sic]; Hutton 1871, *Cat. Birds N.Z.*: 69.

Numida meleagris (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 38.

Africa, south of the Sahara. First introduced to Canterbury in the 1860s and subsequently elsewhere in North and South Islands, and Raoul Island in the Kermadec Group. Wild populations present in rough farmland in a few New Zealand localities (Robertson, C. *et al.* 2007). Some of the records from the Auckland region may be semi-domesticated (Bull *et al.* 1985). The oldest, apparently established, population is inland from Wanganui (Oliver 1955) but its current status is unknown. At least nine subspecies. New Zealand stock assumed to be from domesticated origin (thus either *N. m. meleagris* or *N. m. galeata*). Also known as the tufted guinea fowl.

Subfamily PHASIANINAE Vigors: Partridges, Quails and Pheasants

Phasianidae Vigors, 1825: *Zoological Journal* 2: 402 – Type genus *Phasianus* Linnaeus, 1758.

Genus **Alectoris* Kaup

Alectoris Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 180, 193 – Type species (by monotypy) *Perdix petrosa* of authors (not Gmelin) = *Alectoris barbara* (Bonnaterre).

▶ **Alectoris chukar* (J.E. Gray)

Chukor

Perdix Chukar J.E. Gray, 1830: in Hardwicke, *Illust. Indian Zool.* 1(2), pl. 54 – India, restricted to Srinagar, Kumaon (*vide* Peters 1934, *Check-list Birds World* 2: 65).

Alectoris graeca chukar (J.E. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 38.

Alectoris chukar (J.E. Gray); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 40.

Eurasia from south-east Europe and Asia Minor east through central Asia to outer Mongolia. Two subspecies, *A. c. chukar* and *A. c. koroviakovi* (Zarudny, 1914), were introduced to New Zealand and have probably interbred widely (Williams 1950, 1951). Now well established on the dry, rocky country of the eastern South Island from Marlborough to Central Otago (Robertson, *C. et al.* 2007). Liberations in the North Island were unsuccessful.

Genus *Coturnix* Bonnaterra

Coturnix Bonnaterra, 1791: *Tableaux Encycl. Méthod. Ornith.* 1(47): lxxxvii – Type species (by tautonymy) “Caille”, *Coturnix communis* Bonnaterra = *Coturnix coturnix* Linnaeus.

Synoicus Gould, 1843: *Birds of Australia* 5: pl. 89 and text – Type species (by monotypy) *Perdix australis* Latham = *Coturnix ypsilophora australis* (Latham).

Synaecus Agassiz, 1846: *Nomen. Zool. Index Univ. Aves* 2. Unjustified emendation.

Ypsilophorus Mathews, 1912: *Austral Avian Rec. 1*: 112. Unnecessary *nomen novum* for *Synoicus* Gould, 1843, not a junior homonym of *Synoicum* Phipps, 1774.

Zecoturnix Iredale & Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 76 – Type species (by original designation) *Coturnix novaezelandiae* Quoy & Gaimard.

▶ †*Coturnix novaezelandiae* Quoy & Gaimard

New Zealand Quail

Coturnix Novae-Zelandiae Quoy & Gaimard, 1830: in Dumont d'Urville, *Voyage Astrolabe Zool.* 1: 242, pl. 24, fig. 1 – Hauraki Gulf.

Coturnix Novae Zealandiae Quoy & Gaimard; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 195. Unjustified emendation.

Coturnix novae zealandiae Quoy & Gaimard; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 161. Unjustified emendation.

Coturnix novae-zealandiae Quoy & Gaimard; Hutton 1904, *Index Faunae N.Z.*: 30. Unjustified emendation.

Coturnix novaezealandiae Quoy & Gaimard; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 207. Unjustified emendation.

Coturnix novaezealandiae pounami Mathews, 1944: *Emu* 43: 247 – Port Cooper, Canterbury.

Coturnix novaezealandiae novaezealandiae Quoy & Gaimard; Checklist Committee 1953, *Checklist N.Z. Birds*: 37. Unjustified emendation.

Coturnix novaezealandiae novaezealandiae Quoy & Gaimard; Checklist Committee 1990, *Checklist Birds N.Z.*: 115.

Coturnix novaezealandiae Quoy & Gaimard; Marchant & Higgins 1993, *HANZAB* 2: 402.

At times the New Zealand quail has been regarded as conspecific with the stubble quail *Coturnix pectoralis* Gould, 1837 of Australia and Tasmania (e.g. van Tets 1978, Checklist Committee 1990), which was unsuccessfully introduced to New Zealand in the 1870s (Marchant & Higgins 1993: 391; see Appendix 2). More recently, separation of *C. novaezealandiae* and *C. pectoralis* has been accepted (e.g. Marchant & Higgins 1993, Dickinson 2003) as advocated by Oliver (1955). New Zealand: North, South and Great Barrier (Aotea) Islands. A bird of open grasslands. Still common by 1848, when as many as 86 could be shot on one day, but by 1870 on the verge of extinction. The last North Island sighting was Dec. 1869; last reliable South Island observation 1875, with latest specimens collected 1867 or 1868. The reasons for the disappearance are uncertain but it coincides with the establishment of cats and probable ongoing predation by Norway rats (Tennyson & Martinson 2007: 11, 64, 143, 149). Late Pleistocene and Holocene fossils from numerous sites in both main islands, especially dunes; common in middens.

▶ ***Coturnix ypsilophora** Bosc**Brown Quail**

Coturnix ypsilophorus Bosc, 1792: *Journ. d'Hist. Natur.* 2: 297, pl. 39 – no locality = Tasmania (*vide* Mathews 1913, *List Birds Australia*: 7).

Indonesia, New Guinea, Australia (north, south-west and east) and Tasmania.

▶ ***Coturnix ypsilophora australis** (Latham)**Australian Brown Quail**

Perdix australis Latham, 1802: *Index Ornith. Suppl.*: lxii – New South Wales, Australia.

Synaecus australis (Latham); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 226.

Synaecus australis Temminck [sic]; Hamilton 1909, *Hand-list birds New Zealand*: 18.

Synaecus ypsilophorus; Checklist Committee 1953, *Checklist N.Z. Birds*: 37. Not *Coturnix ypsilophorus* Bosc, 1792.

Coturnix ypsilophora australis (Latham); Marchant & Higgins 1993, *HANZAB* 2: 404.

Mainland Australia. Introduced to New Zealand and widely liberated in the 1860s and 1870s in both North and South Islands (Thomson 1922). Now surviving only in the North Island: common in Northland, and scattered elsewhere as far south as Wairarapa; also on northern offshore islands—Manawatāwhi/Three Kings, Poor Knights, Great Barrier (Aotea), Hauturu/Little Barrier, Tiritiri Matangi, Mayor (Tuhua), Mercury, The Aldermen and Moutohora (Whale) Islands (Robertson, C. *et al.* 2007). Although introductions from Australia came from both the Australian mainland (*C. y. australis*) and Tasmania (*C. y. ypsilophora*), recent specimens are referable only to *C. y. australis* (Oliver 1955, Marchant & Higgins 2003; see Appendix 2). Recorded on Manawatāwhi/Three Kings Islands as early as 1887; Turbott & Buddle (1948) discussed the possibility that it reached northern New Zealand by self-introduction before the 1860–70 liberations. We do not accept this argument due to the possibility of misidentification with *C. novaezelandiae*.

Genus *Gallus Linnaeus

Gallus Brisson, 1760: *Ornithologie* 1: 26, 166 – Type species (by tautonymy) *Gallus* = *Phasianus gallus* Linnaeus, 1758.

▶ ***Gallus gallus** (Linnaeus)**Red Junglefowl**

Asia, from north-east India to central China and south to Bali, Indonesia.

▶ ***Gallus gallus gallus** (Linnaeus)**Feral Chicken**

Phasianus Gallus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 158 – “India orientali, Pouli condor ...”, restricted to Island of Pulo Condor, mouth of the Mekong River (*vide* Peters 1934, *Check-list Birds World* 2: 118).

Gallus Bankiva; Hutton 1871, *Cat. Birds N.Z.*: 69. Not *Gallus bankiva* Temminck, 1813.

Gallus bankiva; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 109. Not *Gallus bankiva* Temminck, 1813.

Gallus gallus; Hermes *et al.* 1986, *Notornis* 33: 142.

Gallus gallus gallus (Linnaeus); Fumihito *et al.* 1994, *Proc. Natl. Acad. Sci. U.S.A.* 91: 12509.

Eastern Thailand, Cambodia, central and southern Laos, central and southern Vietnam; widely introduced around the world and established in Europe, the Americas, Australia and islands in the Pacific and Indian Oceans. Feral on Norfolk Island (Hermes 1985, Hermes *et al.* 1986), and since at least 1838 on Philip Island (Moore 1985b) where it is now apparently extinct. Status on New Zealand mainland uncertain. First released by Cook in Queen Charlotte Sound in 1773 and a population still present in 1777 (Cook 1777, Cook & King 1784). Many unsuccessful introductions in North and

South Islands, on the Auckland Islands and Campbell Island/Motu Ihupuku (Thomson 1922). In recent years, anecdotal records of ephemeral populations have been made but none has lasted. Assignment of subspecies based on genetic results by Fumihito *et al.* (1994). Also called the Thai red junglefowl.

Genus **Phasianus* Linnaeus

Phasianus Linnaeus, 1758: *Syst. Nat.*, 10th edition, 1: 158 – Type species (by tautonymy) *Phasianus* = *Phasianus colchicus* Linnaeus.

▶ **Phasianus colchicus* Linnaeus

Common Pheasant

Phasianus colchicus Linnaeus, 1758: *Syst. Nat.*, 10th edition, 1: 158 – “Africa, Asia”, restricted to the Rioni River Valley, western Transcaucasia.

Phasianus torquatus; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 226. Not *Phasianus torquatus* Gmelin, 1789.

Phasianus colchicus Linnaeus; Checklist Committee 1953, *Checklist N.Z. Birds*: 37.

Asia from Asia Minor to Japan; widely introduced around the world and established in Europe, North America, Japan, islands of the Pacific Ocean, Australia and New Zealand. In New Zealand repeatedly introduced from 1842 onwards and local populations are still being reinforced by releases of New Zealand-bred stock (e.g. Westerskov 1955). Most common in the North Island, and very sparse in the South Island, except around Nelson and Canterbury (Robertson, C. *et al.* 2007). The New Zealand stock is derived from several interbreeding subspecies though most individuals are probably hybrids between ring-necked pheasants *Ph. c. torquatus* and southern Caucasus (black-necked) pheasants *Ph. c. colchicus* (Westerskov 1963).

Genus **Pavo* Linnaeus

Pavo Linnaeus, 1758: *Syst. Nat.*, 10th edition, 1: 136 – Type species (by tautonymy) *Pavo* = *Pavo cristatus* Linnaeus.

▶ **Pavo cristatus* Linnaeus

Peafowl

Pavo cristatus Linnaeus, 1758: *Syst. Nat.*, 10th edition, 1: 156 – “India orientali, Zeylona” = India.

Pavo cristatus Linnaeus; Checklist Committee 1953, *Checklist N.Z. Birds*: 38.

India and Sri Lanka. Deliberately introduced to New Zealand from 1843. Increasingly common in Northland, western Firth of Thames, Coromandel, Rotorua district, Bay of Plenty, East Cape, King Country, Taranaki, Wanganui district, Gisborne, Mahia and Hawke’s Bay, with some recent records from north-west Nelson, Marlborough and Canterbury (Robertson, C. *et al.* 2007). No subspecies.

Subfamily *MELEAGRIDINAE G.R. Gray: Turkeys

Meleagrinae G.R. Gray, 1840: *List Gen. Birds* (1st edition): 60 – Type genus *Meleagris* Linnaeus, 1758.

Genus **Meleagris* Linnaeus

Meleagris Linnaeus, 1758: *Syst. Nat.*, 10th edition, 1: 156 – Type species (by tautonymy) *Meleagris* = *Meleagris gallopavo* Linnaeus.

▶ **Meleagris gallopavo* Linnaeus

Wild Turkey

North America, from north-east and central USA to Mexico.

****Meleagris gallopavo gallopavo* Linnaeus****Gould's Wild Turkey**

Meleagris gallopavo Linnaeus, 1758: *Syst. Nat.*, 10th edition, 1: 156 – Mexico.

Meleagris gallipavo Linnaeus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 108.
Unjustified emendation.

Meleagris gallopavo gallopavo Linnaeus; Peters 1934, *Check-list Birds World* 2: 140.

Meleagris gallopavo Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 117.

Sierra Madre Mountains of north-west Mexico, New Mexico and Arizona. All domesticated turkeys stem from this subspecies. Wild stock originally introduced unsuccessfully to Hawke's Bay, Nelson and Canterbury in the early 1890s (Thomson 1922). Current population stems from subsequent introductions to Wanganui area in 1920 and Wellington, Hawke's Bay and Marlborough in the 1950s (Long 1981), as well as escapees from farms. Increasingly common in the wild in rough farmland throughout the North Island, and in north-west Nelson, Marlborough, Canterbury and Central Otago (Robertson, C. *et al.* 2007).

Order ANSERIFORMES: Duck-like Birds

This order is best placed within Galloanserimorphae after Ratitae following Knox *et al.* (2002). The higher taxonomy is based on Checklist Committee (1990) modified to reflect the common features of the relationships shown and/or taxonomies proposed in Madsen *et al.* (1988), Livezey (1989, 1990, 1991, 1996a–c, 1997a,b), Sibley & Ahlquist (1990), del Hoyo *et al.* (1992), McCracken *et al.* (1999), Sorenson *et al.* (1999), Donne-Goussé *et al.* (2002) and Callaghan & Harshman (2005). Anseriformes is taken to have three families: Anhimidae (screamers) confined to South America, Anseranatidae (magpie goose) monotypic of Australia, and Anatidae. Within Anatidae, it is traditionally considered that the whistling ducks *Dendrocygna* and *Thalassornis* are basal, and that the rest of Anatidae formed two major clades: Anserinae (swans and geese) and Anatinae (all other taxa). However, we follow Checklist Committee (1990) and Marchant & Higgins (1990), and in part Livezey (1997b), Dickinson (2003) and Callaghan & Harshman (2005), in treating shelducks and kin, sea ducks, and stiff-tailed ducks as subfamilies: Tadorninae, Merginae, and Oxyurinae respectively. To these is added the basal monotypic anseriform *Stictonetta* of Australia in Stictonettinae.

Recent analyses, based on skeletal and plumage features resulting in a complete anseriform phylogeny (Livezey 1997b), found an association between Aythyini, Mergini, Oxyurini, *Biziura* and other modified diving ducks, in contrast to traditional taxonomies (e.g. Delacour & Mayr 1945, Johnsgard 1968) which had not so related these taxa. Recent DNA analyses (Madsen *et al.* 1988, Sibley & Ahlquist 1990, Sraml *et al.* 1996, Johnson & Sorenson 1999, McCracken *et al.* 1999, Sorenson *et al.* 1999, Donne-Goussé *et al.* 2002, McCracken & Sorenson 2005) indicated that these taxa have no close relationships to one another, and that their diving specialisations have resulted in morphological convergence that obscures phylogeny.

The stiff-tailed ducks (*Oxyura* and allies) are considered more basal than Anatinae, following Madsen *et al.* (1988), Sibley *et al.* (1988), Sibley & Ahlquist (1990), Marchant & Higgins (1990), Sraml *et al.* (1996), Callaghan & Harshman (2005), Worthy & Lee (2008) and Worthy (2009), and so are placed after *Dendrocygna* and Anserinae. Recent genetic studies, e.g. Sraml *et al.* (1996) and McCracken *et al.* (1999), provided strong evidence that *Biziura* is not closely related to *Oxyura*, although both taxa lie outside Anatinae. Callaghan & Harshman (2005) did not allocate *Biziura* to a subfamily, leaving its position in the phylogeny of Anatidae as *incertae sedis*. Worthy (2009) found it to be a member of Oxyurinae. So, pending resolution of its higher relationships, *Biziura* is retained in Oxyurinae. *Cereopsis* is accepted as a member of Anserinae following Livezey (1989, 1997b), Marchant & Higgins (1990), Donne-Goussé *et al.* (2002) and Callaghan & Harshman (2005). We have not placed *Cnemiornis* in its own monotypic family (Cnemiornithidae), as suggested by Livezey (1989) and followed by Callaghan & Harshman (2005), because later analyses failed to support this.

The shelducks and sheldgeese form a monophyletic clade in most studies (e.g. Livezey 1997a,b; Sorenson *et al.* 1999; Donne-Goussé *et al.* 2002), which we place at the subfamilial level before Anatinae, following Checklist Committee (1990), Marchant & Higgins (1990), Livezey (1997b), Dickinson (2003) and Callaghan & Harshman (2005). Livezey (1997a,b) resurrected *Casarca* for the unbanded shelducks, restricting *Tadorna* to *T. tadorna* and *T. radjab*. In this scheme the paradise shelduck would be *Casarca variegata* in the subgenus *Pseudotadorna* Kuroda, 1917 with *C. tadornoides* and

C. cristata. Here we follow the more conservative approach of allying all shelducks in one genus, as did Kear (2005).

The placement of *Malacorhynchus* in the anatid phylogeny is problematic because it is monotypic, at least in the Recent fauna, and poorly studied: it has been included in just one genetic analysis to date. We depart from the conservative placement of *Malacorhynchus* early in the sequence within Anatinae (e.g. Marchant & Higgins 1990, Livezey 1997b, Dickinson 2003, Callaghan & Harshman 2005), and accept the feather-protein evidence (Brush 1976), genetic evidence (Sraml *et al.* 1996) and morphological and behavioural evidence (Frith 1977, Olson & Feduccia 1980, Worthy & Lee 2008 and Worthy 2009), that in sum suggest it should be classified outside Anatinae and before Tadorninae. Provisionally, we place it between Anserinae and Tadorninae. Fullagar (in Kear 2005: 442) considered this taxon to be part of the old endemic component of Australia's avifauna with no close relatives elsewhere.

Merginae is placed after Tadorninae, rather than after Anatinae, or as Mergini at the end of Anatinae, to reflect the relationships shown by mtDNA studies (Sorenson *et al.* 1999, Donne-Goussé *et al.* 2002). We follow the recommendation of Worthy & Olson (2002) that *Euryanas finschi* is listed as the sister taxon of *Chenonetta jubata* within Anatinae, *contra* Livezey (1989, 1997b), who had *Euryanas* as a monotypic tribe far removed from *Chenonetta*. Livezey (1997b), followed by Dickinson (2003), also suggested that *Hymenolaimus* lies within Tadorninae, but without supporting data for that position we leave it within Anatinae following Checklist Committee (1990) and Marchant & Higgins (1990).

Authorship of family-group taxa is based on Rafinesque (1815), Leach (1819), Brodtkorb (1964), Bock (1994) and Olson (1995). We follow Browning & Munroe (1991) for the publication date of Reichenbach (1853).

Suborder ANSERES: Swans, Geese and Ducks

Family ANATIDAE Leach: Swans, Geese and Ducks

Anatidae Leach, 1819: *Eleventh room*. In *Synopsis Contents British Museum 15th Edition, London*: 67 – Type genus *Anas* Linnaeus, 1758.

Subfamily DENDROCYGNINAE Reichenbach: Whistling-ducks

Dendrocygninae Reichenbach, 1849: *Avium Syst. Nat.*: 9 – Type genus *Dendrocygna* Swainson, 1837.

Genus *Dendrocygna* Swainson

Dendrocygna Swainson, 1837: *Nat. Hist. Classif. Birds* 2: 365 – Type species (by subsequent designation) *Anas arcuata* Horsfield = *Dendrocygna arcuata* (Horsfield).

Leptotarsis Eyton, 1838: *Monograph Anatidae*: 111 – Type species (by monotypy) *Leptotarsis eytoni* Eyton = *Dendrocygna eytoni* (Eyton).

► *Dendrocygna eytoni* (Eyton)

Plumed Whistling-duck

Leptotarsis eytoni Eyton, 1838: *Monograph Anatidae*: 111 – North-western Australia (*vide* Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 407).

Dendrocygna eytoni munna Mathews, 1912: *Austral Avian Rec.* 1: 86 – Dawson River, Queensland, Australia.

Dendrocygna eytoni (Eyton); Checklist Committee 1953, *Checklist N.Z. Birds*: 34.

Breeds throughout tropical Australia, with scattered colonies in New South Wales river systems (Frith 1977, Marchant & Higgins 1990). Straggler to New Zealand. Few

records; usually in small flocks (Hutton 1871, Oliver 1955, Marchant & Higgins 1990: 1129, Guest 1991, Medway 2000a): one at Thames, 1871; flock of 14 at Lake Tuakitoto and at Kaitangata, 1871; three at Ashburton, 1894–96; 12 at Little Wanganui, North Westland, 1975; 9–11 at Elbow landing, Lower Waikato River, Apr. 1982; one at Te Aroha, 1984. Several unconfirmed sightings: on the Waipa River, 1982; six at Haast Beach, Westland, 1990; seven at Hokitika, 1992.

Subfamily ANSERINAE Vigors: Swans and Geese

Anserina Vigors, 1825: *Zoological Journal* 2: 404 – Type genus *Anser* Brisson, 1760.

Tribe CYGNINI Vigors: Swans

Cygnina Vigors, 1825: *Zoological Journal* 2: 404 – Type genus *Cygnus* Bechstein, 1803.

Genus *Cygnus* Bechstein

Cygnus Bechstein, 1803: *Ornith. Taschenb. Deutschland* 2: 404 (footnote) – Type species (by monotypy) *Anas olor* Gmelin = *Cygnus olor* (Gmelin).

Chenopsis Wagler, 1832: *Isis von Oken*, Heft 11: col. 1234 – Type species (by monotypy) *Anas atrata* Latham = *Cygnus atratus* (Latham).

▶ ****Cygnus olor* (Gmelin)**

Mute Swan

Anas Olor Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 501. Based on the “Mute Swan” of Latham 1785, *Gen. Synop. Birds* 3: 436 – Russia.

Cygnus olor (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 34.

Northern Eurasia; introduced from Great Britain as an ornamental bird (Oliver 1955: 609). Small feral populations mainly on Lake Ellesmere (Te Waihora), and some small wetlands north of Christchurch, in the South Island, and on small lakes in the Hawke’s Bay in the North Island (Marchant & Higgins 1990: 1177). Also called white swan.

▶ ***Cygnus atratus* (Latham)**

Black Swan

Anas atrata Latham, 1790: *Index Ornith.* 2: 834 – New South Wales, Australia.

Anser Novae-Hollandiae Bonnaterre, 1791: *Tableaux Encycl. Method. Ornith.* 1 (47): 108. Based on the “Black Swan” of Phillip 1789, *Voy. Gouvernor Phillip Botany Bay; colonies Port Jackson & Norfolk*: 98 – New South Wales, Australia.

Anas plutonia Shaw, 1792: *Nat. Miscell.* 3(36): pl. 108–10 – New South Wales, Australia.

Anas cygnus niger Perry, 1811: *Arcana* 15: pl. 59 – New South Wales, Australia.

Chenopsis atratus (Latham); Wagler 1832, *Isis von Oken*, Heft 11: col. 1234.

Chenopsis [sic] *atrata* (Latham); Reichenbach 1853, *Avium Syst. Nat.*: 10.

Cygnus plutonius (Shaw); Baedeker 1863, *Die Eier europaischen Vögel Natur gemalt.*: pl. 31, fig. 2.

Chenopsis sumnerensis Forbes, 1890: *Nature* (January 2) 41(1053): 209; *Ibis* 2 (6th ser.): 264 – Sumner, Canterbury.

Chenopsis atrata roberti Mathews, 1912: *Novit. Zool.* 18(3): 446 – Augusta, Western Australia.

Chenopsis atrata atrata (Latham); Mathews 1913, *List Birds Australia*: 86.

Chenopsis [sic] *atratus* (Latham); Thomson 1922, *Naturalisation Animals Plants New Zealand*: 106.

Cygnus atratus (Latham); Checklist Committee 1953, *Checklist N.Z. Birds*: 34.

Cygnus chathamicus Oliver, 1955: *New Zealand Birds*, 2nd edition: 603 – Chatham Islands.

Cygnus chathamica; Dawson 1958, *Ibis* 100(2): 233. Unjustified emendation.

Cygnus sumnerensis (Forbes); Checklist Committee 1990, *Checklist Birds N.Z.*: 98.

Cygnus chathamensis; Worthy 1998, *Rec. Cant. Museum* 12(1): 110. Unjustified emendation.

Australia, Tasmania. In New Zealand, widespread and abundant throughout main islands and on Chatham Island. The New Zealand stocks are probably to be regarded as both introduced and self-introduced. A reassessment of the history of this species in New Zealand (Williams 1981) suggests that its wide distribution and marked abundance during 1864–68 are inexplicable without spontaneous immigration, considering that a major increase occurred at or slightly after the period of introduction (about 100 birds were released in 1864–68 by the Nelson, Canterbury, Southland and Otago Acclimatisation Societies; see Kirk 1896). First recorded alive in the Chatham Islands in 1864, when an exhausted bird was caught (Richards 1950). The population there is probably derived by self-introduction from Australia or the New Zealand mainland as no records of human introductions are known.

Fossil bones of *Cygnus* are common in coastal, lacustrine and archaeological deposits throughout New Zealand and the Chatham Islands. *Cygnus summerensis* Forbes, 1890 was based on a few bones said to be larger than *C. atratus*, the latter species not then known to have been present in New Zealand until after its introduction in the 1860s. Worthy (1998d) synonymised *Cygnus summerensis* with *C. atratus* following a reassessment of the type description and a large sample of Holocene fossil bones from Marfells Beach (Marlborough), which revealed no significant differences in size, shape or relative proportions of the skeleton. The status of Holocene fossils from the Chatham Islands has not yet been re-addressed and the holotype of *C. chathamicus* is missing (Worthy & Holdaway 2002: 227).

Tribe CEREOPSINI Vigors: Australasian Geese

Cereopsina Vigors, 1825: *Zoological Journal* 2: 404 – Type genus *Cereopsis* Latham, 1802.

Genus *Cereopsis* Latham

Cereopsis Latham, 1802: *Index Ornith. Suppl.*: lxxvii – Type species (by monotypy) *Cereopsis novaehollandiae* Latham.

► *Cereopsis novaehollandiae* Latham

Cape Barren Goose

Cereopsis N. Hollandiae Latham, 1802: *Index Ornith. Suppl.*: lxxvii – New South Wales = islands of Bass Strait, Australia (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 210).

Cereopsis cinerea Vieillot, 1816: *Nouv. Dict. Hist. Nat., nouv. éd.* 5: 516. Unnecessary *nomen novum* for *Cereopsis novaehollandiae* Latham, 1802.

Anser griseus Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 23: 336 – Tasmania, Australia.

Anas terrae leeuwin Bennett, 1831: *Proc. Comm. Sci. Corresp. Zool. Soc. London* 1(3): 26 (ex Riche MS) – Esperance Bay, Western Australia.

Cereopsis australis Swainson, 1837: *Classification of Birds* 2(92): 366 – Bass Strait, Australia.

Cereopsis novaehollandiae georgi Mathews, 1912: *Novit. Zool.* 18(3): 446 – Twin-Peak Islands, Western Australia.

Cereopsis novae-hollandiae Latham; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 106.

Cereopsis novaehollandiae Latham; Checklist Committee 1953, *Checklist N.Z. Birds*: 34.

Cereopsis novaeseelandiae Oliver, 1955: *New Zealand Birds*, 2nd edition: 601 – New Zealand. Junior primary homonym of *Cereopsis novae-zealandiae* Forbes, 1892.

Cereopsis novaehollandiae grisea Storr, 1980: *West. Austr. Naturalist* 14: 202 – Recherche Archipelago, Western Australia

Cereopsis novaehollandiae novaehollandiae Latham; Storr, 1980: *West. Austr. Naturalist* 14: 202.

Breeds on islands off southern Australia (Bass Strait and Great Australian Bight). Liberated at Lake Hawea in 1914, where it survived as a small population in the Hawea, Wanaka and Hunter River area until about 1946 (Williams 1968). Reports from Fiordland (1947, 1967), Waitaki-Benmore (1966), South Auckland (1986) considered stragglers from Australia. Records from Wanganui and Waikanae (Dec. 1987 to Jan. 1988; Taylor 1990: 199) were probably of birds escaped from captivity. Breeding pairs in North Canterbury 1995, 1996, were probably escapees from flock of c. 30 at Peacock Springs (O'Donnell & West 1996: 172, 1998: 12, 2001: 84). Regular recent records: Takaka, Dec. 1998 (O'Donnell 2001: 102); Lake Ellesmere (Te Waihora), Dec. 2000 (Medway 2001c); Waikuku Aug. to Sep. 2001 (Medway 2001b); South Canterbury, 3 Sep. 2001; Waikanae, Aug. 2002; near Timaru, Sep. 2002 (Medway 2002e); Otaihanga, Paraparaumu, Jun. 2003; and Washdyke Lagoon, Aug. 2003 (Medway 2003b). See also Robertson *C. et al.* (2007). Contrary to Forbes' (1892) and Oliver's (1955) indications, there is neither evidence for the former existence of an endemic species of *Cereopsis* (*C. novaeseelandiae*) (see Dawson 1958), nor any fossil record of *C. novaehollandiae* in New Zealand.

Genus †*Cnemiornis* Owen

Cnemiornis Owen, 1866: *Trans. Zool. Soc. London* 5(5): 396 – Type species (by original designation) *Cnemiornis calcitrans* Owen.

A recent cladistic analysis of morphology by Livezey (1989, 1997b) placed the flightless geese *Cnemiornis* in a basal position in Anseriformes as a distinct family (Cnemiornithidae), but a re-analysis using a more complete data-set, corroborated by a mtDNA analysis by Worthy *et al.* (1997), strongly indicated *Cnemiornis* was the sister taxon of *Cereopsis*, as most previous workers had thought. Dawson (1958), Worthy *et al.* (1997) and Worthy & Holdaway (2002) provided details of the nomenclatural history of the included species.

▶ †*Cnemiornis gracilis* Forbes

North Island Goose

Cnemiornis gracilis Forbes, 1892: *Trans. N.Z. Inst.* 24: 187 – Te Aute, Hawke's Bay.

Cnemiornis septentrionalis Oliver, 1955: *New Zealand Birds*, 2nd edition: 602 – Hunterville, Rangitikei.

Cnemiornis gracilis Forbes; Checklist Committee 1990, *Checklist Birds N.Z.*: 100.

Fossil. Two doubtful Early Pleistocene records (see below) and one Middle Pleistocene record; otherwise Late Pleistocene (e.g. Waitomo, Mahoenui, Hawke's Bay; Worthy & Swabey 2002) and Holocene. The oldest record of certain provenance is one bone from Clifton Sand, near Cape Kidnappers, c. 680,000 years old (Oxygen Isotope Stage 17; Gill *et al.* 2005). One midden record (Paremata, Wellington; Davidson 1978).

One supposed Early Pleistocene record is from Hunterville (Drew 1897), possibly from the Tewkesbury Formation of 1.8 Ma (Fleming 1953: 157). Drew (1897) reported that all bones had Tertiary marine shells and sand filling holes and grooves, but the *Cnemiornis* bones from Hunterville in the Wanganui Museum have no such infilling. The holotype left tibiotarsus of *Cn. septentrionalis*, and other bones recorded from Hunterville, are probably all of one individual (Worthy unpubl.). This implies a less turbulent depositional history, such as would be provided by Late Pleistocene fluvial cover beds rather than the older marine sediments (Worthy *et al.* 1991). Alternatively, the bones may be among those sent from Te Aute to Wanganui Museum by Rev. A.O. Williams (Drew 1897: 285).

Bones described as too big for a kiwi and too small for a moa were collected by S.H. Drew in 1886 in quarries between Okehu and Kai Iwi stations from sandy shell beds that are also exposed at Butlers Creek (Park 1887: 63). *Cnemiornis* bones in Wanganui Museum, identified as from 'brown sands at Kai Iwi in 1886' (Oliver 1955: 602), are presumed to be some of these bones. The deposits were referred to Butlers Shell Conglomerate (Fleming 1953: 175), implying an Early Pleistocene age (c. 1.15 Ma), but Worthy *et al.* (1991) doubted this provenance, suggesting that they were from Late Pleistocene cover beds. The right tibiotarsus and tarsometatarsus in Wanganui Museum are brown (Worthy unpubl.) unlike the polished black fragments of moa bone known certainly from Butlers Shell Conglomerate.

▶ †***Cnemiornis calcitrans*** Owen

South Island Goose

Cnemiornis calcitrans Owen, 1865: *Proc. Zool. Soc. London* 1865 (28): 438. *Nomen nudum*.
Cnemiornis calcitrans Owen, 1866: *Trans. Zool. Soc. London* 5(5): 396 – Timaru.
Cnemiornis minor Forbes, 1892: *Trans. N.Z. Inst.* 24: 187 – New Zealand.
Cereopsis novae-zealandiae Forbes, 1892: *Trans. N.Z. Inst.* 24: 188 – Enfield, Otago.
Cnemiornis calcitrans Owen; Checklist Committee 1990, *Checklist Birds N.Z.*: 99.

Known from Late Pleistocene and Holocene fossils, particularly in caves and swamps of the eastern South Island (Marlborough to Southland); only in Pleistocene deposits in western regions (Worthy 1999a); rare in middens (10 sites; Worthy 1999b).

Tribe *ANSERINI Vigors: Northern Geese

Anserina Vigors, 1825: *Zoological Journal* 2: 404 – Type genus *Anser* Brisson, 1760.

Genus **Anser* Brisson

Anser Brisson, 1760: *Ornithologie* 1: 58, 6: 261 – Type species (by tautonymy) *Anser domesticus* = *Anas anser* Linnaeus.

▶ ****Anser anser*** (Linnaeus)

Greylag Goose

Anas Anser Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 123 – Europe & northern North America, restricted to Sweden (*vide* Linnaeus 1761, *Fauna Svecica*, 2nd edition: 40).
Anser anser ferus Brünnich, 1764: *Ornith. Borealis*: 13, n^o 53 – Eurasia.
Anser cinereus Meyer, 1810: *Ornith. Taschenb. Deutschland* 2: 552 – Eurasia.
Anser ferus Linnaeus [sic]; Hamilton 1909, *Hand-list Birds New Zealand*: 18.
Anser cinereus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 105.
Anser anser (Linnaeus); Heather & Robertson 1996, *Field Guide Birds New Zealand*: 74, 262.

Occurs naturally from Iceland across Eurasia to China. Domesticated for centuries, the species was first brought to New Zealand by Cook in 1773 (Thomson 1922) and later by European settlers. Now feral in many regions throughout North and South Islands (Heather & Robertson 1996; Robertson, C. *et al.* 2007) and Chatham Islands (Tennyson 1998b).

Genus **Branta* Scopoli

Branta Scopoli, 1769: *Annus 1, Hist. Nat.*: 67 – Type species (by subsequent designation) *Anas bernicla* Linnaeus = *Branta bernicla* (Linnaeus).

▶ ****Branta canadensis*** (Linnaeus)

Canada Goose

Anas canadensis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 123 – Canada.

North America and north-east Asia (Kamchatka to Japan).

****Branta canadensis maxima* Delacour****Canada Goose**

Anas canadensis; Hamilton 1909, *Hand-list Birds New Zealand*: 19. Not *Anas canadensis* Linnaeus, 1758.

Branta canadensis; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 104. Not *Anas canadensis* Linnaeus, 1758.

Branta canadensis maxima Delacour, 1951: *American Mus. Novit.* 1537: 5 – Round Lake, Grant County, Minnesota, USA.

Branta canadensis canadensis; Checklist Committee 1953, *Checklist N.Z. Birds*: 34. Not *Anas canadensis* Linnaeus, 1758.

Branta canadensis; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 36. Not *Anas canadensis* Linnaeus, 1758.

Branta canadensis maxima Delacour; Checklist Committee 1990, *Checklist Birds N.Z.*: 98.

Northern and central states of the USA (North Dakota to Arkansas). First successfully introduced to New Zealand in 1905 (Imber 1971). In the South Island now abundant from Marlborough to Southland and Fiordland (Robertson, C. *et al.* 2007). North Canterbury birds regularly migrating from hill country breeding areas to Lake Ellesmere (Te Waihora). North Island numbers increasing and distribution expanding as a result of recent liberations at Wairoa and in the Wairarapa and Waikato (Robertson, C. *et al.* 2007). Rarely reaches the Kermadec Islands (Veitch *et al.* 2004), Chatham Islands (Miskelly *et al.* 2006) and Auckland Islands (McClelland & Moore 1991). Vagrants from New Zealand have also reached Lord Howe Island (1969, 1977; Smithers 1977, McAllan *et al.* 2004), New Caledonia (1965; McAllan *et al.* 2004) and Australia (Anon. 2007a). First record for Australia was one bird, Shoalhaven River, Nowra, Illawarra, 28 Oct. 2002 (Stafford 2002).

INCERTAE SEDIS**Tribe MALACORHYNCHINI Boetticher: Pink-eared Ducks**

Malacorhynchini Boetticher, 1950: *Beitr. Gattungssyst. Vögel* 2 – Type genus *Malacorhynchus* Swainson, 1831.

Genus *Malacorhynchus* Swainson

Malacorhynchus Swainson, 1831: *Journ. Royal Inst. Great Britain* 2: 18 – Type species (by monotypy) *Anas membranacea* Latham = *Malacorhynchus membranaceus* (Latham).

Genetic evidence (Sraml *et al.* 1996; M. Sorenson pers. comm. to T. Worthy, 2006) places *Malacorhynchus* outside Anatinae, between *Dendrocygna* and *Tadorna*, thus supporting the evidence from feather proteins (Brush 1976) and morphology (Olson & Feduccia 1980). Recent morphological data suggest that *Malacorhynchus* is a member of the Oxyurinae (Worthy & Lee 2008, Worthy 2009).

► *Malacorhynchus membranaceus* (Latham)**Pink-eared Duck**

Anas membranacea Latham, 1802: *Index Ornith. Suppl.*: lxxix – New South Wales, Australia.

Malacorhynchus membranaceus Latham; Eyton 1838, *Monograph Anatidae*: 136. In part.

Malacorhynchus membranaceus assimilis Mathews, 1912: *Austral Avian Rec.* 1: 86 – Fitzroy River, Western Australia.

Malacorhynchus membranaceus (Latham); Johnsgard 1979, in *Peters Check-list Birds World 1* (2nd edition): 480.

Rare vagrant to New Zealand. One bird at Mangere Sewage Ponds, Jun. to Jul. 1990 (Eller *et al.* 1991, Guest 1991).

▶ †**Malacorhynchus scarletti** Olson**Scarlett's Duck**

Malacorhynchus scarletti Olson, 1977: *Emu* 77: 132 – Pyramid Valley, North Canterbury.

North, South and Chatham Islands (Worthy & Gill 2002). Known from Holocene fossils; rare; mainly from lacustrine deposits. It is a sister taxon of the Australian pink-eared duck *M. membranaceus* (Olson 1977, Worthy 1995).

Subfamily OXYURINAE J.C. Phillips: Stiff-tailed Ducks

The inclusion of *Biziura* in Oxyurinae may change because of genetic, morphological and behavioural evidence (Sraml *et al.* 1996). McCracken *et al.* (1999) suggested that *Biziura* is a monotypic basal anatid lineage, placed outside Oxyurinae.

Tribe OXYURINI J.C. Phillips: Stiff-tailed Ducks

Oxyurinae J.C. Phillips, 1926: *Nat. Hist. Ducks* 4: 201 – Type genus *Oxyura* Bonaparte, 1828.

Genus Oxyura Bonaparte

Oxyura Bonaparte, 1828: *Ann. Lyc. Nat. Hist. N.Y.* 2: 390 – Type species (by monotypy) *Anas rubidus* Wilson = *Oxyura jamaicensis* (Gmelin).

Erismatūra Bonaparte, 1832: *Giornale Arcadico di Scienze, Lettere ed Arti* 52: 208. Unnecessary nomen novum for *Oxyura* Bonaparte, 1828.

Oxyura australis Gould, 1837 was reported as a subfossil from Lake Poukawa (Horn 1983), but all *Oxyura* fossil remains from New Zealand are now referred to the endemic species *Oxyura vantetsi* Worthy, 2005 (see also Worthy 2004).

▶ †**Oxyura vantetsi** Worthy**New Zealand Blue-billed Duck**

Oxyura australis; Horn 1983, *Journ. Royal Soc. N.Z.* 13: 67. Not *Oxyura australis* Gould, 1837.

Oxyura australis; Checklist Committee 1990, *Checklist Birds N.Z.*: 107. Not *Oxyura australis* Gould, 1837.

Oxyura vantetsi Worthy, 2005: *Mem. Queensland Mus.* 51: 263 – Lake Poukawa, Hawke's Bay.

Extinct. New Zealand: North and South Islands. Holocene fossils representing at least 19 individuals were identified from swamp deposits at Poukawa, Hawke's Bay, and a single bone is known from a South Island locality, probably Wairau Bar (Worthy 2004, 2005a).

Genus Biziura Stephens

Biziura Stephens, 1824: in Shaw, *General Zool.* 12(2): 221 – Type species (by monotypy) *Biziura novaehollandiae* Stephens = *Anas lobata* Shaw.

▶ †**Biziura delautouri** Forbes**New Zealand Musk Duck**

Biziura delautouri Forbes, 1892 (March): *Nature* 45(1166): 417 – Enfield Swamp, Oamaru, Otago.

Biziura lautouri Forbes, 1892 (May): *Trans. N.Z. Inst.* 24: 188 – Otago.

Biziura delautouri Forbes; Checklist Committee 1990, *Checklist Birds N.Z.*: 108.

This species has generally been considered conspecific with *B. lobata* (Shaw, 1796) (e.g. Scarlett 1969), but data presented by Olson (1977) and Worthy (2002b) confirmed the distinctiveness of the species. Rare; known from Holocene sites in North Island (Waikuku Beach dunes, Far North; Lake Poukawa) and South Island (Marlborough; near Oamaru) (Worthy 2002b).

Subfamily TADORNINAE Reichenbach: Shelducks

Tribe TADORNINI Reichenbach: Shelducks

Tadorninae Reichenbach, 1849: *Avium Syst. Nat.*: 10 – Type genus *Tadorna* J.D.D. Fleming, 1822.

Genus *Tadorna* Boie

Tadorna Boie, 1822 (before May): *Tagebuch Reise Norwegen*: 140, 351 – Type species (by tautonymy) *Tadorna familiaris* Boie = *Tadorna tadorna* (Linnaeus).

Tadorna J.D.D. Fleming, 1822 (June): *Phil. Zool* 2: 260 – Type species (by tautonymy) *Anas tadorna* Linnaeus = *Tadorna tadorna* (Linnaeus). Junior homonym and junior synonym of *Tadorna* Boie, 1822.

Casarca Bonaparte, 1838: *Geogr. Comp. List. Birds*: 56 – Type species (by monotypy) *Anas rutila* Pallas = *Tadorna ferruginea* (Pallas).

Casarka Eyton, 1838: *Monograph Anatidae*: 479. Unnecessary *nomen novum* for *Casarca* Bonaparte, 1838.

Vulpanser Keyserling & Blasius, 1840: *Wirbelthiere Europa's* 84: 125 – Type species (by monotypy) *Anas tadorna* Linnaeus = *Tadorna tadorna* (Linnaeus).

Nettalopex Heine, 1890: in Heine & Reichenow, *Nom. Mus. Hein. Ornith.*: 343. Unnecessary *nomen novum* for *Casarca* Bonaparte, 1838.

Zesarkaca Mathews, 1937: *Emu* 37: 31 – Type species (by original designation) *Anas variegata* Gmelin = *Tadorna variegata* (Gmelin).

▶ *Tadorna variegata* (Gmelin)

Paradise Shelduck

Anas variegata Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 505. Based on the “Variegated Goose” of Latham 1785, *Gen. Synop. Birds* 3(2): 441 – “Habitat in nova Seelandia”, restricted to Dusky Sound, Fiordland.

Anser variegatus (Gmelin); Bonnaterre, 1791: *Tableaux Encycl. Méthod. Ornith.* 1 (47): 113.

Anas picta Vieillot, 1816: *Nouv. Dict. Hist. Nat.*, nouv. éd. 5: 132 (ex Cooke) – New Zealand. Not *Anas picta* Gmelin, 1789.

Bernicla variegata (Gmelin); Stephens 1824, in Shaw, *General Zool.* 12(2): 59.

Casarca castanea Eyton, 1838: *Monograph Anatidae*: 108, pl. 10 – New Zealand.

Casarca variegata (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 198.

Anas cheneros J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 92 – Dusky Sound, Fiordland.

Casarca castanea Eyton; Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 43: 649.

Anser variegata (Gmelin); Ellman 1861, *Zoologist* 19: 7471.

Tadorna variegata (Gmelin); Sclater 1864, *Proc. Zool. Soc. London* 1864 (2): 191, pl. 19.

Vulpanser variegata (Gmelin); Reichenow 1882, *Ornith. Centralblatt*: 36.

Nettalopex variegata (Gmelin); Heine & Reichenow 1890, *Nom. Mus. Hein. Ornith.*: 343

Zesarkaca variegata (Gmelin); Mathews 1937, *Emu* 37: 31.

New Zealand. In the North Island, modern distribution is the result of deliberate introductions, e.g. Southland to National Park (settlement) from 1915 to 1920s, and National Park and Gisborne to Northland in the 1960s (M.J. Williams 1971). The largest concentrations are now in the Gisborne–East Cape area, Tongariro National Park, and Northland, increasing elsewhere. In the South Island, widely distributed throughout with greatest numbers along the eastern foothills of the Southern Alps/Kā Tiritiri o te Moana. Also Stewart Island/Rakiura and most major offshore islands, including Great Barrier (Aotea), Hauturu/Little Barrier and Kapiti Islands. Chatham Islands: one recorded South East Island, Jan. 1984 (Fennell & Merton 1984). Five birds reached Lord Howe Island in Mar. 1950 with at least three staying until Aug. 1950 (McAllan

et al. 2004). Holocene fossil and midden records from widely distributed sites throughout North and South Islands (M.J. Williams 1971, Worthy 1999b), and in the Chatham Islands. The Chatham fossils may belong to an undescribed taxon (Millener 1999).

▶ ***Tadorna tadornoides* (Jardine & Selby) Chestnut-breasted Shelduck**

Anas tadornoides Jardine & Selby, 1828: *Illus. Ornith.* 4: pl. 62 and text – New South Wales, Australia.

Anas kasarkoides Lafresnaye, 1835: *Mag. Zool., Paris*: pl. 36, text – New South Wales, Australia.

Casarka todornoides (Jardine & Selby); Eyton 1838, *Monograph Anatidae*: 107. Unjustified emendation.

Vulpanser todornoides (Jardine & Selby); Reichenow 1882, *Ornith. Centralblatt*: 35.

Nettalopex tadornina Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 343 – Australia.

Tadorna tadornoides westralis Mathews, 1912: *Austral Avian Rec. 1*: 118 – Augusta, Western Australia.

Casarca tadornoides (Jardine & Selby); Oliver 1955, *New Zealand Birds*, 2nd edition: 406.

Tadorna tadornoides (Jardine & Selby); Checklist Committee 1990, *Checklist Birds N.Z.*: 101.

South-west and south-east Australia, Tasmania. First New Zealand records were Hokitika River, Jan. 1973, and Lake Ellesmere (Te Waihora), Dec. 1982 (Fennell *et al.* 1983, Grant 1989). In 1983–86 recorded widely throughout New Zealand (including Snares/Tini Heke, Auckland and Campbell/Motu Ihupuku Islands) during Jan. to May. Highest number recorded was in 1983 (56); only 8 in 1984, but rising to 33 in 1985 (Heather 1987). One resident on Snares Islands/Tini Heke Nov. to Dec. 1984 (Miskelly *et al.* 2001a). A pair with half-grown young near Lake Tekapo in Jan. 1985 is the only confirmed breeding record. Few recorded since, mainly in Marlborough (Lakes Elterwater and Grassmere/Kapara Te Hau); one, Puponga, 2 Jan. 1992 (Medway 2000a); three, Tupuangi, Pitt Island, Chatham Group, 4 Dec. 1997 (Tennyson 1998b); one, Lake Omanu, Foxton, Mar. 1998 (Medway 2001c); two, Normanby Lake (south of Timaru), Mar. to Apr. 2003 (Medway 2003b). Tennyson (1998b) cited records of vagrants at Norfolk and Kermadec Islands. Also called Australian shelduck.

Subfamily MERGINAE Rafinesque: Sea Ducks

Mergidia Rafinesque, 1815: *Analyse de la Nature*: 72 – Type genus *Mergus* Linnaeus, 1758.

Genus *Mergus* Linnaeus

Mergus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 129 – Type species (by subsequent designation)

Mergus castor Linnaeus = *Mergus serrator* Linnaeus.

Merganser Brisson, 1760: *Ornithologie* 6: 230 – Type species (by subsequent designation)

Mergus castor Linnaeus = *Mergus serrator* Linnaeus.

Promergus Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 410 – Type species (by original designation) *Mergus australis* Hombron & Jacquinot.

▶ †***Mergus australis* Hombron & Jacquinot New Zealand Merganser**

Mergus australis Hombron & Jacquinot, 1841: *Ann. Sci. Nat., Zool. Paris*, 2nd Series 16: 320 – Auckland Islands.

Merganser australis (Hombron & Jacquinot); Hutton 1904, *Index Faunae N.Z.*: 37.

Promergus australis (Hombron & Jacquinot); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 410.

Mergus australis Hombron & Jacquinot; Checklist Committee 1953, *Checklist N.Z. Birds*: 36.

The only historical records are from Auckland and Adams Islands in the Auckland Islands Group; the last specimens were apparently a pair shot on 9 Jan. 1902, and the species is now almost certainly extinct (Kear & Scarlett 1970). Also called the Auckland

Island merganser, but there are Late Pleistocene and Holocene fossil and midden records from widely scattered localities in both main islands; also Stewart Island/Rakiura and Chatham Islands. Young *et al.* (1997) mistakenly reported fossil bones of *Mergus* from Campbell Island/Motu Ihupuku, and did not mention the Chatham Islands. Chatham Island fossils may represent an undescribed taxon (Millener 1999, Kear 2005), a suggestion yet to be investigated.

Subfamily ANATINAE Leach: Ducks

Ellman (1861: 7471) named two new species of teal as *Anas fusca* and *A. mediterranea*, but he did not give sufficient information to identify them unequivocally. Therefore, *Anas fusca* Ellman, 1861 and *Anas mediterranea* Ellman, 1861 are here regarded as *nomina dubia*.

Tribe ANATINI Leach: Typical Ducks

Anatidae Leach, 1819: *Eleventh room. In Synopsis Contents British Museum 15th Edition, London*: 67 – Type genus *Anas* Linnaeus, 1758.

Genus *Chenonetta* Brandt

Chenonetta Brandt, 1836: *Descr. Icon. Anim. Ross. Nov.*, *Aves* 1: 5 – Type species (by monotypy) *Anser lophotus* Brandt = *Chenonetta jubata* (Latham).

Euryanus Oliver, 1930: *New Zealand Birds*, 1st edition: 220 – Type species (by original designation) *Anas finschi* Van Beneden = *Chenonetta finschi* (Van Beneden).

Livezey (1989, 1997b) placed *Anas finschi* Van Beneden, 1875 in the monotypic tribe Euryanatini within Tadorninae. This was followed by Callaghan & Harshman (2005), who overlooked the analysis of Worthy & Olson (2002) showing that the New Zealand taxon had a close relationship to *Chenonetta jubata*. *Chenonetta* is placed early in Anatinae following Kear (2005) as supported by Worthy (2009).

► *Chenonetta jubata* (Latham)

Australian Wood Duck

Anas jubata Latham, 1802: *Index Ornith. Suppl.*: lxix – New South Wales, Australia.

Anser lophotus Brandt, 1836: *Descr. Icon. Anim. Ross. Nov.*, *Aves* 1: 5 – New South Wales, Australia.

Chenonetta jubata alexanderi Mathews, 1916: *Austral Avian Rec.* 3: 56 – North of Western Australia.

Chenonetta jubata (Latham); Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Australia and Tasmania. Straggler to New Zealand: five records accepted by Rare Birds Committee: Glendhu, Wanaka, 1910; Orawia, Southland, 1944; Wairau River, near mouth of the Waikakaho River, Marlborough, 1980 (Oliver 1955, Jenkins, P. 1982); Snares Islands/Tini Heke, 1982–86 (Miskelly *et al.* 2001a); Otapiri, Southland, May 2002 (Medway 2002g). Two unconfirmed records: Nelson Haven, Jan. 1999, and Lake Elterwater, Mar. 1999 (O'Donnell 2001: 103). Also called the maned goose.

► † *Chenonetta finschi* (Van Beneden)

Finsch's Duck

Anas finschi Van Beneden, 1875: *Ann. Soc. Géol. Belgique* 2: 123, pl. 3 – Earnsclough Cave, Otago.

Euryanus [sic] *finschi* (Van Beneden); Oliver 1930, *New Zealand Birds*, 1st edition: 220.

Euryanus finschi (Van Beneden); Checklist Committee 1990, *Checklist Birds N.Z.*: 105.

Chenonetta finschi (Van Beneden); Worthy & Olson 2002, *Notornis* 49: 14.

Until recently listed as *Euryanas finschi*, but placed in *Chenonetta* following Worthy & Olson (2002). Abridged versions of the original description appeared in Van Beneden (1875, 1877). Widely distributed in Holocene and Late Pleistocene fossil deposits and middens throughout North and South Islands. Distribution changed from Pleistocene to Holocene following changes in vegetation distribution (Worthy 1999a). Species exhibited a 10% reduction in relative wing length from the Late Pleistocene to the Holocene (Worthy 1988a, 1997b).

Genus *Hymenolaimus* G.R. Gray

Malacorhynchus Wagler, 1832: *Isis von Oken*, Heft 11: col. 1235 – Type (by monotypy)

Malacorhynchus forsterorum Wagler, 1832 = *Hymenolaimus malacorhynchus* (Gmelin). Junior homonym of *Malacorhynchus* Swainson, 1831.

Hymenolaimus G.R. Gray, 1843: *Ann. Mag. Nat. Hist., London* 11: 370 – Type species (by monotypy) *Anas malacorhynchus* Gmelin = *Hymenolaimus malacorhynchus* (Gmelin).

Hymenolaemus Agassiz, 1846: *Nomen. Zool. Animal. Fossil.* 2: 190. Unjustified emendation.

Livezey (1996c, 1997b) suggested that *Hymenolaimus* lies within Tadorninae and this was followed by Dickinson (2003) and Kear (2005), although Callaghan (*in* Kear 2005: 370) stated that its relationships are unclear. Homoplasy demonstrably affected perceived relationships in Livezey's analyses, especially among diving taxa (McCracken *et al.* 1999), and some of the unique behavioural and morphological features of *Hymenolaimus* probably relate to its specialised habitat. Worthy's (2009) analysis strongly supported a position basal in Anatinae, i.e. the traditional arrangement, which we follow.

► *Hymenolaimus malacorhynchus* (Gmelin)

Blue Duck

Anas malacorhynchus Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 526. Based on the "Soft-billed Duck" of Latham 1785, *Gen. Synop. Birds* 3(2): 522 – "Habitat in nova Seelandia", restricted to Dusky Sound, Fiordland.

Rhynchaspis malacorynchos (Gmelin); Stephens 1824, *in* Shaw, *General Zool.* 12(2): 123. Unjustified emendation.

Malacorhynchus Forsterorum Wagler, 1832: *Isis von Oken*, Heft 11: col. 1235 – Dusky Sound, Fiordland.

Malacorhynchus membranaceus Latham; Eyton 1838, *Monograph Anatidae*: 136. In part.

Malacorynchos [sic] *Forsterorum* Wagler; G.R. Gray 1843, *in* E. Dieffenbach, *Travels in N.Z.* 2: 198.

Anas malacoryncha J.R. Forster, 1844: *in* M.H.C. Lichtenstein, *Descrip. Animalium*: 94 – Dusky Sound, Fiordland.

Hymenolaimus malacorhynchus; G.R. Gray, 1862: *Ibis* 4: 241. Unjustified emendation.

Fuligula (Hymenolaemus) malacoryncha (Gmelin); Reichenow 1882, *Ornith. Centralblatt*: 5.

Hymenolaemus malacorhynchus (Gmelin); Hamilton 1909, *Hand-list Birds New Zealand*: 11. Unjustified emendation.

Hymenolaimus malacorhynchus malacorhynchus (Gmelin); Mathews 1937, *Emu* 37: 32. Unjustified emendation.

Hymenolaimus malacorhynchus hymenolaimus Mathews, 1937: *Emu* 37: 32 – North Island.

Hymenolaimus malacorhynchus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

New Zealand. North Island: mostly restricted to headwaters of some rivers in Bay of Plenty and rivers draining from central mountains and eastern ranges. South Island: widespread in headwaters of rivers on western side of the Southern Alps/Kā Tiritiri o te Moana and in Fiordland and the Catlins, but declining. A few Late Pleistocene and Holocene fossil and midden records from both North and South Islands. Subspecies, as defined by

Mathews (1937), require validation (R. O'Brien, *in* Marchant & Higgins 1990: 1262) as reported size differences are unsupported by data, and plumage differences subtle. Genetic variation between birds in the North and South Islands is minimal (Triggs *et al.* 1992, Robertson *et al.* 2003) and provides no evidence for distinct taxa.

Genus *Pachyanas* Oliver

Pachyanas Oliver, 1955: *New Zealand Birds*, 2nd edition: 599 – Type species (by original designation) *Pachyanas chathamica* Oliver.

▶ †*Pachyanas chathamica* Oliver

Chatham Island Duck

Pachyanas chathamica Oliver, 1955: *New Zealand Birds*, 2nd edition: 599 – Chatham Islands.

Known from Holocene fossils from the Chatham Islands. Livezey (1997b) suggested that *Pachyanas* may be better placed in Tadorninae, and despite the fact that the taxon was not included in his analyses and that homoplasy affected his results with respect to both specialist divers and flightless forms (McCracken *et al.* 1999, Sorenson *et al.* 1999), this taxon was referred to as the Chatham Island shelduck *Pachyanas cathamica* (sic) by Callaghan (*in* Kear 2005: 398). We prefer to leave it in Anatini pending a study of its relationships. Its modifications towards flightlessness are likely to have obscured its phylogenetic relationships as has been shown with Hawaiian geese (Sorenson *et al.* 1999), *Cnemiornis* (Worthy *et al.* 1997) and *Euryanas* (Worthy & Olson 2002).

Genus *Anas* Linnaeus

Anas Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 122 – Type species (by subsequent designation)

Anas boschas Linnaeus = *Anas platyrhynchos* Linnaeus.

Anassus Rafinesque, 1815: *Analyse de la Nature*: 72. Unnecessary *nomen novum* for *Anas* Linnaeus 1758.

Spatula Boie, 1822: *Isis von Oken*, Heft 10: col. 564 – Type species (by monotypy) *Anas clypeata* Linnaeus.

Rhynchaspis Stephens, 1824: *in* Shaw, *General Zool.* 12(2): 114 – Type species (by subsequent designation) *Anas clypeata* Linnaeus.

Mareca Stephens, 1824: *in* Shaw, *General Zool.* 12(2): 130 – Type species (by subsequent designation) *Mareca fistularis* Stephens = *Anas penelope* Linnaeus.

Querquedula Stephens, 1824: *in* Shaw, *General Zool.* 12(2): 142 – Type species (by tautonymy) *Anas querquedula* Linnaeus.

Rhynchoplatus Berthold, 1827: *in* Latreille, *Nat. Fam. Thierreich*: 84 – Type species (by monotypy) *Anas clypeata* Linnaeus.

Clypeata Lesson, 1828: *Manuel d'Ornith.* 2: 416 – Type species (by original designation) *Anas clypeata* Linnaeus.

Spathulea J.D.D. Fleming, 1828: *Hist. Brit. Anim.* 123 – Type species (by monotypy) *Anas clypeata* Linnaeus.

Nettion Kaup, 1829: *Natürl. Syst.*: 95 – Type species (by original designation) *Anas crecca* Linnaeus.

Boschas Swainson, 1831: *Journ. Royal Inst. Great Britain* 2: 20 – Type species (by tautonymy) *Anas boschas* Linnaeus = *Anas platyrhynchos* Linnaeus.

Nesonetta G.R. Gray, 1844: *Gen. Birds* 3: 627 – Type species (by original designation) *Nesonetta aucklandica* G.R. Gray = *Anas aucklandica* (G.R. Gray).

Virago Newton, 1872: *Proc. Zool. Soc. London* 1871 (41): 651 – Type species (by original designation) *Anas punctata* Gould = *Anas castanea* (Eyton).

Elasmometta Salvadori, 1895: *Cat. Birds Brit. Mus.* 27: 287 – Type species (by monotypy) *Anas chlorotis* G.R. Gray.

Xenonetta J.H. Fleming, 1935: *Occas. Papers Roy. Ontario Mus., Zool. 1*: 1 – Type species (by original designation) *Xenonetta nesiotis* J.H. Fleming = *Anas nesiotis* (J.H. Fleming).

All New Zealand teal taxa were regarded as distinct species by most authorities in the first half of the 20th Century. However, in a review of the Anatidae, Delacour & Mayr (1945) advocated placing *A. chlorotis* as a subspecies of *A. aucklandica*. This was not followed by Oliver (1955), but Checklist Committee (1953) took Delacour & Mayr's suggestion a step further and included all the New Zealand teal as subspecies of *Anas castanea*. This arrangement was later dropped and Delacour & Mayr's treatment was followed (Checklist Committee 1970, 1990) with the Australian birds kept specifically distinct. Re-examination of the teal complex has since found widespread support for the specific distinction of each of the New Zealand teal in such features as skeletal morphology (Livezey 1990), plumage and behaviour (Marchant & Higgins 1990), allozyme electrophoresis (Daugherty *et al.* 1999) and DNA studies (Johnson & Sorenson 1998, Kennedy & Spencer 2000). We follow these authors and Livezey (1997b) and Kear (2005) in reinstating each of the New Zealand teal to specific rank. Research indicates that the genetic differences between them is greater than between their sister taxa, the grey and chestnut teal (Kennedy & Spencer 2000).

► *Anas gracilis* Buller

Grey Teal

Anas punctata, var. G.R. Gray, 1859: *Proc. Zool. Soc. London 1859* (27): 166 – New Caledonia.

Junior primary homonym of *Anas punctata* Burchell, 1828.

Anas gracilis Buller, 1869: *Ibis* 5 (n. ser.): 41 – Manawatu River area.

Mareca castanea Marie, 1870: *Actes Société Linnéenne Bordeaux* 27: 328 – New Caledonia.

Junior primary homonym of *Mareca castanea* Eyton, 1838.

Virago castanea; Newton 1872, *Proc. Zool. Soc. London 1871* (3): 651. Not *Mareca castanea* Eyton, 1838.

Anas (Virago) castanea; Ramsay 1877, *Proc. Linn. Soc. New South Wales* 2: 200. In part.

Anas castanea; Hutton 1880, *Trans. Proc. N.Z. Inst.* 12: 272. Not *Mareca castanea* Eyton, 1838.

Anas gibberifrons; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 261. Not *Anas (Mareca) gibberifrons* S. Müller, 1842.

Nettion castaneum; Hutton 1904, *Index Faunae N.Z.*: 36. Not *Mareca castanea* Eyton, 1838.

Nettion gibberifrons; Hutton 1904, *Index Faunae N.Z.*: 36. Not *Anas (Mareca) gibberifrons* S. Müller, 1842.

Nettium [sic] castaneum; Buller 1905, *Suppl. Birds N.Z.* 2: 10. Not *Mareca castanea* Eyton, 1838.

Nettium [sic] gibberifrons; Buller 1905, *Suppl. Birds N.Z.* 2: 10. Not *Anas (Mareca) gibberifrons* S. Müller, 1842.

Nettion castaneum rogersi Mathews, 1912: *Austral Avian Rec. 1*: 86 – Parry's Creek, Western Australia. Junior secondary homonym of *Anas superciliosa rogersi* Mathews, 1912.

Anas gibberifrons mathewsi J.C. Phillips, 1923: *Nat. Hist. Ducks* 2: 266. *Nomen novum* for *Nettion castaneum rogersi* Mathews, 1912.

Virago gibberifrons rogersi (Mathews); Mathews 1927, *Syst. Avium Australasianarum 1*: 216.

Virago gibberifrons gracilis (Buller); Mathews 1927, *Syst. Avium Australasianarum 1*: 216.

Querquedula gibberifrons; Oliver 1930, *New Zealand Birds*, 1st edition: 219. Not *Anas (Mareca) gibberifrons* S. Müller, 1842.

Anas gibberifrons gracilis Buller; Checklist Committee 1953, *Checklist N.Z. Birds*: 34.

Anas gracilis gracilis Buller; Parker *et al.* 1985, *Annot. Checklist Birds South Australia 2A, Waterfowl*: 9.

Anas gracilis Buller; Checklist Committee 1990, *Checklist Birds N.Z.*: 103.

New Guinea, Australia, Tasmania and New Zealand. Previously rare and local in New Zealand, but now established in several districts and spreading; frequent irruptions from Australia. Identified from only a few Holocene fossil and midden sites (North, South and Chatham Islands; Holdaway & Worthy 1997; Worthy 1998d, 1999b, 2004). Two at the Snares Islands/Tini Heke Nov. 1987 (Miskelly *et al.* 2001a).

► **Anas castanea** (Eyton)

Chestnut Teal

Mareca castanea Eyton, 1838: *Monograph Anatidae*: 119, pl. 19 – New South Wales, Australia.
Anas punctata Gould, 1845: *Birds of Australia* 6: 11 – New South Wales, Australia. Junior primary homonym of *Anas punctata* Burchell, 1822.

Anas (Virago) castanea (Eyton); Ramsay 1877, *Proc. Linn. Soc. New South Wales* 2: 200.

Nettion castanea (Eyton); Salvadori 1895, *Cat. Birds Brit. Mus.* 27: 252.

Virago castanea castanea (Eyton); Mathews 1916, *Austral Avian Rec.* 3(3): 56.

Virago castanea alexanderi Mathews, 1916: *Austral Avian Rec.* 3(3): 56 – South-west Australia.

Anas castanea castanea (Eyton); Ripley 1942, *Auk* 59: 91.

Anas castanea (Eyton); Moore & Moore 1992, *Notornis* 39: 290.

Australia and Tasmania. First New Zealand record from Manawatu River estuary on 3 Jun. 1991 (Moore & Moore 1992, Guest 1992); three more seen between 23 May and 11 Jul. 1992 (Moore & Moore 1992). Since then, recorded almost annually at Manawatu Estuary, but also at Karitane, Otago, 14 to 18 Jan. 1993 and Kowhai River, Canterbury, 21 to 23 Aug. 1993 (Medway 2000b, 2001d, 2003b).

► **Anas chlorotis** G.R. Gray

Brown Teal

Anas chlorotis G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): 15, pl. 20 – New Zealand, restricted to North Island (*vide* Mathews 1937, *Emu* 37: 31).

Elasmonetta chlorotis (G.R. Gray); Hutton 1904, *Index Faunae N.Z.*: 36.

Elasmonetta chlorotis chlorotis (G.R. Gray); Mathews, 1937: *Emu* 37: 31.

Elasmonetta chlorotis peculiaris Mathews, 1937: *Emu* 37: 31 – Lake Wakatipu, Otago.

Anas castanea chlorotis G.R. Gray; Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Anas aucklandica chlorotis G.R. Gray; Checklist Committee 1990, *Checklist Birds N.Z.*: 103.

Anas chlorotis G.R. Gray; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 130, 177.

New Zealand. Originally widely distributed in lowland swamps and swamp forests of both main islands and Stewart Island/Rakiura and the most common fossil duck species (Worthy 2002a, 2004); now rare and declining. Persists on Great Barrier (Aotea) and Hauturu/Little Barrier Islands; small local groups in Northland (Whirinaki, Helena Bay, Whangaruru Harbour and south side of Bay of Islands); also occasional sightings in Fiordland. Not seen on Stewart Island/Rakiura since 1980. Successfully introduced to Kapiti and Tiritiri Matangi Islands. Fossil and midden records from North, South and Chatham Islands (Worthy 2002a). One bird recorded extra-limally in New Caledonia three years in succession (Delacour 1965).

► **Anas aucklandica** (G.R. Gray)

Auckland Island Teal

Nesonetta aucklandica G.R. Gray, 1849: *Gen. Birds* 3: 627, pl. 169, fig. 4 – Auckland Islands.

Erismatura (Nesonetta) aucklandica Reichenow 1882; *Ornith. Centralblatt*: 4.

Anas castanea aucklandica (G.R. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Anas aucklandica aucklandica (G.R. Gray); Checklist Committee 1990, *Checklist Birds N.Z.*: 104.

Anas aucklandica (G.R. Gray); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 130, 177.

Auckland Islands: currently on Enderby, Rose, Ocean, Ewing, Dundas, Adams and Disappointment Islands. Midden remains have been found in dunes on Enderby Island (Anderson 2005).

▶ ***Anas nesiotis*** (J.H. Fleming)

Campbell Island Teal

Xenonetta nesiotis J.H. Fleming, 1935: *Occas. Papers Roy. Ontario Mus., Zool.* 1: 1 – Campbell Island.

Anas castanea nesiotis (J.H. Fleming); Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Anas aucklandica nesiotis (J.H. Fleming); Checklist Committee 1990, *Checklist Birds N.Z.*: 104.

Anas nesiotis (J.H. Fleming); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 130, 177.

Campbell Island/Motu Ihupuku: in recent decades, only on a closely adjacent islet (Dent Island) where it was rediscovered in 1975; total population probably less than 30. The history of the species, its distribution, and taxonomy was covered by Williams & Robertson (1996). Reintroduced to Campbell Island/Motu Ihupuku in 2004 following successful eradication of rats. Since 1999 a transferred population has been wild on Codfish Island (Whenuahou). This was intended to be temporary to rebuild numbers for transfer to Campbell Island/Motu Ihupuku, but owing to the birds' success in breeding on the island and their cryptic nature, removal has been difficult and has been abandoned for the present (McClelland 2002; P. McClelland pers. comm. to P. Scofield, 2008).

▶ ***Anas acuta*** Linnaeus

Northern Pintail

Anas acuta Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 126 – Europe, restricted to Sweden (*fide* Linnaeus 1761, *Fauna Svecica, 2nd edition*: 44).

Anas acuta Linnaeus; Petyt 1999, *Notornis* 46: 298.

The most widespread waterfowl species in the Northern Hemisphere, with vagrants reaching Micronesia and Polynesia (Kear 2005), and one record from Australia (Marchant & Higgins 1990: 1302). First New Zealand record from Farewell Spit, 19 to 21 Oct. 1997 (Petyt 1999, Medway 2000a).

▶ ****Anas platyrhynchos*** Linnaeus

Mallard

Northern Hemisphere, from North America, North Africa and Europe to Asia, Hawaiian Islands and Laysan Island. Seven subspecies.

****Anas platyrhynchos platyrhynchos*** Linnaeus

Mallard

Anas platyrhynchos Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 125 – Europe, restricted to Sweden (*fide* Linnaeus 1761, *Fauna Svecica, 2nd edition*: 42).

Anas boschas Linnaeus, 1766: *Syst. Nat., 12th edition 1*: 205 – Europe.

Anas boschas Linnaeus; Hutton 1871, *Cat. Birds N.Z.*: 68.

Anas boscas [sic] Linnaeus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 101.

Anas platyrhynchos platyrhynchos Linnaeus; Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Breeds in arctic and temperate regions of North America, North Africa, Europe and Asia, wintering in southern North and Central America, North Africa and south Asia. Introduced to New Zealand from the United Kingdom (1865–1920s) and North America (1937) and reared extensively for release until the 1960s. Now the most numerous and widespread waterfowl in New Zealand. Established on Chatham, Snares/Tini Heke, Auckland, Campbell/Motu Ihupuku and Antipodes Islands, and most offshore islands.

▶ ***Anas superciliosa* Gmelin****Grey Duck**

Anas superciliosa Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 537. Based on the “Superciliosus Duck” of Latham 1785, *Gen. Synop. Birds* 3: 497 – Dusky Sound, Fiordland.

Anas leucophrys J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 93 – Dusky Sound, Fiordland.

Anas novaehollandiae Stokes, 1846: *Discoveries Australia* 1 (App.): 483. *Nomen nudum*.

Anas mülleri Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 649 – Java and Timor, Indonesia.

Anas superciliosa G.R. Gray, 1859: *Proc. Zool. Soc. London* 1859 (2): 166 – New Caledonia. Junior primary homonym and junior synonym of *Anas superciliosa* Gmelin, 1789.

Anas superciliosa var. *pelewensis* Hartlaub & Finsch, 1872: *Proc. Zool. Soc. London* 1872 (7): 108 – Pelew [= Palau] Islands.

Anas superciliaris Gmelin; Layard 1880, *Ibis* 4 (4th ser.): 233. Unjustified emendation.

Anas oustaleti Salvadori, 1894: *Bull. Brit. Ornith. Club* 4: 1 – Marianas Islands, Pacific Ocean. Hybrid between *Anas platyrhynchos* Linnaeus and *Anas superciliosa* Gmelin.

Anas superciliosa rogersi Mathews, 1912: *Austral Avian Rec.* 1: 33 – Augusta, Western Australia.

Anas superciliosa perna Riley, 1919: *Proc. Biol. Soc. Washington* 32: 93 – Celebes (= Sulawesi), Indonesia.

Anas novaehollandiae Mathews, 1920: *Check-list Birds Australia*: 58 (ex Stokes, 1846).

Anas superciliosus rukensis Kuroda, 1939: *Geese & Ducks World*, text to pl. 52 – Truk, Caroline Islands, Pacific Ocean.

Anas superciliosa superciliosa Gmelin; Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Anas superciliosa Gmelin; Marchant & Higgins 1990, *HANZAB* 1: 1320.

South Pacific (Palau to Austral Islands), Indonesia, Australia, and New Zealand. Three subspecies sometimes recognised (*A. s. pelewensis*, *A. s. rogersi*, *A. s. superciliosa*). Marchant & Higgins (1990) did not support the subspecific distinction of New Zealand and Australian birds as they do not differ in size or plumage. This lack of distinction has recently been supported with DNA studies indicating mixing of the Australian and New Zealand populations (Rhymer *et al.* 2004) although a distinct haplotype is present in some New Zealand birds, indicating an historical gene-flow separation. Subspecific distinction is therefore not warranted (Kear 2005).

New Zealand and outlying islands (Kermadec, Chatham, Snares/Tini Heke, Auckland, Antipodes, Campbell/Motu Ihupuku and Macquarie Islands). A declining species, suffering from loss of habitat, and from hybridisation and competition with mallards in modified wetlands. Most numerous in Northland and Westland. Widespread in fossil and midden deposits in North, South and Chatham Islands, but abundant in only lacustrine sites.

▶ ***Anas rhynchotis* Latham****Australasian Shoveler**

Anas rhynchotis Latham, 1802: *Index Ornith. Suppl.*: lxx – New South Wales, Australia.

Rhynchaspis rhynchotis (Latham); Stephens 1824, in Shaw, *General Zool.* 12(2): 123.

Spatula rhynchotis (Latham); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 198.

Spatula variegata Gould, 1856: *Proc. Zool. Soc. London* 1856 (24): 95 – New Zealand.

Rhynchaspis variegata (Gould); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 269.

Spatula rhynchotis rhynchotis (Latham); Mathews 1912, *Novit. Zool.* 18(3): 238.

Spatula rhynchotis variegata (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 409.

Spatula rhynchotis dydimus Mathews, 1916: *Austral Avian Rec.* 3: 56 – southwestern Australia.

Sptaula [sic] *rhynchotis* (Latham); Oliver 1930, *New Zealand Birds*, 1st edition: 224.

Anas rhynchotis variegata (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Anas rhynchos rhynchos Latham; Condon 1975, *Checklist Birds Australia* 1: 71.
Anas rhynchos Latham; Marchant & Higgins 1990, *HANZAB* 1: 1340.

Australia and New Zealand. Until recently, Australian and New Zealand populations were treated as subspecies (e.g. Checklist Committee 1990). However, Marchant & Higgins (1990) questioned the distinction of the Australian and New Zealand birds, and Kear (2005) did not accept their subspecific distinction. In view of their extreme mobility it seems unlikely that the populations are separate. We follow Fullagar (*in* Kear 2005) in treating the species as monotypic.

New Zealand. Throughout both main islands; formerly on Chatham Islands (last record 1925); straggler to Stewart Island/Rakiura and Auckland Islands. Recorded on Snares Islands/Tini Heke, May 1997 (Miskelly *et al.* 2001a). Fossil and midden records from scattered sites throughout range. There is a 6,000-year-old record from Lake Poukawa (Worthy 2004), *contra* earlier reports that the taxon was a recent arrival in New Zealand (e.g. Worthy & Holdaway 2002).

▶ *Anas clypeata* Linnaeus

Northern Shoveler

Anas clypeata Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 124 – Coasts of Europe, restricted to southern Sweden (*vide* Linnaeus 1761, *Fauna Svecica*, 2nd edition: 42).

Anas clypeata Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 38.

Europe, Asia and North America; migrating south to Africa, southern and South-east Asia, Hawai'i and Central and South America. Regularly straggles to Micronesia and rarely to Polynesia and Australia (one record). Seven records in New Zealand: Mangatawhiri swamp, lower Waikato, 6 May 1968 (Howard 1968); Lake Ngakawau, near Lake Horowhenua, 4 May 1969; Lake Horowhenua, 7 Aug. 1971 (Kinsky & Jones 1972, Stidolph 1974a); Pauri Lake, Wanganui, 19 to 23 Aug. 1989 (Battley 1991); Kaikorai Estuary, Otago, 19 May 1990 (Guest 1991); one male, Matata Lagoon, Bay of Plenty, 5 May 1993; and one male, Gisborne, 30 Jun.–2 Jul. 1995 (Medway 2000a).

Tribe AYTHYINI Delacour & Mayr: Scaup and Allies

Aythini Delacour & Mayr, 1945: *Wilson Bull.* 57(1): 26 – Type genus *Aythya* Boie, 1822.

Genus *Aythya* Boie

Aythya Boie, 1822 (before May): *Tagebuch Reise Norwegen*: 308, 351 – Type species (by monotypy) *Anas marila* Linnaeus = *Aythya marila* (Linnaeus).

Nyroca J.D.D. Fleming, 1822 (June): *Phil. Zool.* 2: 260 – Type species (by tautonymy) *Anas nyroca* Gldenstdt = *Aythya nyroca* (Gldenstdt).

Fuligula Stephens, 1824: *in* Shaw, *General Zool.* 12(2): 187 – Type species (by tautonymy) *Anas fuligula* Linnaeus = *Aythya fuligula* (Linnaeus).

Fulix Sundevall, 1836: *Kngl. Svenska Vetenskapsakad. Handl.* 1835: 129 – Type species (by subsequent designation) *Anas fuligula* Linnaeus = *Aythya fuligula* (Linnaeus).

Marila Reichenbach, 1852: *Avium Syst. Nat.*: 8 – Type species (by monotypy) *Anas ferina* Linnaeus = *Aythya ferina* (Linnaeus).

Ilyonetta Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 347. Unnecessary *nomen novum* for *Nyroca* J.D.D. Fleming, 1822.

Perissonetta Oberholser, 1920: *Proc. Indiana Acad. Sci.*: 110 – Type species (by subsequent designation) *Anas collaris* Donovan = *Aythya collaris* (Donovan).

Zeafulix Mathews, 1937: *Emu* 37: 32 – Type species (by original designation) *Anas novaeseelandiae* Gmelin = *Aythya novaeseelandiae* (Gmelin).

Sorenson & Fleischer (1996) investigated the intraspecific relationships of *Aythya* with mtDNA analyses and found that *A. novaeseelandiae* is the sister taxon to *A. fuligula*.

► ***Aythya australis* (Eyton)**

Australian White-eyed Duck

Nyroca australis Eyton, 1838: *Monograph Anatidae*: 160 – Australia, restricted to New South Wales (*vide* Mathews 1912, *Novit. Zool.* 18(3): 239).

Nyroca nyroca dampieri Mathews, 1912: *Austral Avian Rec. 1*: 87 – Fitzroy River, Western Australia.

Aythya australis ledeboeri Bartels & Franck, 1938: *Treubia* 16: 337 – East Java, Indonesia.

Aythya australis australis (Eyton); Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

Aythya australis (Eyton); Checklist Committee 1990, *Checklist Birds N.Z.*: 106.

Australia (mainly south-east) and Tasmania; nomadic. Ranging as far as eastern Java, Sulawesi and New Guinea, with a possibly distinct subspecies (*A. a. extima*) on Banks Islands (Vanuatu) and New Caledonia, but these populations may not be resident and may represent part of the species' nomadic range. Established in New Zealand for about 30 years, 1867–95 (Hutton 1870, Oliver 1955). Since then the only records are: one, Hamurana, 1934; flock of eight, Runanga Lake, Hawke's Bay, May 1973 (Anon. 1973); one, Western Springs, Auckland, 30 Apr. 1980 (Jowett 1980); one, Snares Islands/Tini Heke, Aug. to Sep. 1981 (Miskelly *et al.* 2001a); two, Lake Ryan, Cobden, Greymouth, 17 Feb. 1994 (Medway 2000a); one, New Plymouth, 31 Oct. 2001 (Medway 2002c). Also called hardhead.

► ***Aythya novaeseelandiae* (Gmelin)**

New Zealand Scaup

Anas novae Seelandiae Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 541. Based on the "New-Zealand Duck" of Latham 1785, *Gen. Synop. Birds* 3(2): 543 – New Zealand, restricted to Dusky Sound, Fiordland (*vide* G. Forster 1777, *Voyage World* 1: 168).

Anas Novae Zealandiae Gmelin; Latham 1790, *Index Ornith.* 2: 870. Unjustified emendation.

Fuligula novae zealandiae (Gmelin); Stephens 1824, *in* Shaw, *General Zool.* 12(2): 210. Unjustified emendation.

Fuligula Novae Zealandiae (Gmelin); G.R. Gray 1843, *in* E. Dieffenbach, *Travels in N.Z.* 2: 198. Unjustified emendation.

Anas atricilla J.R. Forster, 1844: *in* M.H.C. Lichtenstein, *Descrip. Animalium*: 95 – Dusky Sound, Fiordland.

Marila novaeseelandiae (Gmelin); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 43: 651. Unjustified emendation.

Anas atra Ellman, 1861: *Zoologist* 19: 7471 – New Zealand.

Fulix novae seelandiae (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 86.

Fuligula novae zealandiae (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 259. Unjustified emendation.

Fuligula novae-zealandiae (Gmelin); Hutton 1904, *Index Faunae N.Z.*: 37. Unjustified emendation.

Fuligula novaeseelandiae (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 410.

Nyroca novaeseelandiae (Gmelin); Peters 1931, *Check-list Birds World* 1: 175.

Zeafulix novaeseelandiae novaeseelandiae (Gmelin); Mathews 1937, *Emu* 37: 32.

Zeafulix novaeseelandiae maui Mathews, 1937: *Emu* 37: 32 – North Island.

Aythya novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 35.

New Zealand. Lagoons and lakes, including mountain lakes and numerous small coastal ponds and sand-dune lakes, in both North and South Islands. Numbers reduced following settlement, but species has colonised hydro lakes in both islands and has been successfully reintroduced to small lakes within its former range. Fossil and midden records from widely distributed sites in both main islands and the Chatham Islands.

Order PODICIPEDIFORMES: Grebes

Family PODICIPEDIDAE Bonaparte: Grebes

Podicipinae [sic] Bonaparte, 1831: *Saggio dist. Metodica Anim. Vert.*: 62 – Type genus *Podiceps* Latham.

Genus *Podiceps* Latham

Podiceps Latham, 1787: *Gen. Synop. Birds Suppl. 1*: 294 – Type species (by subsequent designation) *Colymbus cristatus* Linnaeus = *Podiceps cristatus* (Linnaeus).

Lophaethya Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 72 – Type species (by subsequent designation) *Colymbus cristatus* Linnaeus = *Podiceps cristatus* (Linnaeus).

Podicipes Oken, 1839: *Isis von Oken*: col. 673. Unjustified emendation.

Lophaethya Agassiz, 1846: *Nomen. Zool. Index Univ. Aves 2*: 990. Unjustified emendation.

► *Podiceps cristatus* (Linnaeus) Great Crested Grebe

Colymbus cristatus Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 135 – Europe, restricted to Sweden (fide Linnaeus 1761, *Fauna Svecica, 2nd edition*: 53).

Three subspecies: *P. c. cristatus* in Palearctic, *P. c. infuscatus* Salvadori, 1844 in Africa south of the Sahara, and *P. c. australis* Gould, 1844 in Australia and New Zealand.

Podiceps cristatus australis Gould Australasian Crested Grebe

Podiceps australis Gould, 1844: *Birds of Australia*, Part 17 (fide McAllan 2004, *Notornis 51*: 125) – Australia and Tasmania.

Podiceps hectori Buller, 1865: *Essay N.Z. Ornith.*: 19 – Lake Wakatipu.

Podiceps Hectori Buller; Finsch 1867, *Jour. für Ornith.* 15: 345.

Podiceps cristatus; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 283. Not *Colymbus cristatus* Linnaeus, 1758.

Podicipes cristatus; Hutton 1904, *Index Faunae N.Z.*: 36. Not *Colymbus cristatus* Linnaeus, 1758.

Lophaethya cristata; Buller 1905, *Suppl. Birds N.Z. 1*: 76. Not *Colymbus cristatus* Linnaeus, 1758.

Lophaethya [sic] *cristata*; Hamilton 1909, *Hand-list Birds New Zealand*: 4. Not *Colymbus cristatus* Linnaeus, 1758.

Podiceps cristatus christiani Mathews, 1911: *Birds Australia 1*: 267, pl. 64 – Victoria, Australia.

Podiceps cristatus australis Gould; Mathews & Iredale 1913, *Ibis 1* (10th ser.): 218.

Australia (mainly south-east and south-west) and New Zealand. No genetic differentiation was found between Australian and New Zealand populations (Robertson & Gemmill 2002). In New Zealand, breeding South Island only; lowland lakes west of the Southern Alps/Kā Tiritiri o te Moana; subalpine and alpine lakes within and east of the main ranges, with the greatest density in Canterbury. After a decline in Nelson, Marlborough, Otago and Southland has recolonised Marlborough (Sagar 1981, Westerskov 1972), increased in Southern Lakes District and around Christchurch, but decreased in Fiordland (Robertson, C. *et al.* 2007). Some local movement between lakes, but seldom reported from salt water (Sagar & O'Donnell 1982). North Island: few acceptable records since European colonisation (Westerskov 1972). One at Rotorua, Dec. 1975 to Jun. 1976 (Palliser 1976, 1977). Late Holocene fossil records from Whakamoenga Cave, Lake Taupo and Lake Poukawa. Three North Island midden records (Tairua, Taupo, Paremata); only one South Island record (Lake Grassmere/Kapara Te Hau, dune or midden).

Genus *Poliocephalus* Selby

Poliocephalus Selby, 1840: *Cat. Genera Subgen. Types Aves*: 47 – Type species (by monotypy)
Podiceps poliocephalus Jardine & Selby = *Poliocephalus poliocephalus* (Jardine & Selby).

► *Poliocephalus rufopectus* (G.R. Gray) New Zealand Dabchick

Podiceps (Poliocephalus) [sic] *rufopectus* G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 198 – North Island.

Fulica novaezealandiae Colenso, 1844: *London Journ. Botany* 3: 54 – “A little below Ngaruawahie” = Ngaruawahia, Waikato.

Fulica nova-zealandiae Colenso, 1845: *Tasm. Journ. Nat. Sci. Agric.* 2: 283 – “A little below Ngaruawahie” = Ngaruawahia, Waikato.

Podiceps rufopectus G.R. Gray; Ellman 1861, *Zoologist* 19: 7471.

Podiceps rufipectus G.R. Gray; G.R. Gray 1862, *Ibis* 4: 242. Unjustified emendation.

Podiceps rufipectus G.R. Gray; Hutton 1904, *Index Faunae N.Z.*: 36. Unjustified emendation.

Poliocephalus rufopectus (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 218.

Podiceps rufopectus G.R. Gray; Checklist Committee 1953, *Checklist N.Z. Birds*: 16.

New Zealand only. North Island: coastal and sand-dune lakes from North Cape (Otou) to lower Waikato; southern Taranaki to Paraparumu; lakes and dams of Volcanic Plateau south to Lakes Rotopounamu and Rotoaira; lakes and dams of Gisborne, Hawke's Bay and Wairarapa, with post-nuptial flocks forming especially in Wairarapa and Manawatu (Stidolph & Heather 1978, Lusk & Lusk 1981). South Island: considered extinct; formerly sparingly distributed on lowland lakes, but declined rapidly in the 19th Century; last proved breeding early 1940s (Eglinton Valley); only one recent record (Lake Elterwater, Jun. 1987), presumably a vagrant from the North Island (Heather 1988). Holocene fossils from one North Island site (Poukawa) and three South Island sites (Lake Grassmere/Kapara Te Hau, Waikari Cave, Pyramid Valley); one midden record (Whakamoenga Cave, Taupo). Storer (1971, 1987) considered the New Zealand dabchick to be closely related to the Australian hoary-headed grebe *P. poliocephalus*, and that the two differ both in behaviour and in morphology from the “true” dabchicks or little grebes (*Tachybaptus*). However, the relationship is not here considered close enough to be subspecific.

► *Poliocephalus poliocephalus* (Jardine & Selby) Hoary-headed Grebe

Podiceps poliocephalus Jardine & Selby, 1827: *Illustr. Ornith.* 1: pl. 13 and text – New South Wales, Australia.

Podiceps nestor Gould, 1837: *Synop. Birds Australia* 1: pl. 19 – New South Wales and Tasmania, Australia.

Podiceps poliocephalus cloatesi Mathews, 1912: *Novit. Zool.* 18(3): 197 – Point Cloates, Western Australia.

Poliocephalus poliocephalus (Jardine & Selby); Checklist Committee 1990, *Checklist Birds N.Z.*: 11.

Australia, mostly south of 25°S, and Tasmania; an irregular visitor elsewhere throughout much of Australia. First New Zealand records: Boat Harbour, Snares Islands/Tini Heke, one, Feb. 1975; Lake Horowhenua, one, Jul. 1975; Te Anau district, two, Nov. 1975 (Best 1976). One, then two, pairs bred in Southland, 1976 to 1978 (Barlow 1976); breeding unknown in North Island. Widely scattered sightings in 1977–78, mostly of single birds, in North and South Islands north to Aupouri Peninsula (Marchant & Higgins 1990). Few records since; apparently has not established in New Zealand.

Genus *Tachybaptus* Reichenbach

Tachybaptus Reichenbach, 1849: *Avium Syst. Nat.*: pl. 2 – Type species (by monotypy) *Colymbus minor* = *Tachybaptus ruficollis* (Pallas).

This genus includes four Eastern Hemisphere species: *T. novaehollandiae*, *T. ruficollis* (Pallas, 1764), *T. pelzelni* (Hartlaub, 1861) and *T. rufolavatus* (Delacour, 1932) (see Storer 1963).

► *Tachybaptus novaehollandiae* (Stephens) Eastern Little Grebe

Indonesia, New Guinea, New Caledonia, New Hebrides, Solomon Islands, Australia, Tasmania and New Zealand. Seven subspecies.

Tachybaptus novaehollandiae novaehollandiae (Stephens)

Australasian Little Grebe

Podiceps Novae Hollandiae Stephens, 1826: in Shaw, *General Zool.* 13(1): 18 – New South Wales, Australia.

Podiceps gularis Gould, 1837: *Synop. Birds Australia 1*: pl. 19 – New South Wales, Australia.

Podiceps fluviatilis carterae Mathews, 1912: *Novit. Zool.* 18(3): 197 – Broome Hill, south-western Australia.

Podiceps fluviatilis parryi Mathews, 1912: *Novit. Zool.* 18(3): 197 – Parry's Creek, Western Australia.

Tachybaptus novaehollandiae novaehollandiae (Stephens); Checklist Committee 1990, *Checklist Birds N.Z.*: 12.

Australia (mainly north, south-west and east) and Tasmania. First New Zealand records: one near Arrowtown, 1968 (Chance 1969); a pair near Dargaville, 1972, attempted breeding (Miller 1973); Lake Okareka, one, 1973 (Lyle 1973). North Island: by early 1980s, breeding on small sheltered ponds from Aupouri Peninsula to southern Kaipara, forming small flocks in autumn. Then apparently declined, with breeding reports of a pair on Lake Kereta, south Kaipara, and perhaps elsewhere in Northland (Lauder 1978). More recently a significant expansion in range has occurred with records between 1999 and 2004 in 40 atlas squares from the Far North to Manawatu (Robertson, C. *et al.* 2007). South Island: pairs or family parties seen until mid-1980s on at least eight widely scattered small lakes from Elterwater (Marlborough) to Redcliff (Southland), and on both sides of the Southern Alps/Kā Tiritiri o te Moana (Marchant & Higgins 1990). Has declined recently; none currently known to be breeding in South Island.

Order SPHENISCIFORMES: Penguins

The order Sphenisciformes is placed before Procellariiformes following numerous previous authors (e.g. Oliver 1930, 1955; Peters 1931; Checklist Committee 1953, 1970; Harrison 1983; Marchant & Higgins 1990; Howard & Moore 1991; del Hoyo *et al.* 1992; Christidis & Boles 1994) and new research (e.g. Sibley & Ahlquist 1990; Sibley & Monroe 1990; McKittrick 1991 in Warham 1996; Paterson *et al.* 1993, 1995, 2000; Paterson & Gray 1997; Nunn & Stanley 1998; Livezey & Zusi 2001; van Tuinen *et al.* 2001; Kennedy & Page 2002; Livezey & Zusi 2007). However, Sphenisciformes was placed after Procellariiformes by Checklist Committee (1990), presumably following Mayr & Cottrell (1979). The reasons for the latter sequence were not adequately detailed by Mayr & Cottrell (1979: vi) who referred to Jollès *et al.* (1976) although the latter authors did not provide a justification for the new arrangement. Subsequent publications have provided no reason to change the traditional taxonomic order. Some authors consider Procellariiformes to be the likely ancestor of Sphenisciformes (e.g. Simpson 1971, 1975) but this is far from clear (e.g. Clarke *et al.* 2003, Davis & Renner 2003, Dyke & van Tuinen 2004, Ksepka *et al.* 2006).

Family SPHENISCIDAE Bonaparte: Penguins

Spheniscidae Bonaparte, 1831: *Giornale Arcadico di Scienze, Lettere ed Arti* 49: 62 – Type genus *Spheniscus* Brisson, 1760.

Several subfamilies have been used in the past for fossil penguins but currently most authors use one family, Spheniscidae, for all penguins (e.g. Simpson 1971, 1975). While Ksepka *et al.* (2006) suggested that only modern genera be classified as Spheniscidae, they considered it premature to apply names to extinct penguin clades.

The arrangement of genera departs from previous New Zealand Checklists (Checklist Committee 1953, 1970, 1990) and follows the most widely used taxonomic sequence (e.g. Peters 1931, Marples 1946a, Falla & Mougín 1979, Harrison 1983, Marchant & Higgins 1990, Sibley & Monroe 1990, Howard & Moore 1991, de Hoyo *et al.* 1992, Christidis & Boles 1994). The generic relationships suggested by these lists and strongly supported by recent research (e.g. O'Hara 1989; Baker *et al.* 2001, 2006; Davis & Renner 2003; Giannini & Bertelli 2004; Bertelli & Giannini 2005; Ksepka *et al.* 2006; Walsh & Suárez 2006) are that *Eudyptes* and *Megadyptes* are sister taxa. The arrangement of species within genera reflects the findings of Davis & Renner (2003).

Genus *Aptenodytes* J.F. Miller

Aptenodytes J.F. Miller, 1778: *Icones Animalium* 4: pl. 23 – Type species (by monotypy) *Aptenodytes patagonicus* J.F. Miller.

Apterodita Scopoli, 1786: *Delic. Flor. Faun. insubr.* 2: 91. Unnecessary *nomen novum* for *Aptenodytes* J.F. Miller, 1778.

Pinguinaria Shaw, 1793: *Mus. Leverianum*: 144, pl. 35 – Type species (by monotypy) *Aptenodytes patachonica* J.R. Forster = *Aptenodytes patagonicus* J.F. Miller.

▶ *Aptenodytes forsteri* G.R. Gray

Emperor Penguin

Aptenodytes Forsteri G.R. Gray, 1844: *Ann. Mag. Nat. Hist., London* 13: 315 – no locality = Antarctic seas (*vide* G.R. Gray 1844, *List Birds Brit. Mus.* 3: 156).

Aptenodytes excelsior Mathews & Iredale, 1935: *Bull. Brit. Ornith. Club* 55: 101 – Cape Royds, McMurdo Bay, Antarctica.

Aptenodytes forsteri G.R. Gray; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 15.

Circumpolar winter breeder around the coast and islands of Antarctica, mainly on pack-ice (Falla & Mougin 1979, Marchant & Higgins 1990). At least six colonies known in the Ross Sea area containing about 40,000 pairs (Harper *et al.* 1984, Wilson & Taylor 1984). Seldom ranges north of the pack-ice (Marchant & Higgins 1990). One mainland New Zealand record: Oreti Beach, Southland, 5 Apr. 1967, possibly ship-assisted (Henderson 1968, Esler 2004). Two records at Macquarie Island: 21 Feb. 1997 (Palliser 2004) and 13 Feb. 1998 (Palliser 2005).

► ***Aptenodytes patagonicus* J.F. Miller**

King Penguin

- Aptenodytes patagonica* J.F. Miller, 1778: *Icones Animalium* 4: pl. 23 – no locality = South Georgia (*vide* Mathews 1911, *Birds Australia* 1: 274).
- Aptenodytes patachonica* J.R. Forster, 1781: *Comment. Phys. Soc. Reg. Sci. Gottingensis* 3: 134, pl. 2 – Straits of Magellan, Falkland Islands, South Georgia and New Guinea.
- Apterodita (longirostris)* Scopoli, 1786: *Delic. Flor. Faun. insubr.* 2: 91 – “New Guinea”, error for Tierra del Fuego (*vide* Falla & Mougin 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 122).
- Aptenodytes patagonica* J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 347 – Falkland Islands, South Georgia and New Guinea. Junior primary homonym and junior synonym of *Aptenodytes patagonica* J.F. Miller, 1778.
- Aptenodytes Pennantii* G.R. Gray, 1844: *Ann. Mag. Nat. Hist., London* 13: 315. Based on “The Patagonian Penguin” of Pennant 1768, *Phil. Trans. Roy. Soc. London* 58: 91, pl. 5 – Falkland Islands.
- Aptenodytes pennantii* G.R. Gray; Hutton 1871, *Cat. Birds N.Z.*: 52.
- Aptenodytes pennanti* G.R. Gray; Scott 1883, *Trans. Proc. N.Z. Inst.* 25: 491. Unjustified emendation.
- Aptenodytes longirostris* (Scopoli); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 306.
- Aptenodytes patagonica halli* Mathews, 1911: *Birds Australia* 1: 272 – Macquarie Island.
- Aptenodytes patagonicus* J.F. Miller; Checklist Committee 1953, *Checklist N.Z. Birds*: 14. Emendation.
- Aptenodytes patagonicus patagonicus* J.F. Miller; Falla & Mougin 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 122.
- Aptenodytes patagonicus halli* Mathews; Falla & Mougin 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 123.

Mainly in the subantarctic zone, breeding on many islands, including Macquarie and Heard Islands; straggling south to Antarctica and north to South America, South Africa, Australia and New Zealand (Conroy & White 1973, Barrat 1976, Marchant & Higgins 1990). Occasionally reaches Campbell Island/Motu Ihupuku (Bailey & Sorensen 1962, Kerr 1976: 88, Thompson 2006) and rarely to the Auckland Islands (Barrat 1976, Checklist Committee 1990), Antipodes Islands (Warham & Bell 1979), Snares Islands/Tini Heke (Miskelly *et al.* 2001a) and Chatham Islands (Miskelly *et al.* 2006). A few New Zealand mainland records: possibly off Stewart Island/Rakiura before 1862 (Ellman 1861); 1878, Moeraki, Otago (Buller 1893); Stewart Island/Rakiura (Buller 1882, 1887–88); 1924, Auckland Harbour (Stidolph 1927); Oct. 1989, Kaikoura and Timaru (O'Donnell & West 1991); and c. 2005, Barrytown (Anon 2005a). Breeding has not been recorded on Stewart/Rakiura or Campbell/Motu Ihupuku Islands and there are no published breeding records from the Auckland Islands (*contra* Milne-Edwards 1880 and Conroy & White 1973). Abundant Holocene fossils on Macquarie Island (McEvey & Vestjens 1974, Meredith 1985a); a few midden remains on Chatham Island (Scarlett 1976c).

Genus *Pygoscelis* Wagler

Pygoscelis Wagler, 1832: *Isis von Oken*, Heft 2: col. 281 – Type species (by monotypy) *Aptenodytes papua* J.R. Forster = *Pygoscelis papua* (J.R. Forster).

Dasyramphus Pucheran, 1853: in Dumont d'Urville, *Voyage Pôle Sud, Zoologie* 3: 154 – Type species (by monotypy) *Catarrhactes adeliae* Hombron & Jacquinot = *Pygoscelis adeliae* (Hombron & Jacquinot).

Dasytelis Mathews, 1934: *Bull. Brit. Ornith. Club* 55: 74 – Type species (by original designation) *Aptenodytes antarctica* J.R. Forster = *Pygoscelis antarctica* (J.R. Forster).

Pucheramphus Mathews, 1935: *Bull. Brit. Ornith. Club* 55: 113 – Type species (by original designation) *Catarrhactes adeliae* Hombron & Jacquinot = *Pygoscelis adeliae* (Hombron & Jacquinot).

► *Pygoscelis adeliae* (Hombron & Jacquinot)

Adelie Penguin

Catarrhactes Adeliae Hombron & Jacquinot, 1841: *Ann. Sci. Nat., Zool. Paris*, 2nd Series 16: 320 – Adélie Land, Antarctica.

Eudyptes adeliae (Hombron & Jacquinot); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): pl. 28.

Dasyramphus adeliae (Hombron & Jacquinot); Mathews 1929, *Ibis* 5 (12th ser.): 699.

Pygoscelis adeliae (Hombron & Jacquinot); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 16.

Circumpolar, breeding on ice-free coasts and islands of Antarctica and on South Shetland, South Orkney, South Sandwich and Bouvetoya Islands (Marchant & Higgins 1990, Ainley 2002). About 750,000 pairs (about one-third of the world population) breed in the Ross Sea region (Wilson & Taylor 1984, Ainley 2002). Rarely straggles north, reaching Macquarie Island twice: Nov. 1950 and Feb. 1964 (Checklist Committee 1970). Has reached mainland New Zealand twice: Dec. 1962, one dead near Long Point, Marlborough (Kennington 1963); and Dec. 1992–Jan. 1993, one live at Kaikoura (Cossee & Mills 1993, Medway 2000a). Holocene fossils recorded in the Ross Sea region (Lambert *et al.* 2002).

► *Pygoscelis papua* (J.R. Forster)

Gentoo Penguin

Two subspecies are generally recognised: a large form, *P. p. papua*, breeding mainly on subantarctic islands, and a smaller one, *P. p. ellsworthi* Murphy, 1947, with a more southerly distribution (Stonehouse 1970). *P. p. papua* breeds in the New Zealand region at Macquarie Island. Those that have straggled to New Zealand shores are presumed to have been of the northern subspecies (Checklist Committee 1990).

Pygoscelis papua papua (J.R. Forster)

Northern Gentoo Penguin

Aptenodytes Papua J.R. Forster, 1781: *Comment. Phys. Soc. Reg. Sci. Göttingensis* 3: 134, pl. 3 – Falkland Islands.

Aptenodytes Papua J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 347 – New Guinea and Falkland Islands. Junior primary homonym and junior synonym of *Aptenodytes Papua* J.R. Forster, 1781.

Pygoscelis papua (J.R. Forster); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): pl. 25.

Aptenodytes taeniata Peale, 1848: *U.S. Expl. Exped.* 8: 264, 335 – Macquarie Island.

Eudyptes papua (J.R. Forster); Cassin 1858, *U.S. Expl. Exped. Ornithology* 8: 350.

Pygoscelis taeniata (Peale); Scott 1883, *Trans. Proc. N.Z. Inst.* 25: 491. Unjustified emendation.

Pygoscelis taeniatus (Peale); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 304. Unjustified emendation.

Pygoscelis papua taeniata (Peale); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 219.

Pygoscelis taeniata (Peale); Falla 1937, *BANZARE Reports Ser. B*, 2: 19.

Pygoscelis papua papua (J.R. Forster); Checklist Committee 1953, *Checklist N.Z. Birds*: 14.

Circumpolar in subantarctic waters; breeding at Falkland, Staten, Marion, Prince Edward, Crozet, Kerguelen and Macquarie Islands; south of the Antarctic Convergence also nests at South Georgia and Heard Island (Marchant & Higgins 1990). Straggles north: Dec. 1964–Mar. 1965, Aug. 1965 and Dec. 1985, Campbell Island/Motu Ihupuku (Kinsky 1969, Marchant & Higgins 1990); Sep. 1970 (Edgar 1972a, Darby & Wright 1973) and Oct. 1974 (Jackson 1975), Otago; Nov. 1970, Bluff (Edgar 1972a); Feb. 1976 (Checklist Committee 1990) and Dec. 1993 (Medway 2000a), Banks Peninsula; Nov. 1978, Nov. 1995 and Dec. 2002, Antipodes Island (Tennyson *et al.* 2002, Medway 2003a); Dec. 1985, Snares Islands/Tini Heke (Miskelly *et al.* 2001a).

▶ *Pygoscelis antarctica* (J.R. Forster)

Chinstrap Penguin

Aptenodytes antarctica J.R. Forster, 1781: *Comment. Phys. Soc. Reg. Sci. Gottingensis* 3: 134, pl. 4 – South Shetland Islands.

Eudyptes antarctica (J.R. Forster); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): pl. 26.

Pygoscelis antarctica (J.R. Forster); Oliver 1930, *New Zealand Birds*, 1st edition: 66.

Circumpolar, breeding on the Antarctic Peninsula, on islands off Antarctica, at the South Shetland, South Orkney, South Sandwich Islands, at South Georgia, and on Bouvetøya Island; possibly on Heard Island and Isla Hornos (Marchant & Higgins 1990). Only known colony in New Zealand region is on Chinstrap Islet, Balleny Islands (13+ pairs; Robertson *et al.* 1980). Stragglers reach other parts of the Ross Sea (Wilson & Taylor 1984, Spurr 1985, Spurr *et al.* 1990). Many records from Macquarie Island (Marchant & Higgins 1990, Palliser 2004). Only five records further north in the New Zealand area: Nov. 1978, Antipodes Island (Tennyson *et al.* 2002); Dec. 1980, Invercargill (Medway 2000a); Mar. 1984, Campbell Island/Motu Ihupuku (Fennell 1986); Nov. 1992, Otago coast (Medway 2000a); and Nov. 2002, Kaikoura (Saville 2003).

Genus *Eudyptes* Vieillot

Eudyptes Vieillot, 1816 (April): *Analyse Nouv. Ornith. Elem.*: 67, 70 – Type species (by subsequent designation) *Aptenodytes chrysocome* J.R. Forster = *Eudyptes chrysocome* (J.R. Forster).

Catarrhactes Cuvier, 1816 (December): *Règne Anim. 1*: 513. Junior homonym of *Catarrhactes* Herman, 1783.

Chrysocoma Stephens, 1826: in Shaw, *General Zool.* 13(1): 57 – Type species (by tautonymy) *Aptenodytes chrysocome* J.R. Forster = *Eudyptes chrysocome* (J.R. Forster).

Catarrhactes Brandt, 1837: *Bull. l'Acad. Imp. Sci., St Petersburg* 2: 314. Unjustified emendation.

Penguinus Mathews, 1911: *Birds Australia 1*(5): 276 – Type species (by original designation) *Aptenodytes chrysocome* J.R. Forster = *Eudyptes chrysocome* (J.R. Forster). Junior homonym of *Penguinus* Brünnich, 1771.

Catadyptes Mathews, 1934: *Bull. Brit. Ornith. Club* 55: 74 – Type species (by original designation) *Catarrhactes chrysolophus* Brandt = *Eudyptes chrysolophus* (Brandt).

Members of the genus *Eudyptes* are known as “crested penguins”. The genera *Catarractes* Brisson, 1760 and *Penguinus* Brünnich, 1771 have been used for species of crested penguins, but we regard them as *nomina dubia* following Mathews & Iredale (1913: 219). The identity of the species referred to as *Eudyptes vittata* Finsch, 1875a has

not been confirmed (Falla & Mougin 1979: 129), so we regard this name as a *nomen dubium*. Rockhopper penguins rarely reach mainland New Zealand—mainly the Otago coast (e.g. Richdale 1940: 203, 1957: 1, 176; Checklist Committee 1953; Oliver 1955; Warham 1985; Ahlers 1988; Marchant & Higgins 1990; Hocken 2001; CM AV853)—but the specific status of most of these birds has not been determined.

► ***Eudyptes chrysocome* (J.R. Forster)** **Western Rockhopper Penguin**

Aptenodytes chrysocome J.R. Forster, 1781: *Comment. Phys. Soc. Reg. Sci. Gottingensis* 3: 133, pl. 1 – Tasmania and Falkland Islands, restricted to Kidney Island, Berkeley Sound, East Falkland Island (*vide* Carins 1974, *Emu* 74: 56).

Aptenodytes crestata J.F. Miller, 1784: *Icones Animalium* 9: pl. 49 – Falkland Islands.

Chrysocoma saltator Stephens, 1826: *in* Shaw, *General Zool.* 13(1): 58, pl. 8 – Falkland Islands.

Eudyptes saltator (Stephens); Bowdler Sharpe 1879, *Phil. Trans. Roy. Soc. London* 168: 160, pl. 8, fig. 1.

Eudyptes cristatus (J.F. Miller); Iredale & Cayley 1925, *Emu* 25: 4. Unjustified emendation.

Eudyptes chrysocome (J.R. Forster); Oliver 1930, *New Zealand Birds*, 1st edition: 71.

Eudyptes crestatus crestatus (J.F. Miller); Checklist Committee 1953, *Checklist N.Z. Birds*: 15. In part.

Eudyptes crestatus (J.F. Miller); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 17. In part.

Eudyptes chrysocome chrysocome (J.R. Forster); Checklist Committee 1990, *Checklist Birds N.Z.*: 71.

Breeds on islands off Cape Horn, Isla Solitario (Chile) and the Falkland Islands (Falla & Mougin 1979, Clark *et al.* 1992, Schiavini 2000). At least two visited, or were resident at, Snares Islands/Tini Heke in 1985–2000 (Tennyson & Miskelly 1989, Miskelly *et al.* 2001a).

► ***Eudyptes filholi* Hutton** **Eastern Rockhopper Penguin**

Eudyptes filholi Hutton, 1879: *Proc. Linn. Soc. New South Wales* 3: 334 – Campbell Island.

Eudyptes chrysocome; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 290. Not *Aptenodytes chrysocome* J.R. Forster, 1781.

Catarrhactes chrysocome; Hutton 1904, *Index Faunae N.Z.*: 36. Not *Aptenodytes chrysocome* J.R. Forster, 1781.

Eudyptes chrysocome chrysocome; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 220. Not *Aptenodytes chrysocome* J.R. Forster, 1781.

Eudyptes chrysocome filholi Hutton; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 221.

Eudyptes crestatus filholi Hutton; Peters 1931, *Check-list Birds World* 1: 31.

Eudyptes crestatus crestatus (J.F. Miller); Checklist Committee 1953, *Checklist N.Z. Birds*: 15. In part.

Eudyptes crestatus (J.F. Miller); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 17. In part.

Eudyptes filholi Hutton; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 129, 176.

Breeds at Heard, Kerguelen, Crozet, Marion and Prince Edward Islands and in the New Zealand region on Macquarie, Campbell/Motu Ihupuku, Auckland and Antipodes Islands (Falla & Mougin 1979, Robertson & van Tets 1982, Marchant & Higgins 1990). Numbers have declined markedly at the Auckland Islands (Cooper 1992), Campbell Island/Motu Ihupuku (Cunningham & Moors 1994) and Antipodes Islands (Tennyson 1996b) in recent decades. Frequent visitor to Snares Islands/Tini Heke (Miskelly *et al.* 2001a) and in Feb. to Mar. 1988 one on the Chatham Islands (Tennyson 1994).

Recognised as a full species following Holdaway *et al.* (2001) and Banks, van Buren *et al.* (2006).

► ***Eudyptes moseleyi* Mathews & Iredale**

Moseley's Rockhopper Penguin

Eudyptes serresianus moseleyi Mathews & Iredale, 1921: *Man. Birds of Australia 1*: 11 – Inaccessible Island, Tristan da Cunha Group.

Eudyptes chrysocome moseleyi Mathews & Iredale; Checklist Committee 1980, *Notornis (Suppl.)* 27: 5.

Eudyptes moseleyi Mathews & Iredale; Jouventin 1982, *Journ. Comparat. Ethology, Suppl.* 24: 139.

Breeds in the subtropical and low subantarctic zones at Tristan da Cunha Group (Tristan, Inaccessible, Middle and Nightingale Islands) and Gough Island in the South Atlantic Ocean, and on St Paul and Amsterdam Islands in the Indian Ocean (Falla & Mougin 1979, Richardson 1984). Ranges to southern and particularly south-west Australia (Marchant & Higgins 1990). Three to five New Zealand records: Aug. 1968 to Nov. 1970, one on South East Island, Chatham Islands; Dec. 1976, one (probable) Gisborne; Jan. 1984, one Wellington; 1993–2004, one or two at the Chatham Islands (Moors & Merton 1984, Marchant & Higgins 1990, King & Robertson 1999, Miskelly & Bell 2004). Recognised as a full species following Jouventin (1982), Woehler (1995), Banks, van Buren *et al.* (2006) and Jouventin *et al.* (2006).

► ***Eudyptes pachyrhynchus* G.R. Gray**

Fiordland Crested Penguin

Eudyptes pachyrhynchus G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds 1*(8): 17 – Waikouaiti, Otago.

Eudyptes chrysocomus; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 344, pl. facing page 344, fig. on left. Not *Aptenodytes chrysocome* J.R. Forster, 1781.

Eudyptes chrysocoma; Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds -1 (Appendix)*: 35. Not *Aptenodytes chrysocome* J.R. Forster, 1781.

Eudyptes pachyrhynchus G.R. Gray; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 287. In part.

Catarrhactes pachyrhynchus (G.R. Gray); Hutton 1904, *Index Faunae N.Z.*: 36.

Catarrhactes pachyrhynchus (G.R. Gray); Buller 1905, *Suppl. Birds N.Z.* 1: 86, 89. In part.

Eudyptes chrysocome pachyrhynchus G.R. Gray; Mathews & Iredale 1913, *Ibis 1* (10th ser.): 220.

Eudyptes pachyrhynchus pachyrhynchus G.R. Gray; Checklist Committee 1953, *Checklist N.Z. Birds*: 15.

Eudyptes pachyrhynchus G.R. Gray; Checklist Committee 1990, *Checklist Birds N.Z.*: 73.

Nests on headlands, islets and around the entrances to fjords in Fiordland and South Westland, from near Bruce Bay southwards, including the Open Bay Islands (Marchant & Higgins 1990, McClean *et al.* 1997). A few nest on Stewart Island/Rakiura and its offshore islands, especially Codfish (Whenuahou) and Solander (Hautere) Islands (Studholme *et al.* 1994). Attempted breeding on islet in Palliser Bay (North Island) in 1953 and 1954—also near Abut Head (Westland) and possibly on Banks Peninsula—but no recent reports of breeding this far north (Marchant & Higgins 1990). Immatures, and occasional older birds, are common on Snares Islands/Tini Heke from Nov. to Mar. (Miskelly *et al.* 2001a). Stragglers are found around all South Island coasts and rarely as far north as Northland (Marchant & Higgins 1990, Shaw 1994). Stragglers to Campbell/Motu Ihupuku, Auckland and Macquarie Islands, southern Australia and possibly even to the Falkland Islands (Marchant & Higgins 1990, Miskelly & Bell

2004). Late Pleistocene fossils (e.g. Worthy & Grant-Mackie 2003) and midden and Holocene fossils are known from the South Island but North Island records need re-evaluation (Worthy 1997e).

▶ *Eudyptes robustus* Oliver Snares Crested Penguin

Eudyptes atrata Hutton, 1875: in Finsch, *Ibis* 5 (3rd ser.): 114 – “The Snares”. Suppressed and invalid (fide ICZN 1976, Opinion 1056. *Bull. Zool. Nomenclature* 33(1): 16).

Eudyptes pachyrhynchus; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 287. In part.

Eudyptes pachyrhynchus; Finsch 1888, *Ibis* 6 (5th ser.): 309. Not *Eudyptes pachyrhynchus* G.R. Gray, 1845.

Eudyptes atratus Hutton; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 296. Emendation.

Catarrhactes pachyrhynchus; Buller 1905, *Suppl. Birds N.Z.* 1: 86, 89. In part.

Eudyptes pachyrhynchus atratus Hutton; Falla 1935, *Rec. Auck. Inst. Museum* 1: 324.

Eudyptes robustus Oliver, 1953: *Emu* 53: 187 – Snares Islands. Name placed in the *Official List of Specific Names in Zoology* (fide ICZN 1976, Opinion 1056. *Bull. Zool. Nomenclature* 33(1): 16).

Eudyptes atratus; Warham 1972, *Ardea* 60: 147.

Eudyptes robustus Oliver; Checklist Committee 1980, *Notornis* (Suppl.) 27: 5.

Breeding only on the Snares Islands/Tini Heke (on Main and Broughton Islands and in small numbers on Toru and Rima Islets of the Western Chain; Miskelly *et al.* 2001a). Total population 28,800 breeding pairs in 2000 (Amey *et al.* 2001). Uncommon visitor to beaches around South Island and Stewart Island/Rakiura (Marchant & Higgins 1990). A rare straggler as far north as south Australia and Tasmania (Marchant & Higgins 1990, Palliser 2006) and Napier (Medway 2002g); and to the Antipodes Islands (Tennyson *et al.* 2002), Campbell Island/Motu Ihupuku, Macquarie Island (Marchant & Higgins 1990), Chatham Islands (Miskelly & Bell 2004, Scofield 2005a, Miskelly *et al.* 2006) and Falkland Islands (Lamey 1990).

ICZN (1976) placed the name *Eudyptes atratus* Hutton (*in* Finsch), 1875a on the *Official Index of Rejected and Invalid Specific Names in Zoology*, and *Eudyptes robustus* Oliver, 1953 in the *Official List of Specific Names in Zoology*.

▶ *Eudyptes sclateri* Buller Erect-crested Penguin

Aptenodytes papua; Vieillot 1834, *Gal. des Oiseaux* 2: 246, pl. 299. Not *Aptenodytes papua* J.R. Forster, 1781.

Eudyptes sclateri Buller, 1888: *History of the Birds of N.Z.*, 2nd edition 2: 289 – Auckland Islands. Name placed in the *Official List of Specific Names in Zoology* (fide ICZN 1976, Opinion 1056. *Bull. Zool. Nomenclature* 33(1): 16).

Eudyptes chrysocome; Reischek 1888, *Trans. Proc. N.Z. Inst.* 21: 386. Not *Aptenodytes chrysocome* J.R. Forster, 1781.

Eudyptes chrysocome; Sclater 1888, *Proc. Zool. Soc. London* 1888 (19): 265. Not *Aptenodytes chrysocome* J.R. Forster, 1781.

Catarrhactes sclateri Buller; Buller 1905, *Suppl. Birds N.Z.* 1: 88.

Eudyptes chrysocome sclateri Buller; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 220.

Eudyptes pachyrhynchus sclateri Buller; Checklist Committee 1953, *Checklist N.Z. Birds*: 15.

Eudyptes sclateri Buller; Checklist Committee 1990, *Checklist Birds N.Z.*: 74.

Breeding in large numbers on the Antipodes and Bounty Islands and in the past in small numbers at Campbell Island/Motu Ihupuku and on Disappointment Island (Auckland Group; Marchant & Higgins 1990). Attempted to breed on Otago Peninsula, 1938–47 (Richdale 1950). Straggles to coasts of North, South and Stewart/Rakiura

Islands (Marchant & Higgins 1990). A regular visitor to Snares Islands/Tini Heke and Chatham Islands from Nov. to Mar. (Miskelly *et al.* 2001a, 2006; Miskelly & Bell 2004) and rarely to Macquarie Island (Marchant & Higgins 1990). Occasionally reaches Tasmania and southern Australia (Marchant & Higgins 1990) and the Indian Ocean (Speedie 1992). One that reached the Falkland Islands was present 1961–66; in at least one season it tended eggs with a western rockhopper penguin but no chicks were raised (Napier 1968); another was seen there c. 1999 (Gurunathan 2004). No fossil or midden records reported from mainland New Zealand sites are verifiable (Worthy 1997e). The abundant Chatham Island Holocene fossil and midden *Eudyptes* material previously referred to this species (Checklist Committee 1990, Davis & Renner 2003), is now considered to represent an undescribed taxon (Tennyson & Millener 1994, Millener 1999).

► ***Eudyptes chrysolophus* (Brandt)**

Macaroni Penguin

Catarrhactes chrysolophus Brandt, 1837: *Bull. l'Acad. Imp. Sci., St Petersburg* 2: col. 315 – Falkland Islands.

Eudyptes diadematus Schlegel, 1876 “(Cat. No.2)”: in Finsch, *Trans. Proc. N.Z. Inst.* 8: 203 – locality uncertain, “said to be from New Zealand”.

Eudyptes chrysolopha (Brandt); Hutton 1879, *Proc. Linn. Soc. New South Wales* 3: 335. Unjustified emendation.

Eudyptes chrysolophus (Brandt); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 297.

Catarrhactes chrysolophus Brandt; Buller 1905, *Suppl. Birds N.Z.* 1: 94.

Eudyptes chrysolophus chrysolophus (Brandt); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 17.

Main breeding colonies on islands within a few degrees of the Antarctic Convergence in the South Atlantic and South Indian Oceans: South Shetland, South Orkney, South Sandwich, Elephant, South Georgia, Heard, McDonald, Falkland, Bouvetøya, Prince Edward, Marion, Crozet and Kerguelen Islands and in Chile (Marchant & Higgins 1990, Clark *et al.* 1992). Straggles to the Ross Dependency, including Cape Hallett and the Balleny Islands (Kinsky 1969). Rarely reaches the New Zealand subantarctic: possible record by Finsch (1876); 1957, Macquarie Island; 1967–68, Campbell Island/Motu Ihupuku (Kinsky 1969); and 1969–74, the Snares Islands/Tini Heke (Miskelly *et al.* 2001a).

► ***Eudyptes schlegeli* Finsch**

Royal Penguin

Eudyptes schlegeli Finsch, 1876: *Trans. Proc. N.Z. Inst.* 8: 204 – Macquarie Island.

Eudyptes diadematus Schlegel, 1876 “indiv. No. 3, Schleg., in Mus. P.B.”: in Finsch, *Trans. Proc. N.Z. Inst.* 8: 204. Junior primary homonym of *Eudyptes diadematus* Schlegel, 1876 “(Cat. No.2)” = *Eudyptes chrysolophus* (Brandt).

Eudyptes albigularis Milne-Edwards, 1880: *Ann. Sci. Nat., Zool. Paris, 6th Series* 9(18): 55, pl. 19 – Macquarie Island.

Catarrhactes schlegeli (Finsch); Hutton 1904, *Index Faunae N.Z.*: 36.

Catadyptes chrysolophus redimitus Mathews & Iredale, 1935: *Bull. Brit. Ornith. Club* 55: 102 – Macquarie Island.

Eudyptes chrysolophus schlegeli Finsch; Checklist Committee 1953, *Checklist N.Z. Birds*: 15.

Eudyptes schlegeli Finsch; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 129, 176.

Recognised as a full species following Hindell (1988), Marchant & Higgins (1990), Martínez (1992), Williams (1995), Woehler (1995), Holdaway *et al.* (2001) and Baker *et al.* (2006). Breeds only at Macquarie Island, straggling to Antarctica and islands in

the southern Indian Ocean and north to Tasmania and southern Australia (Marchant & Higgins 1990). Occasionally straggles further north in the New Zealand region: Wellington (Lyall Bay, Jun. 1926, NMNZ 14083), Otago (Waikouaiti, Mar. 1877, Brighton and Taiaroa Head) (Stidolph 1927, Oliver 1955); 1880–81, Napier (Stidolph 1927); 1938–39, Otago Peninsula (Richdale 1957: 4); Mar. 1976, Dunedin (NMNZ 19186); Feb. 1986 and Mar. 1994, Snares Islands/Tini Heke (Miskelly *et al.* 2001a); March 1986, Moeraki (Fennell 1987); Feb. 1997, Southland (Taylor 2004); Feb. 2004, Nugget Point (Rare Birds Committee 2005); Feb. to Mar. 2005, Chatham Islands (Miskelly *et al.* 2006); Feb. 2006, Hampden Beach (Anon. 2006c); and Feb. 2007, Cape Palliser (Anon. 2007c). Several records from Campbell Island/Motu Ihupuku (Warham 1971, Marchant & Higgins 1990, Thompson 2006). Holocene fossils are common on Macquarie Island (McEvey & Vestjens 1974).

Genus *Megadyptes* Milne-Edwards

Megadyptes Milne-Edwards, 1880: *Ann. Sci. Nat., Zool. Paris, 6th Series* 9(18): 56 – Type species (by monotypy) *Catarrhactes antipodes* Hombron & Jacquinot = *Megadyptes antipodes* (Hombron & Jacquinot).

Holocene fossils of *Megadyptes* from the southern North Island and Chatham Islands (Worthy 1997e, Moore 2001), and from the Late Pleistocene (e.g. Worthy & Grant-Mackie 2003), need reassessment in light of the recent description of *M. waitaha*. Fleming (1979: 75) and Fordyce (1991b: 1214, 1311) reported a fossil radius of *M. antipodes* (New Zealand Geological Survey CD 536) from the Early Pleistocene (Okehuau) but analysis of this bone's identity, which was not published then (*contra* Fleming 1979: 75), is especially needed now.

► *Megadyptes antipodes* (Hombron & Jacquinot)

Yellow-eyed Penguin

Catarrhactes antipodes Hombron & Jacquinot, 1841: *Ann. Sci. Nat., Zool. Paris, 2nd Series* 16: 320 – Auckland Islands.

Eudyptes antipodes (Hombron & Jacquinot); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 199.

Aptenodytes flavilarvata Peale, 1848: *U.S. Expl. Exped.* 8: 260 – Auckland Islands.

Pygoscelis antipodes (Hombron & Jacquinot); Hombron & Jacquinot 1853, in Dumont d'Urville, *Voyage Pôle Sud, Zoologie* 3: 156, pl. 33, fig. 2.

Pygoscelis antipoda (Hombron & Jacquinot); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 775. Unjustified emendation.

Eudyptes antipodes Ellman, 1861: *Zoologist* 19: 7472 – South Island. Junior secondary homonym and junior synonym of *Catarrhactes antipodes* Hombron & Jacquinot, 1841.

Spheniscus antipoda (Hombron & Jacquinot); Schlegel 1867, *Mus. Hist. Nat. Pays-Bas, Urinatores* 9: 9. Unjustified emendation.

Eudyptes antipodum (Hombron & Jacquinot); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 346. Unjustified emendation.

Eudyptes antipoda (Hombron & Jacquinot); Hutton 1879, *Proc. Linn. Soc. New South Wales* 3: 335. Unjustified emendation.

Megadyptes antipodes (Hombron & Jacquinot); Milne-Edwards 1880, *Ann. Sci. Nat., Zool. Paris, 6th Series* 9(18): 56.

Megadyptes antipodum (Hombron & Jacquinot); Hutton 1904, *Index Faunae N.Z.*: 36. Unjustified emendation.

Megadyptes antipodes fallai Mathews, 1944: *Emu* 43: 247 – Stewart Island.

Breeding only at Campbell/Motu Ihupuku, Auckland, Stewart/Rakiura and Codfish (Whenuahou) Islands; Southland and Otago coasts; and Banks Peninsula, Canterbury (Marchant & Higgins 1990, Massaro & Blair 2003). Straggles as far north as Taranaki (Messenger 2000) and East Cape (Davis & Renner 2003). Has reached the Snares Islands/Tini Heke (Miskelly *et al.* 2001a) and the Chatham Islands (Marchant & Higgins 1990, Imber 1994, Miskelly *et al.* 2006). Unverified reports from Kerguelen and Macquarie Islands (Marchant & Higgins 1990). Prehistorically its main populations were restricted to the subantarctic islands, with vagrants reaching the South Island, where its congener *M. waitaha* bred (Boessenkool *et al.* 2009). Midden remains have been found on the Auckland Islands (Anderson 2005).

▶ †**Megadyptes waitaha** Boessenkool, Austin, Worthy, Scofield, Cooper, Seddon & Waters

Waitaha Penguin

Megadyptes waitaha Boessenkool, Austin, Worthy, Scofield, Cooper, Seddon & Waters, 2009: *Proc. Roy. Soc. B.* 276: 817 – Marfells Beach, South Island.

South Island, from northern beaches (e.g. Delaware Bay, Marfells Beach) to Otago, Southland and Codfish Island (Whenuahou), in Holocene deposits and middens. It is the sister taxon to *M. antipodes*, which extended its breeding range to include the South Island only after the early prehistoric extinction of *M. waitaha*.

Genus Eudyptula Bonaparte

Eudyptula Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 775 – Type species (by monotypy) *Aptenodytes minor* J.R. Forster = *Eudyptula minor* (J.R. Forster).

Eudyptula Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 368. Unjustified emendation.

▶ **Eudyptula minor** (J.R. Forster)

Little Penguin

Aptenodytes minor J.R. Forster, 1781: *Comment. Phys. Soc. Reg. Sci. Göttingensis* 3: 135 – Dusky Sound, Fiordland.

Catarrhactes minor (J.R. Forster); Cuvier, 1817: *Règne Anim.* 1: 551.

Chrysocoma minor (J.R. Forster); Stephens, 1826: *in Shaw, General Zool.* 13(1): 61.

Spheniscus Novae Hollandiae Stephens, 1826: *in Shaw, General Zool.* 13(1): 68 – Port Jackson, New South Wales, Australia.

Spheniscus minor (J.R. Forster); G.R. Gray 1843, *in E. Dieffenbach, Travels in N.Z.* 2: 199.

Aptenodytes undina Gould, 1844: *Proc. Zool. Soc. London 1844* (12): 57 – “Van Diemen’s Land” = Tasmania, Australia.

Spheniscus [sic] *minor* Temminck [sic]; Ellman 1861, *Zoologist* 19: 7472.

Eudyptula undina (Gould); Hutton 1871, *Cat. Birds N.Z.*: 54.

Eudyptula minor (J.R. Forster); Finsch 1872, *Journ. für Ornith.* 20: 262.

Eudyptula albosignata Finsch, 1874: *Proc. Zool. Soc. London 1874* (14): 207 – Akaroa, Canterbury.

Eudyptula minor (J.R. Forster); Sharpe 1875, *in Richardson & J.E. Gray (eds), Zool. Voy. ‘Erebus’ & ‘Terror’, Birds – 1 (Appendix)*: 35.

Eudyptula undina (Gould); Sharpe 1875, *in Richardson & J.E. Gray (eds), Zool. Voy. ‘Erebus’ & ‘Terror’, Birds – 1 (Appendix)*: 35.

Eudyptula albosignata Finsch; Sharpe 1875, *in Richardson & J.E. Gray (eds), Zool. Voy. ‘Erebus’ & ‘Terror’, Birds – 1 (Appendix)*: 35.

Eudyptula oblosignata Finsch; Buller 1876, *Trans. Proc. N.Z. Inst.* 8: 196. Unjustified emendation.

Eudyptula albosiquata Finsch; Buller 1876, *Trans. Proc. N.Z. Inst.* 8: 198. Unjustified emendation.

Eudyptula minor iredalei Mathews, 1911: *Birds Australia 1*: 286, pl. 67 – “Chatham Islands”, error for Motuora Island, Hauraki Gulf (*vide* Kinsky & Falla 1976, *Nat. Mus. N.Z. Rec.* 1(7): 119).

Eudyptula minor woodwardi Mathews, 1912: *Novit. Zool.* 18(3): 199 – Sandy Hook Island, Western Australia

Eudyptula minor albosignata Finsch; Mathews & Iredale 1913, *Ibis 1* (10th ser.): 222.

Eudyptula minor novaehollandiae (Stephens); Checklist Committee 1953, *Checklist N.Z. Birds*: 14.

Eudyptula minor subspecies; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 16.

Eudyptula minor minor (J.R. Forster); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 17.

Eudyptula minor chathamensis Kinsky & Falla, 1976: *Nat. Mus. N.Z. Rec.* 1(7): 115 – Star Keys, Chatham Islands.

Eudyptula minor variabilis Kinsky & Falla, 1976: *Nat. Mus. N.Z. Rec.* 1(7): 116 – Mahina Bay, Wellington Harbour.

Eudyptula minor (J.R. Forster); Checklist Committee 1990, *Checklist Birds N.Z.*: 69.

Southern Australia and Tasmania. In the New Zealand region, throughout on coastal North and South Islands; also Stewart/Rakiura and Chatham Islands (Kinsky & Falla 1976). Vagrants often reach the Snares Islands/Tini Heke (Miskelly *et al.* 2001a). Late Pleistocene fossils known (e.g. Worthy & Grant-Mackie 2003); often abundant in Holocene and midden deposits, throughout North, South and Chatham Islands (Millener 1991; see also Appendix 1).

Meredith & Sin (1988b) re-analysed the mensural data of Kinsky & Falla (1976) and found that the differences between their figures for the various populations were not statistically significant and did not support their proposal to divide the New Zealand birds into five subspecies, as followed by Checklist Committee (1980) in their amendments to Checklist Committee (1970). Meredith & Sin (1998b) also compared populations from the North Island, Cook Strait, Motunau Island and Banks Peninsula, using a range of morphological, biochemical and statistical techniques. The results showed clinal variations and so much intra- and inter-population variability that they considered none of the populations to be discrete entities. For an analysis of the genetics of the same four populations see Meredith & Sin (1988a). Jacob and Hoerschelmann (1981) found that the preen gland waxes of “little blue” and “white-flipped” penguins were chemically indistinguishable, whereas the waxes of all the other nine penguin species they analysed were clearly separable on their fatty acid compositions. Marchant & Higgins (1990) recognised six Australasian subspecies but recommended further study of variation between forms. Hocken (1997) found plumage of Otago birds to be similar to birds from Cook Strait. Using mitochondrial genes, morphometrics and vocalisations, Banks, J.C. *et al.* (2001, 2002) identified two clades of little penguins: (1) Australian and Otago populations; and (2) Auckland, Wellington, Banks Peninsula and Chatham Island populations. Using an enlarged sample for analysis of mitochondrial genes, Banks *et al.* (2008) confirmed the presence of two mtDNA clades of little penguins: (1) Australian populations and some Otago birds, and (2) all remaining populations, including some Otago birds; which was not correlated with morphological variation. However, Banks, Palma *et al.* (2006) found that the lice of these two clades had not differentiated genetically. Lalas (2001) argued for recognition of six subspecies,

using the Biological Species Concept. Baker *et al.* (2006) found a genetic split between “little blue” and “white-flipped” penguins but did not examine birds from all areas. In view of the continuing uncertainty about the taxonomic status of these various populations, including the white-flipped birds often classified as *Eu. albosignata* or *Eu. m. albosignata*, we have placed all the little penguins in one species, *Eu. minor*, and not recognised any subspecies, as in Checklist Committee (1990).

The preferred common name for *Eudyptula* penguins is little penguin, following Marchant & Higgins (1990), Holdaway *et al.* (2001) and Dickinson (2003).

Order PROCELLARIIFORMES: Albatrosses, Petrels, Prions and Shearwaters

Checklist Committee (1990) recognised three families within the Procellariiformes, however, four families are recognised here, with the reinstatement of Pelecanoididae, following many other recent authorities (e.g. Marchant & Higgins 1990, del Hoyo *et al.* 1992, Viot *et al.* 1993, Warham 1996: 484, Nunn & Stanley 1998, Dickinson 2003, Brooke 2004, Onley & Scofield 2007). The relationships of the families within the Procellariiformes are debated (e.g. Sibley & Alquist 1990, Christidis & Boles 1994, Nunn & Stanley 1998, Livezey & Zusi 2001, Kennedy & Page 2002, Rheindt & Austin 2005), so a traditional arrangement (Jouanin & Mougin 1979, Marchant & Higgins 1990, Warham 1990, del Hoyo *et al.* 1992, Warham 1996: 505, Dickinson 2003, Brooke 2004) has been adopted. The taxonomic recommendations (based on molecular analysis) on the Procellariiformes of Penhallurick & Wink (2004) have been heavily criticised (Rheindt & Austin 2005) and have seldom been followed here.

Family DIOMEDEIDAE G.R. Gray: Albatrosses

Diomedidae G.R. Gray, 1840: *List Gen. Birds* (1st edition): 78 – Type genus *Diomedea* Linnaeus, 1758.

Albatross genera follow recommendations by Nunn *et al.* (1996) and Robertson & Nunn (1998), which have been adopted widely, e.g. Holdaway *et al.* (2001), Shirihai (2002), Dickinson (2003), Brooke (2004), Onley & Scofield (2007). The arrangement of species used here follows the traditional order of Jouanin & Mougin (1979), except that the species within *Thalassarche* follow Robertson & Nunn (1998) to better reflect relationships. Common names used here mainly follow Tickell (2000).

Genus *Diomedea* Linnaeus

Diomedea Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 132 – Type species (by subsequent designation) *Diomedea exulans* Linnaeus.

Rhothonia Murphy, 1917: *Bull. Am. Mus. Nat. Hist.* 37: 861 – Type species (by original designation) *Diomedea (Rhothonia) sanfordi* Murphy = *Diomedea sanfordi* Murphy. As a subgenus of *Diomedea*.

There is disagreement about the taxonomy of the “wandering albatross” complex. Recent debate mainly surrounds the identity of Linnaeus’ original type specimen of *D. exulans* and the degree of difference between populations. The 1979 world checklist of birds recognised two subspecies—a smaller darker form breeding at lower latitudes (*D. e. exulans*) and a large pale form breeding at higher latitudes (*D. e. chionopectera*) (Jouanin & Mougin 1979) and the name *chionopectera* is still widely used (e.g. Harrison 1983, Marchant & Higgins 1990, Warham 1990, Robertson & Nunn 1998, Onley & Bartle 1999, Holdaway *et al.* 2001 and Dickinson 2003). Checklist Committee (1990) recognised all forms occurring in the New Zealand region as nominate *Diomedea exulans*. These taxonomic approaches are now widely regarded as outdated. The description of a new albatross species *D. amsterdamensis* breeding on Amsterdam Island (Roux *et al.* 1983) and two new subspecies of wandering albatross—*D. e. antipodensis* from the Antipodes Islands and Campbell Island/Motu Ihupuku and *D. e. gibsoni* from the Auckland Islands (Robertson & Warham 1992)—renewed debate about relationships within the *D. exulans* group. Bourne (1989) noted that the population from the Tristan da Cunha archipelago was also distinctive and should be recognised by the name *D. e.*

dabbenena Mathews, 1929. The arguments given by Bourne (1989, 1999, 2002) and Medway (1993) about the original Linnaeus wandering albatross, *Diomedea exulans*, referring to the large southern form are accepted here. Thus, the taxon *D. chionoptera* is a junior synonym of *D. exulans* and should no longer apply to the large southern birds. Most authors now accept five “wandering albatross” taxa (i.e. *D. exulans*, *D. dabbenena*, *D. amsterdamensis*, *D. antipodensis*, *D. gibsoni*) either as subspecies or full species. Although some recent authors consider *D. dabbenena* to be a subspecies (e.g. Medway 1993, Bourne 2002, Penhallurick & Wink 2004), most research suggests that it should be treated as a full species (e.g. Gales 1998; BirdLife International 2000; Ryan 2000; Cuthbert, Phillips *et al.* 2003; Brooke 2004; Burg & Croxall 2004; Alderman *et al.* 2005; Onley & Scofield 2007). Similarly, some authors consider *D. amsterdamensis* to be a subspecies (e.g. Medway 1993; Bourne 1989, 2002; Warham 1990; Vuilleumier *et al.* 1992; James 2000; Dickinson 2003; Penhallurick & Wink 2004) but most recent research supports it being treated as a full species (e.g. Gales 1998, Robertson & Nunn 1998, Onley & Bartle 1999, BirdLife International 2000, Ryan 2000, Waugh & Weimerskirch 2003, Brooke 2004, Milot *et al.* 2007, Onley & Scofield 2007). In contrast, although some authors support *D. antipodensis* and *D. gibsoni* being recognised as full species (e.g. Gales 1998, Robertson & Nunn 1998, Ryan 2000), most research suggests that they should be recognised as sister taxa only at the subspecific level (Medway 1993, Onley & Bartle 1999, BirdLife International 2000, James 2000, Warham 2000, Holdaway *et al.* 2001, Brooke 2004, Burg & Croxall 2004, Penhallurick & Wink 2004, Onley & Scofield 2007).

We therefore recognise the following taxa: *D. exulans*, *D. dabbenena*, *D. amsterdamensis*, *D. antipodensis antipodensis* and *D. antipodensis gibsoni*. Three of these five taxa breed in the New Zealand region; the other two forms have not been recorded in this area. Tschudi (1856: 157) described “*Diomedea adusta*” from west of Chile, Pelzeln (1873: 51) named “*Diomedea exulans grisea*”, and Mathews (1918: 29) described “*Diomedea exulans westralis*” from Western Australia; the identities of these three taxa require clarification. We regard *Diomedea spadicea* Gmelin, 1789 (see Bourne 1993, Medway 1993) as being of uncertain identity and therefore a *nomen dubium*.

Fossil and midden material of large albatrosses have been found in several North and South Island Late Pleistocene and Holocene sites but specific assignation is uncertain (Millener 1991).

► *Diomedea exulans* Linnaeus

Wandering Albatross

Diomedea exulans Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 132 – Cape of Good Hope, South Africa.

Diomedea Albatrus; J.R. Forster 1785, *Mém. Math. Phys. Paris (Acad. Sci.)* 10: 569, pl. 13. Not *Diomedea albatrus* Pallas, 1769.

Diomedea (Diomedea) exulans Linnaeus; G.R. Gray 1871, *Hand-list Birds* 3: 109.

Diomedea chionoptera Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 443 – Kerguelen Island, south Indian Ocean.

Diomedea exulans rothschildi Mathews, 1912: *Birds Australia* 2: 246, pl. 95 – east Australian Seas.

Diomedea exulans rohui Mathews, 1915: *Austral Avian Rec.* 2: 125 – Sydney, New South Wales, Australia.

Diomedea chionoptera chionoptera Salvin; Mathews 1927, *Syst. Avium Australasianarum* 1: 130.

Diomedea chionoptera rohui Mathews; Mathews 1927, *Syst. Avium Australasianarum* 1: 130.

Diomedea exulans georgia Mathews, 1933: *Bull. Brit. Ornith. Club* 53: 214 – South Georgia.

Diomedea (Diomedea) exulans rothschildi Mathews; Mathews 1934, *Novit. Zool.* 39(2): 152.

Diomedea exulans exulans Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 18.

In part.

Diomedea exulans chionoptera Salvin; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 18.

Diomedea exulans Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 14. In part.

The southern oceans, breeding on high-latitude subantarctic and antarctic islands between 46°S and 55°S: South Georgia, Prince Edward and Marion, Crozet, Kerguelen and Heard Islands. In the New Zealand area, a few breed on Macquarie Island (Marchant & Higgins 1990). At sea circumpolar and highly migratory, normally ranging between about 25°S and 65°S; occasionally recorded in the New Zealand region (e.g. Marchant & Higgins 1990; Thompson *et al.* 2000; Miskelly *et al.* 2001a, 2006; BirdLife International 2004), including birds from South Georgia, Crozet and Kerguelen Islands (Croxall & Prince 1990, Marchant & Higgins 1990, Prince *et al.* 1998, Taylor 2004, Weimerskirch *et al.* 2006, NMNZ 23373). Vagrant to the Northern Hemisphere (Jouanin & Mougin 1979, Harrop 1994) but these birds may have been ship-assisted (Soldaat *et al.* 2009). Holocene fossil bones are known from Macquarie Island (Gillham 1967, Meredith 1985a).

► ***Diomedea antipodensis* Robertson & Warham** **Antipodean Albatross**

Two subspecies; restricted to nesting in the New Zealand subantarctic; ranging at sea from southern Australia across the South Pacific Ocean to South America. The common names used here follow Robertson & Nunn (1998), Taylor (2000a) and Shirihai (2002).

***Diomedea antipodensis antipodensis* Robertson & Warham** **Antipodean Albatross**

Diomedea exulans exulans Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*:

18. In part.

Diomedea exulans Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 14. In part.

Diomedea exulans antipodensis Robertson & Warham, 1992: *Bull. Brit. Ornith. Club* 112(2): 74 – Antipodes Island.

Diomedea antipodensis; Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Diomedea antipodensis antipodensis Robertson & Warham; Brooke 2004, *Albatrosses and Petrels across the World*: 176.

Breeds on the Antipodes Islands and Campbell Island/Motu Ihupuku; ranges at sea to southern and eastern Australia and the South Pacific Ocean to the west coast of South America (Robertson & Warham 1992; Nicholls *et al.* 1996, 2000, 2002; Walker & Elliott 2005, 2006). Occasionally reaches more tropical latitudes (Walker & Elliott 2006), e.g. the Tuamotu Archipelago (Robertson 1972b), and south to 73°S in antarctic waters (Walker & Elliott 2006). On 19 Mar. 1996 one was seen ashore on Macquarie Island (Smith 1997) and a few have nested on the Chatham Islands since 2003 (Miskelly *et al.* 2006).

***Diomedea antipodensis gibsoni* Robertson & Warham** **Gibson's Albatross**

Diomedea exulans exulans Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*:

18. In part.

Diomedea exulans Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 14. In part.

Diomedea exulans gibsoni Robertson & Warham, 1992: *Bull. Brit. Ornith. Club* 112(2): 76 – Adams Island, Auckland Islands.

Diomedea gibsoni; Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Diomedea antipodensis; BirdLife International 2000, *Threatened Birds of the World*. In part.

Diomedea antipodensis gibsoni Robertson & Warham; Brooke 2004, *Albatrosses and Petrels across the World*: 176.

Breeds on the Auckland Islands; ranges to the Tasman Sea and waters off mainland New Zealand; occasionally to south-west Australian and south-west Pacific waters (Robertson & Warham 1992; Walker *et al.* 1995; Reinke *et al.* 1998; Walker & Elliott 1999, 2006; Nicholls *et al.* 2000; Elliott & Walker 2005).

▶ *Diomedea epomophora* Lesson

Southern Royal Albatross

Diomedaea [sic] *epomophora* Lesson, 1825: *Ann. Sci. Nat., Zool. Paris* 6: 95 – no locality, probably Australian waters (*vide* Hellmayr & Conover 1948, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 42) and not “Campbell Island” as designated by Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 239.

Diomedea exulans Linnaeus; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 189. In part.

Diomedea regia Buller, 1891: *Trans. Proc. N.Z. Inst.* 23: 230 – New Zealand region, restricted to Campbell Island (*vide* Mathews & Hallstrom 1943, *Notes Procellariiformes*: 11).

Diomedea epomophora mccormicki Mathews, 1912: *Birds Australia* 2: 261 – Enderby Island, Auckland Islands.

Diomedea epomophora epomophora Lesson; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 239.

Diomedea epomophora longirostris Mathews, 1934: *Bull. Brit. Ornith. Club* 54: 112 – south Atlantic Ocean.

Diomedea (Rhothonia) epomophora epomophora Lesson; Mathews 1934, *Novit. Zool.* 39(2): 153. In part.

Diomedea (Rhothonia) epomophora mccormicki Mathews; Mathews 1934, *Novit. Zool.* 39(2): 153.

Diomedea (Rhothonia) epomophora longirostris Mathews; Mathews 1934, *Novit. Zool.* 39(2): 153.

Diomedea epomophora; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 126, 175.

Breeds mainly on Campbell Island/Motu Ihupuku; a few on Enderby, Adams and Auckland Islands (Taylor *et al.* 1970, Moore *et al.* 1997, Taylor 2000a). A few have interbred with *D. sanfordi* at Taiaroa Head, Otago (Croxall & Gales 1998). Commonly ranges north from the subantarctic to 36°S in New Zealand and Australian seas (Marchant & Higgins 1990, Reid *et al.* 2002, Waugh *et al.* 2002, Waugh & Weimerskirch 2003). Regular migrant to seas off west and south-east coasts of South America (Robertson & Kinsky 1972, Enticott 1986, Marchant & Higgins 1990, Imber 1999, Moore & Bettany 2005). Rare in the South Indian and South Atlantic Oceans (Enticott 1986, Marchant & Higgins 1990, Moore & Bettany 2005). Vagrant north to the tropics, e.g. the Tuamotu Archipelago (Robertson 1972b). Holocene fossils and midden remains have been found in dunes on Enderby Island (Dawson 1964, Taylor 1971, Yaldwyn 1986, Anderson 2005).

▶ *Diomedea sanfordi* Murphy

Northern Royal Albatross

Diomedea (Rhothonia) sanfordi Murphy, 1917: *Bull. Am. Mus. Nat. Hist.* 37: 861 – 64 km off Corral, Valdivia, Chile.

Diomedea (Rhothonia) epomophora epomophora Lesson; Mathews 1934, *Novit. Zool.* 39(2): 153. In part.

Diomedea epomophora sanfordi Murphy; Checklist Committee 1953, *Checklist N.Z. Birds*: 16.
Diomedea sanfordi; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 126, 175.

Breeds mainly at the Chatham Islands on The Sisters and The Forty-Fours; about 30 pairs at Taiaroa Head, Otago Peninsula (Robertson 1991, 1993, 2001; Imber 1999). Two have interbred with *D. epomophora* at Enderby Island, Auckland Islands (Croxall & Gales 1998). Ranges north to 36°S, particularly east of New Zealand during the breeding season (Marchant & Higgins 1990; Nicholls *et al.* 1994, 2002; BirdLife International 2004; Waugh *et al.* 2005). Regularly seen as far south as Snares Islands/Tini Heke (Miskelly *et al.* 2001a) and small numbers occur in south-east Australian waters during all seasons (Reid *et al.* 2002). Circumpolar migration eastward, primarily to the South American coasts of Chile, Argentina and Uruguay (Enticott 1986; Robertson & Nicholls 2000; Nicholls *et al.* 2002; BirdLife International 2004). Robertson & Nunn (1998) argued that *D. epomophora* and *D. sanfordi* should be treated as separate species because of “several key morphological distinctions” but they did not present any data to support this statement. Their proposal was rejected by James (2000) and Penhallurick & Wink (2004). However, clear identification characters have been described to support full species status for each form (e.g. Onley & Bartle 1999) and that conclusion is being increasingly followed (e.g. BirdLife International 2000, Taylor 2000a, Holdaway *et al.* 2001, Waugh *et al.* 2002, Brooke 2004, Onley & Scofield 2007) and is adopted here. Holocene fossil bones have been found on the Chatham Islands (Millener 1999, Holdaway *et al.* 2001).

Genus *Phoebastria* Reichenbach

Phoebastria Reichenbach, 1853: *Avium Syst. Nat.*: 5 – Type species (by original designation)

Diomedea brachyura Temminck = *Phoebastria albatrus* Pallas.

Julietata Mathews, 1943: *in* Mathews & Hallstrom, *Notes Procellariiformes*: 27 – Type species (by original designation) *Diomedea irrorata* Salvin = *Phoebastria irrorata* (Salvin).

Galapagornis Boetticher, 1949: *Beitr. Gattungssyst. Vögel*: 27 – Type species (by original designation) *Diomedea irrorata* Salvin = *Phoebastria irrorata* (Salvin).

Laysanornis Boetticher, 1949: *Beitr. Gattungssyst. Vögel*: 27 – Type species (by original designation) *Diomedea immutabilis* Rothschild = *Phoebastria immutabilis* (Rothschild).

Penthenia Boetticher, 1949: *Beitr. Gattungssyst. Vögel*: 27 – Type species (by original designation) *Diomedea nigripes* Audubon = *Phoebastria nigripes* (Audubon).

► *Phoebastria nigripes* (Audubon)

Black-footed Albatross

Diomedea nigripes Audubon, 1839: *Ornith. Biography* 5: 327 – Pacific Ocean, 30°44'N, 146°W.

Thalassarche nigripes (Audubon); Mathews 1927, *Syst. Avium Australasianarum* 1: 131.

Phoebastria nigripes reischekia Mathews, 1930: *Bull. Brit. Ornith. Club* 51: 29 – New Zealand, restricted to Dusky Sound (*vide* Oliver 1955, *New Zealand Birds*, 2nd edition: 181).

Diomedea nigripes Audubon; Checklist Committee 1953, *Checklist N.Z. Birds*: 18.

Phoebastria nigripes (Audubon); Brooke 2004, *Albatrosses and Petrels across the World*: 190.

North Pacific Ocean, breeding on the Leeward Hawaiian Islands and on Torishima, Izu Islands; ranging mainly into the north-east Pacific (Jouanin & Mougin 1979). Only one New Zealand record: Dusky Sound, Jul. 1884, in the Reischek collection (i.e. at Naturhistorisches Museum Wien; Oliver 1955).

► *Phoebastria immutabilis* (Rothschild)

Laysan Albatross

Diomedea immutabilis Rothschild, 1893: *Bull. Brit. Ornith. Club* 1: 48 – Laysan Island, Hawaiian Islands, Pacific Ocean.

Thalassarche immutabilis (Rothschild); Mathews 1927, *Syst. Avium Australasianarum* 1: 132.
Phoebastria immutabilis (Rothschild); Mathews 1934, *Novit. Zool.* 39(2): 154.
Diomedea immutabilis; Medway 2000, *Notornis* 47(1): 65.

Breeds on islands of the Hawaiian Chain. Ranges in the North Pacific from the Bering Sea to Japan and Baja California (Jouanin & Mougin 1979). Two records in the New Zealand region: one ashore in 1985–86 at Norfolk Island (Moore 1999) and one on 8 Dec. 1995 off Hawke's Bay (Medway 2000a).

Genus *Thalassarche* Reichenbach

Thalassarche Reichenbach, 1853: *Avium Syst. Nat.*: 5 – Type species (by original designation)
Diomedea melanophrys Temminck = *Thalassarche melanophrys* (Temminck).

Thalassogeron Ridgway, 1884: in Baird, Brewer & Ridgway, *Mem. Mus. Comp. Zool.* 13: 345, 357 – Type species (by original designation) *Diomedea culminata* Gould = *Thalassarche chrysostoma* (J.R. Forster).

Nealbatrus Mathews, 1912: *Birds Australia* 2: 274 – Type species (by original designation)
Diomedea chlororhynchos Gmelin = *Thalassarche chlororhynchos* (Gmelin).

Diomedella Mathews, 1912: *Birds Australia* 2: 275 – Type species (by original designation)
Diomedea cauta Gould = *Thalassarche cauta cauta* (Gould).

Many fossil and midden records from North, South and Chatham Islands remain unidentified to species (Millener 1991, Holdaway *et al.* 2001). The small, dark-backed southern albatrosses are often called mollymawks.

► *Thalassarche chlororhynchos* (Gmelin)

Atlantic Yellow-nosed Albatross

Diomedea chlororhynchos Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 568. Based on the “Yellow-nosed Albatross” of Latham 1785, *Gen. Synop. Birds* 3: 309, pl. 94 – Cape of Good Hope = 35°13'S, 6°3'W, south Atlantic Ocean (*vide* Medway 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 8).

Diomedea presaga Bonaparte, 1857: *Consp. Gen. Avium* 2: 185 (ex Brandt MS) – no locality.

Thalassogeron eximius G.E. Verrill, 1895: *Trans. Connect. Acad. Arts Sci.* 9: 440, pl. 8 – Gough Island, south Atlantic Ocean.

Thalassogeron chlororhynchos (Gmelin); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 451. In part. Unjustified emendation.

Nealbatrus chlororhynchos chlororhynchos (Gmelin); Mathews 1913, *List Birds Australia*: 42. Unjustified emendation.

Thalassarche chlororhynchos (Gmelin); Mathews & Iredale 1921, *Man. Birds of Australia* 1: 52. Unjustified emendation.

Thalassarche chlororhynchos chlororhynchos (Gmelin); Mathews 1927, *Syst. Avium Australasianarum* 1: 132. Unjustified emendation.

Diomedea melanoptera Miranda-Ribeiro, 1928: *Bol. Mus. Nacional, Rio de Janeiro* 4(4): 45 – no locality = Tristan da Cunha (*vide* Mathews 1948, *Bull. Brit. Ornith. Club* 68: 162).

Diomedea chlororhynchos Gmelin; Checklist Committee 1953, *Checklist N.Z. Birds*: 17. In part. Unjustified emendation.

Diomedea chlororhynchos Gmelin; Checklist Committee 1980, *Notornis (Suppl.)* 27: 7. In part.

Diomedea chlororhynchos chlororhynchos Gmelin; Checklist Committee 1990, *Checklist Birds N.Z.*: 19.

Thalassarche chlororhynchos; Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Breeds on Gough and the Tristan da Cunha Islands (Tristan da Cunha, Nightingale, Inaccessible, Stoltenhoff, Middle); ranges widely in the South Atlantic Ocean and rarely east as far as Australian seas (Brooke *et al.* 1980; Tickell 2000; Cuthbert, Ryan

et al. 2003; Brooke 2004); vagrant to the North Atlantic (Harrop 1994, Mlodinow 1999, Pendlebury 2007, van den Berg & Haas 2007). One vagrant attempted to nest on Middle Sister Island, Chatham Islands, during 1975–76, and another was ashore there in 1996 (Robertson 1975, Imber 1994, Marchant & Higgins 1990, Miskelly *et al.* 2006). The common name used here follows BirdLife International (2000), Shirihai (2002), Brooke (2004) and Onley & Scofield (2007).

► ***Thalassarche carteri* (Rothschild)** **Indian Ocean Yellow-nosed Albatross**

Diomedea (Thalassarche) chlororhynchos; G.R. Gray 1871, *Hand-list Birds* 3: 109. Not *Diomedea chlororhynchos* Gmelin, 1789. Unjustified emendation.

Thalassogeron chlororhynchus (Gmelin); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 451. In part. Unjustified emendation.

Thalassogeron carteri Rothschild, 1903: *Bull. Brit. Ornith. Club* 14: 6 – Point Cloates, northwest Australia.

Diomedea bassi Mathews, 1912: *Novit. Zool.* 18(3): 206 – southeast Australian seas.

Thalassogeron chlororhynchus bassi (Mathews); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 240.

Nealbatrus chlororhynchus bassi (Mathews); Mathews 1913, *List Birds Australia*: 43. Unjustified emendation.

Nealbatrus chlororhynchus carteri (Rothschild); Mathews 1913, *List Birds Australia*: 43. Unjustified emendation.

Thalassarche chlororhynchus carteri (Rothschild); Mathews 1927, *Syst. Avium Australasianarum* 1: 132. Unjustified emendation.

Thalassarche chlororhynchus bassi (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 132. Unjustified emendation.

Thalassarche chlororhynchus; Oliver 1930, *New Zealand Birds*, 1st edition: 164. Not *Diomedea chlororhynchus* Gmelin, 1789. Unjustified emendation.

Diomedea chlororhynchus Gmelin; Checklist Committee 1953, *Checklist N.Z. Birds*: 17. In part. Unjustified emendation.

Diomedea chlororhynchus Gmelin; Checklist Committee 1980, *Notornis (Suppl.)* 27: 7. In part.

Diomedea chlororhynchus bassi Mathews; Brooke *et al.* 1980, *Durban Museum Novit.* 12: 175.

Diomedea chlororhynchus carteri (Rothschild); Checklist Committee 1990, *Checklist Birds N.Z.*: 19.

Thalassarche carteri; Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Breeds on Prince Edward, Crozet, Kerguelen, Amsterdam and St. Paul Islands (Marchant & Higgins 1990, BirdLife International 2000). One pair nested on The Pyramid, Chatham Islands, in 1998–2003 (Medway 2001c, Miskelly *et al.* 2006). Ranges mainly between 30°S and 40°S in the Indian Ocean and Australian seas (Wood 1992, Tickell 2000, Reid *et al.* 2002). A regular visitor, mainly Apr. to Dec., to seas off the northern North Island and Bay of Plenty; rarely south to the Cook Strait region (e.g. Robertson 1975, Sibson 1979, Latham 1980, Booth 1982, Powlesland 1985, Powlesland & Powlesland 1994b, Medway 2002g). Vagrant to Stewart Island/Rakiura, Feb. 1974 (Wilson 1976) and the Snares Islands/Tini Heke, Jan. 1985 (Miskelly *et al.* 2001a). Robertson & Nunn (1998) argued that *Th. chlororhynchus* and *Th. carteri* should be treated as separate species but they did not present data to support this proposal (James 2000). However, Brooke *et al.* (1980), Robertson (2002) and Onley & Scofield (2007) described several morphological differences between these taxa and species status for each was recognised by BirdLife International (2000) and Brooke (2004) and is accepted here. The common name used here follows Smith *et al.* (2000).

Hutton (1871: 44) listed “120. DIOMEDEA CHLORORHYNCHA Gmel.” as a species represented in the collection of the Auckland Museum, with a description fitting *Th. carteri*. This would constitute the first record of a yellow-nosed albatross in New Zealand. However, since no specimen with data matching those given by Hutton can now be found in the Auckland Museum collection (B. Gill pers. comm., 2007), we leave this record as undetermined until a relevant specimen is found. Buller (1887–88, 2: 202) also refers to “DIOMEDEA CHLORORHYNCHA” citing, among others, a specimen in the Auckland Museum, but his description fits *Th. bulleri bulleri* (see below).

► ***Thalassarche chrystostoma* (J.R. Forster)**

Grey-headed Albatross

Diomedea chrystostoma J.R. Forster, 1785: *Mém. Math. Phys. Paris (Acad. Sci.)* 10: 571, pl. 14 – vicinity of the Antarctic Circle and in the Pacific Ocean = 50°15'S, 96°1'W, southeast Pacific Ocean (*vide* Medway 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 9).

Diomedea culminata Gould, 1843: *Proc. Zool. Soc. London 1843* (11): 107 – South Indian, and South Pacific Oceans.

Diomedea (Thalassarche) culminata Gould; G.R. Gray 1871, *Hand-list Birds* 3: 109.

Diomedea chlororhyncha [sic]; Filhol 1885, *Recueil Mém. Rapp. Doc. Passage Vénus, Paris (Acad. Sci.)*: 3(2): 51. Not *Diomedea chlororhynchos* Gmelin, 1789.

Thalassogeron culminatus (Gould); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 451.

Thalassogeron desolationis Salvadori, 1911: *Boll. Mus. Zool. Anat. Comp. Univ. Torino* 26(638): 2 – Desolation Island, Straits of Magellan, South America (52°S, 74°W).

Diomedea culminata mathewsi Rothschild, 1912: *Bull. Brit. Ornith. Club* 29: 70 – Campbell Island.

Diomedea culminata culminata Gould; Rothschild 1912, *Bull. Brit. Ornith. Club* 29: 70.

Thalassogeron chrystostoma chrystostoma (J.R. Forster); Mathews 1912, *Birds Australia* 2: 280.

Thalassogeron chrystostoma culminata (Gould); Mathews 1912, *Birds Australia* 2: 280.

Thalassogeron chrystostoma harterti Mathews, 1912: *Birds Australia* 2: 280 – “South Indian Ocean (Kerguelen Island breeding)”, restricted to 46°52'S, 5°E (*vide* Checklist Committee 1990, *Checklist Birds N.Z.*: 18).

Thalassogeron chrystostoma mathewsi (Rothschild); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 240.

Thalassogeron chrystostoma alexanderi Mathews, 1916: *Austral Avian Rec.*: 3: 55 – West coast of Australia.

Thalassogeron culminatus chrystostoma (J.R. Forster); Bennett 1926, *Ibis* 2 (12th ser.): 318.

Thalassarche chrystostoma chrystostoma (J.R. Forster); Mathews 1927, *Syst. Avium Australasianarum* 1: 131.

Thalassarche chrystostoma culminatus (Gould); Mathews 1927, *Syst. Avium Australasianarum* 1: 131.

Thalassarche chrystostoma alexanderi (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 131.

Thalassarche chrystostoma mathewsi (Rothschild); Mathews 1927, *Syst. Avium Australasianarum* 1: 131.

Thalassarche chrystostoma; Oliver 1930, *New Zealand Birds*, 1st edition: 164.

Thalassarche chrystostoma desolationis (Salvadori); Mathews 1933, *Ibis* 3 (13th ser.): 543.

Thalassogeron chrystostoma desolationis Salvadori; Mathews 1934, *Novit. Zool.* 39(2): 156.

Diomedea chrystostoma J.R. Forster; Checklist Committee 1953, *Checklist N.Z. Birds*: 17.

Circumpolar, breeding at Idefonso and Diego Ramirez Islands, South Georgia (Clark *et al.* 1992, Robertson, G. *et al.* 2007), Marion and Prince Edward Islands, Crozet, Kerguelen, Macquarie and Campbell/Motu Ihupuku Islands (Gales 1993; Waugh,

Weimerskirch, Moore *et al.* 1999; Moore 2002, 2004; Terauds *et al.* 2005). Ranges mainly between 39°S and 64°S (Marchant & Higgins 1990; Waugh, Sagar *et al.* 1999; Waugh, Weimerskirch, Cherel *et al.* 1999; Terauds *et al.* 2006). Regularly wrecked on New Zealand coasts (Powlesland 1985), including birds from South Georgia (Prince *et al.* 1998), but not usually seen alive in inshore waters (Waugh, Sagar *et al.* 1999). One banded as a chick on South Georgia recovered alive as an adult breeding on Macquarie Island (Anon. 2004a, Terauds *et al.* 2005). Northern Hemisphere records are dubious (Jouanin & Mougin 1979, Mlodinow 1999). Possible Holocene fossil record from the South Island (Millener 1991).

► ***Thalassarche melanophrys* (Temminck)**

Black-browed Albatross

Diomedea melanophrys Temminck, 1828: *Nouv. Recueil Planch. Color. d'Oiseaux* 77: pl. 456 and text – Cape of Good Hope, South Africa.

Diomedea melanophrys Temminck; Temminck 1839, in Temminck & Laugier de Chartrouze, *Nouv. Recueil Planch. Color. d'Oiseaux* 102: pl. 76. Unjustified emendation.

Diomedea gilliana Coues, 1866: *Proc. Acad. Nat. Sci. Philad.* 18: 181 – no locality.

Diomedea (Thalassarche) melanophrys Temminck; G.R. Gray 1871, *Hand-list Birds* 3: 109. Unjustified emendation.

Diomedea melanophrys Temminck; Salvin 1896, *Cat. Birds Brit. Mus.* 25: 447. In part. Unjustified emendation.

Thalassarche melanophrys belcheri Mathews, 1912: *Birds Australia* 2: 271 – Kerguelen Island, south Indian Ocean.

Thalassarche melanophrys richmondi Mathews, 1912: *Birds Australia* 2: 272 – west coast of South America.

Thalassarche melanophrys melanophrys (Temminck); Mathews 1913, *List Birds Australia*: 42. Unjustified emendation.

Thalassarche melanophrys; Belcher 1914, *Ibis* 2 (10th ser.): 594. Unjustified emendation.

Thalassarche melanophrys melanophrys (Temminck); Mathews 1927, *Syst. Avium Australasianarum* 1: 130.

Diomedea melanophrys melanophrys Temminck; Checklist Committee 1953, *Checklist N.Z. Birds*: 17.

Diomedea melanophrys melanophrys Temminck; Checklist Committee 1980, *Notornis (Suppl.)* 27: 7. Unjustified emendation.

Thalassarche melanophrys; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 126.

The southern oceans; circumpolar, breeding on islands between 46°S and 56°S (Marchant & Higgins 1990). Breeds abundantly on islands off southern Chile: Diego de Almagro, Evangelistas, Albatros, the Ildefonso and Diego Ramírez archipelagos and possibly Evout (Clark *et al.* 1992, Lawton *et al.* 2003, Alderman *et al.* 2005, Robertson, G. *et al.* 2007), on Staten Island (Argentina), on the Falklands, South Georgia, Crozet, Kerguelen and Heard Islands (Marchant & Higgins 1990). Contrary to Onley & Scofield (2007), it does not breed at the South Sandwich Islands (Convey *et al.* 1999). Small but increasing numbers breed in the New Zealand region: on Western Chain, Snares Islands/Tini Heke (one pair; Miskelly *et al.* 2001a), Bollons (Antipodes Islands), Campbell Island/Motu Ihupuku and Macquarie Islands (including the Bishop and Clerks) (Tennyson *et al.* 1998, Terauds *et al.* 2005). Hybridisation with *Th. impavida* occurs rarely on Campbell Island/Motu Ihupuku (Moore *et al.* 2001). Ranges widely between 30°S and antarctic coasts in all oceans, including seas off mainland New Zealand, particularly in winter months (Marchant & Higgins 1990, Terauds *et al.* 2006). A banded breeding adult from Campbell Island/Motu Ihupuku was caught at sea off Chile (Moore & Battam

2000) and another adult banded on Macquarie Island was caught off New South Wales (Howard 1954). A banded bird from South Georgia was caught at sea off New Zealand (Prince *et al.* 1998) and there is genetic evidence that birds from the Falkland Islands have reached Campbell Island/Motu Ihupuku (Burg & Croxall 2001, Moore *et al.* 2001). Occasional vagrant far into the North Atlantic, where it has prospected nest sites, and to the central Pacific (Marchant & Higgins 1990, Harrop 1994, Mlodinow 1999, Tickell 2000, Fraser *et al.* 2007). The frequent but incorrect usage of the spelling “*melanophrys*” dates back to Temminck’s (1839) unjustified emendation of his original spelling (Christidis & Boles 1994: 40, Holdaway *et al.* 2001: 126).

▶ ***Thalassarche impavida* Mathews** **Campbell Black-browed Albatross**

Diomedea melanophrys Temminck; Salvin 1896, *Cat. Birds Brit. Mus.* 25: 447. In part. Unjustified emendation.

Diomedea melanophrys; Ogilvie-Grant 1905, *Ibis* 5 (8th ser.): 558. Not *Diomedea melanophrys* Temminck, 1828.

Thalassarche melanophrys impavida Mathews, 1912: *Birds Australia* 2: 267, pl. 96 – Tasmania, Australia.

Diomedea melanophrys impavida (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 17.

Diomedea melanophrys impavida (Mathews); Checklist Committee 1980, *Notornis (Suppl.)* 27: 7. Unjustified emendation.

Thalassarche impavida; Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Breeds only on the north coasts of Campbell Island/Motu Ihupuku and offshore Isle de Jeanette Marie (Moore & Moffat 1990; Waugh, Weimerskirch, Moore *et al.* 1999; Moore 2002, 2004; Shirihai 2002). Ranges widely in New Zealand seas and the Tasman Sea to south and east Australia; reaching south to the Ross Sea, with vagrants north to Vanuatu, New Caledonia, Fiji, Tonga, Tahiti, Tuamotu and the Marquesas Islands; very rare in the Indian Ocean (Marchant & Higgins 1990; Petyt 1995; Waugh 1998; Cheral *et al.* 1999; Waugh, Sagar *et al.* 1999; Waugh, Weimerskirch, Cheral *et al.* 1999; Tickell 2000; Reid *et al.* 2002), including one ashore on Kerguelen Island (Shirihai 2002). A banded immature was caught at sea off Chile (Moore & Battam 2000). Robertson & Nunn (1998) argued that *Th. melanophrys* and *Th. impavida* should be treated as separate species but did not present data to support this proposal. Their recommendation was rejected by James (2000) and Penhallurick & Wink (2004). However, there is a growing amount of morphological and genetic evidence documenting differences between these forms (Onley & Bartle 1999; Waugh, Prince *et al.* 1999; BirdLife International 2000; Taylor 2000a; Burg & Croxall 2001; Holdaway *et al.* 2001; Brooke 2004; Alderman *et al.* 2005) and full species status for *Th. impavida* is accepted here.

▶ ***Thalassarche bulleri* (Rothschild)** **Buller’s Albatross**

Breeds only in the New Zealand region; ranges in the Pacific Ocean from eastern Australian seas to the coasts of Chile and Peru (Marchant & Higgins 1990, Spear *et al.* 2003) and rarely into South Atlantic and South African waters (Curtis 1988, Shirihai 2002). Robertson & Nunn (1998) suggested that the two Buller’s albatross subspecies recognised here were full species but they did not present data to support this recommendation (James 2000). BirdLife International (2000), Holdaway *et al.* (2001), Brooke (2004), Penhallurick & Wink (2004) and Onley & Scofield (2007)

regarded these forms as questionably separable at the species level. Fossils are recorded from North and South Island Holocene dunes (Millener 1991) and tentatively from a Late Pleistocene site in Otago (Worthy & Grant-Mackie 2003).

***Thalassarche bulleri bulleri* (Rothschild)**

Southern Buller's Albatross

Diomedea chlororhyncha; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 202. Not

Diomedea chlororhynchos Gmelin, 1789.

Diomedea chlororhyncha; Finsch 1888, *Ibis* 6 (5th ser.): 308. Not *Diomedea chlororhynchos* Gmelin, 1789.

Diomedea bulleri Rothschild, 1893: *Bull. Brit. Ornith. Club* 1: 58 – New Zealand.

Thalassarche bulleri (Rothschild); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 240.

Diomedea bulleri Rothschild; Checklist Committee 1953, *Checklist N.Z. Birds*: 17. In part.

Diomedea bulleri bulleri Rothschild; Checklist Committee 1990, *Checklist Birds N.Z.*: 20.

Thalassarche bulleri bulleri (Rothschild); Brooke 2004, *Albatrosses and Petrels across the World*: 211.

Breeds on the Snares Islands/Tini Heke and the Solander Islands (Sagar & Stahl 2005). During the breeding season, commonly found off the South Island of New Zealand and off south-east Australia; less often seen south to Macquarie Island and north to the Kermadec Islands; migrates to the eastern South Pacific Ocean off Chile and Peru (Sagar & Weimerskirch 1996; Stahl *et al.* 1998; Stahl & Sagar 2000a,b, 2006; Reid *et al.* 2002). One ashore on Middle Sister Island, Chatham Islands, in 1996 (Miskelly *et al.* 2006).

***Thalassarche bulleri platei* (Reichenow)**

Northern Buller's Albatross

Diomedea platei Reichenow, 1898: *Ornith. Monatsberichte* 6: 190 – Cavancha, Iquique, Chile.

Thalassarche bulleri; C.A. Fleming 1939, *Emu* 38: 393. Not *Diomedea bulleri* Rothschild, 1893.

Diomedea bulleri Rothschild; Checklist Committee 1953, *Checklist N.Z. Birds*: 17. In part.

Diomedea bulleri platei Reichenow; Checklist Committee 1990, *Checklist Birds N.Z.*: 20.

Thalassarche nov. sp. (*platei*); Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Thalassarche bulleri platei; Brooke 2004, *Albatrosses and Petrels across the World*: 211.

Thalassarche bulleri ssp. nov. (not *platei*); Onley & Scofield 2007, *Albatrosses, Petrels & Shearwaters World*: 140.

Breeds mainly on The Sisters and The Forty-Fours, Chatham Islands (Robertson 1991); one bird ashore on The Pyramid, Chatham Islands (Miskelly *et al.* 2006). About 15 pairs nest on Rosemary Rock, Manawatāwhi/Three Kings Islands (Wright 1984, McCallum *et al.* 1985, Parrish 2006). Ranges mainly about the Chatham Islands and in seas east of the North Island (Stahl *et al.* 1998) but recorded south into the subantarctic (Imber *et al.* 2005). At least partially migratory in the non-breeding season to seas off western South America (Stahl *et al.* 1998). Absent from Chatham Islands seas from late Jun. to early Sep. (Stahl *et al.* 1998). Robertson & Nunn (1998) suggested that the holotype of *Th. b. platei* was actually a juvenile *Th. b. bulleri* but they did not present data to support this claim. Holocene fossils known from the Chatham Islands (Millener 1991, 1999).

▶ ***Thalassarche cauta* (Gould)**

White-capped Albatross

The taxonomic status of various forms of the “white-capped albatross” complex is debated (e.g. Cole 2000, Holdaway *et al.* 2001, Shirihai 2002, Abbott & Double 2003a, Double *et al.* 2003, Brooke 2004, Onley & Scofield 2007). Two subspecies

(one breeding in Tasmania, the other on the New Zealand subantarctic islands) of *Th. cauta* are recognised here. Abbott & Double's genetic studies (2003a,b) indicate that the Tasmanian population was derived from a small number of birds colonising from the New Zealand population. Small numbers occur (subspecies unknown) off South America; one vagrant seen near Macquarie Island (Marchant & Higgins 1990, Cole 2000, Phalan *et al.* 2004). One bird (subspecies uncertain) off Oregon in 1996 and possibly the same bird seen until 2000 in the north-east Pacific (Cole 2000). The common name used here follows Checklist Committee (1990), but albatross is used in preference to mollymawk. Also known as shy albatross (mollymawk).

***Thalassarche cauta cauta* (Gould)**

Tasmanian Albatross

- Diomedea cauta* Gould, 1841: *Proc. Zool. Soc. London 1840* (8): 177 – Bass Strait, Australia.
Thalassogeron cautus (Gould); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 449.
Thalassogeron layardi Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 450 – off Cape of Good Hope.
Thalassogeron cautus cautus (Gould); Mathews 1912, *Birds Australia* 2: 293.
Thalassogeron cautus layardi Salvin; Mathews 1912, *Birds Australia* 2: 293.
Diomedella cauta robui Mathews, 1916: *Austral Avian Rec.* 3: 55 – Sydney, New South Wales, Australia.
Diomedella cauta wallaca Mathews, 1918: *Austral Avian Rec.* 3: 160. Unnecessary *nomen novum* for *Diomedella cauta robui* Mathews, 1916.
Diomedella cauta (Gould); Mathews 1920, *Austral Avian Rec.* 4: 68.
Diomedella cauta cauta (Gould); Mathews 1927, *Syst. Avium Australasianarum* 1: 132.
Diomedea cauta cauta Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 17. In part.
Thalassarche cauta; Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.
Thalassarche cauta cauta (Gould); Brooke 2004, *Albatrosses and Petrels across the World*: 200.

Breeds on Tasmanian Islands (Albatross Island, Pedra Branca and Mewstone); adults relatively sedentary but some, mainly immatures, range to Western Australia and South African waters (Marchant & Higgins 1990; Brothers *et al.* 1997, 1998; Hedd *et al.* 2001; BirdLife International 2004; Hedd & Gales 2005). Vagrant in Feb. to Mar. 1981 to the Red Sea and 1999–2000 to the north-east Pacific (Cole 2000). One New Zealand record: Mewstone bird recovered at the Waikato River mouth on 30 Jul. 1989, two years and three months after being banded as a chick (Anon. 1990, Brothers *et al.* 1997). The common name used here follows Onley & Scofield (2007).

***Thalassarche cauta steadi* Falla**

New Zealand White-capped Albatross

- Thalassarche cauta*; Loomis 1918, *Proc. Calif. Acad. Sci.* 2(2): 45. Not *Diomedea cauta* Gould, 1841.
Thalassarche cauta steadi Falla, 1933: *Rec. Auck. Inst. Museum* 1: 179 – Foveaux Strait.
Diomedella cauta steadi (Falla); Mathews 1934, *Novit. Zool.* 39(2): 157.
Diomedea cauta cauta Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 17. In part.
Thalassarche cauta cauta; Oliver 1955, *New Zealand Birds*, 2nd edition: 170. Not *Diomedea cauta* Gould, 1841.
Diomedea cauta steadi (Falla); Checklist Committee 1990, *Checklist Birds N.Z.*: 17.
Thalassarche steadi; Robertson & Nunn 1998, in G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Breeds at the Auckland Island Group: mainly on Disappointment Island, fewer on Auckland and Adams Islands (Tennyson *et al.* 1998, Taylor 2000a, Flux 2002). A recent colonist (c. 20 pairs) on Bollons Island, Antipodes Islands, and one pair has nested on

The Forty-Fours, Chatham Islands (Robertson *et al.* 1997, Tennyson *et al.* 1998, Imber *et al.* 2005, Miskelly *et al.* 2006). Ranges north into seas off mainland New Zealand (e.g. Onley 1992, Petyt 1995) and reaches Australian and southern African seas; one reached the north-east Pacific in Sep. 1951 and one was ashore at South Georgia in 2003 (Marchant & Higgins 1990, Brothers *et al.* 1997, Cole 2000, Double *et al.* 2003, Anon. 2004b, Phalan *et al.* 2004, Abbott *et al.* 2006). The common name used here follows Checklist Committee (1990), but albatross is used in preference to mollymawk.

► ***Thalassarche eremita* Murphy** **Chatham Island Albatross**

Nealbatrus chlororhynchus; Belcher 1914, *Ibis* 2 (10th ser.): 594. In part.

Thalassarche cauta eremita Murphy, 1930: *American Mus. Novit.* 419: 4 – The Pyramid, Chatham Islands.

Thalassarche eremita; Oliver 1930, *New Zealand Birds*, 1st edition: 163.

Diomedella cauta eremita (Murphy); Mathews 1934, *Novit. Zool.* 39(2): 157.

Thalassarche (Diomedella) cauta eremita Murphy; C.A. Fleming 1939, *Emu* 38: 393.

Diomedea cauta eremita (Murphy); Checklist Committee 1953, *Checklist N.Z. Birds*: 17.

Thalassarche eremita; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 126, 175.

Breeds at the Chatham Islands on The Pyramid (Robertson *et al.* 2000, Latham *et al.* 2004). One nest has been found on Western Chain, Snares Islands/Tini Heke (Miskelly *et al.* 2001a). At sea, ranges to mainland New Zealand and, in the non-breeding season, to waters off Chile and Peru (Robertson *et al.* 2000, Spear *et al.* 2003, BirdLife International 2004, Latham *et al.* 2004, Collins 2006a). The species occasionally reaches New South Wales and Tasmanian waters and has been seen ashore on Albatross Island, Bass Strait (Reid & James 1997, Palliser 1999, Latham *et al.* 2004). Two recent records off South Africa (Ryan 2002, Shirihai 2002). Formerly treated as a subspecies of *Th. cauta* but, although not universally accepted in recent publications (e.g. Penhallurick & Wink 2004), accepted here as a full species following the recommendations of Robertson (*in* Marchant & Higgins 1990), Robertson & Nunn (1998), Onley & Bartle (1999), BirdLife International (2000), Holdaway *et al.* (2001), Brooke (2004) and Onley & Scofield (2007). Holocene fossils known from the Chatham Islands (Millener 1999). The common name used here follows Onley & Bartle (1999) and Holdaway *et al.* (2001).

► ***Thalassarche salvini* (Rothschild)** **Salvin's Albatross**

Diomedea cauta; Buller 1878, *Trans. Proc. N.Z. Inst.* 10: 217. Not *Diomedea cauta* Gould, 1841.

Thalassogeron salvini Rothschild, 1893: *Bull. Brit. Ornith. Club* 1: 58 – New Zealand.

Diomedea salvini (Rothschild); Buller 1895, *Trans. Proc. N.Z. Inst.* 27: 122.

Thalassogeron cautus salvini Rothschild; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 240.

Diomedella cauta salvini (Rothschild); Mathews 1927, *Syst. Avium Australasianarum* 1: 133.

Diomedea cauta peruvia Mathews, 1933: *Bull. Brit. Ornith. Club* 53: 185 – Western Peru.

Diomedella cauta atlantica Mathews, 1933: *Bull. Brit. Ornith. Club* 53: 213 – 35°44'S, 53°W, southwest Atlantic Ocean, off Argentina.

Diomedea cauta salvini (Rothschild); Checklist Committee 1953, *Checklist N.Z. Birds*: 18.

Thalassarche salvini; Robertson & Nunn 1998, *in* G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 19.

Breeds on the Bounty Islands and on Western Chain, Snares Islands/Tini Heke (Robertson & van Tets 1982, BirdLife International 2000, Miskelly *et al.* 2001a). Breeding attempts have been reported from The Pyramid and The Forty-Fours, Chatham Islands (Miskelly

et al. 2006). Ranges north to south-east Australian and mainland New Zealand seas (e.g. Marchant & Higgins 1990, Wood 1992, Petyt 1995, Reid *et al.* 2002), particularly east of New Zealand (e.g. Freeman 1992, Imber 1994), and migrates to seas off Peru and Chile (Arata 2003, Spear *et al.* 2003). Small numbers occur in the Indian Ocean, including a few pairs recently discovered breeding on Penguin Island (Crozet Islands) and one bird attempting to nest on Kerguelen Island (Shirihai 2002). Vagrant in the South Atlantic (Harrison 1984, Jouventin 1990, Phalan *et al.* 2004, Seco Pon *et al.* 2007) and may reach South African waters (Ryan 2001). One on the Hawaiian Islands on 8 Apr. 2003 (Robertson *et al.* 2005). Formerly treated as a subspecies of *Th. cauta* but, although not universally accepted in recent publications (e.g. Penhallurick & Wink 2004), accepted here as a full species following the recommendations of Robertson (*in* Marchant & Higgins 1990), Robertson & Nunn (1998), Onley & Bartle (1999), BirdLife International (2000), Holdaway *et al.* (2001), Brooke (2004) and Onley & Scofield (2007). The common name used here follows that used in the latter five publications.

Genus *Phoebetria* Reichenbach

Phoebetria Reichenbach, 1853: *Avium Syst. Nat.*: 5 – Type species (by original designation)
Diomedea fuliginosa Gmelin = *Phoebetria palpebrata* (J.R. Forster).

► *Phoebetria fusca* (Hilsenberg)

Sooty Albatross

Diomedea fusca Hilsenberg, 1822: *in Froriep's Notiz.* 3(5): 74 – Mozambique Channel, Africa.
Phoebetria fusca campbelli Mathews, 1912: *Birds Australia* 2: 304 – Australian seas.
Phoebetria fusca fusca (Hilsenberg); Nichols & Murphy, 1914: *Auk* 31: 532.
Phoebetria [palpebrata] fusca (Hilsenberg); Mathews 1934, *Novit. Zool.* 39(2): 158.
Diomedea palpebrata fusca Hilsenberg; Clancey 1965, *Ostrich* 36: 51.
Phoebetria fusca (Hilsenberg); Jouanin & Mougín 1979, *in* Peters, *Check-list Birds World 1* (2nd edition): 57.

Breeds on subtropical and subantarctic islands in the Indian and Atlantic Oceans: Gough, Tristan da Cunha, Prince Edward, Marion, Crozet, Kerguelen, Amsterdam and St Paul Islands; ranges at sea in these oceans between 30°S and antarctic waters and regularly reaches seas south of Australia (Marchant & Higgins 1990, Reid *et al.* 2002). Four confirmed records in the New Zealand region: Feb. 1991, north of the Auckland Islands; Nov. 1993, on the Pukaki Rise (Scofield 1994b, Medway 2000a); 1995, at the Antipodes Islands (Tennyson *et al.* 2002); and one on Macquarie Island (Onley & Scofield 2007). The record west of the North Island by C. Jowett (Tickell 2000: 117) is poorly documented and seems doubtful.

► *Phoebetria palpebrata* (J.R. Forster)

Light-mantled Sooty Albatross

Diomedea palpebrata J.R. Forster, 1785: *Mém. Math. Phys. Paris (Acad. Sci.)* 10: 571, pl. 15 – 64°S, 38°E = Indian Ocean, south of Prince Edward and Marion Islands (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 133).
Diomedea fuliginosa Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 568. Unnecessary *nomen novum* for *Diomedea palpebrata* J.R. Forster, 1785 (*vide* Medway 1998, *in* G. Robertson & Gales (eds), *Albatross Biology and Conservation*: 10).
Diomedea antarctica G.R. Gray, 1844: *Gen. Birds* 3: 650. Unnecessary *nomen novum* for *Diomedea palpebrata* J.R. Forster, 1785.
Diomedea fuliginosa var. *cornicoides* Hutton, 1867: *Ibis* 3 (n. ser.): 186, 192 – at sea, south

Atlantic Ocean, south Indian Ocean and Tasman Sea, between 36°28'S, 2°18'E and 37°26'S, 163°54'E.

Diomedea (Phoebetria) fuliginosa Gmelin; G.R. Gray 1871, *Hand-list Birds* 3: 109.

Diomedea fuliginosa Gmelin; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 205.

Phoebetria cornicoides (Hutton); Ogilvie-Grant 1905, *Ibis* 5 (8th ser.): 560.

Phoebetria fuliginosa (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 1: 155.

Phoebetria palpebrata huttoni Mathews, 1912: *Birds Australia* 2: 297 – New Zealand seas.

Phoebetria palpebrata antarctica Mathews, 1912: *Birds Australia* 2: 302 – South Georgia. Junior secondary homonym of *Diomedea antarctica* G.R. Gray, 1844.

Phoebetria palpebrata palpebrata (J.R. Forster); Mathews 1912, *Birds Australia* 2: 303.

Phoebetria palpebrata auduboni Nichols & Murphy, 1914: *Auk* 31: 531 – “mouth of the Columbia River, Oregon”, error for south Pacific Ocean (*vide* Mathews 1934, *Novit. Zool.* 39(2): 158).

Phoebetria palpebrata murphyi Mathews & Iredale, 1921: *Man. Birds of Australia*: 50.

Unnecessary *nomen novum* for *Phoebetria palpebrata antarctica* Mathews, 1912.

Phoebetria palpebrata (J.R. Forster); Checklist Committee 1953, *Checklist N.Z. Birds*: 18.

Breeds at South Georgia, Marion, Prince Edward, Crozet, Kerguelen, Heard, Macquarie, Campbell/Motu Ihupuku, Auckland and Antipodes Islands (Marchant & Higgins 1990). Circumpolar, ranging mainly between 35°S and the coasts of Antarctica but occasionally north to 20°S (Lovegrove 1978, Marchant & Higgins 1990, Robertson & Weimerskirch 1993, Weimerskirch & Robertson 1994); has straggled north of the equator (Morlan 1994, Mlodinow 1999). Occasionally beach-wrecked on mainland New Zealand (Powlesland 1985), including one banded juvenile from the Crozet Islands (Barrat *et al.* 1973). Recorded as a Holocene fossil on Chatham Island (Millener 1991, 1999).

Family PROCELLARIIDAE Leach: Fulmars, Petrels, Prions and Shearwaters

Procellariidae Leach, 1820: *Eleventh room. In Synopsis Contents British Museum 17th Edition, London*: 68 – Type genus *Procellaria* Linnaeus, 1758.

Subfamilies Procellariinae and Fulmarinae and shearwater subgenera *Ardenna*, *Thyelodroma* and *Puffinus* (as recognised by Checklist Committee 1990) are not accepted here given the lack of agreement about to which subgenera some species should be assigned (e.g. Austin 1996, Nunn & Stanley 1998, Kennedy & Page 2002, Austin *et al.* 2004). The arrangement of species used here follows the traditional order of Jouanin & Mougin (1979), except for the placement of the more recently accepted genera *Lugensa* and *Pseudobulweria*. Imber (1985d) concluded that *Lugensa* should follow the fulmar species and that *Pseudobulweria* should follow *Procellaria*. Penhallurick & Wink (2004) also found a close relationship between *Pseudobulweria* and *Procellaria* and Bretagnolle *et al.* (1998) concluded that *Pseudobulweria* was closely related to shearwaters, so here *Pseudobulweria* is placed between *Procellaria* and *Calonectris*.

Prion of Lacépède (1799: 14) has been associated with species now recognised as belonging to *Pachyptila* Illiger, 1811, but it is a *nomen dubium* (Mathews & Iredale 1913: 236, Iredale 1913: 25, Mathews 1922: 166). *Priamphus* Rafinesque (1815: 72), based on *Prion* Lacépède, is also a *nomen dubium*.

The following names of relevance to New Zealand taxa are not listed under any species because: *Procellaria fregata* of Linnaeus (1766: 212) is a *nomen dubium* (Mathews 1936a); *Procellaria nigra* of Pallas (1769: 28) is a *nomen dubium* (Mathews 1934); *Procellaria*

fuliginosa of Gmelin (1789: 562) and *Procellaria melanopus* of Gmelin (1789: 562) are *nomina dubia* (Godman 1907–08: 22, Bourne 1995); *Procellaria velox* of Kuhl (1820: 143) is a *nomen dubium* (Mathews 1912–13: 170); *Procellaria grisea* of Kuhl (1820: 144) is both a *nomen dubium* and a junior primary homonym of *Procellaria grisea* Gmelin, 1789; *Procellaria lugens* of Kuhl (1820: 144) is a *nomen dubium* (Salvin 1876, Bourne & Elliott 1965); *Procellaria munda* of Kuhl (1820: 148) and *Nectris munda* of Kuhl (1820: 148) have been placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* with name numbers 484 and 485 respectively (ICZN 1957).

Genus *Macronectes* Richmond

Ossifraga Hombron & Jacquinot, 1844: *Compt. Rend. Séa. Acad. Sci., Paris* 18: 356 – Type species (by monotypy) *Procellaria gigantea* Gmelin. Junior homonym of *Ossifraga* Wood, 1835.

Macronectes Richmond, 1905: *Proc. Biol. Soc. Washington* 18: 76. *Nomen novum* for *Ossifraga* Hombron & Jacquinot, 1844.

► *Macronectes giganteus* (Gmelin)

Southern Giant Petrel

Procellaria gigantea Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 563. Based on the “Giant Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 396, pl. 100 – Southern Oceans, restricted to Admiralty Bay, King George Island, South Shetland Islands (*vide* Voisin *et al.* 1992, *Bull. Zool. Nomenclature* 49(2): 140).

Procellaria Brasilia Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 140 (ex Latham) – no locality.

Procellaria ossifraga J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 343 – Tierra del Fuego, South America.

Ossifraga gigantea (Gmelin); Bonaparte 1857, *Consp. Gen. Avium* 2: 186.

Procellaria gigas Huxley, 1867: *Proc. Zool. Soc. London* 1867 (27): 431. Error for “*Procellaria gigantea* Gmelin”.

Fulmarus (*Ossifraga*) *giganteus* (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 105.

Ossifraga alba Potts, 1874: *Trans. N.Z. Inst.* 6: 152 – off Centre Island, Foveaux Strait.

Macronectes giganteus solanderi Mathews, 1912: *Birds Australia* 2: 187 – Falkland Islands, South Atlantic Ocean.

Macronectes giganteus forsteri Mathews, 1912: *Birds Australia* 2: 189 – Valparaiso Bay, Chile.

Macronectes giganteus wilsoni Mathews, 1912: *Birds Australia* 2: 189 – Ross Sea, Antarctica.

Macronectes giganteus albus (Potts); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 234.

Macronectes giganteus dovei Mathews, 1916: *Austral Avian Rec.* 3: 54 – Sydney, New South Wales.

Procellaria maxima fusca Mathews, 1933: *Emu* 33: 138 (ex Anderson) – Tierra del Fuego, South America and Kerguelen Island, South Indian Ocean.

Macronectes giganteus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 18. In part.

Macronectes giganteus giganteus (Gmelin); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 21.

Macronectes giganteus (Gmelin); Checklist Committee 1980, *Notornis* (Suppl.) 27: 8.

Breeds on the coasts of Antarctica, in the Chubut Province and probably at Staten Island (Argentina), at Islas Noir and Islas Diego Ramirez (Chile), Falkland, South Georgia, South Sandwich, South Orkney, South Shetland, Bouvetøya, Gough, Marion, Prince Edward, Crozet, Kerguelen, Heard and Macquarie Islands (Conroy 1972, Marchant & Higgins 1990, Clark *et al.* 1992). Ranges from antarctic coasts to about 20°S, straggling occasionally further north, e.g. New Guinea, Fiji, Tonga and Tahiti and once even to France (Marchant & Higgins 1990, Anon. 2004a). Juveniles are common in New Zealand seas, especially from Jun. to Sep. (Sibson 1969, Powlesland 1986). Banded

birds from the antarctic mainland, South Georgia, South Orkney, South Shetland, Marion and Heard Islands have been recovered in New Zealand (Ingham 1959, Sibson 1969, Marchant & Higgins 1990, Patterson & Hunter 2000, NMNZ 18112).

► **Macronectes halli** Mathews

Northern Giant Petrel

Ossifraga gigantea; Hutton 1872, *Ibis* 2 (3rd ser.): 248. Not *Procellaria gigantea* Gmelin, 1789. *Macronectes giganteus halli* Mathews, 1912: *Birds Australia* 2: 187 – Several localities, restricted to Kerguelen Island, South Indian Ocean (*vide* ICZN 1993, *Bull. Zool. Nomenclature* 50: 298).

Macronectes giganteus giganteus; Bennett 1926, *Ibis* 2 (12th ser.): 315. Not *Procellaria gigantea* Gmelin, 1789.

Macronectes giganteus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 18. In part. *Macronectes giganteus halli* Mathews; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 20.

Macronectes halli Mathews; Checklist Committee 1980, *Notornis (Suppl.)* 27: 7.

Breeds on South Georgia, Marion, Prince Edward, Crozet, Kerguelen, Macquarie, Auckland, Campbell/Motu Ihupuku and Antipodes Islands (Marchant & Higgins 1990). Also on Nelly Island (Port Pegasus, Stewart Island/Rakiura; Marchant & Higgins 1990) and the Chatham Islands (Sisters, Forty-Fours; Imber 1994). Ranges widely over Southern Hemisphere seas, mainly between 30°S and 64°S, with juveniles apparently undertaking circumpolar movements; banded birds from South Georgia, Crozet and Kerguelen Islands have been recovered in New Zealand (Hunter 1984, Weimerskirch *et al.* 1985, Marchant & Higgins 1990, Petyt 1995, Patterson & Hunter 2000). Holocene fossil and midden records from the North Island and Chatham Islands (Checklist Committee 1990, Millener 1991).

Genus Fulmarus Stephens

Fulmarus Stephens, 1826: *in* Shaw, *General Zool.* 13(1): 233 – Type species (by subsequent designation) *Procellaria glacialis* Linnaeus = *Fulmarus glacialis* (Linnaeus).

Halohippus Billberg, 1828: *Synop. Faun. Scand. 1*: 192 – Type species (by monotypy) *Procellaria glacialis* Linnaeus = *Fulmarus glacialis* (Linnaeus).

Rhantistes Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 105 – Type species (by monotypy) *Procellaria glacialis* Linnaeus = *Fulmarus glacialis* (Linnaeus).

Wagellus G.R. Gray, 1840: *List Gen. Birds* (1st edition): 78 – Type species (by original designation) *Procellaria glacialis* Linnaeus = *Fulmarus glacialis* (Linnaeus).

Priocella Hombron & Jacquinot, 1844: *Compt. Rend. Séa. Acad. Sci., Paris* 18: 357 – Type species (by monotypy) *Priocella garnotii* Jacquinot & Pucheran = *Fulmarus glacialoides* (A. Smith).

► **Fulmarus glacialoides** (A. Smith)

Antarctic Fulmar

Fulmarus antarcticus Stephens, 1826: *in* Shaw, *General Zool.* 13(1): 236. Junior secondary homonym of *Procellaria antarctica* Gmelin, 1789.

Procellaria tenuirostris Audubon, 1839: *Ornith. Biography* 5: 333. Junior primary homonym of *Procellaria tenuirostris* Temminck, 1836.

Procellaria glacialoides A. Smith, 1840: *Illust. Zool. South Africa, Aves* 2: pl. 51 – seas off Cape of Good Hope.

Priocella garnotii Hombron & Jacquinot, 1844: *Compt. Rend. Séa. Acad. Sci., Paris* 18: 357. *Nomen nudum* (*vide* Hellmayr & Conover 1949, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 58).

Priocella garnotii Jacquinot & Pucheran, 1844: *in* Dumont d'Urville, *Voyage Pôle Sud, Zoologie, Atlas 1*: pl. 32, figs 43–56 – Cape seas.

- Procellaria Garnotii* (Hombron & Jacquinot) [sic]; G.R. Gray 1844, *Gen. Birds* 3: 648.
- Thalassoica? tenuirostris* (Audubon); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768. Not *Procellaria tenuirostris* Temminck, 1836.
- Thalassoica polaris* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768. *Nomen nudum*.
- Thalassoica glacialisoides* (A. Smith); Bonaparte 1857, *Consp. Gen. Avium* 2: 191.
- Thalassoica glacialisoides polaris* Bonaparte, 1857: *Consp. Gen. Avium* 2: 192 – Louis Phillippe Land, Antarctica.
- Thalassoica glacialisoides tenuirostris* (Audubon); Bonaparte 1857, *Consp. Gen. Avium* 2: 192. Not *Procellaria tenuirostris* Temminck, 1836.
- Procellaria smithi* Schlegel, 1863: *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 22. Unnecessary *nomen novum* for *Procellaria glacialisoides* A. Smith, 1840.
- Procellaria Smithi* Schlegel; Finsch 1870, *Journ. für Ornith.* 18: 373.
- Fulmarus (Priocella) glacialisoides* (A. Smith); G.R. Gray 1871, *Hand-list Birds* 3: 105.
- Fulmarus tenuirostris*; Coues 1872, *Key North Amer. Birds*: 328. Not *Procellaria tenuirostris* Temminck, 1836.
- Thalassoica tenuirostris* (Audubon); Sharpe 1879, *Phil. Trans. Roy. Soc. London* 168: 123. Not *Procellaria tenuirostris* Temminck, 1836.
- Priocella tenuirostris*; Ridgway 1880, *Proc. U.S. Nat. Mus.* 2: 209. Not *Procellaria tenuirostris* Temminck, 1836.
- Thalassoeca glacialisoides* (A. Smith); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 228.
- Thalassoeca tenuirostris*; Oustalet 1891, *Mission Scient. Cap Horn 6 Zoologie* (B): 162.
- Priocella glacialisoides* (A. Smith); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 393.
- Thalassoica polaris* Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 394 (ex Bonaparte, 1856).
- Priocella antarctica* (Stephens); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 230. Not *Procellaria antarctica* Gmelin, 1789.
- Priocella antarctica addenda* Mathews, 1915: *Austral Avian Rec.* 2: 125 – New Zealand seas.
- Priocella antarctica glacialisoides* (A. Smith); Bennett 1926, *Ibis* 2 (12th ser.): 314.
- Priocella antarctica antarctica* (Stephens); Mathews 1927, *Syst. Avium Australasianarum* 1: 116.
- Fulmarus glacialisoides* (A. Smith); Checklist Committee 1953, *Checklist N.Z. Birds*: 18.

Breeds at many places on the coast of Antarctica and on adjacent islands, and on South Sandwich, South Orkney, South Shetland, Bouvetøya, Balleny and Peter I Islands (Watson *et al.* 1971, Marchant & Higgins 1990). Circumpolar, moving northward in winter, normally ranging to about 40°S, but further north off the west coast of South America (Marchant & Higgins 1990). Regular straggler to New Zealand seas, mainly from May to Dec. (e.g. Jenkins 1981, Powlesland 1986, Marchant & Higgins 1990, Miskelly 1990, Petyt 1995, Shirihai 2002, Miskelly *et al.* 2001a, Parrish 2001, Wood 2004). Small numbers beach-wrecked on mainland beaches most years but hundreds ashore in some years, e.g. 1975 (642), 1978 (471) and 1999 (424) (Taylor 2004). An exceptional sighting of 24 live birds off Kaikoura in Sep. 2005 (Allen 2005). Rarely at the Chatham Islands (only between Sep. and Jan.; Imber 1994, Miskelly *et al.* 2006). Recorded as a Holocene fossil on the Chatham Islands (Millener 1991).

Genus *Thalassoica* Reichenbach

- Thalassoica* Reichenbach, 1853: *Avium Syst. Nat.*: iv – Type species (by original designation) *Procellaria antarctica* Gmelin = *Thalassoica antarctica* (Gmelin).
- Aeipetes* Forbes, 1882: *Rep. Scient. Results Challenger Exped.* 4(11): 59 – Type species (by original designation) *Procellaria antarctica* Gmelin = *Thalassoica antarctica* (Gmelin).
- Thalassoeca* Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 392. Unjustified emendation.

▶ ***Thalassoica antarctica* (Gmelin)****Antarctic Petrel**

Procellaria antarctica Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 565. Based on “Le Pétrel antarctique ou Damier brun” of Buffon 1783, *Hist. Nat.* 24, *Oiseaux* 9: 311, and on the “Antarctic peterel” of Cook 1777, *Voyage South Pole* 1: 252 – within the Antarctic Circle, 35°E to 45°E.

Daption antarcticum (Gmelin); Stephens 1826, in Shaw, *General Zool.* 13(1): 242.

Procellaria antarctica J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 60, 176 – within the Antarctic circle at 58°S. Junior primary homonym of *Procellaria antarctica* Gmelin, 1789.

Procellaria lugubris Tschudi, 1856: *Journ. für Ornith.* 4: 185 – between 36°S and 46°S.

Thalassoica antarctica (Gmelin); Bonaparte 1857, *Consp. Gen. Avium* 2: 192.

Fulmarus (Priocella) antarcticus (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 105.

Priocella antarctica (Gmelin); Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. ‘Erebus’ & ‘Terror’, Birds* 1: 37, pl. 33.

Aeipetes antarctica (Gmelin); Forbes 1882, *Rep. Scient. Results Challenger Exped.* 4(11): 59.

Thalassoeca antarctica (Gmelin); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 229.

Thalassoica antarctica (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 235.

Thalassoeca antarctica antarctica (Gmelin); Bennett 1926, *Ibis* 2 (12th ser.): 314.

Breeds on Antarctic islands, coasts and nunataks in Dronning Maud, Enderby, MacRobertson, Princess Elizabeth, Queen Mary, Wilkes, King George V, King Edward VII and Coats Lands (Marchant & Higgins 1990, van Franeker *et al.* 1999). Range circumpolar in the pack-ice and irregular north of about 50°S (Watson *et al.* 1971, Marchant & Higgins 1990). First recorded in New Zealand in Sep. 1973 (Checklist Committee 1980), then three beach-wrecked in 1975 and one in 1977 (Veitch 1980). In 1978, 77 beach-cast mainly in Sep. on Auckland west coast and numerous sightings in the Foveaux Strait and Stewart Island/Rakiura areas (Barlow 1979, Powlesland 1986, Taylor 2004). Since then, only occasionally recorded, with the highest numbers found beach-wrecked in 1987 (9), 1991 (19), 1992 (8), 1995 (8) and 1999 (10), mainly Aug. to Oct. (Powlesland 1986, 1989b; Powlesland & Powlesland 1993, 1994a; Taylor & Parrish 1994a; Taylor 1997, 2004). Vagrants at Chatham, Snares/Tini Heke and Macquarie Islands (Marchant & Higgins 1990, Imber 1994, Miskelly *et al.* 2001a, Palliser 2005).

Genus *Daption* Stephens

Daption Stephens, 1826: in Shaw, *General Zool.* 13(1): 239 – Type species (by original designation) *Procellaria capensis* Linnaeus = *Daption capense* (Linnaeus).

Caloptes Sundevall, 1873: *Methodi Naturalis Avium Tentamen*: 142. Unnecessary *nomen novum* for *Daption* Stephens, 1826.

Petrella Mathews, 1914: *Auk* 31: 91 – Type species (by monotypy) *Procellaria capensis* Linnaeus = *Daption capense* (Linnaeus).

▶ ***Daption capense* (Linnaeus)****Cape Petrel**

Procellaria capensis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 132. Based on the “The white and black Spotted Peteril” of Edwards 1747, *Nat. Hist. Birds*: 90, pl. 90, right fig. – Cape of Good Hope, South Africa.

Procellaria (Daption) capensis Linnaeus; G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 56.

Procellaria punctata Ellman, 1861: *Zoologist* 19: 7473 – coast of New Zealand.

Daption capense (Linnaeus); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 235.

Petrella capensis (Linnaeus); Mathews 1920, *Austral Avian Rec.* 4: 67.

Circumpolar; two subspecies: *D. c. capense* breeding from antarctic coasts north to subantarctic islands and *D. c. australe* on southern islands in the New Zealand region. Debate about the gender of the genus and, therefore, the spelling of the species and subspecies names was reviewed by Watson (1974), Warham (1978), Johnstone (1978) and Olson (1988). Late Pleistocene–Holocene fossil and midden records (not subspecifically distinguished) from the North Island and the Chatham Islands (Millener 1991, Cooper & Tennyson 2008).

Daption capense capense (Linnaeus)

Cape Petrel

Procellaria capensis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 132. Based on the “The white and black Spotted Peteril” of Edwards 1747, *Nat. Hist. Birds*: 90, pl. 90, right fig. – Cape of Good Hope, South Africa.

Procellaria naevia Brisson, 1760: *Ornithologie* 6: 146. *Nomen nudum* (fide ICZN 1963, *Bull. Zool. Nom.* 20: 343).

Procellaria pardela Oken, 1816: *Lehrb. Naturgesch.* 3: 533 – Cape seas.

Daption capenses [sic] (Linnaeus); Stephens, 1826: in Shaw, *General Zool.* 13(1): 241.

Daption Capensis (Stephens) [sic]; Gould 1844, *Ann. Mag. Nat. Hist., London* 13: 366.

Daption capensis (Linnaeus); Bonaparte 1857, *Consp. Gen. Avium* 2: 188.

Procellaria naevia Bonaparte, 1857: *Consp. Gen. Avium* 2: 188 (ex Brisson) – no locality.

Fulmarus (Daption) capensis (Linnaeus); G.R. Gray 1871, *Hand-list Birds* 3: 107.

Daption capensis capensis (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 18.

Daption capense capense (Linnaeus); Checklist Committee 1980, *Notornis (Suppl.)* 27: 8.

Breeds on the coasts and islands of Antarctica and the Antarctic Peninsula; on South Georgia, South Shetland, South Orkney, South Sandwich, Bouvetøya, Crozet, Kerguelen, Heard, Scott and Balleny Islands (Marchant & Higgins 1990). Moves northward in autumn; ranging throughout southern seas to the Tropic of Capricorn and further north off the west coasts of South America and Africa (Watson *et al.* 1971, Marchant & Higgins 1990). Regularly in New Zealand seas in winter and spring (e.g. Houston 1998, 2000, 2001); rare in summer and autumn (Bartle 1974, Marchant & Higgins 1990). Several birds banded in Cook Strait have been recovered at South Orkney breeding colonies and others banded in the Weddell Sea and at Terre Adélie, Antarctica, have been caught at sea in New Zealand waters (Pinder 1966, Weimerskirch *et al.* 1985, Marchant & Higgins 1990).

Daption capense australe Mathews

Snares Cape Petrel

Daption capense; Finsch 1888, *Ibis* 6 (5th ser.): 309. Not *Procellaria capensis* Linnaeus, 1758.

Daption capensis australis Mathews, 1913: *Austral Avian Rec.* 1: 187 – New Zealand.

Daption capense australe Mathews; Checklist Committee 1980, *Notornis (Suppl.)* 27: 8.

Breeds on Snares Island/Tini Heke, Bounty, Antipodes, Auckland (Beacon Rock) and Campbell/Motu Ihupuku Islands; in 1987 found breeding on The Forty-Fours and probably on The Pyramid and The Sisters, Chatham Islands (Bell 1975, Sagar *et al.* 1996). Ranges in New Zealand seas (e.g. Bartle 1974; Robertson & Jenkins 1981; Marchant & Higgins 1990; Onley 1995a; Tennyson 1998a; Houston 2000, 2001; Thompson *et al.* 2000), off southern Australia and south to the Ross Sea (Marchant & Higgins 1990, Medway 1992) but not usually distinguished at sea from *D. c. capense*.

Genus *Pagodroma* Bonaparte

Pagodroma Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 – Type species (by monotypy) *Procellaria nivea* G. Forster = *Pagodroma nivea* (G. Forster).

► **Pagodroma nivea** (G. Forster)

Snow Petrel

Breeds in Antarctica; inland, on coasts and adjacent islands; at sea, mainly in the pack-ice zone (Brown 1966, Marchant & Higgins 1990, Croxall *et al.* 1995). Two subspecies, which hybridise extensively, leading to confusion about the taxonomic status of different populations and their scientific names (Christidis & Boles 1994, Barbraud & Jouventin 1998). *Pagodroma nivea major* and *Pagodroma nivea minor* of Bonaparte (1857: 192) are *nomina nuda*. We recognise Schlegel (1863) as the first describer of both forms, despite his own confusion on the matter evident in his paper, and his naming being inadvertent (by quoting Bonaparte's *nomina nuda*; see Prévost 1969). There are a few unconfirmed reports of snow petrels at sea around mainland New Zealand (e.g. Edgar 1971b).

Pagodroma nivea nivea (G. Forster)

Lesser Snow Petrel

Procellaria nivea G. Forster, 1777: *Voyage Round World* 1: 96, 98 – no locality = 50°S to 60°S, 15°E to 22°E (*vide* Mathews 1912, *Birds Australia* 2: 175).

Daption niveum (G. Forster); Stephens 1826, in Shaw, *General Zool.* 13(1): 243. In part.

Procellaria candida Peale, 1848: *U.S. Expl. Exped.* 8: 295 – Pacific Ocean, 64°S, 104°W.

Pagodroma nivea (Gmelin) [sic]; Bonaparte 1857, *Consp. Gen. Avium* 2: 192.

Thalassoica nivea, Reich. [sic]; Bonaparte 1857, *Consp. Gen. Avium* 2: 192.

Procellaria nivea minor Bonaparte, 1857: *Consp. Gen. Avium* 2: 192. *Nomen nudum*.

Procellaria nivea minor Schlegel, 1863: *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 16 (ex Bonaparte, 1857) – “Glaces du Pole Sud” = Antarctic region.

Fulmarus (Pagodroma) niveus (Gmelin) [sic]; G.R. Gray 1871, *Hand-list Birds* 3: 107. In part.

Pagodroma novegeorgica Pagenstecher, 1885: *Jahrbuch Wiss. Hamburg* 2: 21 – South Georgia, south Atlantic Ocean.

Pagodroma nivea (Novegeorgica); Steinen 1890, *Die Internationale Polarforschung 1882–83. Die Deutschen Exped.* 2: 250.

Pagodroma novegeorgica Steinen [sic]; Salvin 1896, *Cat. Birds Brit. Mus.* 25: 419. Unjustified emendation.

Pagodroma nivea novegeorgica Mathews, 1912: *Birds Australia* 2: 177 – South Georgia. Junior primary homonym and junior synonym of *Pagodroma novegeorgica* Pagenstecher, 1885.

Pagodroma nivea candida (Peale); Mathews 1912, *Birds Australia* 2: 177.

Pagodroma nivea novegeorgica; Dabbene 1923, *Hornero* 3: 13. Unjustified emendation.

Pagodroma nivea novegeorgica Steinen [sic]; Bennett 1926, *Ibis* 2 (12th ser.): 315. Unjustified emendation.

Pagodroma nivea falklandica Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 76. Unnecessary *nomen novum* for *Pagodroma nivea novegeorgica* Mathews, 1912.

Pagodroma nivea pealei Mathews, 1928: *Bull. Brit. Ornith. Club* 49: 19. Unnecessary *nomen novum* for *Procellaria candida* Peale, 1848.

Pagodroma nivea alba Mathews, 1928: *Bull. Brit. Ornith. Club* 49: 52 – near Adélie Land, Antarctica.

Pagodroma nivea (G. Forster); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 21. In part.

Pagodroma nivea nivea (G. Forster); Checklist Committee 1980, *Notornis (Suppl.)* 27: 8.

Pagodroma (nivea) nivea (G. Forster); Jouanin & Mougouin 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 65.

Pagodroma nivea minor (Schlegel); Checklist Committee 1990, *Checklist Birds N.Z.*: 37.

Breeds on Bouvetøya Island; on Dronning Maud, Enderby, MacRobertson, Princess Elizabeth, Wilkes, Marie Byrd, Ellsworth and Coats Lands; in the Davis Sea area, Terre Adélie, Antarctic Peninsula, Elephant and Clarence Islands Group; on South Orkney,

South Sandwich and South Georgia Islands; and in several Ross Sea localities (Croxall *et al.* 1995). Rarely ranges north of 50°S (Marchant & Higgins 1990). Vagrant to Macquarie Island (Scofield & Wiltshire 2004, Palliser 2005).

Pagodroma nivea major (Schlegel)

Greater Snow Petrel

Procellaria nivea major Bonaparte, 1857: *Cons. Gen. Avium* 2: 192. *Nomen nudum*.

Procellaria nivea major Schlegel, 1863: *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 16 (ex Bonaparte, 1857) – “Glaces du Pole Sud” = Antarctic region.

Fulmarus (Pagodroma) niveus (Gmelin) [sic]; G.R. Gray 1871, *Hand-list Birds* 3: 107. In part. *Pagodroma confusa* Mathews, 1912: *Birds Australia* 2: 177 – Cape Adare, Antarctica.

Pagodroma nivea (G. Forster); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 21. In part.

Pagodroma (nivea) confusa Mathews; Jouanin & Mougin 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 65.

Pagodroma nivea major Bonaparte, 1856 [sic]; Checklist Committee 1980, *Notornis (Suppl.)* 27: 9.

Pagodroma nivea nivea; Checklist Committee 1990, *Checklist Birds N.Z.*: 37. Not *Procellaria nivea* G. Forster, 1777.

Breeds in the Ross Sea region, on the Balleny Islands, Capes Adare and Hallett and possibly Scott Island; also breeds at several other antarctic colonies, e.g. South Orkney and South Sandwich Islands, Proclamation Rock, Casey, Dumont d’Urville (Terre Adélie) and Capes Hunter and Denison; hybridisation with *P. n. nivea* is recorded at all these colonies, apart from the Balleny Islands (Isenmann 1970; Cowan 1981, 1983; Jouventin & Viot 1985; Checklist Committee 1990; Barbraud & Jouventin 1998). Range at sea poorly known; a few records south of 60°S (e.g. Cowan 1981).

Genus *Lugensa* Mathews

Lugensa Mathews, 1942: *Emu* 41: 305 – Type species (by original designation) *Pterodroma lugens lugens* Mathews, 1936 = *Lugensa brevirostris* (Lesson) (*vide* Mathews 1942, *Emu* 41: 305 and ICZN 1999, *Code*: 74, Article 70.3). As a subgenus of *Pterodroma*.

Aphrodroma Olson, 2000: *Bull. Brit. Ornith. Club* 120: 60 – Type species (by original designation) *Oestrelata kidderi* Coues, 1875 = *Lugensa brevirostris* (Lesson).

Lugensa is used following the recommendations of Imber (1985d) and Bourne (2001).

► ***Lugensa brevirostris* (Lesson)**

Kerguelen Petrel

Procellaria brevirostris Lesson, 1833: *Traité d’Ornith.* 8: 611 – no locality = Cape of Good Hope, South Africa (*vide* Murphy & Pennoyer 1952, *American Mus. Novit.* 1580: 22).

Rhantistes unicolor Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 (ex Gould) – no locality = Christmas Harbour, Kerguelen Island, south Indian Ocean (*vide* Salvin 1896, *Cat. Birds Brit. Mus.* 25: 410).

Aestrelata grisea; Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 148. Not *Procellaria grisea* Kuhl, 1820.

Fulmarus (Cookilaria) ? griseus (Kuhl); G.R. Gray 1871, *Hand-list Birds* 3: 107.

Fulmarus (Cookilaria) unicolor G.R. Gray, 1871: *Hand-list Birds* 3: 107 (ex Gould) – no locality = Christmas Harbour, Kerguelen Island, south Indian Ocean (*vide* Salvin 1896, *Cat. Birds Brit. Mus.* 25: 410). Junior secondary homonym and junior synonym of *Rhantistes unicolor* Bonaparte, 1856.

Oestrelata kidderi Coues, 1875: *Bull. U.S. Nat. Mus.* 2: 28 – Kerguelen Island, south Indian Ocean.

Procellaria unicolor (G.R. Gray); Coues 1875, *Bull. U.S. Nat. Mus.* 2: 28.

- Oestrelata brevirostris* (Lesson); Salvin 1876, in Rowley's *Ornith. Miscellany* 1: 235.
- Pterodroma kidderi okahia* [sic] Mathews, 1935: *Bull. Brit. Ornith. Club* 56: 37 – Ohakea, Manawatu.
- Pterodroma kidderi kidderi*; Mathews 1935, *Bull. Brit. Ornith. Club* 56: 38.
- Pterodroma lugens lugens* Mathews, 1936: *Emu* 36: 96 – Kerguelen Island, south Indian Ocean. Junior secondary homonym of *Procellaria lugens* Kuhl, 1820.
- Pterodroma lugens okahia* Mathews; Mathews 1936, *Emu* 36: 97.
- Pterodroma (Lugensa) lugens*; Mathews 1942, *Emu* 41: 305. Not *Procellaria lugens* Kuhl, 1820.
- Lugensa lugens*; Mathews & Hallstrom 1943, *Notes Procellariiformes*: 9. Not *Procellaria lugens* Kuhl, 1820.
- Lugensa lugens okahia* (Mathews); Mathews 1944, *Emu* 43: 243.
- Pterodrome* [sic] *whitlocki* Mathews, 1946: *Working List Aust. Birds*: 8 – Cottesloe, Western Australia.
- Bulweria brevirostris* (Lesson); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.
- Bulweria lugens*; Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156. Not *Procellaria lugens* Kuhl, 1820.
- Pterodroma brevirostris* (Lesson); Checklist Committee 1953, *Checklist N.Z. Birds*: 24.
- Lugensa brevirostris* (Lesson); Imber 1985, *Ibis* 127: 215.
- Aphrodroma brevirostris* (Lesson); Olson 2000, *Bull. Brit. Ornith. Club* 120: 61.

Breeds on Tristan da Cunha?, Inaccessible, Nightingale?, Gough, Marion, Prince Edward, Crozet (Possession, East, Penguin, Apostles) and Kerguelen Islands (Marchant & Higgins 1990, Ryan 2007). Circumpolar, ranging between about 33°S and 67°S, to about the edge of the pack-ice, but less common in the Pacific Ocean (Watson *et al.* 1971, Marchant & Higgins 1990). Irregular winter/spring wind-drifted visitor to New Zealand, mainly when immature (Imber 1984a, Marchant & Higgins 1990); highest numbers dead on beaches: 1981 (284), 1984 (600), 1994 (262) and 1999 (331) (Taylor 1996, 2004). More than 100 live birds seen off the South Island West Coast in Aug. 1985 (Miskelly 1990). One beach-washed on Chatham Island in 1981 (Imber 1994). Holocene fossils known from the Chatham Islands (Cooper & Tennyson 2008).

Genus *Pterodroma* Bonaparte

- Rhantistes* Reichenbach, 1853: *Avium Syst. Nat.*: iv – Type species (by original designation) *Procellaria cookii* G.R. Gray = *Pterodroma cookii* (G.R. Gray). Junior homonym of *Rhantistes* Kaup, 1829.
- Pterodroma* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 – Type species (by subsequent designation) *Procellaria macroptera* A. Smith = *Pterodroma macroptera* (A. Smith).
- Aestrelata* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 – Type species (by subsequent designation) *Fulmarus meridionalis* Lawrence = *Pterodroma hasitata* (Kuhl).
- Cookilaria* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 994 – Type species (by subsequent designation) *Procellaria cookii* G.R. Gray = *Pterodroma cookii* (G.R. Gray). Unnecessary *nomen novum* for *Rhantistes* Reichenbach, 1853.
- Oestrelata* Newton, 1870: *Ibis* 6 (n. ser.): 277. Unjustified emendation.
- Oestrelatella* Bianchi, 1913: *Faune Russie, Oiseaux* 1(2): 521, 719 – Type species (by original designation) *Oestrelata hypoleuca* Salvin = *Pterodroma hypoleuca* (Salvin).
- Hallstroma* Mathews, 1943: in Mathews & Hallstrom, *Notes Procellariiformes*: 35, 37 (key) – Type species (by original designation) *Procellaria neglecta* Schlegel = *Pterodroma neglecta* (Schlegel).
- Proaestrelata* Imber, 1985: *Ibis* 127: 219 – Type species (by original designation) *Oestrelata axillaris* Salvin = *Pterodroma axillaris* (Salvin). As a subgenus of *Pterodroma*.

Subgenera within *Pterodroma* (as used by Checklist Committee 1990) are not accepted here, given the debate about their usage (e.g. Bourne 1987, Christidis & Boles 1994) and the paraphyletic relationships identified within some of these groups (e.g. Nunn & Stanley 1998, Palma & Pilgrim 2002).

► ***Pterodroma macroptera* (A. Smith) Great-winged Petrel**

Procellaria macroptera A. Smith, 1840: *Illustr. Zool. South Africa, Aves* 2: pl. 52 – seas off Cape of Good Hope.

Breeds on subtropical and subantarctic islands in the South Atlantic, Indian and south-west Pacific Oceans. Relatively sedentary. Two subspecies: *Pt. m. macroptera* nesting at Tristan da Cunha and Gough, Prince Edward, Marion, Kerguelen and Crozet Islands, and Western Australian islands; *Pt. m. gouldii* nesting only in New Zealand (Marchant & Higgins 1990).

***Pterodroma macroptera gouldii* (Hutton) Grey-faced Petrel**

Pterodroma macroptera; Gould 1865, *Handb. Birds Australia* 2: 449. Not *Procellaria macroptera* A. Smith, 1840.

Aestrelata gouldii Hutton, 1869: *Ibis* 5 (n. ser.): 351 – New Zealand seas.

Aestrelata gouldii Hutton 1870, *Trans. N.Z. Inst.* 2: 79. Unjustified emendation.

Procellaria Gouldii (Hutton); Finsch 1870, *Journ. für Ornith.* 18: 372. Unjustified emendation.

Procellaria gouldii (Hutton); Hutton 1871, *Cat. Birds N.Z.*: 47.

Procellaria fuliginosa Kuhl; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 304 & pl. opposite. Not *Procellaria fuliginosa* Gmelin, 1789.

Oestrelata fuliginosa (Kuhl); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 221. Not *Procellaria fuliginosa* Gmelin, 1789.

Majaqueus gouldii (Hutton); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 245.

Oestrelata macroptera; Salvin 1896, *Cat. Birds Brit. Mus.* 25: 399. Not *Procellaria macroptera* A. Smith, 1840.

Oestrelata gouldii (Hutton); Hamilton 1909, *Hand-list birds New Zealand*: 6.

Pterodroma macroptera gouldii (Hutton); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 230.

Pterodroma macroptera gouldii; Oliver 1930, *New Zealand Birds*, 1st edition: 134. Unjustified emendation.

Pterodroma (Pterodroma) macroptera gouldii (Hutton); Checklist Committee 1990, *Checklist Birds N.Z.*: 54.

Pterodroma gouldii; Onley & Scofield 2007, *Albatrosses, Petrels & Shearwaters World*: 183.

Breeds on many islands, islets, headlands and cliff-tops from Manawatāwhi/Three Kings Islands south to near New Plymouth on the west coast and near Gisborne on the east coast (Marchant & Higgins 1990). Relatively sedentary, ranging throughout the Tasman Sea and in the South Pacific to about 130°W, usually between 30°S and 50°S (Watson *et al.* 1971, Lovegrove 1978, Jenkins 1981, Marchant & Higgins 1990, Farrell 2006). Probable vagrant to Californian waters (Banks *et al.* 2004) and Chilean waters (Clark *et al.* 1992). Late Pleistocene–Holocene North Island fossil and midden records and possible Chatham Island dune fossils (Millener 1991, Cooper & Tennyson 2008).

► ***Pterodroma lessonii* (Garnot) White-headed Petrel**

Procellaria Lessonii Garnot, 1826: *Ann. Sci. Nat., Zool. Paris* 7: 54, pl. 4 – seas near Cape Horn and in the south Pacific Ocean at 52°S, 85°W.

Puffinus sericeus Lesson, 1828: *Manuel d'Ornith.* 2: 402 – South Pacific Ocean, 52°S, 85°W.

Procellaria leucocephala J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 206 – South Pacific Ocean, near Australia.

Procellaria vagabunda G.R. Gray, 1844: *Gen. Birds* 3: 648 (ex Solander MS) – no locality = southern ocean (*vide* Mathews 1912, *Birds Australia* 2: 155).

Rhantistes lessoni (Garnot); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768. Unjustified emendation.

Adamastor sericeus (Lesson); Bonaparte 1857, *Consp. Gen. Avium* 2: 188.

Aestrelata leucocephala (J.R. Forster); Bonaparte 1857, *Consp. Gen. Avium* 2: 189.

Aestrelata Lessoni (Garnot); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 142. Unjustified emendation.

Procellaria Lessoni Garnot; Finsch 1870, *Journ. für Ornith.* 18: 373. Unjustified emendation.

Fulmarus (Aestrelata) Lessoni (Garnot); G.R. Gray 1871, *Hand-list Birds* 3: 106. Unjustified emendation.

Oestrelata lessoni (Garnot); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 219. Unjustified emendation.

Pterodroma lessonii leucocephala (J.R. Forster); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 231.

Aestrelata lessonii lessonii (Garnot); Mathews 1913, *List Birds Australia*: 37.

Aestrelata lessonii leucocephala (J.R. Forster); Mathews 1913, *List Birds Australia*: 37.

Aestrelata lessonii australis Mathews, 1916: *Austral Avian Rec.* 3: 54 – Sydney, New South Wales, Australia.

Aestrelata lessonii (Garnot); Mathews 1920, *Austral Avian Rec.* 4: 67.

Pterodroma lessoni; Falla 1922, *Emu* 21: 207. Unjustified emendation.

Oestrelata lessonii (Garnot); Bennett 1926, *Ibis* 2 (12th ser.): 315.

Aestrelata lessoni lessoni (Garnot); Mathews 1927, *Syst. Avium Australasianarum* 1: 121. Unjustified emendation.

Pterodroma lessoni [sic] *lessonii* (Garnot); Mathews 1934, *Novit. Zool.* 39(2): 163.

Pterodroma lessonii australis (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 164.

Bulweria lessoni (Garnot); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156. In part. Unjustified emendation.

Pterodroma lessonii lessonii (Garnot); Hellmayr & Conover 1949, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 75.

Pterodroma lessoni (Garnot); Checklist Committee 1953, *Checklist N.Z. Birds*: 23. Unjustified emendation.

Pterodroma lessonii (Garnot); Checklist Committee 1980, *Notornis (Suppl.)* 27: 9.

Pterodroma (Pterodroma) lessonii (Garnot); Checklist Committee 1990, *Checklist Birds N.Z.*: 55.

Breeds on Crozet, Kerguelen, Macquarie, Auckland and Antipodes Islands and possibly on Marion, Prince Edward and Campbell/Motu Ihupuku Islands (Harrison 1983). At sea circumpolar, ranging between 30°S and the pack-ice (Watson *et al.* 1971, Nakamura 1982, Marchant & Higgins 1990). In winter to spring, regularly occurs in northern New Zealand waters (e.g. Jenkins 1982b), including frequent beach-wrecks on North Island west coast beaches (e.g. Taylor 1997). Vagrant to the Chatham Islands (Miskelly *et al.* 2006). There are fossil records from the North and South Islands, midden records from the South and Auckland Islands, and possible Chatham Island dune fossils (Millener 1991, Anderson 2005, Cooper & Tennyson 2008).

► *Pterodroma solandri* (Gould)

Providence Petrel

Procellaria Solandri Gould, 1844: *Ann. Mag. Nat. Hist., London* 13: 363 – Bass Strait, Australia. *Cookilaria melanopus* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 995 (ex Solander MS) – no locality. Not *Procellaria melanopus* Gmelin, 1789.

Cookilaria solandri (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 190.

Procellaria atlantica; G.R. Gray 1862, *Ibis* 4: 246. Not *Procellaria atlantica* Gould, 1844.

- Procellaria philippii* G.R. Gray, 1862: *Ibis* 4: 246 – Norfolk Island.
Aestrelata Solandri (Gould); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 148.
Fulmarus (Aestrelata) Philippii (G.R. Gray); G.R. Gray 1871, *Hand-list Birds* 3: 106. Unjustified emendation.
Fulmarus Solandri (Gould); G.R. Gray 1871, *Hand-list Birds* 3: 107.
Fulmarus atlanticus; G.R. Gray 1871, *Hand-list Birds* 3: 107. Not *Procellaria atlantica* Gould, 1844.
Oestrelata solandri (Gould); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 410.
Oestrelata philippii (G.R. Gray); Buller 1905, *Suppl. Birds N.Z.* 1: 119. Unjustified emendation.
Oestrelata montana Hull, 1911: *Proc. Linn. Soc. New South Wales* 35: 785 – Lord Howe Island, Tasman Sea.
Pterodroma melanopus; Falla 1933, *Rec. Auck. Inst. Museum* 1: 175. Not *Procellaria melanopus* Gmelin, 1789.
Pterodroma solandri (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 23.
Pterodroma (Pterodroma) solandri (Gould); Checklist Committee 1990, *Checklist Birds N.Z.*: 54.

Breeds on Lord Howe Island and Philip Island, and was formerly in large numbers on Norfolk Island itself (Hindwood 1940; Marchant & Higgins 1990; Medway 2002c,d; Bester 2007). Ranges mainly in the north Tasman Sea to seas off Tasmania. Most migrate to the North Pacific Ocean (Japan to North America) but far more abundant in the west (Nakamura & Tanaka 1977, Tanaka 1986, Marchant & Higgins 1990, Kuroda 1991, Bartle *et al.* 1993). Straggler to the northern North Island: Jan. 1921, Muriwai Beach; 22 Sep. 1984, Dargaville coast; 22 May 2004, east of Whangaroa Harbour (Miller 1986, Rare Birds Committee 2005). The record of three birds off Northland in May 2005 (Davies 2005c) has not been accepted by the OSNZ Rare Birds Committee (Scofield 2006). McAllan (2004) clarified collection details of the holotype and where Gould's 1844 description was first published. Fossil remains known from Norfolk Island (Meredith 1991).

► ***Pterodroma magentae* (Giglioli & Salvadori)**

Chatham Island Tāiko

- Aestrelata Magentae* Giglioli & Salvadori, 1869: *Ibis* 5 (n. ser.): 61 – South Pacific Ocean, at 39°38'S, 125°58'W.
Fulmarus (Aestrelata) Magentae (Giglioli & Salvadori); G.R. Gray 1871, *Hand-list Birds* 3: 106.
Oestrelata magentae (Giglioli & Salvadori); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 407.
Pterodroma cookii axillaris; Archey & Lindsay 1924, *Rec. Cant. Museum* 2(4): 189. Not *Oestrelata axillaris* Salvin, 1893.
Pterodroma inexpectata; C.A. Fleming 1939, *Emu* 38: 405. Not *Procellaria inexpectata* J.R. Forster, 1844.
Bulweria alba (Gmelin); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156. In part.
Pterodroma magentae (Giglioli & Salvadori); Bourne 1964, *Notornis* 11: 139.
Pterodroma macroptera; Dawson in Bourne 1964, *Notornis* 11: 141. Not *Procellaria macroptera* A. Smith, 1840.
Pterodroma (Pterodroma) magentae (Giglioli & Salvadori); Checklist Committee 1990, *Checklist Birds N.Z.*: 54.

Chatham Islands; a few breed in scattered burrows in bush in the south-west of Chatham Island (Crockett 1994, Imber *et al.* 1994). Breeding birds feed south and east of the Chatham Islands and non-breeders range to the central and eastern subtropical South Pacific (Crockett 1994; Howell, Ainley *et al.* 1996; Imber *et al.* 2005). Holocene fossil remains are abundant on Chatham Island and rare on Pitt Island (Bourne 1964,

Crockett 1994, Cooper & Tennyson 2008). Remains considered to be from human middens are abundant on Chatham Island (e.g. Sutton & Marshall 1977) but many may be pre-human Holocene fossils (Millener 1999). Also called Magenta petrel.

► ***Pterodroma neglecta* (Schlegel) Kermadec Petrel**

Breeds on islands across the subtropical South Pacific and migrates into the North Pacific Ocean. Two subspecies: *Pt. n. neglecta* Schlegel, 1863, breeding in the central and western Pacific; *Pt. n. juana* Mathews, 1935, breeding in the eastern Pacific on the Juan Fernández and San Ambrosio Islands (Murphy & Pennoyer 1952). The species has recently been found breeding at Round Island, Indian Ocean, and possibly on Ilha da Trindade, Atlantic Ocean (Imber 2004, 2005; Tove 2005).

***Pterodroma neglecta neglecta* (Schlegel) Kermadec Petrel**

Rhantistes raoulensis [sic] Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 (ex Gould). *Nomen nudum*.

Procellaria neglecta Schlegel, 1863: *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 10 – Sunday [= Raoul] Island, Kermadec Islands.

Astelrelata neglecta (Schlegel); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 147.

Procellaria incerta; Finsch 1870, *Journ. für Ornith.* 18: 372. Not *Procellaria incerta* Schlegel, 1863.

Fulmarus (Astrelata) neglectus (Schlegel); G.R. Gray 1871, *Hand-list Birds* 3: 106.

Oestrelata incerta; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 220. Not *Procellaria incerta* Schlegel, 1863.

Oestrelata neglecta (Schlegel); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 224.

Oestrelata mollis; Cheeseman 1891, *Trans. Proc. N.Z. Inst.* 23: 225. Not *Procellaria mollis* Gould, 1844.

Oestrelata leucophrys Hutton, 1893: *Proc. Zool. Soc. London 1893* (50): 752, pl. 63 – Sunday [= Raoul] Island, Kermadec Islands.

Rhantistes raoulensis Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 412 (ex Bonaparte, 1856) – no locality.

Procellaria raoulensis Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 412 (ex Gould) – Raoul Island, Kermadec Islands. Junior secondary homonym and junior synonym of *Rhantistes raoulensis* Salvin, 1896.

Perodroma neglecta neglecta (Schlegel); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 232.

Perodroma neglecta quintali Mathews, 1916: *Austral Avian Rec.* 3: 68 – Lord Howe Island, Tasman Sea.

Bulweria neglecta (Schlegel); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.

Pterodroma neglecta (Schlegel); Checklist Committee 1953, *Checklist N.Z. Birds*: 23.

Pterodroma (Hallstroma) neglecta neglecta (Schlegel); Checklist Committee 1990, *Checklist Birds N.Z.*: 53.

Breeds on Lord Howe Island (Balls Pyramid and formerly the main island; McAllan *et al.* 2004), Norfolk Island Group (Philip Island), Kermadec Islands (Herald, Macauley, Haszard, Cheeseman and formerly on Raoul and Curtis; Merton 1970; Tennyson, Scofield *et al.* 2003), Austral Islands (Rapa and Raivavae), Tuamotu Islands, Pitcairn Islands (Oeno, Henderson and Ducie) and Easter Island (Marchant & Higgins 1990, NMNZ 25379). Ranges mainly in the subtropical South Pacific between 20°S and 35°S (Marchant & Higgins 1990). Some non-breeders migrate to the tropical and temperate North Pacific (up to 42°N) but migration patterns are poorly understood (Marchant & Higgins 1990, Kuroda 1991, Spear *et al.* 1992, Bartle *et*

al. 1993). Live birds rarely sighted off mainland New Zealand: one prospecting at Cuvier Island (Repanga Island) during 1973–81 (Reed 1976a, Marchant & Higgins 1990), one seen off the Chatham Islands in Mar. 1975 (Roberts 1977), and one off Kaikoura in Jan. 1999 (Medway 2001a). A record off Northland in Mar. 2005 (Davies 2005b) is unverified. Records off Northland in May 2005 (Davies 2005c) have not been accepted by the OSNZ Rare Birds Committee (Scofield 2006). Seven beach-wrecked mainland specimens: four from Muriwai Beach (Nov. 1932, another before 1955, singles Apr. 1981 and Jul. 1995); also singles Mar. 1986, Maunganui Bluff; Sep. 1987, Anawhata Beach; and May 1995, East Clive Beach (Oliver 1955, Powlesland 1989b, Taylor 1997, NMNZ 538–S). Probable fossil remains from Norfolk Island (Holdaway & Anderson 2001).

► *Pterodroma alba* (Gmelin)

Phoenix Petrel

Procellaria alba Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 565. Based on the “White-breasted Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 400 – Turtle Islands and Christmas Islands, restricted to Christmas Island (*vide* Murphy & Pennoyer 1952, *American Mus. Novit.* 1580: 32).

Daptium album (Gmelin); Stephens 1826, in Shaw, *General Zool.* 13(1): 246.

Procellaria parvirostris Peale, 1848: *U.S. Expl. Exped.* 8: 298 – near Honden [= Pukapuka Island], Tuamotu Archipelago, French Polynesia.

Rhantistes parvirostris (Peale); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768.

Procellaria (Aestrelata) alba Gmelin; G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 56.

Procellaria (—?) *parvirostris* Peale; G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 56.

Aestrelata parvirostris (Peale); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 146.

Fulmarus albus (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 106.

Oestrelata parvirostris (Peale); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 405.

Oestrelata wortheni Rothschild, 1902: *Bull. Brit. Ornith. Club* 12: 62 – Pacific Ocean, 3°S, 118°45'W.

Aestrelata oliveri Mathews & Iredale, 1914: *Austral Avian Rec.* 2: 113 – Sunday [= Raoul] Island, Kermadec Islands.

Pterodroma oliveri (Mathews & Iredale); Mathews 1927, *Syst. Avium Australasianarum* 1: 119.

Pterodroma rostrata parvirostris (Peale); Mathews 1927, *Syst. Avium Australasianarum* 1: 119.

Pterodroma alba cantonia Mathews, 1942: *Emu* 42: 123 – Canton Island, Phoenix Islands.

Bulweria alba (Gmelin); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156. In part.

Pterodroma alba (Gmelin); Jouanin & Mouglin 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 71.

Pterodroma (Hallstroma) alba (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 53.

Breeds on Pacific Ocean islands: Phoenix, Line, Marquesas, Pitcairn (Oeno, Henderson, Ducie) and Tuamotu (King 1967, Watling 2001); possibly formerly bred on Raoul Island (Kermadec Islands), where four ashore in 1913 (Veitch *et al.* 2004). At sea ranges in the central Pacific Ocean but pelagic distribution poorly known (Marchant & Higgins 1990, Spear *et al.* 1992). One over Curtis Island (Kermadec Islands) on 21 May 1982 (Veitch *et al.* 2004).

► *Pterodroma mollis* (Gould)

Soft-plumaged Petrel

Procellaria mollis Gould, 1844: *Ann. Mag. Nat. Hist., London* 13: 363 – South Atlantic Ocean, 20°S to 40°S, restricted to 29°45'S, 15°03'W (*vide* Salvin 1896, *Cat. Birds Brit. Mus.* 25: 406).

Rhantistes mollis (Gould); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768.

Cookilaria mollis (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 190.

Aestrelata mollis (Gould); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 150.

Oestrelata mollis (Gould); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 222.

Pterodroma dubius Mathews, 1924: *Bull. Brit. Ornith. Club* 44: 70. Unnecessary *nomen novum* for bird described in Mathews 1912, *Birds Australia* 2: 158, pl. 86 – ?north-west coast of Australia.

Pterodroma deceptornis Mathews, 1932: *Novit. Zool.* 38(1): 34 – at sea, 36°08'S, 88°55'E.

Bulweria mollis (Gould); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.

Pterodroma mollis (Gould); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 22.

Pterodroma mollis mollis (Gould); Checklist Committee 1980, *Notornis (Suppl.)* 27: 9.

Pterodroma mollis dubia Mathews; Clancey *et al.* 1981, *Durban Museum Novit.* 12: 211.

Pterodroma mollis fusca Imber, 1985: *Ibis* 127: 224 – Marion, Prince Edward and Crozet (East) Islands, south Indian Ocean.

Pterodroma (Pterodroma) mollis (Gould); Checklist Committee 1990, *Checklist Birds N.Z.*: 56.

Breeds on Tristan da Cunha, Inaccessible, Nightingale, Gough, Marion, Prince Edward, Crozet (Possession, East, Penguin, Apostles) and Kerguelen Islands (Clancey *et al.* 1981, Marchant & Higgins 1990). Recently found breeding on Amsterdam Island (Indian Ocean) and Maatsuyker Island off Tasmania (Roux & Martinez 1987, Bretagnolle 1995, Garnett & Crowley 2002, Wiltshire *et al.* 2004). Ranges mainly between about 30°S and 60°S in the South Atlantic and South Indian Oceans (Watson *et al.* 1971, Harper 1973, Marchant & Higgins 1990). First recorded ashore in the New Zealand region on Antipodes Island in 1969; now increasing (Imber 1983; Imber *et al.* 1998, 2005) and probably breeding on Macquarie Island also (Fullagar *et al.* 1986, Garnett & Crowley 2000, Wiltshire *et al.* 2004). Since 1971, an increasing number of records of birds at sea or beach-cast around mainland New Zealand, as far north as Northland and in most months (Marchant & Higgins 1990; Guest 1991; Petyt 1995; Taylor 1997; Medway 2000a, 2001a, 2004b; Rowe & Rowe 2001; Imber *et al.* 2005). Also seen at the Chatham Islands (Miskelly *et al.* 2006). No subspecies recognised here; related forms in the North Atlantic are considered to be allopatric species (Bourne 1983, Sangster *et al.* 1999, Zino *et al.* 2008).

► ***Pterodroma inexpectata* (J.R. Forster)**

Mottled Petrel

Procellaria inexpectata J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 204 – Antarctic Ocean.

Procellaria lugens G.R. Gray, 1844: *Gen. Birds* 3: 648 (ex Solander MS) – no locality = southern ocean (*vide* Mathews 1912, *Birds Australia* 2: 159). Junior primary homonym of *Procellaria lugens* Kuhl, 1820.

Procellaria gularis Peale, 1848: *U.S. Expl. Exped.* 8: 299 – Pacific Ocean, 68°S, 95°W.

Aestrelata gularis (Peale); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768.

Aestrelata inexpectata (J.R. Forster); Bonaparte 1857, *Consp. Gen. Avium* 2: 189.

Procellaria affinis Buller, 1875: *Trans. Proc. N.Z. Inst.* 7: 216 – Potts River, Canterbury.

Aestrelata fisheri Ridgway, 1883: *Proc. U.S. Nat. Mus.* 5: 656 – Kodiak Island, Alaska, USA.

Aestrelata scalaris Brewster, 1886: *Auk* 3: 390 – Mount Morris, New York State, USA.

Oestrelata affinis (Buller); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 223, pl. 41, upper fig.

Oestrelata gularis (Peale); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 414.

Oestrelata fisheri (Ridgway); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 415.

Oestrelata scalaris (Brewster); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 416.

Procellaria lugens Mathews, 1912: *Birds Australia* 2: 159 (ex Solander MS) – Southern Ocean. Junior primary homonym of *Procellaria lugens* Kuhl, 1820.

Pterodroma inexpectata inexpectata (J.R. Forster); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 233.

Pterodroma inexpectata thompsoni Mathews, 1915: *Austral Avian Rec.* 2: 125 – Tasmania, Australia.

Pterodroma gularis (Peale); Bent 1918, *Auk* 35: 221.

Pterodroma neglus Mathews, 1928: *Bull. Brit. Ornith. Club* 49: 51. Unnecessary *nomen novum* for *Procellaria lugens* Mathews, 1912.

Bulweria inexpectata (J.R. Forster); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.

Pterodroma inexpectata (J.R. Forster); Checklist Committee 1953, *Checklist N.Z. Birds*: 24.

Pterodroma (Proaestrelata) inexpectata (J.R. Forster); Imber 1985, *Ibis* 127: 219.

Pterodroma (Oestrelatella) inexpectata (J.R. Forster); Checklist Committee 1990, *Checklist Birds N.Z.*: 51.

Breeds only in southern New Zealand: Fiordland (Shag and Front Islands in Dusky Sound, Lake Hauroko islet), Solander Islands, numerous islands around Stewart Island/Rakiura (notably Codfish Island (Whenuahou), Taukihepa/Big South Cape Island) and Snares Islands/Tini Heke (Warham *et al.* 1977, Morrison & Morrison 1983, Cooper *et al.* 1986, Marchant & Higgins 1990). Formerly bred on inland ranges of the North and South Islands (Stead 1932, Falla 1934, Oliver 1955). Mainly ranges in subantarctic seas and south to the pack-ice between 95°E and 140°W (Watson *et al.* 1971, Harper 1973, Marchant & Higgins 1990). Migrates to the North Pacific, mainly to the subarctic convergence zone and into the Bering Sea; vagrant to the east tropical Pacific, Chile and New York (Nakamura & Tanaka 1977, Marchant & Higgins 1990, Kuroda 1991, Bartle *et al.* 1993). Common in Late Pleistocene–Holocene fossil and midden deposits in North, South, and probably Chatham Islands (Millener 1991; Worthy, Holdaway *et al.* 2002; Cooper & Tennyson 2008). The reported occurrence of a possible collared petrel (*Pt. brevipes*) in New Zealand (Clarkson & Walker 2001) is incorrect—the specimen (NMNZ 28682) is a mottled petrel (*Pt. inexpectata*).

▶ *Pterodroma externa* (Salvin)

Juan Fernandez Petrel

Oestrelata externa Salvin, 1875: *Ibis* 5 (3rd ser.): 373 – Masafuera Island, Juan Fernández Islands, Chile.

Pterodroma externa tristani Mathews, 1931: *Bull. Brit. Ornith. Club* 52: 63 – Tristan da Cunha, south Atlantic Ocean.

Bulweria externa (Salvin); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156. In part.

Pterodroma externa externa (Salvin); Checklist Committee 1980, *Notornis (Suppl.)* 27: 9.

Pterodroma (Hallstroma) externa (Salvin); Checklist Committee 1990, *Checklist Birds N.Z.*: 52.

Breeds on Isla Alejandro Selkirk (i.e. Masafuera Island), Juan Fernández Islands (Murphy 1936, Brooke 1987). During breeding, occurs in the subtropical and tropical south-east Pacific Ocean; migrates to the North Pacific Ocean north to about 20°N (Murphy 1936, Pitman 1986, Marchant & Higgins 1990, Kuroda 1991, Spear *et al.* 1992). Rare vagrant to the south-west Pacific Ocean: one blown inland, Waikato, Oct. 1971 (Reed 1972, 1976b); a possible sighting north of New Zealand, May 1977 (Lovegrove 1978); and one beach-wrecked in North Canterbury, Jun. 2005 (Howell & Esler 2007). The species has prospected at the Chatham Islands, with several records between 1984 and 1999 (Imber *et al.* 1991, Miskelly *et al.* 2006).

▶ *Pterodroma cervicalis* (Salvin)

White-naped Petrel

Oestrelata cervicalis Salvin, 1891: *Ibis* 3 (6th ser.): 192 – Kermadec Islands.

Pterodroma externa cervicalis (Salvin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 232.

- Pterodroma cervicalis*; Oliver 1930, *New Zealand Birds*, 1st edition: 137.
Bulweria externa (Salvin); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156. In part.
Pterodroma (Proaestrelata) cervicalis (Salvin); Imber 1985, *Ibis* 127: 219.
Pterodroma (Oestrelatella) cervicalis cervicalis (Salvin); Checklist Committee 1990, *Checklist Birds N.Z.*: 52.
Pterodroma cervicalis (Salvin); Imber & Tennyson 2001, *Emu* 101: 127.

Breeds on the Kermadec Islands (Macauley and formerly on Raoul; Veitch *et al.* 2004). Recently colonised Philip Island, Norfolk Island Group (Moore 1999). During the breeding season, ranges in adjacent seas. Migrates to the North Pacific Ocean, mainly to south-east of Japan; rarer in the eastern tropical Pacific (Lovegrove 1978, Tanaka & Inaba 1981, Pitman 1986, Marchant & Higgins 1990, Kuroda 1991, Spear *et al.* 1992). Straggles to the east coast of Australia and to northern New Zealand: Apr. 1968, Mamaku Plateau; 1977, Gisborne (Dowding 1987); Jun. 1982, Hokianga Harbour (Brash 1982); Jan. 1986, Karikari Peninsula (Dowding 1987); and at least two Jan. to Mar. 1997, off East Cape (Foreman 1998). Once (8 Feb. 1982) in the South Indian Ocean (Stahl *et al.* 1984). A record off Northland in Jan. 2005 (Davies 2005a) is unverified. Recognised as monotypic following Imber & Tennyson (2001).

► *Pterodroma nigripennis* (Rothschild)

Black-winged Petrel

- Oestrelata cookii*; Cheesman, 1891: *Trans. Proc. N.Z. Inst.* 23: 224. Not *Procellaria cookii* G.R. Gray, 1843.
Oestrelata nigripennis Rothschild, 1893: *Bull. Brit. Ornith. Club* 1: 57 – Kermadec Islands.
Pterodroma cookii nigripennis (Rothschild); Mathews 1912, *Birds Australia* 2: 168.
Oestrelatella nigricollis Bianchi, 1913: *Faune Russie, Oiseaux* 1(2): 727. Error for *Oestrelata nigripennis* Rothschild (*vide* Bianchi 1913, *Faune Russie, Oiseaux* 1(2): 947).
Cookilaria cookii nigripennis (Rothschild); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 233.
Cookilaria (cookii) nigripennis (Rothschild); Mathews 1936, *Suppl. Birds Norfolk & Lord Howe Islands*: 83, pl. opposite.
Cookilaria hindwoodi Whitley, 1938: *Austral. Mus. Mag.* 6: 297 – Norfolk Island.
Pterodroma (Cookilaria) axillaris nigripennis (Rothschild); C.A. Fleming 1941, *Emu* 41: 75.
Pterodroma hypoleuca nigripennis (Rothschild); Falla 1942, *Emu* 42: 117.
Pterodroma nigripennis (Rothschild); Oliver 1955, *New Zealand Birds*, 2nd edition: 148.
Pterodroma (Proaestrelata) nigripennis (Rothschild); Imber 1985, *Ibis* 127: 219.
Pterodroma (Oestrelatella) nigripennis (Rothschild); Checklist Committee 1990, *Checklist Birds N.Z.*: 50.

In the New Zealand region breeds at Norfolk (Philip Island), Kermadec (most islands), Manawatāwhi/Three Kings (Great King, South West), Motuopao, Motupia, Simmonds, Motukokako (Piercy), East (Whangaokeno), Portland and Chatham Islands (South East, Mangere); and on an islet off Cape Brett (Eagle 1980, Moors 1980, Jenkins & Cheshire 1982, Marchant & Higgins 1990, Foreman 1991, Tennyson 1991a, Parrish & Anderson 1998, Veitch *et al.* 2004). Elsewhere, breeds at Lord Howe Island and Balls Pyramid (Hutton & Priddel 2002), islets of New Caledonia (Pandolfi Benoit & Bretagnolle 2002), Tonga, Rarotonga, islets off Rapa Island and possibly at Marotiri (Bass Rocks) in the Austral Islands (Rinke *et al.* 1992). This species has recently expanded its breeding range (Jenkins & Cheshire 1982, Tennyson 1991a). Reported to have formerly nested at Fiji, the Cook Islands, Tubuai, the Marquesas and Henderson Island (Medway 2001b, Steadman 2006) but some of these occurrences have been questioned by Worthy (2007). During the breeding season, ranges throughout the north Tasman Sea and subtropical

south-west and central Pacific Ocean, rarely reaching the South Island; migrates mainly to the tropical North Pacific Ocean, occasionally as far west as Japan (Tanaka *et al.* 1985, Pitman 1986, Marchant & Higgins 1990, Kuroda 1991, Roberson & Bailey 1991, Spear *et al.* 1992). Holocene fossil in Chatham Island dunes (Cooper & Tennyson 2008).

► ***Pterodroma axillaris* (Salvin)**

Chatham Petrel

- Oestrelata axillaris* Salvin, 1893: *Bull. Brit. Ornith. Club* 1: 33 – Chatham Islands.
Pterodroma cookii axillaris (Salvin); Mathews 1912, *Birds Australia* 2: 168.
Cookilaria cookii axillaris (Salvin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 233.
Cookilaria (cookii) axillaris (Salvin); Mathews 1936, *Suppl. Birds Norfolk & Lord Howe Islands*: 85, pl. opposite p. 83.
Pterodroma (Cookilaria) axillaris axillaris (Salvin); C.A. Fleming 1941, *Emu* 41: 75.
Pterodroma hypoleuca axillaris (Salvin); Falla 1942, *Emu* 42: 117.
Pterodroma axillaris (Salvin); Checklist Committee 1980, *Notornis (Suppl.)* 27: 10.
Pterodroma (Proaestrelata) axillaris (Salvin); Imber 1985, *Ibis* 127: 219.
Pterodroma (Oestrelatella) axillaris (Salvin); Checklist Committee 1990, *Checklist Birds N.Z.*: 51.

Breeds mainly on South East Island, Chatham Islands (West 1994). Breeding has recently begun on Pitt Island, after a successful reintroduction programme (Anon. 2006a). Rare sightings over main Chatham Island at night (Imber 1994, West 1994, Medway 2000a). Range at sea unknown but rarely seen near the Chatham Islands (Rogers 1980, Imber 1994, West 1994); one early record in the Wairarapa (Buller 1905–06). Probably migrates to the North Pacific Ocean from Jun. to Nov. (Marchant & Higgins 1990). Holocene fossils on Chatham, Pitt and Mangere Islands (West 1994, Cooper & Tennyson 2008). Remains considered to be from human middens on Chatham Island (e.g. Sutton & Marshall 1977) may be pre-human Holocene fossils (Millener 1999).

► ***Pterodroma cookii* (G.R. Gray)**

Cook's Petrel

- Procellaria Cookii* G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 199 – New Zealand, restricted to Mangaoraka Stream near Kaimiro, north Taranaki (*vide* Medway 2004, *Notornis* 51: 155).
Procellaria velox G.R. Gray, 1844: *Gen. Birds* 3: 648 (ex Solander MS) – no locality = Southern Ocean (*vide* Mathews 1912, *Birds Australia* 2: 169). Junior primary homonym of *Procellaria velox* Kuhl, 1820.
Rhantistes cookii (G.R. Gray); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768.
Rhantistes velox (G.R. Gray); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768.
Cookilaria leucoptera (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 190. In part.
Cookilaria velox (G.R. Gray); Bonaparte 1857, *Consp. Gen. Avium* 2: 190.
Procellaria cookii G.R. Gray; G.R. Gray 1862, *Ibis* 4: 246.
Aestrelata Cookii (G.R. Gray); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 152.
Fulmarus (Cookilaria) Cookii (G.R. Gray); G.R. Gray 1871, *Hand-list Birds* 3: 106.
Oestrelata cookii (G.R. Gray); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 217.
Oestrelata cooki (G.R. Gray); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 417. Unjustified emendation.
Pterodroma cookii cookii (G.R. Gray); Mathews 1912, *Birds Australia* 2: 166.
Cookilaria cookii cookii (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 233.
Cookilaria cookii (G.R. Gray); Mathews 1920, *Austral Avian Rec.* 4: 67.
Pterodroma cooki; Falla 1922, *Emu* 21: 207. Unjustified emendation.
Pterodroma cookii orientalis Murphy, 1929: *American Mus. Novit.* 370: 5 – 200 miles west of Callao, Peru.
Cookilaria cookii orientalis (Murphy); Mathews 1934, *Novit. Zool.* 39(2): 171.

Pterodroma (Cookilaria) cookii (G.R. Gray); C.A. Fleming 1941, *Emu* 41: 75.

Pterodroma (Cookilaria) cookii cookii (G.R. Gray); Falla 1942, *Emu* 42: 115.

Bulweria cooki (G.R. Gray); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156. Unjustified emendation.

Pterodroma cooki cooki (G.R. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 25. Unjustified emendation.

Pterodroma cookii (G.R. Gray); Jouanin & Mouglin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 77.

Breeds on Hauturu/Little Barrier, Great Barrier (Aotea) and Codfish (Whenuahou) Islands (Imber, West *et al.* 2003). During the breeding season, ranges mainly east of New Zealand and into the Tasman Sea; rarely into subantarctic Pacific waters (Marchant & Higgins 1990; Petyt 1995, 2001a; Rayner *et al.* 2008). Migrates primarily to the eastern Pacific Ocean, mainly between 30°N and 20°S (Pitman 1986, Marchant & Higgins 1990, Roberson & Bailey 1991, Spear *et al.* 1992, Bartle *et al.* 1993). Formerly bred on mainland North and South Islands (Imber, West *et al.* 2003). North Island midden remains and Late Pleistocene–Holocene fossils from the North and South Islands (Millener 1991; Worthy & Holdaway 2002; Worthy, Holdaway *et al.* 2002).

► *Pterodroma longirostris* (Stejneger)

Stejneger's Petrel

Aestrelata longirostris Stejneger, 1893: *Proc. U.S. Nat. Mus.* 16: 618 – Mutzu Province, Honshu, Japan.

Oestrelata longirostris (Stejneger); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 418.

Pterodroma cookii longirostris (Stejneger); Mathews 1912, *Birds Australia* 2: 168.

Pterodroma (Aestrelata) cooki masafuerae Lönnberg, 1921: in Skottsberg, *Nat. Hist. Juan Fernandez & Easter Islands* 3: 14 – Masafuera Island, Juan Fernández Islands, Chile.

Pterodroma leucoptera masafuerae Lönnberg; Murphy 1929, *American Mus. Novit.* 370: 11.

Cookilaria leucoptera longirostris (Stejneger); Mathews 1934, *Novit. Zool.* 39(2): 170.

Cookilaria leucoptera masafuerae (Lönnberg); Mathews 1934, *Novit. Zool.* 39(2): 170.

Pterodroma (Cookilaria) longirostris longirostris (Stejneger); Falla 1942, *Emu* 42: 112.

Pterodroma longirostris (Stejneger); Falla 1962, *Notornis* 9: 275.

Pterodroma longirostris longirostris (Stejneger); Jouanin & Mouglin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 77.

Pterodroma (Cookilaria) longirostris (Stejneger); Checklist Committee 1990, *Checklist Birds N.Z.*: 48.

Breeds on Isla Alejandro Selkirk (i.e. Masafuera Island), Juan Fernández Islands (Brooke 1987). Migrates primarily to the north-west Pacific Ocean and is common off Japan by Jul. to Aug.; fewer records east across the Pacific to the coast of North America (Tanaka *et al.* 1985, Kuroda 1991, Roberson & Bailey 1991, Spear *et al.* 1992, Bartle *et al.* 1993). Vagrant to the North Island, Nov. to Jan.: 1961, Baring Head; 1962, Ohope Beach, two (Falla 1962a); 1963, Turakina Valley (NMNZ 26704); 1978, east of Hawke Bay (Jenkins 1981); 1980, Ruakaka Beach (NMNZ 22677); 1981, Northland (Checklist Committee 1990); 1983, Ninety Mile Beach, three (Powlesland 1985); 1989, Pukerua Bay (Guest 1991, Powlesland *et al.* 1992); and 2005, Ninety Mile Beach (Howell & Esler 2007, NMNZ 27767).

► *Pterodroma pycrofti* Falla

Pycroft's Petrel

Pterodroma pycrofti Falla, 1933: *Rec. Auck. Inst. Museum* 1: 176 – Hen Island.

Cookilaria cookii pycrofti (Falla); Mathews 1934, *Novit. Zool.* 39(2): 170.

Pterodroma (Cookilaria) pycrofti Falla; C.A. Fleming 1941, *Emu* 41: 75.

Pterodroma (Cookilaria) longirostris pycrofti Falla; Falla 1942, *Emu* 42: 114.

Cookilaria pycrofti; C.A. Fleming 1944, *New Zealand Bird Notes* 1(6): 58.

Pterodroma pycrofti Falla; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 23.

Pterodroma longirostris pycrofti Falla; Jouanin & Mougin 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 78.

Breeds only in New Zealand: on Stephenson Island/Mahinepua Island; also on Poor Knights (on Aorangi), Hen and Chickens (on Coppermine, Whatupuke, Lady Alice, Mauitaha) and Mercury (on Red Mercury (Whakau), Korapuki, Double, Kawhitu/Stanley Islands (Tennyson & Pierce 1995, Taylor 2000a). A new breeding colony has been established on Cuvier Island (Repanga Island) (Taylor 2008) after a successful introduction programme (Falshaw 2007). Range at sea uncertain but extends east and west of the North Island (e.g. Bartle 1968, Powlesland 1987, Marchant & Higgins 1990, Taylor 2004). Migrates to the North Pacific Ocean (Powlesland 1987; Marchant & Higgins 1990; Kuroda 1991; Roberson & Bailey 1991; Spear *et al.* 1992; Howell, Webb *et al.* 1996). Three specimens labelled as collected at the Kermadec Islands are of dubious origin (Veitch *et al.* 2004). Late Pleistocene–Holocene fossil remains found on Te Haupa Island (Saddle Island) in the Hauraki Gulf, Norfolk, Nepean and Lord Howe Islands, and midden remains found on Norfolk Island, have been referred to this species (Meredith 1985b, 1991; Tennyson & Taylor 1999; Holdaway & Anderson 2001; Holdaway *et al.* 2001; Baker *et al.* 2002; McAllan *et al.* 2004).

▶ *Pterodroma leucoptera* (Gould)

Gould's Petrel

Procellaria leucoptera Gould, 1844: *Ann. Mag. Nat. Hist., London* 13: 364 – Cabbage Tree Island, New South Wales, Australia.

Two subspecies: *Pt. l. leucoptera* breeds on Cabbage Tree and Boondelbah Islands, New South Wales, Australia; *Pt. l. caledonica* breeds at New Caledonia (Imber & Jenkins 1981, Priddel & Carlile 2004a). Ranges in the south-west Pacific and in the Tasman Sea to seas off Tasmania, and migrates to the eastern tropical Pacific Ocean (Marchant & Higgins 1990).

Pterodroma leucoptera caledonica Imber & Jenkins

New Caledonian Petrel

Pterodroma leucoptera new subspecies; Bull 1943, *Emu* 42: 152.

Pterodroma leucoptera leucoptera (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 24. Not *Procellaria leucoptera* Gould, 1844.

Pterodroma leucoptera subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 25.

Pterodroma leucoptera subspecies; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 24.

Pterodroma leucoptera caledonica Naurois, 1978: *Compt. Rend. Séa. Acad. Sci., Paris* 287: 269. *Nomen nudum* (*fide* Palma & Tennyson 2005, *Notornis* 52: 247).

Pterodroma leucoptera caledonica Imber & Jenkins, 1981: *Notornis* 28: 153 – New Caledonia, New Zealand, Tonga, Tasman Sea and Pitcairn Island, restricted to “Noumea Enterprises” Camp, Kalouehola River, 550 m below Mount Dzumac, New Caledonia (*fide* Palma & Tennyson 2005, *Notornis* 52: 248).

Pterodroma (Cookilaria) caledonica; Bourne 1983, *Sea Swallow* 32: 71.

Pterodroma (Cookilaria) leucoptera caledonica Imber & Jenkins; Checklist Committee 1990, *Checklist Birds N.Z.*: 49.

Breeds on New Caledonia (Imber & Jenkins 1981). Ranges far south in the Tasman Sea to waters off Tasmania and to the west of Foveaux Strait; migrates to the eastern Pacific, especially near the Galápagos Islands (Imber & Jenkins 1981, Nakamura 1982, Pitman

1986, Marchant & Higgins 1990, Roberson & Bailey 1991, Spear *et al.* 1992). About 38 New Zealand records onshore (mainly beach-wrecked) as far south as Dunedin but mainly from the North Island's west coast, Nov. to Jun. (Fennell 1986; Powlesland 1987; Hawke 1989; Guest 1991; Powlesland & Powlesland 1994b; Taylor 1999, 2004; Howell & Esler 2007).

Genus *Halobaena* Bonaparte

Halobaena Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 – Type species (by monotypy) *Procellaria caerulea* Gmelin = *Halobaena caerulea* (Gmelin).

Zaprium Coues, 1875: *Bull. U.S. Nat. Mus.* 2: 34 – Type species (by monotypy) *Halobaena caerulea* (Gmelin).

► *Halobaena caerulea* (Gmelin)

Blue Petrel

Procellaria caerulea Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 560. Based on the “Blue Petrel” of G. Forster 1777, *Voyage World* 1: 91 – Southern Ocean, between 47°S and 58°S.

Pachyptila caerulea (Gmelin); Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 275.

Procellaria forsteri A. Smith, 1840: *Illust. Zool. South Africa, Aves* 2(11): pl. 53 & text opposite – Cape Seas. Junior primary homonym of *Procellaria forsteri* Latham, 1790.

Procellaria similis J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 59 – Antarctic Ocean.

Halobaena caerulea [sic] (Gmelin); Bonaparte 1857, *Consp. Gen. Avium* 2: 193.

Procellaria caerulea [sic] (Gmelin); Finsch 1870, *Journ. für Ornith.* 18: 373.

Fulmarus (Halobaena) caeruleus (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 107.

Prion caerulea (Gmelin); Mathews 1911, *Emu* 10: 320.

Halobaena caerulea (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 235.

Halobaena caerulea victoriae Mathews, 1916: *Austral Avian Rec.* 3: 54 – Victoria, Australia.

Halobaena murphyi Brooks, 1917: *Bull. Mus. Comp. Zoology* 61: 146 – Stromness Bay, South Georgia, south Atlantic Ocean.

Halobaena caerulea murphyi Brooks; Dell 1952, *Emu* 52: 150.

Breeds on Cape Horn and adjacent islands of the Hermite and Wollaston Groups; Islas Diego Ramirez and Ildefonso (Clark *et al.* 1992); South Georgia; and on Marion, Prince Edward, Crozet, Kerguelen and Macquarie Islands (Marchant & Higgins 1990, Baker *et al.* 2002). Ranges from Antarctica to about 30°S, sometimes further north (Watson *et al.* 1971, Marchant & Higgins 1990). Regular winter/spring visitor to New Zealand seas; hundreds beach-wrecked in 1981 (Powlesland 1983), 1984 (Powlesland 1986), 1985 (Taylor 2004), 1991 (Powlesland & Powlesland 1993) and 1999 (Taylor 2004). Straggler to the Kermadec (Clifford & Lawrie 1997), Chatham (Miskelly *et al.* 2006), Snares/Tini Heke (Miskelly *et al.* 2001a), Antipodes (Tennyson *et al.* 2002) and Auckland (Dell 1952) Islands. Tentatively identified (R.J. Scarlett) from one North Island midden site (Checklist Committee 1990).

Genus *Pachyptila* Illiger

Pachyptila Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 274 – Type species (by subsequent designation) *Procellaria Forsteri* Latham = *Pachyptila vittata* (G. Forster).

Prion Lesson, 1828: *Manuel d'Ornith.* 2: 399 (ex Lacépède, 1799) – Type species (by subsequent designation) *Procellaria vittata* G. Forster = *Pachyptila vittata* (G. Forster).

Pseudoprion Coues, 1866: *Proc. Acad. Nat. Sci. Philad.* 18: 164 – Type species (by original designation) *Procellaria turtur* Kuhl = *Pachyptila turtur* (Kuhl).

Fulmariprion Mathews, 1912: *Birds Australia* 2: 215 – Type species (by original designation)

Pseudoprion turtur crassirostris Mathews = *Pachyptila crassirostris* (Mathews).

Heteroprion Mathews, 1912: *Birds Australia* 2: 222 – Type species (by original designation) *Heteroprion belcheri* Mathews = *Pachyptila belcheri* (Mathews).

Attaprion Mathews, 1933: *Bull. Brit. Ornith. Club* 54: 25 – Type species (by original designation) *Procellaria desolata* Gmelin = *Pachyptila desolata* (Gmelin).

Salviprion Mathews, 1943: in Mathews & Hallstrom, *Notes Procellariiformes*: 30 – Type species (by original designation) *Pachyptila salvini* (Mathews). As a subgenus of *Pachyptila*.

► *Pachyptila vittata* (G. Forster)

Broad-billed Prion

Procellaria vittata G. Forster, 1777: *Voyage Round World 1*: 98 (footnote) – Southern Ocean, restricted to Anchor Isle, Dusky Sound, Fiordland (*vide* Mathews & Hallstrom 1943, *Notes Procellariiformes*: 24).

Procellaria vittata Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 560. Based on the “Broad-billed Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 414 – Southern Hemisphere, restricted to New Zealand (*vide* Mathews 1912, *Birds Australia* 2: 209). Junior primary homonym of *Procellaria vittata* G. Forster, 1777.

Procellaria Forsteri Latham, 1790: *Index Ornith.* 2: 827 – New Zealand, restricted to Anchor Isle, Dusky Sound, Fiordland (*vide* Mathews & Hallstrom 1943, *Notes Procellariiformes*: 24).

Procellaria Latiostris Bonnaterre, 1791: *Tableaux Encycl. Méthod. Ornith.* 1(47): 81 – New Zealand, restricted to Anchor Isle, Dusky Sound, Fiordland (*vide* Mathews & Hallstrom 1943, *Notes Procellariiformes*: 24).

Prion vittatus (Cuv.) [sic]; Gould 1844, *Ann. Mag. Nat. Hist., London* 13: 366. In part.

Prion lamelirostris Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 – no locality = Anchor Isle, Dusky Sound, Fiordland (*vide* Mathews & Hallstrom 1943, *Notes Procellariiformes*: 24).

Prion vittata [sic] (G. Forster); Bonaparte 1857, *Consp. Gen. Avium* 2: 192.

Prion magnirostris Gould, 1862: *Proc. Zool. Soc. London* 1862 (8): 125 – no locality = Dusky Sound (*vide* Mathews & Iredale 1943, *Notes Procellariiformes*: 24).

Prion (Prion) vittata [sic] (G. Forster); G.R. Gray 1871, *Hand-list Birds* 3: 108.

Prion (Prion) magnirostris Gould; G.R. Gray 1871, *Hand-list Birds* 3: 108.

Prion vittatus Gmelin; Hutton 1872, *Ibis* 2 (3rd ser.): 249.

Prion australis Potts, 1873: *Ibis* 3 (3rd ser.): 85 – New Zealand.

Prion vittatus vittatus (Gmelin); Mathews 1912, *Birds Australia* 2: 204.

Prion vittatus gouldi Mathews, 1912: *Birds Australia* 2: 211, 203 (key) – Bass Strait, Australia.

Prion vittatus missus Mathews, 1912: *Birds Australia* 2: 212, 203 (key), pl. 92 – Western Australia, restricted to Cottesloe Beach, Western Australia (*vide* Greenway 1973, *Bull. Am. Mus. Nat. Hist.* 150: 221).

Prion vittatus keyteli Mathews, 1912: *Birds Australia* 2: 210 – Tristan da Cunha, south Atlantic Ocean.

Pachyptila vittatus vittatus [sic] (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 236.

Pachyptila vittata vittata (Gmelin); Mathews 1913, *List Birds Australia*: 39.

Pachyptila vittata gouldi (Mathews); Mathews 1913, *List Birds Australia*: 39.

Pachyptila vittata missa (Mathews); Mathews 1913, *List Birds Australia*: 40.

Pachyptila vittata (Gmelin); Mathews 1920, *Austral Avian Rec.* 4: 68.

Procellaria longirostris Mathews, 1927: *Syst. Avium Australasianarum* 1: 126 – New Zealand, restricted to Anchor Isle, Dusky Sound, Fiordland (*vide* Mathews & Hallstrom 1943, *Notes Procellariiformes*: 24). Error for “*Procellaria latiostris*” (*vide* Mathews & Hallstrom 1943, *Notes Procellariiformes*: 24).

Pachyptila vittata missus [sic] (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 126.

Pachyptila vittata keyteli (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 172.

Pachyptila vittata balaena Mathews, 1938: *Emu* 37: 281 – Cottesloe, Western Australia.

Pachyptila forsteri forsteri (Latham); C.A. Fleming 1939, *Emu* 38: 399.

Pachyptila (Pachyptila) vittata vittata (G. Forster); Falla 1940, *Emu* 40: 233.

Pachyptila (Pachyptila) vittata; C.A. Fleming 1941, *Emu* 41: 143.

Pachyptila vittata vittata (G. Forster); Checklist Committee 1953, *Checklist N.Z. Birds*: 19.

Pachyptila vittata (G. Forster); Checklist Committee 1990, *Checklist Birds N.Z.*: 46.

Breeds on Tristan da Cunha, Nightingale, Inaccessible and Gough Islands (Brooke 2004, Ryan 2007) and on many islands about southern New Zealand, in Fiordland and around Stewart Island/Rakiura and Foveaux Strait—including Solander (Hautere) and Codfish (Whenuahou), Snares/Tini Heke Islands and most of the Chatham Islands (Taylor 2000b). Ranges in South Atlantic and Tasman Sea waters and around New Zealand (Harper 1980, Marchant & Higgins 1990). Late Pleistocene–Holocene fossil and midden records on North, South and Chatham Islands (Millener 1991). Mathews & Hallstrom (1943: 24) designated G. Forster's drawing in plate 87 as the type (therefore lectotype) of *Procellaria vittata* G. Forster, 1777, with type locality as above. Medway (2002b) disputed the identity and locality of the prion depicted in plate 87, and suggested a new lectotype should be designated. However, Article 74.1.1 of ICZN (1999) states that “the valid designation of a lectotype fixes the status of the specimen as the sole name-bearing type of that nominal taxon; no later designation of a lectotype has any validity”.

▶ *Pachyptila salvini* (Mathews)

Salvin's Prion

Breeds on Indian Ocean islands. Two subspecies commonly recognised: *P. s. salvini*—breeding at Marion, Prince Edward and Crozet Islands—and *P. s. macgillivrayi* (Mathews, 1912)—breeding at Amsterdam and St Paul Islands—(Roux *et al.* 1986, Marchant & Higgins 1990, del Hoyo *et al.* 1992, Jouventin 1994, Dickinson 2003). The second is sometimes considered to be a separate species (e.g. Bretagnolle *et al.* 1990, Worthey & Jouventin 1999, Shirihai 2002, Onley & Scofield 2007) but we await a more comprehensive taxonomic review before accepting this. Tentative references to *P. s. macgillivrayi* occurring in New Zealand (Checklist Committee 1970: 24) have never been confirmed.

Pachyptila salvini salvini (Mathews)

Salvin's Prion

Prion vittatus salvini Mathews, 1912: *Birds Australia* 2: 212 – Crozets, Marion Island, etc., restricted to Marion Island, south Indian Ocean (*vide* Mathews 1934, *Novit. Zool.* 39(2): 172).

Heteroprion desolatus crozeti Mathews, 1932: *Bull. Brit. Ornith. Club* 52: 147 – Crozet Archipelago, south Indian Ocean.

Pachyptila gouldi maui Mathews, 1937: *Emu* 37: 118 – Kapiti Island.

Pachyptila gouldi whittelli Mathews, 1938: *Emu* 37: 282 – Bunbury, Western Australia.

Pachyptila (Pachyptila) salvini salvini (Mathews); Falla 1940, *Emu* 40: 233.

Pachyptila (Pachyptila) salvini crozeti (Mathews); Falla 1940, *Emu* 40: 233.

Pachyptila (Pachyptila) salvini; C.A. Fleming 1941, *Emu* 41: 143.

Pachyptila salvini muriwai Mathews & Hallstrom, 1943: *Notes Procellariiformes*: 23 – Muriwai Beach.

Pachyptila (Salviprion) salvini (Mathews); Mathews & Hallstrom 1943, *Notes Procellariiformes*: 30.

Pachyptila salvini salvini (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 19.

Pachyptila salvini crozeti (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 19.

Pachyptila vittata crozeti; Watson *et al.* 1971, *Antarctic Map Folio Series* 14: 8.

Pachyptila vittata salvini (Mathews); Jouanin & Mougins 1979, in Peters, *Check-list Birds World* I (2nd edition): 81.

Breeds on Marion, Prince Edward, and Crozet (Hog, Penguin, Apostles, Possession, East) Islands (Powlesland 1989a). Ranges mainly in the Indian Ocean south of 40°S, regularly reaching the coasts of South Africa, Australia and New Zealand, mainly in winter (Jouventin *et al.* 1985, Marchant & Higgins 1990). A banded Crozet Island *P. s. salvini* juvenile was found in New Zealand in Mar. 1974 (Howell 1974). In some years thousands of juveniles are beach-wrecked in New Zealand (Harper 1980, Powlesland 1989a). Remains of one were found in a skua midden on Snares Islands/Tini Heke in 1985 (Miskelly *et al.* 2001a); remains (NMNZ 28207), probably of this species, were found at the Kermadec Islands in 2002; and two were found beach-wrecked on Chatham Island in Oct. 1996 (Miskelly *et al.* 2006). Holocene fossil from North Island dunes (Millener 1991).

▶ *Pachyptila desolata* (Gmelin)

Antarctic Prion

- Procellaria desolata* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 562. Based on the “Brown-banded Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 409 – Desolation Island = Kerguelen Island, south Indian Ocean (*vide* Mathews 1913, *List Birds Australia*: 40).
- Procellaria Fasciata* Bonnaterre, 1791: *Tableaux Encycl. Méthod. Ornith.* 1(47): 79. Based on the “Brown-banded Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 409 – Desolation Island = Kerguelen Island, south Indian Ocean (*vide* Mathews 1913, *List Birds Australia*: 40).
- Daption desolatium* (Gmelin); Stephens 1826, *in* Shaw, *General Zool.* 13(1): 244.
- Pachyptila banksi* A. Smith, 1840: *Illust. Zool. South Africa, Aves* 2: pl. 55 – seas off Cape of Good Hope.
- Prion Banksii* (A. Smith); Gould 1844, *Ann. Mag. Nat. Hist., London* 13: 366. Unjustified emendation.
- Aestrelata desolata* (Gmelin); Bonaparte 1857, *Consp. Gen. Avium* 2: 189.
- Prion banksi* (A. Smith); Bonaparte 1857, *Consp. Gen. Avium* 2: 193.
- Prion rossi* Bonaparte, 1857: *Consp. Gen. Avium* 2: 193 – Kerguelen Island, south Indian Ocean.
- Procellaria (Aestrelata) desolata* Gmelin; G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 55.
- Prion banksii* (A. Smith); G.R. Gray 1862, *Ibis* 4: 247. Unjustified emendation.
- Procellaria banksii* (A. Smith); Schlegel 1863, *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 17. Unjustified emendation.
- Pseudoprion Banksii* (A. Smith); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 166. Unjustified emendation.
- Prion Banksi* (A. Smith); Finsch 1870, *Journ. für Ornith.* 18: 373.
- Prion (Pseudoprion) Banksii* (A. Smith); G.R. Gray 1871, *Hand-list Birds* 3: 108. Unjustified emendation.
- Prion (Pseudoprion) desolata* (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 108.
- Prion banksii* Gould [sic]; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 311. Unjustified emendation.
- Prion desolatus* (Gmelin); Sharpe 1879, *Phil. Trans. Roy. Soc. London* 168: 137.
- Prion banksi* (A. Smith); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 434.
- Prion dispar* Vanhoeffen, 1905: *Journ. für Ornith.* 53: 505 – Heard Island, southern Indian Ocean. *Nomen nudum*.
- Heteroprion desolatus mattleyleyi* Mathews, 1912: *Birds Australia* 2: 223 (key), 226 – Geelong, Australia.
- Heteroprion desolatus macquariensis* Mathews, 1912: *Birds Australia* 2: 231 – Macquarie Island.
- Heteroprion desolatus peringueyi* Mathews, 1912: *Birds Australia* 2: 230 – Pondoland coast, South Africa.
- Heteroprion desolatus alter* Mathews, 1912: *Birds Australia* 2: 231 – Auckland Islands.

- Heteroprion desolatus desolatus* (Gmelin); Mathews 1913, *List Birds Australia*: 40.
- Prion dispar* Bianchi, 1913: *Faune Russie, Oiseaux* 1(2): 523 (ex Vanhöffen 1905) – Heard Island, southern Indian Ocean.
- Heteroprion desolatus* (Gmelin); Mathews 1920, *Austral Avian Rec.* 4: 68.
- Heteroprion desolatus alexanderi* Mathews & Iredale, 1921: *Man. Birds of Australia* 1: 42 – Cottesloe Beach, Western Australia.
- Heteroprion desolatus banksi* (A. Smith); Bennett 1926, *Ibis* 2 (12th ser.): 316.
- Heteroprion desolatus georgia* Mathews, 1932: *Bull. Brit. Ornith. Club* 52: 147 – Stromness Bay, South Georgia, south Atlantic Ocean.
- Pachyptila vittata georgicus* Mathews, 1933: *Bull. Brit. Ornith. Club* 53: 214 – Stromness Bay, South Georgia, south Atlantic Ocean.
- Attapriion desolatus* (Gmelin); Mathews 1933, *Bull. Brit. Ornith. Club* 54: 25.
- Attapriion desolatus desolatus* (Gmelin); Mathews 1934, *Novit. Zool.* 39(2): 173.
- Attapriion desolatus mattingleyi* (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 173.
- Attapriion desolatus macquariensis* (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 173.
- Attapriion desolatus banksi* (A. Smith); Mathews 1934, *Novit. Zool.* 39(2): 173.
- Attapriion desolatus georgia* (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 173.
- Heteroprion desolatus dispar* Iredale, 1938: *Emu* 37: 244 (ex Vanhöffen 1905) – Heard Island, southern Indian Ocean. Junior secondary homonym of *Prion dispar* Bianchi, 1913.
- Pachyptila (Heteroprion) desolata desolata* (Gmelin); Falla 1940, *Emu* 40: 233.
- Pachyptila (Heteroprion) desolata alter* (Mathews); Falla 1940, *Emu* 40: 234.
- Pachyptila (Heteroprion) desolata banksi* (A. Smith); Falla 1940, *Emu* 40: 234.
- Pachyptila (Heteroprion) desolata*; C.A. Fleming 1941, *Emu* 41: 143.
- Heteroprion desolatus heardi* Mathews, 1942: *Emu* 41: 264. Unnecessary *nomen novum* for *Heteroprion desolatus dispar* Iredale, 1938.
- Pachyptila desolata* (Gmelin); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.
- Pachyptila desolata georgia* (Mathews); Hellmayr & Conover 1948, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 56.
- Pachyptila desolata desolata* (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 19.
- Pachyptila desolata banksi* A. Smith; Checklist Committee 1953, *Checklist N.Z. Birds*: 19.
- Pachyptila desolata alter* (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 19.
- Pachyptila desolata altera* (Mathews); Normand & Gosselin 2002, *Bull. Brit. Ornith. Club* 122: 16. Unjustified emendation.

Breeding on subantarctic and antarctic islands: South Georgia, South Sandwich, South Orkney, South Shetland, Crozet (East, Penguin), Kerguelen, Heard, Macquarie, McDonald, Auckland and Scott Islands; possibly on Bouvetøya and Balleny Islands and islets off Campbell Island/Motu Ihupuku; formerly at Cape Denison, Antarctica (Bailey & Sorensen 1962, Tickell 1962, Marchant & Higgins 1990, Baker *et al.* 2002). Ranges mainly between about 50°S and the pack-ice during the breeding season; moving northward when not breeding (Watson *et al.* 1971, Marchant & Higgins 1990). Regular visitor to seas off mainland New Zealand, mainly in winter (Harper 1980, Powlesland 1989b). Straggler to Vanuatu (Jouanin & Mougin 1979) and the Kermadec (Veitch *et al.* 2004) and Chatham Islands (Imber 1994). No subspecies accepted here following Harper (1980), Marchant & Higgins (1990) and Dickinson (2003).

► ***Pachyptila belcheri*** (Mathews)

Thin-billed Prion

Procellaria turtur Mathews, 1912: *Birds Australia* 2: 218 (ex Solander MS) – 59°S off Tierra del Fuego, South America (*vide* Medway 2002, *Notornis* 49: 62). Junior homonym of *Procellaria turtur* Kuhl, 1820.

- Pseudopron turtur solanderi* Mathews, 1912: *Birds Australia* 2: 220 – West coast South America, restricted to Cape Horn (*vide* Greenway 1973, *Bull. Am. Mus. Nat. Hist.* 150: 222).
- Heteropron belcheri* Mathews, 1912: *Birds Australia* 2: 224 – Geelong, Australia.
- Heteropron belcheri serventyi* Mathews, 1935: *Bull. Brit. Ornith. Club* 55: 160 – Cottesloe, Western Australia.
- Pachyptila (Heteropron) belcheri orientalis* Falla, 1937: *BANZARE Reports, ser. B*, 2: 200 – Royal Sound, Kerguelen Island, south Indian Ocean.
- Heteropron belcheri lalfu* Mathews, 1939: *Bull. Brit. Ornith. Club* 59: 103 – Kapiti Island.
- Heteropron belcheri falklandicus* Mathews, 1939: *Bull. Brit. Ornith. Club* 59: 104 – Falkland Islands, south Atlantic Ocean.
- Pachyptila (Heteropron) belcheri* (Mathews); Falla 1940, *Emu* 40: 234.
- Pachyptila belcheri* (Mathews); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.
- Pachyptila belcheri falklandica* (Mathews); Hellmayr & Conover 1948, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 57.

Breeds on Isla Noir and Landfall Island (Chile; Clark *et al.* 1992), Falkland Islands (New Island and about 12 other colonies), East Island (Crozet Group) and at Kerguelen Island (Strange 1980, Croxall *et al.* 1984); possibly at Staten Island and other islets in the region of Tierra del Fuego (Harper 1972); possibly at Macquarie Island (Baker *et al.* 2002). Ranges extensively within subantarctic and antarctic seas; north to 30°S in winter and spring (Watson *et al.* 1971, Marchant & Higgins 1990). Regular winter visitor to New Zealand seas (Powlesland 1989a). New Zealand beach-wrecks are thought to be from Kerguelen Island (Harper 1972); one bird banded there recovered dead on a South Island beach (Imber 2003). Straggler to Kermadec (MacDonald & Lawford 1954, Sorensen 1964) and Campbell/Motu Ihupuku Islands (Bailey & Sorensen 1962). The taxon *Pseudopron turtur solanderi* Mathews, 1912 was listed as a synonym of *Pachyptila turtur* (Kuhl) by Checklist Committee (1990: 42), but Falla (1940b: 232), Harper (1972) and Clark *et al.* (1992: 139) considered it a synonym of *Pachyptila belcheri*. Although *Pseudopron turtur solanderi* has page priority over *Pachyptila belcheri* in Mathews (1912–13), the latter is still the valid name for the thin-billed prion because of the Principle of the First Reviser (ICZN 1999: 24, 30). Also known as narrow-billed prion (Checklist Committee 1953, 1970).

► *Pachyptila turtur* (Kuhl)

Fairy Prion

- Procellaria turtur* Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 143 (ex Banks MS) – no locality = Bass Strait, Australia (*vide* Mathews 1912, *Birds Australia* 2: 219).
- Prion Turtur* (Kuhl); Gould 1844, *Ann. Mag. Nat. Hist., London* 13: 366.
- Prion brevirostris* Gould, 1855: *Proc. Zool. Soc. London* 1855 (23): 88, pl. 93 – Madeira or Desertas Islands, north Atlantic Ocean, error for south Atlantic Ocean (*vide* Mathews 1912, *Birds Australia* 2: 220).
- Halobaena typica* Bonaparte, 1857: *Consp. Gen. Avium* 2: 194 – “Insula Waigiou”, error for ?Bass Strait, Australia (*vide* Mathews 1912, *Birds Australia* 2: 219).
- Prion ariel* Bonaparte, 1857: *Consp. Gen. Avium* 2: 194 (ex Gould) – Australia? = Bass Strait, Australia (*vide* Salvin 1896, *Cat. Birds Brit. Mus.* 25: 436).
- Procellaria ariel* Gould [sic]; G.R. Gray 1862, *Ibis* 4: 247.
- Pseudopron turtur* (Banks) [sic]; Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 166.
- Pseudopron ariel* (Gould) [sic]; Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 166.
- ? *Pseudopron brevirostris* (Gould); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 167.
- Prion ariel* Gould [sic]; Finsch 1870, *Journ. für Ornith.* 18: 374.
- Prion (Pseudopron) turtur* (Smith) [sic]; G.R. Gray 1871, *Hand-list Birds* 3: 108.

- Prion (Pseudoprion) ariel* (Gould) [sic]; G.R. Gray 1871, *Hand-list Birds* 3: 108.
Prion turtur Solander [sic]; Hutton 1872, *Ibis* 2 (3rd ser.): 249.
Prion turtur (Kuhl); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 309.
Pachyptila Ariel (Gould) [sic]; Cabanis & Reichenow 1876, *Journ. für Ornith.* 24: 328.
Pseudoprion turtur buttoni Mathews, 1912: *Birds Australia* 2: 220 – Chatham Islands.
Pseudoprion turtur eatoni Mathews, 1912: *Birds Australia* 2: 220 – Kerguelen Island, south Indian Ocean.
Pseudoprion turtur turtur (Kuhl); Mathews 1913, *List Birds Australia*: 40.
Pseudoprion turtur nova Mathews, 1916: *Austral Avian Rec.* 3: 55 – Sydney, New South Wales, Australia.
Pseudoprion turtur (Kuhl); Mathews 1920, *Austral Avian Rec.* 4: 68.
Pseudoprion turtur brevirostris (Gould); Bennett 1926, *Ibis* 2 (12th ser.): 317.
Pachyptila turtur turtur; Oliver 1930, *New Zealand Birds*, 1st edition: 114.
Pachyptila turtur fallai Oliver, 1930: *New Zealand Birds*, 1st edition: 114 – Otago.
Heteroprion belcheri fallai (Oliver); Mathews 1931, *Ibis* 1 (13th ser.): 44.
Pseudoprion turtur steadi Mathews, 1932: *Bull. Brit. Ornith. Club* 52: 146 – Cundy, Woman's and Betsy Islands, off Stewart Island.
Pseudoprion turtur oliveri Mathews, 1932: *Bull. Brit. Ornith. Club* 52: 147 – Motunau Island, Canterbury.
Pseudoprion turtur fallai (Oliver); Mathews 1934, *Novit. Zool.* 39(2): 174.
Pseudoprion turtur dertrum Mathews, 1938: *Emu* 37: 281 – Bunbury, Western Australia.
Pachyptila (Pseudoprion) eatoni eatoni (Mathews); C.A. Fleming 1939, *Emu* 38: 398.
Pachyptila (Pseudoprion) eatoni aff. *eatoni* (Mathews); C.A. Fleming 1939, *Emu* 38: 398. In part.
Pachyptila (Pseudoprion) turtur buttoni (Mathews); C.A. Fleming 1939, *Emu* 38: 400.
Pachyptila (Pseudoprion) crassirostris eatoni (Mathews); Falla 1940, *Emu* 40: 234. In part.
Pachyptila (Pseudoprion) turtur turtur (Kuhl); Falla 1940, *Emu* 40: 234.
Pachyptila (Pseudoprion) turtur fallai (Oliver); Falla 1940, *Emu* 40: 234.
Pachyptila (Pseudoprion) turtur; C.A. Fleming 1941, *Emu* 41: 143.
Pseudoprion turtur mangarei Mathews & Hallstrom, 1943: *Notes Procellariiformes*: 23 – Mangare Island = Mangere Island, Chatham Islands.
Pseudoprion turtur benchi Mathews & Hallstrom, 1943; *Notes Procellariiformes*: 23 – Bench Island, off Stewart Island.
Pseudoprion turtur armiger Mathews & Hallstrom, 1943: *Notes Procellariiformes*: 23 – Poor Knights Islands.
Fulmariprion crassirostris eatoni; Mathews & Hallstrom 1943, *Notes Procellariiformes*: 26. In part.
Pachyptila turtur (Kuhl); Checklist Committee 1953, *Checklist N.Z. Birds*: 20.
Pachyptila crassirostris eatoni (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 20. In part.
Pachyptila turtur subantarctica Oliver, 1955: *New Zealand Birds*, 2nd edition: 119 – Antipodes Island.

Breeds on Beauchêne Island (Falkland Islands), South Georgia, Marion and Prince Edward Islands, Crozets (Hog, Penguin, East), Kerguelen Island and Roche Quille (St Paul Island) and in Australia on islands off Victoria and around Tasmania (Harper 1980, Marchant & Higgins 1990). Breeds on many islands in the New Zealand region: Poor Knights, Stephens (Takapourewa), Trios, Jag Rocks (Cook Strait), Sentinel Rock, The Haystack (Moturaka), Ninepin Rock, The Brothers, Motukiekie Rocks, Open Bay and Motunau Island (Canterbury) Islands, Banks Peninsula islets, Otago islands and islands in Foveaux Strait and off Stewart Island/Rakiura; Snares Islands/Tini Heke; Chatham

Islands (Mangere, Little Mangere, Rabbit, Kokope, Murumurus, Star Keys, The Sisters); Antipodes Islands, Macquarie Island and Bishop and Clerk Islands; and possibly on islets off Campbell Island/Motu Ihupuku (Harper 1976, Powlesland 1989a, Imber 1994, Brown 1995, Stuart-Menteth 1996, Loh 2000, Taylor 2000b, Baker *et al.* 2002, Tennyson *et al.* 2002). Recently found breeding on mainland cliff ledges at Dunedin, South Island (Loh 2000), and has begun breeding on Mana Island, off Wellington, after a successful introduction programme (Anon. 2007b). Ranges in subantarctic and subtropical seas, including the Tasman Sea and throughout the New Zealand region (Marchant & Higgins 1990). Reaches further north in winter; straggler to New Guinea, South America and southern Africa (Marchant & Higgins 1990). Birds banded in the Cook Strait region have been recovered as far away as Australia and the Chatham Islands (Marchant & Higgins 1990). Medway (2002b) clarified the identity of Kuhl's type material. Late Pleistocene–Holocene fossil and midden records on North, South, Stewart/Rakura and Chatham Islands (Millener 1991, Worthy 1998c).

► ***Pachyptila crassirostris* (Mathews)** **Fulmar Prion**

Breeds at Chatham, Bounty, Snares/Tini Heke, Auckland and Heard Islands. Apparently remains in adjacent seas but may be storm-drifted further away. Live records (subspecies unknown) from the south Tasman Sea (Harper 1972) and south-east of New Zealand (Marchant & Higgins 1990). Three subspecies accepted here.

***Pachyptila crassirostris crassirostris* (Mathews)** **Fulmar Prion**

Prion turtur; Reischek 1888, *Trans. Proc. N.Z. Inst.* 21: 388. Not *Procellaria turtur* Kuhl, 1820.

Pseudoprion turtur crassirostris Mathews, 1912: *Birds Australia* 2: 221 – Bounty Islands.

Pachyptila (*Pseudoprion*) *turtur eatoni* (Mathews); Falla 1937, *BANZARE Reports, ser. B*, 2: 203.

In part.

Pachyptila (*Pseudoprion*) *eatoni crassirostris* (Mathews); C.A. Fleming 1939, *Emu* 38: 398.

Pachyptila (*Pseudoprion*) *crassirostris crassirostris* (Mathews); Falla 1940, *Emu* 40: 234.

Pachyptila (*Pseudoprion*) *crassirostris*; C.A. Fleming 1941, *Emu* 41: 143. In part.

Fulmariprion crassirostris antipodes Mathews & Hallstrom, 1943: *Notes Procellariiformes*: 26 – Antipodes Islands.

Pachyptila crassirostris Mathews; Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.

Pachyptila crassirostris crassirostris (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 20.

Breeds on the Bounty Islands and Rima and Toru of the Western Chain, Snares Islands/Tini Heke (Marchant & Higgins 1990, Miskelly *et al.* 2001a). Presumed to remain in adjacent seas but occasionally reaches New Zealand coasts in winter, notably in 1985 (Powlesland 1987, Tennyson & Bartle 2005).

***Pachyptila crassirostris pyramidalis* C.A. Fleming** **Chatham Fulmar Prion**

Pachyptila (*Pseudoprion*) *eatoni pyramidalis* C.A. Fleming, 1939: *Emu* 38: 400 – The Pyramid, Chatham Islands.

Pachyptila (*Pseudoprion*) *crassirostris pyramidalis* C.A. Fleming; Falla 1940, *Emu* 40: 234.

Pachyptila (*Pseudoprion*) *crassirostris*; C.A. Fleming 1941, *Emu* 41: 143. In part.

Pachyptila crassirostris pyramidalis C.A. Fleming, 1939; Checklist Committee 1953, *Checklist N.Z. Birds*: 20.

Breeds on The Pyramid and The Forty-Fours (Chatham Islands; Tennyson & Bartle 2005). Presumed to remain in adjacent seas; possibly straggles to mainland New Zealand coasts in winter (Palma & Pilgrim 2002, Tennyson & Bartle 2005). Holocene fossil

records from Chatham Island are presumed to be from the locally breeding subspecies (Bourne 1964, Checklist Committee 1990).

***Pachyptila crassirostris flemingi* Tennyson & Bartle** **Lesser Fulmar Prion**

Pachyptila (Pseudoprion) turtur eatoni (Mathews); Falla 1937, *BANZARE Reports, ser. B, 2*: 203.

In part.

Pachyptila (Pseudoprion) eatoni aff. *eatoni*; C.A. Fleming 1939, *Emu* 38: 398. In part.

Pachyptila (Pseudoprion) crassirostris eatoni (Mathews); Falla 1940, *Emu* 40: 234. In part.

Pachyptila (Pseudoprion) crassirostris; C.A. Fleming 1941, *Emu* 41: 143. In part.

Fulmariprion crassirostris eatoni; Mathews & Hallstrom 1943, *Notes Procellariiformes*: 26. In part.

Pachyptila crassirostris eatoni (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 20.

In part.

Pachyptila crassirostris crassirostris (Mathews); Oliver 1955, *New Zealand Birds*, 2nd edition: 115. In part.

Pachyptila turtur eatoni; Cox 1980, *Rec. South Austr. Museum* 18: 119. Not *Pseudoprion turtur eatoni* Mathews, 1912.

Pachyptila crassirostris flemingi Tennyson & Bartle, 2005: *Notornis* 52: 49 – Ewing Island, Auckland Islands.

Breeds on Auckland Islands (Ewing, Ocean and Rose), Heard and probably McDonald Islands (Downes *et al.* 1959, Tennyson & Bartle 2005). Occurs at sea around the breeding islands, with possible stragglers reaching mainland New Zealand and Tasmania (Tennyson & Bartle 2005).

Genus *Bulweria* Bonaparte

Bulweria Bonaparte, 1843: *Nuov. Ann. Sci. Nat. R. Accad. Sci. Istituto Bologna* (1842) 8: 426 – Type species (by monotypy) *Procellaria bulwerii* Jardine & Selby = *Bulweria bulwerii* (Jardine & Selby).

► ***Bulweria bulwerii* (Jardine & Selby)**

Bulwer's Petrel

Procellaria Bulwerii Jardine & Selby, 1828: *Illust. Ornith.* 2(4): pl. 65 & text – Madeira, Atlantic Ocean.

Procellaria anjinho Heineken, 1829: in Brewster's *Edinb. Journ. Sci.* 1(9): 231 – Madeira, Atlantic Ocean.

Thalassidroma Bulweri (Jardine & Selby); G.R. Gray 1844, *Gen. Birds* 3: 648. Unjustified emendation.

Astelrelata Bulweri (Jardine & Selby); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 158. Unjustified emendation.

Bulweria bulweri (Jardine & Selby); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 420. Unjustified emendation.

Bulweria bulweri pacifica Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 607 – Iwojima, Bonin Islands. Unjustified emendation.

Bulweria bulwerii bulwerii (Jardine & Selby); Mathews 1927, *Syst. Avium Australasianarum* 1: 124.

Bulweria bulwerii pacifica Mathews & Iredale; Mathews 1927, *Syst. Avium Australasianarum* 1: 124.

Bulweria bulwerii (Jardine & Selby); Peters 1931, *Check-list Birds World* 1: 68.

Breeds on islands in the north-east Atlantic and north-west and central Pacific Oceans (Marchant & Higgins 1990, Bartle *et al.* 1993). Atlantic birds migrate south and west into the tropics (Marchant & Higgins 1990). Range at sea of Pacific birds poorly known;

some migration southward (Sep. to Apr.) including into the equatorial, central and western Indian Ocean (Jouanin & Mougín 1979, Marchant & Higgins 1990, Bartle *et al.* 1993). One record from the New Zealand region: a dead bird on 8 Jan. 1998 on Te Horo Beach, Horowhenua (Palma 1999, Taylor 2004).

Genus *Procellaria* Linnaeus

Procellaria Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 131 – Type species (by subsequent designation) *Procellaria aequinoctialis* Linnaeus.

Priofinus Hombron & Jacquinot, 1844: *Compt. Rend. Séa. Acad. Sci., Paris*: 18: 355 – Type species (by subsequent designation) *Procellaria cinerea* Gmelin.

Majaqueus Reichenbach, 1853: *Avium Syst. Nat.*: iv – Type species (by original designation) *Procellaria aequinoctialis* Linnaeus.

Adamastor Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 595 – Type species (by original designation) *Procellaria haesitata* J.R. Forster = *Procellaria cinerea* Gmelin.

Cymatobolus Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 363. Unnecessary *nomen novum* for *Majaqueus* Reichenbach, 1853.

Cymatobolus Mathews, 1936: *Emu* 36: 91. Unjustified emendation.

Cymbatobolus Checklist Committee, 1990: *Checklist Birds N.Z.*: 33. Unjustified emendation.

► *Procellaria aequinoctialis* Linnaeus

White-chinned Petrel

Procellaria aequinoctialis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 132 – Cape of Good Hope, South Africa.

Procellaria fuliginosa Shaw, 1790: in J. White, *Journ. Voy. New South Wales, ed. 1*: pl. opposite p. 252 – Port Jackson, Sydney, Australia. Junior primary homonym of *Procellaria fuliginosa* Gmelin, 1789.

Puffinus aequinoctialis (Linnaeus); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 199.

Procellaria nigra J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 26 – Southern Ocean. Junior primary homonym of *Procellaria nigra* Pallas, 1769.

Majaqueus fuliginosa Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768 (ex Solander MS) – no locality = Antarctic and Pacific Oceans (*vide* Salvin 1876, in Rowley's *Ornith. Miscellany* 1: 231). Junior secondary homonym of *Procellaria fuliginosa* Gmelin, 1789.

Fulmarus (Majaqueus) aequinoctialis (Linnaeus); G.R. Gray 1871, *Hand-list Birds* 3: 108.

Procellaria (Majaqueus) aequinoctialis; Oustalet 1891, *Mission Scient. Cap Horn 6 Zoologie* (B): 161.

Majaqueus aequinoctialis (Linnaeus); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 395.

Procellaria aequinoctialis mixta Mathews, 1912: *Birds Australia* 2: 111 – South Atlantic 500 km north of Cape Town.

Procellaria aequinoctialis stadi Mathews, 1912: *Birds Australia* 2: 107 (key), 112 – Antipodes Island.

Procellaria aequinoctialis brabournei Mathews, 1912: *Birds Australia* 2: 113 – Western coast of South America.

Procellaria aequinoctialis aequinoctialis Linnaeus; Bennett 1926, *Ibis* 2 (12th ser.): 314.

Procellaria aequinoctialis; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 127, 176.

Procellaria stadi Mathews; Fraser *et al.* 2005, *Notornis* 52: 175.

Circumpolar in southern oceans, breeding at South Georgia, Falkland, Marion and Prince Edward, Crozet (Possession, East, Penguin and the Apostles), Kerguelen, Antipodes, Auckland (Auckland, Adams, Disappointment, Ewing) and Campbell/Motu Ihupuku (Dent, Jacquemart, Monowai, Cossack Rock) Islands (Marchant & Higgins 1990, Taylor 2000a). Ranges between antarctic region and 30°S but much further north

off South America and Africa in winter (Mougin 1970, Watson *et al.* 1971, Marchant & Higgins 1990, Spear *et al.* 2005). Visitor to seas off mainland New Zealand and to the Chatham Islands, with most of the New Zealand population probably migrating to the west coast of South America when not breeding (Marchant & Higgins 1990, Fraser *et al.* 2005, Spear *et al.* 2005). Considered to be monotypic, since the elevation of *P. a. conspicillata* Gould, 1844 to a full species (Ryan 1998). There are recent suggestions that the Antipodes Islands birds may be a separate species also (Fraser *et al.* 2005). Recorded from middens at Kaikoura, South Island, as a Holocene fossil in Chatham Island dunes (Bourne 1964, Checklist Committee 1990, Millener 1991) and from Auckland Island middens (Anderson 2005).

► ***Procellaria westlandica* Falla**

Westland Petrel

Procellaria parkinsoni westlandica Falla, 1946: *Rec. Cant. Museum* 5: 111 – Barrytown, West Coast of South Island.

Procellaria westlandica Falla; Checklist Committee 1953, *Checklist N.Z. Birds*: 23.

Breeds only near the Punakaiki River in hills below 250 m (Best & Owen 1976, Marchant & Higgins 1990, Spear *et al.* 2005). Ranges mainly in seas between Taranaki and Stewart Island/Rakiura (Petyt 1995, Miskelly *et al.* 2001a), through Cook Strait to between East Cape/Koromere and Otago (Bartle 1974; Marchant & Higgins 1990; Anderson 1992; Foreman 1992, 1994; Wright 1994; Onley 1995b; Freeman *et al.* 2001); rarely reaching south of Snares Islands/Tini Heke (Petyt 1995) and north and west to eastern and southern Australia (Marchant & Higgins 1990) and (in Dec. and Apr.) to the Chatham Islands (Imber 1994, Miskelly *et al.* 2006). Immatures and non-breeders occur regularly in South American waters, off Chile and Argentina (Brinkley *et al.* 2000, Spear *et al.* 2005). Holocene fossils from cave deposits near Punakaiki and from dunes and one cave on Chatham Island (Checklist Committee 1990, Millener 1991).

► ***Procellaria parkinsoni* G.R. Gray**

Black Petrel

Procellaria parkinsoni G.R. Gray, 1862: *Ibis* 4: 245 – New Zealand.

Procellaria fuliginosa G.R. Gray, 1862: *Ibis* 4: 245 (ex Banks MS) – no locality = Antarctic and Pacific Oceans (*vide* Salvin 1876, in Rowley's *Ornith. Miscellany* 1: 231). Junior primary homonym of *Procellaria fuliginosa* Gmelin, 1789.

Majaqueus parkinsoni (G.R. Gray); Hutton 1869, *Ibis* 5 (n. ser.): 351.

Procellaria Parkinsoni L. [sic]; Finsch 1870, *Journ. für Ornith.* 18: 372.

Fulmarus (Majaqueus) Parkinsoni (G.R. Gray); G.R. Gray 1871, *Hand-list Birds* 3: 108.

Procellaria [aequinoctialis] parkinsoni G.R. Gray; Mathews 1934, *Novit. Zool.* 39(2): 176.

Procellaria parkinsoni G.R. Gray; Checklist Committee 1953, *Checklist N.Z. Birds*: 22.

Breeds only on Hauturu/Little Barrier and Great Barrier (Aotea) Islands (Imber 1987, Taylor 2000a, Bell *et al.* 2007); formerly also on ranges of the North Island and north-west regions of the South Island (Imber 1987; Marchant & Higgins 1990; Medway 2002a,f). Ranges at sea mainly between 30°S and 42°S near New Zealand while breeding but reaches seas off Queensland, New South Wales and Victoria (Marchant & Higgins 1990, Palliser 2005, Bell *et al.* 2007). Rare vagrants recorded as beach-wrecks in the South Island (Powlesland 1989b). Migrates to the eastern tropical Pacific Ocean, from Mexico to Peru and off the Galápagos Islands (Jehl 1974; Imber 1987; Pitman & Ballance 1992; Imber, McFadden *et al.* 2003; Spear *et al.* 2005). Late Pleistocene–Holocene fossils from the Far North dunes and from cave deposits in both the North and South Islands (Millener 1981a, 1991). Also called Parkinson's petrel.

► **Procellaria cinerea** Gmelin**Grey Petrel**

Procellaria cinerea Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 563. Based on the “Cinereous Fulmar” of Latham 1785, *Gen. Synop. Birds* 3(2): 405 – within the Antarctic Circle = New Zealand seas at 48°S (*vide* Mathews 1912, *Birds Australia* 2: 123, contra Mathews 1916, *Austral Avian Rec.* 3: 54).

Procellaria gelida Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 564. Based on the “Glacial Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 399 – within the Antarctic Circle (*vide* Hellmayr & Conover 1948, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 60).

Procellaria Melanura Bonnaterre, 1791: *Tableaux Encycl. Méthod. Ornith.* 1(47): 79. Based on the “Cinereous Fulmar” of Latham 1785, *Gen. Synop. Birds* 3(2): 405 – within the Antarctic Circle = seas south of New Zealand (*vide* Hellmayr & Conover 1948, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 60).

Puffinus cinereus (Gmelin); Stephens 1826, *in* Shaw, *General Zool.* 13(1): 227.

Daption gelidum (Gmelin); Stephens 1826, *in* Shaw, *General Zool.* 13(1): 245.

Procellaria haesitata J.R. Forster, 1844: *in* M.H.C. Lichtenstein, *Descrip. Animalium*: 208 – “in lat. 48° Oceani pacifici antarctici” = seas south of New Zealand (*vide* Hellmayr & Conover 1948, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 60).

Rhantistes gelida (Gmelin); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768.

Cookilaria cinerea (Gmelin); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 43: 995.

Adamastor typus Bonaparte, 1857: *Gen. Avium* 2: 187 – Antarctic seas.

Procellaria adamastor Schlegel, 1863: *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 23. Unnecessary *nomen novum* for *Adamastor typus* Bonaparte, 1857.

Adamastor cinereus (Gmelin); Coues 1864, *Proc. Acad. Nat. Sci. Philad.* 16: 119, 142.

Adamastor gelidus (Gmelin); Coues 1864, *Proc. Acad. Nat. Sci. Philad.* 16: 121, 142.

Aestrelata haesitata (J.R. Forster); Hutton 1869, *Ibis* 5 (n. ser.): 352.

Fulmarus gelidus (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 106.

Priofinus melanurus (Vieillot); Ridgway 1880, *Proc. U.S. Nat. Mus.* 2: 209.

Priofinus cinereus (Gmelin); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 390.

Procellaria pallipes Mathews, 1912: *Birds Australia* 2: 123 (ex Solander MS) – 37°10'S, 162°5'W.

Priofinus cinereus dydimus Mathews, 1916: *Austral Avian Rec.* 3: 54 – New Zealand.

Priofinus cinereus cinereus (Gmelin); Bennett 1926, *Ibis* 2 (12th ser.): 314.

Adamastor cinerea [sic] (Gmelin); Mathews 1934, *Novit. Zool.* 39(2): 176.

Procellaria cinerea Gmelin; Checklist Committee 1953, *Checklist N.Z. Birds*: 22.

Breeds on Tristan da Cunha, Gough, Prince Edward, Crozet (Possession, East), Kerguelen, Amsterdam, Campbell Islands Group (Campbell/Motu Ihupuku, Dent, probably Jacquemart), Antipodes (including Bollons) (Imber 1983, Jouventin *et al.* 1984, Taylor 2000a) and Macquarie Islands (Baker *et al.* 2002); probably breeds on Inaccessible Island (Brooke 2004); formerly bred on Marion Island (Taylor 2000a). Circumpolar at sea, mainly between 32°S and 58°S (Watson *et al.* 1971, Marchant & Higgins 1990). More common south and east of New Zealand than in the Tasman Sea (Powlesland 1989b, Bartle 1990, Marchant & Higgins 1990, Imber *et al.* 2005). Holocene fossils on Chatham Island (Bourne 1964, Scarlett 1976a).

Genus *Pseudobulweria* Mathews

Pseudobulweria Mathews, 1936: *Ibis* 6 (13th ser.): 309 – Type species (by original designation) *Thalassidroma (Bulweria) macgillivrayi* G.R. Gray = *Pseudobulweria macgillivrayi* (G.R. Gray).

► ***Pseudobulweria rostrata* (Peale)****Tahiti Petrel**

Procellaria rostrata Peale, 1848: *U.S. Expl. Exped.* 8: 296 – about 6,000 feet a.s.l., mountains of Tahiti, French Polynesia, Pacific Ocean.

Rhantistes rostrata (Peale); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 768.

Aestrelata desolata rostrata (Peale); Bonaparte 1857, *Consp. Gen. Avium* 2: 189.

Procellaria (Aestrelata) rostrata Peale; G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 56.

Aestrelata rostrata (Peale); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 144.

Oestrelata rostrata (Peale); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 404.

Pterodroma rostrata (Peale); Murphy 1928, *American Mus. Novit.* 322: 1.

Bulweria rostrata (Peale); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 156.

Pterodroma rostrata rostrata (Peale); Jouanin & Mougins 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 69.

Pseudobulweria rostrata (Peale); Checklist Committee 1990, *Checklist Birds N.Z.*: 35.

South Pacific Ocean, breeding in New Caledonia (in mountains on the main island and on at least 12 small islets in the southern lagoon), Fiji (Taveuni, Gau), American Samoa (Ta'u, Tutuila and possibly Olosega), Society Islands (Tahiti, Moorea, Raiatea), Marquesas Islands (Hiva-Oa, Tahuata, Nuku Hiva) and the Gambier Islands; possibly also in Tonga and the Cook and Austral Islands (Jouanin & Mougins 1979, Thibault & Rives 1988, Plant *et al.* 1989, Bretagnolle *et al.* 1998, Watling 2001, Villard *et al.* 2006). Ranges in the tropical and subtropical Pacific Ocean from near Taiwan to north-east Australia and east to between Mexico and Peru; has reached the north-east Indian Ocean also (Pitman 1986, Marchant & Higgins 1990, Spear *et al.* 1992). Five northern New Zealand records in 1988: one beach-washed in Jun. near Dargaville; two live near Whakaari/White Island on 11 Jul. and singles near The Aldermen Islands on 10 Aug. and east of the Poor Knights Islands on 11 Aug. (Guest & Bell 1989, Powlesland & Pickard 1992, OSNZ Rare Birds Committee pers. comm. to A. Tennyson 2006). A few have been seen off Norfolk Island (Moore 1999). Bretagnolle *et al.* (1998) recognised three subspecies: *Ps. r. rostrata* (South Pacific), *Ps. r. trouessarti* (Brazil, 1917) (New Caledonia) and *Ps. r. becki* (Murphy, 1928) (south-west Pacific). We follow Murphy (1928), Brooke (2004), Onley & Scofield (2007) and Shirihai (2008) in recognising *Ps. becki* as a full species. The subspecies of *Ps. rostrata* occurring in the New Zealand region has not been determined.

Genus *Calonectris* Mathews & Iredale

Calonectris Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 592 – Type species (by original designation) *Procellaria leucomelas* Temminck = *Calonectris leucomelas* (Temminck).

► ***Calonectris borealis* (Cory)****Cory's Shearwater**

Puffinus borealis Cory, 1881: *Bull. Nuttall Ornith. Club* 6: 84 – off Chatham Island, Massachusetts, USA.

Puffinus kubli (Boie); Godman 1907, *Monograph Petrels* 1: 94, pl. 26. In part.

Puffinus kubli fortunatus Bannerman, 1915: *Bull. Brit. Ornith. Club* 35: 120 – Isla Graciosa, Canary Islands, Spain.

Puffinus kubli borealis Cory; Oliver 1934, *Emu* 34: 24.

Ardena diomedea borealis (Cory); Mathews 1944, *Emu* 43: 243.

Puffinus kublii borealis Cory; Hellmayr & Conover 1948, *Zool. Series, Field Mus. Nat. History* 13(1) n° 2: 63.

Puffinus diomedea borealis Cory; Checklist Committee 1953, *Checklist N.Z. Birds*: 22.

Calonectris diomedea borealis (Cory); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 26.
Calonectris borealis (Cory); Sangster *et al.* 1999, *Ardea* 87: 146.

Breeds on north-east Atlantic islands: Berlengas (off Portugal), Madeira, Porto Santo, Desertas, Selvagens, Azores, and Canaries (Marchant & Higgins 1990). Ranges extensively in the North Atlantic Ocean and migrates south to South American, southern African and south-west Indian Ocean seas (Jouanin *et al.* 1977, Marchant & Higgins 1990, Camphuysen & van der Meer 2001). One New Zealand record: Jan. 1934, Foxton Beach (Oliver 1934). Formerly treated as a subspecies of the North Atlantic shearwater *Calonectris diomedea* (Scopoli, 1769), but we follow Sangster *et al.* (1999) in recognising Cory's shearwater as a full species.

► *Calonectris leucomelas* (Temminck)

Streaked Shearwater

Procellaria leucomelas Temminck, 1836: *Nouv. Recueil Planch. Color. d'Oiseaux* 99: pl. 587 – Nagasaki Bay and seas of Japan.

Puffinus leucomelas (Temminck); Godman 1907, *Monograph Petrels* 1: 72, pl. 21.

Calonectris leucomelas (Temminck); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.

Breeds in the north-west Pacific, mainly on Japanese islands from southern Hokkaido in the north to the Ryukyus in the south; also on Chinese, Korean and south-east Russian islands; its at-sea range during the breeding season is concentrated off the breeding islands in pelagic and inshore waters (Kuroda 1991, Brooke 2004). In the non-breeding season (roughly Nov. to Apr.), moves south, concentrating north of New Guinea and regularly reaching northern Australian waters (Marchant & Higgins 1990, Brooke 2004). Straggles further west into the Indian Ocean and Red Sea, also across the Pacific to the Hawaiian Islands and California, and rarely to south-east Australia (Jouanin & Mougin 1979, Marchant & Higgins 1990, Brooke 2004). One New Zealand record: Feb. 2006, Kawhia Beach (Anon. 2006d). The year of Temminck's description of *Procellaria leucomelas* was clarified by Dickinson (2001).

Genus *Puffinus* Brisson

Puffinus Brisson, 1760: *Ornithologie* 1: 56, 6: 129 – Type species (by tautonymy) *Puffinus* = *Procellaria puffinus* Brünnich = *Puffinus puffinus* (Brünnich).

Nectris Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 146 – Type species (by subsequent designation) *Procellaria puffinus* Brünnich = *Puffinus puffinus* (Brünnich).

Thyellas Gloger, 1827: *Froriep's Notiz.*: 279. Unnecessary *nomen novum* for *Puffinus* Brisson, 1760.

Rhipornis Billberg, 1828: *Synop. Faun. Scand.* 1: tab. A. Unnecessary *nomen novum* for *Puffinus* Brisson, 1760.

Cymotomus Macgillivray, 1842: *Man. Brit. Ornith.* 2: 13 – Type species (by monotypy) *Procellaria puffinus* Brünnich = *Puffinus puffinus* (Brünnich).

Ardena Reichenbach, 1853: *Avium Syst. Nat.*: iv – Type species (by original designation) *Puffinus major* (Faber) = *Puffinus gravis* (O'Reilly).

Thiellus Bonaparte, 1857: *Consp. Gen. Avium* 2: 200. Unjustified emendation.

Thyellodroma Stejneger, 1888: *Proc. U.S. Nat. Mus.* 11: 93 – Type species (by original designation) *Puffinus sphenurus* Gould = *Puffinus chlororhynchus* Lesson.

Zalias Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 362 – Type species (by subsequent designation) *Puffinus chlororhynchus* Lesson.

Reinholdia Mathews, 1912: *Austral Avian Rec.* 1: 107 – Type species (by original designation) *Puffinus reinholdi* Mathews = *Puffinus gavia* (J.R. Forster).

Neonectris Mathews, 1913: *Austral Avian Rec.* 2: 12 – Type species (by original designation) *Puffinus brevicaudus* Gould = *Puffinus tenuirostris* (Temminck).

Hemipuffinus Iredale, 1913: *Austral Avian Rec.* 2: 20 – Type species (by original designation) *Puffinus carneipes* Gould.

Alphapuffinus Mathews, 1914: *Austral Avian Rec.* 2: 110 – Type species (by original designation) *Puffinus assimilis* Gould.

Microzalias Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 597 – Type species (by original designation) *Puffinus nativitatis* Streets.

Cinathisma Hull, 1916: *Emu* 15: 205 – Type species (by monotypy) *Cinathisma cyaneoleuca* Hull = *Puffinus gavia* (J.R. Forster).

Paranectris Iredale, 1930: *Australian Zool.* 6(2): 115 – Type species (by original designation) *Procellaria grisea* Gmelin = *Puffinus griseus* (Gmelin).

► ***Puffinus pacificus*** (Gmelin)

Wedge-tailed Shearwater

Breeds on islands in the Indian and Pacific Oceans, mainly between 30°N and 30°S, and ranges widely in adjacent seas (Jouanin & Mougouin 1979). Some subtropical populations migrate transequatorially (Marchant & Higgins 1990). Twenty have been beach-wrecked on North Island coasts and one banded bird was recovered in Cook Strait; all between Oct. and Jun. (King 1974; Veitch 1981; Powlesland 1983, 1985, 1989b; Powlesland & Powlesland 1994b; Taylor 1996, 2004; Medway 2000a; Howell & Esler 2007). Two subspecies are accepted here; both occur in the New Zealand region but the subspecific identities of most specimens and sightings off mainland New Zealand have not been determined.

Puffinus pacificus pacificus (Gmelin)

Wedge-tailed Shearwater

Procellaria pacifica Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 560. Based on the “Pacific Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 416 – Pacific Ocean, restricted to Kermadec Islands (*vide* Mathews 1912, *Birds Australia* 2: 80).

Puffinus pacificus (Gmelin); G.R. Gray 1844, *Gen. Birds* 3: 647.

Nectris fuliginosus G.R. Gray, 1844: *Gen. Birds* 3: 647 (ex Solander MS) – no locality = Antarctic and Pacific Oceans (*vide* Salvin 1876, in Rowley’s *Ornith. Miscellany* 1: 231). Junior secondary homonym of *Procellaria fuliginosa* Gmelin, 1789.

Puffinus chlororhynchus iredali Mathews, 1910: *Bull. Brit. Ornith. Club* 27: 40 – Sunday [= Raoul] Island, Kermadec Islands.

Thyellodroma pacifica pacifica (Gmelin); Mathews 1913, *List Birds Australia*: 319.

Thyellodroma pacifica (Gmelin); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.

Puffinus pacificus whitneyi Lowe, 1925: *Bull. Brit. Ornith. Club* 45: 106 – Kadavu, Fiji Islands.

Thyellodroma pacifica whitneyi (Lowe); Mathews 1927, *Syst. Avium Australasianarum* 1: 113.

Puffinus pacificus pacificus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 20.

Puffinus (*Thyellodroma*) *pacificus pacificus* (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 24.

Ardena pacifica (Gmelin); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 18, 96. In part.

Breeds on Kermadec, Norfolk, Fijian (Kadavu, Mamanuca, Yasawa Groups and other islets) and Tongan Islands (Jenkins 1979, 1986; Pratt *et al.* 1987; Veitch *et al.* 2004). From Oct. to May, (probably this subspecies) ranges widely in adjacent seas south to about 34°S (Jenkins 1979, 1986); about eight mainland New Zealand beach-wrecks assumed to be this subspecies (Checklist Committee 1990). Apparently migrates to the south-eastern North Pacific Ocean (Jenkins 1979). Holocene fossil remains known from Norfolk and Nepean Islands (Meredith 1991).

Puffinus pacificus chlororhynchus* Lesson*Wedge-tailed Shearwater**

Puffinus chlororhynchus Lesson, 1831: *Traité d'Ornith.* 8: 613 – no locality = Shark Bay, Western Australia (*vide* Pucheran 1850, *Revue Zool.*: 633).

Puffinus sphenurus Gould, 1844: *Ann. Mag. Nat. Hist., London* 13: 365 – Abrolhos Islands, Western Australia.

Thiellus sphenurus (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 201.

Thiellus chlororhynchus (Lesson); Bonaparte 1857, *Consp. Gen. Avium* 2: 201.

Procellaria chlororhyncha (Lesson); Schlegel 1863, *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 25.

Procellaria sphenura (Gould); Schlegel 1863, *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 25.

Puffinus cuneatus Salvin, 1888: *Ibis* 6 (5th ser.): 353 – “Insulis Krusenstern” (mythical islands designated by the collector, H.J. Snow) = one of the Leeward Hawaiian Islands, Pacific Ocean (*vide* Murphy 1951, *American Mus. Novit.* 1512: 18).

Puffinus knudseni Stejneger, 1888: *Proc. U.S. Nat. Mus.* 11: 93 – Hawaiian Islands, Pacific Ocean.

Puffinus pacificus hamiltoni Mathews, 1912: *Birds Australia* 2: 82 – The Cousin, Seychelles Islands.

Puffinus pacificus alleni Mathews, 1912: *Birds Australia* 2: 83 – San Benedicto, Revillagigedo Islands, Pacific Ocean.

Puffinus pacificus laysani Mathews, 1912: *Birds Australia* 2: 83 – Laysan Island.

Puffinus pacificus royanus Mathews, 1912: *Birds Australia* 2: 85, pl. 75 – Bondi Beach, New South Wales, Australia.

Thyellodroma pacifica royana (Mathews); Mathews 1913, *List Birds Australia*: 34.

Thyellodroma cuneata (Salvin); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.

Thyellodroma cuneata cuneata (Salvin); Mathews 1927, *Syst. Avium Australasianarum* 1: 113.

Thyellodroma cuneata knudseni (Stejneger); Mathews 1927, *Syst. Avium Australasianarum* 1: 113.

Thyellodroma cuneata laysani (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 114.

Thyellodroma pacifica chlororhyncha (Lesson); Mathews 1934, *Novit. Zool.* 39(2): 186.

Thyellodroma pacifica hamiltoni (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 186.

Thyellodroma pacifica alleni (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 186.

Thyellodroma pacifica cuneata (Salvin); Mathews 1934, *Novit. Zool.* 39(2): 186.

Puffinus pacificus cuneatus Salvin; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 27.

Puffinus pacificus chlororhynchus Lesson; Checklist Committee 1980, *Notornis (Suppl.)* 27: 11.

Puffinus (Thyellodroma) pacificus chlororhynchus Lesson; Checklist Committee 1990, *Checklist Birds N.Z.*: 24.

Ardenna pacifica (Gmelin); Christidis & Boles 2008, *Syst. Taxon. Australian birds*: 18, 96. In part.

Breeds on many islands of the tropical and subtropical Indian and Pacific Oceans, including Australian islands and Lord Howe Island, and ranges widely in adjacent seas (Marchant & Higgins 1990, Pandolfi Benoit & Bretagnolle 2002). Some populations relatively sedentary, but some western Australian birds probably migrate to the North Indian Ocean, and south-east Australian birds migrate to the western North Pacific (Marchant & Higgins 1990). Vagrant to New Zealand: Makara Beach, Jan. 1962 (Falla 1962b); Otaki Beach, Jun. 1962 (Crockett 1975, Checklist Committee 1980); a banded adult from Johnston Atoll found in Cook Strait, 8 Nov. 1965 (King 1974, Amerson & Shelton 1976); Taranaki, Sep. 1983 (Checklist Committee 1990).

▶ ***Puffinus bulleri* Salvin****Buller's Shearwater**

Puffinus bulleri Salvin, 1888: *Ibis* 6 (5th ser.): 354 – New Zealand, restricted to Waikanae Beach, Wellington (*vide* Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 240).

Puffinus zealandicus Sandager, 1890: *Trans. Proc. N.Z. Inst.* 22: 291 – Mokohinau Islands.

- Thyellodroma bulleri* (Salvin); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.
Thyellobroma [sic] *pacifica bulleri* (Salvin); Mathews 1934, *Novit. Zool.* 39(2): 186.
Puffinus bulleri Salvin; Checklist Committee 1953, *Checklist N.Z. Birds*: 21.
Puffinus (*Thyellodroma*) *bulleri* Salvin; Checklist Committee 1990, *Checklist Birds N.Z.*: 25.
Ardena bulleri (Salvin); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 18, 96.

Breeds on seven of the 12 Poor Knights Islands (including Tawhiti Rahi, Motu Kapiti, Aorangi and Archway; Harper 1983, Taylor & Parrish 1992). Nest found on Motu Purihi Island (Simmonds Islands) in 1990 (Parrish & Waddell 1991) and recorded prospecting at Manawatāwhi/Three Kings Islands (Harper & Imber 1985, Checklist Committee 1990). Live birds recorded ashore on Montague and Cabbage Tree Islands, New South Wales, Australia (Serventy *et al.* 1971, Priddel & Carlile 2004b). During the breeding season, ranges throughout New Zealand seas, reaching west to eastern Australia, east to the Chatham Islands and south to the Snares Islands/Tini Heke (Jenkins 1988, Tennyson & Taylor 1989, Freeman 1992, Imber 1994, Esler 2001, Miskelly *et al.* 2006). Migrates to the North Pacific, ranging from Japan to Alaska and California, with immatures reaching seas off the west coast of South America (Lovegrove 1978, Nakamura & Hasegawa 1979, Guzman & Myres 1983, Wahl 1985, Marchant & Higgins 1990, Kuroda 1991, Everett & Pitman 1993, Gould *et al.* 1998). Fossil and midden records from the North Island and Chatham Island (Bourne 1967, Millener 1991). A fossil from the South Island (Checklist Committee 1990, Millener 1991) is doubtful (Holdaway *et al.* 2001).

► *Puffinus carneipes* Gould

Flesh-footed Shearwater

- Puffinus carneipes* Gould, 1844 (January): *Ann. Mag. Nat. Hist., London* 13: 365 – seas bounding the western coast of Australia and breeding on islands off Cape Leeuwin, Western Australia (*vide* McAllan 2004, *Notornis* 51: 126).
Puffinus carnipes Gould; G.R. Gray 1844 (July); *Gen. Birds* 3: 647. Unjustified emendation.
Puffinus carbonaria G.R. Gray, 1844: *Gen. Birds* 3: 647 (ex Solander MS) – no locality = off Three Kings Islands (*vide* Mathews 1912, *Birds Australia* 2: 91).
Majaqueus carneipes (Gould); Reichenbach 1852, *Vollst. Naturg. Schwim. Aves Natatores*: pl. 14, fig. 2601.
Priofinus carneipes (Gould); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 769.
Nectris carneipes (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 201.
Puffinus carneipes Gould; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 234.
Puffinus carneipes hullivanus Mathews, 1912: *Birds Australia* 2: 90 – Norfolk Island, error for Lord Howe Island, Tasman Sea (*vide* Mathews & Iredale, 1921: *Man. Birds of Australia*: 29).
Puffinus carneipes hakodate Mathews, 1912: *Birds Australia* 2: 90 – seas off Japan.
Puffinus carneipes carbonarius Mathews, 1912: *Birds Australia* 2: 90 (ex Solander MS) – off Three Kings Islands. Junior primary homonym of *Puffinus carbonaria* G.R. Gray, 1844.
Nectris carbonaria Mathews, 1912: *Birds Australia* 2: 91 (ex Solander MS) – off Three Kings Islands. Junior secondary homonym of *Puffinus carbonaria* G.R. Gray, 1844.
Hemipuffinus carneipes carneipes (Gould); Mathews 1913, *List Birds Australia*: 34.
Hemipuffinus carneipes hullivanus (Mathews); Mathews 1913, *List Birds Australia*: 319.
Hemipuffinus carneipes (Gould); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.
Hemipuffinus carneipes hakodate (Mathews); Mathews & Iredale, 1921: *Man. Birds of Australia*: 29.
Hemipuffinus carneipes carbonarius (Mathews); Mathews & Iredale, 1921: *Man. Birds of Australia*: 29. Junior secondary homonym of *Puffinus carbonaria* G.R. Gray, 1844.

Puffinus carneipes zealandicus Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 76. Unnecessary *nomen novum* for *Puffinus carneipes carbonarius* Mathews, 1912.

Puffinus carneipes neozealandicus Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 93. Unnecessary *nomen novum* for *Puffinus carneipes zealandicus* Mathews, 1926.

Hemipuffinus carneipes neozealandicus (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 114.

Puffinus (Ardenna) carneipes Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 23.

Ardenna carneipes (Gould); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 18, 96.

Breeds on St Paul Island (Indian Ocean), on many islands off the south coast of Western Australia from Cape Hamelin to the Recherche Archipelago, Smith Island (South Australia) and Lord Howe Island (Marchant & Higgins 1990). In New Zealand breeds on islands off the North Island and in Cook Strait: Hen and Chickens Group (particularly Coppermine), Mercury Islands Group, Ohinau Island, The Aldermen, Karewa, East (Whangaokeno) and Kauwahaia Islands, Motumahanga (Saddleback) Island off New Plymouth, Trio (Kuru Pongi) and Titi Islands (Marchant & Higgins 1990, Taylor & Parrish 1991) and possibly on the Mokohinau Islands (Murphy 1930) and North Brother Island (Gaston & Scofield 1995). In New Zealand seas ranges mainly over the North Island continental shelf and slope but reaches south as far as Fiordland (Rowe & Rowe 2001), Foveaux Strait (Imber 1985a) and Banks Peninsula (Langlands 1994) and east to the Chatham Islands (e.g. Murphy 1930, Freeman 1992, Imber 1994). Vagrant at Norfolk Island (Marchant & Higgins 1990, McAllan 2000). Western populations migrate north-west to the Arabian Sea and Gulf of Oman and probably also into the Pacific (Marchant & Higgins 1990). Eastern (Lord Howe Island and New Zealand) birds migrate to the North Pacific, mainly to seas off Korea and Japan but also across to the west coast of North America (Hindwood 1945, Guzman & Myres 1983, Marchant & Higgins 1990, Kuroda 1991); vagrant in the south-east Pacific (Murphy 1930). Holocene fossil and midden records for North Island and Chatham Island dunes (Millener 1991).

► *Puffinus creatopus* Coues

Pink-footed Shearwater

Puffinus creatopus Coues, 1864: *Proc. Acad. Nat. Sci. Philad.*: 131 – San Nicolas Island, California., USA.

Puffinus (?) *melanoleucus* Philippi, 1902: *Anales Mus. Nac. Chile* 15: 93, pl. 41 – Corral, Chile. *Ardenna creatopa* [sic] (Coues); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.

Puffinus carneipes creatopus Coues; Bourne 1962, in Palmer, *Handb. North Amer. Birds*: 161.

Puffinus (Ardenna) creatopus Coues; Checklist Committee 1990, *Checklist Birds N.Z.*: 23.

Ardenna creatopus (Coues); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 18, 96.

Breeds on three Chilean islands: Isla Robinson Crusoe (= Masatierra Island) and Isla Santa Clara (both in the Juan Fernández Group), and on Mocha Island (Murphy 1936, BirdLife International 2000, Brooke 2004). Migrates to the eastern North Pacific, wandering as far as the Bering Sea, Hawai'i and Kiribati (Guzman & Myres 1983, Pitman 1986, Marchant & Higgins 1990, Kuroda 1991). Very rare in the south-west Pacific; one Australian record Mar. 1986 off New South Wales. Five New Zealand records: at least two birds outer Canterbury Bight, 7–9 Jun. 1979 (Tunncliffe 1982, 1984); singles off Kaikoura, 20 Jan. 1994 (Medway 2000a), 14 Dec. 1998, 27 Feb. 1999 (Medway 2001a) and 4 Jan. 2003 (Medway 2003b).

► ***Puffinus gravis* (O'Reilly)****Great Shearwater**

Procellaria Gravis O'Reilly, 1818: *Greenland Adjacent Seas North-west Passage*. 121, pl. 12, fig.

1 – seas off Cape Farewell and Staten Hook, Greenland, to Newfoundland, Canada.

Puffinus gravis (O'Reilly); Godman 1907, *Monograph Petrels 1*: 90, pl. 25.

Ardeanna gravis (O'Reilly); Mathews & Iredale 1915, *Ibis* 3 (10th ser.): 590.

Puffinus gravis (O'Reilly); Jenkins 1968, *Notornis* 15: 214.

Puffinus gravis (O'Reilly); Checklist Committee 1990, *Checklist Birds N.Z.*: 231.

Breeds on Inaccessible, Nightingale, Gough Islands and possibly still Tristan of the Tristan da Cunha Group; also a small colony on Kidney Island, Falkland Islands (Rowan 1952, Jouanin & Mougin 1979, Brooke 2004). Its at-sea range during the breeding season is mainly the South Atlantic Ocean and southwest Indian Ocean (Marchant & Higgins 1990). In the non-breeding season (Apr. to Sep.), migrates to the North Atlantic, reaching the Grand Banks, Western Europe and the Arctic Circle (Voous & Wattel 1963, Brown *et al.* 1975, Brown 1977, Jouanin & Mougin 1979, Powers 1983, Marchant & Higgins 1990). Non-breeders appear to disperse far south off eastern South America, with records west of the Strait of Magellan (Jouanin & Mougin 1979, Marchant & Higgins 1990). Rare straggler to Californian and Australian waters (Marchant & Higgins 1990). New Zealand sightings include five dubious records in 1967–68 (Jenkins 1968, Bourne 1971) and one confirmed record on 31 Dec. 2006, at sea east of Pitt Island, Chatham Islands (Scofield 2008).

► ***Puffinus griseus* (Gmelin)****Sooty Shearwater**

Procellaria grisea Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 564. Based on the “Grey Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 399 – between 35°S and 50°S = New Zealand (*vide* Mathews 1912, *Birds Australia* 2: 95).

Nectris fuliginosa Kuhl, 1820: *Beitr. Zool. vergl. Anat. 1*: 148 (ex Banks MS) – 48°27'S, 93°W. Junior secondary homonym of *Procellaria fuliginosa* Gmelin, 1789.

Daption griseum (Gmelin); Stephens 1826, in Shaw, *General Zool.* 13(1): 246.

Puffinus fuliginosus Strickland, 1832: *Proc. Zool. Soc. London 1832* (2): 129 – mouth of the Tees, England. Junior secondary homonym of *Procellaria fuliginosa* Gmelin, 1789.

Puffinus cinereus; Darwin 1841, *Zool. Beagle*, 3 *Birds*: 137. Not *Procellaria cinerea* Gmelin, 1789.

Procellaria tristis J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 205 – New Zealand.

Procellaria fuliginosa J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 205 – New Zealand. Junior primary homonym of *Procellaria fuliginosa* Gmelin, 1789 and of *Procellaria fuliginosa* J.R. Forster, 1844: 23 = *nomen dubium*.

Puffinus major; G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds 1*(3): 17. Not *Procellaria major* Faber, 1822.

Nectris fuliginosus (Strickland); Bonaparte 1857, *Consp. Gen. Avium 2*: 201. Not *Procellaria fuliginosa* Gmelin, 1789.

Nectris fuliginosus chilensis Bonaparte, 1857: *Consp. Gen. Avium 2*: 202 – Chile.

Nectris curilica Bonaparte, 1857: *Consp. Gen. Avium 2*: 202 – Chile.

Nectris gama Bonaparte, 1857: *Consp. Gen. Avium 2*: 202. Based on bird in A. Smith 1840, *Illust. Zool. South Africa, Aves 2*: pl. 56 – “Afr. m. et or. Cap. B. Spei. Madag. Pacif.”, restricted to “off Chile” (*vide* Checklist Committee 1990, *Checklist Birds N.Z.*: 26).

Puffinus tristis (J.R. Forster); G.R. Gray 1862, *Ibis 4*: 244.

Nectris amaurosoma Coues, 1864: *Proc. Acad. Nat. Sci. Philad.* 16: 124 – Cape St. Lucas, Lower California, USA.

Puffinus amaurosoma (Coues); G.R. Gray 1871, *Hand-list Birds 3*: 102.

- Puffinus (Puffinus) tristis* (J.R. Forster); G.R. Gray 1871, *Hand-list Birds* 3: 103.
- Puffinus stricklandi* Ridgway, 1884: in Baird, Brewer & Ridgway, *Mem. Mus. Comp. Zool.* 13: 390 – North Pacific Ocean.
- Puffinus griseus* (Gmelin); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 232.
- Puffinus (Nectris) fuliginosus* var. *chilensis*; Oustalet 1891, *Mission Scient. Cap Horn* 6 *Zoologie* (B): 162.
- Neonectris griseus griseus* (Gmelin); Mathews 1913, *List Birds Australia*: 34.
- Puffinus griseus griseus* (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 227.
- Neonectris griseus* (Gmelin); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.
- Neonectris griseus pescadorei* Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 602 – Pescadores Islands, Taiwan.
- Neonectris griseus missus* Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 603 – Kurile Islands, Pacific Ocean.
- Neonectris griseus nutteri* Mathews, 1916: *Austral Avian Rec.* 3: 54 – Bondi Beach, New South Wales, Australia.
- Puffinus griseus chilensis*; Oliver 1930, *New Zealand Birds*, 1st edition: 121.
- Puffinus (Neonectris) griseus* (Gmelin); Mathews 1934, *Ibis* 4 (13th ser.): 176.
- Paranectris griseus griseus* (Gmelin); Mathews 1934, *Novit. Zool.* 39(2): 184.
- Paranectris griseus chilensis* (Bonaparte); Mathews 1934, *Novit. Zool.* 39(2): 185.
- Paranectris griseus stricklandi* (Ridgway); Mathews 1934, *Novit. Zool.* 39(2): 185.
- Paranectris griseus*; Mathews 1936, *Emu* 36: 96.
- Puffinus (Puffinus) griseus* (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 26.
- Ardenna grisea* (Gmelin); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 18, 96.

Breeds on Chilean islands (near Chiloé, on Guafo, Guamblin, Ildefonso, Sesambre, Wollaston, Hermite and Diego Ramírez; Warham *et al.* 1982; Clark *et al.* 1984, 1992; Reyes-Arriagada *et al.* 2007), Kidney Island, Falkland Islands (Croxall *et al.* 1984), Tristan da Cunha (Ryan 2007) and c. 17 islands off Tasmania and New South Wales (Marchant & Higgins 1990). Also breeds at numerous coastal localities in the New Zealand region as follows. North Island: on Manawatāwhi/Three Kings, Motuopao, Cavalli, Poor Knights, Hen and Chickens, Mokohinau, Cuvier (Repanga), Mercury, The Aldermen, Whakaari/White, Moutuotau, Rurima, Moutuhora (Whale), East (Whangaokeno), Kauwahaia, Motumahanga (Saddleback), Kapiti and Mana Islands (Moors 1980, Harper 1983, Taylor & White 1990, Parrish *et al.* 1991, Taylor *et al.* 1991, Taylor 1992, Hamilton *et al.* 1997, Parrish & Lock 1997). South Island: in Golden Bay, on Stephens (Takapourewa), Motuanauru, Otuaereroa, Trio (Kuru Pongi), Titi, Motuara, Long (Marlborough Sounds), Glasgow, Seal (West Coast), Open Bay, Motunau (Canterbury), Island Bay (off Banks Peninsula) Islands and on several islands off Otago and Fiordland and in Foveaux Strait; also on several headlands at Banks Peninsula, Otago and the West Coast (Brown 1991; O'Donnell & West 1989, 1996; Challies & Langlands 1992; Langlands 1995; Hamilton *et al.* 1997; Gaze 2000; Pollock 2005). Further south, breeds on the Solander Islands, on Stewart Island/Rakiura and almost all adjacent islands, on Snares Islands/Tini Heke, Antipodes, Campbell/Motu Ihupuku, Auckland and Macquarie Islands; also on the Chatham Islands (Hamilton *et al.* 1997). Ranges south to antarctic regions to 67°S (Watson *et al.* 1971, Marchant & Higgins 1990). The majority of birds from New Zealand migrate to the North Pacific from about 35°N to the Bering Sea (Phillips 1963, Guzman & Myres 1983, Briggs & Chu 1986, Marchant & Higgins 1990, Kuroda 1991) but one has been tracked into the South Atlantic (Shaffer *et al.* 2007). Common, both as Late Pleistocene–Holocene

fossils and in middens, from North, South, Chatham and Auckland Islands (Millener 1991, Anderson 2005).

► ***Puffinus tenuirostris* (Temminck)**

Short-tailed Shearwater

Procellaria tenuirostris Temminck, 1836: *Nouv. Recueil Planch. Color. d'Oiseaux* 99: text to pl. 587 – seas north of Japan and shores of Korea.

Puffinus brevicaudus Gould, 1847: *Birds of Australia* 7: pl. 56 – islands of Bass Strait, Australia.

Puffinus brevicaudus (Brandt) [sic]; Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 769.

Nectris brevicaudus (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 201.

Nectris tenuirostris (Temminck); Bonaparte, 1857: *Consp. Gen. Avium* 2: 202.

Nectris curilica Bonaparte, 1857: *Consp. Gen. Avium* 2: 202 – Kamchatka, Russia.

Nectris brevicauda (Gould); Coues 1864, *Proc. Acad. Nat. Sci. Philad.* 16: 127. Unjustified emendation.

Puffinus brevicaudatus Brandt [sic]; Finsch 1870, *Journ. für Ornith.* 18: 371. Unjustified emendation.

Puffinus tenuirostris (Temminck); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 230.

Puffinus intermedius Hull, 1911: *Emu* 11: 98 – Cabbage Tree Island, New South Wales, Australia.

Puffinus tenuirostris brevicauda [sic] (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 228.

Neonectris tenuirostris tenuirostris (Temminck); Mathews 1913, *List Birds Australia*: 34.

Neonectris tenuirostris brevicaudus (Gould); Mathews 1913, *List Birds Australia*: 35.

Neonectris tenuirostris intermedius (Hull); Mathews 1913, *List Birds Australia*: 35.

Neonectris tenuirostris (Temminck); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.

Neonectris tenuirostris grantianus Hull, 1916: *Emu* 15: 206 – Ulladulla, New South Wales, Australia.

Neonectris tenuirostris hulli Mathews, 1916: *Bull. Brit. Ornith. Club* 36: 82 – Great Barrier Reef, Queensland, Australia.

Puffinus (*Puffinus*) *tenuirostris* (Temminck); Checklist Committee 1990, *Checklist Birds N.Z.*: 27.

Ardena tenuirostris (Temminck); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 18, 96.

Breeds on islands off southern Australia from Western Australia to New South Wales, on Bass Strait islands and on the coast of Tasmania and adjacent islands (Serventy *et al.* 1971, Naarding 1980, Marchant & Higgins 1990). Ranges south to the edge of the pack-ice (Naarding 1980, Kerry *et al.* 1983, Skira 1986, Nicholls *et al.* 1998). Migrates to the North Pacific, sometimes north of the Bering Strait; probably also a migrant to the North Indian Ocean (Guzman & Myres 1983, Lane 1983, Marchant & Higgins 1990, Kuroda 1991, Skira 1991). Often found along mainland New Zealand coasts from Oct. to Jan. and in May (Powlesland & Pickard 1992). Passage migrant to seas off Norfolk Island; straggler to Kermadec, Chatham, Campbell/Motu Ihupuku and Macquarie Islands (Marchant & Higgins 1990, Imber 1994). The year of Temminck's description of *Procellaria tenuirostris* was clarified by Dickinson (2001). Fossil and midden records from North, South and Chatham Islands (Scarlett 1976b, Millener 1991).

► ***Puffinus nativitatis* Streets**

Christmas Island Shearwater

Puffinus (*Nectris*) *nativitatis* Streets, 1877: *Bull. U.S. Nat. Mus.* 7: 29 – Christmas Island, Pacific Ocean.

Puffinus nativitatis Streets; Salvin 1896, *Cat. Birds Brit. Mus.* 25: 389.

Microzalias nativitatis (Streets); Mathews 1934, *Novit. Zool.* 39(2): 185.

Puffinus (Puffinus) nativitatis Streets; Checklist Committee 1990, *Checklist Birds N.Z.*: 27.

Breeds on Marshall, Johnston, Hawaiian, Phoenix, Line, Marquesas, Tuamotu, Samoan (possibly), Austral, Gambier, Oeno, Henderson, Ducie, Easter Islands and Isla Salas y Goméz (Pratt *et al.* 1987, Marchant & Higgins 1990, Taylor & Tennyson 1994). Not known to migrate but pelagic distribution poorly understood (Marchant & Higgins 1990). Two New Zealand records: one dead on Dargaville Beach, Feb. 1976 (Crockett 1977); one live on Curtis Island, Kermadec Islands, Nov. 1989 (Taylor & Tennyson 1994).

► ***Puffinus newelli* Henshaw**

Newell's Shearwater

Puffinus newelli Henshaw, 1900: *Auk* 17: 246 – Waihee Valley, Ulani [= Maui Island], Hawaiian Islands, Pacific Ocean.

Puffinus puffinus newelli Henshaw; Mathews 1934, *Novit. Zool.* 39(2): 179.

Puffinus auricularis newelli Henshaw; Jehl 1982, *Le Gerfaut* 72: 130.

Puffinus newelli Henshaw; Taylor 1996, *Notornis* 43: 188.

Breeds at the Hawaiian Group; thought to be migratory in the north-central Pacific Ocean (Jouanin & Mougin 1979, Pitman 1986). Two records for the New Zealand region: one dead on Dargaville Beach, 12 Nov. 1994 (Taylor 1996, Palma 1999); one ashore on Philip Island, Norfolk Island Group, 2 Dec. 1997 (Moore 1999).

► ***Puffinus puffinus* (Brünnich)**

Manx Shearwater

Procellaria Puffinus Brünnich, 1764: *Ornith. Borealis*: 29 – Faroe Islands and Norway.

Procellaria Anglorum Temminck, 1820: *Manuel d'Ornith.*, 2nd edition. 2: 806 – St Kilda, Scotland.

Puffinus arcticus Faber, 1822: *Prodromus Isländischen Ornith.*: 56. Unnecessary *nomen novum* for *Puffinus anglorum* Temminck, 1820.

Puffinus scotorum Partington, 1837: *British Cyclopaedia Nat. Hist.* 3: 429. Unnecessary *nomen novum* for *Puffinus anglorum* Temminck, 1820.

Puffinus anglorum (Temminck); Bonaparte 1857, *Consp. Gen. Avium* 2: 203.

Puffinus banksii Coues, 1864: *Proc. Acad. Nat. Sci. Philad.* 16: 125. Unnecessary *nomen novum* for *Puffinus anglorum* Temminck, 1820.

Puffinus puffinus bermudae Nichols & Mowbray, 1916: *Auk* 33: 195 – Bermuda, Atlantic Ocean.

Puffinus mcgalli Shufeldt, 1916: *Ibis* 4 (10th ser.): 630 – Bermuda, Atlantic Ocean.

Puffinus puffinus puffinus (Brünnich); Kinsky & Fowler 1973, *Notornis* 20: 14.

Puffinus (Puffinus) puffinus puffinus (Brünnich); Checklist Committee 1990, *Checklist Birds N.Z.*: 28.

Puffinus puffinus (Brünnich); Walker *et al.* 1990, *Historical Biology* 3: 220.

Breeds in the North Atlantic on islands off Newfoundland, Iceland, the British Isles and Brittany and on the Faeroes, Azores and Madeira Islands (Jouanin & Mougin 1979, Brooke 1990, Olson 2004). Migrates mainly to seas off Brazil and Argentina; reaches southern Africa and recorded in the eastern Pacific with increasing frequency; straggles to Australasia (Sinclair & Rose 1982, Brooke 1990, Marchant & Higgins 1990, Mlodinow 2004). Three New Zealand records (all beach-wrecked): Jun. 1972, Pukerua Bay (Kinsky & Fowler 1973); Jan. 1985, Waikanae Beach (Tennyson 1986); and Jul. 2002, Otaki Beach (NMNZ 27328). Considered monotypic, following Walker *et al.* (1990), del Hoyo *et al.* (1992), Sangster *et al.* (1999) and Sangster, Collinson *et al.* (2002).

► ***Puffinus gavia* (J.R. Forster)**

Fluttering Shearwater

Procellaria gavia J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 148 – Queen Charlotte Sound, Marlborough.

Aestrelata gavia (J.R. Forster); Coues 1866, *Proc. Acad. Nat. Sci. Philad.* 18: 154.

Puffinus ?obscurus; Hutton 1869, *Ibis* 5 (n. ser.): 352. Not *Procellaria obscura* Gmelin, 1788.

? *Puffinus opisthomelas*; Finsch 1870, *Journ. für Ornith.* 18: 371. Not *Puffinus opisthomelas* Coues, 1864.

Fulmarus (Cookilaria) gavia (J.R. Forster); G.R. Gray 1871, *Hand-list Birds* 3: 107.

Puffinus opisthomelas; Hutton 1872, *Ibis* 2 (3rd ser.): 84. Not *Puffinus opisthomelas* Coues, 1864.

Puffinus gavius (J.R. Forster); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 318. Unjustified emendation.

Puffinus gavia (J.R. Forster); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 236.

Puffinus obscurus; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 238. Not *Procellaria obscura* Gmelin, 1788.

Puffinus reinholdi reinholdi Mathews, 1912: *Birds Australia* 2: 47 (key), 74, pl. 74 – New Zealand and east Australian seas.

Reinholdia reinholdi byroni Mathews, 1913: *Austral Avian Rec.* 1: 187 – “Byron Bay”, New South Wales, error for Five Islands, New South Wales, Australia (*vide* Mathews 1916, *Bull. Brit. Ornith. Club* 36: 89).

Reinholdia reinholdi reinholdi (Mathews); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 225.

Puffinus assimilis gavia (J.R. Forster); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 226.

Reinholdia reinholdi (Mathews); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.

Cinathisma cyaneoleuca Hull, 1916: *Emu* 15: 205, pl. 32 – Ulladulla, New South Wales, Australia.

Reinholdia reinholdi melanotis Mathews, 1916: *Bull. Brit. Ornith. Club* 36: 89 – “Kaipara Beach, near Helensville, Waitemata County”, error for Muriwai Beach, near Helensville, Waitemata County (*vide* Checklist Committee 1990, *Checklist Birds N.Z.*: 28).

Reinholdia reinholdi montaguei Mathews, 1922: *Austral Avian Rec.* 5: 2 – New Caledonia.

Reinholdia gavia gavia (J.R. Forster); Mathews 1922, *Austral Avian Rec.* 5: 2.

Reinholdia gavia byroni Mathews; Mathews 1927, *Syst. Avium Australasianarum* 1: 112.

Reinholdia gavia montaguei Mathews; Mathews 1927, *Syst. Avium Australasianarum* 1: 112.

Puffinus gavia byroni (Mathews); Falla 1934, *Rec. Auck. Inst. Museum* 1: 252.

Puffinus gavia gavia (J.R. Forster); Checklist Committee 1953, *Checklist N.Z. Birds*: 21.

Puffinus (Puffinus) gavia (J.R. Forster); Checklist Committee 1990, *Checklist Birds N.Z.*: 28.

Breeds only on New Zealand offshore islands: Manawatāwhi/Three Kings, Motuopao, Wekarua, Motu Purihi (in the Simmonds Islands), Moturoa, Stephenson (Mahinepua), Cavalli, Poor Knights, Bream, Hen and Chickens, Mokohinau, Hauturu/Little Barrier (formerly), Lots Wife, Saddle and stack off Opakau (both off Great Barrier Island (Aotea Island)), Channel, Little Tiri, Maria, Horuhoru Rock (Gannet Rock), Mercury, The Aldermen, Slipper (Whakau), Motunau (Plate), Taumaihi, Rurima, Moutohora (Whale, formerly), East (Whangaokeno), Moturipa, Motuheka, Taranaki coast islands, Stephens (Takapourewa), Trio (Kuru Pongi), Chetwode and Titi Islands; also on islands in Queen Charlotte Sound and off the east coast of Marlborough (Falla 1934; Moors 1980; Medway 1994; Marchant & Higgins 1990; Taylor 1990; Taylor & Tennyson 1990; Brown 1991; Taylor & Parrish 1991, 1992; Powlesland & Pickard 1992; Owen 1994; Gaze 2000). Translocation has established a breeding population on Maud Island, Pelorus Sound (Bell *et al.* 2005). Ranges mainly over the continental shelf, as far south as South Canterbury in autumn and winter (Imber 1985b). Straggles as far south as Southland (e.g. Tennyson 1990b; Renner 1995, 2001; Wood 2004; Schofield

& Schofield 2006), the Chatham Islands (Imber 1994) and possibly Snares Islands/Tini Heke (Miskelly *et al.* 2001a). Immatures and non-breeders regular in eastern Australian seas (Marchant & Higgins 1990). Has straggled to Lord Howe (McAllan *et al.* 2004), New Caledonia and Vanuatu (Jouanin & Mougin 1979). Identified from numerous Late Pleistocene–Holocene fossil and midden sites in the North, South, Stewart/Rakiura and Chatham Islands but some bones may be remains of Scarlett’s or Hutton’s shearwaters, since the post-cranial bones of these species are difficult to distinguish (Millener 1991; Worthy 1997d, 1998a).

▶ †***Puffinus spelaeus*** Holdaway & Worthy **Scarlett’s Shearwater**

Puffinus spelaeus Holdaway & Worthy, 1994: *Emu* 94: 203 – Te Ana Titi, a cave on the Fox River, Westland.

Known from Holocene fossils from the South Island, mainly in the north-west (Holdaway & Worthy 1994, Holdaway *et al.* 2001).

▶ ***Puffinus huttoni*** Mathews **Hutton’s Shearwater**

Puffinus reinholdi huttoni Mathews, 1912: *Birds Australia* 2: 47 (key), 77 – “Snares Island”, possibly in error (*vide* Miskelly *et al.* 2001, *Notornis* 48: 33).

Reinholdia reinholdi huttoni (Mathews); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 226.

Reinholdia gavia huttoni (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 112.

Puffinus leptorhynchus Mathews, 1937: *Bull. Brit. Ornith. Club* 57: 143 – Bunbury, Western Australia.

Puffinus gavia huttoni Mathews; Checklist Committee 1953, *Checklist N.Z. Birds*: 21.

Puffinus huttoni Mathews; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 28.

Puffinus (Puffinus) huttoni Mathews; Checklist Committee 1990, *Checklist Birds N.Z.*: 28.

Breeds only in the Seaward Kaikoura Mountains between about 1200 m and 1800 m a.s.l.; visiting the colony between late Aug. and Apr. (Harrow 1976). Formerly bred also in the Inland Kaikoura Mountains (e.g. Sherley 1992). Ranges mainly east of the South Island and into Cook Strait (Falla 1965, Harrow 1976, Powlesland & Pickard 1992); reaching as far south as Stewart Island/Rakiura and possibly Snares Islands/Tini Heke (Petyt 1995, Miskelly *et al.* 2001a, Wood 2004), to South Westland (Miskelly 1990) and north-east to East Cape/Koromere (e.g. Foreman 1991, 1996, 2000, 2002). Sometimes beach-wrecked on northern New Zealand coastlines, especially during spring (e.g. 27 on western Waikato beaches in Oct. to Nov. 2000; Clifford 2000b; also see Powlesland & Pickard 1992). Some remain in New Zealand waters all year round (Harrow 1976) but many migrate to seas off north-west Australia and are present there throughout the non-breeding season (Falla 1965, Halse 1981, Warham 1981, Powlesland & Pickard 1992, Cheshire 1999), with some remaining off Western Australia during Sep. to Dec. (Halse 1981, Warham 1981, Palliser 1997, O’Connor 1999, Hobcroft 2000). A few occur off south-east Australia during the breeding season (e.g. Imber & Crockett 1970, Halse 1981, Clarke 2005, Carter 2006). Possible Late Pleistocene–Holocene fossil and midden records from several parts of New Zealand (e.g. Millener 1991, Worthy 1997d) should be treated with caution because of uncertain identification (see note under *P. gavia*).

▶ ***Puffinus assimilis*** Gould **Little Shearwater**

The number of subspecies is debated (e.g. Austin 1996, Holdaway *et al.* 2001, Austin *et al.* 2004). We follow the taxonomy of Austin *et al.* (2004), with the exception of

P. elegans which we regard as a separate species following Holdaway *et al.* (2001). Four subspecies recognised here: *P. a. assimilis* Gould, 1838 breeding at Lord Howe and Norfolk Islands; *P. a. tunneyi* Mathews, 1912 on islands off south-west Australia; *P. a. kermadecensis* Murphy, 1927 at the Kermadec Islands; *P. a. haurakiensis* Fleming & Serventy, 1943 off northern New Zealand. Three subspecies are known from the New Zealand region; all seem non-migratory (Marchant & Higgins 1990). Assignment to subspecies of fossil and midden material is tentative.

***Puffinus assimilis assimilis* Gould**

Norfolk Island Little Shearwater

Puffinus assimilis Gould, 1838: *Synop. Birds Australia 4, App.*: 7 – New South Wales, error for Norfolk Island (*vide* Mathews 1912, *Birds Australia* 2: 50).

Puffinus affinis [sic] Anonymous, 1840: *Penny Cyclopaedia* 18: 42. Error for “*Puffinus assimilis*”.

Nectris nugax G.R. Gray, 1844: *Gen. Birds* 3: 647 (ex Solander MS) – no locality = Australian seas (*vide* Mathews 1912, *Birds Australia* 2: 60).

Puffinus australis “Eyton” Gould, 1848: *Birds of Australia* 7: text to pl. 59 – no locality.

Puffinus nugax Bonaparte, 1857: *Consp. Gen. Avium* 2: 205 (ex Solander MS) – South Pacific Ocean, restricted to Australian seas (*vide* Mathews 1912, *Birds Australia* 2: 60). Junior secondary homonym of *Nectris nugax* G.R. Gray, 1844.

Procellaria nugax (Bonaparte); Schlegel 1863, *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 31.

Puffinus (*Puffinus*) *assimilis* Gould; G.R. Gray 1871, *Hand-list Birds* 3: 103. In part.

Puffinus assimilis howensis Mathews, 1915: *Austral Avian Rec.* 2: 125 – Lord Howe Island, Tasman Sea.

Alphapuffinus assimilis (Gould); Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 590.

Alphapuffinus assimilis assimilis (Gould); Mathews 1934, *Novit. Zool.* 39(2): 180.

Puffinus assimilis assimilis Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 22.

Puffinus (*Puffinus*) *assimilis assimilis* Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 30.

Puffinus assimilis; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 176.

Breeds at Lord Howe Island (McAllan *et al.* 2004) and Norfolk Island (Philip, Nepean, Bird Rocks, formerly main island; Fleming & Serventy 1943, Schodde *et al.* 1983). Straggles to New South Wales and the west coast of the North Island: three records from Muriwai Beach (26 Nov. 1937, 17 Jun. 1939 and 4 Nov. 1939; Fleming & Serventy 1943). Holocene fossil remains known from Norfolk and Nepean Islands (Meredith 1991).

***Puffinus assimilis kermadecensis* Murphy**

Kermadec Little Shearwater

Puffinus (*Puffinus*) *assimilis* Gould; G.R. Gray 1871, *Hand-list Birds* 3: 103. In part.

Puffinus assimilis; Godman 1908, *Monograph Petrels* 2: 133. Not *Puffinus assimilis* Gould, 1838.

Puffinus assimilis assimilis; Mathews 1912, *Birds Australia* 2: 69. Not *Puffinus assimilis* Gould, 1838.

Puffinus assimilis kermadecensis Murphy, 1927: *American Mus. Novit.* 276: 3 – Herald Islets, Kermadec Islands.

Alphapuffinus assimilis kermadecensis (Murphy); Mathews 1934, *Novit. Zool.* 39(2): 180.

Puffinus (*Puffinus*) *assimilis kermadecensis* Murphy; Checklist Committee 1990, *Checklist Birds N.Z.*: 30.

Puffinus kermadecensis Murphy; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 174.

Breeds on the Kermadec Islands (Herald Islets, Macauley, Curtis and Cheeseman Islands; possibly on Haszard Islet; formerly on Raoul Island; Veitch *et al.* 2004). Ranges to seas

off the west coast of the North Island (Imber 1985c). A reference to this subspecies occurring off the West Coast of South Island (Checklist Committee 1990) appears to be unsubstantiated.

***Puffinus assimilis haurakiensis* C.A. Fleming & Serventy**

North Island Little Shearwater

Puffinus assimilis; Reischek 1886, *Trans. Proc. N.Z. Inst.* 18: 95. Not *Puffinus assimilis* Gould, 1838.

Procellaria assimilis gavia; Mathews 1912, *Birds Australia* 2: 69. Not *Procellaria gavia* J.R. Forster, 1844.

Puffinus assimilis kemp; Oliver 1930, *New Zealand Birds*, 1st edition: 127. In part.

Puffinus assimilis haurakiensis C.A. Fleming & Serventy, 1943: *Emu* 43: 119 – Lizard Island, Mokohinau Islands.

Puffinus (Puffinus) assimilis haurakiensis C.A. Fleming & Serventy; Checklist Committee 1990, *Checklist Birds N.Z.*: 30.

Puffinus haurakiensis C.A. Fleming & Serventy; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 174.

Breeds on Manawatāwhi/Three Kings (Parrish 1997, 2000b), Moturoa (Checklist Committee 1990), Stephenson (Mahinepua), Cavalli, Poor Knights, Hen and Chickens, Mokohinau, Mercury, Ohena (Marchant & Higgins 1990), The Aldermen, Penguin and Rabbit Islands (Taylor 2000a). May have formerly bred on Hauturu/Little Barrier and Cuvier (Repanga) Islands (Fleming & Serventy 1943). Ranges as far south as Wellington (Oliver 1955, Checklist Committee 1970, Imber 1985c). Late Pleistocene–Holocene North Island fossil and midden records (Millener 1991, Holdaway *et al.* 2001) have been assumed to represent this subspecies (Checklist Committee 1990).

► ***Puffinus elegans* Giglioli & Salvadori**

Subantarctic Little Shearwater

Puffinus munda G.R. Gray, 1844: *Gen. Birds* 3: 647 (ex Solander MS) – no locality. Junior secondary homonym of *Procellaria munda* Kuhl, 1820.

Puffinus elegans Giglioli & Salvadori, 1869: *Ibis* 5 (n. ser.): 68 – South Atlantic Ocean, at 43°54'S, 9°20'E.

Puffinus assimilis; Hutton 1872, *Ibis* 2 (3rd ser.): 248. Not *Puffinus assimilis* Gould, 1837.

Nectris munda Salvin, 1876: in Rowley's *Ornith. Miscellany* 1: 236 (ex Solander MS) – 48°27'S, 93°00'W. Junior secondary homonym of *Procellaria munda* Kuhl, 1820.

Procellaria munda Salvin, 1876: in Rowley's *Ornith. Miscellany* 1: 237 (ex Solander MS) – 48°27'S, 93°00'W. Junior primary homonym of *Procellaria munda* Kuhl, 1820.

Nectris Munda Mathews, 1912: *Birds Australia* 2: 59 (ex Solander MS) – southern ocean. Junior secondary homonym of *Procellaria munda* Kuhl, 1820.

Puffinus assimilis kemp Mathews, 1912: *Birds Australia* 2: 69 – Chatham Islands.

Puffinus assimilis munda (Salvin); Mathews 1912, *Birds Australia* 2: 69. Not *Procellaria munda* Kuhl, 1820.

Puffinus assimilis elegans Giglioli & Salvadori; Mathews 1912, *Birds Australia* 22: 69.

Puffinus kuhliana Mathews, 1933: *Bull. Brit. Ornith. Club* 54: 25. Unnecessary *nomen novum* for *Nectris munda* Mathews, 1912.

Alphapuffinus assimilis kemp (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 180.

Alphapuffinus assimilis elegans (Giglioli & Salvadori); Mathews 1934, *Novit. Zool.* 39(2): 180.

Puffinus assimilis kuhliana Mathews; C.A. Fleming & Serventy 1943, *Emu* 43: 122.

Puffinus (Puffinus) assimilis elegans Giglioli & Salvadori; Checklist Committee 1990, *Checklist Birds N.Z.*: 31.

Puffinus elegans; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 127, 176.

Breeds on South Atlantic islands (Inaccessible, Nightingale, Tristan da Cunha?, Gough), St Paul (South Indian Ocean), Chatham Islands (Star Keys, Little Mangere) (Holdgate 1965, Marchant & Higgins 1990, Imber 1994, Ryan 2007) and Antipodes Islands (Bollons, Archway, Inner Windward; Tennyson *et al.* 2002); possibly breeds on the Solander Islands (Cooper *et al.* 1986). Ranges in subantarctic seas, reaching the southern South Island (Kinsky 1971; NMNZ 25587, 28686), Snares Islands/Tini Heke (Miskelly *et al.* 2001a), Bounty, Auckland (Imber 1983) and Campbell/Motu Ihupuku Islands (Kinsky 1971), and southern Chile (Jehl 1973, Imber 1983). Late Pleistocene–Holocene fossil and midden records from South, Stewart/Rakiura and Chatham Islands (e.g. Bourne 1967, Millener 1991), have been assumed to represent this species (Checklist Committee 1990), however, some of these fossils may be *P. assimilis* (Worthy 1998c). Accepted as a full species following Holdaway *et al.* (2001) and Onley & Scofield (2007).

Family HYDROBATIDAE Mathews: Storm Petrels

Hydrobatinae Mathews, 1913: *Birds Australia* 2: 9 – Type genus *Hydrobates* Boie, 1822.

The family name Hydrobatidae for storm petrels has been conserved (see Melville, R.V. 1985, ICZN 1992), over Oceanitidae Forbes, 1882 used by Checklist Committee (1990). We recognise two subfamilies (Hydrobatinae and Oceanitinae) following Olson (1985a), del Hoyo *et al.* (1992: 258) and Penhallurick & Wink (2004). The arrangement of species follows that of Jouanin & Mougín (1979).

Subfamily OCEANITINAE Salvin: Southern Storm Petrels

Oceanitinae Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 343, 358 – Type genus *Oceanites* Keyserling & Blasius, 1840.

Genus *Oceanites* Keyserling & Blasius

Oceanites Keyserling & Blasius, 1840: *Wirbelthiere Europa's*: xciii, 131, 238 – Type species (by subsequent designation) *Procellaria wilsoni* Bonaparte = *Oceanites oceanicus* (Kuhl).

Procellata Bianchi, 1913: *Faune Russie, Oiseaux* 1(2): 805 – Type species (by original designation) *Procellaria oceanica* Kuhl = *Oceanites oceanicus* (Kuhl).

The subgenera of *Oceanites* used by Checklist Committee (1990) are not followed here because we recognise no other subgenera in the Procellariiformes.

► *Oceanites oceanicus* (Kuhl)

Wilson's Storm Petrel

Procellaria oceanica Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 136, pl. 10, fig. 1 (ex Banks MS) – no locality = south Atlantic Ocean off the mouth of Rio de la Plata (*vide* Mathews 1912, *Birds Australia* 2: 13).

Procellaria wilsoni Bonaparte, 1824: *Journ. Acad. Nat. Sci. Philad.* 3(2): 231, pl. 9, fig. 2 – Newfoundland, Canada.

Thalassidroma wilsoni (Bonaparte); Audubon 1839, *Birds Amer.* 8: 106, pl. 460.

Thalassidroma oceanica (Kuhl); Schinz 1840, *European Fauna* 1: 397, pl. 1.

Oceanites wilsoni (Bonaparte); Bonaparte 1857, *Consp. Gen. Avium* 2: 199.

Oceanites oceanicus (Kuhl); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 358.

Oceanites oceanica (Kuhl); Hamilton 1909, *Hand-list Birds New Zealand*: 5.

Oceanites (*Oceanites*) *oceanicus* (Kuhl); Checklist Committee 1990, *Checklist Birds N.Z.*: 58.

Breeds on coasts and islands of Antarctica and on subantarctic archipelagoes as far north as the Crozet Islands (46°S); migrates to north of the equator in all oceans (Roberts 1940, Marchant & Higgins 1990). Two subspecies usually recognised—those breeding

north of the Antarctic Convergence are *O. o. oceanicus* and those breeding south of the convergence are *O. o. exasperatus* (Bretagnolle 1989, Marchant & Higgins 1990). A New Zealand fossil record, presumably CM Av23130 from Punakaiki (Checklist Committee 1990: 58), has been reidentified as probably being *Pealeornis maorianus* (Worthy 2000).

***Oceanites oceanicus oceanicus* (Kuhl)**

Wilson's Storm Petrel

Procellaria oceanica Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 136, pl. 10, fig. 1 (ex Banks MS) – no locality = south Atlantic Ocean off the mouth of Rio de la Plata (*vide* Mathews 1912, *Birds Australia* 2: 13).

Oceanites wilsoni oceanica (Kuhl); Bonaparte 1857, *Consp. Gen. Avium* 2: 199.

Oceanites oceanica (Kuhl); Coues 1875, *Bull. U.S. Nat. Mus.* 2: 30.

Oceanites oceanicus chilensis Alexander, 1928: *Birds of the Ocean*: 86. *Nomen nudum*.

Oceanites oceanicus chilensis Mathews, 1934: *Novit. Zool.* 39(2): 191 (ex Alexander 1928) – no locality.

Oceanites oceanicus oceanicus (Kuhl); Murphy 1936, *Ocean. Birds South America* 2: 748.

Oceanites oceanicus chilensis Murphy, 1936: *Ocean. Birds South America* 2: 754 – Wollaston Island, Tierra del Fuego, Chile. Junior primary homonym of *Oceanites oceanicus chilensis* Mathews, 1934.

Oceanites oceanicus parvus Falla, 1937: *BANZARE Reports, ser. B*, 2: 208 – Royal Sound, Kerguelen Island, south Indian Ocean.

Oceanites oceanicus wollastoni Mathews, 1937: *Emu* 37: 141. Unnecessary *nomen novum* for *Oceanites oceanicus chilensis* Murphy, 1936.

Oceanites oceanicus magellanicus Roberts, 1940: *British Graham Land Exped. 1934–37 Scientific Reports I*: 153 – Falkland Islands [sic]. Unnecessary *nomen novum* for *Oceanites oceanicus chilensis* Murphy, 1936.

Breeds on Tierra del Fuego, the Falkland Islands, South Georgia, Bouvetøya, Crozet, Kerguelen and Heard Islands; migratory northward (Jouanin & Mougouin 1979, Marchant & Higgins 1990). In the New Zealand region, one pair reported from Bishop Island, south of Macquarie Island (Baker *et al.* 2002, Garnett & Crowley 2002).

***Oceanites oceanicus exasperatus* Mathews**

Wilson's Storm Petrel

Oceanites oceanicus exasperatus Mathews, 1912: *Birds Australia* 2: 11, pl. 68 – New Zealand seas, restricted to islands south of New Zealand (*vide* Roberts 1940, *British Graham Land Exped. 1934–37 Scientific Reports I*: 150).

Oceanites oceanicus oceanicus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 29. Not *Procellaria oceanica* Kuhl, 1820.

Oceanites (Oceanites) oceanicus exasperatus Mathews; Checklist Committee 1990, *Checklist Birds N.Z.*: 58.

Breeds on coasts and islands of Antarctica and the Antarctic Peninsula, including many Ross Sea localities, Balleny and Scott Islands; migrates north of the equator (Huber 1971, Nakamura *et al.* 1983, Marchant & Higgins 1990). Mathews' type specimen is from New Zealand seas and most other New Zealand records are considered to be this subspecies (e.g. Falla *et al.* 1981, Checklist Committee 1990). Generally uncommon passage migrant past New Zealand; mainly seen Mar. to May, with exceptionally high numbers (hundreds) noted in Apr. 1990 and Mar. to Apr. 1999 (Petry 2001b).

Genus *Garrodia* Forbes

Garrodia Forbes, 1881: *Coll. Sci. Papers Garrod*: 521 (footnote) – Type species (by original designation) *Thalassidroma nereis* Gould = *Garrodia nereis* (Gould).

Garrodia is sometimes regarded as a junior synonym of *Oceanites* (e.g. Mathews 1912–13, 1948; Condon 1975; Olson 1985a; Checklist Committee 1990; Marchant & Higgins 1990; Garnett & Crowley 2002) but is recognised here pending a recommended comprehensive review of storm petrel genera (Holdaway *et al.* 2001).

► ***Garrodia nereis* (Gould)**

Grey-backed Storm Petrel

Thalassidroma Nereis Gould, 1841: *Proc. Zool. Soc. London 1840* (8): 178 – Bass Strait, Australia.

Procellaria nereis (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 196.

Procellaria (Procellaria) nereis (Gould); G.R. Gray 1871, *Hand-list Birds* 3: 104.

Thalassidroma nereis Gould; Hutton 1871, *Cat. Birds N.Z.*: 49.

Garrodia nereis (Gould); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 247.

Oceanites nereis nereis (Gould); Mathews 1912, *Birds Australia* 2: 15.

Procellaria saltatrix Mathews, 1912: *Birds Australia* 2: 16 (ex Solander MS) – 110 km southeast of Kaikoura.

Procellaria longipes Mathews, 1912: *Birds Australia* 2: 17 (ex Solander MS) – off New Zealand.

Oceanites nereis chubbi Mathews, 1912: *Birds Australia* 2: 18 – Falkland Islands, south Atlantic Ocean.

Oceanites nereis couesi Mathews, 1912: *Birds Australia* 2: 18 – Kerguelen Island, south Indian Ocean.

Garrodia nereis nereis (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 223.

Garrodia nereis chubbi (Mathews); Bennett 1926, *Ibis* 2 (12th ser.): 313.

Garrodia nereis (Gould); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 29.

Oceanites (Garrodia) nereis (Gould); Checklist Committee 1990, *Checklist Birds N.Z.*: 58.

A circumpolar, predominantly subantarctic, species breeding on Falkland, South Georgia, Gough, Prince Edward, Crozet, Kerguelen, Auckland, Campbell/Motu Ihupuku, Antipodes and Chatham Islands (Marchant & Higgins 1990, Barker *et al.* 2005) and probably on Macquarie Island (Rounsevell & Brothers 1984). Apparently fairly sedentary (Serventy *et al.* 1971, Watson *et al.* 1971, Imber 1981) but straggles to northern New Zealand seas (Jenkins & Croxall 1970, Watson *et al.* 1971, Langlands 1989, Marchant & Higgins 1990, Gaskin & Baird 2005, Miskelly 2006). Recorded as a Late Pleistocene–Holocene fossil from the North, South and Chatham Islands (Millener 1981a, 1991; Holdaway *et al.* 2001; Worthy, Holdaway *et al.* 2002).

Genus *Pelagodroma* Reichenbach

Pelagodroma Reichenbach, 1853: *Avium Syst. Nat.*: iv – Type species (by original designation)

Procellaria marina Latham = *Pelagodroma marina* (Latham).

Pelagodroma is occasionally regarded as a junior synonym of *Oceanites* (e.g. Mathews 1948, Olson 1985a). The Kermadec storm petrel, previously considered to be a subspecies of *Pelagodroma marina*, is here treated as a separate species, following the recommendation of Holdaway *et al.* (2001).

► ***Pelagodroma marina* (Latham)**

White-faced Storm Petrel

Procellaria Fregata Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 561. Based on “Frigate Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 410 – latitude 37°S = about mouth of the Rio de la Plata (*vide* Mathews 1936, *Emu* 36: 98). Junior primary homonym of *Procellaria fregata* Linnaeus, 1766.

Procellaria marina Latham, 1790: *Index Ornith.*: 826 (ex Solander MS). Based on “Frigate Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 410 – Southern Ocean = 35°S to 37°S, off the mouth of the Rio de la Plata (*vide* Murphy 1924, *Bull. Am. Mus. Nat. Hist.* 50: 233).

- Procellaria fregatta* Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 138 (ex Banks MS) – latitude 37°S.
- Procellaria fregata* J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 180 – Tahiti, French Polynesia, Pacific Ocean. Junior primary homonym of *Procellaria fregata* Linnaeus, 1766.
- Thalassidroma fregatta* (Kuhl); G.R. Gray 1844, *Gen. Birds* 3: 648. Unjustified emendation.
- Thalassidroma marina* (Kuhl) [sic]; G.R. Gray 1844, *Gen. Birds* 3: 648.
- Procellaria aequorea* G.R. Gray, 1844: *Gen. Birds* 3: 648 (ex Solander MS) – no locality.
- Thalassidroma marina* (Latham); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 17.
- Pelagodroma fregata*; Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 769. Not *Procellaria fregata* Linnaeus, 1766.
- Thalassidroma fregata*; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 321. Not *Procellaria fregata* Linnaeus, 1766.
- Pelagodroma marina* (Latham); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 362.
- Procellaria a'quorea* Mathews, 1912: *Birds Australia* 2: 23 (ex Solander MS) – 37°S off South America.

Widespread in temperate and subtropical parts of Atlantic, Indian and South Pacific Oceans, reaching subantarctic seas and migrating to tropical and subtropical waters (Marchant & Higgins 1990). Five subspecies recognised following Marchant & Higgins (1990) and Holdaway *et al.* (2001): *P. m. marina* (Latham, 1790) from Tristan da Cunha Group and Gough Islands; *P. m. hypoleuca* Moquin-Tandon, 1841 from Ilhas Selvagens and Canary Islands; *P. m. eadesi* Bourne, 1953 from Cape Verde Islands; and two locally occurring subspecies (Marchant & Higgins 1990, Brooke 2004).

***Pelagodroma marina dulciae* Mathews Australian White-faced Storm Petrel**

- Pelagodroma marina dulciae* Mathews, 1912: *Birds Australia* 2: 20 (key), 21 – Breaksea Island, off Albany, Western Australia.
- Pelagodroma marina howei* Mathews, 1912: *Birds Australia* 2: 26 – Mud Island, Port Phillip Bay, Victoria, Australia.
- Pelagodroma marina dulciae* Mathews; Checklist Committee 1990, *Checklist Birds N.Z.*: 59.

Breeds on Australian islands from Houtman Abrolhos, Western Australia, to Bass Strait and Tasmania, and to Broughton Islands, New South Wales (Serventy *et al.* 1971, Marchant & Higgins 1990, Baker *et al.* 2002). Migrates to the North Indian Ocean and Arabian Sea and probably to the south-west Pacific Ocean (Imber 1984b, Marchant & Higgins 1990). Straggles to northern New Zealand: Muriwai Beach, May 1983; and a few possible at-sea sightings near New Zealand (Imber 1984b, Marchant & Higgins 1990).

***Pelagodroma marina maoriana* Mathews New Zealand White-faced Storm Petrel**

- Procellaria (Pelagodroma) fregata*; G.R. Gray 1871, *Hand-list Birds* 3: 104. Not *Procellaria fregata* Linnaeus, 1766.
- Thalassidroma marina*; Hutton 1872, *Ibis* 2 (3rd ser.): 249. Not *Procellaria marina* Latham, 1790.
- Pelagodroma marina maoriana* Mathews, 1912: *Birds Australia* 2: 24 – Chatham Islands and Auckland Islands, restricted to Auckland Islands (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 224).
- Procellaria passerina* Mathews, 1912: *Birds Australia* 2: 24 (ex Solander MS) – Pacific Ocean, 29°10'S, 159°20'W.
- Pelagodroma marina passerina* (Mathews); Mathews 1934, *Novit. Zool.* 39(2): 193.

Breeds on many islands off the North Island: Motuopao (Pierce 1992), Moturoa, Cavalli, Poor Knights, Mokohinau, Mercury, The Noises, Horuhoru Rock (Gannet Rock), Cow, Motuokino (Shag Rock), The Aldermen, Motunau (Plate; Bay of Plenty), East (Whangaokeno) and Motumahanga (Saddleback; off New Plymouth) (Falla 1934, Marchant & Higgins 1990, Taylor 2000b). Further south, breeds on Sentinel Rock (Cook Strait), Motunau Island (Canterbury), the Otago coast, several islands around Stewart Island/Rakiura (Richdale 1943, Marchant & Higgins 1990, Taylor 2000b, Cuming 2003), the Chatham Islands (Bell & Bell 2003) and the Auckland Islands (Ewing Island and formerly on Enderby and the main Auckland Island; Murphy & Irving 1951, Taylor 2000b). Possibly breeds at Manawatāwhi/Three Kings (Marchant & Higgins 1990), Portland Island (Hawke's Bay; Foreman 2001) and Makaro/Ward Island (Wellington Harbour; Miskelly 2003a). Migrates to the eastern tropical Pacific Ocean, particularly between Ecuador and the Galápagos Islands (Imber 1984b, Pitman 1986, Marchant & Higgins 1990, Spear & Ainley 2007). Late Pleistocene–Holocene fossil and midden records from North, South, Stewart/Rakiura and Chatham Islands (Millener 1991, Worthy 1998c).

► ***Pelagodroma albiclunis* Murphy & Irving** **Kermadec Storm Petrel**

Pelagodroma marina albiclunis Murphy & Irving, 1951: *American Mus. Novit.* 1506: 15 – Sunday [= Raoul] Island, Kermadec Islands.

Pelagodroma albiclunis Murphy & Irving; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 174.

Breeding confirmed only on Haszard Island, Kermadec Islands (Baird & Imber 2006). Many records at sea around the Kermadec Islands and a few caught ashore on Macauley Island (Veitch *et al.* 2004, Baird & Imber 2006). Once seen off eastern Australia (4 birds; Jenkins 1982a) and one seen off Lord Howe Island (McAllan *et al.* 2004). Perhaps formerly bred in the Lord Howe and Norfolk Island Groups (based on Holocene fossil bones; Meredith 1985b, Holdaway *et al.* 2001, McAllan *et al.* 2004).

Genus *Pealeornis* Mathews

Pealeornis Mathews, 1932: *Bull. Brit. Ornith. Club* 52: 132 – Type species (by original designation) *Pealeornis maoriana* Mathews.

► ***Pealeornis maoriana* Mathews** **New Zealand Storm Petrel**

Oceanites lineata; Bonaparte 1857, *Consp. Gen. Avium* 2: 200. Not *Thalassidroma lineata* Peale, 1848.

Pealea lineata (Peale); Godman 1907, *Monograph Petrels* 1: 57, pl. 16. In part.

Fregetta lineata; Stidolph 1927, *Emu* 26: 214. Not *Thalassidroma lineata* Peale, 1848.

Fregetta lineata; Oliver 1930, *New Zealand Birds*, 1st edition: 100. In part.

Pealeornis maoriana Mathews, 1932: *Bull. Brit. Ornith. Club* 52: 132 – Banks Peninsula.

Cymodroma maoriana (Mathews); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 157.

Oceanites oceanicus (Kuhl); Murphy & Snyder 1952, *American Mus. Novit.* 1596: 12. In part.

Oceanites oceanicus exasperatus; Checklist Committee 1953, *Checklist N.Z. Birds*: 26. In part.

Oceanites maorianus; Oliver 1955, *New Zealand Birds*, 2nd edition: 100.

Oceanites oceanicus maorianus (Mathews); Marchant & Higgins 1990, *HANZAB* 1: 675.

Pealeornis maoriana; Scofield 2007, *Southern Bird* 30: 14.

Three museum specimens collected at sea off the east coast of New Zealand: two off East Cape (probably in Feb. 1827) and one off Banks Peninsula (19th Century; Bourne *et al.*, 2004 Medway 2004a). Not subsequently recorded until many sightings at sea off

north-east New Zealand, from 25 Jan. 2003, which were apparently this species (e.g. Flood 2003, Stephenson & Saville 2003, Bourne & Jouanin 2004, Flood *et al.* 2004, Stephenson 2004, Gaskin & Baird 2005, Rare Birds Committee 2005, Scofield 2007). Breeding grounds unknown. Late Pleistocene–Holocene fossil material, from the South Island West Coast and two North Island sites (near Gisborne and Martinborough), has been tentatively referred to this species (Worthy 2000, Holdaway *et al.* 2001).

Genus *Fregetta* Bonaparte

- Fregetta* Bonaparte, 1855: *Compt. Rend. Séa. Acad. Sci., Paris* 41: 1113 – Type species (by original designation) *Thalassidroma leucogaster* Gould = *Fregetta grallaria leucogaster* (Gould).
Cynodroma Ridgway, 1884: *Mem. Mus. Comp. Zool.* 13: 363, 418 – Type species (by monotypy) *Procellaria grallaria* Vieillot = *Fregetta grallaria* (Vieillot).
Pealea Ridgway, 1886: *Auk* 3: 334 – Type species (by original designation) *Thalassidroma lineata* Peale = *Fregetta tropica* (Gould).
Fregettornis Mathews, 1912: *Birds Australia* 2: 31 – Type species (by original designation) *Procellaria grallaria* Vieillot = *Fregetta grallaria* (Vieillot).
Fregodroma Mathews, 1937: *Bull. Brit. Ornith. Club* 57: 145 – Type species (by original designation) *Thalassidroma tropica* Gould = *Fregetta tropica* (Gould).
Fregolla Mathews, 1937: *Emu* 37: 142 – Type species (by original designation) *Fregetta melanoleuca* Salvadori = *Fregetta tropica* (Gould). As subgenus of *Fregodroma*.
Fregandria Mathews, 1938: *Bull. Brit. Ornith. Club* 59: 10. Unnecessary *nomen novum* for *Fregolla* Mathews, 1937.

► *Fregetta tropica* (Gould)

Black-bellied Storm Petrel

- Thalassidroma tropica* Gould, 1844: *Ann. Mag. Nat. Hist., London* 13: 366 – equatorial regions of Atlantic Ocean = 6°33'N, 16°06'W (*vide* Murphy & Snyder 1952, *American Mus. Novit.* 1596: 9).
Thalassidroma melanogaster Gould, 1844: *Ann. Mag. Nat. Hist., London* 13: 367 – off St Paul and Amsterdam Islands, Indian Ocean.
Thalassidroma lineata Peale, 1848: *U.S. Expl. Exped.* 8: 293 – Upolu, Samoa, ? (*vide* Murphy & Snyder 1952, *American Mus. Novit.* 1596: 9) = ? Drake Strait or Bellingshausen Sea, Antarctica (*vide* Jouin & Mougouin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 108).
Fregetta melanogastra (Gould); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 769. Unjustified emendation.
Fregetta tropica (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 197.
Thalassidroma (*Fregetta*) *melanogaster* Gould; G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 56.
Thalassidroma (*Fregetta*) *tropica* Gould; G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 56.
Procellaria melanogastra (Gould); Schlegel, 1863: *Mus. Hist. Nat. Pays-Bas, Procellariae* 4: 6. Unjustified emendation.
Oceanites lineata (Peale); Coues 1864, *Proc. Acad. Nat. Sci. Philad.* 16: 83, 91.
Thalassidroma melanogastra (Gould); Finsch 1870, *Journ. für Ornith.* 18: 370. Unjustified emendation.
Procellaria (*Oceanites*) *lineata* (Peale); G.R. Gray 1871, *Hand-list Birds* 3: 104.
Procellaria (*Pelagodroma*) *melanogaster* (Gould); G.R. Gray 1871, *Hand-list Birds* 3: 105.
Oceanitis [sic] *tropica* (Gould); Sharpe 1879, *Phil. Trans. Roy. Soc. London* 168: 130.
Oceanites melanogastra; Pagenstecher, 1885: *Jahrbuch Wiss. Hamburg* 2: 18. Unjustified emendation.
Fregetta melanogaster (Gould); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 249.
Pealea lineata (Peale); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 364.

- Cymodroma melanogaster* (Gould); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 364.
Pealea lineata (Peale); Godman 1907, *Monograph Petrels* 1: 57, pl. 16. In part.
Fregatta melanoleuca Salvadori, 1908: *Bull. Brit. Ornith. Club* 21: 79 – Tristan da Cunha, restricted to Gough Island, south Atlantic Ocean (*vide* Bourne 1962, in Palmer (ed.) *Handb. North Amer. Birds* 1: 252).
Fregatta tubulata Mathews, 1912: *Birds Australia* 2: 42 (ex Gould 1844) – near the coast of Australia.
Fregatta tropica melanogaster (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 224.
Fregatta tropica australis Mathews, 1914: *Austral Avian Rec.* 2: 86 – New Zealand.
Fregatta fregata; Mathews 1933, *Novit. Zool.* 39(2): 37. Not *Procellaria fregata* Linnaeus, 1766.
Fregatta tropica australia [sic] Mathews; Mathews 1933, *Novit. Zool.* 39(2): 40.
Fregattornis melanoleuca; Mathews 1933, *Novit. Zool.* 39(2): 47.
Fregatta leucothysanus Mathews, 1937: *Bull. Brit. Ornith. Club* 57: 146 – South Indian Ocean, 37°30'S, 42°E.
Fregodroma deceptis leucothysanus; Mathews 1937, *Emu* 37: 141.
Fregodroma tropica; Mathews 1937, *Emu* 37: 141.
Fregodroma tropica melanogaster; Mathews 1937, *Emu* 37: 142.
Fregodroma tropica australis; Mathews 1937, *Emu* 37: 142.
Fregolla melanoleuca (Salvadori); Mathews 1937, *Emu* 37: 142.
Cymodroma tropica (Gould); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 157.
Cymodroma lineata (Peale); Mathews 1948, *Bull. Brit. Ornith. Club* 68: 157.
Fregatta tropica (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 26.
Fregatta tropica tropica (Gould); Jouanin & Mouglin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 108.
Fregatta tropica melanoleuca Salvadori; Jouanin & Mouglin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 108.

Breeds on South Shetland, South Orkney and South Sandwich Islands, South Georgia, Gough?, Bouvetøya?, Prince Edward, Marion, Crozet, Kerguelen, Heard, Auckland and Antipodes Islands (Beck & Brown 1971, Marchant & Higgins 1990, Convey *et al.* 1999, Brooke 2004). Range circumpolar in subantarctic and antarctic seas; migrates to the tropics in all oceans, including the south-west Pacific Ocean north of New Zealand (Watson *et al.* 1971, Lovegrove 1978, Marchant & Higgins 1990). In New Zealand seas, common in the subantarctic but rarer further north; locally breeding populations probably migrating to the Coral Sea in winter (Marchant & Higgins 1990; Petyt 1995, 2001b; Gaskin & Baird 2005). Recorded as a Holocene fossil from the Chatham Islands (Millener 1991).

► *Fregatta grallaria* (Vieillot)

White-bellied Storm Petrel

- Procellaria grallaria* Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 25: 418 – “Nouvelle-Hollande” = Australia.
Procellaria aquerea Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 138 (ex Banks MS) – 37°S.
Cymodroma grallaria (Vieillot); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 366.
Fregattornis grallarius (Vieillot); Mathews 1913, *List Birds Australia*: 32.
Fregatta lineata; Murphy 1924, *American Mus. Novit.* 124: 7. Not *Thalassidroma lineata* Peale, 1848.
Fregattornis guttata Mathews, 1933: *Novit. Zool.* 39(2): 44 (key), 46 – Huapu Island, Marquesas Islands.
Fregattornis grallaria aquerea (Kuhl); Mathews 1936, *Emu* 36: 98.
Fregatta grallaria Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 30.

A widespread but uncommon subtropical breeding species. Four subspecies: *F. g. grallaria* (Vieillot, 1817) breeds on Lord Howe and the Kermadec Islands; *F. g. leucogaster* (Gould, 1844) on Nightingale, Inaccessible and Gough Islands in the South Atlantic and Roche Quille (off St Paul Island) in the Indian Ocean; *F. g. segethi* (Philippi & Landbeck, 1860) on Santa Clara and Morro Vinillo, Juan Fernández Islands, and possibly on San Ambrosio, Chile; *F. g. titan* Murphy, 1928 on islets off Rapa (Jouanin & Mougin 1979, Thibault & Varney 1991, Brooke 2004). Apparently disperses northward into the tropics after breeding (Jouanin & Mougin 1979, Marchant & Higgins 1990).

***Fregetta grallaria grallaria* (Vieillot)**

White-bellied Storm Petrel

Procellaria grallaria Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 25: 418 – “Nouvelle-Hollande” = Australia.

Fregetta grallaria (Vieillot); Bonaparte 1857, *Cons. Gen. Avium* 2: 197. In part.

Procellaria (Pelagodroma) grallaria Vieillot; G.R. Gray 1871, *Hand-list Birds* 3: 104.

Fregettornis royanus Mathews, 1914: *Austral Avian Rec.* 2: 86 – Lord Howe Island, Tasman Sea.

Fregettornis insularis Mathews, 1915: *Austral Avian Rec.* 2: 124 – Lord Howe Island, Tasman Sea.

Fregettornis alisteri Mathews, 1915: *Austral Avian Rec.* 2: 124 – Lord Howe Island, Tasman Sea.

Fregettornis innominatus Mathews, 1915: *Austral Avian Rec.* 2: 124 – Lord Howe Island, Tasman Sea.

Cymodroma grallaria insularis (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 110.

Cymodroma royana (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 110.

Cymodroma howensis Mathews, 1928: *Birds Norfolk & Lord Howe Islands*: 11 – Lord Howe Island, Tasman Sea.

Fregetta leucogaster deceptis Mathews, 1932: *Bull. Brit. Ornith. Club* 52: 146 – New Zealand.

Fregettornis grallaria innominatus Mathews; Mathews 1933, *Novit. Zool.* 39(2): 44.

Fregettornis royana [sic] Mathews; Mathews 1933, *Novit. Zool.* 39(2): 48.

Fregettornis grallaria royana [sic] Mathews; Mathews 1934, *Novit. Zool.* 39(2): 195.

Fregodroma deceptis deceptis; Mathews 1937, *Emu* 37: 141.

Fregetta grallaria (Vieillot) subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 26.

Fregetta grallaria grallaria (Vieillot); Checklist Committee 1990, *Checklist Birds N.Z.*: 62.

Breeds on the Kermadec Islands (Macauley and Curtis; Veitch *et al.* 2004) and extralimally on Lord Howe (Baker *et al.* 2002, McAllan *et al.* 2004). At sea, generally ranges to the north and east of its breeding grounds, including into the eastern tropical Pacific Ocean (Spear & Ainley 2007). Apart from records from the Kermadec Islands, very few records from the New Zealand region: “off New Zealand” (Mathews 1933); Nov. 1969, two off Farewell Spit; Dec. 1969, off the Poor Knights Islands (Jenkins & Croxall 1970); Jul. 1975, Waikawa Beach; Apr. 1978, Ninety Mile Beach; May 1985, Piha Beach (Powlesland 1987); and Jan. 1991, at sea between Hauturu/Little Barrier and Great Barrier (Aotea) Islands (Guest 1992). The Jun. 1987 Hampden Beach record (Powlesland 1989b, Checklist Committee 1990) was a misidentification (Darby & Schweigman 1993), as was the Mar. 1990 Christchurch city specimen (Shand 1992), which is *Oceanites o. exasperatus* (CM Av29600). Given the recent rediscovery of *Pealeornis maoriana*, other records should be treated with caution also. Holocene fossils recorded on Nepean Island, Norfolk Island Group (Meredith 1985b).

Subfamily HYDROBATINAE Mathews: Northern Storm Petrels

Hydrobatinae Mathews, 1913: *Birds Australia* 2: 9 – Type genus *Hydrobates* Boie, 1822.

Genus *Oceanodroma* Reichenbach

Oceanodroma Reichenbach, 1853: *Avium Syst. Nat.*: iv – Type species (by original designation)

Procellaria furcata Gmelin = *Oceanodroma furcata* (Gmelin).

Cymochorea Coues, 1864: *Proc. Acad. Nat. Sci. Philad.* 16: 75 – Type species (by original designation) *Procellaria leucorhoa* Vieillot = *Oceanodroma leucorhoa* (Vieillot).

Pacificodroma Bianchi, 1913: *Faune Russie, Oiseaux* 1(2): 516, 559 – Type species (by original designation) *Thalassidroma monorhis* Swinhoe = *Oceanodroma monorhis* (Swinhoe).

Bannermania Mathews & Iredale, 1915: *Ibis* 3 (10th ser.): 578 – Type species (by monotypy)

Thalassidroma hornbyi G.R. Gray = *Oceanodroma hornbyi* (G.R. Gray).

Tethysia Mathews, 1933: *Bull. Brit. Ornith. Club* 53: 154 – Type species (by original designation)

Procellaria tethys Bonaparte = *Oceanodroma tethys* (Bonaparte).

Loomelania Mathews, 1934: *Bull. Brit. Ornith. Club* 54: 119 – Type species (by original designation)

Procellaria melania Bonaparte = *Oceanodroma melania* (Bonaparte).

Thalobata Mathews, 1943: in Mathews & Hallstrom, *Notes Procellariiformes*: 27 – Type species (by original designation) *Thalassidroma castro* Harcourt = *Oceanodroma castro* (Harcourt). As a subgenus of *Cymochorea*.

Stonowa Mathews, 1943: in Mathews & Hallstrom, *Notes Procellariiformes*: 27 – Type species

(by original designation) *Cymochorea oustoni* Mathews & Iredale = *Oceanodroma tristrami* Salvin. As a subgenus of *Cymochorea*.

Bianchoma Mathews, 1943: in Mathews & Hallstrom, *Notes Procellariiformes*: 29 – Type species

(by original designation) *Cymochorea matsudairae* (Kuroda) = *Oceanodroma matsudairae* Kuroda. As a subgenus of *Cymochorea*.

Oceanodroma is occasionally regarded as a junior synonym of *Hydrobates* Boie, 1822 (e.g. Mathews 1948).

▶ *Oceanodroma leucorhoa* (Vieillot)

Leach's Storm Petrel

Breeds on islands in the North Pacific and North Atlantic Oceans; migrates to the tropics and subtropics after breeding (Marchant & Higgins 1990). Four subspecies recognised by most recent reviewers (e.g. Power & Ainley 1986, Carboneras 1992a, Brooke 2004): *O. l. leucorhoa* (Vieillot, 1818) breeding widely in the North Atlantic and North Pacific; *O. l. chapmani* Berlepsch, 1906 breeding on the San Benitos and Los Coronados Islands (Baja California); *O. l. socorroensis* Townsend, 1890 breeding on Guadalupe Islands (Baja California) in summer; *O. l. cheimomnestes* Ainley, 1980 breeding on Guadalupe Islands in winter.

Oceanodroma leucorhoa leucorhoa (Vieillot)

Leach's Storm Petrel

Procellaria leucorhoa Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 25: 422 – maritime shores of Picardy, France.

Procellaria leachii Temminck, 1820: *Manuel d'Ornith.*, 2nd edition. 2: 812 – St Kilda, Scotland.

Procellaria Bullockii J.D.D. Fleming, 1828: *Hist. Brit. Anim.*: 136. Unnecessary *nomen novum* for *Procellaria leachii* Temminck, 1820.

Thalassidroma leachii (Temminck); Holböll 1843, *Naturhist. Tidskr.* 4: 430.

Thalassidroma Leachii (Temminck); G.R. Gray 1844, *Gen. Birds* 3: 648.

Oceanodroma leucorhoa (Vieillot); Salvin 1896, *Cat. Birds Brit. Mus.* 25: 348. Unjustified emendation.

- Oceanodroma leucorhoa* (Vieillot); Murphy 1915, *Auk* 32: 170.
Cymochorea leucorhoa leucorhoa (Vieillot); Mathews 1934, *Novit. Zool.* 39(2): 186.
Cymochorea leucorhoa (Vieillot); Mathews 1936, *Suppl. Birds Norfolk & Lord Howe Islands*: 91.
Cymochorea leucorhoa muriwai Mathews & Hallstrom, 1943: *Notes Procellariiformes*: 30 – Muriwai Beach.
Cymochorea leucorhoa kaedingi; Mathews 1944, *Emu* 43: 243. Not *Oceanodroma kaedingi* Anthony, 1898.
Oceanodroma leucorhoa leucorhoa (Vieillot); Checklist Committee 1953, *Checklist N.Z. Birds*: 25.

Breeds on islands between 30°N and 70°N in the North Pacific and North Atlantic Oceans (Carboneras 1992a, Brooke 2004). After breeding, migrates mainly to the tropics and subtropics, where non-breeders are present all year (Marchant & Higgins 1990). Rare straggler to New Zealand: Aug. 1922, Muriwai Beach (Falla 1933, Oliver 1955); Apr. 1978, Hauraki Plains; Aug. 1978, Dargaville Beach (Veitch 1980); Nov. 1980, Rabbit Island, Chatham Islands (two prospecting for nest sites; Imber & Lovegrove 1982); Oct. 1998, Ninety Mile Beach (Taylor 2004). The supposed Dec. 1983 Chatham Islands record (Checklist Committee 1990, Marchant & Higgins 1990) was a misidentification (Imber 1994).

Family PELECANOIDIDAE G.R. Gray: Diving Petrels

Pelecanoidinae G.R. Gray, 1871: *Hand-list Birds* 3: x, 102 – Type genus *Pelecanoides* Lacépède, 1799.

Genus *Pelecanoides* Lacépède

- Pelecanoides* Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 13 – Type species (by monotypy) *Procellaria urinatrix* Gmelin = *Pelecanoides urinatrix* (Gmelin).
Haladroma Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 274 – Type species (by monotypy) *Procellaria urinatrix* Gmelin = *Pelecanoides urinatrix* (Gmelin).
Onocralus Rafinesque, 1815: *Analyse de la Nature*: 72. Unnecessary *nomen novum* for *Pelecanoides* Lacépède, 1799.
Halodroma Cuvier, 1817: *Règne Anim.* 1: 516. Unjustified emendation.
Puffinuria Lesson, 1828: *Manuel d'Ornith.* 2: 394 – Type species (by monotypy) *Puffinuria Garnotii* Lesson = *Pelecanoides garnotii* (Lesson).
Porthmornis Murphy & Harper, 1921: *Bull. Am. Mus. Nat. Hist.* 44: 502, 513 – Type species (by monotypy) *Puffinuria garnotii magellani* Mathews = *Pelecanoides magellani* (Mathews). As a subgenus of *Pelecanoides*.
Pelagodyptes Murphy & Harper, 1921: *Bull. Am. Mus. Nat. Hist.* 44: 502, 519 – Type species (by monotypy) *Pelecanoides georgicus* Murphy & Harper. As a subgenus of *Pelecanoides*.

► *Pelecanoides urinatrix* (Gmelin)

Common Diving Petrel

Circumpolar, breeding on islands between 34°S and 55°S and ranging mainly in adjacent seas (Jouanin & Mougin 1979). Six subspecies: *P. u. urinatrix* (Gmelin, 1789) in Australia and northern New Zealand; *P. u. berard* (Gaimard, 1823) at the Falkland Islands; *P. u. exsul* Salvin, 1896 in the subantarctic; *P. u. dacunhae* Nicoll, 1906 at Tristan da Cunha and Gough Islands; *P. u. coppingeri* Mathews, 1912 in southern Chile; *P. u. chathamensis* Murphy & Harper, 1916 in southern New Zealand and the Chatham Islands (Jouanin & Mougin 1979). This species (uncertain subspecies) formerly bred on Amsterdam Island (Worthy & Jouventin 1999). Three subspecies occur in the New Zealand region.

Pelecanoides urinatrix urinatrix* (Gmelin)*Northern Diving Petrel**

Procellaria urinatrix Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 560. Based on “Diving Petrel” of Latham 1785, *Gen. Synop. Birds* 3(2): 413 – Queen Charlotte Sound, Marlborough.

Procellaria tridactylae Kuhl, 1820: *Beitr. Zool. vergl. Anat.* 1: 145 – Queen Charlotte Sound, Marlborough.

Procellaria tridactyla J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 149 – Queen Charlotte Sound, Marlborough. Junior primary homonym and synonym of *Procellaria tridactylae* Kuhl, 1820.

Puffinuria Urinatrix (Gmelin); Gould 1844, *Ann. Mag. Nat. Hist.*, London 13: 366.

Halodroma urinatrix (Gmelin); Le Maout 1855, *Hist. Nat. Oiseaux*: 387.

Haladroma urinatrix (Gmelin); Finsch 1870, *Journ. für Ornith.* 18: 371.

Pelecanoides urinatrix (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 102. In part.

Pelecanoides urinatrix belcheri Mathews, 1912: *Austral Avian Rec.* 1: 84 – Australian seas, restricted to Victoria, Australia (*vide* Mathews 1934, *Novit. Zool.* 39(2): 196).

Pelecanoides urinatrix urinatrix (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 237.

Pelecanoides urinator urinator (Gmelin); Jouanin & Mougouin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 120. Unjustified emendation.

Pelecanoides urinatrix urinatrix (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 32. In part.

Breeds on Australian islands off Victoria, Tasmania and in Bass Strait and on many islands off New Zealand: from Manawatāwhi/Three Kings Islands to the Bay of Plenty and Taranaki, in Cook Strait and off the Marlborough Sounds (Marchant & Higgins 1990). Ranges in adjacent seas, mainly in coastal waters (Marchant & Higgins 1990). Abundant in Late Pleistocene–Holocene fossil and midden deposits: North and South Islands (Millener 1991). One specimen and possible Holocene fossil records from the Chatham Islands (Bourne 1968). The common name “northern” is reinstated following Checklist Committee (1970).

Pelecanoides urinatrix chathamensis* Murphy & Harper*Southern Diving Petrel**

Halodroma berardi [sic] (Quoy & Gaymard) [sic]; Hutton 1872, *Ibis* 2 (3rd ser.): 248. Not *Procellaria Berard* Gaimard, 1823.

Halodroma urinatrix; Hutton 1872, *Ibis* 2 (3rd ser.): 248. Not *Procellaria urinatrix* Gmelin, 1789.

Pelecanoides berardi [sic] (Quoy & Gaymard) [sic]; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 314. Not *Procellaria Berard* Gaimard, 1823.

Pelecanoides urinatrix chathamensis Murphy & Harper, 1916: *Bull. Am. Mus. Nat. Hist.* 35: 65 – Chatham Islands.

Pelecanoides chathamensis; Falla, Sibson & Turbott 1966, *Field Guide Birds of N.Z.*: 58.

Pelecanoides urinator chathamensis Murphy & Harper; Jouanin & Mougouin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 120. Unjustified emendation.

Pelecanoides urinatrix urinatrix (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 32. In part.

Breeds off the southern South Island and Stewart Island/Rakiura, including Codfish (Whenuahou) and Solander Islands, and on Snares Islands/Tini Heke (Marchant & Higgins 1990, Miskelly *et al.* 2001a) and Chatham Islands (now probably extinct on Chatham, Pitt and Mangere Islands; Imber 1994, Tennyson & Millener 1994). Murphy & Harper (1921) considered both *P. u. chathamensis* and *P. u. exsul* to occur at the Auckland Islands, but this requires clarification because generally only *P. u. exsul* is considered to nest there. Ranges mainly in adjacent coastal waters (e.g. Richdale 1965,

Imber 1994, Miskelly *et al.* 2001a). Abundant in Holocene fossil and midden deposits on the Chatham Islands (e.g. Bourne 1964, Millener 1991, Tennyson & Millener 1994, Worthy 1998e); also present as Holocene fossils on Stewart Island/Rakiura (Worthy 1998e) and possibly in Late Pleistocene–Holocene deposits in the southern South Island (e.g. Worthy 1998a,b). This subspecies is reinstated following the recommendations of Worthy (1998e; see comments in Holdaway *et al.* 2001).

***Pelecanoides urinatrix exsul* Salvin**

Subantarctic Diving Petrel

Pelecanoides urinatrix (Gmelin); G.R. Gray 1871, *Hand-list Birds* 3: 102. In part.

Haladroma urinatrix (Gmelin); Cabanis & Reichenow 1876, *Journ. für Ornith.* 24: 328. Not

Procellaria urinatrix Gmelin, 1789.

Pelecanoides exsul Salvin, 1896: *Cat. Birds Brit. Mus.* 25: 437 (key), 438 – Southern Indian Ocean, from Crozet Island to Kerguelen Island.

Pelecanoides urinatrix exsul Salvin; Checklist Committee 1953, *Checklist N.Z. Birds*: 27.

Pelecanoides urinatrix exsul Salvin; Jouanin & Mougouin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 120. Unjustified emendation.

Breeds on islands mainly in the subantarctic zone: South Georgia, Prince Edward, Crozet, Kerguelen and Heard Islands; in the New Zealand region on Auckland, Antipodes, Campbell/Motu Ihupuku and Macquarie Islands (Marchant & Higgins 1990). Recently exterminated by cats on Marion Island (Cooper *et al.* 1995). Apparently ranges mainly in seas near the breeding places (Jouventin *et al.* 1985, Marchant & Higgins 1990).

▶ ***Pelecanoides georgicus* Murphy & Harper**

South Georgian Diving Petrel

Pelecanoides georgica Murphy & Harper 1916: *Bull. Am. Mus. Nat. Hist.* 35: 66 – Cumberland Bay, South Georgia, south Atlantic Ocean.

Pelecanoides urinatrix georgica Murphy & Harper; Bennett 1926, *Ibis* 2 (12th ser.): 317.

Pelagodiptes georgicus (Murphy & Harper); Mathews 1934, *Novit. Zool.* 39(2): 198.

Pelagodiptes georgicus novus Mathews, 1935: *Novit. Zool.* 39(3): Additions to the keys – Pacific Ocean, restricted to Macquarie Island (*vide* Mathews & Iredale 1943, *Notes Procellariiformes*: 62).

Pelecanoides georgicus Murphy [sic]; Mathews 1948, *Bull. Brit. Ornith. Club* 68: 157.

Pelecanoides georgicus Murphy & Harper; Checklist Committee 1990, *Checklist Birds N.Z.*: 33.

Breeds on South Georgia, Marion, Prince Edward, Crozet, Kerguelen and Heard Islands (Marchant & Higgins 1990). In the New Zealand region, 3–4 pairs on the Bishop and Clerks Islands (Garnett & Crowley 2002) and fewer than 100 pairs on Codfish Island (Whenuahou) (Imber & Nilsson 1980, West & Imber 1989, Taylor 2000b). Formerly on Macquarie and Auckland Islands (last records: 1840 Enderby Island; 1943 Dundas Island), with Holocene fossils identified on Stewart Island/Rakiura and the Chatham Islands (Worthy 1998e). A 1995 record from Kakanui, Otago (Hocken 1996) is unverified. Stays mainly in seas near the breeding islands (Payne & Prince 1979) but has straggled once to New South Wales (Gibson & Sefton 1959).

Order PHAETHONTIFORMES: Tropicbirds

The tropicbirds and the related prehistoric family Prophaethontidae are best considered a distinct order (Mayr 2003, Fain & Houde 2004, Bourdon *et al.* 2005, Ericson *et al.* 2006, Christidis & Boles 2008, Hackett *et al.* 2008) and we follow this. However, we leave them in their traditional place before pelicans, gannets, cormorants and allies pending future work to settle their nearest relatives.

Family PHAETHONTIDAE Brandt: Tropicbirds

Phaethontes Brandt, 1840: *Mem. l'Acad. Imp. Sci., St Petersburg* (ser. 6) 5(2): 239 – Type genus
Phaethon Linnaeus, 1758.

Genus *Phaethon* Linnaeus

Phaethon Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 134 – Type species (by subsequent designation) *Phaethon aethereus* Linnaeus.

Phaeton Linnaeus, 1766: *Syst. Nat., 12th edition 1*: 219. Unjustified emendation.

Lepturus Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 7 – Type species (by monotypy) *Lepturus edwardsii* Reichenbach = *Phaethon lepturus* Daudin. Junior homonym of *Lepturus* Brisson, 1760.

Phoenicurus Bonaparte, 1857: *Conspectus Gen. Avium* 2: 183 – Type species (by original designation) *Phoenicurus rubricauda* Bonaparte = *Phaethon rubricauda* Boddaert. Junior homonym of *Phoenicurus* T. Forster, 1817.

Scaeophaethon Mathews, 1913: *Austral Avian Rec.* 2: 56 – Type species (by original designation) *Phaethon rubricauda westralis* Mathews. Unnecessary *nomen novum* for *Phoenicurus* Bonaparte, 1857.

Leptophaethon Mathews, 1913: *Austral Avian Rec.* 2: 56 – Type species (by original designation) *Phaethon lepturus dorotheae* Mathews. Unnecessary *nomen novum* for *Lepturus* Reichenbach, 1853.

► *Phaethon rubricauda* Boddaert

Red-tailed Tropicbird

Phaeton rubricauda Boddaert, 1783: *Tables des Planches Enluminées d'Histoire Naturelle de M. d'Aubenton*: 57 – Mauritius.

Phaeton phoenicurus Gmelin, 1789: *Syst. Nat., 13th edition 1*(2): 583. Based on the “Red-tailed Tropic Bird” of Latham 1785, *Gen. Synop. Birds* 3(2): 619 – Indian and Southern Oceans.

Phaethon novae-hollandiae Brandt, 1840: *Mem. l'Acad. Imp. Sci., St Petersburg* (ser. 6) 5(2): 272 – Lord Howe Island, Australia.

Phaeton phoenicurus Gmelin; Pelzeln 1860, *Sitzungsber. K. Akad. Wissen., Math.-Naturwissen. Cl., Wien* 41: 331. Unjustified emendation.

Phaethon rubricauda erubescens Rothschild, 1900: *Avifauna Laysan* 3: 296 – Kermadec Islands. Junior primary homonym of *Phaeton erubescens* G.R. Gray, 1844.

Phaethon rubricauda Boddaert; Hutton 1904, *Index Faunae N.Z.*: 33.

Scaeophaethon rubricauda novae-hollandiae (Brandt); Mathews 1913, *List Birds Australia*: 100.

Phaethon rubricauda novae-hollandiae Brandt; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 418.

Scaeophaethon rubricauda roseincta Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 60. Unnecessary *nomen novum* for *Phaethon rubricauda erubescens* Rothschild, 1900.

Phaethon rubricaudus Boddaert; Stidolph 1927, *Emu* 26: 215. Unjustified emendation.

Phaethon rubricauda roseincta (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 28.

Phaethon rubricauda Boddaert; Checklist Committee 1990, *Checklist Birds N.Z.*: 76.

Breeds on islands of the tropical Indian and Pacific Oceans, including Lord Howe, Norfolk and Kermadec Islands. Several subspecies described but none are recognised

here, following Tarburton (1989). About 30 records from mainland New Zealand; mainly from the north of the North Island, particularly about Manawatāwhi/Three Kings Islands, where it has been seen ashore (Checklist Committee 1990, Marchant & Higgins 1990, Tennyson & Eller 1991, Durey 1992, Powlesland & Powlesland 1993, Taylor 2004). Rarely further south—Feb. 1951 and Apr. 1961 west of Taranaki, 1955–58 Akaroa (Canterbury; the southernmost record), Jan. 1976 south of Wanganui, Jul. 1996 Paekakariki; rarely inland—Feb. 1936 and May 1978 Taupo, Apr. 1976 near Lake Okataina, Apr. 1996 near Pureora (Bull *et al.* 1985, Marchant & Higgins 1990, Tarburton 1993, Powlesland 1996, Tennyson & Lock 1998).

► ***Phaethon lepturus* Daudin**

White-tailed Tropicbird

Phaethon lepturus Daudin, 1802: in Buffon, *Histoire Naturelle, Quadrup.* 14: 319 – Mauritius, Indian Ocean.

Six subspecies breeding on islands as follows: tropical Indian Ocean, *Ph. l. lepturus* (several islands), *Ph. l. fulvus* Brandt, 1838 (Christmas Island, North Indian Ocean); Pacific Ocean, *Ph. l. dorotheae*; Atlantic Ocean, *Ph. l. ascensionis* (Mathews, 1915); Europa Island, Mozambique Channel, *Ph. l. europae* Le Corre & Jouventin, 1999; Caribbean Sea, *Ph. l. catesbyi* Brandt, 1838 (Dorst & Mougin 1979, Le Corre & Jouventin 1999, Dickinson 2003). The subspecies are considered poorly defined (del Hoyo *et al.* 1992) with no races recognised by some authors (e.g. Marchant & Higgins 1990). Yellow-billed tropicbird is an alternative common name recommended by Bourne & Casement (1996).

***Phaethon lepturus dorotheae* Mathews**

White-tailed Tropicbird

Phaethon lepturus dorotheae Mathews, 1913: *Austral Avian Rec.* 2: 7 – Queensland, Australia.

Leptophaethon lepturus dorotheae (Mathews); Mathews 1913, *List Birds Australia*: 101.

Phaethon lepturus dorotheae Mathews; Checklist Committee 1980, *Notornis (Suppl.)* 27: 12.

Phaethon lepturus; Moore 1999, *Notornis* 46: 357. Not *Phaethon lepturus* Daudin, 1802.

Breeds on islands in the Pacific but not in the New Zealand region. Straggles to northern New Zealand (see Marchant & Higgins 1990): Jan. 1973 Bay of Plenty (Brown 1973); Feb. 1973 Norfolk Island (Schodde *et al.* 1983); Feb. 1979 near Okato (Taranaki; the southernmost record); Feb. 1979 Dargaville; Jun. 1979 Muriwai; Mar. and May 1983 Ninety Mile Beach; Apr. 1983 Omamari Beach; Dec. 1985 Motukawanui Island, Cavalli Group (AIM LB1476); Jan. 1986 Waikuku Beach and Great Exhibition Bay; Jan. 1986 Norfolk Island (Moore 1999); Jan. 1989 Ruakaka (Gordon 1989, Guest & Bell 1989, Checklist Committee 1990); Mar. 1997 Whangarei (NMNZ 25640); Jan. 1999 Tokerau Beach (Taylor 2004); Oct. 2000 Karioitahi Beach Peninsula (AIM LB9487); Apr. 2006 Ninety Mile Beach (Howell & Esler 2007).

Order PELECANIFORMES: Pelicans, Gannets, Cormorants and Allies

The close relationship between the families Sulidae, Phalacrocoracidae and Anhingidae has been supported by most recent work, however, the monophyly of the traditional larger grouping of Pelecaniformes is the subject of ongoing debate (e.g. Sibley & Ahlquist 1990, Johnsgard 1993, Christidis & Boles 1994, Kennedy *et al.* 2000, Livezey & Zusi 2001, van Tuinen *et al.* 2001, Fain & Houde 2004, Kennedy & Spencer 2004, Nelson 2005, Christidis & Boles 2008). For this reason we have separated Phaethontidae to its own order. We are aware that *Pelecanus* may be related to Ciconiiformes (see Christidis & Boles 2008), but we retain the traditional grouping in the absence of a resolution of these higher-level relationships. Given the uncertainty, the suborders and superfamilies followed by Checklist Committee (1990) have not been used here. Otherwise, a traditional approach to the families is retained, pending resolution of the issues. The sequence of pelecaniform families follows Checklist Committee (1990) for consistency, and agrees with del Hoyo *et al.* (1992). The sequence of species within families follows Checklist Committee (1990) unless noted.

Family PELECANIDAE Rafinesque: Pelicans

Pelicania Rafinesque, 1815: *Analyse de la Nature*: 72 – Type genus *Pelecanus* Linnaeus, 1758.

Genus *Pelecanus* Linnaeus

Pelecanus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 132 – Type species (by subsequent designation) *Pelecanus onocrotalus* Linnaeus.

Catoptropelecanus Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 7 – Type species (by original designation) *Catoptropelecanus perspicillatus* Reichenbach = *Pelecanus conspiciellatus* Temminck.

▶ *Pelecanus conspiciellatus* Temminck

Australian Pelican

Pelecanus conspiciellatus Temminck, 1824: *Planch. Color. d' Oiseaux* 47: pl. 276 – Australia, restricted to New South Wales, Australia (*vide* Mathews 1912, *Novit. Zool.* 18(3): 244).

Pelecanus australis Stephens, 1826: *in* Shaw, *General Zool.* 13(1): 113 – New South Wales, Australia.

Catoptropelecanus perspicillatus Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 7 – New South Wales, Australia.

Pelecanus proavus De Vis, 1892: *Proc. Linn. Soc. New South Wales* 6: 449 – Queensland, Australia.

Pelecanus conspiciellatus westralis Mathews, 1912: *Novit. Zool.* 18(3): 244 – Perth, Western Australia.

Pelecanus conspiciellatus conspiciellatus Temminck; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 419. *Catoptropelecanus conspiciellatus conspiciellatus* (Temminck); Mathews 1913, *List Birds Australia*: 101.

Pelecanus conspiciellatus Temminck; Checklist Committee 1953, *Checklist N.Z. Birds*: 28.

Pelecanus conspiciellatus novaezealandiae Scarlett, 1966: *Notornis* 13: 209 – Poukawa, Hawke's Bay.

Pelecanus novaezealandiae Scarlett; Checklist Committee 1990, *Checklist Birds N.Z.*: 77.

Breeds in Australia; straggles to New Zealand: 1890 Whanganui River; Aug. to Sep. 1976 near Dargaville; Nov. 1977 Southland; Dec. 1977 to Jun. 1978 South Canterbury (at least three birds; Sagar 1978). Recorded at Norfolk Island, late 1977 (Schodde *et al.* 1983). Pelicans are rare in New Zealand archaeological and Holocene fossil sites, with all but one record from the North Island (Gill & Tennyson 2002). The New Zealand fossils, including the type of *P. novaezealandiae*, an extinct supposedly endemic taxon,

are inseparable from, and referred to, the Australian species (Worthy 1998d, Gill & Tennyson 2002, Scofield *et al.* 2003).

Family **SULIDAE** Reichenbach: Gannets and Boobies

Sulinae Reichenbach, 1849: *Avium Syst. Nat.*: 6 – Type genus *Sula* Brisson, 1760.

Morus and *Sula* are considered generically distinct (Olson 1985b, van Tets *et al.* 1988, BOU Records Committee 1991, Friesen & Anderson 1997, Nelson 2005).

Genus **Morus** Vieillot

Morus Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 63 – Type species (by monotypy) Buffon's "Fou de Bassan" = *Pelecanus bassanus* Linnaeus = *Morus bassanus* (Linnaeus).

Morus J.R. Forster, 1817: *Synop. Cat. Brit. Birds*: 59. Unnecessary *nomen novum* for *Morus* Vieillot, 1816.

Sulita Mathews, 1915: *Austral Avian Rec.* 2: 123. Unnecessary *nomen novum* for *Morus* Vieillot, 1816.

► **Morus capensis** (Lichtenstein)

Cape Gannet

Dysporus capensis Lichtenstein, 1823: *Verzeich. Doubl., Berlin*: 86 – Cape of Good Hope, South Africa.

Sula capensis (Lichtenstein); Medway 2001, *Notornis* 48: 62.

Morus capensis (Lichtenstein); Parrish 2002, *Notornis* 49: 102.

Breeds on islands off coasts of southern Africa, ranging north in winter and straggling further afield (Dorst & Mougin 1979, Robertson & Stephenson 2005). One New Zealand record of a bird at Cape Kidnappers between 21 Dec. 1997 and 15 Sep. 2005; it successfully bred with an Australasian gannet and a hybrid chick returned to the colony in 2005 (Medway 2001a; Stephenson 2002, 2003; Robertson & Stephenson 2005).

► **Morus serrator** (G.R. Gray)

Australasian Gannet

Sula Australis Gould, 1841: *Proc. Zool. Soc. London 1840* (8): 177 – Tasmanian Seas. Junior primary homonym of *Sula australis* Stephens, 1826.

Pelecanus serrator G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 200 – no locality = vicinity of the Three Kings Islands (*vide* Medway 1993, *Notornis* 40: 69).

Sula serrator (G.R. Gray); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 19.

Jula [sic] *australis* Gould; Ellman 1861, *Zoologist* 19: 7472. Not *Sula australis* Stephens, 1826.

Dysporus serrator (G.R. Gray); Finsch 1867, *Journ. für Ornith.* 15: 339.

Sula serrata; Finsch 1882, *Ibis* 6 (4th ser.): 402. Unjustified emendation.

Sula serrator serrator (G.R. Gray); Mathews 1913, *Austral Avian Rec.* 2: 63.

Sula serrator dyotti Mathews, 1913: *Austral Avian Rec.* 2: 63 – Tasmania, Australia.

Morus serrator serrator (G.R. Gray); Mathews 1913, *List Birds Australia*: 98.

Sulita serrator serrator (G.R. Gray); Mathews & Iredale 1921, *Man. Birds of Australia* 1: 77.

Sulita serrator rex Mathews & Iredale, 1921: *Man. Birds of Australia* 1: 77 – New Zealand.

Morus serrator (G.R. Gray); Oliver 1930, *New Zealand Birds*, 1st edition: 207.

Sula bassana serrator (G.R. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 28.

Morus serrator rex; Howard & Moore 1980, *Complete Checklist Birds World*: 60.

Morus serrator (G.R. Gray); Checklist Committee 1990, *Checklist Birds N.Z.*: 79.

Pelecanus Sectator Solander, 1993: in Medway, *Notornis* 40: 66 – "Ocean which washes northern Australia. S.lat. 36–33 W.Long. 185–187", error for vicinity of the Three Kings Islands (*vide* Medway 1993, *Notornis* 40: 69).

Sula serrator rex (Mathews & Iredale); Medway 1993, *Notornis* 40: 66.

Australia (breeding on islets off Tasmania and south-east Australia), Philip and Nepean Islands (Norfolk Island Group) and New Zealand (Marchant & Higgins 1990, Nelson 2005). In New Zealand, breeds on outlying islands from Manawatāwhi/Three Kings Islands to Hauraki Gulf, Bay of Plenty and Tolaga Bay on the east coast of the North Island; Oaia, Motutara (Sugarloaf Rock at Muriwai Beach), and Karewa/Gannet Islands on the North Island west coast (Wodzicki *et al.* 1984). Cape Kidnappers (south end of Hawke's Bay) and two colonies at Muriwai, opposite Motutara Island, are the only North Island mainland colonies (Wodzicki *et al.* 1984, Greene 2003). In the South Island, colonies are at Waimaru Bay (Pelorus Sound), Arapawa Island, Farewell Spit, The Nuggets and Little Solander Island (Marchant & Higgins 1990, Brown & Wilson 2004). Adult birds range widely in New Zealand seas during winter; juveniles and some adults disperse to coastal waters of Australia, as far west as the Indian Ocean, with vagrants to South Africa and north to New Caledonia (Wodzicki & Stein 1958, Wodzicki 1967, Marchant & Higgins 1990, Moore 1999, Robertson & Stephenson 2005). Stragglers reach the Chatham Islands (including one breeding record; Imber 1994, Miskelly *et al.* 2006), Snares/Tini Heke (Miskelly *et al.* 2001a), Auckland Islands and Campbell Island/Motu Ihupuku (Kinsky 1969). Midden and Holocene fossil deposits: North, South and Chatham Islands (Millener 1991).

Genus *Sula* Brisson

Sula Brisson, 1760: *Ornithologie* 1: 60; 6: 494 – Type species (by tautonymy) *Sula leucogaster* Boddaert.

Dysporus Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 279. Unnecessary *nomen novum* for *Sula* Brisson, 1760.

Hemisula Mathews, 1913: *Austral Avian Rec.* 2: 55 – Type species (by original designation) *Sula leucogaster rogersi* Mathews.

Parasula Mathews, 1913: *Austral Avian Rec.* 2: 55 – Type species (by original designation) *Sula dactylatra bedouti* Mathews.

In his list of New Zealand birds, Gray (1862: 250) included “*Sula fiber*”, with the following localities: “Enderby's Island; Lord Howe's Island?”. We are unable to identify this species, so regard it as a *nomen dubium*.

► *Sula leucogaster* (Boddaert)

Brown Booby

Pelecanus Leucogaster Boddaert, 1783: *Tables des Planches Enluminées d'Histoire Naturelle de M. d'Aubenton*: 57, pl. 973 – Cayenne, South America.

Breeds on tropical islands of the Indian, Pacific and Atlantic Oceans and the Caribbean Sea. Four subspecies; three outside New Zealand region (Dorst & Mougin 1979, Carboneras 1992b): breeding on Atlantic Ocean and Caribbean islands (*S. l. leucogaster*) and on eastern Pacific islands (*S. l. brewsteri* Goss, 1888 and *S. l. etesiaca* Thayer & Bangs, 1905). All subspecies considered doubtfully distinct by some authors (e.g. Marchant & Higgins 1990).

Sula leucogaster plotus (J.R. Forster)

Brown Booby

Pelecanus Plotus J.R. Forster, 1844: *in Lichtenstein Descrip. Animalium*: 278 – near New Caledonia.

Sula fusca; Hamilton 1889, *Trans. Proc. N.Z. Inst.* 21: 128. Not *Sula fusca* Vieillot, 1825.

Sula sula; Buller 1905, *Suppl. Birds N.Z.* 2: 50. Not *Pelecanus sula* Linnaeus, 1766.

Hemisula leucogaster plotus (Forster); Mathews 1913, *List Birds Australia*: 99.

Sula leucogaster rogersi Mathews, 1913: *Austral Avian Rec. 1*: 189 – Bedout Island, Western Australia.

Sula leucogaster; Oliver 1930, *New Zealand Birds*, 1st edition: 205. Not *Pelecanus Leucogaster* Boddaert, 1783.

Sula leucogaster plotus (Forster); Checklist Committee 1953, *Checklist N.Z. Birds*: 28.

This race breeds on tropical islands in the Pacific and Indian Oceans, also the Red Sea and Gulf of Aden (Dorst & Mougín 1979). Reaches New Zealand waters probably every year (e.g. Powlesland & Powlesland 1993, Veitch *et al.* 2004), rarely south to about 45°S (Pierce 1969). Sometimes these vagrants reside in an area for several months (e.g. Gaze 1975; Guest 1992; Taylor & Parrish 1992, 1994a) and may associate with gannets (e.g. Stein 1952, Hawkins *et al.* 1992, Hawkins & Cook 1994). A banded juvenile from Johnston Atoll was collected offshore from Okarito in 1986 (NMNZ 23569).

▶ *Sula dactylatra* Lesson

Masked Booby

Sula dactylatra Lesson, 1831: *Traité d'Ornith.* 8: 601 – Ascension Island, Atlantic Ocean.

Also known as the blue-faced booby. Four subspecies; all but one (*S. d. tasmani*) outside the New Zealand region (Dorst & Mougín 1979, Pitman & Jehl 1998): Atlantic Ocean and Caribbean islands (*S. d. dactylatra*), Indian Ocean and Arabian Sea islands (*S. d. melanops* Heuglin, 1859) and islands in the eastern Indian Ocean, the Banda and Coral Seas and much of the Pacific Ocean (*S. d. personata* Gould, 1846). A fifth eastern Indian Ocean race—*S. d. bedouti* Mathews, 1913—is recognised by some authors (e.g. Marchant & Higgins 1990, O'Brien & Davies 1990, Dickinson 2003). The Nazca booby (*Sula granti* Rothschild, 1902), breeding on some eastern Pacific islands, was formerly regarded as a race of *S. dactylatra* (Pitman & Jehl 1998).

Masked boobies straggle south to northern New Zealand, but their subspecific identity or identities have not been determined: 1883, Karewa/Gannet Island; 1964, west of North Cape (Otu); 1977–78, two, Firth of Thames (Powlesland & Pickard 1992); Jul. 1983, one, near Hamilton (Moore 1985a); May 1988, one, beach-wrecked near Dargaville (Powlesland & Pickard 1992); Sep. 1995, one, Paraparaumu Beach (NMNZ 25810); Mar. 2005 (unconfirmed), one, east of The Aldermen Islands (Anon. 2005b). A claimed sighting of seven in Whangarei Harbour, Dec. 1993 (Anderson 1995), was not accepted by the Rare Birds Committee (Scofield 2008). Recorded as a Holocene fossil at the Chatham Islands (Millener 1991).

Sula dactylatra tasmani van Tets, Meredith, Fullagar & Davidson

Masked Booby

Sula piscator; G.R. Gray 1862, *Ibis* 4: 250. Not *Pelecanus piscator* Linnaeus, 1758 = *nomen dubium*.

Sula cyanops; Cheeseman 1889, *Trans. Proc. N.Z. Inst.* 21: 121. Not *Dysporus cyanops* Sundevall, 1837.

Parasula dactylatra personata; Mathews 1913, *List Birds Australia*: 99. Not *Sula personata* Gould, 1846.

Sula dactylatra; Oliver 1930, *New Zealand Birds*, 1st edition: 203. Not *Sula dactylatra* Lesson, 1831.

Sula dactylatra personata; Checklist Committee 1953, *Checklist N.Z. Birds*: 28. Not *Sula personata* Gould, 1846.

Sula tasmani van Tets, Meredith, Fullagar & Davidson, 1988: *Notornis* 35: 45 – Norfolk Island.

Sula dactylatra fullagari O'Brien & Davies, 1990: *Marine Ornithology* 18: 2 – Lord Howe Island.

Sula dactylatra tasmani van Tets, Meredith, Fullagar & Davidson; McAllan, Curtis, Hutton & Cooper 2004, *Australian Field Ornithology* 21(Suppl.): 6.

Local subspecies *S. d. tasmani* breeds on islands in the Lord Howe, Norfolk and Kermadec Island groups (O'Brien & Davies 1990). This subspecies was first described from fossil material as an extinct species (van Tets *et al.* 1988) but is now considered to be conspecific with the extant masked booby (Holdaway & Anderson 2001, Holdaway *et al.* 2001, Worthy & Holdaway 2002, McAllan *et al.* 2004, Priddel *et al.* 2005). Ranges mainly north to the east coast of Australia, New Caledonia, Vanuatu (Marchant & Higgins 1990, Priddel *et al.* 2005, Anon. 2006b), Fiji (Anon. 2004a) and Tonga (Moore 1999). Holocene fossils on Norfolk Island (van Tets *et al.* 1988b). Sometimes called the Tasman booby (e.g. van Tets *et al.* 1988).

Family PHALACROCORACIDAE Reichenbach: Cormorants and Shags

Phalacrocoracidae Reichenbach, 1849: *Avium Syst. Nat.*: 6 – Type genus *Phalacrocorax* Brisson, 1760.

Generic placement and relationships of cormorants and shags is much debated (e.g. Voisin 1973, van Tets 1976, Siegel-Causey 1988, Marchant & Higgins 1990, del Hoyo *et al.* 1992, Christidis & Boles 1994, Kennedy *et al.* 2000), so we have retained the arrangement followed by Checklist Committee (1990) and Holdaway *et al.* (2001), pending resolution of these issues. The separation of the little shag into the reputedly primitive genus *Microcarbo* is one of the more commonly suggested taxonomic changes (e.g. Matthews & Fordham 1986, Siegel-Causey 1988, del Hoyo *et al.* 1992, Bourne & Casement 1996, Kennedy *et al.* 2000) and that ancestral position is recognised here with its placement at the beginning of the Phalacrocoracidae.

Genus *Phalacrocorax* Brisson

Phalacrocorax Brisson, 1760: *Ornithologie* 1: 60; 6: 511 – Type species (by tautonymy)

Phalacrocorax Brisson = *Pelecanus carbo* Linnaeus = *Phalacrocorax carbo* (Linnaeus).

Carbo Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 15 – Type species (by tautonymy)

Pelecanus carbo Linnaeus.

Halieus Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 279. Unnecessary *nomen novum* for *Phalacrocorax* Brisson, 1760.

Hydrocorax Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 63 – Type species (by subsequent designation) *Pelecanus carbo* Linnaeus. Junior homonym of *Hydrocorax* Brisson, 1760.

Haliaeius Schinz, 1825: in Cuvier's *Thierreich* 4: 570. Unjustified emendation.

Graucalus G.R. Gray, 1841: *List Gen. Birds* (2nd edition): 101 – Type species (by original designation) *Pelecanus carbo* Linnaeus, 1758. Junior homonym of *Graucalus* Cuvier, 1816.

Graculus G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): 19. Unjustified emendation.

Eemeles Gistel, 1848: *Naturg. Thierreichs*: 9. Unnecessary *nomen novum* for *Hydrocorax* Vieillot, 1816.

Graculus Reichenbach, 1850: *Novit. Synop. Avium*: n° 2304, pl. 278 – Type species (by original designation) *Carbo javanicus* Horsfield = *Phalacrocorax niger* (Vieillot).

Hypoleucus Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 7 – Type species (by original designation) *Pelecanus varius* Gmelin = *Phalacrocorax varius* (Gmelin).

Microcarbo Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 577 – Type species (by original designation) *Pelecanus pygmaeus* Pallas = *Phalacrocorax pygmaeus* (Pallas).

Halietor Heine, 1860: *Journ. für Ornith.* 8: 202 – Type species (by original designation)
Pelecanus pygmaeus Pallas = *Phalacrocorax pygmaeus* (Pallas).

▶ ***Phalacrocorax melanoleucos* (Vieillot)**

Little Pied Cormorant

Three subspecies: *Ph. m. melanoleucos* in South-east Asia, New Guinea, Australia and some western Pacific Islands, *Ph. m. brevicauda* Mayr, 1931 on Rennell Island, Solomon Islands, and *Ph. m. brevirostris* in New Zealand (Dorst & Mougouin 1979, Marchant & Higgins 1990). Some authors consider *Ph. m. brevirostris* to be the same taxon as *Ph. m. melanoleucos* (e.g. Dowding & Taylor 1987, Taylor 1987) but others regard it as a distinct species (see Marchant & Higgins 1990, del Hoyo *et al.* 1992). One record from Chatham Island in 1988–89 of uncertain subspecies (Miskelly *et al.* 2006).

***Phalacrocorax melanoleucos melanoleucos* (Vieillot)**

Little Pied Cormorant

Hydrocorax melanoleucos Vieillot, 1817: *Nouv. Dict. Hist. Nat., nouv. éd.* 8: 88 – “Australasie”, restricted to New South Wales, Australia (*vide* Mathews 1912, *Novit. Zool.* 18(3): 241).

Phalacrocorax flavirhynchus Gould, 1838: *Proc. Zool. Soc. London 1837* (5): 157 – New South Wales, Australia.

Graucalus flavirostris G.R. Gray, 1843: *in* E. Dieffenbach, *Travels in N.Z.* 2: 201. Unjustified emendation.

Graculus melanoleucos (Vieillot); G.R. Gray 1862, *Ibis* 4: 251.

Phalacrocorax melanoleucos (Vieillot); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 173.

Phalacrocorax melanoleucos melanoleucos (Vieillot); Marchant & Higgins 1990, *HANZAB* 1: 902.

Microcarbo melanoleucos (Vieillot); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 20, 103.

Australia, South-east Asia, New Guinea and some western Pacific Islands (Marchant & Higgins 1990). Bred on Campbell Island/Motu Ihupuku 1967–69 (Kinsky 1969, Marchant & Higgins 1990, del Hoyo *et al.* 1992). At least seven pied birds on Snares Islands/Tini Heke in 1976–77 were considered to have originated in Australia (Sagar 1977). Several other records from Snares Islands/Tini Heke were also pied birds: 1975 and sightings 1982–85 (Horning 1976, Miskelly *et al.* 2001a, NMNZ 18703). Vagrant little shags on Norfolk Island in 1978, 1979 and 1996–97 were apparently pied (Moore 1981, 1999; Schodde *et al.* 1983), so most likely from Australia. Occasional immigration to mainland New Zealand from Australia has been suggested by several authors (Buller 1887–88, Dowding & Taylor 1987, Marchant & Higgins 1990, Secker 1994).

***Phalacrocorax melanoleucos brevirostris* Gould**

Little Shag

Phalacrocorax brevirostris Gould, 1837: *Proc. Zool. Soc. London 1837* (5): 26 – no locality = New Zealand (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 415).

Graculus brevirostris (Gould); G.R. Gray 1845, *in* Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 20.

Graculus melanoleucos; G.R. Gray 1845, *in* Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 20. Not *Hydrocorax melanoleucos* Vieillot, 1817.

Carbo flavagula Peale, 1848: *U.S. Expl. Exped.* 8: 270, 336 – Bay of Islands, Northland.

Haliaeetus brevirostris (Gould); Bonaparte 1855, *Consp. Gen. Avium* 2: 178.

Haliaeetus brevirostris (Gould); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 43: 577.

Carbo brevirostris (Gould); Cassin 1858, *U.S. Expl. Exped. Ornithology*: 375.

Pelecanus carboides; Ellman 1861, *Zoologist* 19: 7472. Not *Phalacrocorax carboides* Gould, 1838.

- Graculus brevirostris* (Gould); G.R. Gray 1862, *Ibis* 4: 252.
Phalacrocorax finschii Sharpe, 1875: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds – 1 (Appendix)*: 34 – New Zealand.
Graculus finschi (Sharpe); Finsch 1876, *Trans. Proc. N.Z. Inst.* 8: 203. Unjustified emendation.
Microcarbo melanoleucos brevirostris (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 415.
Phalacrocorax melanoleucos; Oliver 1930, *New Zealand Birds*, 1st edition: 184. Not *Hydrocorax melanoleucos* Vieillot, 1817. Unjustified emendation.
Haliëtor melanoleucos brevirostris (Gould); Peters 1931, *Check-list Birds World 1*: 93.
Microcarbo brevirostris (Gould); Mathews 1936, *Suppl. Birds Norfolk & Lord Howe Islands*: 143.
Phalacrocorax melanoleucos brevirostris Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 29.

Breeds from North Cape (Otou) to Stewart Island/Rakiura and on nearby offshore islands. Vagrant to Snares Islands/Tini Heke in the 1960s, where it may have bred (Warham 1967, Warham & Keeley 1969). Apparently this subspecies also reached the Auckland Islands in 1942, and Campbell Island/Motu Ihupuku in 1958 (Bailey & Sorensen 1962). A dimorphic subspecies with some intermediate variants; the relative scarcity of the latter suggests that the white-breasted phase may be maintained by occasional immigration of *Ph. m. melanoleucos* from Australia (Dowding & Taylor 1987). In Holocene fossil and midden deposits in North and South Islands and Stewart Island/Rakiura (e.g. Horn 1983; Worthy 1998c, 1998d).

► ***Phalacrocorax carbo* (Linnaeus)** **Great Cormorant**

Pelecanus carbo Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 133 – Europe, restricted to the “rock nesting form of the north Atlantic Ocean” (*vide* Hartert 1920, *Vögel Pal. Fauna*: 1387).

Widespread. Six subspecies widely accepted: Europe and North America, *Ph. c. carbo*; Europe and Asia, *Ph. c. sinensis* (Blumenbach, 1798); Japan, *Ph. c. hanedae* Kuroda, 1925; north-west Africa, *Ph. c. maroccanus* Hartert, 1906; Africa, *Ph. c. lucidus* (Lichtenstein, 1823); and Australasia, *Ph. c. novaehollandiae* (Dorst & Mougín 1979, del Hoyo *et al.* 1992, Dickinson 2003). A race *Ph. c. lugubris* Rüppell, 1845 in north-east Africa is sometimes accepted (Dickinson 2003). The form in Australasia (*Ph. c. novaehollandiae*) is sometimes considered to be a full species (e.g. Buller 1905–06, Siegel-Causey 1988, del Hoyo *et al.* 1992) with one subspecies in Australia, *Ph. n. novaehollandiae*—not *Ph. n. carboides* Gould, 1838 *contra* Marchant & Higgins (1990: 810) and del Hoyo *et al.* (1992)—and another in New Zealand, *Ph. n. steadi* (Mathews & Iredale, 1913) (Dorst & Mougín 1979). However, *Pelecanus major* Ellman, 1861 is a senior synonym for the New Zealand form. The African race *Ph. c. lucidus* is also sometimes considered to be a full species (del Hoyo *et al.* 1992). The six widely used races are accepted here, pending a full taxonomic review of the group.

***Phalacrocorax carbo novaehollandiae* Stephens** **Black Shag**

Phalacrocorax Novae Hollandiae Stephens, 1826: in Shaw, *General Zool.* 13(1): 93 – New South Wales, Australia.

Phalacrocorax carboides Gould, 1838: *Proc. Zool. Soc. London 1837* (5): 156 – Tasmania, Australia.

Graucalus carboides (Gould); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 201.

Graculus carboides (Gould); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds 1*(8): 20.

- Pelecanus flavirostris*? Forster; Ellman 1861, *Zoologist* 19: 7472. Not *Phalacrocorax flavirostris* G.R. Gray, 1843.
- Pelecanus major* Ellman, 1861: *Zoologist* 19: 7472 – New Zealand.
- Graculus carboïdes* (Gould); G.R. Gray 1862, *Ibis* 4: 251.
- Graculus carbo*; Finsch 1870, *Journ. für Ornith.* 18: 375. Not *Pelecanus carbo* Linnaeus, 1758.
- Gaculus* [sic] *novaehollandiae* (Stephens); G.R. Gray 1871, *Hand-list Birds* 3: 127.
- Phalacrocorax carbo*; Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* –1 (Appendix): 34. Not *Pelecanus carbo* Linnaeus, 1758.
- Phalacrocorax novae-zealandiae* var. *major* Forbes, 1892: *Trans. Proc. N.Z. Inst.* 24: 189 – no locality = Te Aute Swamp, Hawke's Bay (*vide* Worthy 2000, *Journ. Royal Soc. N.Z.* 30: 10). Junior secondary homonym of *Pelecanus major* Ellman, 1861.
- Phalacrocorax major* (Ellman); Rothschild 1905, *Proc. IVth International Ornith. Congress*: 195.
- Carbo carbo steadi* Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 411 – New Zealand.
- Phalacrocorax carbo steadi* (Mathews & Iredale); Oliver 1930, *New Zealand Birds*, 1st edition: 176.
- Phalacrocorax carbo novaehollandiae* Stephens; Checklist Committee 1953, *Checklist N.Z. Birds*: 29.

Breeds throughout the main islands of New Zealand and on the Chatham Islands; straggling to Norfolk, Kermadec, Snares/Tini Heke, Campbell/Motu Ihupuku and Macquarie Islands; also resident in Australia and recently found breeding in the Solomon Islands and New Caledonia (Marchant & Higgins 1990, Barré & Géraux 2004, Veitch *et al.* 2004). Common in Holocene fossil and midden deposits, North and South Islands; a few fossil records from Stewart Island/Rakiura and Chatham Islands (Millener 1991, Worthy 1998c).

▶ *Phalacrocorax varius* (Gmelin)

Pied Cormorant

Two subspecies: *Ph. v. varius* in New Zealand and *Ph. v. hypoleucos* (Brandt, 1837) in Australia (Marchant & Higgins 1990).

Phalacrocorax varius varius (Gmelin)

Pied Shag

- Pelecanus varius* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 576. Based on the "Pied Shag" of Latham 1785, *Gen. Synop. Birds* 3(2): 605 – Queen Charlotte Sound, Marlborough.
- Graucalus varius* (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 201.
- Pelecanus pica* J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 104 – Queen Charlotte Sound, Marlborough.
- Graculus varius* (Gmelin); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 19.
- Carbo fuscus* Peale, 1848: *U.S. Expl. Exped.* 8: 268, 336 – Bay of Islands, Northland.
- Hypoleucus varius* (Gmelin); Reichenbach 1853, *Avium Syst. Nat.* 2(1): 7.
- Carbo hypoleucos*; Cassin 1858, *U.S. Expl. Exped. Ornithology*: 372. Not *Carbo hypoleucos* Brandt, 1837.
- Carbo leucogaster*; Cassin 1858, *U.S. Expl. Exped. Ornithology*: 372. Not *Hydrocorax leucogaster* Vieillot, 1817.
- Graculus varius* (Gmelin); G.R. Gray 1862, *Ibis* 4: 251.
- Phalacrocorax varius* (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 328.
- Graculus leucogaster*; Finsch 1882, *Ibis* 6 (4th ser.): 402. Not *Hydrocorax leucogaster* Vieillot, 1817.
- Hypoleucus varius varius* (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 411.
- Phalacrocorax varius varius* (Gmelin); Oliver 1930, *New Zealand Birds*, 1st edition: 181.

Breeds on coasts, harbours, estuaries and offshore islands, from Manawatāwhi/Three Kings Group to Stewart Island/Rakiura (Marchant & Higgins 1990, Robertson, C. *et al.* 2007). Straggles to Snares Islands/Tini Heke (Miskelly *et al.* 2001a). Midden and Late Pleistocene or Holocene fossil deposits, North and South Islands and Stewart Island/Rakiura (Millener 1991, Worthy 1998c, Worthy & Grant-Mackie 2003).

► **Phalacrocorax sulcirostris** (Brandt)

Little Black Shag

Carbo sulcirostris Brandt, 1837: *Bull. l'Acad. Imp. Sci., St Petersburg* 3: 56 – “Terrae australes”, restricted to New South Wales, Australia (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 415).

Carbo purpuragula Peale, 1848: *U.S. Expl. Exped.* 8: 269, 336 – Manua Bay, Raglan, Waikato.

Microcarbo stictocephalus Bonaparte, 1857: *Consp. Gen. Avium* 2: 178 – New South Wales, Australia.

Graculus stictocephalus (Bonaparte); G.R. Gray 1862, *Ibis* 4: 252.

Graculus sulcirostris (Brandt); Finsch 1872, *Journ. für Ornith.* 20: 258.

Graculus? sulcirostris (Brandt); Finsch 1874, *Journ. für Ornith.* 22: 174, 214.

Phalacrocorax purpuragula (Peale); Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds – 1 (Appendix)*: 34.

Phalacrocorax sulcirostris (Brandt); Hutton 1904, *Index Faunae N.Z.*: 33.

Mesocarbo ater purpuragula (Peale); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 415.

Mesocarbo sulcirostris purpuragula (Peale); Mathews 1929, *Ibis* 5 (12th ser.): 699.

Breeds in Indonesia, New Guinea, Australia and New Zealand (Marchant & Higgins 1990). In New Zealand, widely distributed on lakes and estuaries of the North Island; numbers increasing (e.g. Robertson 1992) and now regularly seen in the South Island (e.g. Edgar 1972b; Bull *et al.* 1985; Cooper 1991; O'Donnell & West 1994, 1995; O'Donnell 2001; Pollock 2003); rarely south to Stewart Island/Rakiura (Bull *et al.* 1985). Breeds at scattered sites from Northland to the Wairarapa, especially in Waikato and Rotorua districts (Oliver 1955, Marchant & Higgins 1990, Robertson 1992, Powlesland *et al.* 1993); disperses in winter, especially to the coast (Powlesland *et al.* 1993). Vagrant at Norfolk Island (Marchant & Higgins 1990, Moore 1999) and probably at the Kermadec Islands (Morrison 1979, Veitch *et al.* 2004). The species probably arrived in New Zealand after human colonisation; no fossil or midden records (Holdaway *et al.* 2001). Also called little black cormorant (e.g. Dickinson 2003).

Genus *Leucocarbo* Bonaparte

Leucocarbo Bonaparte, 1857: *Consp. Gen. Avium* 2: 176 – Type species (by subsequent designation) *Carbo bougainvillii* Lesson = *Leucocarbo bougainvillii* (Lesson).

Euleucocarbo Voisin, 1973: *Notornis* 20: 268 – Type species (by original designation) *Leucocarbo (Euleucocarbo) carunculatus* (Gmelin). As a subgenus of *Leucocarbo*.

Nesocarbo Voisin, 1973: *Notornis* 20: 268 – Type species (by original designation) *Leucocarbo (Nesocarbo) campbelli* (Fihloh). As a subgenus of *Leucocarbo*.

Notocarbo Siegel-Causey, 1988: *Condor* 90: 891 – Type species (by original designation) *Notocarbo atriceps atriceps* (King) = *Leucocarbo atriceps atriceps* (King).

► ***Leucocarbo carunculatus*** (Gmelin)

New Zealand King Shag

Pelecanus carunculatus Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 576. Based on the “Carunculated Shag” of Latham 1785, *Gen. Synop. Birds* 3(2): 603 – Queen Charlotte Sound, Marlborough.

Pelecanus cirrbatus Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 576 – Queen Charlotte Sound, Marlborough.

Hydrocorax cirratus (Gmelin); Vieillot 1817, *Nouv. Dict. Hist. Nat., nouv. éd.* 8: 84. Unjustified emendation.

Pelecanus cirratus Gmelin; Dumont 1818, in Levrault, *Dict. Sci. Nat.* 10: 453. Unjustified emendation.

Phalacrocorax cirrhatus (Gmelin); Stephens 1826, in Shaw, *General Zool.* 13(1): 95.

Graucalus carunculatus (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 201.

Graucalus cirrhatus (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 201.

Graculus cirrhatus (Gmelin); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 19.

Graculus cirrhatus (Gmelin); G.R. Gray 1862, *Ibis* 4: 251.

Phalacrocorax carunculatus (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 332.

Graculus carunculatus (Gmelin); Finsch 1874, *Journ. für Ornith.* 22: 174.

Phalacrocorax finschii Buller, 1876: *Trans. Proc. N.Z. Inst.* 8: 197, 417 – Queen Charlotte Sound, Marlborough. Junior primary homonym of *Phalacrocorax finschii* Sharpe, 1875 = *Phalacrocorax melanoleucos brevirostris* Gould.

Phalacrocorax cirrhatus (Gmelin); Hutton 1879, *Trans. Proc. N.Z. Inst.* 6: 336. In part.

Hypoleucus carunculatus carunculatus (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 412.

Phalacrocorax (Leucocarbo) carunculatus carunculatus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 29.

Leucocarbo carunculatus carunculatus (Gmelin); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 32.

Leucocarbo carunculatus (Gmelin); van Tets 1976, *Proc. 16th International Ornith. Congress*: 122.

Phalacrocorax carunculatus carunculatus (Gmelin); Dorst & Mougín 1979, in Peters, *Check-list Birds World 1* (2nd edition): 176.

Euleucocarbo carunculatus (Gmelin); Siegel-Causey 1988, *Condor* 90: 892.

Breeds only on islands on the south side of Cook Strait: White Rocks, Sentinel Rock, Duffers Reef, North Trio, Stewart (Tekuru Kuru; Marlborough) and Rahuinui Islands (Nelson 1971; Medway 1987; Schuckard 1994, 2006). Vagrant to Farewell Spit (Bull *et al.* 1985). May have reached the North Island: Lake Horowhenua in Jul. 1966 (Edgar 1972b) and Wellington Harbour in Jul. 2002 (Medway 2002g, Parrish 2006). Records of this species at Oamaru (Marchant & Higgins 1990) refer to the Stewart Island shag. Holocene fossil and midden deposits in the northern South Island (e.g. Worthy 1998d). *Leucocarbo* fossils from Northland (Worthy 1996) and Wairarapa (McFadgen 2003) are tentatively assigned to this species on the basis of geographical proximity.

▶ ***Leucocarbo chalconotus*** (G.R. Gray)

Stewart Island Shag

Graucalus auritus; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 201. Not *Carbo auritus* Lesson, 1831.

Graculus chalconotus G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 20, pl. 21 – Otago.

Graculus glaucus Reichenbach, 1850: *Avium Syst. Nat.*: pl. 49, fig. 2553. Based on the “Cormoran glauque” of Hombron & Jacquinot, 1845 in Dumont d’Urville, *Voyage Pôle Sud, Zoologie*, Atlas pl. 31, fig. 1 – Otago.

Phalacrocorax glaucus Hombron & Jacquinot; Pucheran 1853, in Dumont d’Urville, *Voyage Pôle Sud, Zoologie* 3: 127.

Graculus chalconotus (G.R. Gray); G.R. Gray 1862, *Ibis* 4: 252.

Phalacrocorax chalconotus (G.R. Gray); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 334.

- Phalacrocorax colensoi* Buller, 1888: *History of the Birds of N.Z.*, 2nd edition 2: 161 – Bluff, Southland. In part.
- Phalacrocorax glaucus* Hombron & Jacquinot; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 163.
- Phalacrocorax huttoni* Buller, 1888: *History of the Birds of N.Z.*, 2nd edition 2: 174 – near Dunedin.
- Phalacrocorax stewarti* Ogilvie-Grant, 1898: *Cat. Birds Brit. Mus.* 26: 385 – Stewart Island.
- Hypoleucus chalconotus* (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 413.
- Hypoleucus campbelli stewarti* (Ogilvie-Grant); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 413.
- Hypoleucus chalconotus* (G.R. Gray); Mathews 1927, *Syst. Avium Australasianarum* 1: 227.
- Hypoleucus huttoni* (Buller); Mathews 1936, *Suppl. Birds Norfolk & Lord Howe Islands*: 141.
- Phalacrocorax (Leucocarbo) carunculatus chalconotus* (G.R. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 29.
- Leucocarbo carunculatus chalconotus* (G.R. Gray); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 32.
- Leucocarbo chalconotus* (G.R. Gray); van Tets 1976, *Proc. 16th International Ornith. Congress*: 122.
- Phalacrocorax carunculatus chalconotus* (G.R. Gray); Dorst & Mougouin 1979, in Peters, *Check-list Birds World 1* (2nd edition): 176.
- Euleucocarbo chalconotus* (G.R. Gray); Siegel-Causey 1988, *Condor* 90: 892.
- Leucocarbo (carunculatus) chalconotus* (G.R. Gray); Johnsgard 1993, *Cormorants, Darters and Pelicans*: 271.

Inhabits coastal waters and breeds only from near Moeraki (Otago) south to Stewart Island/Rakiura (Marchant & Higgins 1990, Powlesland *et al.* 1993). Ranges north to the Waitaki River mouth (Hocken & Hocken 1989, Crossland 2001). A dimorphic species, of which the dark phase is commonly called the bronze shag. Sometimes considered conspecific with *L. carunculatus* (e.g. Worthy 1996, Holdaway *et al.* 2001, Worthy & Holdaway 2002) but facial colours reported to differ between these taxa (e.g. Marchant & Higgins 1990); however, see Schuckard (2006). Midden and Late Pleistocene or Holocene fossil deposits, South Island and Stewart Island/Rakiura (e.g. Worthy 1998c,d; Worthy & Grant-Mackie 2003).

► ***Leucocarbo onslowi* (Forbes)**

Chatham Island Shag

- Graculus carunculatus*; Hutton 1872, *Ibis* 2 (3rd ser.): 249. Not *Pelecanus carunculatus* Gmelin, 1789.
- Phalacrocorax carunculatus*; Hutton 1873, *Trans. Proc. N.Z. Inst.* 5: 224. Not *Pelecanus carunculatus* Gmelin, 1789.
- Graculus carunculatus*; Finsch 1874, *Journ. für Ornith.* 22: 213. Not *Pelecanus carunculatus* Gmelin, 1789.
- Phalacrocorax cirrhatus*; Hutton 1879, *Trans. Proc. N.Z. Inst.* 6: 336. In part.
- Phalacrocorax imperialis*; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 153. Not *Phalacrocorax imperialis* King, 1831.
- Phalacrocorax onslowi* Forbes, 1893: *Ibis* 5 (6th ser.): 533 – Chatham Islands.
- Phalacrocorax rothschildi* Forbes, 1893: *Ibis* 5 (6th ser.): 537 – Chatham Islands.
- Hypoleucus carunculatus onslowi* (Forbes); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 412.
- Phalacrocorax (Leucocarbo) carunculatus onslowi* Forbes; Checklist Committee 1953, *Checklist N.Z. Birds*: 30.
- Leucocarbo carunculatus onslowi* (Forbes); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 32.
- Leucocarbo onslowi* (Forbes); van Tets 1976, *Proc. 16th International Ornith. Congress*: 122.

Phalacrocorax carunculatus onslowi Forbes; Dorst & Mougín 1979, in Peters, *Check-list birds World 1* (2nd edition): 176.

Euleucocarbo onslow (Forbes); Siegel-Causey 1988, *Condor* 90: 892. Unjustified emendation.

Leucocarbo (carunculatus) onslowi (Forbes); Johnsgard 1993, *Cormorants, Darters and Pelicans*: 275.

Chatham Islands (Bell & Bell 2000c, Bester & Charteris 2005). Recorded from both Holocene fossil and midden deposits (Millener 1991).

► ***Leucocarbo ranfurlyi* (Ogilvie-Grant)**

Bounty Island Shag

Phalacrocorax ranfurlyi Ogilvie-Grant, 1901: *Bull. Brit. Ornith. Club* 11: 66 – Bounty Island.

Hypoleucus campbelli ranfurlyi (Ogilvie-Grant); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 413.

Phalacrocorax carunculatus ranfurlyi Ogilvie-Grant; Peters 1931, *Check-list Birds World 1*: 91.

Phalacrocorax (Leucocarbo) campbelli ranfurlyi Ogilvie-Grant; Checklist Committee 1953, *Checklist N.Z. Birds*: 30.

Leucocarbo campbelli ranfurlyi (Ogilvie-Grant); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33.

Leucocarbo ranfurlyi (Ogilvie-Grant); van Tets 1976, *Proc. 16th International Ornith. Congress*: 122.

Phalacrocorax campbelli ranfurlyi Ogilvie-Grant; Dorst & Mougín 1979, in Peters, *Check-list Birds World 1* (2nd edition): 177.

Euleucocarbo ranfurlyi (Ogilvie-Grant); Siegel-Causey 1988, *Condor* 90: 892.

Leucocarbo (carunculatus) ranfurlyi (Ogilvie-Grant); Johnsgard 1993, *Cormorants, Darters and Pelicans*: 283.

Breeds only on the Bounty Islands; possible vagrant at Antipodes Islands (Warham & Bell 1979, Robertson & van Tets 1982, Taylor 2000a).

► ***Leucocarbo colensoi* (Buller)**

Auckland Island Shag

Phalacrocorax colensoi Buller, 1888: *History of the Birds of N.Z.*, 2nd edition 2: 161 – Auckland Islands. In part.

Phalacrocorax traversi Ogilvie-Grant, 1905: *Ibis* 5 (8th ser.): 568 – Auckland Islands. In part.

Phalacrocorax campbelli Ogilvie-Grant, 1905: *Ibis* 5 (8th ser.): 573 – Auckland Islands. In part.

Hypoleucus campbelli colensoi (Buller); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 413.

Phalacrocorax carunculatus colensoi Buller; Peters 1931, *Check-list Birds World 1*: 91.

Phalacrocorax (Leucocarbo) campbelli colensoi Buller; Checklist Committee 1953, *Checklist N.Z. Birds*: 30.

Leucocarbo campbelli colensoi (Buller); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33.

Leucocarbo colensoi (Buller); van Tets 1976, *Proc. 16th International Ornith. Congress*: 122.

Phalacrocorax campbelli colensoi Buller; Dorst & Mougín 1979, in Peters, *Check-list Birds World 1* (2nd edition): 177.

Euleucocarbo colensoi (Buller); Siegel-Causey 1988, *Condor* 90: 892.

Leucocarbo (carunculatus) colensoi (Buller); Johnsgard 1993, *Cormorants, Darters and Pelicans*: 279.

Breeds only on the Auckland Islands (Taylor 2000a). One resident at Snares Islands/Tini Heke 1994–2001 (Miskelly *et al.* 2001a,b). Midden remains have been found in dunes on Enderby Island (Anderson 2005).

► ***Leucocarbo campbelli* (Filhol)**

Campbell Island Shag

Urile campbelli Filhol, 1878: *Bull. Soc. Philomath. Paris* 7(2): 132 – Campbell Island.

Phalacrocorax magellanicus; Hutton 1879, *Trans. Proc. N.Z. Inst.* 11: 338. Not *Pelecanus magellanicus* Gmelin, 1789.

Phalacrocorax nycthemerus; Hutton 1880, *Proc. Linn. Soc. New South Wales* 4: 357. Not *Phalacrocorax nycthemerus* Cabanis, 1855 = *nomen dubium*.

Phalacrocorax campbelli (Filhol); Buller 1905, *Suppl. Birds N.Z.* 2: 39.

Hypoleucus campbelli campbelli (Filhol); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 412.

Phalacrocorax carunculatus campbelli (Filhol); Peters 1931, *Check-list Birds World* 1: 91.

Hypoleucus campbelli (Filhol); Mathews 1936, *Suppl. Birds Norfolk & Lord Howe Islands*: 135.

Phalacrocorax (Leucocarbo) campbelli campbelli (Filhol); Checklist Committee 1953, *Checklist N.Z. Birds*: 30.

Leucocarbo campbelli campbelli (Filhol); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33.

Leucocarbo campbelli (Filhol); van Tets 1976, *Proc. 16th International Ornith. Congress*: 122.

Phalacrocorax campbelli campbelli (Filhol); Dorst & Mougín 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 177.

Breeds only on Campbell Island/Motu Ihupuku (Taylor 2000a). Vagrant at Antipodes Islands (Tennyson *et al.* 2002).

► ***Leucocarbo purpurascens* (Brandt)**

Macquarie Island Shag

Carbo purpurascens Brandt, 1837: *Bull. l'Acad. Imp. Sci., St Petersburg* 3: 56 – no locality = Macquarie Island (*vide* Rothschild 1898, *Bull. Brit. Ornith. Club* 8: 21).

Phalacrocorax carunculatus (Gmelin); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 155. In part.

Phalacrocorax traversi Rothschild, 1898: *Bull. Brit. Ornith. Club* 8: 21 – Macquarie Island.

Hypoleucus carunculatus traversi (Rothschild); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 412.

Phalacrocorax atriceps traversi Rothschild; Peters 1931, *Check-list Birds World* 1: 92.

Hypoleucus atriceps purpurascens (Brandt); Mathews 1936, *Suppl. Birds Norfolk & Lord Howe Islands*: 134.

Phalacrocorax (Leucocarbo) albiventer purpurascens (Brandt); Checklist Committee 1953, *Checklist N.Z. Birds*: 30.

Leucocarbo albiventer purpurascens (Brandt); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33.

Phalacrocorax atriceps purpurascens (Brandt); Devillers & Terschuren 1978, *Le Gerfaut* 68: 76.

Phalacrocorax albiventer purpurascens (Brandt); Dorst & Mougín 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 176.

Leucocarbo atriceps purpurascens (Brandt); Checklist Committee 1990, *Checklist Birds N.Z.*: 84.

Phalacrocorax purpurascens (Brandt); Marchant & Higgins 1990, *HANZAB* 1: 867.

Leucocarbo purpurascens (Brandt); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 129, 177.

Only on Macquarie, Bishop and Clerks Islands (Brothers 1985). Recognised as a full species following Marchant & Higgins (1990) and Holdaway *et al.* (2001).

Genus *Stictocarbo* Bonaparte

Stictocarbo Bonaparte, 1855: *Compt. Rend. Séa. Acad. Sci., Paris* 41: 1115 – Type species (by subsequent designation) *Pelecanus punctatus* Sparrman = *Stictocarbo punctatus* (Sparrman).

Enygrotheres Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 353 – Type species (by original designation) *Pelecanus punctatus* Sparrman = *Stictocarbo punctatus* (Sparrman).

► ***Stictocarbo punctatus* (Sparrman)**

Spotted Shag

Breeds only on offshore islands and some mainland cliffs of the North and South Islands. Two subspecies. The subspecific identities of vagrants reaching Snares Islands/Tini

Heke and Macquarie Island (Ogilvie-Grant 1905, Oliver 1955, Miskelly *et al.* 2001a) have not been determined.

***Stictocarbo punctatus punctatus* (Sparrrman)**

Spotted Shag

- Pelecanus* [sic] *punctatus* Sparrrman, 1786: *Mus. Carlsonianum* 1: n° X, pl. 10 – Queen Charlotte Sound, Marlborough.
- Pelecanus naevius* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 575 – Queen Charlotte Sound, Marlborough.
- Phalacrocorax naevius* (Gmelin); Cuvier 1817, *Règne Anim.* 1: 525.
- Hydrocorax dilophus* Vieillot, 1817: *Nouv. Dict. Hist. Nat.*, nouv. éd. 8: 85. Unnecessary *nomen novum* for *Pelecanus naevius* Gmelin, 1789.
- Graucalus punctatus* (Sparrrman); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 201.
- Graculus punctatus* (Forster) [sic]; G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 20.
- Graculus naevius* (Gmelin); Reichenbach 1850, *Vollst. Naturg. Schwim. Aves Natatores*: pl. 33, fig. 369.
- Stictocarbo punctatus* (Sparrrman); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 43: 574.
- Pelecanus cirrhatus* Gray; Ellman 1861, *Zoologist*: 19: 7472. Not *Pelecanus cirrhatus* Gmelin, 1789.
- Graculus punctatus* (Sparrrman); G.R. Gray 1862, *Ibis* 4: 252.
- Phalacrocorax punctatus* (Sparrrman); Hutton 1904, *Index Faunae N.Z.*: 33.
- Stictocarbo punctatus sassi* Mathews, 1930. *Bull. Brit. Ornith. Club* 50: 19 – North Island.
- Phalacrocorax* (*Stictocarbo*) *punctatus punctatus* (Sparrrman); Checklist Committee 1953, *Checklist N.Z. Birds*: 30.
- Stictocarbo punctatus punctatus* (Sparrrman); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33.
- Leucocarbo punctatus* (Sparrrman); van Tets 1976, *Proceedings 16th International Orn. Congress*: 122.
- Phalacrocorax punctatus punctatus* (Sparrrman); Marchant & Higgins 1990, *HANZAB* 1: 838.

In the North Island, breeds on islands of the inner Hauraki Gulf (e.g. The Noises, Waiheke, Tarahiki (Shag), Motukawao Group), Auckland west coast (Te Henga (Bethells Beach), Oaia Island), Waikato coast (Girdwood Point near Waikaretu) (Turbott 1956b, Checklist Committee 1970, Rowe *et al.* 2000); and on Wellington islands (Kapiti, Makaro/Ward, Matiu/Somes and Mokopuna) (Tennyson 1991b, Robertson 1992, Miskelly 2000, Cotter & Nicholson 2005). In the South Island, breeds along north and east coasts, particularly in the Marlborough Sounds, on Banks Peninsula and in Otago (Robertson, C. *et al.* 2007). Vagrant inland (e.g. Buller 1887–88: 154, Taylor & Parrish 1991). Common in midden and Late Pleistocene or Holocene fossil deposits of North and South Islands (Millener 1991, Worthy & Grant-Mackie 2003).

***Stictocarbo punctatus oliveri* Mathews**

Blue Shag

- Phalacrocorax punctatus*; Ogilvie-Grant 1905, *Ibis* 5 (8th ser.): 567. Not *Pelecanus punctatus* Sparrrman, 1786.
- Stictocarbo steadi* Oliver, 1930: *Trans. N.Z. Inst.* 61: 139 – Otago. Junior secondary homonym of *Carbo carbo steadi* Mathews & Iredale, 1913.
- Stictocarbo* [*punctatus*] *steadi* Oliver; Mathews 1931, *Ibis* 1 (13th ser.): 45.
- Phalacrocorax oliveri* Mathews, 1931: *Bull. Brit. Ornith. Club* 51: 18. *Nomen novum* for *Stictocarbo steadi* Oliver, 1930.
- Phalacrocorax punctatus oliveri* Mathews, 1930 [sic]; Peters 1931, *Check-list Birds World* 1: 92.

Phalacrocorax (Stictocarbo) punctatus steadi (Oliver); Checklist Committee 1953, *Checklist N.Z. Birds*: 31. Not *Carbo carbo steadi* Mathews & Iredale, 1913.

Stictocarbo punctatus steadi Oliver; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33. Not *Carbo carbo steadi* Mathews & Iredale, 1913.

Leucocarbo punctatus oliveri (Mathews); Johnsgard 1993, *Cormorants, Darters and Pelicans*: 315.

Stictocarbo punctatus oliveri (Mathews); Tennyson & Bartle 2008, *Tubinga 19*: 195.

Breeds on Stewart Island/Rakiura and its inshore islands; on Codfish (Whenuahou), Omaui, Pig and Centre Islands; and along the South Island West Coast, where a few breeding colonies have been reported, including The Steeples, Te Miko, Perpendicular Point, Motukiekie Rocks, Point Elizabeth and Open Bay Islands (Stead 1948, Oliver 1955, Kinsky 1970b, Edgar 1972b, Cooper 1991, Cooper & McClelland 1992, O'Donnell & West 1992, Cooper 1994). There is doubt about the validity of this subspecies (Marchant & Higgins 1990) and its breeding distribution (Cooper 1991). Recorded from Holocene fossil and midden deposits on Stewart Island/Rakiura (Worthy 1998c).

Stictocarbo steadi Oliver, 1930 became a junior secondary homonym of *Carbo carbo steadi* Mathews & Iredale, 1913 when Peters (1931) included both names under the genus *Phalacrocorax*. A new name for *Stictocarbo steadi* Oliver (i.e. *Phalacrocorax oliveri* Mathews, 1931) was created by Mathews (1931) in anticipation of Peters (1931), who lumped all cormorant and shag species in the genus *Phalacrocorax*. Article 59.3 of ICZN (1999: 62) states: "A junior secondary homonym replaced before 1961 is permanently invalid unless the substitute name is not in use and the relevant taxa are no longer considered congeneric ...". Although the two taxa are not considered congeneric here, the name *Phalacrocorax punctatus oliveri* is used in several recent publications (e.g. Dorst & Mougín 1979, Marchant & Higgins 1990, del Hoyo *et al.* 1992, Dickinson 2003). Therefore, the junior secondary homonym (*Stictocarbo steadi*) must be regarded as permanently invalid.

▶ *Stictocarbo featherstoni* (Buller)

Pitt Island Shag

Graculus africanus; Hutton 1872, *Ibis* 2 (3rd ser.): 249. Not *Pelecanus africanus* Gmelin, 1788. *Phalacrocorax africanus*; Hutton 1873, *Trans. Proc. N.Z. Inst.* 5: 224. Not *Pelecanus africanus* Gmelin, 1788.

Phalacrocorax featherstoni Buller, 1873; *Ibis* 3 (3rd ser.): 90 – Chatham Islands.

Graculus Featherstoni (Buller); Finsch 1874, *Journ. für Ornith.* 22: 174, 215.

Stictocarbo featherstoni (Buller); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 414.

Phalacrocorax (Stictocarbo) punctatus featherstoni Buller; Checklist Committee 1953, *Checklist N.Z. Birds*: 31.

Stictocarbo punctatus featherstoni (Buller); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33.

Leucocarbo featherstoni (Buller); van Tets 1976, *Proc. 16th International Ornith. Congress*: 122.

Phalacrocorax punctatus featherstoni Buller; Dorst & Mougín 1979, in Peters, *Check-list Birds World 1* (2nd edition): 172.

Stictocarbo featherstoni (Buller); Siegel-Causey 1988, *Condor* 90: 892.

Leucocarbo (punctatus) featherstoni (Buller); Johnsgard 1993, *Cormorants, Darters and Pelicans*: 321.

Chatham Islands (Bell & Bell 2000c, Bester & Charteris 2005). Recorded from Holocene fossil dune and midden deposits (Millener 1991).

Family ANHINGIDAE Lesson: Darters

Anhingas Lesson, 1831: *Traité d'Ornith.* 8: 598 – Type genus *Anhinga* Brisson, 1760.

Genus *Anhinga* Brisson

Anhinga Brisson, 1760: *Ornithologie* 1: 60; 6: 476 – Type species (by tautonymy and monotypy)
Plotus anhinga Linnaeus = *Anhinga anhinga* (Linnaeus).

► *Anhinga melanogaster* Pennant Darter

Anhinga melanogaster Pennant, 1769: *Indian Zool.*: 13, pl. 12 – Sri Lanka, and Java, Indonesia.

Three or four subspecies usually recognised (Marchant & Higgins 1990, del Hoyo *et al.* 1992, Johnsgard 1993, Christidis & Boles 1994, Dickinson 2003): *A. m. melanogaster* (India to South-east Asia, Sumatra, Java, Borneo, Philippines and Sulawesi), *A. m. rufa* (Daudin, 1802) (Africa and Middle East), *A. m. novaehollandiae* (New Guinea and Australia), and sometimes *A. m. vulsini* Bangs, 1918 (Madagascar).

Anhinga melanogaster novaehollandiae (Gould) Australian Darter

Plotus Novae-Hollandiae Gould, 1847: *Proc. Zool. Soc. London* 1847 (15): 34 – “Southern coast of Australia” = New South Wales (*vide* Mathews 1913, *List Birds Australia*: 97).

Plotus novae-hollandiae Gould; Hutton 1904, *Index Faunae N.Z.*: 39.

Plotus novaehollandiae novaehollandiae Gould; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 416.

Anhinga novae-hollandiae (Gould); Stidolph 1927, *Emu* 26: 215.

Anhinga novaehollandiae (Gould); Oliver 1930, *New Zealand Birds*, 1st edition: 201.

Anhinga rufa novaehollandiae (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 31.

Anhinga melanogaster novaehollandiae (Gould); Cramp *et al.* 1977, *Birds Western Palearctic* 1: 223.

Anhinga melanogaster rufa; Checklist Committee 1990, *Checklist Birds N.Z.*: 133. Not *Plotus rufus* Daudin, 1802.

Australia and New Guinea. Four or five stragglers recorded in New Zealand: possibly seen in “summer” 1862 Lake Ohau; one dead Jan. 1874 Hokitika (Buller 1875, Oliver 1955, van Tets & Scarlett 1972). Also live birds: Dec. 1992 Waiharara, Northland (Medway 2000a); Dec. 2003 Wellington Harbour (Medway 2004b); and Nov. 2003 Lake Daniell, Nelson (Scofield 2005a). This race is sometimes considered to be a full species (Marchant & Higgins 1990, del Hoyo *et al.* 1992).

Family FREGATIDAE Degland & Gerbe: Frigatebirds

Fregatinae Degland & Gerbe, 1867: *Ornithologie européenne* 2(11): 357 – Type genus *Fregata* Lacépède, 1799.

Genus *Fregata* Lacépède

Fregata Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 15 – Type species (by subsequent designation) *Pelecanus Aquilus* Linnaeus = *Fregata aquila* (Linnaeus).

Tachypetes Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 63 – Type species (by monotypy)
Pelecanus minor Gmelin = *Fregata minor* (Gmelin).

Atagen G.R. Gray, 1841: *List Gen. Birds* (2nd edition): 101 – Type species (by original designation) *Pelecanus minor* Gmelin = *Fregata minor* (Gmelin).

Parvifregata Mathews, 1920: *Birds Australia (Suppl. 1)* 1: 64 – Type species (by original designation) *Atagen ariel* G.R. Gray = *Fregata ariel* (G.R. Gray).

Several frigatebirds seen at Norfolk Island (Christian 2005), and none of those at the Kermadec Islands (Veitch *et al.* 2004), have been identified to species.

► ***Fregata minor* (Gmelin)**

Great Frigatebird

Pelecanus minor Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 572. Based on the “Lesser Frigate Pelican” of Latham 1785, *Gen. Synop. Birds* 3(2): 590 – no locality = Christmas Island, Indian Ocean (*vide* Lowe 1924, *Novit. Zool.* 31: 306).

Five subspecies commonly accepted, breeding on islands in the following regions (Dorst & Mougín 1979, del Hoyo *et al.* 1992, Dickinson 2003): *F. m. aldabrensis* Mathews, 1914 (west Indian Ocean), *F. m. minor* (Gmelin, 1789) (Indian Ocean and South China Sea), *F. m. palmerstoni* (Pacific Ocean), *F. m. ridgwayi* Mathews, 1914 (east Pacific Ocean), and *F. m. nicolli* Mathews, 1914 (Atlantic Ocean). However, Marchant & Higgins (1990) recognised no subspecies. The common name great frigatebird is adopted for this species, following the discussion by Marchant & Higgins (1990).

***Fregata minor palmerstoni* (Gmelin)**

Great Frigatebird

Pelecanus Palmerstoni Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 573. Based on the “Palmerston Frigate Pelican” of Latham 1785, *Gen. Synop. Birds* 3(2): 592 – Palmerston Island, Pacific Ocean.

Fregata aquila; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 339. Not *Pelecanus aquilus* Linnaeus, 1758.

Tachypetes aquila; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 182. Not *Pelecanus aquilus* Linnaeus, 1758.

Tachypetes aquilus; Cheeseman 1891, *Trans. Proc. N.Z. Inst.* 23: 223. Not *Pelecanus aquilus* Linnaeus, 1758.

Fregata aquila palmerstoni (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 417.

Fregata minor peninsulæ Mathews, 1923: *Bull. Brit. Ornith. Club* 44: 15 – Raine Island, Queensland, Australia.

Fregata minor palmerstoni (Gmelin); Peters 1931, *Check-list Birds World* 1: 96.

Fregata minor (Gmelin) subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 31.

Fregata minor; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 33. Not *Pelecanus minor* Gmelin, 1789.

Fregata minor peninsulæ Mathews; Checklist Committee 1990, *Checklist Birds N.Z.*: 86.

About 15 records from the New Zealand region since 1855, including at Norfolk Island; the most southerly being Westport (Oliver 1930, Checklist Committee 1953, Edgar 1972b, Taylor & Parrish 1991, Moore 1999, Medway 2000a, Fryer 2004). Former attribution of New Zealand birds to *F. m. peninsulæ* (Checklist Committee 1990) followed Condon (1975), but that name is a junior synonym of *F. m. palmerstoni* (see Dorst & Mougín 1979).

► ***Fregata ariel* (G.R. Gray)**

Lesser Frigatebird

Three subspecies generally accepted (Dorst & Mougín 1979, del Hoyo *et al.* 1992, Dickinson 2003): *F. a. ariel* (Indian and Pacific Oceans), *F. a. iredalei* Mathews, 1914 (West Indian Ocean), and *F. a. trinitatis* Miranda-Ribeiro, 1919 (Atlantic Ocean), although their distinctiveness has been questioned (Marchant & Higgins 1990).

***Fregata ariel ariel* (G.R. Gray)**

Lesser Frigatebird

Atagen ariel G.R. Gray, 1845: *Gen. Birds* 3: 669, pl. 185 – no locality = Raine Island, northern Queensland, Australia (*vide* Mathews 1914, *Austral Avian Rec.* 2: 121).

Fregata minor; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 342. Not *Pelecanus minor* Gmelin, 1789.

Tachypetes minor; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 185. Not *Pelecanus minor* Gmelin, 1789.

Fregata ariel ariel (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 418.

Fregata ariel (G.R. Gray); Checklist Committee 1990, *Checklist Birds N.Z.*: 87.

Breeds on islands off Queensland, New Caledonia, Fiji and elsewhere in the tropical Pacific Ocean. Straggles to the New Zealand region: about 30 records since 1907, mostly in the north but once south to Otago (Turbott 1952; Checklist Committee 1953; Oliver 1955; Hudson 1963; Lockstone 1967; Edgar 1971b, 1972b; Marchant & Higgins 1990; Taylor & Parrish 1991; Powlesland *et al.* 1992; Pierce 1992; Guest 1992; Medway 2000a) and probably twice to the Chatham Islands (Imber 1994). Several records from Norfolk Island (Marchant & Higgins 1990, Moore 1999). New Zealand records are considered to be from the closest breeding subspecies (Checklist Committee 1953, 1970; Oliver 1955).

Order CICONIIFORMES: Herons, Ibises and Allies

We recognise only herons, ibises and their allies as members of the Ciconiiformes, following Cracraft *et al.* (2004) who showed that the use of Ciconiiformes to include most of the non-passerines, *sensu* Sibley & Monroe (1990), is untenable as the taxon is then paraphyletic.

Suborder ARDEAE: Herons, Bitterns and Allies

Family ARDEIDAE Leach: Herons and Bitterns

Subfamily ARDEINAE Leach: Herons and Egrets

Ardeidae Leach, 1820: *Eleventh room. In Synopsis Contents British Museum 17th Edition, London*: 69 – Type genus *Ardea*, Linnaeus 1758.

Ardeid taxonomy is unstable at present. Two major papers (McCracken & Sheldon 1998, Sheldon *et al.* 2000) showed that traditional arrangements may be flawed, but failed to recommend viable alternatives. The arrangement below reflects recent consensus (Martínez-Vilalta & Motis 1992, Dickinson 2003, Kushlan & Hancock 2005). *Casmerodius* was formerly regarded as a distinct genus (e.g. Pinto 1938, Hellmayr & Conover 1948, Phelps & Phelps 1958, Meyer de Schauensee 1970, AOU 1983), but morphometrics (Payne & Risley 1976), vocal analyses (McCracken & Sheldon 1997), and genetic data (Sheldon 1987, Sheldon *et al.* 1995, McCracken & Sheldon 1998) do not support its separation from *Ardea*. Some classifications (e.g. Blake 1977) have placed *Ardea alba* in *Egretta*, but we follow Sheldon (1987), Sheldon *et al.* (1995, 2000), McCracken & Sheldon (1998) and Kushlan & Hancock (2005).

Bubulcus is included in the genus *Ardeola* Boie, 1822 in some classifications (e.g. Fjeldså & Krabbe 1990), but Wetmore (1965) and Payne & Risley (1976) listed many characters of *Bubulcus* that differ from those of other species in *Ardeola* Boie. Payne & Risley (1976) and Payne (1979) merged *Bubulcus* into *Egretta* based mainly on morphometric data, and this was followed by Haverschmidt & Mees (1994). Genetic data, however, do not support a close relationship between *Bubulcus* and *Egretta*, but suggest a close relationship to *Ardea* (Sheldon 1987, Sheldon *et al.* 1995, McCracken & Sheldon 1998, Kushlan & Hancock 2005). *Mesophoyx* is sometimes placed in *Egretta*, but, using DNA hybridisation, Sheldon (1987) concluded that it should be included within *Ardea*. This was followed by Sibley & Monroe (1990), although a phylogenetic analysis of osteology still shows a closer relationship to *Egretta* (see Sheldon *et al.* 1995). We follow Kushlan & Hancock (2005) in including *A. intermedia* within *Ardea*.

Otago Museum holds a specimen of striated heron *Butorides striata* (Linnaeus, 1758) labelled as coming from the Kermadec Islands (Veitch *et al.* 2004). The provenance of this specimen requires more research before the species can be added to the New Zealand list.

Genus *Ardea* Linnaeus

Ardea Linnaeus, 1758: *Syst. Nat.*, 10th edition I(1): 141 – Type species (by subsequent designation) *Ardea cinerea* Linnaeus.

Ardaea Dumont, 1804: in Levrault, *Dict. Sci. Nat.*: 467. Unjustified emendation.

Casmerodius Gloger, 1841: *Gemein. Handb. Hilfsb. Naturgesch.*: 412 – Type species (by subsequent designation) *Ardea egretta* Gmelin = *Ardea alba* Linnaeus.

Bubulcus Bonaparte, 1855: *Compt. Rend. Séa. Acad. Sci., Paris* 40: 722 – Type species (by tautonymy) *Ardea ibis* “Hasselquist” = *Ardea bubulcus* Audouin.

- Cosmerodius* Salvadori, 1882: *Ornitologia Papuasie Molucche* 3: 349. Unjustified emendation.
Mesophoyx Sharpe, 1894: *Bull. Brit. Ornith. Club* 3: 38 – Type species (by original designation)
Ardea intermedia Wagler, 1829.
Myola Mathews, 1913: *Austral Avian Rec. I*: 195 – Type species (by original designation) *Ardea pacifica* Latham.

► ***Ardea cinerea* Linnaeus**

Grey Heron

Ardea cinerea Linnaeus, 1758: *Syst. Nat., 10th edition I*(1): 143 – Europe, restricted to Sweden (fide Hartert 1920, *Vögel Pal. Fauna*: 1229).

Cosmopolitan except for Antarctica and Australia. Four subspecies.

***Ardea cinerea jouyi* Clark**

Oriental Grey Heron

Ardea cinerea; Buller 1905, *Suppl. Birds N.Z. I*: 193. Not *Ardea cinerea* Linnaeus, 1758.

Ardea cinerea jouyi Clark, 1907: *Proc. U.S. Nat. Mus.* 32: 468 – Seoul, Korea.

Ardea cinerea rectirostris; Checklist Committee 1953, *Checklist N.Z. Birds*: 31. Not *Ardea rectirostris* Gould, 1843.

Ardea cinerea jouyi Clark; Kushlan & Hancock 2005, *The Herons. Ardeidae*: 69.

Mongolia, China, Korea, Japan, Taiwan, Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaya and Indonesia (Sumatra, Java). One accepted record from Australia (2002). Single immature bird caught on board a boat off the east coast of the North Island about 1898 (Buller 1899). Parkes (1974) found this specimen in the Carnegie Museum, clearly labelled, and referred it to *A. c. jouyi*. He found no reason to doubt the specimen's provenance, but Marchant & Higgins (1990) excluded the record, considering it an assisted passage. Buller (1899, 1905–06) stated that the specimen came from a schooner. A schooner was probably one of the coastal traders so numerous in the late 1800s, rather than an ocean-going vessel, making the record more likely to be from New Zealand waters. Records from the 1940s (Dawson 1949, 1951a; Checklist Committee 1953) were retracted by the observer (Dawson 1974). Recorded at Fiji, 2005 (Pratt *et al.* 2008; most likely of this subspecies).

► ***Ardea pacifica* Latham**

Pacific Heron

Ardea pacifica Latham, 1802: *Index Ornith. Suppl. I*: lxx – New South Wales, Australia.

Ardea Bullaragang Wagler, 1827: *Syst. Avium, Ardea*: sp. 5. Unnecessary *nomen novum* for *Ardea pacifica* Latham, 1802.

Ardea Bullaranjaus Wagler; J.E. Gray 1829, in E. Griffith, *Anim. Kingdom* 8 (Aves, 3): 337. Unjustified emendation.

Myola pacifica (Latham); Mathews 1920, *Birds Australia (Suppl.) I*: 52.

Notophoyx pacifica (Latham); Oliver 1955, *New Zealand Birds*, 2nd edition: 390.

Ardea pacifica Latham; Kushlan & Hancock 2005, *The Herons. Ardeidae*: 93.

Throughout Australia and Tasmania. Single record from Norfolk Island, 1978 (Moore 1981). A scarce vagrant to New Zealand with seven accepted records: Methven, 1952 (Stidolph 1952); Matamata, 1978 (Lacey 1979); Onepu, Houhora, 1981 (Hensley 1982); Waipu, 1984 (Howell 1985); Hokitika, 2002 (Medway 2002g); Totara, Otago, 2003 (Medway 2003a); Toko, Taranaki, 2003 (Medway 2003b). Single unverified record from Macauley Island, Kermadec Group, 1980 (R. Taylor in Veitch *et al.* 2004).

► ***Ardea modesta* J.E. Gray**

White Heron

Ardea modesta J.E. Gray, 1831: *Zool. Miscell.*: 19 – India.

Ardea Torra Franklin, 1831: *Proc. Zool. Soc. London 1830–1831* (1): 123 – central India.

Ardea Putea Franklin, 1831: *Proc. Zool. Soc. London 1830–1831* (1): 124 – India.

- Ardea timoriensis* Lesson, 1831: *Traité d'Ornith.* 1830: 575 – Timor.
Herodias flavirostris (Wagler); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 12. Not *Ardea flavirostris* Vieillot, 1823.
Herodias syrmatophorus Gould, 1846: *Birds of Australia* 6: pl. 56 – New South Wales, Australia.
Ardea alba Ellman, 1861: *Zoologist* 19: 7469 – New Zealand. Junior primary homonym of *Ardea alba* Linnaeus, 1758.
Ardea flavirostris Wagler; G.R. Gray 1862, *Ibis* 4: 235. Not *Ardea flavirostris* Vieillot, 1823.
Ardea syrmatophora (Gould); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 226. Emendation.
Ardea egretta; Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* – 1 (Appendix): 30. Not *Ardea egretta* Gmelin, 1789.
Herodias timoriensis (Lesson); Buller 1905, *Suppl. Birds N.Z.* 1: 194.
Egretta alba syrmatophora (Gould); Mathews 1912, *Novit. Zool.* 18(3): 230.
Egretta alba neglecta Mathews, 1912: *Novit. Zool.* 18(3): 230 – Parry's Creek, Western Australia.
Herodias alba syrmatophora Gould; Mathews 1913, *List Birds Australia*: 81.
Herodias alba maoriana Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 404 – South Island.
Casmerodius albus maorianus (Mathews & Iredale); C.A. Fleming 1939, *Emu* 38: 389.
Egretta alba modesta (J.E. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 32.
Ardea alba modesta J.E. Gray; Payne 1979, in Peters *Check-list Birds World* 1 (2nd edition): 204.
Egretta alba; Moore 1999, *Notornis* 46: 358. Not *Ardea alba* Linnaeus, 1758.
Casmerodius albus; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 129, 177. Not *Ardea alba* Linnaeus, 1758.
Ardea modesta J.E. Gray; Kushlan & Hancock 2005, *The Herons. Ardeidae*: 104.

Sometimes considered a subspecies of the great egret *Ardea alba*. However, treated as a full species by Sibley & Monroe (1990), and in the most recent review (Kushlan & Hancock 2005), and so treated here. Known as the eastern great egret elsewhere in range. Distributed from India, China and Japan to Australia and New Zealand. In New Zealand, the only known breeding place is at Okarito, Westland (15–25 pairs). Immature birds disperse widely, mainly north, but some even reach the subantarctic islands. Winter numbers are sometimes boosted, as in 1957, by vagrants from Australia (Andrew 1963). Four records from Macquarie Island: 1951 and 1957 (Keith & Hines 1958), and 1975 and 1976 (Green 1989). Accidental to Norfolk Island (Bassett-Hull 1910, Hermes *et al.* 1986). Holocene sand-dune deposits in the Far North (Tom Bowling Bay, Waikuku Beach) include bones of immature birds, and are numerous enough to suggest a former breeding colony in that area. Scattered records throughout New Zealand in dune deposits and middens (Millener 1981a, Scofield *et al.* 2003).

▶ ***Ardea ibis* Linnaeus**

Cattle Egret

Ardea Ibis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1(1): 144 – Egypt.

Southern Europe, Africa, and Asia. Also in northern South America, North America, Australia and New Zealand. Three subspecies, one in New Zealand.

***Ardea ibis coromanda* (Boddaert)**

Eastern Cattle Egret

Cancroma Coromanda Boddaert, 1783: *Tables des Planches Enluminées d'Histoire Naturelle de M. d'Aubenton*: 54. Based on "Crabier de la côte de Coromandel" in Buffon 1765–81, *Hist. Nat. Oiseaux* 8: pl. 190 – Coromandel, India.

Ardea coromandeliensis Stephens, 1819: *General Zoology* 11: 577. Unjustified emendation.

- Ardea affinis* Horsfield, 1820: *Trans. Linn. Soc. London* 13: 189 – Java, Indonesia.
- Ardea Flavivrostris* Vieillot, 1823: *Tableaux Encycl. Method. Ornith.* 3: 1124. Based on “Crabier de la côte de Coromandel” in Buffon 1765–81, *Hist. Nat. Oiseaux* 8: pl. 190 – Coromandel, India.
- Ardea russata* Wagler, 1827: *Syst. Avium, Ardea*: sp. 12 – Australia, and Java, Indonesia. In part.
- Ardea Caboga* Franklin, 1832: *Proc. Comm. Sci. Corresp. Zool. Soc. London* 2(20): 124 – India.
- Ardea bubulcus* J.E. & G.R. Gray, 1846: *Cat. Specimens Drawings Mamm. Birds Nepal Thibet.* 134 – Nepal.
- Ardea coromanda* (Boddaert); G.R. Gray 1847, *Gen. Birds* 3(37): 556.
- Bubulcus coromandensis* Bonaparte, 1855: *Consp. Gen. Avium* 2: 125. Unjustified emendation.
- Bubulcus ibis coromandus* (Boddaert); Checklist Committee 1970, *Annot. Checklist Birds N.Z.:* 35.
- Egretta ibis coromanda* (Boddaert); Payne 1979, in Peters *Check-list Birds World 1* (2nd edition): 211.
- Bubulcus ibis*; Moore 1999, *Notornis* 46: 358. Not *Ardea ibis* Linnaeus, 1758.
- Ardea ibis coromanda* (Boddaert); Kushlan & Hancock 2005, *The Herons. Ardeidae*: 138.

Throughout South-east Asia, including south China and Japan, and south to Australia since about 1948. In New Zealand, first reported from Moutere, Nelson, in 1956 (Brown 1980). Annual migrant since 1963: north of Christchurch, 1963 (Turbott *et al.* 1963), 1964 (Turbott 1964); Otago, 1963 (B.E. Kelly in Sibson 1963); Greymouth, 1964 (Grant 1964); Masterton, 1964 (Boeson 1964); and Levin, 1964 (Jones 1964). Coincident with increases in breeding population in Australia, sizeable flocks developed in New Zealand through the 1970s and 1980s. By the mid-1980s, winter counts showed several thousand birds, reappearing annually in many favoured localities from Northland to Southland (Heather 1978, 1982, 1986; Pratt 1979; Jackson & Olsen 1988). At the peak of the irruptions birds were recorded on the Chatham Islands in 1983 (Gaze 1985, Heather 1991) and Kermadec Islands in 1994 (Veitch *et al.* 2004). Recorded annually during this period on Norfolk Island (Hermes *et al.* 1986). Occasional to Snares Islands/Tini Heke (Miskelly *et al.* 2001a). Single record from Macquarie Island in 1975 (Green 1989). Recently, annual flock sizes in New Zealand have declined markedly. Only three records of birds summering in New Zealand (Heather 1978). Reported breeding attempt (Westerskov 1974) now discredited (Heather 1978).

► ***Ardea intermedia* (Wagler) Plumed Egret**

Ardea intermedia Wagler, 1829: *Isis von Oken*, Heft 6: col. 659 – Java, Indonesia.

Southern and eastern Africa, India, South-east Asia, Japan, Sunda Islands, New Guinea and Australia; straggling to New Zealand. Three subspecies.

***Ardea intermedia plumifera* (Gould) Plumed Egret**

Herodias plumiferus Gould, 1848: *Proc. Zool. Soc. London* 1847 (15): 221 – New South Wales, Australia.

Egretta intermedia plumifera (Gould); Mathews 1912, *Novit. Zool.* 18(3): 229.

Mesophoyx intermedia plumifera (Gould); Mathews 1913, *List Birds Australia*: 81.

Egretta intermedia; Checklist Committee 1990, *Checklist Birds N.Z.:* 90. Not *Ardea intermedia* Wagler, 1829.

Ardea intermedia plumifera (Gould); Kushlan & Hancock 2005, *The Herons. Ardeidae*: 109.

Southern Moluccas (Maluku Islands), Lesser Sundas, New Guinea and Australia; straggling to New Zealand. The first New Zealand record was of an adult in breeding

plumage shot in the Manawatu River Estuary near Foxton in May or Jun. during the period 1970–73, now in the Museum of New Zealand (Seddon & Seddon 1979). Subsequently at least eight verified records, most in autumn and winter, suggesting birds may accompany cattle egrets during their annual migration: Lower Waikato, 1979 (Seddon & Seddon 1979), 1981 (Checklist Committee 1990), 1985 (Howell 1987), 1993 (Taylor & Parrish 1994b, Medway 2000a); Kaikohe, 1986 (Howell 1987); Estuary of the Heathcote and Avon Rivers/Ihutai, 1986 (Crossland 1992, Gaze 1987); Cobden, Greymouth, 1990 (Guest 1991); Lake Ellesmere (Te Waihora) (three), 1998 (O'Donnell 2001, Medway 2001a); Whangapoua Estuary, Coromandel, 2001 (Medway 2002e); Motueka, 2004 (Rare Birds Committee 2005); Lawrence, 2004 (Rare Birds Committee 2005). Unverified records from Greymouth, 1995 (O'Donnell & West 1996) and Karamea, Nelson 1990–91. Single published record from Norfolk Island, 1985 (Hermes *et al.* 1986).

Genus *Egretta* T. Forster

Egretta T. Forster, 1817: *Synop. Cat. Brit. Birds*: 59 – Type species (by monotypy) *Ardea garzetta* Linnaeus = *Egretta garzetta garzetta* (Linnaeus).

Herodias Boie, 1822: *Isis von Oken*, Heft 5: col. 559 – Type species (by subsequent designation) *Ardea garzetta* Linnaeus = *Egretta garzetta garzetta* (Linnaeus).

Garzetta Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 76 – Type species (by tautonymy) *Ardea garzetta* Linnaeus = *Egretta garzetta garzetta* (Linnaeus).

Erodius Brehm, 1832: *Handb. Lieb. Stuben-Vög.*: 352. Unjustified emendation.

Erodius Macgillivray, 1842: *Man. Brit. Ornith.* 2: 130. Junior homonym of *Erodius* Fabricius, 1775.

Demigretta Blyth, 1846: *Journ. Asiatic Soc. Bengal* 15: 372 – Type species (by monotypy) *Demigretta concolor* Blyth = *Egretta sacra sacra* (Gmelin).

Demegretta Blyth, 1852: *Cat. Birds Mus. Asiatic Soc.* 1849: 365. Unjustified emendation.

Hemi-egretta Bonaparte, 1857: *Consp. Gen. Avium* 2: 120. Unjustified emendation.

Demiegretta Baird, 1858: *Rep. Expl. Surv. Miss. River Pac. Ocean. Birds* 9(14): 660. Unjustified emendation.

Notophox: Sharpe, 1895: *Bull. Brit. Ornith. Club* 5: 13 – Type species (by original designation) *Ardea novaehollandiae* Latham = *Egretta novaehollandiae novaehollandiae* Latham.

► *Egretta novaehollandiae* (Latham)

White-faced Heron

Sulawesi, Lesser Sunda Islands (Lombok to Timor), south and south-east New Guinea, New Caledonia, Australia, and New Zealand. Two subspecies, *E. n. nana* in New Caledonia and Loyalty Islands, *E. n. novaehollandiae* elsewhere.

Egretta novaehollandiae novaehollandiae (Latham)

White-faced Heron

Ardea Novae Hollandiae Latham, 1790: *Index Ornith.*: 701 – “New Holland”, restricted to New South Wales, Australia (*vide* Mathews 1912, *Novit. Zool.* 18(3): 231).

Ardea leucops Wagler, 1827: *Syst. Avium, Ardea*: sp. 17 Unnecessary *nomen novum* for *Ardea novaehollandiae* Latham, 1790.

Notophox novaehollandiae (Latham); Hutton 1904, *Index Faunae N.Z.*: 31.

Notophox novaehollandiae (Latham); Checklist Committee 1953, *Checklist N.Z. Birds*: 32.

Notophox novaehollandiae novaehollandiae (Latham); Oliver 1955, *New Zealand Birds*, 2nd edition: 388.

Ardea novaehollandiae Latham; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 34.

Egretta novaehollandiae (Latham); Payne 1979, in Peters *Check-list Birds World 1* (2nd edition): 211.

Ardea novaehollandiae novaehollandiae Latham; Checklist Committee 1990, *Checklist Birds N.Z.*: 88.

Egretta novaehollandiae novaehollandiae Latham; Martínez-Vilalta & Motis 1992, in del Hoyo, Elliot & Sargatal *Handbook Birds World 1*: 411.

Eastern Indonesia, south and south-east New Guinea, Australia and New Zealand; recorded in recent decades on south-west Pacific islands (Watling 2001). In New Zealand, sporadically reported from c. 1865 (Buller 1869). Now widely distributed. Breeding suspected in 1939 in Westland (Okarito) and Otago (Bushey Park); confirmed in 1941 at Shag River (Waihemo), Otago. It spread rapidly north, especially in the 1950s (for details see Carroll 1970). First recorded on Kermadec Islands 1965 (Merton 1970) but has not established (Veitch *et al.* 2004). First recorded on Norfolk Island 1900s (Basset-Hull 1910); now well established also on Nepean and Philip Islands (Hermes *et al.* 1986 Moore 1985a). Present on Chatham Islands since 1966 (Carroll 1970); breeding since the 1970s, perhaps earlier (Hemmings & Chappell 1988). Straggler to subantarctic islands: Snares Islands/Tini Heke (Miskelly *et al.* 2001a), Auckland Islands (Travers 1883), Campbell Island/Motu Ihupuku (1951–58; Carroll 1970) and Macquarie Island (1957, 1975, 1976; Green 1989).

► ***Egretta garzetta* (Linnaeus)**

Little Egret

Ardea Garzetta Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 237 – Oriente, error for Malalbergo, River Reno, south of Ferrara, Italy (*vide* Grant & Mackworth-Præd 1933, *Bull. Brit. Ornith. Club* 53: 194).

Southern Europe, Africa, east to India, South-east Asia, China, Japan, Indonesia and Australia. Amadon & Woolfenden (1952) split the yellow-lored and yellow-soled birds of north and east Australia and New Zealand—*E. g. immaculata*—from the greyish-lored and greyish-soled birds of South-east Asia and the south-west Pacific—*E. g. nigripes* (Temminck, 1840).

***Egretta garzetta immaculata* (Gould)**

Little Egret

Herodias immaculata Gould, 1846: *Birds of Australia* 25: pl. & text – “Northern portion of Australia” = Port Essington, Northern Territory, Australia (*vide* Mathews 1912, *Novit. Zool.* 18(3): 231).

Herodias melanopus Gould, 1865: *Handb. Birds Australia* 2: 304. Junior secondary homonym of *Ardea melanopus* Wagler, 1829.

Ardea nivea; Reichenow 1877, *Journ. für Ornith.*: 271. Not *Ardea nivea* Gmelin, 1770.

*Egretta garzetta kemp*i Mathews, 1916: *Austral Avian Rec.* 3: 56 – Cape York, Northern Queensland, Australia.

Egretta garzetta; Checklist Committee 1953, *Checklist N.Z. Birds*: 32. Not *Ardea garzetta* Linnaeus, 1766.

Egretta garzetta immaculata (Gould); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 34.

Egretta garzetta nigripes; Checklist Committee 1990, *Checklist Birds N.Z.*: 90. Not *Ardea nigripes* Temminck, 1840.

Indonesia (Sunda Islands), New Guinea, Australia (where commonest in north and east) and Tasmania; straggler to New Zealand. First recorded in New Zealand 1945, but this record not recognised for many years (Wodzicki & Eyles 1945; see Crossland 1992). Next recorded 1951 (Brathwaite 1952). An uncommon annual vagrant (generally in autumn) recorded from many localities, mainly coastal, throughout North and South Islands; also Kermadec Islands (two in 1974, C. Smuts-Kennedy in Veitch *et al.* 2004).

Records include birds banded in Australia (Marchant & Higgins 1990). At least two records from Norfolk Island (Hermes *et al.* 1986 c.f. Marchant & Higgins 1990). We follow Amadon & Woolfenden (1952) and other recent authors (e.g. Martínez-Vilalta & Motis 1992) in recognising *E. g. immaculata*, but see Marchant & Higgins (1990).

► ***Egretta sacra* (Gmelin)**

Reef Heron

Asia to Australia, Tasmania and New Zealand, and east through the tropical Pacific to the Marquesas, Tuamotu and Austral Islands. Two subspecies, with *E. s. albolineata* (G.R. Gray, 1859) in New Caledonia and Loyalty Islands only.

***Egretta sacra sacra* (Gmelin)**

Reef Heron

Ardea sacra Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 640. Based on the “Sacred Heron” of Latham 1785, *Gen. Synop. Birds* 3: 92 – Tahiti, French Polynesia, error for southern Tonga Islands (*vide* Medway 2004, *Notornis* 51: 156).

Ardea matook Vieillot, 1817: *Nouv. Dict. Hist. Nat., nouv. éd.* 14: 416 – Queen Charlotte Sound, Marlborough.

Ardea jugularis Wagler, 1827: *Syst. Avium, Ardea*: sp. 18 – Islands of the South Pacific Ocean, and Queen Charlotte Sound, Marlborough.

Herodias matook (Vieillot); in E. Dieffenbach 1843, *Travels in N.Z.* 2: 196.

Ardea iugularis J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 172 – Islands of the south Pacific Ocean, and Queen Charlotte Sound, Marlborough.

Herodias pannosus Gould, 1848: *Proc. Zool. Soc. London 1847* (15): 221 – Port Stephens, New South Wales, Australia.

Ardea pannosa (Gould); G.R. Gray 1849, *Gen. Birds* 3 (Appendix): 25.

Herodias pannosa (Gould); Bonaparte 1857, *Consp. Gen. Avium* 2: 120.

Herodias sacra (Gmelin); Bonaparte 1857, *Consp. Gen. Avium* 2: 121.

Ardea (*Herodias*) *sacra* (Gmelin); G.R. Gray 1859, *Cat. Birds Tropical Is Pacific Ocean*: 48.

Ardea cinerea Ellman, 1861: *Zoologist* 19: 7469 – New Zealand. Junior primary homonym of *Ardea cinerea* Linnaeus, 1758.

Demigretta sacra (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 1: 198.

Demigretta sacra matook (Vieillot); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 405.

Demigretta matook (Vieillot); Mathews 1920, *Birds Australia (Suppl.)* 1: 52.

Egretta sacra sacra (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 32.

Demigretta sacra (Gmelin); Oliver 1955, *New Zealand Birds*, 2nd edition: 394.

Distribution as for species, but not New Caledonia and Loyalty Islands. Breeds in the North and South Islands, mainly along rocky shores; especially numerous in Northland; thinly distributed south of Marlborough Sounds; scarce on Stewart Island/Rakiura (Edgar 1978). Chatham Islands: rare (one at Owenga, c. 1985; Checklist Committee 1990, Freeman 1994). One South Island midden record (Kaikoura; Checklist Committee 1990). Records from Kermadec Islands unverified (Veitch *et al.* 2004). Subspecies dimorphic elsewhere, but birds are grey in New Zealand, where only one report of a white-phase bird is accepted (1987, estuary of the Heathcote and Avon Rivers/Ihutai; Scofield 2006). Unconfirmed white-phase birds may be albinos or other species (Mayr & Amadon 1941; Wodzicki & Eyles 1945, see Crossland 1992; Merton 1970; Veitch *et al.* 2004).

Subfamily NYCTICORACINAE Bonaparte: Night Herons

Nycticoracinae Bonaparte, 1854: *Ann. Sci. Nat., Zool. Paris*, 4th Series 1: 142 – Type genus *Nycticorax* T. Forster, 1817.

Genus *Nycticorax* T. Forster

Nycticorax T. Forster, 1817: *Synop. Cat. Brit. Birds*: 59 – Type species (by monotypy) *Nycticorax infaustus* Forster = *Nycticorax nycticorax* (Linnaeus).

Calherodius Bonaparte, 1855: *Consp. Gen. Avium* 2: 139 – Type species (by monotypy) *Ardea cucullata* Lichtenstein = *Nycticorax leuconotus* (Wagler).

► *Nycticorax caledonicus* (Gmelin)

Rufous Night Heron

Ardea caledonica Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 626. Based on the “Caledonian Night Heron” of Latham 1785, *Gen. Synop. Birds* 3: 55 – New Caledonia.

Philippines, Indonesia, New Guinea, Solomon Islands, New Caledonia, Australia. Five subspecies.

Nycticorax caledonicus australasiae (Vieillot)

Nankeen Night Heron

Ardea maculata Latham, 1802: *Index Ornith. Suppl.*: lxiv – New South Wales, Australia. Junior primary homonym of *Ardea maculata* Boddaert, 1783.

Ardea novaehollandiae Vieillot, 1817: *Nouv. Dict. Hist. Nat.*, nouv. éd. 14: 436 – New South Wales, Australia. Junior primary homonym of *Ardea novaehollandiae* Latham, 1790.

Ardea australasiae Vieillot, 1823: *Tableaux Encycl. Méthod. Ornith.* 3: 1130 – New South Wales, Australia (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 405).

Nycticorax caledonicus hilli Mathews, 1912: *Novit. Zool.* 18(3): 233 – Parry’s Creek, Western Australia.

Nycticorax caledonicus australasiae (Vieillot); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 405.

Nycticorax caledonicus (Gmelin) subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 32.

Nycticorax caledonicus caledonicus; Oliver 1955, *New Zealand Birds*, 2nd edition: 390. Not *Ardea caledonica* Gmelin, 1789.

Nycticorax caledonicus; Checklist Committee 1990, *Checklist Birds N.Z.*: 92. Not *Ardea caledonica* Gmelin, 1789.

Indonesia, Sulawesi, Moluccas, Lesser Sundas, New Guinea, Australia, New Zealand. In New Zealand, rare breeding resident, but whether breeding population native or introduced is unclear. Liberated in Wellington 1852 (Buller 1887–88) and 1982 (Checklist Committee 1990). A Wellington record in 1856 may have been one of the liberated birds, while recent sightings of birds with leg bands may refer to the 1982 release: Collingwood 1983, Lower Hutt 1984, Warkworth 1984. Occasional vagrant from Australia with c. 25 records of apparent vagrants since the first record at Maungatautari in 1842 (Colenso 1844, 1845). The sighting of two immatures near Blenheim in 1958 (Bell 1958) was suggestive of breeding; two breeding colonies now established along the Whanganui River: Jerusalem 1995 (Marsh & Lovei 1997), Kemps Pole 2001 (Parrish & Lock 1997).

Subfamily BOTAURINAE Reichenbach: Bitterns

Botaurinae Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 15 – Type genus *Botaurus* Stephens, 1819.

Genus *Botaurus* Stephens

Botaurus Stephens, 1819: *in* Shaw, *General Zool.* 11: 592 – Type species (by subsequent designation) *Ardea stellaris* Linnaeus = *Botaurus stellaris* (Linnaeus).

► *Botaurus poiciloptilus* (Wagler)

Australasian Bittern

Ardea poiciloptila Wagler, 1827: *Syst. Avium, Ardea*, sp. 28 – New South Wales, Australia.

Botaurus melanotus G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 196 – New Zealand.

Junior primary homonym of *Botaurus melanotus* Brehm, 1842.

Botaurus poiciloptilus (Wagler); G.R. Gray 1847, *Gen. Birds* 3: 557.

Botaurus australis Gould, 1848: *Birds of Australia* 6: 54 – New South Wales, Australia.

Botaurus poicilopterus (Wagler); G.R. Gray 1862, *Ibis* 4: 236. Unjustified emendation.

Ardea poeciloptera Finsch, 1870: *Jour. für Ornith.* 18: 348. Unjustified emendation.

Ardea poiceloptera Hutton, 1871: *Cat. Birds N.Z.*: 28. Unjustified emendation.

Botaurus poeciloptilus (Wagler); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 238. Unjustified emendation.

Botaurus poiciloptilus poiciloptilus (Wagler); Mathews 1912, *Novit. Zool.* 18(3): 234.

Botaurus poiciloptilus melanotus G.R. Gray; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 406. Not *Botaurus melanotus* Brehm, 1842.

Botaurus poiciloptilus maorianus Iredale & Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 76.

Nomen novum for *Botaurus melanotus* G.R. Gray, 1843.

Botaurus poiciloptilus mathewsi Hachisuka, 1931: *Bull. Brit. Ornith. Club* 52: 41 – New Caledonia.

Botaurus stellaris poiciloptilus (Wagler); Checklist Committee 1953, *Checklist N.Z. Birds*: 33.

Botaurus poiciloptilus (Wagler); Checklist Committee 1990, *Checklist Birds N.Z.*: 93.

New Caledonia, Australia (all coastal areas except the tropical north), Tasmania and New Zealand. Sometimes treated as a subspecies of the Eurasian *B. stellaris* (Linnaeus, 1758). In New Zealand widely distributed. On Chatham Islands, reported by Travers & Travers (1873) and Forbes (1893). Millener (1999) suggested that it formerly bred there, and Fleming (1939) gave the date of extinction on the Chatham Islands as 1910. Aikman & Miskelly (2004) accepted it as a vagrant to the Chatham Islands. Two mainland “Holocene fossil” records (Ngaroto and Poukawa) but at neither site is it likely that the bones are more than a few hundred years old. Holdaway *et al.* (2001) suggested that this species is a recent colonist in New Zealand.

Genus *Ixobrychus* Billberg

Ixobrychus Billberg, 1828: *Synop. Faun. Scand.* 1: 166 – Type species (by subsequent designation)

Ardea minuta Linnaeus = *Ixobrychus minutus* (Linnaeus).

Ardetta G.R. Gray, 1842: *List Gen. Birds* (revised edition) – Appendix: 13 – Type species (by original designation) *Ardea minuta* Linnaeus = *Ixobrychus minutus* (Linnaeus).

Ardeola Bonaparte, 1852: *Ann. Lyc. Nat. Hist. N.Y.* 2: 307 – Type species (by monotypy) *Ardea exilis* Gmelin = *Ixobrychus exilis* (Gmelin). Junior homonym of *Ardeola* Boie 1822.

Nannocnus Stejneger, 1887: *Proc. U.S. Nat. Mus.* 10: 291 – Type species (by original designation)

Ardetta eurhythma Swinhoe = *Ixobrychus eurhythmus* (Swinhoe).

An immature small bittern sighted in the Meremere area in 1962 and 1963 was the subject of much controversy regarding its identification (Falla 1963b, Howard 1963, Howard & McKenzie 1965). Recent sightings of Oriental *Ixobrychus* species in Australia suggest that this record should be re-examined.

▶ *Ixobrychus minutus* (Linnaeus)

Little Bittern

Ardea minuta Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 240 – “Helvetia Aleppo”, restricted to Switzerland (*vide* Mathews 1913, *List Birds Australia*: 85).

Europe, Asia, Africa (except north), south New Guinea and Australia. Four subspecies.

Ixobrychus minutus dubius Mathews

Australian Little Bittern

Ardea pusilla Vieillot, 1817: *Nouv. Dict. Hist. Nat.*, nouv. éd. 14: 432 – New South Wales, Australia. Junior primary homonym of *Ardea pusilla* Statius Müller, 1776.

Ixobrychus minutus dubius Mathews, 1912: *Novit. Zool.* 18(3): 234 – Herdsman’s Lake, south-west Australia.

Ixobrychus minutus alisteri Mathews, 1913: *Austral Avian Rec.* 1: 188. Unnecessary *nomen novum* for *Ardea pusilla* Vieillot, 1817.

Ixobrychus minutus queenslandicus Mathews, 1914: *Austral Avian Rec.* 2: 89 – Kedron Brook, Brisbane, Australia.

Ixobrychus minutus victoria Mathews, 1915: *Austral Avian Rec.* 3: 24 – Geelong, Victoria, Australia.

Ixobrychus minutus dubius Mathews; Checklist Committee 1990, *Checklist Birds N.Z.*: 94.

Ixobrychus dubius Mathews; Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 20, 108.

Southern New Guinea and Australia. One New Zealand record: Westport, Feb. 1987, caught and later released (O’Donnell & Dilks 1988).

†***Ixobrychus novaehollandiae*** (Purdie) **New Zealand Little Bittern**

Ardeola Novae Zelandiae Purdie, 1871 (January): *Proc. N.Z. Inst.* (Otago) 3: 99 – Lake Wakatipu, Fiordland.

Ardetta pusilla Gould; Potts 1871, *Trans. N.Z. Inst.* 3: 97. Not *Ardea pusilla* Vieillot, 1817.

Ardea pusilla; Hutton 1871, *Cat. Birds N.Z.*: 27. Not *Ardea pusilla* Vieillot, 1817.

Ardetta maculata Latham; Buller 1874, *Trans. Proc. N.Z. Inst.* 6: 119, pl. 21. Not *Ardea maculata* Gmelin, 1789.

Ardea maculata Latham; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 136. Not *Ardea maculata* Gmelin, 1789.

Ixobrychus minutus novaehollandiae (Potts) [sic]; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 406.

Ixobrychus minutus novaehollandiae; Oliver 1930, *New Zealand Birds*, 1st edition: 367.

Dupetor flavicollis (Linnaeus) [sic]; Horn 1980, *Notornis* 27: 401. Not *Ardea flavicollis* Latham, 1790.

Ixobrychus novaehollandiae (Potts) [sic]; Checklist Committee 1990, *Checklist Birds N.Z.*: 93.

Extinct, formerly in North and South Islands and Chatham Islands. Two putative specimens from the North Island: Tauranga, 1842 (Colenso 1844, 1845; Buller 1878a wrongly gave 1836 as the date of this record); and Wanganui (Buller 1905–06). Neither specimen is now traceable with certainty nor are the provenances definite. Thirteen specimens reported from the South Island (not all now locatable), the first from Lake Kaniere (1868), and all from Westland, except the type from Lake Wakatipu collected before 9 Aug. 1870 (Purdie 1871). Subfossil material known from swamp and midden sites in North Island (Millener 1991). Five subfossil bones of a small bittern from Lake Poukawa, Hawke’s Bay, referred by Horn (1980) to the black bittern *Dupetor flavicollis* (Linnaeus) (sic) are believed to be *I. novaehollandiae*. Holocene fossils from Chatham Islands (Holdaway *et al.* 2001) probably indicate an established former population.

Suborder THRESKIORNITHES: Ibises and Spoonbills

Family THRESKIORNITHIDAE Poche: Ibises and Spoonbills

Subfamily THRESKIORNITHINAE Poche: Ibises

Threskiornithidae Poche, 1904: *Zool. Anzeig.* 27: 498 – Type genus *Threskiornis* G.R. Gray, 1842.

Genus *Plegadis* Kaup

Plegadis Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 82 – Type species (by monotypy)

Tantalus falcinellus Linnaeus = *Plegadis falcinellus* (Linnaeus).

Tantalides Wagler, 1832: *Isis von Oken*, Heft 11: 1231 – Type species (by subsequent designation) *Tantalus falcinellus* Linnaeus = *Plegadis falcinellus* (Linnaeus).

Plegadornis C.L.Brehm, 1855: *Naumannia*: 290. Unnecessary *nomen novum* for *Plegadis* Kaup, 1829.

Egatheus Lönnberg, 1906: *Journ. für Ornith.* 54: 533 – Type species (by monotypy) *Egatheus autumnalis* (Linnaeus) = *Plegadis falcinellus* (Linnaeus). Junior homonym of *Egatheus* Billberg, 1828.

► ***Plegadis falcinellus* (Linnaeus)**

Glossy Ibis

Tantalus falcinellus Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 241 – Austria & Italy.

Ibis peregrina Bonaparte, 1855: *Consp. Gen. Avium* 2: 159 – Java & Sulawesi, Indonesia.

Plegadis falcinellus (Linnaeus); Buller 1905, *Suppl. Birds N.Z.* 1: 192.

Egatheus falcinellus (Linnaeus); Mathews 1912, *Novit. Zool.* 18(3): 228.

Plegadis falcinellus rogersi Mathews, 1916: *Austral Avian Rec.* 3: 256 – Parry's Creek, Western Australia.

Plegadis falcinellus peregrinus (Bonaparte); Checklist Committee 1953, *Checklist N.Z. Birds*: 33.

Plegadis falcinellus (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 94.

Southern North America, Europe, Africa, central Asia, India, Malaysia, Indonesia, New Guinea, Australia. Vagrant to New Zealand, first recorded at Washdyke, Timaru, in 1902; now expected annually, but no indication of staying to breed. Sometimes irrupts in small flocks as in 1953 (Sansom *et al.* 1954), 1968–69 (e.g. Child 1969), 1975 (Edgar 1976), 1988 (Keeley 1988). Chatham Islands: one, Dec. 1984 (Powlesland & Crockett 1986).

Genus *Threskiornis* G.R. Gray

Threskiornis G.R. Gray, 1842: *List Gen. Birds* (revised edition) – Appendix: 13 – Type species (by original designation) *Tantalus aethiopicus* Latham = *Threskiornis aethiopicus* (Latham).

Carpheibis Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 14 – Type species (by original designation) *Ibis spinicollis* Jameson = *Threskiornis spinicollis* (Jameson).

Setibis Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 993. Unnecessary *nomen novum* for *Carpheibis* Reichenbach, 1853.

► ***Threskiornis molucca* (Cuvier)**

White Ibis

Ibis molucca Cuvier, 1829: *Règne Anim.* (2nd edition) 1: 520 (note) – Moluccas, Indonesia.

Moluccas to New Guinea, Solomon Islands and Australia. Three subspecies.

***Threskiornis molucca strictipennis* (Gould)**

Australian White Ibis

Ibis strictipennis Gould, 1838: *Synop. Birds Australia* 4, App.: 7 – Australia, restricted to New South Wales (*vide* Mathews 1913, *List Birds Australia*: 77).

Ibis molucca strictipennis Gould; Mathews 1912, *Novit. Zool.* 18(3): 227.

Threskiornis aethiopica strictipennis (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 33.

Threskiornis molucca; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 36. Not *Ibis molucca* Cuvier, 1829.

Threskiornis molucca strictipennis (Gould); Checklist Committee 1990, *Checklist Birds N.Z.*: 95.

Southern New Guinea and Australia. Straggler to Tasmania and New Zealand. First recorded at Appleby, near Nelson, in 1925 (Moncrieff 1925). Minor irruptions in 1957 (Falla 1958) and 1975, probably of young (subadult) birds, which, during their stay,

apparently drifted north (Heather 1978). Last record was Helensville, 1989 (Taylor 1990). Two records from Norfolk Island, 1975 (McKean *et al.* 1976) and 1976 (Moore 1981).

► ***Threskiornis spinicollis* (Jameson)**

Straw-necked Ibis

Ibis spinicollis Jameson, 1835: *Edinburgh New Philosophical Journal* 19: 213 – Murray River, New South Wales, Australia.

Ibis lamellicollis Lafresnaye, 1836: *Mag. Zool., Paris* (sér. 1): pl. 57 – New South Wales, Australia.

Ibis australis Jardine & Selby, 1837: *Illustr. Ornith* (n. ser.) 4: text, pl. 17 – New South Wales, Australia.

Carpibis spinicollis fitzroi [sic] Mathews, 1912: *Novit. Zool.* 18(3): 228 – Fitzroy River, north-west, Australia.

Threskiornis spinicollis (Jameson); Lindsay 1963, *Notornis* 10: 304.

Throughout Australia and New Guinea. Vagrant to Tasmania and Lord Howe Island. Rare vagrant to Norfolk Island: two records (single birds), 1961 (M. Hoare *in* Wakelin 1968), 1962 (Lindsay 1963).

Subfamily PLATALEINAE Bonaparte: Spoonbills

Plataleinae Bonaparte, 1838: *Geogr. Comp. List. Birds*: 48 – Type genus *Platalea* Linnaeus, 1758.

Genus *Platalea* Linnaeus

Platalea Linnaeus, 1758: *Syst. Nat.*, 10th edition 1(1): 139 – Type species (by subsequent designation) *Platalea leucorodia* Linnaeus.

Spatherodia Reichenbach, 1852: *Avium Syst. Nat.* 2(1): 16 – Type species (by original designation) *Spatherodia melanorhynchus* (Reichenbach) = *Platalea regia* Gould.

Platibis Bonaparte, 1855: *Compt. Rend. Séa. Acad. Sci., Paris* 40: 724 – Type species (by monotypy) *Platalea flavipes* Gould.

► ***Platalea regia* Gould**

Royal Spoonbill

Platalea regia Gould, 1838: *Synop. Birds Australia* 4, App.: 7 – Eastern coast of New South Wales, Australia.

Platalea melanorhynchus Reichenbach, 1845: *Vollst. Naturg. Schwim. Aves Natatores* 4: pl. 84, fig. 424 – New South Wales, Australia.

Ardea latirostrum Ellman, 1861: *Zoologist* 19: 7469 – New Zealand.

Platalea melanorhyncha Reichenbach; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 144. Unjustified emendation.

Platalea intermedia Ogilvie-Grant, 1889: *Ibis* 1 (6th ser.): 52, pl. 1, figs 2, 2a – Port Moresby, New Guinea.

Platalea regia stalkerii Mathews, 1912: *Novit. Zool.* 18(3): 229 – Alexandria, Northern Territories, Australia.

Spatherodia regia (Gould); Mathews 1913, *List Birds Australia*: 78.

Platalea regia regia Gould; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 403.

Platalea (Spatherodia) regia; Stidolph 1927, *Emu* 26: 218.

Platalea leucorodia regia Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 33.

Platalea leucorodia; Moore 1981, *Notornis* 28: 52. Not *Platalea leucorodia* Linnaeus, 1758.

Platalea regia Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 95.

Australia, except south-west; has wandered to Indonesia, New Guinea and islands of the south-west Pacific. Sometimes treated as a subspecies of the widespread *P. leucorodia*. In New Zealand, a rare straggler in the 19th Century, first reported at Castlepoint,

Wairarapa, 1861 (Buller 1869). Breeding in south Westland suspected by mid-1940s (Stidolph 1948); confirmed at Waitangiroti white heron colony (commonly called “Okarito”), 1949 (Oliver 1955). The species has slowly spread since, with breeding reported at the Wairau Lagoons, 1979–80 (Holdaway 1980); Maukiekie Island, Moeraki, 1983–84 (P. Schweigman *in* Marchant & Higgins 1990); Green Island, Dunedin, 1988 (P. Schweigman *in* Marchant & Higgins 1990); Omaui Island, Southland, 1992 (O’Donnell & West 1995); Nilsson’s Dam, Parengarenga Harbour, 1993 (Parrish & Lock 1995); Kapiti Island, 1995; Nugget Point, 1995; Taieri Island/Moturata, 1997; Pig Island, Southland, 1998; Heywood Point, Otago, 2003 (Schweigman 2006); Wainono Lagoon (South Canterbury), 2003 (Collins 2006b); Taiaroa Head, 2004; Waituna Lagoon, 2004; and the Catlins, 2004 (Schweigman 2006). The carrying of sticks or attempted nest-building has been recorded at Kaituna Lagoon, Lake Ellesmere (Te Waihora), 1983 (Booth 1984) and Western Springs, Auckland, 2000 (Parrish 2002). The latest census (June 2000) counted 956 individuals (Schweigman 2000). Disperses in autumn, mainly north to coastal areas, and vagrants probably continue to arrive from Australia. Single record from Chatham Island, 2004 (Miskelly *et al.* 2006). Single record on Raoul Island, Kermadec Group, 1996 (J. Ballantyne *in* Veitch *et al.* 2004). No valid fossil records; bones from Tom Bowling Bay and Waikuku Beach, reported by Scarlett (1979), were re-identified as *Egretta modesta* (Millener 1981a). Four published records from Norfolk Island: 1892 (Bassett-Hull 1910), 1963 (Wakelin 1968), 1971 and 1976 (Moore 1981).

► ***Platalea flavipes* Gould**

Yellow-billed Spoonbill

Platalea flavipes Gould, 1838: *Synop. Birds Australia, App.: 7* – New South Wales, Australia.

Platalea flavipes flavipes Gould; Mathews 1912, *Novit. Zool.* 18(3): 229.

Platibis flavipes (Gould); Mathews 1913, *List Birds Australia:* 79.

Platalea flavipes Gould; Checklist Committee 1990, *Checklist Birds N.Z.:* 96.

Australia. Scarce straggler to New Zealand, with two records: Rangaunu Harbour, Northland, 1976–81 (Billing 1977; Edgar 1977, 1978; Heather 1978; Sibson 1979, 1981), and Te Whiti, Wairarapa, Dec. 1981 (Booth 1984, Guest 1991). Single record from Norfolk Island, late 1960s (Hermes *et al.* 1986).

Order ACCIPITRIFORMES: Secretary-bird, Kites, Eagles, Hawks and Allies

The diurnal birds-of-prey (Accipitridae, Sagittariidae, Falconidae and Cathartidae) were long grouped in a single order usually named Falconiformes (from Sharpe 1874, *Cat. Birds Brit. Mus.* 1: ix, 1 – suborder Falcones; type *Falco* Linnaeus), e.g. Peters (1934), Wetmore (1960), Stresemann & Amadon (1979), del Hoyo *et al.* (1994). However, the strict monophyly of this group is strongly doubted, as revealed by the DNA-hybridisation studies (Sibley *et al.* 1988, Sibley & Ahlquist 1990) and karyological, pterylogical and morphological studies reviewed in Holdaway (1994a). This has resulted in the removal of Cathartidae, either to its own order or to within storks to which they are most closely related. Increasing evidence suggests that Falconidae and Accipitridae are not closely related (e.g. Fain & Houde 2004, Ericson *et al.* 2006). We follow Christidis & Boles (2008) in treating these two groups as separate orders. Within Accipitriformes as so defined, genera, as listed by, e.g. del Hoyo *et al.* (1994) and Dickinson (2003), are demonstrably non-monophyletic based on nuclear and mitochondrial genome data (Bunce *et al.* 2005, Helbig *et al.* 2005, Lerner & Mindell 2005, Griffiths *et al.* 2007). As a result of these and other phylogenetic studies concerning *Aquila*, Sangster *et al.* (2005) have transferred *Hieraaetus pennatus* Gmelin, 1788 to *Aquila* as *Aquila pennata*, thereby making *Hieraaetus* Kaup, 1844 a synonym of *Aquila* Brisson, 1760. As they restricted comment to Western Palearctic species, it is not clear what the total advocated composition of *Aquila* is. However, in such a broadened definition of *Aquila*, *Harpagornis*, which was shown by Bunce *et al.* (2005) to be the sister taxon of *Hieraaetus morphnoides* and *H. pennatus*, is a derivative of the common ancestor of all “booted eagles”. Given this, we follow Sangster *et al.* (2005), Barthel & Helbig (2005), Mebs & Schmidt (2006) and Commission de l’Avifaune Française (2007) in recognising only one genus for the “booted eagles” of the subfamily Aquilinae (*sensu* Lerner & Mindell 2005).

None of the family-group names in Vieillot’s *Analyse d’une nouvelle ornithologie élémentaire* (1816) were based on Linnaean generic names (Bock 1994), so none are valid under ICZN (1999). Accipitrini Vieillot, 1816: 22, while designated as a family, does not provide the basis of a valid family-group name. ICZN (1999) does not rule on names above family-group level, so Vieillot names are available for such names. Accipitriformes Vieillot may be used for Accipitridae and Sagittariidae. Brodtkorb (1964) provided detailed synonymies of all nomenclatorial groupings that have been proposed.

Family ACCIPITRIDAE Vigors: Kites, Eagles, Hawks and Allies

Subfamily ACCIPITRINAE Vigors: Kites, Eagles, Hawks and Allies

Accipitrina Vigors, 1824: *Zoological Journal* 1: 313 – Type genus *Accipiter* Brisson, 1760.

Within this subfamily we include: Milvinae Vigors, 1824; Aquilinae Vigors, 1824; and Circinae Bonaparte, 1838. The taxon *Haliaeetus australis* (Harrison & Walker, 1973) is deleted from the New Zealand list as it is considered to be based on bones of the Alaskan bald eagle *H. leucocephalus* mistakenly mixed with bones from the Chatham Islands after their collection by Forbes (Millener 1999, Worthy & Holdaway 2002).

Genus *Milvus* Lacépède

Milvus Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 4 – Type species (by tautonymy)
Falco milvus Linnaeus = *Milvus milvus* (Linnaeus).

► ***Milvus migrans* (Boddaert)****Black Kite**

Falco migrans Boddaert, 1783; *Tables des Planches Enluminez d'Histoire Naturelle de M. d'Aubenton*: 28. Based on 'Le Milan noir' of Daubenton 1765–81, *Planches Enlum.*: pl. 472 – France.

Milvus affinis Gould, 1838: *Synop. Birds Australia* 3: pl. 47, fig. 1 – New South Wales, Australia.

Milvus korschun napieri Mathews, 1912: *Novit. Zool.* 18(3): 249 – Napier Broome Bay, Western Australia.

Milvus aterrimus Mathews, 1912: *Austral Avian Rec.* 1: 128 – New South Wales, Australia.

Milvus migrans (Boddaert); Stresemann & Amadon 1979, in Peters, *Check-list Birds World 1* (2nd edition): 297.

Milvus migrans; Medway 2000, *Notornis* 47(1): 65.

Widespread in Europe, Africa, Asia and Australia. Vagrant to New Zealand with six accepted records, all of single birds: Marlborough 13 Aug. 1992, 21 Jul. 1993, 30 Mar. 1994 (Medway 2000a); Waihopai Valley 14 to 15 Aug. 2000 (Medway 2000a) and still present 2005 (Bell 2005); Glentanner, Lake Pukaki 1 Mar. 1994 (Medway 2000a); Auckland localities 5 and 8 Nov. 2001 (Medway 2002e); Mercer, South Auckland Apr. to May 2002 (Medway 2002g, 2003a); Pirinoa, Wairarapa 26 Sep. 2002 (Medway 2002g).

Genus *Circus* Lacépède

Circus Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 4 – Type species (by subsequent designation) *Falco aeruginosus* Linnaeus = *Circus aeruginosus* Linnaeus.

Pygargus Koch, 1816: *Syst. Baierischen Zool.* 127: 32 – Type species (by tautonymy) *Falco pygargus* Linnaeus = *Circus pygargus* (Linnaeus).

Strigiceps Bonaparte, 1838: *Geogr. Comp. List. Birds*: 5 – Type species *Falco pygargus* Linnaeus = *Circus pygargus* (Linnaeus).

Glaucopteryx Kaup, 1844: *Classfn Säugeth. Vög.*: 113 – Type species (by monotypy) *Falco cineraceus* Temminck = *Circus pygargus* (Linnaeus). Junior homonym of *Glaucopteryx* Hübner, 1825.

Spizacircus Kaup, 1845: *Mus. Senckenb. Abh.* 3: 258 – Type species (by monotypy) *Circus macropterus* Vieillot.

Spilocircus Kaup, 1847: *Isis von Oken*, Heft 2: col. 89 – Type species (by monotypy) *Circus jardinii* Gould = *Circus assimilis* Jardine & Selby.

Pterocircus Kaup, 1850: *Arch. Naturgesch.* 16(1): 32. Unnecessary *nomen novum* for *Glaucopteryx* Kaup, 1844.

► ***Circus approximans* Peale****Swamp Harrier**

Circus assimilis; G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 2. Not *Circus assimilis* Jardine & Selby, 1828.

Circus approximans Peale, 1848: *U.S. Expl. Exped.* 8: 64, 308 – Mathuata, Vanua Levu, Fiji Islands.

Circus gouldi Bonaparte, 1850: *Consp. Gen. Avium* 1: 34 – New South Wales, Australia.

Falco auriculoculus Ellman, 1861: *Zoologist* 19: 7464 – New Zealand.

Accipiter approximans (Peale); G.R. Gray 1862, *Ibis* 4: 215.

Circus Gouldi Bonaparte; Hamilton 1909, *Hand-list Birds New Zealand*: 12.

Circus approximans drummondi Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 419 – North Island.

Circus approximans approximans Peale; Checklist Committee 1953, *Checklist N.Z. Birds*: 36.

Circus approximans gouldi Bonaparte; Checklist Committee 1953, *Checklist N.Z. Birds*: 36.

Circus approximans Peale; Checklist Committee 1990, *Checklist Birds N.Z.*: 109.

Circus aeruginosus, Moore 1999, *Notornis* 46: 359. Not *Falco aeruginosus* Linnaeus, 1758.

South-east New Guinea, Australia (mainly north, east and south-west), Tasmania, New Zealand and offshore islands, Chatham Islands, Vanuatu, New Caledonia and Loyalty Islands, Fiji, Tonga and Wallis (Uvea) Island. A regular visitor to the Kermadec Islands, and Norfolk and Lord Howe Islands; a straggler to New Zealand subantarctic islands and Samoa. Introduced to the Society Islands. Following Baker-Gabb (1979) and Checklist Committee (1990), we do not recognise any subspecies. Widely distributed on the New Zealand mainland, its range having extended greatly with human settlement. Considered to have colonised New Zealand only after human settlement and the extinction of *Circus teauteensis* (Holdaway *et al.* 2001: 131, as *C. eylesi*; Worthy & Holdaway 2002). As it is a recent colonist to New Zealand we discard the former name “Australasian harrier” (Checklist Committee 1990) in favour of the Australian name, swamp harrier. A few very late Holocene fossils and numerous midden records from widely distributed sites in both North and South Islands and the Chathams.

▶ †*Circus teauteensis* Forbes

Eyles’ Harrier

Circus teauteensis Forbes, 1892: *Trans. Proc. N.Z. Inst.* 24: 186 – Te Aute, Hawke’s Bay.

Circus hamiltoni Forbes, 1892: *Trans. Proc. N.Z. Inst.* 24: 186 – Te Aute, Hawke’s Bay.

Circus eylesi Scarlett, 1953: *Rec. Cant. Museum* 6: 247 – Pyramid Valley, Canterbury.

Forbes (1892) established the names *Circus hamiltoni* and *C. teauteensis* simultaneously for two fossil harriers without adequate descriptions, and with no reference to specimens or localities. These names were therefore *nomina dubia*. Casts and the original syntypes of these taxa are preserved, labelled as such, in the Palaeontology Department, Natural History Museum, London (Lambrecht 1933, Dawson 1958, Worthy 2000), which removes the status of *nomina dubia* from these names, *contra* Worthy (2000). The museum catalogue makes it clear that the specimens were the basis of Forbes’ 1892 names (it cites the reference) and identifies their collection locality. Furthermore, it is clear they are synonyms of *Circus eylesi* Scarlett (Worthy 2000). Following Dawson’s recommendation (1958), we accept both as senior synonyms of *C. eylesi* and adopt *C. teauteensis* (for which the right tibiotarsus BMNH A1534 is the only surviving syntype) as the senior name. Known from several Pleistocene–Holocene fossil sites and middens widely scattered in both North and South Islands.

Genus *Accipiter* Brisson

Accipiter Brisson, 1760: *Ornithologie* 1: 28, 310 – Type species (by tautonymy) *Accipiter* Brisson = *Falco nisus* Linnaeus = *Accipiter nisus* (Linnaeus).

Astur Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 4 – Type species (by tautonymy) *Falco palumbarius* Linnaeus = *Accipiter gentilis* (Linnaeus).

Leucospiza Kaup, 1844: *Classfn Säugeth. Vög.*: 119 – Type species (by original designation) *Falco novaehollandiae* Gmelin = *Accipiter novaehollandiae* (Gmelin).

Uropiza Kaup, 1845: *Mus. Senckenb. Abh.* 3: 258 – Type species (by monotypy) *Falco radiatus* Latham = *Accipiter fasciatus* (Vigors & Horsfield).

Paraspizias Mathews, 1915: *Birds Australia* 5: 74 – Type species (by original designation) *Spurvius cirrhocephalus* Vieillot = *Accipiter cirrhocephalus* (Vieillot).

▶ *Accipiter fasciatus* (Vigors & Horsfield)

Brown Goshawk

Astur Fasciatus Vigors & Horsfield, 1827: *Trans. Linn. Soc. London.* 15: 181 – New South Wales, Australia.

Astur Approximans Vigors & Horsfield, 1827: *Trans. Linn. Soc. London* 15: 181 – New South Wales, Australia.

Astur cruentus Gould, 1843: *Proc. Zool. Soc. London* 1842 (10): 113 – Western Australia.

Astur maculosus Coles, 1897: *Victorian Nat.* 14: 43 – Blackburn, Victoria, Australia.

Astur fasciatus mackayi Mathews, 1912: *Novit. Zool.* 18(3): 246 – Mackay, Queensland, Australia.

Urospiza fasciata rennelliana Kinghorn, 1937: *Proc. Zool. Soc. London B* 107: 180 – Rennell Island, Solomon Islands.

Accipiter fasciatus (Vigors & Horsfield); Moore 1981, *Notornis* 28: 52.

Widespread: Indonesia (*A. f. meyerianus* Sharpe); New Guinea, Solomon Islands, New Caledonia (*A. f. vigilax* Wetmore); Fiji (*A. f. rufitorques* Peale); Australia. Two subspecies accepted in Australia (*A. f. fasciatus* and *A. f. didimus*). One confirmed recent record on Norfolk Island Sep. 1978 (Moore 1981). An extinct raptor from Norfolk Island is known from fossils that have been referred to *Accipiter* sp. c.f. *A. fasciatus* by Meredith (1991) and Holdaway & Anderson (2001). This extinct bird was probably recorded historically, e.g. see records in Medway (2002d) and Tennyson & Martinson (2007).

Genus *Haliaeetus* Savigny

Haliaeetus Savigny, 1809: *Descrip. Egypte Hist. Nat.* 1: 68, 85 – Type species (by monotypy)

Haliaeetus nisus Savigny = *Haliaeetus albicilla* (Linnaeus).

Haliaeetus Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 24: 101. Unjustified emendation.

Haliaeetus Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 28: 273. Unjustified emendation.

Blagrus Blyth, 1846: *Journ. Asiatic Soc. Bengal* 15: 369 – Type species (by monotypy) *Blagrus dimidiatus* Raffles = *Haliaeetus leucogaster* (Gmelin).

▶ *Haliaeetus leucogaster* (Gmelin)

White-bellied Sea Eagle

Falco leucogaster Gmelin, 1788; *Syst. Nat., 13th edition* 1(1): 257 – New South Wales, Australia.

Haliaeetus sphenurus Gould, 1838: *Synop. Birds Australia* 3: pl. 39 – Tasmania, Australia.

Ichthyaeetus leucogaster; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 16.

Haliaeetus leucogaster pallidus Mathews, 1912: *Novit. Zool.* 18(3): 248 – Point Torment, Western Australia.

Haliaeetus leucogaster; Oliver 1955, *New Zealand Birds*, 2nd edition: 431.

Haliaeetus leucogaster (Gmelin); Stresemann & Amadon 1979, in Peters, *Check-list Birds World* 1 (2nd edition): 299.

This entry is based on a specimen in the Museum of New Zealand Te Papa Tongarewa (NMNZ 1341) that was given to Buller by Gould after it was procured from New Zealand. This and other sightings of eagles in New Zealand are reviewed by Oliver (1955).

Genus *Aquila* Brisson

Aquila Brisson, 1760: *Ornithologie* 1: 28, 419 – Type species (by tautonymy) *Aquila* Brisson =

Falco chrysaetos Linnaeus = *Aquila chrysaetos* (Linnaeus).

Hieraetus Kaup, 1844: *Classfn Säugeh. Vög.*: 120 – Type species (by original designation)

Falco pennatus Gmelin = *Aquila pennata* (Gmelin).

Harpagornis Haast, 1872: *Trans. N.Z. Inst.* 4: 193 – Type species (by monotypy) *Harpagornis moorei* Haast = *Aquila moorei* (Haast).

▶ †*Aquila moorei* (Haast)

Haast's Eagle

Harpagornis moorei Haast, 1872: *Trans. N.Z. Inst.* 4: 193 – Glenmark, Canterbury.

Harpagornis assimilis Haast, 1874: *Trans. N.Z. Inst.* 6: 64 – Glenmark, Canterbury.

Hieraaetus moorei (Haast); Bunce *et al.* 2004, *Public Library Science Biology* 39(1) E9: 1.
Aquila moorei (Haast); this work. **New combination.**

Holdaway (1990) synonymised *Harpagornis assimilis* with *H. moorei*, formalising the treatment that had been in use for some time. Based on a morphological skeletal analysis, Holdaway (1991, 1994a) found *Harpagornis* to be the sister taxon of *Aquila*, contra Oliver (1955) who provided reasons for *Haliaeetus* being the closest relative. Bunce *et al.* (2005) assessed the phylogenetic relationships of *Harpagornis* using mtDNA, and obtained data placing it in a clade with a group of small eagles in the genus *Hieraaetus*, specifically the little eagle *H. morphnoides* and the booted eagle *H. pennatus*. Bunce *et al.* (2005) advocated the synonymy of *Harpagornis* within *Hieraaetus* and not with *Aquila* as suggested by Holdaway (1994a). Following publication of several phylogenetic studies (Wink & Seibold 1996, Wink *et al.* 1996, Wink 2000, Wink & Sauer-Gürth 2000, Roulin & Wink 2004, Wink & Sauer-Gürth 2004, Helbig *et al.* 2005, Lerner & Mindell 2005, Haring *et al.* 2007) a reassessment of the taxonomy of *Hieraaetus* and *Aquila* eagles has been synthesised which proposes that the species currently included in *Hieraaetus* and *Aquila* do not form separate monophyletic groups but a series of minor clades at a level below that of genus. Thus all “booted” eagle taxa, often previously included in Aquilinae, are now widely agreed to belong to a single genus *Aquila* (see Barthel & Helbig 2005, Sangster *et al.* 2005, Mebs & Schmidt 2006, Commission de l’Avifaune Française 2007) and, given the genetic evidence of Bunce *et al.* (2005) and the morphological evidence of Holdaway (1994a), we include *H. moorei* in this genus.

Widespread in South Island in Pleistocene–Holocene sites and in middens. No valid records from the North Island (Worthy 2000). Its range contracted at the end of the Pleistocene so that in the Holocene it was found only in mountainous areas and east of the Southern Alps/Kā Tiritiri o te Moana.

Order **FALCONIFORMES**: Falcons and Allies

In separating falcons from accipitrids at the ordinal level we follow Holdaway (1994a), Holdaway *et al.* (2001) and Christidis & Boles (2008).

Family **FALCONIDAE** Leach: Falcons

Falconidae Leach, 1819: *Eleventh room. In Synopsis Contents British Museum 15th Edition, London*: 63 – Type genus *Falco* Linnaeus, 1758.

Genus **Falco** Linnaeus

Falco Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 88 – Type species (by subsequent designation) “*Falco peregrinus* Linnaeus” = *Falco peregrinus* Tunstall.

Cerchneis Boie, 1826: *Isis von Oken*, Heft 10: col. 970 – Type species (by monotypy) *Falco rupicolus* Daudin.

Hypotriorchis Boie, 1826: *Isis von Oken*, Heft 10: col. 976 – Type species (by monotypy) *Falco subbuteo* Linnaeus.

Rhynchodon Nitzsch, 1829: *Obs. Avium Arter. Carot. Comm.*: 20 – Type species (by subsequent designation) *Falco peregrinus* Tunstall.

Ieracidea Gould, 1838: *Synop. Birds Australia* 3: pl. 43 – Type species (by monotypy) *Falco berigora* Vigors & Horsfield.

Hieracidea Strickland, 1841: *Ann. Mag. Nat. Hist., London* 6: 416. Unjustified emendation.

Harpe Bonaparte, 1855: *Compt. Rend. Séa. Acad. Sci., Paris* 41: 652 – Type species (by original designation) *Falco novaeseelandiae* Gmelin. Junior homonym of *Harpe* Lacépède, 1802.

Harpa Sharpe, 1874: *Cat. Birds Brit. Mus* 1: 372. Unjustified emendation of *Harpe* Bonaparte and junior synonym of *Harpe* Lamarck, 1799.

Nesterax Oberholser, 1899: *Proc. Acad. Nat. Sci. Philad.*: 203 – Type species (by original designation) *Falco novaeseelandiae* Gmelin.

Notofalco Mathews, 1913: *Austral Avian Rec.* 2: 56 – Type species (by original designation) *Falco subniger* G.R. Gray.

Megacerchneis Roberts, 1922: *Ann. Transv. Museum* 8: 210 – Type species (by original designation) *Falco rupicoloides* A. Smith.

Palifalco Mathews, 1946: *Working List Aust. Birds*: 51 – Type species (by original designation) *Falco hypoleucos* Gould.

► **Falco cenchroides** Vigors & Horsfield

Nankeen Kestrel

Two subspecies: *Falco cenchroides cenchroides* (Australia and Tasmania) and *F. c. baru* Rand (New Guinea).

Falco cenchroides cenchroides Vigors & Horsfield

Nankeen Kestrel

Falco cenchroides Vigors & Horsfield, 1827: *Trans. Linn. Soc. London* 15: 183 – New South Wales, Australia.

Cerchneis immaculata Brehm, 1845: *Isis von Oken*, Heft 5: col. 357 – New South Wales, Australia.

Cerchneis unicolor Milligan, 1904: *Emu* 6: 2 – Yalgoo, Western Australia.

Cerchneis cenchroides (Vigors & Horsfield); Buller 1905, *Suppl. Birds N.Z.* 2: 60.

Cerchneis novae-zealandiae; Hamilton 1909, *Hand-list Birds New Zealand*: 13. Not *Falco novaeseelandiae* (Gmelin, 1788).

Cerchneis cenchroides milligani Mathews, 1912: *Novit. Zool.* 18(3): 253 – Parry’s Creek, Western Australia.

Cerchneis cenchroides cenchroides (Vigors & Horsfield); Mathews & Iredale, 1913 *Ibis* 1 (10th ser.): 420.

Falco cenchroides Vigors & Horsfield; Moore 1981, *Notornis* 28: 53.

Falco cenchroides cenchroides Vigors & Horsfield; Checklist Committee 1990, *Checklist Birds N.Z.*: 111.

Throughout Australia and Tasmania, migrating to Indonesia in winter; breeding on Lord Howe Island (since 1944) and Norfolk Island (since c. 1971) (Moore 1985a, McAllan *et al.* 2004). An infrequent straggler to New Zealand (Oliver 1955: 426). The numerous records since 1889 (e.g. Guest 1991, Medway 2000a; see Marchant & Higgins 1993) include a small irruption in 1969 (sightings in nine localities in North and South Islands; Edgar & Grant 1969).

► ***Falco subniger* G.R. Gray**

Black Falcon

Falco subniger G.R. Gray, 1843: *Ann. Mag. Nat. Hist., London* 11: 371 – Victoria, Australia.

Falco subniger G.R. Gray; Blackburn 1984, *Notornis* 31: 6.

Australia, mostly inland but reaching the coast in South Australia and adjacent areas of Victoria. One accepted New Zealand record: Gisborne 21 Nov. 1983 (Blackburn 1984).

► ***Falco novaeseelandiae* Gmelin**

New Zealand Falcon

Falco novae-Seelandiae Gmelin, 1788: *Syst. Nat., 13th edition* 1(1): 268. Based on the “New-Zealand Falcon” of Latham 1781, *Gen. Synop. Birds* 1: 57 – Queen Charlotte Sound, Marlborough.

Falco brunnea Gould, 1838: *Synop. Birds Australia* 3: 42 – New Zealand. Junior primary homonym of *Falco brunneus* Bechstein, 1805 = *Falco tinnunculus* Linnaeus.

Falco brunneus Gould, 1838: *Proc. Zool. Soc. London* 1837 (5): 139 – New Zealand. Junior primary homonym of *Falco brunneus* Bechstein, 1805 = *Falco tinnunculus* Linnaeus.

Falco australis Hombron & Jacquinot, 1841: *Ann. Sci. Nat., Paris*, 2nd Series 16: 312 – Otago. Junior primary homonym of *Falco australis* Gmelin, 1788 = *Phalcooboenus australis* (Gmelin).

Falco harpe “Forst. Icon. ined.”; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 186.

Hypotriorchis novae zealandiae (Gmelin); G.R. Gray 1844, *List Gen. Birds*: 20. Unjustified emendation.

Falco harpe J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 68 – Queen Charlotte Sound, Marlborough.

Falco ferox Peale, 1848: *U.S. Expl. Exped.* 67, 308 – Bay of Islands, Northland.

Harpe novae-zealandiae (Gmelin); Bonaparte 1855, *Compt. Rend. Séa. Acad. Sci., Paris* 41: 652. Unjustified emendation.

Teracidea [sic] *nova-zealandiae* (Gmelin); Cassin 1858, *U.S. Expl. Exped. Ornithology* 8: 89. Unjustified emendation.

Hieracidea novae zealandiae (Gmelin); G.R. Gray 1862, *Ibis* 4: 214. Unjustified emendation.

Hieracidea brunnea (Gould); G.R. Gray 1862, *Ibis* 4: 215.

Ieracidea novae zealandiae (Gmelin); G.R. Gray 1869, *Hand-list Birds* 1: 22. Unjustified emendation.

Hieracidea novae-zealandiae (Gmelin); Hutton 1870, *Ibis* 6 (n. ser.): 392. Unjustified emendation.

Harpa australis (Hombron & Jacquinot); Sharpe, 1874: *Cat. Birds Brit. Mus* 1: 373.

Harpa novae zealandiae (Gmelin); Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. ‘Erebus’ & ‘Terror’, Birds – 1 (Appendix)*: 21. Unjustified emendation.

Harpa novae-zealandiae (Gmelin); Hutton 1879, *Ibis* 3 (4th ser.): 456. Unjustified emendation.

Nesierax novae-zealandiae (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 58. Unjustified emendation.

Nesierax australis (Hombron & Jacquinot); Buller 1905, *Suppl. Birds N.Z.* 2: 59.

Nesierax (Harpa) novae-zealandiae (Gmelin); Hamilton 1909, *Hand-list Birds New Zealand*: 13. Unjustified emendation.

Nesierax australis Peale [sic]; Hamilton 1909, *Hand-list Birds New Zealand*: 13.

Nesierax novaeseelandiae (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 420.

Nesierax pottsii Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 420 – Paroha Bay, Bay of Islands, Northland.

Falco novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 36.

New Zealand, including Great Barrier Island (Aotea Island) and the Auckland Islands (Marchant & Higgins 1993). Mainly in hilly and mountain districts; rare in the North Island, especially north of the Volcanic Plateau (Fox 1978). Recently extinct on Stewart Island/Rakiura (Harper 2004). Fox (1988) alluded to three distinct forms of New Zealand falcons (eastern, southern and bush) but these have not been taxonomically described. Late Pleistocene–Holocene and midden records from widely distributed sites in North, South and Chatham Islands.

Order GRUIFORMES: Rails, Cranes and Allies

Family GRUIDAE Vigors: Cranes

Subfamily GRUINAE Vigors: Cranes

Gruidae Vigors, 1825: *Trans. Linn. Soc. London* 14: 488 – Type genus *Grus* Pallas, 1766.

Genus *Grus* Brisson

Grus Brisson, 1760: *Ornithologie* 5: 375 – Type species (by tautonymy) *Ardea grus* Linnaeus = *Grus grus* (Linnaeus).

Grus Pallas, 1766: *Miscell. Zool.*: 66 – Type species (by tautonymy) *Ardea grus* Linnaeus = *Grus grus* (Linnaeus). Junior homonym of *Grus* Brisson.

Grus is represented in Australia by two similar species, the brolga *Grus rubicundus* (Perry) and the sarus crane *G. antigone* Linnaeus. There are two records of *Grus* from New Zealand: one from Clevedon in 1947 (McKenzie & Cunningham 1952) and one at Punakaiki in 1968 (Westerkov 1968). Neither record contained sufficient information to differentiate the two Australian species, so their attribution to *Grus rubicundus* (see Checklist Committee 1990: 127) is not accepted by the OSNZ Rare Birds Committee and that species is removed from the New Zealand list (Scofield 2005a).

Family †APTORNITHIDAE Bonaparte: Adzebills

Aptornithidae Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43(18): 841 – Type genus *Aptornis* Owen. Name placed in the *Official Family-Group Names in Zoology* (fide ICZN 1997, Opinion 1874. *Bull. Zool. Nomenclature* 54(2): 142).

This family is recognised following Oliver (1955) and Olson (1985b), but its position has always been controversial. Parker (1866) found it closest to the trumpeter *Psophia* in which he had support from Fürbringer (1888) and Beddard (1898). Cracraft (1982) and Olson (1985b) placed it near the Rhynochetidae (the kagu) of New Caledonia with Cracraft including both in a group inclusive of trumpeters, seriemas (*Cariama*) and sunbitterns (*Eurypyga*). Recent mtDNA analyses by Houde *et al.* (1997) suggest *Aptornis* is more basal than rails, and has some association with *Psophia*, but not with *Rhynochetos* which is related to *Eurypyga* and basal in gruoid relationships. We therefore place *Aptornis* after *Grus* and before Rallidae.

Genus †*Aptornis* G.A. Mantell

Aptornis G.A. Mantell, 1848 (2 February): *Quart. Journ. Geol. Soc. London* 4: 233 – Type species (by monotypy) *Dinornis otidiformis* Owen = *Aptornis otidiformis* (Owen).

Apterornis Owen, 1848 (13 April): *Proc. Zool. Soc. London* 1848 (16): 1. Rejected and invalid (fide ICZN 1997, Opinion 1874. *Bull. Zool. Nomenclature* 54(2): 142).

Aptornis Owen, 1848 (22 April): *Trans. Zool. Soc. London* 3(5): 347 – Type species (by monotypy) *Dinornis otidiformis* = *Aptornis otidiformis* (Owen). Name placed in the *Official List of Generic Names in Zoology* (fide ICZN 1997, Opinion 1874. *Bull. Zool. Nomenclature* 54(2): 142). Junior homonym and synonym of *Aptornis* G.A. Mantell.

Olson (1985b) advocated the priority of *Apterornis* Owen, 1848 over *Aptornis* Owen, 1848, but the latter was conserved in Opinion 1874 (ICZN 1997). However, Mantell (1848) had priority over Owen (1848) and is thus the author of the genus.

▶ †*Aptornis otidiformis* (Owen)

North Island Adzebill

Dinornis otidiformis Owen, 1843: *The Literary Gazette* 1402: 778. *Nomen nudum*.

Dinornis otidiformis Owen, 1844: *Trans. Zool. Soc. London* 3(3): 247 – Poverty Bay, Gisborne.
Name placed in the *Official List of Specific Names in Zoology* (fide ICZN 1997, Opinion 1874. *Bull. Zool. Nomenclature* 54(2): 142).

Aptornis otidiformis (Owen); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 132, 178.

Extinct. North Island. Common in Late Pleistocene and Holocene fossil sites, but rare in middens.

▶ †***Aptornis defossor* Owen**

South Island Adzebill

Aptornis defossor Owen, 1871: *Trans. Zool. Soc. London* 7(5): 354, pls 40–44 – Oamaru.

Aptornis bulleri Owen, 1888: in Buller, *History of the Birds of N.Z.*, 2nd edition 1: 23 – Albury, South Canterbury.

Extinct. South Island. Common in Late Pleistocene and Holocene fossil sites, but rare in middens.

Family RALLIDAE Rafinesque: Rails, Gallinules and Coots

This classification and nomenclature of rails largely follows Taylor & van Perlo (1998).

Subfamily RALLINAE Rafinesque: Rails, Gallinules and Coots

Rallia Rafinesque, 1815: *Analyse de la Nature*: 70 – Type genus *Rallus* Linnaeus, 1758.

Genus *Crex* Bechstein

Crex Bechstein, 1803: *Ornith. Taschenb. Deutschland* 2: 336 – Type species (by monotypy and tautonymy) *Crex pratensis* Bechstein = *Crex crex* (Linnaeus).

▶ ***Crex crex* (Linnaeus)**

Corncrake

Rallus crex Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 153 – Europe, restricted to Sweden (fide Peters 1934, *Check-list Birds World* 2: 181).

Rallus featherstonii Buller, 1865: *Essay N.Z. Ornith.*: 18 – Nelson.

Ortygometra crex (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 33.

Rallus Featherstonii Buller; Hutton 1871, *Cat. Birds N.Z.*: 33, 77.

Crex crex (Linnaeus); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 214.

Hutton (1871) referred a specimen in the Colonial Museum (now Museum of New Zealand Te Papa Tongarewa), the basis of Buller's *Rallus featherstonii*, to *Ortygometra crex*; see also Gray (1871). Formerly placed on the Suspense List by Checklist Committee (1970, 1990). Hutton (1871) considered that the unique specimen (from Nelson) differed little from European examples and so it was listed as a vagrant. Marchant & Higgins (1993: 537) noted two records of vagrants in Australia, including one from New South Wales, lending credibility to the New Zealand record.

Genus *Lewinia* G.R. Gray

Lewinia G.R. Gray, 1855: *Cat. Genera Subgen. Birds Brit. Mus.*: 120 – Type species (by monotypy) *Rallus lewinii* Swainson = *Lewinia pectoralis* (Temminck).

Donacias Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 321. Unnecessary *nomen novum* for *Lewinia* G.R. Gray, 1855.

Hyporallus Iredale & Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 76 – Type species (by original designation) *Rallus muelleri* Rothschild = *Lewinia muelleri* (Rothschild).

▶ ***Lewinia muelleri* (Rothschild)**

Auckland Island Rail

Rallus muelleri Rothschild, 1893: *Bull. Brit. Ornith. Club* 1(8): 40 – Auckland Island.

Hypotaenidia muelleri (Rothschild); Buller 1905, *Suppl. Birds N.Z.* 1: 42.

Rallus pectoralis muelleri Rothschild; Checklist Committee 1953, *Checklist N.Z. Birds*: 39.

Rallus brachipus von Hugel 1875; Oliver 1955, *New Zealand Birds*, 2nd edition: 351. Not *Rallus brachipus* Swainson, 1838.

Lewinia muelleri (Rothschild); Sibley & Monroe 1990, *Distr. and Taxon. Birds of the World*: 225.

Dryolimnas pectoralis muelleri (Rothschild); Marchant & Higgins 1993, *HANZAB* 2: 529.

Dryolimnas muelleri (Rothschild); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 132, 178.

Auckland Islands. The first collected specimen, incorrectly identified by von Hugel in 1875 as *Rallus brachipus* Swainson, 1838 (= *R. pectoralis* Temminck), is now in the American Museum of Natural History (Oliver 1955: 351). Otherwise known until recently only from this and the type specimen (now missing, presumed destroyed) and a live bird collected on Adams Island in 1966 (Falla 1967). In 1989 the rail was found on Adams Island in good numbers. Previously listed as *Rallus pectoralis muelleri* (e.g. Checklist Committee 1990) or *Dryolimnas pectoralis muelleri* (e.g. Marchant & Higgins 1993), we follow Sibley & Monroe (1990) and Taylor & van Perlo (1998) in placing this taxon in *Lewinia*.

Genus *Gallirallus* Lafresnaye

Ocydromus Wagler, 1830: *Natur. Syst. Amphib. Säug. Vögel.*: 98 – Type species *Ocydromus australis* = *Gallirallus australis* (Sparman). Junior homonym of *Ocydromus* Schellenberg, 1806.

Gallirallus Lafresnaye, 1841: *Revue Zool. 1841*: 243 – Type species (by monotypy) *Gallirallus brachypterus* Lafresnaye = *Gallirallus australis* (Sparman).

Brachypteryx Owen, 1848: *Proc. Zool. Soc. London 1848* (16): 2, 7 – Type species *Rallus australis* Sparman = *Gallirallus australis* (Sparman). Junior homonym of *Brachypteryx* Horsfield, 1821.

Hypotaenidia Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 23 – Type species (by original designation) *Rallus pectoralis* Gould = *Gallirallus philippensis melli* (Mathews), not *Rallus pectoralis* Temminck.

Nesolimnas Andrews, 1896: *Novit. Zool.* 3: 260, 266 – Type species (by monotypy) *Rallus dieffenbachii* G.R. Gray = *Gallirallus dieffenbachii* (G.R. Gray).

► *Gallirallus philippensis* (Linnaeus)

Banded Rail

Rallus philippensis Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 263 – Philippines.

Indonesia, Philippines, Melanesia, Australia, Tasmania, western Polynesia, New Zealand and subantarctic islands. The regional variation in this, one of the most polytypic rails with a high dispersal capability, was reviewed by Schodde & de Naurois (1982).

Gallirallus philippensis melli (Mathews)

Buff-banded Rail

Rallus pectoralis Gould, 1848: *Birds of Australia* 6: pl. 76 – New South Wales, Australia. Junior primary homonym of *Rallus pectoralis* Temminck, 1831.

Hypotaenidia australis Pelzeln, 1873: *Ibis* 3 (3rd ser.): 42. *Nomen novum* for *Rallus pectoralis* Gould, 1848. Junior secondary homonym of *Rallus australis* Sparman.

Eulabeornis philippensis melli Mathews, 1912: *Novit. Zool.* 18: 192 – Sandy Hook Island, south-western Australia.

Hypotaenidia philippensis norfolkensis Mathews, 1931: *Bull. Brit. Ornith. Club* 51: 129 – Norfolk Island.

Rallus philippensis norfolkensis (Mathews); Peters 1934, *Check-list Birds World* 2: 165.
Rallus philippensis australis (Pelzeln); Condon 1975, *Checklist Birds Australia* 1: 101.
Gallirallus philippensis mellori (Mathews); Marchant & Higgins 1993, *HANZAB* 2: 495.
Rallus philippensis; Moore 1999, *Notornis* 46: 359. Not *Rallus philippensis* Linnaeus, 1766.

This Australian subspecies has been recorded from Norfolk Island (Marchant & Higgins 1993: 498, 504). Holocene fossil bones, presumed to be this taxon, were recorded on Norfolk Island by Meredith (1991) and Holdaway & Anderson (2001).

***Gallirallus philippensis assimilis* (G.R. Gray)**

Banded Rail

Rallus assimilis G.R. Gray, 1843; in E. Dieffenbach, *Travels in N.Z.* 2: 197 – New Zealand.
Rallus assimilis Ellman, 1861: *Zoologist* 19: 7470 – New Zealand. Junior primary homonym of
Rallus assimilis G.R. Gray, 1843.
Rallus pectoralis Lesson; Hutton 1871, *Cat. Birds N.Z.*: 33. Not *Rallus pectoralis* Gould, 1848.
Rallus pictus Potts, 1872: *Trans. N.Z. Inst.* 4: 202 – Okarito, south Westland.
Hypotaenidia philippensis; Buller 1905, *Suppl. Birds N.Z.* 1: 43. Not *Rallus philippensis* Linnaeus, 1766.
Eulabeornis philippensis assimilis (Gray); Mathews 1911, *Birds Australia* 1: 196.
Hypotaenidia philippensis assimilis (G.R. Gray, 1843); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 211.
Rallus philippensis assimilis G.R. Gray; Checklist Committee 1953, *Checklist N.Z. Birds*: 38.
Gallirallus philippensis assimilis (G.R. Gray); Marchant & Higgins 1993, *HANZAB* 2: 495.

Main islands of New Zealand, formerly common throughout. North Island: Northland (including Manawatāwhi/Three Kings, Poor Knights and Great Barrier (Aotea) Islands), Auckland, Waikato, Coromandel and Bay of Plenty; rare south of 39°S (Marchant & Higgins 1993: 497). South Island: coastal north-west Nelson, Golden Bay and Pelorus Sound; rare elsewhere (Elliott 1989). Stewart Island/Rakiura and outliers. Rare in Late Pleistocene or Holocene fossil sites and middens.

† ***Gallirallus philippensis macquariensis* (Hutton)**

Macquarie Island Banded Rail

Rallus macquariensis Hutton, 1879: *Ibis* 3 (4th ser.): 455 – Macquarie Island.
Hypotaenidia macquariensis (Hutton); Hutton 1904, *Index Faunae N.Z.*: 30.
Eulabeornis philippensis macquariensis (Hutton); Mathews 1911, *Birds Australia* 1: 196.
Hypotaenidia philippensis macquariensis (Hutton); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 211.
Rallus philippensis macquariensis Hutton; Checklist Committee 1990, *Checklist Birds N.Z.*: 119.
Gallirallus philippensis macquariensis (Hutton); Marchant & Higgins 1993, *HANZAB* 2: 495.
Gallirallus macquariensis (Hutton); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 132, 178.

Macquarie Island. Became extinct between 1880 and 1894 (Oliver 1955). Maintenance of this taxon as a subspecies was supported by Livezey's (1998) analysis, although Holdaway *et al.* (2001) advocated species status.

▶ † ***Gallirallus dieffenbachii* (G.R. Gray)**

Dieffenbach's Rail

Rallus Dieffenbachii G.R. Gray, 1843; in E. Dieffenbach, *Travels in N.Z.* 2: 197 – Chatham Islands.
Ocydromus Dieffenbachii (G.R. Gray); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 14, pl. 15.
Hypotaenidia dieffenbachi (G.R. Gray); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 43: 599. Unjustified emendation.

Hypotaenidia dieffenbachii (G.R. Gray); G.R. Gray 1862, *Ibis* 4: 238.

Rallus dieffenbachii G.R. Gray; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 179. In part.

Cabalus dieffenbachii (G.R. Gray); Sharpe 1875, *Zool. Voy. 'Erebus' & 'Terror', Birds – 1 (Appendix)*: 29, pl. 15. In part.

Cabalus dieffenbachii (G.R. Gray); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 121.

Nesolimnas dieffenbachii (G.R. Gray); Buller 1905, *Suppl. Birds N.Z.* 1: 44.

Rallus philippensis dieffenbachii G.R. Gray; Checklist Committee 1990, *Checklist Birds N.Z.*: 119.

Gallirallus dieffenbachii (G.R. Gray); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 132, 178.

Extinct. Known historically from only one skin collected on Chatham Island in 1840, but its bones are common in Holocene fossil deposits and middens on Chatham, Pitt, and Mangere Islands (Tennyson & Millener 1994). Here we follow Olson (1975), Treweek (1997a,b), Marchant & Higgins (1993), Holdaway *et al.* (2001) and Worthy & Holdaway (2002) in recognising this taxon as a separate species on account of distinctive morphology and genotype.

► ***Gallirallus australis* (Sparman)**

Weka

Rallus australis Sparman, 1786: *Mus. Carlsonianum* 1: n° XIV, pl. 14 – Dusky Sound, Fiordland.

Ocydromus insignis Forbes, 1892: *Trans. N.Z. Inst.* 24: 188 – New Zealand, restricted to Enfield Swamp, Otago (*vide* Worthy 1998, *Journ. Royal Soc. N.Z.* 28: 461).

Ocydromus minor Hamilton, 1893: *Trans. N.Z. Inst.* 25: 103, 106 – Castle Rocks, Southland.

New Zealand. Formerly widespread on North and South Islands, and Stewart Island/Rakiura and many inshore islands (Beauchamp *et al.* 1999). Abundant in Late Pleistocene and Holocene fossil and midden deposits on North and South Islands and Stewart Island/Rakiura, but the bones cannot be determined to subspecies. Subspecies said to differ mainly in plumage (Beauchamp *et al.* 1999). South Island birds very variable in size and plumage with light to dark morphs exhibiting clinal variation with environment (e.g. rainfall gradients) (Buller 1878b, Marchant & Higgins 1993: 519). Introduced to Chatham and Pitt Islands (*G. a. hectori*) where still common; Macquarie Island (*G. a. scotti*) where now extirpated; and many inshore islands (various subspecies) about New Zealand (Marchant & Higgins 1993: 507). The variation observed in existing and former weka populations, led to numerous names for taxa, generally based on plumage differences, and a resultant complex nomenclatural history, e.g. Hutton (1871, 1874, Buller (1878b)). Two taxa based on Holocene fossil bones were synonymised with *Gallirallus australis* (Sparman): *Gallirallus minor* Hamilton, by Holdaway & Worthy (1997: 93) as advocated by Olson (1975), and *Ocydromus insignis* Forbes, by Worthy (1998a: 461). Ellman (1861) provided the following new names for rails which probably relate to various colour morphs of *Gallirallus australis* but for which there is insufficient data to refer them to any particular subspecies:

Rallus punctatus Ellman, 1861: *Zoologist* 19: 7470 – *Nomen dubium*.

Rallus niger Ellman, 1861: *Zoologist* 19: 7470 – *Nomen dubium*.

Rallus rufus Ellman, 1861: *Zoologist* 19: 7470 – *Nomen dubium*.

Rallus fuscus Ellman, 1861: *Zoologist* 19: 7471 – *Nomen dubium*.

Rallus strepitans Ellman, 1861: *Zoologist* 19: 7471 – *Nomen dubium*.

Gallirallus australis greyi (Buller)**North Island Weka**

Ocydromus greyi Buller, 1888: *History of the Birds of N.Z.*, 2nd edition 2: 105, pl. 34 – North Island.

Gallirallus australis greyi (Buller); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 212.

North Island. Formerly throughout, but now nearly extinct on the mainland where confined mainly to the East Coast area. Decline reviewed by Beauchamp *et al.* (2000). Successfully introduced to Kapiti, Mokoia (Lake Rotorua), Pakatoa and Kawau Islands. The current Kawau birds derive from an introduction in the 1970s from the Gisborne area (Wilson 1980) and have pure North Island genes (Lambert 1999). Oliver (1955: 362) records that both North Island and Stewart Island/Rakiura weka were transferred to Kapiti Island, so this population may be a mix of more than one subspecies.

Gallirallus australis australis (Sparman)**Western Weka**

Rallus australis Sparman, 1786: *Mus. Carlsonianum* 1: n^o XIV, pl. 14 – Dusky Sound, Fiordland.

Rallus troglodytes Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 713 – New Zealand, restricted to Dusky Sound, Fiordland (*vide* Peters 1934, *Check-list Birds World* 2: 178).

Gallirallus brachypterus Lafresnaye, 1841: *Rev. de Zool., Paris 1841*: 243 – Dusky Sound, Fiordland.

Gallirallus fuscus du Bus de Gisignies, 1847: *Esquisses Ornith. Livr. 3*, pl. 2 – Dusky Sound, Fiordland.

Ocydromus earli G.R. Gray, 1862: *Ibis* 4: 238 – New Zealand.

Ocydromus nigricans Buller, 1869: *Trans. N.Z. Inst.* 1(22): 111; (2nd edition: 56) – south-west coast of the South Island.

Ocydromus fuscus Dubus [sic]; Hutton 1871, *Cat. Birds N.Z.*: 32.

Ocydromus finschi Hutton, 1873: *Journ. für Ornith.* 21(124): 400. English translation in Hutton 1874, *Trans. N.Z. Inst.* 6: 111 – south Otago, east of Southern Alps.

Ocydromus earli Finsch, 1873: *Journ. für Ornith.* 21(124): 404 – New Zealand. Junior primary homonym of *Ocydromus earli* Gray, 1862.

Ocydromus assimilis Buller, 1888: *Classified List Silver's Collection N.Z. Birds*: 44 – southernmost part of South Island.

Ocydromus australis (Sparman); Buller 1905, *Suppl. Birds N.Z. 1*: 58.

Ocydromus brachypterus (Lafresnaye); Buller 1905, *Suppl. Birds N.Z. 1*: 61.

Gallirallus australis australis (Sparman); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 212.

Gallirallus townsoni Mathews & Iredale, 1914: *Ibis* 2 (10th ser.): 295, pl. 11 – Westport, Westland.

Gallirallus troglodytes (Gmelin); Peters 1934, *Check-list Birds World* 2: 178.

South Island. Formerly widespread in northern Marlborough, Nelson, and down the West Coast to Fiordland. Now much reduced in range and declining. Introduced to D'Urville and Chetwode Islands, but recently removed from latter. This subspecies has both dark and light morphs in Fiordland. *Ocydromus nigricans* was synonymised with *O. fuscus* by Hutton (1871), and *O. finschi* with *O. fuscus* by Buller (1878b). Sharpe (1893: 27) found *O. brachypterus* to be identical to *O. fuscus* (see Buller 1895: 119). *Ocydromus earli* Gray was assumed to refer to the North Island population by most workers in the 19th Century, with the exception of Finsch (e.g. 1869, 1875b), but the issue was finally settled by Buller (1891: 39) who reported a similar bird to Gray's type from Marlborough.

Gallirallus australis hectori (Hutton)**Buff Weka**

Ocydromus hectori Hutton, 1873: *Journ. für Ornith.* 21(124): 399. English translation in Hutton 1874, *Trans. N.Z. Inst.* 6: 110 – “near the Te Anau Lake, in Otago”, error for Eglinton Flats, Otago (*vide* Tennyson & Bartle 2008, *Tubinga* 19: 196).

Gallirallus hectori (Hutton); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 213.

Gallirallus hectori reischeki Iredale, 1913: *Austral Avian Rec.* 2: 15 – Canterbury.

Gallirallus australis hectori (Hutton); Checklist Committee 1953, *Checklist N.Z. Birds*: 40.

South Island. Formerly widespread in eastern low-rainfall areas from Marlborough to Southland. Apparently died out on the mainland, but remains abundant on Chatham Islands (Chatham and Pitt) where introduced in 1905. Attempted reintroductions to Arthur’s Pass (1962), the Mackenzie Basin (1970s), Banks Peninsula (1980s), and Ashburton (1990s) were unsuccessful. Recently introduced to islands in Lake Wanaka (2002) and to a fenced area on Banks Peninsula. Introduced to Kawau Island from Central Otago by Sir George Grey in 1863 (Buller 1878b: 215), but population died out by the 1920s.

Gallirallus australis scotti (Ogilvie-Grant)**Stewart Island Weka**

Ocydromus scotti Ogilvie-Grant, 1905: *Bull. Brit. Ornith. Club* 15: 78 – Port Pegasus, Stewart Island.

Gallirallus australis scotti (Ogilvie-Grant); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 212.

Distinguished by slightly smaller size from *G. a. australis* with no consistent plumage differences (Marchant & Higgins 1993), so status in need of revision. Formerly on Stewart Island/Rakiura and surrounding islets, but now extinct on Stewart Island/Rakiura (Harper 2004). Introduced to numerous outlying islands including Solander Island (Hautere) and Codfish Island (Whenuahou)—but removed from Codfish (Whenuahou) by 1987. Also introduced successfully to Kapiti Island (c. 1895) and Macquarie Island (1872 and later, but now extirpated).

Genus †Cabalus Hutton

Cabalus Hutton, 1874: *Trans. N.Z. Inst.* 6: 108 – Type species (by monotypy) *Rallus modestus* Hutton = *Cabalus modestus* (Hutton).

Huttonena Mathews, 1929: *Bull. Brit. Ornith. Club* 50: 19. Unnecessary *nomen novum* for *Cabalus* Hutton 1874.

▶ **†Cabalus modestus** (Hutton)**Chatham Island Rail**

Rallus modestus Hutton, 1872: *Ibis* 2 (3rd ser.): 247 – Mangere Island, Chatham Islands.

Rallus dieffenbachii G.R. Gray; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 179. In part.

Cabalus dieffenbachii (G.R. Gray); Sharpe 1875, *Zool. Voy. ‘Erebus’ & ‘Terror’, Birds – 1 (Appendix)*: 29. In part.

Cabalus modestus (Hutton); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 123.

Ocydromus pygmaeus Forbes, 1892: *Nature* 46: 252 – Chatham Islands.

Rallus modestus Hutton; Checklist Committee 1990, *Checklist Birds N.Z.*: 119.

Gallirallus modestus (Hutton); Trewick 1997, *Journ. Royal Soc. N.Z.* 27: 452.

Cabalus modestus (Hutton); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 132, 178.

Chatham, Mangere and Pitt Islands, Chatham Group. Extinct since 1893 (Tennyson & Martinson 2007). Common in Holocene fossil and some midden deposits. Various placed in *Rallus* or *Gallirallus* after Olson (1973), e.g. Marchant & Higgins (1993:

527). Preliminary mtDNA analyses by Trewick (1997b) suggest a close relationship to *Gallirallus dieffenbachii*, but here it is kept separate in its own genus on account of its very divergent morphology (Livezey 1998).

Genus †*Capellirallus* Falla

Capellirallus Falla, 1954: *Rec. Auck. Inst. Museum* 4: 242 – Type species (by original designation)
Capellirallus karamu Falla.

▶ †*Capellirallus karamu* Falla Snipe-rail

Capellirallus karamu Falla, 1954: *Rec. Auck. Inst. Museum* 4: 242, pls 40–42 – Karamu Cave, near Hamilton.

North Island, New Zealand. Extinct prehistorically: known from numerous Late Pleistocene and Holocene sites, including caves, dunes, swamps and middens. Very distinctive; crane-sized with perhaps the longest bill and smallest wings (relative to body size) of any rail.

Genus †*Diaphorapteryx* Forbes

Diaphorapteryx Forbes, 1892 (31 December): *Bull. Brit. Ornith. Club* 1(4): 21 – Type species (by monotypy) *Aphanapteryx hawkinsi* Forbes = *Diaphorapteryx hawkinsi* (Forbes).

▶ †*Diaphorapteryx hawkinsi* (Forbes) Hawkins' Rail

Aphanapteryx hawkinsi Forbes, 1892 (3 March): *Nature* 45: 416 – Chatham Islands.

Aphanapteryx hawkinsi Forbes; Forbes 1892 (21 April): *Nature* 45: 580.

Diaphorapteryx hawkinsi (Forbes); Forbes 1892 (31 December), *Bull. Brit. Ornith. Club* 1(4): 21.

Diaphorapteryx hawkingi [sic] (Forbes); Checklist Committee 1990, *Checklist Birds N.Z.*: 121.

Chatham Group. Extinct prehistorically, but common in Holocene dune deposits and middens on Chatham and Pitt Islands (Tennyson 2004).

Genus *Porzana* Vieillot

Porzana Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 61 – Type species (by monotypy and tautonymy) “Marouette” of Buffon = *Porzana porzana* (Linnaeus).

Zapornia Stephens, 1824: in Shaw, *General Zool.* 12: 230 – Type species (by monotypy)

Zapornia pusilla Stephens = *Porzana parva* (Scopoli).

Zaporina J.R. Forster, 1827: *Pocket Encycl. Nat. Phen.*: 418. Unjustified emendation.

Phalaridion Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 173 – Type species (by subsequent designation) *R. parvus* Scopoli = *Porzana parva* (Scopoli).

Rallites Pucheran, 1845: *Revue Zool.*: 277 – Type species (by subsequent designation) *Rallus parvus* Scopoli = *Porzana parva* (Scopoli).

Porzanoidea Mathews, 1912: *Austral Avian Rec.* 1: 117 – Type species (by subsequent designation) *Gallinula immaculata* Swainson = *Porzana tabuensis* (Gmelin).

Schoenocrex Roberts, 1922: *Ann. Transv. Museum* 8: 197 – Type species (by original designation)
Rallus pusillus Pallas = *Porzana pusilla* (Pallas).

▶ *Porzana tabuensis* (Gmelin) Spotless Crane

Philippines, Moluccas, New Guinea, Melanesia, Australia, Tasmania and south-west Polynesia including New Zealand. Australian and New Zealand birds, previously separated as *P. t. plumbea* (J.E. Gray), were synonymised with the nominate subspecies by Marchant & Higgins (1993: 566); see also Onley (1982b).

Porzana tabuensis tabuensis (Gmelin)**Spotless Crake**

Rallus tabuensis Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 717 – Tongatapu, Tahiti, and other islands of French Polynesia.

Crex plumbea J.E. Gray, 1829: in E. Griffith, *Anim. Kingdom* 8 (Aves, 3): 410 – New Zealand (fide Mathews 1911, *Birds Australia* 1: 217).

Gallinula immaculata Swainson, 1838: *Anim. Menager.*: 337 – Tasmania, Australia.

Ortygometra tabuensis (Gmelin); Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 14.

Rallus rufopes Ellman, 1861: *Zoologist* 19: 7470 – New Zealand.

Rallus minor Ellman, 1861: *Zoologist* 19: 7470 – New Zealand.

Porzana tabuensis (Gmelin); Hutton 1904, *Index Faunae N.Z.*: 31.

Porzana plumbea (J.E. Gray); Buller 1905, *Suppl. Birds N.Z.* 1: 63.

Porzana plumbea roberti Mathews, 1912: *Novit. Zool.* 18(3): 446 – Western Australia.

Porzanoiidea plumbea plumbea (J.E. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 215.

Porzanoiidea plumbea campbelli Mathews, 1914: *Austral Avian Rec.* 2: 85 – Botany Swamps, New South Wales, Australia.

Porzana tabuensis plumbea (J.E. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 40.

Porzana tabuensis tabuensis (Gmelin); Marchant & Higgins 1993, *HANZAB* 2: 559.

Luzon, New Guinea, Australia, south-west Pacific islands, Norfolk Island, New Zealand. In New Zealand, widespread, including Kermadec, Manawatāwhi/Three Kings, Poor Knights (Onley 1982a) and Chatham Islands. Known from a very few Holocene fossil and midden sites on the mainland and Chathams.

▶ **Porzana pusilla (Pallas)****Baillon's Crake**

Rallus pusillus Pallas, 1776: *Reise durch verschiedene Provinzen des Russischen Reichs* 3: 700 – Dauria, Siberia.

Throughout the Old World, including New Guinea, Australia, Tasmania and New Zealand. Migratory in the Palearctic.

Porzana pusilla palustris Gould**Baillon's Crake**

Porzana palustris Gould, 1843: *Proc. Zool. Soc. London 1842* (10): 139 – “van Diemen's Land” = Tasmania, Australia (fide Peters 1934, *Check-list Birds World* 2: 183).

Porzana pusilla fitzroyi Mathews, 1912: *Austral Avian Rec.* 1: 73 – Derby, Western Australia.

Porzana pusilla palustris Gould; Marchant & Higgins 1993, *HANZAB* 2: 545.

This Australian subspecies was recorded from Macquarie Island by Marchant & Higgins (1993: 545).

Porzana pusilla affinis (J.E. Gray)**Marsh Crake**

Ortygometra affinis J.E. Gray, 1845: *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 14 – Wanganui River.

Porzana affinis (J.E. Gray); Buller 1905, *Suppl. Birds N.Z.* 1: 63.

Porzana pusilla affinis (J.E. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 215.

New Zealand and Chatham Islands. Widespread scattered records (Elliott 1989, Marchant & Higgins 1993). Very rare as a fossil or in middens.

▶ **Porzana fluminea Gould****Australian Crake**

Porzana fluminea Gould, 1843: *Proc. Zool. Soc. London 1842* (10): 139 – New South Wales, Australia.

Ortygometra fluminea (Gould); Hutton 1871, *Cat. Birds N.Z.*: 33.

Porzana fluminea Gould; Marchant & Higgins 1993, *HANZAB* 2: 551.

A specimen now held in the Museum of New Zealand Te Papa Tongarewa (NMNZ 4205) is said to have been collected from the “Province of Auckland” and is documented by Hutton (1871). This species is eruptive periodically throughout south-east Australia with records from Tasmania only in eruptive years (Marchant & Higgins 1993).

Genus *Gallinula* Brisson

Gallinula Brisson, 1760: *Ornithologie* 1: 50 and 6: 2 – Type species (by tautonymy) *Gallinula* Brisson = *Gallinula chloropus* (Linnaeus).

Hydrogallina Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 19 – Type species (by subsequent designation) *Fulica chloropus* Linnaeus = *Gallinula chloropus* (Linnaeus).

Stagnicola Brehm, 1831: *Handb. Naturgesch. Vög. Deutschl.* 702 – Type species (by subsequent designation) *Fulica chloropus* Linnaeus = *Gallinula chloropus* (Linnaeus).

Tribonyx du Bus de Gisignies, 1840: *Bull. Acad. Roy. Sci. Bruxelles* 7(1): 212 – Type species (by monotypy) *Tribonyx mortierii* du Bus de Gisignies = *Gallinula mortierii* (du Bus de Gisignies).

Brachytrallus Lafresnaye, 1840: *Rev. de Zool., Paris*: 231 – Type species (by monotypy) *Brachytrallus ralloides* Lafresnaye = *Gallinula mortierii* (du Bus de Gisignies).

Amaurornis Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 21 – Type species (by original designation) *Gallinula olivacea* Meyen.

Microtribonyx Sharpe, 1893: *Bull. Brit. Ornith. Club* 1: 29 – Type species (by original designation) *Microtribonyx ventralis* (Gould) = *Gallinula ventralis* Gould.

Pyramida Oliver, 1955: *New Zealand Birds*, 2nd edition: 595 – Type species (by monotypy) *Rallus hodgeni* Scarlett = *Gallinula hodgenorum* (Scarlett).

▶ *Gallinula ventralis* Gould

Black-tailed Native-hen

Gallinula ventralis Gould, 1837: *Proc. Zool. Soc. London 1836* (4): 85 – Swan River, Western Australia.

Microtribonyx ventralis (Gould); Sharpe 1893, *Bull. Brit. Ornith. Club* 1: 29.

Tribonyx ventralis whitei Mathews, 1912: *Novit. Zool.* 18(3): 194 – Nevertire, north-western New South Wales, Australia.

Tribonyx ventralis territorii Mathews, 1912: *Novit. Zool.* 18(3): 195 – Alexandria, Northern Territory, Australia.

Tribonyx ventralis (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 41.

Gallinula ventralis Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 123.

Australia. Straggler to New Zealand. At least five records: Oraki, Colac Bay/Ōraka, Southland (1923); Tukituki River, Hawke’s Bay (May 1957); Kongahu Swamp, Karamea (Aug. to Nov. 1984); Opuatia Swamp, Waikato (May 1986; Marchant & Higgins 1993: 610); and Lake Hood, Canterbury (2002) (Medway 2002e).

▶ *Gallinula chloropus* Linnaeus

Common Moorhen

Gallinula chloropus Linnaeus, 1758: *Syst. Nat., 10th edition* 1(1): 152. Based on “*Gallinula Chloropus*” of Albin, 1738 – Europe, restricted to England (*vide* Taylor & van Perlo 1998, *Rails*: 492).

Gallinula chloropus indica Blyth, 1842: *Journ. Asiatic Soc. Bengal* 11: 887 – Calcutta, India.

Gallinula chloropus indica Blyth; Turbott & Scarlett 1964, *Notornis* 11: 107.

Gallinula chloropus Linnaeus; Taylor & van Perlo 1998, *Rails*: 492.

A specimen in the Canterbury Museum (CM Av2437) is documented as “Otago, ex Smyth collection”. Smyth worked in Dunedin during the period 1895–1910 (Turbott & Scarlett 1964). The closest subspecies to the New Zealand area, *G. ch. indica*, is

sometimes included in the nominate subspecies but was treated as distinct by Peters (1934) and by Howard & Moore (1991). It occurs from northern India to Japan, China, Taiwan and Malaysia and is a seasonal migrant between northern and southern parts of its range.

► ***Gallinula tenebrosa* Gould**

Dusky Moorhen

Gallinula tenebrosa Gould, 1846: *Birds of Australia* 6, pl. 73 – New South Wales and South Australia, Australia.

Gallinula tenebrosa magnirostris Mathews, 1912: *Novit. Zool.* 18(3): 195 – Guildford, Western Australia.

Gallinula tenebrosa subfrontata Mathews, 1912: *Novit. Zool.* 18(3): 195 – Richmond River, New South Wales, Australia.

Gallinula tenebrosa Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 123.

Australia, New Guinea and East Indies. Straggler to New Zealand. Two records, both single birds: Lake Hayes, Otago Aug. to Oct. 1968 (Barlow 1969); near Lake Ellesmere (Te Waihora) Feb. 2005 (Scofield 2005a).

► † ***Gallinula hodgenorum* (Scarlett)**

Hodgens' Waterhen

Rallus hodgeni Scarlett, 1955: *Rec. Cant. Museum* 6: 265 – Pyramid Valley Swamp, Canterbury.

Gallirallus hartreei Scarlett, 1970: *Notornis* 17: 70 – near Napier.

Capellirallus hodgeni (Scarlett); Scarlett 1970, *Notornis* 17: 71.

Gallinula (Tribonyx) hodgeni (Scarlett); Olson 1975, *Nat. Mus. N.Z. Rec.* 1: 68.

Gallinula hodgenorum (Scarlett); Olson 1986, *Notornis* 33: 32 – Emendation.

Gallinula hodgeni (Scarlett); Checklist Committee 1990, *Checklist Birds N.Z.*: 123.

New Zealand. Late Pleistocene and Holocene fossil in North and South Island sites, including middens. Extinct.

Genus *Porphyrio* Brisson

Porphyrio Brisson, 1760: *Ornithologie* 1: 48 and 5: 522 – Type species (by tautonymy) *Fulica porphyrio* Linnaeus = *Porphyrio porphyrio* (Linnaeus).

Notornis Owen, 1848 (22 January): *The Literary Gazette* 1618: 72 – Type species (by original designation) *Notornis mantelli* Owen = *Porphyrio mantelli* (Owen).

Caesarornis Reichenbach, 1853: *Avium Syst. Nat.* 2(1): 21 – Type species (by monotypy)

Gallinula poliocephala Latham = *Porphyrio poliocephalus* (Latham).

Mantellornis Mathews, 1911: *Birds Australia* 1: 249 – Type species (by original designation)

Notornis hochstetteri A.B. Meyer = *Porphyrio hochstetteri* (A.B. Meyer).

Taxa formerly included in *Porphyrio porphyrio* (Linnaeus), which was often called the purple swamphen, have until recently usually been separated into six subspecies groups (e.g. Taylor & van Perlo 1998). Here we follow Sangster (1998) and Sangster *et al.* (1999) in recognising qualitative differences in morphology, supported by mtDNA studies (Trewick 1997a), that show the paraphyletic nature of the species *P. porphyrio* (*sensu* Taylor & van Perlo 1998). This approach recognises the following six species: western swamphen *P. porphyrio* (western Mediterranean), African swamphen *P. madagascariensis*, grey-headed swamphen *P. poliocephalus* (Nicobar Islands and west Thailand to Iraq and Caspian region), Philippine swamphen *P. pulverulentus*, black-backed swamphen *P. indicus* (South-east Asia and Greater Sunda Islands), and south-west Pacific swamphen *P. melanotus*.

► ***Porphyrio melanotus* Temminck** **South-west Pacific Swamphen**

The species *Porphyrio melanotus*, as defined by Sangster *et al.* (1999), is polytypic and tentatively includes: *P. m. bellus* Gould, 1840 from south-west Australia, *P. m. melanopterus* Bonaparte from the Moluccas and Papua New Guinea, *P. m. pelewensis* from Palau, and *P. m. samoensis* Peale from Samoa, Fiji, Tonga and Niue, in addition to those listed in synonymy below. For a fuller listing of south-west Pacific taxa see Mathews (1927: 100).

***Porphyrio melanotus melanotus* Temminck** **Pukeko**

Porphyrio melanotus Temminck, 1820: *Manuel d'Ornith.*, 2nd edition. 2: 701 – New South Wales, Australia.

Porphyrio stanleyi Rowley, 1875: *Ornith. Miscellany* 1: 37 – New Zealand.

Porphyrio chathamensis Sharpe, 1893: *Ibis* 5 (6th ser.): 531 – Chatham Islands.

Porphyrio melanotus Temminck; Buller 1905, *Suppl. Birds N.Z.* 1: 64. Unjustified emendation.

Porphyrio melanotus fletcheriae Mathews, 1911: *Birds Australia* 1: 243 – Tasmania, Australia.

Porphyrio melanotus neomelanotus Mathews, 1911: *Birds Australia* 1: 246, pl. 60 – Parry's Creek, Western Australia.

Porphyrio melanotus stanleyi Rowley; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 216.

Porphyrio melanotus chathamensis Sharpe; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 216.

Porphyrio porphyrio melanotus Temminck; Checklist Committee 1953, *Checklist N.Z. Birds*: 41.

Porphyrio melanotus Temminck; Wakelin 1968, *Notornis* 15: 162.

Porphyrio porphyrio; Moore 1999, *Notornis* 46: 359. Not *Fulica porphyrio* Linnaeus, 1758.

Porphyrio melanotus melanotus Temminck; Sangster *et al.* 1999, *Ardea* 87(1): 147.

Australia, Tasmania, Norfolk Island and New Zealand. In New Zealand, North and South Islands and Stewart Island/Rakiura; and many offshore and inshore islands, including Kermadec, Chatham, Great Barrier (Aotea), Great Mercury (Ahuahu), Waiheke, and Kapiti. Straggler to Manawatāwhi/Three Kings Islands and Campbell Island/Motu Ihupuku. Known from only a few Late Holocene fossil and midden sites on the mainland, none likely to be more than a few hundred years old. Recent self-introduction to the Chatham Group, where no Holocene fossils are known. Also called Australian swamphen.

► †***Porphyrio mantelli* (Owen)** **North Island Takahe**

Notornis Mantelli Owen, 1848: *Trans. Zool. Soc. London* 3(5): 347, pl. 56, figs 7–13 – Waingongoro River, Taranaki.

Porphyrio mantelli mantelli (Owen); Checklist Committee 1990, *Checklist Birds N.Z.*: 124.

Porphyrio mantelli (Owen); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 132, 178.

North Island. Extinct, though a probable example was captured in 1894 in the Ruahine Ranges (Phillips 1959). Common in Late Pleistocene and Holocene lowland fossil deposits and in middens (Trewick & Worthy 2001). Larger than, and with differing skeletal proportions from, *P. hochstetteri*, as noted by Meyer (1883, in 1879–1897), Trewick (1996); also differs in mtDNA (Trewick 1997a).

► ***Porphyrio hochstetteri* (A.B. Meyer)** **South Island Takahe**

Notornis Mantelli Ellman, 1861: *Zoologist* 19: 7470 – New Zealand. Junior primary homonym of *Notornis mantelli* Owen, 1848.

Notornis hochstetteri A.B. Meyer, 1883: *Abbildungen von Voegel-Skeletten* 1(4–5): 28, pls 34–37 – North of Mararoa R., 3.5 miles east Whitestone R. and 9 miles southeast of south end of Lake Te Anau, Fiordland.

Notornis parkeri Forbes, 1892: *Trans. N.Z. Inst.* 24: 187 – Half a mile east of Patience Bay, Lake Te Anau, Fiordland.

Mantellornis hochstetteri (A.B. Meyer); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 216.

Porphyrio mantelli hochstetteri (A.B. Meyer); Checklist Committee 1990, *Checklist Birds N.Z.*: 125.

Porphyrio hochstetteri (A.B. Meyer); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 132, 178.

South Island. Four live specimens and one skeleton, recently dead, were collected in the south-west corner of the South Island between 1849 and 1898. Then assumed to be extinct until rediscovered by G.B. Orbell (Nov. 1948) west of Lake Te Anau, and subsequently found to be widespread in the Murchison Mountains. Wild population currently maintained by release of captive-bred birds and intensive predator control. Unsuccessfully re-introduced to the Stuart Mountains, Fiordland, 1987–92. Introduced to Kapiti, Maud, Mana and Tiritiri Matangi Islands since the late 1980s; more recently to Rarotoka (Centre) Island (Foveaux Strait) and to Maungatautari (Waikato). Bones widespread in Late Pleistocene and Holocene fossil sites and in middens (Trewick & Worthy 2001), more often at lowland than subalpine altitudes.

Genus *Fulica* Linnaeus

Fulica Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 152 – Type species (by tautonymy) *Fulica* Linnaeus = *Fulica atra* Linnaeus.

Palaeolimnas Forbes, 1893: *Ibis* 5 (6th ser): 544 – Type species (by monotypy) *Fulica newtoni* Milne-Edwards.

Nesophalaris Brodtkorb & Dawson, 1962: *Auk* 79: 268 – Type species (by original designation) *Fulica chathamensis* Forbes.

Both *Fulica novaezelandiae* Colenso, 1844 and *F. nova-zealandiae* Colenso, 1845 are junior synonyms of *Poliiocephalus rufopectus* (G.R. Gray, 1843) (see under Podicipediformes).

► *Fulica atra* Linnaeus

Eurasian Coot

Fulica atra Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 152 – Europe, restricted to Sweden (*vide* Peters 1934, *Check-list Birds World* 2: 211).

Europe, North Africa, Asia, New Guinea, Australia and Tasmania. Recently self-introduced in New Zealand. Also called common coot.

Fulica atra australis Gould

Australian Coot

Fulica Australis Gould, 1845: *Proc. Zool. Soc. London 1845* (13): 2 – Western Australia.

Fulica tasmanica Grant, 1846: *Tasm. Journ. Nat. Sci. Agric.* 2: 310 – Tasmania, Australia.

Fulica atra ingrami Mathews, 1912: *Novit. Zool.* 18(3): 196 – Alexandria, Northern Territory, Australia.

Fulica atra tasmanica Grant; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 217.

Fulica atra; Stidolph 1927, *Emu* 26: 217. Not *Fulica atra* Linnaeus, 1758.

Fulica atra australis Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 125.

Australia and Tasmania; straggler to Macquarie and Norfolk Islands. New Zealand: eight records between 1875 and 1953 (all in South Island). Recorded at Lake Tutira (Hawke's Bay), 1954. An invasion from Australia apparently occurred c. 1957. First

proved breeding at Lake Hayes (Otago), 1958; now widespread and increasing (Small & Soper 1959, Jackson & Lyall 1964, MacDonald 1968).

▶ †***Fulica prisca*** Hamilton

New Zealand Coot

Fulica prisca Hamilton, 1893: *Trans. N.Z. Inst.* 25: 98 – Castle Rocks, Southland.

Nesophalaris prisca (Hamilton); Brodkorb & Dawson, 1962: *Auk* 79: 268.

New Zealand. Late Pleistocene and Holocene fossils from North and South Island sites, including middens (Millener 1981b). Slightly smaller than the Chatham Island species. Skeletal proportions given in Worthy & Holdaway (2002) indicate that this species was probably volant, contrary to Checklist Committee (1990).

▶ †***Fulica chathamensis*** Forbes

Chatham Island Coot

Fulica chathamensis Forbes, 1892: *Nature* 46: 252 – Chatham Islands.

Nesophalaris chathamensis (Forbes); Brodkorb & Dawson, 1962: *Auk* 79: 268.

Chatham Island. Known from Holocene fossil and midden sites. The osteology of this species and *F. prisca* were re-examined by Worthy & Holdaway (2002). The differences described by Millener (1980) were not substantiated but other distinct differences in cranial morphology and skeletal proportions support species distinction of these taxa. It was the largest coot in the world, yet its skeletal proportions suggest it was still volant (Worthy & Holdaway 2002).

Order CHARADRIIFORMES: Waders, Gulls and Terns

The family sequence of Christidis & Boles (1994), who adopted that of Sibley *et al.* (1988) and Sibley & Monroe (1990), is followed here.

Family SCOLOPACIDAE Rafinesque: Sandpipers and Allies

Scolopacea Rafinesque, 1815: *Analyse de la Nature*: 70 – Type genus *Scolopax* Linnaeus, 1758. Christidis & Boles (1994) noted that the sequence of genera and species in the Scolopacidae varies considerably between works, and that there are no substantive data to favour any one sequence over another. The sequence adopted by Checklist Committee (1990) is generally followed here in the interests of consistency.

Subfamily GALLINAGININAE Olphe-Galliard: Snipes

Gallinaginae [sic] Olphe-Galliard, 1891: *Contrib. Faune Ornith. Europe Occidentale* 14: 18 – Type genus *Gallinago* Brisson, 1760.

Higgins & Davies (1996) and Worthy (2003) are followed here in the use of the subfamily name Gallinagininae for the snipes. The correct spelling of the name is explained by Worthy (2003).

Genus *Coenocorypha* G.R. Gray

Coenocorypha G.R. Gray, 1855: *Cat. Genera Subgen. Birds Brit. Mus.*: 119 – Type species (by original designation) *Gallinago aucklandica* G.R. Gray.

The elevation of *Coenocorypha barrierensis*, *C. iredalei* and *C. huegeli* to species level follows Worthy, Miskelly *et al.* (2002). The order in which the species are treated follows that of Holdaway *et al.* (2001). An extinct form of *Coenocorypha* from Norfolk Island (Holdaway *et al.* 2001), and the recently discovered *Coenocorypha* on Jacquemart Island and on nearby Campbell Island/Motu Ihupuku itself (Barker *et al.* 2005), are yet to be described. Of the New Zealand *Coenocorypha*, *C. barrierensis* and *C. chathamica* are extinct, and *C. iredalei* is probably extinct.

▶ †*Coenocorypha barrierensis* Oliver

North Island Snipe

Coenocorypha aucklandica barrierensis Oliver, 1955: *New Zealand Birds*, 2nd edition: 275 – Little Barrier Island, New Zealand.

Coenocorypha barrierensis Oliver; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 133, 174.

Checklist Committee (1990) regarded the so-called Little Barrier snipe as a subspecies of *C. aucklandica*. Extinct. Formerly widespread in the North Island where it is known from fossil bones (Worthy, Miskelly *et al.* 2002). One bird was reputedly shot on Browns Island (Motukorea), Hauraki Gulf, in 1820 (Miskelly 1987). Formerly on Hauturu/Little Barrier Island where a unique specimen was caught in 1870 (Miskelly 1988).

▶ †*Coenocorypha iredalei* Rothschild

South Island Snipe

Coenocorypha aucklandica iredalei Rothschild, 1921: *Bull. Brit. Ornith. Club* 41: 63 – Jacky Lee Island, New Zealand.

Coenocorypha iredalei Rothschild; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 133, 174.

Checklist Committee (1990) regarded the so-called Stewart Island snipe as a subspecies of *C. aucklandica*. Formerly widespread in the South Island where it is known only from

fossil bones (Worthy, Miskelly *et al.* 2002). It survived into the 20th Century on several islands around Stewart Island/Rakiura (Higgins & Davies 1996). Now probably extinct as a consequence of the extirpation of its last known population, on Taukihepa/Big South Cape Island, following the arrival of ship rats (*Rattus rattus*) there in the early 1960s (Blackburn 1965).

▶ †**Coenocorypha chathamica** (Forbes) **Forbes' Snipe**

Gallinago chathamica Forbes, 1893: *Ibis* 5 (6th ser.): 545 – Chatham Islands.

Coenocorypha chathamica (Forbes); Checklist Committee 1990, *Checklist Birds N.Z.*: 142.

Worthy, Miskelly *et al.* (2002) did not examine the status of this taxon. It is retained here at species level as in Checklist Committee (1990), but with a change in its vernacular name from extinct Chatham Island snipe to the more appropriate Forbes' snipe as used by Holdaway *et al.* (2001) and Worthy, Miskelly *et al.* (2002). Extinct. Endemic to the Chatham Islands. Known only from fossil bones.

▶ **Coenocorypha pusilla** (Buller) **Chatham Island Snipe**

Gallinago pusilla Buller, 1869: *Ibis* 5 (n. ser.): 41 – small rocky islet off Chatham Island.

Coenocorypha aucklandica pusilla (Buller); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 261.

Coenocorypha pusilla (Buller); Checklist Committee 1990, *Checklist Birds N.Z.*: 142.

Checklist Committee (1990) regarded the Chatham Island snipe as being specifically distinct from other *Coenocorypha* taxa. It is retained here at species level following Worthy, Miskelly *et al.* (2002) who considered that the mensural data used by them support that status. Endemic to the Chatham Islands. Currently restricted to South East Island, Mangere, Little Mangere, and Star Keys of the Chatham Island Group but occasionally seen on Pitt Island (sometimes known as Rangiauria Island). Total population estimated at c. 1,000 pairs (Higgins & Davies 1996, Aikman & Miskelly 2004).

▶ **Coenocorypha huegeli** (Tristram) **Snares Island Snipe**

Gallinago huegeli Tristram, 1893: *Bull. Brit. Ornith. Club* 1: 47 – Snares Islands.

Coenocorypha aucklandica huegeli (Tristram); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 262.

Coenocorypha huegeli; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 133, 178.

Checklist Committee (1990) regarded the Snares Island snipe as a subspecies of *C. aucklandica*. Endemic to the Snares Islands/Tini Heke. Common on North East and Broughton Islands, and recorded on Alert Stack. Breeding population probably fluctuated between 325 and 480 pairs in 1982–87 (Miskelly *et al.* 2001a).

▶ **Coenocorypha aucklandica** (G.R. Gray) **Subantarctic Snipe**

With the elevation of *C. barrierensis* and *C. iredalei* to species level, the vernacular name New Zealand snipe is no longer appropriate for *C. aucklandica* whose subspecies inhabit the Auckland and Antipodes Islands. Therefore, the vernacular name of *C. aucklandica* is changed here to the more appropriate subantarctic snipe.

Coenocorypha aucklandica aucklandica (G.R. Gray) **Auckland Island Snipe**

Gallinago aucklandica G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 13, pl. 13 – Auckland Islands.

Scelopax holmesii Peale, 1848: *U.S. Expl. Exped.* 8: 229 – Auckland Islands.

Scelopax aucklandica G.R. Gray; Finsch 1867, *Jour. für Ornith.* 15: 346. Unjustified emendation.

Gallinago tristrami Rothschild, 1893: *Bull. Brit. Ornith. Club* 3: 12 – “Antipodes Island”, error for Auckland Islands.

Gallinago Aucklandica G.R. Gray; Hamilton 1909, *Hand-list Birds New Zealand*: 10.

Coenocorypha aucklandica aucklandica (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 261.

Coenocorypha aucklandica tristrami (Rothschild); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 262.

Coenocorypha aucklandica; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 133, 178.

Checklist Committee (1990) regarded the Auckland Island snipe as a subspecies of *C. aucklandica*. The taxon is retained here at subspecies level following Worthy, Miskelly *et al.* (2002) who considered that the mensural data used by them support that status. Endemic to the Auckland Islands. Formerly on Auckland Island. Now mainly on Adams, Disappointment and Ewing Islands, where breeding. Also reported on Enderby, Rose, Ocean, Dundas and Figure of Eight Islands (Higgins & Davies 1996).

***Coenocorypha aucklandica meinertzhagenae* Rothschild Antipodes Island Snipe**

Coenocorypha aucklandica meinertzhagenae Rothschild, 1927: *Novit. Zool.* 34(1): 15 – Antipodes Island.

Coenocorypha meinertzhagenae Rothschild; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 174, 178.

Checklist Committee (1990) regarded the Antipodes Island snipe as a subspecies of *C. aucklandica*. The taxon is retained here at subspecies level following Worthy, Miskelly *et al.* (2002) who considered that the mensural data used by them support that status. Endemic to the Antipodes Islands. Widespread on Antipodes Island in 1969 (Warham & Bell 1979). Population on Antipodes, Bollons, Archway, and Inner Windward Islands estimated at 8,000 birds in 1995 (Tennyson *et al.* 2002). Breeding recorded only on Antipodes Island, but probably throughout (Higgins & Davies 1996).

Genus *Gallinago* Brisson

Gallinago Brisson, 1760: *Ornithologie* 5: 298 – Type species (by tautonymy) *Scolopax gallinago* Linnaeus = *Gallinago gallinago* (Linnaeus).

Capella Frenzel, 1801: *Beschr. Vög. Eier Wittenberg*: 58 – Type species (by monotypy) *Scolopax coelestis* Frenzel = *Gallinago gallinago* (Linnaeus).

Ditelmatis Mathews, 1913: *Birds Australia* 3: 282 – Type species (by original designation) *Gallinago hardwickii* (J.E. Gray).

► ***Gallinago hardwickii* (J.E. Gray)**

Japanese Snipe

Scolopax australis Latham, 1802: *Index Ornith. Suppl.*: lxx – Australia.

Scolopax Hardwickii J.E. Gray, 1831: *Zool. Miscell.* 1: 16 – Tasmania, Australia.

Gallinago australis (Latham); Cheeseman 1899, *Trans. Proc. N.Z. Inst.* 31: 105.

Gallinago hardwickii (J.E. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 262.

Ditelmatis hardwickii (J.E. Gray); Mathews 1927, *Syst. Avium Australasianarum* 1: 180.

Gallinago hardwickii; Brathwaite 1955, *Notornis* 6: 148. Unjustified emendation.

The vernacular name Japanese snipe is retained here in preference to Latham's snipe. Breeds in Japan and east Asian mainland. Migrates to New Guinea and eastern Australia. A rare visitor to New Zealand where sightings have probably been of this species rather than the very similar, but much less likely, Swinhoe's snipe *Gallinago megala* (Swinhoe, 1861). Has been recorded, usually at freshwater wetlands, from Auckland to Southland. Four records (1969, 1976, 1980, 1981) at Norfolk Island (Moore 1985a, Higgins & Davies 1996); one record (1985) at Snares Islands/Tini Heke (Miskelly *et al.* 2001a).

Subfamily CALIDRINAE Reichenbach: Arctic Sandpipers and Allies

Calidrinae Reichenbach, 1853: *Avium Syst. Nat.*: 17 – Type genus *Calidris* Merrem, 1804.

Genus *Calidris* Merrem

Calidris Merrem, 1804: *Allg. Lit. Zeitung* 2(168): col. 542 – Type species (by tautonymy) *Tringa calidris* Gmelin = *Calidris canutus* (Linnaeus).

Ereunetes Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 262 – Type species (by monotypy) *Ereunetes petrificatus* Illiger = *Calidris pusilla* Linnaeus.

Erolia Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 55 – Type species (by monotypy) *Erolia variegata* Vieillot = *Calidris ferruginea* (Pontoppidan).

Pelidna Cuvier, 1817: *Règne Anim.* 1: 490 – Type species (by original designation) *Tringa alpina* Linnaeus = *Calidris alpina* (Linnaeus).

Crocethia Billberg, 1828: *Synop. Faun. Scand.* 1(2): 132 – Type species (by monotypy) *Charadrius calidris* Linnaeus = *Calidris alba* (Pallas).

Pisobia Billberg, 1828: *Synop. Faun. Scand.* 1(2): 136 – Type species (by subsequent designation) *Tringa minuta* Leisler = *Calidris minuta* (Leisler).

Limonites Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 37 – Type species (by monotypy) *Tringa temminckii* Leisler = *Calidris temminckii* (Leisler).

Angylochilus Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 50 – Type species (by monotypy) *Scolopax subarquata* Gùldenstaedt = *Calidris ferruginea* (Pontoppidan).

Actodromas Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 55 – Type species (by monotypy) *Tringa minuta* Leisler = *Calidris minuta* (Leisler).

Canutus Brehm, 1831: *Handb. Naturgesch. Vög. Deutschl.*: 653 – Type species (by tautonymy) *Tringa canutus* Linnaeus = *Calidris canutus* (Linnaeus).

Micropalama Baird, 1858: *Expl. Surv. Miss. River Pac. Ocean. Birds* 9: 714, 726 – Type species (by monotypy) *Tringa himantopus* Bonaparte = *Calidris himantopus* (Bonaparte).

Heteropygia Coues, 1861: *Proc. Acad. Nat. Sci. Philad.*: 190 – Type species (by original designation) *Tringa bonapartei* Baird = *Calidris fuscicollis* (Vieillot).

Limmocinclus Gould, 1865: *Handb. Birds Australia* 2: 254 – Type species (by subsequent designation) *Totanus acuminatus* Horsfield = *Calidris acuminata* (Horsfield).

Anteliotringa Mathews, 1913: *Birds Australia* 3: 274 – Type species (by original designation) *Totanus tenuirostris* Horsfield = *Calidris tenuirostris* (Horsfield).

▶ *Calidris canutus* (Linnaeus)

Red Knot

Tringa canutus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 149 – Sweden.

Breeds in widely separated parts of the high arctic. Migrates to temperate and tropical estuaries of both hemispheres. Six subspecies have been recognised recently (Higgins & Davies 1996, Tomkovich 2001).

Calidris canutus rogersi (Mathews)

Lesser Knot

Tringa canutus; Hutton 1904, *Index Faunae N.Z.*: 32. Not *Tringa canutus* Linnaeus, 1758.

Canutus canutus rogersi Mathews, 1913: *Birds Australia* 3: 270, 273, pl. 163 – Shanghai, China.

Canutus canutus; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 261. Not *Tringa canutus* Linnaeus, 1758.

Calidris canutus rogersi (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 46.

Calidris canutus canutus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 49. Not *Tringa canutus* Linnaeus, 1758.

The vernacular name lesser knot is retained here to distinguish subspecies *C. c. rogersi* from other subspecies of *C. canutus*. Breeds in north-east Siberia. Migrates to Australia and New Zealand (Higgins & Davies 1996, Tomkovich 2001). The East Asian–

Australasian Flyway population is estimated at 255,000 birds, of which c. 153,000 migrate to Australia. The second most numerous arctic wader visiting New Zealand each year, with an estimated 59,000 in the country every summer. Widespread; favoured localities being Manukau Harbour and Farewell Spit (Sagar *et al.* 1999, Medway 2000c). An occasional visitor to Norfolk Island (Schodde *et al.* 1983; Moore 1985a, 1999; Hermes *et al.* 1986) and Kermadec Islands (Veitch *et al.* 2004); a regular summer visitor to the Chatham Islands (Aikman & Miskelly 2004); and a straggler to Auckland, Campbell/Motu Ihupuku and Macquarie Islands (Higgins & Davies 1996).

► ***Calidris tenuirostris* (Horsfield)** **Great Knot**

Totanus tenuirostris Horsfield, 1821: *Trans. Linn. Soc. London* 13(1): 192 – Java, Indonesia.

Anteliotringa tenuirostris (Horsfield); Mathews 1927, *Syst. Avium Australasianarum* 1: 178.

Calidris tenuirostris (Horsfield); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 50.

Breeds in north-east Siberia. Migrates to south Asia, the Philippines and Australia, especially to the north and north-west coasts of Australia. An uncommon but probably annual visitor to New Zealand. Recorded, mostly from the North Island, at harbours, coastal lakes, and estuaries from Manukau Harbour to Lake Ellesmere (Te Waihora). Usually single birds, but up to four present in 2003 at the Manawatu River estuary, a favoured locality, and three present in 2004 at Mangere sewage ponds, Auckland (Medway 2004b, Rare Birds Committee 2005).

► ***Calidris alba* (Pallas)** **Sanderling**

Trynga alba Pallas, 1764: *in* Vroeg, *Cat. Raisonné Coll. Oiseaux, Adumbr.*: 7 – Coast of the North Sea.

Crocethia alba; Stidolph 1927, *Emu* 26: 216.

Crocethia alba (Pallas); Peters 1934, *Check-list Birds World* 2: 281.

Calidris alba (Pallas); Checklist Committee 1953, *Checklist N.Z. Birds*: 47.

Breeds at scattered localities from northern North America to northern Russia and islands in Arctic Ocean. Migrates to tropical and temperate regions of both hemispheres. An uncommon but probably annual visitor to New Zealand. Recorded from Northland to Southland, usually single birds but sometimes small flocks of up to six birds. Prefers sandy ocean beaches (Higgins & Davies 1996). Apparently vagrant at Chatham Islands (Freeman 1994).

► ***Calidris alpina* (Linnaeus)** **Dunlin**

Tringa alpina Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 149 – Lapland, Sweden.

Pelidna alpina (Linnaeus); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 602.

Erolia alpina alpina (Linnaeus); Peters 1934, *Check-list Birds World* 2: 286.

Calidris alpina (Linnaeus); Checklist Committee 1980, *Notornis (Suppl.)* 27: 18.

Breeds in North America, east Greenland, Iceland, and north Eurasia. Migrates to winter on Northern Hemisphere coasts. Vagrant to New Zealand. Three records, all single birds: Kaipara Harbour 1974 (Brown 1975), Firth of Thames 1977 (Brown 1979), and Manukau Harbour 1979 (Habraken 1980). As many as 11 subspecies of *Calidris alpina* have been recognised recently (Higgins & Davies 1996; but see Marthinsen *et al.* 2007). The subspecific identity of birds recorded in New Zealand is not known.

► ***Calidris ferruginea* (Pontoppidan)** **Curlew Sandpiper**

Tringa ferrugineus Pontoppidan, 1763: *Danske Atlas* 1: 624 – Christiansø Islands, off Bornholm, Denmark.

Scolopax testacea Pallas, 1764: in Vroeg, *Cat. Raisonné Coll. Oiseaux, Adumbr.*: 6 – Holland.
Scolopax subarquata Gldenstaedt, 1775: *Novi Comment. Acad. Scient. Imperial. Petropol.* 19:
 471 – near the Caspian Sea.

Tringa (Pelidna) chinensis J.E. Gray, 1831: *Zool. Miscell.* 1: 2 – China.

Ancylochilus subarquatus (Gldenstaedt); Buller 1905, *Suppl. Birds N.Z.* 1: 187.

Tringa subarquata (Gldenstaedt); Hamilton 1909, *Hand-list Birds New Zealand*: 10.

Erolia ferruginea (Brnnich) [sic]; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 259.

Erolia testacea chinensis (G.R. Gray); Mathews 1927, *Syst. Avium Australasianarum* 1: 177.

Erolia testacea; Stidolph 1927, *Emu* 26: 216.

Erolia testacea (Pallas); Peters 1934, *Check-list Birds World* 2: 286.

Calidris ferruginea (Pontoppidan); Checklist Committee 1953, *Checklist N.Z. Birds*: 47.

Breeds mainly in central Siberia. Migrates to Africa, south Asia and Australasia. The East Asian–Australasian Flyway population is estimated at 250,000 birds, of which c. 188,000 migrate to Australia. The seventh most numerous arctic wader visiting New Zealand each year, but in numbers much less than visit Australia. About 85 in New Zealand every summer. Widespread; favoured localities include Lake Ellesmere (Te Waihora), Firth of Thames, Parengarenga Harbour and Awarua Bay (Sagar *et al.* 1999, Medway 2000c). Three records (1970, 1984, 1987) at Norfolk Island (Hermes *et al.* 1986, Moore 1999). Vagrant at Auckland Islands (Bell 1975).

► ***Calidris himantopus* (Bonaparte)**

Stilt Sandpiper

Tringa himantopus Bonaparte, 1826: *Ann. Lyc. Nat. Hist. N.Y.* 2: 157 – Long Branch, New Jersey, USA.

Micropalama himantopus (Bonaparte); Medway 2001, *Notornis* 48: 61.

Calidris himantopus (Bonaparte); Sangster *et al.* 2004, *Ibis* 146: 153.

Sangster *et al.* (2004) consider that morphological, behavioural and molecular studies indicate that the stilt sandpiper is best placed in *Calidris*, in sequence after *C. ferruginea*, which is followed here pending a comprehensive phylogenetic analysis of the genus *Calidris* and closely related taxa.

Breeds in north Alaska. Migrates to central South America. Accidental in Western Europe, Japan, and Australia. Vagrant to New Zealand. One record: Lake Ellesmere (Te Waihora) 1998 (Medway 2000a, 2001a; Hill 2006).

► ***Calidris acuminata* (Horsfield)**

Sharp-tailed Sandpiper

Totanus acuminatus Horsfield, 1821: *Trans. Linn. Soc. London* 13(1): 192 – Java, Indonesia.

Limnocinclus acuminatus (Horsfield); Travers 1883, *Trans. Proc. N.Z. Inst.* 15: 187.

Tringa acuminata (Horsfield); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 37.

Heteropygia acuminata (Horsfield); Buller 1905, *Suppl. Birds N.Z.* 1: 187.

Pisobia maculata acuminata (Horsfield); Iredale 1913, *Trans. Proc. N.Z. Inst.* 45: 86.

Heteropygia maculata acuminata (Horsfield); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 260.

Erolia acuminatus; Stidolph 1927, *Emu* 26: 216. Unjustified emendation.

Erolia acuminata; Stidolph 1932, *Emu* 31: 234.

Erolia acuminata (Horsfield); Peters 1934, *Check-list Birds World* 2: 284.

Calidris acuminata (Horsfield); Checklist Committee 1953, *Checklist N.Z. Birds*: 46.

Breeds in north-east Siberia. Migrates mainly to New Guinea and Australia. The East Asian–Australasian Flyway population is estimated at 166,000 birds, most of which migrate to Australia. The eighth most numerous arctic wader visiting New Zealand each year, but in numbers much less than visit Australia. About 80 in New Zealand every summer. Widespread; favoured localities being Firth of Thames, Lake Ellesmere

(Te Waihora), and the estuary at Invercargill (Sagar *et al.* 1999, Medway 2000c). Regular visitor to Norfolk Island (Moore 1999) and occasional visitor to Kermadec Islands (Veitch *et al.* 2004). Vagrant at Snares Islands/Tini Heke (Miskelly *et al.* 2001a), Chatham Islands (Freeman 1994) and Auckland Islands (Bell 1975).

► ***Calidris melanotos* (Vieillot)**

Pectoral Sandpiper

Tringa melanotos Vieillot, 1819: *Nouv. Dict. Hist. Nat., nouv. éd.* 34: 462 (ex Azara, 1805) – Paraguay.

Tringa maculata Vieillot, 1819: *Nouv. Dict. Hist. Nat., nouv. éd.* 34: 465 – Antilles.

Pelidna pectoralis Say, 1823: in Long, *Exped. Rocky Mts* 1: 171 – USA.

Limnocinclus pectoralis (Say); Gould 1865, *Handb. Birds Australia* 2: 254.

Heteropygia maculata (Vieillot); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 562.

Erolia maculata; Stidolph 1927, *Emu* 26: 216.

Limnocinclus maculata (Vieillot); Mathews 1931, *Ibis* 1 (13th ser.): 45.

Pisobia pectoralis; Stidolph 1932, *Emu* 31: 234.

Erolia melanotos (Vieillot); Peters 1934, *Check-list Birds World* 2: 284.

Calidris melanotos (Vieillot); Checklist Committee 1953, *Checklist N.Z. Birds*: 47.

Breeds across northern Siberia, and in northern Alaska and Canada. Migrates mainly to southern South America. An uncommon but probably annual visitor to New Zealand in small numbers. Widespread, occurring at many estuaries and coastal lakes and lagoons from Northland to Southland. Occasional visitor to Norfolk Island (Moore 1985a, 1999); apparently vagrant at Chatham Islands (Freeman 1994).

► ***Calidris bairdii* (Coues)**

Baird's Sandpiper

Actodromas (Actodromas) Bairdii Coues, 1861: *Proc. Acad. Nat. Sci. Philad.* 13: 194 – “North America east of the Rocky Mountains”, restricted to Fort Resolution, Great Slave Lake, Mackenzie District, Canada (fide Peters 1934, *Check-list Birds World* 2: 284).

Heteropygia bairdi (Coues); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 570. Unjustified emendation.

Erolia bairdii (Coues); Peters 1934, *Check-list Birds World* 2: 284.

Calidris bairdii (Coues); Checklist Committee 1980, *Notornis (Suppl.)* 27: 17.

Breeds in north-east Siberia, north-west Alaska, arctic Canada, and north-west Greenland. Migrates mainly to western and southern South America. Vagrant to New Zealand. Five records: Manukau Harbour 1970, 1976 (McKenzie *et al.* 1971, Edgar 1976); Firth of Thames 1970, 1972 (Brown *et al.* 1971, Edgar 1973); Manawatu Estuary 1976 (Kinsky 1977a).

► ***Calidris fuscicollis* (Vieillot)**

White-rumped Sandpiper

Tringa fuscicollis Vieillot, 1819: *Nouv. Dict. Hist. Nat., nouv. éd.* 34: 461 – Paraguay (ex Azara, 1805).

Heteropygia fuscicollis (Vieillot); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 574.

Erolia fuscicollis (Vieillot); Peters 1934, *Check-list Birds World* 2: 284.

Calidris fuscicollis (Vieillot); Checklist Committee 1980, *Notornis (Suppl.)* 27: 17.

Calidris fuscicollis (Vieillot); Checklist Committee 1990, *Checklist Birds N.Z.*: 146. Unjustified emendation.

Breeds in arctic Canada, rarely in northern Alaska. Migrates mainly to southern South America. Vagrant to New Zealand. Two records: Manukau Harbour 1969 (McKenzie 1970), Parengarenga Harbour 1971 (Edgar 1971a).

▶ ***Calidris minuta*** (Leisler)**Little Stint**

Tringa minuta Leisler, 1812: *Nachträge Bechsteins Naturgeschichte Deutschlands 1*: 74 – Hanau am Main, Germany.

Limonites minuta (Leisler); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 538.

Erolia minuta; Stidolph 1927, *Emu* 26: 216.

Erolia minuta (Leisler); Peters 1934, *Check-list Birds World 2*: 282.

Calidris minuta (Leisler); Crocker *et al.* 2002, *Notornis* 49: 182.

Breeds in west and central Palaearctic. Migrates mainly to Africa. Small numbers regularly visit Australia. Vagrant to New Zealand. Two records: Lake Ellesmere (Te Waihora) 1992–93, 1995 (Crocker *et al.* 2002).

▶ ***Calidris ruficollis*** (Pallas)**Red-necked Stint**

Trynga ruficollis Pallas, 1776: *Reise durch verschiedene Provinzen des Russischen Reichs 3*: 700 – “Circa lacus salsos Dauriae campestris” = Kulussutai, southern Transbaikalia, Russia (*vide* Peters 1934, *Check-list Birds World 2*: 282).

Limonites ruficollis (Pallas); Buller 1905, *Suppl. Birds N.Z.* 1: 186.

Pisobia minuta ruficollis (Pallas); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 260.

Pisobia ruficollis (Pallas); Mathews 1927, *Syst. Avium Australasianarum 1*: 176.

Erolia ruficollis; Stidolph 1927, *Emu* 26: 216.

Erolia ruficollis (Pallas); Peters 1934, *Check-list Birds World 2*: 282.

Calidris ruficollis ruficollis (Pallas); Checklist Committee 1953, *Checklist N.Z. Birds*: 47.

Calidris ruficollis (Pallas); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 50.

Breeds in northern Siberia and north-west Alaska. Migrates to Malaysia, the Philippines and Australasia. Most abundant migrant wader in Australasia. The East Asian–Australasian Flyway population is estimated at 471,000 birds, of which c. 353,000 migrate to Australia. The fifth most numerous arctic wader visiting New Zealand each year, but in numbers much less than visit Australia. About 175 in New Zealand every summer, most at Lake Ellesmere (Te Waihora). Awarua Bay, Manukau Harbour and Farewell Spit are also important localities; a few reported annually from other suitable places such as the Manawatu River estuary (Sagar *et al.* 1999, Medway 2000c). Occasional visitor to Norfolk Island (Schodde *et al.* 1983; Moore 1985a, 1999). Vagrant at Chatham Islands (Freeman 1994) and at Auckland Islands (Thomson 1986).

▶ ***Calidris subminuta*** (Middendorff)**Long-toed Stint**

Tringa subminuta Middendorff, 1851: *Reise Nord. Ost. Sibir.* 2(2): 222, pl. 19, fig. 6 – Stanowoj Mountains, Siberia.

Pisobia subminuta (Middendorff); Mathews 1927, *Syst. Avium Australasianarum 1*: 176.

Erolia subminuta (Middendorff); Peters 1934, *Check-list Birds World 2*: 283.

Calidris subminuta (Middendorff); Medway 2001, *Notornis* 48: 61.

Breeding distribution poorly known, widely scattered in Siberia. Migrates mostly to South-east Asia and Philippines, some reaching Australia annually. Vagrant to New Zealand. Two records: Lake Ellesmere (Te Waihora) 1997, 2000 (Medway 2001c, Petch *et al.* 2002).

▶ ***Calidris minutilla*** (Vieillot)**Least Sandpiper**

Tringa minutilla Vieillot, 1819: *Now. Dict. Hist. Nat., nouv. éd.* 34: 466 – “Amérique jusq’ua delà du Canada”, restricted to Halifax, Nova Scotia, Canada (*vide* American Ornithologists Union 1931, *Check-list North Amer. Birds*, 4th edition: 120).

Limonites minutilla (Vieillot); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 548.

Erolia minutilla (Vieillot); Peters 1934, *Check-list Birds World* 2: 283.

Erolia minutilla; Stidolph 1953, *Notornis* 5: 115.

Calidris minutilla subspecies; Brathwaite 1955, *Notornis* 6: 145, 149.

Calidris minutilla (Vieillot); Checklist Committee 1990, *Checklist Birds N.Z.*: 231.

Breeds in northern North America. Migrates south as far as Chile and Brazil. Possibly recorded in New Zealand: single birds reported at Wairoa River mouth, Hawke's Bay, 1952 (Stidolph 1953); Westshore Domain, Napier, 1953–54 (Brathwaite 1955); Firth of Thames, 1972, no details (Falla *et al.* 1981). Placed in Suspense List by Checklist Committee (1990).

▶ ***Calidris pusilla* (Linnaeus)**

Semipalmated Sandpiper

Tringa pusillus Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 252 – Santo Domingo, Dominican Republic.

Ereunetes pusillus (Linnaeus); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 514.

Calidris pusilla; Sibson & Mackenzie 1967, *Notornis* 14: 84.

Calidris pusilla (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 231.

Breeds on the arctic coast of North America. Migrates south mostly to West Indies and northern South America. Possibly recorded in New Zealand: single bird reported at Westshore Lagoon, Napier, 1966 (Sibson & Mackenzie 1967). Placed in Suspense List by Checklist Committee (1990).

▶ ***Calidris mauri* (Cabanis)**

Western Sandpiper

Ereunetes Mauri Cabanis, 1857: *Journ. für Ornith.* 4(6): 419 – Cuba.

Ereunetes mauri Cabanis; Peters 1934, *Check-list Birds World* 2: 281.

Calidris mauri (Cabanis); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 50.

Breeds mainly on coasts of north and west Alaska. Migrates mostly to coastal California, Mexico, Central America, and northern South America. Vagrant to New Zealand. Four records: Farewell Spit 1964 (Blackburn & Bell 1965), Rangaunu Harbour 1970 (Edgar 1971a), Firth of Thames 1971 (Edgar 1972a), Parengarenga Harbour 1979 (Sibson 1979).

Genus *Limicola* Koch

Limicola Koch, 1816: *Syst. Baierischen Zool.* 1: 316 – Type species (by monotypy) *Numenius pygmaeus* Bechstein = *Limicola falcinellus* Pontoppidan.

Platyrhampus Billberg, 1828: *Synop. Faun. Scand.* 1: 172 – Type species (by monotypy) *Numenius pusillus* Bechstein = *Limicola falcinellus* Pontoppidan.

Falcinellus Kaup, 1829: *Skizz. Entwickl.-Gesch. Nat. Syst.*: 37 – Type species (by monotypy)

Tringa platyrhynchus Temminck = *Limicola falcinellus* Pontoppidan.

▶ ***Limicola falcinellus* (Pontoppidan)**

Broad-billed Sandpiper

Scolopax falcinellus Pontoppidan, 1763: *Danske Atlas* 1: 623, pl. 13 – Denmark.

Two subspecies. Breeds in northern Europe and northern Siberia. Migrates mainly to east Africa, south Asia and Australia.

***Limicola falcinellus sibirica* Dresser**

Eastern Broad-billed Sandpiper

Limicola sibirica Dresser, 1876: *Proc. Zool. Soc. London* 1876 (44): 674 – China.

Limicola falcinellus sibiricus Dresser; Checklist Committee 1990, *Checklist Birds N.Z.*: 148.

Unjustified emendation.

Limicola falcinellus sibirica Dresser; Higgins & Davies 1996, *HANZAB* 3: 333.

The correct spelling of the subspecific name is *sibirica* (Higgins & Davies 1996). Breeds in eastern Siberia. Migrates mainly to South-east Asia and Australia. An uncommon but possibly annual visitor to New Zealand, mostly single birds in the North Island (Higgins & Davies 1996). The only South Island record to date is from Lake Ellesmere (Te Waihora) in 2001 (Medway 2001d).

Genus *Philomachus* Merrem

Philomachus Merrem, 1804: *Allg. Lit. Zeitung*, 2(168): col. 542 – Type species (by monotypy) *Tringa pugnax* Linnaeus = *Philomachus pugnax* (Linnaeus).

▶ *Philomachus pugnax* (Linnaeus) Ruff

Tringa pugnax Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 148 – Europe, restricted to Sweden (fide Peters 1934, *Check-list Birds World* 2: 288).

Philomachus pugnax (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 148.

Breeds from northern Europe east to eastern Siberia. Migrates mostly to southern Europe, Africa, and India. A rare visitor to New Zealand. Eleven records: Lake Ellesmere (Te Waihora) 1984–85, 1991–92, 1999–2000 (Harrison *et al.* 1985; Medway 2000a, 2001a); Colac Bay/Ōraka 1984–85 (Miskelly & Cooper 1985); Lake Poukawa 1985 (Howell 1987); Wainono Lagoon 1987, 2002 (Maloney 1988, Medway 2003a); Firth of Thames 2001 (Medway 2002e); Ahuriri River estuary 2001 (Medway 2002g); New Plymouth 2002 (Medway 2002g); Rakaia River mouth 2003 (Medway 2003b).

Genus *Limnodromus* Wied

Limnodromus Wied, 1833: *Beitr. Naturg. Brasil*. 4: 716 – Type species (by monotypy) *Scolopax novaeboracensis* Gmelin = *Limnodromus griseus* (Gmelin).

▶ *Limnodromus semipalmatus* (Blyth) Asiatic Dowitcher

Macrorhamphus semipalmatus Blyth, 1848: *Journ. Asiatic Soc. Bengal* 17(1): 252 – Calcutta, India.

Limnodromus semipalmatus (Blyth); Checklist Committee 1990, *Checklist Birds N.Z.*: 149.

Breeds from central Asia to Manchuria. Migrates mostly to south-east India, Thailand, Malaysia, Indonesia and north-west Australia. Vagrant to New Zealand. Four records, all single birds: Estuary of the Heathcote and Avon Rivers/Ihutai 1985 (Fennell, Fennell *et al.* 1985); Firth of Thames 1987 (Keeley 1988); Maketu Estuary 1998 (Medway 2001c); Ohiwa Harbour 2002 (Medway 2003a).

Subfamily TRINGINAE Rafinesque: Godwits, Curlews and Allies

Tringaria Rafinesque, 1815: *Analyse de la Nature*: 71 – Type genus *Tringa* Linnaeus, 1758.

Genus *Numenius* Brisson

Numenius Brisson, 1760: *Ornithologie* 1: 48, 5: 311 – Type species (by tautonymy) *Scolopax arquata* Linnaeus = *Numenius arquata* (Linnaeus).

Phaeopus Cuvier, 1816: *Règne Anim.* 1: 485 – Type species (by tautonymy) *Scolopax phaeopus* Linnaeus = *Numenius phaeopus* (Linnaeus).

Cracticornis Gray, 1841: *List Gen. Birds* (2nd edition): 88 – Type species (by original designation) *Scolopax arquata* Linnaeus = *Numenius arquata* (Linnaeus).

Mesoscolopax Sharpe, 1896: *Cat. Birds Brit. Mus.* 24: 338, 371 – Type species (by monotypy) *Numenius minutus* Gould.

▶ *Numenius madagascariensis* (Linnaeus) Eastern Curlew

Scolopax madagascariensis Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 242 – Macassar, Sulawesi, Indonesia.

Numenius cyanopus Vieillot, 1817: *Nouv. Dict. Hist. Nat., nouv. éd.* 8: 306 – “Nouvelle Hollande”, restricted to New South Wales, Australia (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 166).

Numenius australasianus Gould, 1838: *Synop. Birds Australia* 4, App.: 6 – New South Wales, Australia.

Numenius australis Gould, 1838: *Proc. Zool. Soc. London 1837* (5): 155 – New South Wales, Australia.

Numenius rostratus G.R. Gray, 1843: *Ann. Mag. Nat. Hist., London* 11: 194 – New South Wales, Australia.

Numenius rufescens Gould, 1863: *Proc. Zool. Soc. London 1862* (18): 286 – Formosa (= Taiwan).

Numenius cyanopus Vieillot; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 45.

Numenius madagascariensis (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 44.

Breeds in north-eastern Asia. Migrates to South-east Asia, Indonesia, New Guinea, Solomon Islands and Australasia. The East Asian–Australasian Flyway population is estimated at 21,000 birds, of which c. 19,000 migrate to Australia. The ninth most numerous arctic wader visiting New Zealand each year, but in numbers much less than visit Australia. An estimated 35 in New Zealand every summer, but numbers have been declining. Favoured locality Farewell Spit, also annually visits Manukau Harbour and Firth of Thames (Sagar *et al.* 1999, Medway 2000c). Rare visitor to Norfolk Island (Schodde *et al.* 1983, Moore 1999). One record (1974) from Kermadec Islands (Veitch *et al.* 2004). Apparently vagrant at Chatham Islands (Freeman 1994).

▶ ***Numenius phaeopus* (Linnaeus)**

Whimbrel

Scolopax Phaeopus Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 146 – Europe, restricted to Sweden (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 257).

Breeds in Alaska and northern Canada, and from northern Europe to north-east Siberia. Migrates as far as South America, Africa and Australasia. Four subspecies recognised of which two, *N. ph. variegatus* and *N. ph. hudsonicus*, have been recorded in New Zealand.

***Numenius phaeopus variegatus* (Scopoli)**

Asiatic Whimbrel

Tantalus variegatus Scopoli, 1786: *Delic. Flor. Faun. insubr.* 2: 92 – Luzon, Philippines.

Scolopax luzoniensis Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 656 – Luzon, Philippines.

Numenius atricapillus Vieillot, 1817: *Nouv. Dict. Hist. Nat., nouv. éd.* 8: 303. Unnecessary *nomen novum* for *Scolopax luzoniensis* Gmelin, 1789.

Numenius uropygialis Gould, 1841: *Proc. Zool. Soc. London 1840* (8): 175 – southern coast of Australia.

Limosa uropygialis (Gould); Hutton 1872, *Ibis* 2 (3rd ser.): 246.

Numenius variegatus (Scopoli); Buller 1905, *Suppl. Birds N.Z.* 1: 181.

Numenius phaeopus variegatus (Scopoli); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 257.

Phaeopus phaeopus variegatus (Scopoli); Mathews 1927, *Syst. Avium Australasianarum* 1: 166.

Numenius phaeopus; Moore 1981, *Notornis* 28: 54. Not *Scolopax phaeopus* Linnaeus, 1758.

Breeds in eastern Siberia. Migrates to South-east Asia, New Guinea and Australasia. Subspecies *N. ph. variegatus* is the most common whimbrel in New Zealand (90% of whimbrels identified to subspecies at Manukau Harbour and Firth of Thames). The East Asian–Australasian Flyway population is estimated at 40,000 birds, of which c. 10,000 migrate to Australia. Whimbrels are the sixth most numerous arctic waders visiting New Zealand each year, with c. 120 present during summer. Widespread throughout

New Zealand, often in small flocks. Most whimbrels are recorded at large northern harbours and Farewell Spit, but also reported from many estuaries throughout the country (Sagar *et al.* 1999, Medway 2000c). A regular, probably annual, summer visitor to Norfolk Island (Schodde *et al.* 1983, Moore 1999); an occasional visitor to Kermadec Islands (Veitch *et al.* 2004); vagrant at Chatham Islands (Freeman 1994).

***Numenius phaeopus hudsonicus* Latham** **American Whimbrel**

Numenius hudsonicus Latham, 1790: *Index Ornith.* 2: 712 – Hudson Bay, North America.

Limosa hudsonica (Latham); Buller 1905, *Suppl. Birds N.Z.* 1: 185.

Numenius phaeopus hudsonicus Latham; Checklist Committee 1953, *Checklist N.Z. Birds*: 44.

Breeds in northern North America. Migrates mainly to central and South America. Regularly visits New Zealand, but much less numerous than *N. ph. variegatus*. Only 10% of whimbrels identified to subspecies at Manukau Harbour and Firth of Thames were *N. ph. hudsonicus*. Widespread throughout New Zealand; many sight records. A rare visitor to Norfolk Island (Moore 1999).

▶ ***Numenius minutus* Gould** **Little Whimbrel**

Numenius minutus Gould, 1841: *Proc. Zool. Soc. London 1840* (8): 176 – Maitland, New South Wales, Australia.

Mesoscolopax minutus (Gould); Buller 1905, *Suppl. Birds N.Z.* 1: 181.

Numenius minutus Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 44.

Breeds in central and north-east Siberia. Migrates mostly to New Guinea and Australia. An uncommon but possibly annual visitor to New Zealand. Widespread, usually single birds. Recorded at many estuaries and some coastal lakes from Parengarenga Harbour to Wainono Lagoon.

▶ ***Numenius tahitiensis* (Gmelin)** **Bristle-thighed Curlew**

Scolopax tahitiensis Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 656. Based on the “Otaheite Curlew” of Latham 1785, *Gen. Synop. Birds* 3(1): 122, n° 4 – Tahiti, French Polynesia.

Phaeopus tahitiensis (Gmelin); Mathews 1927, *Syst. Avium Australasianarum* 1: 167.

Numenius tahitiensis (Gmelin); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 47.

Breeds in remote mountains of western Alaska. Migrates to oceanic islands and atolls of Central and South Pacific. Three records (1966, 1972) from Kermadec Islands (Veitch *et al.* 2004).

Genus *Limosa* Brisson

Limosa Brisson, 1760: *Ornithologie* 1: 48, 5: 261 – Type species (by tautonymy) *Scolopax limosa* Linnaeus.

Vetola Mathews, 1913: *Birds Australia* 3: 191 – Type species (by original designation) *Scolopax lapponica* Linnaeus = *Limosa lapponica* (Linnaeus).

▶ ***Limosa lapponica* (Linnaeus)** **Bar-tailed Godwit**

Scolopax lapponica Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 147 – Lapland, Sweden.

Three subspecies recognised. Nominate subspecies breeds in north Eurasia; subspecies *L. l. baueri* breeds in north-east Siberia and western Alaska; subspecies *L. l. menzibieri* Portenko, 1936 breeds in northern Siberia.

***Limosa lapponica baueri* Naumann** **Eastern Bar-tailed Godwit**

Limosa baueri Naumann, 1836: *Naturgesch. Vog. Deutsch.* 8: 429 – New Holland, restricted to Victoria, Australia (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 258).

- Limosa lapponica* var. *Novae Zealandiae* G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): 13 – New Zealand.
- Limosa Foxii* Peale, 1848: *U.S. Expl. Exped. Birds* 8: 231, 332 – Rose Island, Samoan Islands.
- Gallinago punctata* Ellman, 1861: *Zoologist* 19: 7470 – New Zealand.
- Limosa novae zealandiae* G.R. Gray; G.R. Gray 1862, *Ibis* 4: 236.
- Limosa lapponica novae zealandiae* G.R. Gray; Ridgway 1880, *Proc. U.S. Nat. Mus.* 3: 800.
- Limosa brevipes* Sharpe, 1896: *Cat. Birds Brit. Mus.* 24: 378 (ex G.R. Gray, 1844) – New Zealand.
- Limosa novae-zealandiae* G.R. Gray; Hutton 1904, *Index Faunae N.Z.*: 32.
- Limosa lapponica baueri* Naumann; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 258.
- Vetola lapponica baueri* (Naumann); Mathews 1927, *Syst. Avium Australasianarum* 1: 168.
- Limosa lapponica*; Lindsay 1963, *Notornis* 10: 304. Not *Scolopax lapponica* Linnaeus, 1758.

Nearly all bar-tailed godwits that migrate to south-east Australia and New Zealand are considered to be of this subspecies (Wilson *et al.* 2007). The East Asian–Australasian Flyway population is estimated at 330,000 birds, of which about half migrate to Australia. The most numerous arctic wader to visit New Zealand, with an estimated 102,000 every summer. Widespread; prefers localities with broad inter-tidal areas; seldom inland. Favoured localities are large northern harbours and Farewell Spit (Sagar *et al.* 1999, Medway 2000c). A regular summer visitor in small numbers to Norfolk Island (Schodde *et al.* 1983, Moore 1999); probably an annual summer visitor to Kermadec Islands (Veitch *et al.* 2004); a regular summer visitor to Chatham Islands (Aikman & Miskelly 2004). Vagrant at Snares Islands/Tini Heke (Miskelly *et al.* 2001a), Auckland Islands, Campbell Island/Motu Ihupuku and Macquarie Island (Higgins & Davies 1996).

- ***Limosa limosa* (Linnaeus)** **Black-tailed Godwit**
Scolopax limosa Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 147 – Europe, restricted to Sweden (fide Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 258).

Three subspecies recognised. *L. l. limosa* breeds in western Siberia and Europe; *L. l. islandica* Brehm, 1831 breeds in Iceland; *L. l. melanuroides* breeds in eastern Siberia and Mongolia. Only the latter has been recorded in New Zealand.

***Limosa limosa melanuroides* Gould** **Asiatic Black-tailed Godwit**

- Limosa melanuroides* Gould, 1846: *Birds of Australia*, Part 24 (fide McAllan 2004, *Notornis* 51: 128) – Port Essington, Northern Territory, Australia.
- Limosa limosa melanuroides* Gould; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 47.

An uncommon but probably annual visitor to New Zealand in small numbers. Widespread, usually single birds but occasionally in small flocks. Recorded at many estuaries from Parengarenga Harbour to Southland coast. Vagrant at Auckland Islands (Higgins & Davies 1996).

- ***Limosa haemastica* (Linnaeus)** **Hudsonian Godwit**
Scolopax haemastica Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 147. Based on “The Red-breasted Godwit” of Edwards 1750, *Nat. Hist. Birds* 3: 138, pl. 138 – North America, restricted to Hudson Bay (fide Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 258).
- Limosa limosa haemastica* (Linnaeus); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 258.
- Vetola haemastica* (Linnaeus); Mathews 1927, *Syst. Avium Australasianarum* 1: 168.
- Limosa haemastica* (Linnaeus); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 47.

Breeds in northern North America. Migrates mostly to South America. An uncommon but probably annual visitor to New Zealand in small numbers. Widespread, usually

single birds. Recorded at many estuaries and a few freshwater coastal lagoons from Parengarenga Harbour to Southland coast. One record (1980) at Norfolk Island (Moore 1981), and one record (2004) at Chatham Island (Scofield 2005a).

Genus *Bartramia* Lesson

Bartramia Lesson, 1831: *Traité d'Ornith.* 7: 553 – Type species (by monotypy) *Bartramia laticauda* Lesson = *Bartramia longicauda* (Bechstein).

► *Bartramia longicauda* (Bechstein)

Upland Sandpiper

Tringa longicauda Bechstein, 1811: *Kurze Uebers. Vögel*: 453 – North America.

Bartramia longicauda (Bechstein); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 47.

Breeds in North America, migrates to southern South America. Vagrant to New Zealand. One record: Manukau Harbour 1967 (McKenzie 1968).

Genus *Tringa* Linnaeus

Tringa Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 148 – Type species (by tautonymy) *Tringa ochropus* Linnaeus.

Trynka Moehring, 1758: *Geslach. Vogel.* 7: 67. Unjustified emendation.

Totanus Bechstein, 1803: *Ornith. Taschenb. Deutschland 2*: 282 – Type species (by tautonymy)

Totanus maculatus Bechstein = *Tringa totanus* (Linnaeus).

Actitis Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 263 – Type species (by subsequent designation) *Tringa hypoleucos* Linnaeus.

Glottis Koch, 1816: *Syst. Baierischen Zool.* 42: 294 – Type species (by tautonymy) *Totanus glottis* Bechstein = *Tringa nebularia* (Gunnerus).

Xenus Kaup, 1829: *Skizz. Entwick.-Gesch. Nat. Syst.*: 115 – Type species (by monotypy) *Tringa cinerea* (Güldenstaedt).

Iliornis Kaup, 1829: *Skizz. Entwick.-Gesch. Nat. Syst.*: 156 – Type species (by monotypy) *Totanus stagnatilis* Bechstein = *Tringa stagnatilis* (Bechstein).

Terekia Bonaparte, 1838: *Comp. List Birds Europe & North Amer.*: 52 – Type species (by monotypy) *Totanus javanicus* Horsfield = *Tringa cinerea* (Güldenstaedt).

Heteroscelus Baird, 1858: *Rep. Expl. Surv. Miss. River Pac. Ocean. Birds* 9: 734 – Type species (by monotypy) *Tringa brevipes* (Vieillot).

Heteractitis Stejneger, 1884: *Auk 1*: 236. Unnecessary *nomen novum* for *Heteroscelus* Baird, 1858.

There is no generally accepted view on whether *Heteroscelus*, *Actitis* and *Xenus* should be recognised as generically distinct from *Tringa* (Christidis & Boles 1994). Pereira & Baker (2005) suggested that *Heteroscelus* should be merged in *Tringa*. The wandering tattler, grey-tailed tattler, common sandpiper and terek sandpiper are retained here in *Tringa* following Checklist Committee (1990) and Pereira & Baker (2005).

► *Tringa incana* (Gmelin)

Wandering Tattler

Scolopax incana Gmelin, 1789: *Syst. Nat., 13th edition 1*(2): 658. Based on the “Ash-coloured Snipe” of Latham 1785, *Gen. Synop. Birds* 3(1): 154, no. 29 – Moorea Island, Society Islands, French Polynesia (*vide* Medway 2004, *Notornis* 51: 157).

Totanus incanus (Gmelin); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 38.

Heteractitis incanus (Gmelin); Buller 1905, *Suppl. Birds N.Z. 1*: 186.

Heteroscelus incanus (Gmelin); Mathews & Iredale 1913, *Ibis 1* (10th ser.): 259.

Tringa incanus; Stidolph 1932, *Emu 31*: 233. Unjustified emendation.

Heteroscelus incanus incanus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 45.

Heteroscelus incanus subspecies; Brathwaite 1955, *Notornis* 6: 147.

Tringa incana (Gmelin); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 48.

The vernacular name wandering tattler is adopted consistent with current international usage. Breeds in far-eastern Siberia, coastal Alaska and north-west Canada. Migrates to coasts of America from California to Peru, and islands of central and eastern Pacific Ocean as far south as French Polynesia, Cook Islands, Tonga and Fiji. An uncommon but probably annual visitor to New Zealand. Widespread, usually single birds, mostly on the east coast from Northland to Canterbury preferring rocky shores to tidal mudflats and beaches. A favoured locality is Kaikoura Peninsula (Higgins & Davies 1996). Less common than *T. brevipes* in New Zealand. An uncommon but probably regular visitor to Norfolk Island (Schodde *et al.* 1983; Moore 1985a, 1999) and Kermadec Islands (Veitch *et al.* 2004); vagrant at Chatham Islands (Freeman 1994).

▶ ***Tringa brevipes* (Vieillot)**

Grey-tailed Tattler

Totanus brevipes Vieillot, 1816: *Nouv. Dict. Hist. Nat., nouv. éd.* 6: 410 – no locality = Timor (fide Peters 1934, *Check-list Birds World* 2: 270).

Heteractitis brevipes (Vieillot); Mathews 1927, *Syst. Avium Australasianarum* 1: 170.

Heteroscelus brevipes (Vieillot); Peters 1934, *Check-list Birds World* 2: 270.

Heteroscelus incanus brevipes (Vieillot); Checklist Committee 1953, *Checklist N.Z. Birds*: 45.

Tringa brevipes (Vieillot); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 48.

The vernacular name grey-tailed tattler is adopted consistent with current international usage. Breeds patchily across north Asia to far-eastern Siberia and the Kamchatka Peninsula. Migrates to South-east Asia, the Philippines, Australasia, and islands in the south-west Pacific as far east as Fiji. An uncommon but annual visitor to New Zealand. Widespread; numerous sight records of one or two birds from Northland to Southland. Prefers tidal mudflats and beaches to rocky shores (Higgins & Davies 1996). More common than *T. incana* in New Zealand. An uncommon but probably regular visitor to Norfolk Island (Schodde *et al.* 1983; Moore 1985a, 1999) and Kermadec Islands (Veitch *et al.* 2004); vagrant at Chatham Islands (Freeman 1994). One record (1980) of three at Auckland Islands (Pierce 1980), and one record (1968) of a tattler, most likely this species, at Snares Islands/Tini Heke (Miskelly *et al.* 2001a).

▶ ***Tringa hypoleucos* Linnaeus**

Common Sandpiper

Tringa Hypoleucos Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 149 – Europe, restricted to Sweden (fide Peters 1934, *Check-list Birds World* 2: 269).

Actitis hypoleucos (Linnaeus); Mathews 1927, *Syst. Avium Australasianarum* 1: 171. Unjustified emendation.

Tringa hypoleucos Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 48.

Breeds across Europe and Asia to the Kamchatka Peninsula and Japan. Migrates to Africa, southern and South-east Asia, the Philippines, New Guinea, and Australia. A rare, usually solitary, visitor to New Zealand. Recorded from estuaries, coastal lagoons and sewage ponds from Northland to Canterbury. Nearly all records are from the North Island (Higgins & Davies 1996). Recorded (1983, 1987) at Norfolk Island (Hermes *et al.* 1986, Moore 1999).

▶ ***Tringa nebularia* (Gunnerus)**

Common Greenshank

Scolopax nebularia Gunnerus, 1767: *Leem's Beskr. Finn. Lapp.*: 251 – Norway.

Scolopax glottis Latham, 1787: *Gen. Synop. Suppl.* 1: 292 – Europe.

Totanus glottis (Latham); Pelzeln 1860, *Sitzungsber. K. Akad. Wissen., Math.-Naturwissen. Cl., Wien* 41: 327.

Totanus glottoides Vigors & Gould, 1831: *Proc. Zool. Soc. London 1830–1831* (1): 173 – Himalayan Mountains, India.

Totanus glottoides Vigors & Gould; G.R. Gray 1862, *Ibis* 4: 236.

Glottis nebularius (Gunnerus); Buller 1905, *Suppl. Birds N.Z.* 1: 186.

Tringa nebularia (Gunnerus); Checklist Committee 1953, *Checklist N.Z. Birds*: 45.

Christidis & Boles (1994) and Higgins & Davies (1996) are followed here in the use of the vernacular name common greenshank. Breeds from Scotland and Scandinavia across Asia to eastern Siberia. Migrates to Africa, Arabia, India, China, Malaysia, the Philippines and Australasia. An uncommon but annual visitor to New Zealand. Recorded, usually single birds, from Northland to Southland at coastal lagoons and estuaries (Higgins & Davies 1996). Two records (1977, 1990) at Norfolk Island (Moore 1999); one record (1968) at Snares Islands/Tini Heke (Miskelly *et al.* 2001a); one record (1978) at Chatham Islands (Sibson 1978); and one record (1962) at Macquarie Island (Higgins & Davies 1996).

► ***Tringa stagnatilis* (Bechstein)**

Marsh Sandpiper

Totanus stagnatilis Bechstein, 1803: *Ornith. Taschenb. Deutschland* 2: 292, pl. 29 – Germany.

Iliornis stagnatilis addenda Mathews, 1915: *Austral Avian Rec.* 2: 126 – Northern Territory, Australia.

Iliornis stagnatilis (Bechstein); Mathews 1927, *Syst. Avium Australasianarum* 1: 169.

Tringa stagnatilis (Bechstein); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 48.

Breeds from eastern Europe to eastern Siberia. Migrates to Africa, south Asia and Australasia. An uncommon but probably annual visitor to New Zealand. Recorded at coastal lagoons, lakes and estuaries from Northland to Southland (Higgins & Davies 1996). Usually single, but six seen together at Miranda in Firth of Thames, 1998 (Medway 2000a). Vagrant at Norfolk Island (Moore 1985a); apparently vagrant at Chatham Islands (Freeman 1994).

► ***Tringa flavipes* (Gmelin)**

Lesser Yellowlegs

Scolopax flavipes Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 659 – New York, North America.

Tringa flavipes (Gmelin); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 47.

Breeds in Alaska and much of western Canada. Migrates mostly to South America. A rare visitor to New Zealand. There were 15 records, from Manukau Harbour to Wainono Lagoon, between 1963 and 1993, all of single birds (Higgins & Davies 1996). The most recent record is of a single bird at Wanstead Lagoon, near Waipukurau, Hawke's Bay, 2004 (Medway 2004b). Most sightings at coastal marshes and pools; two inland at freshwater lakes. A yellowlegs at Porirua in 1962, originally identified as a greater yellowlegs *T. melanoleuca* (Gmelin, 1789), may have been *T. flavipes* (Fleming 1963, Falla 1964, Kinsky 1970a). One purported record (1985) at Chatham Islands (Freeman 1994).

► ***Tringa cinerea* (Güldenstaedt)**

Terek Sandpiper

Scolopax cinerea Güldenstaedt, 1774: *Novi Comment. Acad. Scient. Imperial. Petropol.* 19: 473, pl. 19 – shores of the Caspian Sea near mouth of the Terek River.

Scolopax Terek Latham, 1790: *Index Ornith.* 2: 724 – shores of the Caspian Sea near mouth of the Terek River.

Totanus javanicus Horsfield, 1821: *Trans. Linn. Soc. London* 13(1): 193 – Java, Indonesia.

Terekia cinerea (Güldenstaedt); Mathews 1927, *Syst. Avium Australasianarum* 1: 171.

Xenus cinereus (Güldenstaedt); Checklist Committee 1953, *Checklist N.Z. Birds*: 45.

Tringa terek (Latham); Checklist Committee 1990, *Checklist Birds N.Z.*: 156.

Tringa cinerea (Güldenstaedt); Sibley & Monroe 1990, *Distr. and Taxon. Birds of the World*: 238.

Monroe (1989) and Sibley & Monroe (1990) are followed here in the use of the specific epithet *cinerea* for the terek sandpiper. Breeds from Finland across Siberia. Migrates to Africa, south and South-east Asia, the Philippines and Australasia. An uncommon but annual visitor to New Zealand. Recorded at estuaries and coastal lagoons from Northland to Southland, most records from the North Island (Higgins & Davies 1996). Rare visitor to Norfolk Island (Higgins & Davies 1996, Moore 1999).

Subfamily ARENARIINAE Stejneger: Turnstones

Arenariinae Stejneger, 1885: *Standard Natural History* 4: 99 – Type genus *Arenaria* Brisson, 1760.

Genus *Arenaria* Brisson

Arenaria Brisson, 1760: *Ornithologie* 1: 48, 5: 132 – Type species (by tautonymy) *Tringa interpres* Linnaeus = *Arenaria interpres* (Linnaeus).

Morinella Meyer & Wolf, 1810: *Taschenb. Vögel*. 2: 382 – Type species (by monotypy) *Morinella collaris* Meyer & Wolf = *Arenaria interpres* (Linnaeus).

Strepsilas Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 263 – Type species (by monotypy) *Tringa interpres* Linnaeus = *Arenaria interpres* (Linnaeus).

Cinclus G.R. Gray, 1841: *List Gen. Birds* (2nd edition): 85 – Type species (by original designation) *Tringa interpres* Linnaeus = *Arenaria interpres* (Linnaeus). Junior homonym of *Cinclus* Borkhausen, 1797.

► *Arenaria interpres* (Linnaeus)

Ruddy Turnstone

Tringa interpres Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 148 – Europe and North America, restricted to Gotland, Sweden (*vide* Peters 1934, *Check-list Birds World* 2: 271).

Morinella collaris Meyer & Wolf, 1810: *Taschenb. Vögel*. 2: 383 (footnote). Unnecessary *nomen novum* for *Tringa interpres* Linnaeus, 1758.

Charadrius Cinclus Pallas, 1811: *Zoogr. Rosso-Asiatica* 2: 148 – Siberia to Kamchatka Peninsula.

Tringa oahuensis Bloxham, 1826: *in* Byron, *Voy. "Blonde"*: 251 – Hawaiian Islands, Pacific Ocean.

Cinclus interpres (Linnaeus); G.R. Gray 1841, *List Gen. Birds* (2nd edition): 85.

Strepsilas collaris (Meyer & Wolf); Holböll 1843, *Naturhist. Tidsskr.* 4: 407.

Strepsilas interpres (Linnaeus); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 221.

Morinella interpres oahuensis (Bloxham); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 250.

Arenaria interpres cinclus (Pallas); Mathews 1931, *Ibis* 1 (13th ser.): 45.

Arenaria interpres interpres (Linnaeus); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 49.

Arenaria interpres (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 139.

Checklist Committee (1990) included the ruddy turnstone in the Charadriidae, but Sibley & Monroe (1990), Christidis & Boles (1994, 2008) and Higgins & Davies (1996) included it in the Scolopacidae. The latter placement is followed here. The vernacular name ruddy turnstone is adopted consistent with current international usage.

Two subspecies recognised: *A. i. interpres* and *A. i. morinella* (Linnaeus, 1766). Both visit Australasian region (Higgins & Davies 1996), but identity of subspecies in New Zealand requires clarification. Breeds along northern coasts and islands of Greenland, Scandinavia, Siberia, Alaska and the islands of northern Canada. Almost cosmopolitan in northern autumn and winter, being found on coasts of the Americas, Africa, Madagascar, south and South-east Asia, the islands of the Pacific, and Australasia. The East Asian–Australasian Flyway population is estimated at 28,000 birds, of which c. 14,000 migrate to Australia. The third most numerous arctic wader visiting New Zealand, with c. 5,000 every summer. Widespread, but tends to concentrate in certain favoured coastal localities, principally the northern harbours, Nelson–Marlborough region and southern estuaries (Sagar *et al.* 1999, Medway 2000c). A regular summer visitor to Norfolk Island (Moore 1999), Chatham Islands (Aikman & Miskelly 2004), Auckland Islands (Bell 1975, Thomson 1986), and probably Kermadec Islands (Veitch *et al.* 2004). Vagrant at Snares Islands/Tini Heke (Miskelly *et al.* 2001a), Antipodes Islands (Tennyson *et al.* 2002), Campbell Island/Motu Ihupuku (Kinsky 1969) and Macquarie Island (Milius 2003).

Subfamily PHALAROPODINAE Bonaparte: Phalaropes

Phalaropodinae Bonaparte, 1831: *Saggio dist. Metodica Anim. Vert.*: 59 – Type genus *Phalaropus* Brisson, 1760.

Christidis & Boles (1994) have indicated that various data support the inclusion of the phalaropes in the Scolopacidae. That placement is followed here.

Genus *Phalaropus* Brisson

Phalaropus Brisson, 1760: *Ornithologie* 1: 50, 6: 12 – Type species (by tautonymy) *Tringa fulcaria* Linnaeus = *Phalaropus fulcarius* (Linnaeus).

Crymophilus Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 62 – Type species (by monotypy) *Tringa fulcaria* Linnaeus = *Phalaropus fulcarius* (Linnaeus).

Lobipes Cuvier, 1817: *Règne Anim.* 1: 495 – Type species (by original designation) *Tringa hyperborea* Linnaeus = *Phalaropus lobatus* (Linnaeus).

Steganopus Vieillot, 1819: *Nouv. Dict. Hist. Nat., nouv. éd.* 2, 32: 136 – Type species (by monotypy) “Le Chorlito a tarse comprimé of Azara” = *Phalaropus tricolor* (Vieillot).

► *Phalaropus fulcaria* (Linnaeus)

Grey Phalarope

Tringa Fulcaria Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 148 – Hudson Bay, North America.

Crymophilus fulcarius (Linnaeus); Buller 1905, *Suppl. Birds N.Z.* 1: 191.

Phalaropus fulcarius (Linnaeus); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 262.

David & Gosselin (2000, 2002a) suggested that the latin name should be spelt *Ph. fulcarius*, but we follow Christidis & Boles (1994) and Sangster *et al.* (1999), who in turn followed Parkes (1982), in considering the correct spelling to be *Ph. fulcaria*. The vernacular name grey phalarope is adopted consistent with current international usage. Breeds mainly near the coast across North America and Eurasia. Migrates to winter at sea mostly off west and south-west Africa, and west of Chile. A rare visitor to New Zealand. Eight records: Wainono Lagoon 1883, 1987 (Oliver 1955, Maloney & Watola 1989); Lake Ellesmere (Te Waihora) 1925 (Oliver 1955); Hastings 1934 (Oliver 1955); Kaituna River mouth 1977 (Brown & Latham 1978); Manukau Harbour 1992

(Medway 2000a); Inch Clutha Lagoon 1993 (Medway 2000a); and Farewell Spit 2005 (Scofield 2005a).

► ***Phalaropus lobatus* (Linnaeus)** **Red-necked Phalarope**

Tringa tobata [sic] Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 148 – Hudson Bay, North America.

Tringa lobata Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 824. Emendation.

Lobipes lobatus (Linnaeus); Peters 1934, *Check-list Birds World 2*: 293.

Phalaropus lobatus (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 48.

Breeds in arctic and subarctic North America, Europe and Asia. Migrates to winter at sea in three distinct areas: off coast of Arabian Peninsula, off coasts of Ecuador and Peru, and north and west of New Guinea. A rare visitor to New Zealand. Ten records: Lake Ellesmere (Te Waihora) 1929, 2000, 2002 (Oliver 1955; Medway 2001d, 2002g); Whanganui River estuary 1935 (Oliver 1955); Washdyke Lagoon 1961 (Crockett 1961); Manukau Harbour 1985 (Jenkins *et al.* 1986); Firth of Thames 1996 (Medway 2000a); Farewell Spit 2000, 2002 (Medway 2001c, 2003a); and Lake Grassmere/Kapara Te Hau 2002 (Medway 2003a).

► ***Phalaropus tricolor* (Vieillot)** **Wilson's Phalarope**

Steganopus tricolor Vieillot, 1819: *Nouv. Dict. Hist. Nat., nouv. éd. 32*: 136 – Paraguay.

Phalaropus tricolor (Vieillot); Checklist Committee 1990, *Checklist Birds N.Z.*: 157.

Christidis & Boles (1994) considered that biochemical and mtDNA studies demonstrate that Wilson's phalarope is sufficiently divergent from the two other species of *Phalaropus* to be placed in its own monotypic genus *Steganopus*, and that *Steganopus* can be distinguished from *Phalaropus* by its osteology. However, Sangster *et al.* (1999) considered that results of phylogenetic analyses based on allozymes, mtDNA, and morphology are contradictory with regard to the alleged polyphyletic origin of the phalaropes. Because of this, they believed the recognition of *Steganopus* for Wilson's phalarope is unjustified and retained Wilson's phalarope in *Phalaropus*. Sangster *et al.* (1999) are followed here. Breeds on marshes of North American prairies. Migrates to wetlands in South America, mainly in Argentina. Vagrant to New Zealand. Four records: Manawatu River estuary 1983 (Moore & Moore 1984); Lake Ellesmere (Te Waihora) 1983–84, two birds (Sagar & Harrison 1984); and Taharoa 2004 (Scofield 2005a).

Family ROSTRATULIDAE Mathews: Painted Snipes

Rostratulidae Mathews, 1913: *Birds Australia 3*: 306 – Type genus *Rostratula* Vieillot, 1816.

Genus *Rostratula* Vieillot

Rostratula Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 56 – Type species (by monotypy)

“Becassine de Madagascar” of Buffon = *Rostratula benghalensis* (Linnaeus).

► ***Rostratula benghalensis* (Linnaeus)** **Painted Snipe**

Rallus benghalensis Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 153 – Asia.

Rostratula benghalensis (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 128.

Two subspecies: *R. b. benghalensis* breeds in central and southern Africa, south Asia, southern Japan, China, the Philippines and western Indonesia; *R. b. australis* (Gould, 1838) breeds in Australia and Tasmania. Vagrant to New Zealand. One record: Lake Ellesmere (Te Waihora) 1986, not identified to subspecies (Harrison & Mulligan 1987).

Family HAEMATOPODIDAE Bonaparte: Oystercatchers

Haematopodinae Bonaparte, 1838: *Syn. Vert. Syst.*: 28 – Type genus *Haematopus* Linnaeus, 1758.

Genus *Haematopus* Linnaeus

Haematopus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 152 – Type species (by monotypy) *Haematopus ostralegus* Linnaeus.

Ostralega Brisson, 1760: *Ornithologie* 1: 46 – Type species (by tautonymy) *Haematopus ostralegus* Linnaeus.

▶ *Haematopus unicolor* J.R. Forster Variable Oystercatcher

Haematopus niger; Wagler 1832, *Isis von Oken*, Heft 11: col.: 1230. Not *Haematopus niger* Pallas, 1811.

Haematopus unicolor J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 112 – Dusky Sound, Fiordland.

Haematopus oceanicus Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 420 – Unknown locality.

Haematopus niger Ellman, 1861: *Zoologist* 19: 7469 – New Zealand. Junior primary homonym of *Haematopus niger* Pallas, 1811.

Haematopus reischeki Rothschild, 1899: *Bull. Brit. Ornith. Club* 10: 4 – Kaipara.

Haematopus niger unicolor J.R. Forster; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 251.

Haematopus ostralegus unicolor J.R. Forster; Peters 1934, *Check-list Birds World* 2: 233. In part.

Haematopus unicolor reischeki Rothschild; Checklist Committee 1953, *Checklist N.Z. Birds*: 41.

Haematopus unicolor unicolor J.R. Forster; Checklist Committee 1953, *Checklist N.Z. Birds*: 42.

Haematopus unicolor J.R. Forster; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 44.

Endemic to New Zealand. Relatively common, total population c. 4,000 birds. In North Island most common along north-east coast from North Cape (Otou) to Mahia Peninsula, and near Wellington; in South Island, common around Tasman and Golden Bays, Marlborough Sounds and Fiordland; common on beaches of Stewart Island/Rakiura and its offshore islands. Plumage varies from black to pied with continuous gradient between. Relative abundance of colour phases varies with latitude: in northern North Island c. 43% black, in central New Zealand c. 85% black, in southern South Island and on Stewart Island/Rakiura c. 94% black (Sagar *et al.* 1999, Medway 2000c).

▶ *Haematopus finschi* Martens South Island Pied Oystercatcher

Haematopus picatus; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 196. Not *Haematopus picatus* P.P. King, 1826 = *Haematopus longirostris* Vieillot, 1817.

Haematopus longirostris; G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 12. Not *Haematopus longirostris* Vieillot, 1817.

Haematopus finschi Martens, 1897: *Ornith. Monatsberichte* 5: 190 – Saltwater Creek, Westland.

Haematopus ostralegus unicolor J.R. Forster; Peters 1934, *Check-list Birds World* 2: 233. In part.

Haematopus ostralegus finschi Martens; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 251.

Haematopus finschi Martens; Falla *et al.* 1966, *Field Guide Birds New Zealand*: 118.

Haematopus ostralegus; Moore 1985, *Notornis* 32: 315. Not *Haematopus ostralegus* Linnaeus, 1758.

Haematopus finschi is recognised here as being specifically distinct from *H. ostralegus* Linnaeus, 1758 following Marchant & Higgins (1993), Holdaway *et al.* (2001) and Banks & Paterson (2007). Holdaway *et al.* (2001), followed by Sagar *et al.* (2002), called *H. finschi* Finsch's oystercatcher, but we retain the long-established, well-known and accepted vernacular name South Island pied oystercatcher, also known as "SIPO". Endemic to New Zealand. Abundant; since legal protection in 1940 the total population has increased significantly to an estimated 113,000 by 1994. Nearly all breed inland in the South Island, mostly east of the Southern Alps/Kā Tiritiri o te Moana. Majority migrate after breeding to many localities in the northern North Island, with most birds being present during autumn and winter at Kaipara and Manukau Harbours and Firth of Thames. Birds return to breeding grounds from late Jul. to Sep. (Sagar *et al.* 1999, Medway 2000c). One definite record (1983) at Norfolk Island (Hermes *et al.* 1986). One record (1969), probably this species, at Kermadec Islands (Veitch *et al.* 2004). One record (1968) at Chatham Islands (Freeman 1994). Vagrant at Snares Islands/Tini Heke (Miskelly *et al.* 2001a) and Australia (Totterman *et al.* 1999).

► ***Haematopus chathamensis* Hartert** **Chatham Island Oystercatcher**

Haematopus ostralegus chathamensis Hartert, 1927: *Novit. Zool.* 34: 17 – Chatham Islands.

Haematopus unicolor chathamensis Hartert; Checklist Committee 1953, *Checklist N.Z. Birds*: 42.

Haematopus longirostris chathamensis Hartert; Oliver 1955, *New Zealand Birds*, 2nd edition: 248.

Haematopus chathamensis Hartert; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 44.

Endemic to Chatham Islands. Found on both rocky coastlines and sandy beaches of Chatham, Pitt, South East, and Mangere Islands, and occasionally the Star Keys. Numbers have increased substantially in recent years in response to management. Total population c. 290 birds by 2004, most on north Chatham Island beaches (Schmechel & O'Connor 1999, Aikman & Miskelly 2004). A recent study of mtDNA by Banks & Paterson (2007) supported the recognition of the Chatham Island oystercatcher as a full species.

Family RECURVIROSTRIDAE Bonaparte: Stilts and Avocets

Subfamily RECURVIROSTRINAE Bonaparte: Stilts and Avocets

Recurvirostrinae Bonaparte, 1831: *Saggio dist. Metodica Anim. Vert.*: 59 – Type genus *Recurvirostra* Linnaeus, 1758.

Genus *Himantopus* Brisson

Himantopus Brisson, 1760: *Ornithologie* 1: 46, 5: 33 – Type species (by tautonymy) *Charadrius himantopus* Linnaeus = *Himantopus himantopus* (Linnaeus).

Hypsibates Nitzsch, 1827: in Ersch & Gruber, *Allgem. Ency. Wiss. Künste* 16: 150 – Type species (by monotypy) *Charadrius himantopus* Linnaeus = *Himantopus himantopus* (Linnaeus).

► ***Himantopus himantopus* (Linnaeus)** **Pied Stilt**

Charadrius Himantopus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 151 – southern Europe.

Almost cosmopolitan, five subspecies recognised.

***Himantopus himantopus leucocephalus* Gould** **Pied Stilt**

Himantopus leucocephalus Gould, 1837: *Synop. Birds Australia* 2: pl. 34 (*vide* McAllan 2004, *Notornis* 51: 127) – New South Wales, Australia.

Himantopus albus Ellman, 1861: *Zoologist* 19: 7470 – New Zealand.

Himantopus picatus Ellman, 1861: *Zoologist* 19: 7470 – New Zealand.

Himantopus albicollis Buller, 1875: *Trans. Proc. N.Z. Inst.* 7: 224 – Orari, Canterbury. Junior primary homonym of *Himantopus albicollis* Vieillot, 1817.

Himantopus seebohmii picata Ellman; Hartert 1891, *Kat. Vogel. Mus. Senckenb. Natur. Gesell. Frankfurt/Main*: 220. Unjustified emendation.

Hypsibates leucocephalus albus (Ellman); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 255.

Himantopus himantopus leucocephalus Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 48.

Himantopus himantopus; Moore 1999, *Notornis* 46: 359. Not *Charadrius himantopus* Linnaeus, 1758.

Extends from the Philippines, Indonesia and Bismarck Archipelago to Australia and New Zealand. Probably a relatively recent colonist to New Zealand from Australia (Holdaway 1995), where it is known as black-winged stilt. For this reason the name Australasian pied stilt, as used in Checklist Committee (1990), is inappropriate. Common throughout most of lowland New Zealand; population estimated at c. 30,000 birds. Many South Island and southern North Island birds migrate to northern parts of North Island after breeding. About 85% of those recorded during winter were in the North Island, the highest numbers being consistently present at Kaipara and Manukau Harbours, and the Firth of Thames. Lake Ellesmere (Te Waihora) is the South Island locality most favoured in winter (Sagar *et al.* 1999, Medway 2000c). Vagrant at Norfolk Island (Moore 1985a, 1999; Marchant & Higgins 1993); not common at Chatham Islands (Aikman & Miskelly 2004). Through introgression with *H. novaezelandiae*, the plumage of the New Zealand population is distinct from that of Australian birds (Greene 1999). A distinctively plumaged bird in Tasmania, in the 1980s, is believed to have originated from New Zealand (Fletcher *et al.* 1989).

► *Himantopus novaezelandiae* Gould

Black Stilt

Himantopus Novae Zelandiae Gould, 1841 (before September): *Birds of Australia* Part 4: 8 (*vide* McAllan 2004, *Notornis* 51: 127) – Port Nicholson.

Himantopus melas Hombron & Jacquinot, 1841 (after November): *Ann. Sci. Nat., Zool., Paris, 2nd Series* 16: 320 – Otago.

Himantopus niger Ellman, 1861: *Zoologist* 19: 7470 – New Zealand.

Himantopus spicatus Potts, 1873: *Trans. N.Z. Inst.* 5: 198 – Selwyn, Canterbury.

Himantopus novae-zealandiae Gould; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 205. Unjustified emendation.

Hypsibates novaezealandiae (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 256. Unjustified emendation.

Himantopus himantopus novae-zealandiae Gould; Peters 1934, *Check-list Birds World* 2: 289.

Himantopus novaezealandiae Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 48. Unjustified emendation.

Himantopus novaezelandiae Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 131.

Endemic to New Zealand, now rare and endangered. Has declined drastically in numbers since the 19th Century when it bred in the lower North Island and most of the South Island. It was still common in the 1930s and 1940s in lowland South Canterbury, Central Otago and the Mackenzie Basin, but since c. 1960 breeding has been confined to the Mackenzie Basin. Wild population extremely limited and supported by release of captive birds. Black stilts hybridise freely with pied stilts, hybrids showing complete gradation in plumage and morphometrics between the two. Most black stilts remain in

the Mackenzie Basin over winter, but most hybrid stilts follow movement patterns of pied stilts and go to northern harbours and estuaries, including Kawhia, Kaipara and Manukau Harbours, and the Firth of Thames (Marchant & Higgins 1993).

Genus *Recurvirostra* Linnaeus

Recurvirostra Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 151 – Type species (by monotypy)

Recurvirostra avosetta Linnaeus.

Avocetta Brisson, 1760: *Ornithologie* 1: 60 and 6: 537 – Type species (by tautonymy)

Recurvirostra avosetta Linnaeus.

► *Recurvirostra novaehollandiae* Vieillot

Red-necked Avocet

Recurvirostra Novae-Hollandiae Vieillot, 1816: *Nouv. Dict. Hist. Nat.*, nouv. éd. 3: 103 – New Holland, restricted to Victoria, Australia (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 256).

Recurvirostra rubricollis Temminck, 1823: *Manuel d'Ornith.* 2: 592 – Victoria, Australia.

Avocetta Novae-Zelandiae Ellman, 1861: *Zoologist* 19: 7470 – New Zealand.

Recurvirostra rubricollis Temminck; G.R. Gray 1862, *Ibis* 4: 237.

Recurvirostris [sic] *novae-hollandiae* Vieillot; Hamilton 1909, *Hand-list Birds New Zealand*: 9.

Recurvirostra novaehollandiae novaehollandiae Vieillot; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 256.

Recurvirostra novae-hollandiae; Stidolph 1927, *Emu* 26: 217.

Recurvirostra novaehollandiae Vieillot; Checklist Committee 1990, *Checklist Birds N.Z.*: 131.

Breeds only in Australia, mainly in the south. Between 1859 and 1892, avocets were reported widely from Whangarei to Invercargill. The suggestion that the species bred in New Zealand during that period remains unsubstantiated. There have been only two confirmed New Zealand records since 1892: Lake Ellesmere (Te Waihora) 1912 (CM Av2410) and Orowaiti Lagoon, Westport 1968 (Kaigler 1968, Grant 1968). One reported shot on Norfolk Island in 1854 (Moore 1999).

Family CHARADRIIDAE Leach: Plovers, Lapwings and Dotterels

Subfamily CHARADRIINAE Leach: Plovers and Dotterels

Charadriidae Leach, 1820: *Eleventh room. In Synopsis Contents British Museum 17th Edition*, London: 69 – Type genus *Charadrius* Linnaeus, 1758.

Christidis & Boles (1994) based their sequence of genera in the Charadriidae on Christian *et al.* (1992). Within each genus, they followed the sequence of species in Hayman *et al.* (1986) and Sibley & Monroe (1990). The same sequences are followed here.

Genus *Pluvialis* Brisson

Pluvialis Brisson, 1760: *Ornithologie* 1: 46, 5: 42 – Type species (by tautonymy) *Charadrius pluvialis* Linnaeus = *Pluvialis apricaria* (Linnaeus).

Squatarola Cuvier, 1816: *Règne Anim.* 1: 467 – Type species (by tautonymy) *Tringa squatarola* Linnaeus = *Pluvialis squatarola* (Linnaeus).

► *Pluvialis fulva* (Gmelin)

Pacific Golden Plover

Charadrius fulvus Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 687. Based on the “Fulvous Plover” of Latham 1785, *Gen. Synop. Birds* 3(1): 211 – Tahiti, French Polynesia.

Charadrius virginicus Lichtenstein, 1823: *Verzeich. Doubl., Berlin*: 70 – Montevideo, Uruguay.

Charadrius Xanthocheilus Wagler, 1827: *Syst. Avium, Charad.*: sp. 36 – no locality.

Charadrius virginianus Jardine & Selby, 1830: *Illust. Ornith.* 2: pl. 85 – North America.

Charadrius xanthocheilus Wagler; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 195.

Charadrius Virginicus Bechstein [sic]; G.R. Gray 1844, *List Specimens Birds Brit. Mus.* 3: 67.
Charadrius virginianus Jardine & Selby; G.R. Gray 1845, in Richardson & J.E. Gray (eds),
Zool. Voy. 'Erebus' & 'Terror', *Birds* 1(8): 11.

Charadrius dominicus; Buller 1905, *Suppl. Birds N.Z. 1*: 174. Not *Charadrius dominicus* Statius Müller, 1776.

luvialis [sic] *dominicus fulvus* (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 252.

Pluvialis dominicus fulvus (Gmelin); Iredale 1913, *Trans. Proc. N.Z. Inst.* 45: 85.

Pluvialis dominicanus [sic]; Stidolph 1927, *Emu* 26: 217. Not *Charadrius dominicus* Statius Müller, 1776.

Charadrius dominicus fulvus Gmelin; Checklist Committee 1953, *Checklist N.Z. Birds*: 42.

Pluvialis dominicus; Lindsay 1963, *Notornis* 10: 303. Not *Charadrius dominicus* Statius Müller, 1776.

Pluvialis dominica; Wakelin 1968, *Notornis* 15: 163. Not *Charadrius dominicus* Statius Müller, 1776.

Pluvialis dominica fulva (Gmelin); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 44.

Pluvialis fulva (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 138.

Breeds on arctic and subarctic tundra of Siberia and western Alaska. Migrates south on broad front to many countries, including Australasia and most Pacific islands. The East Asian–Australasian Flyway population is estimated at 90,000 birds, of which c. 9,000 migrate to Australia. The fourth most numerous arctic wader visiting New Zealand, with c. 650 every summer. Widespread at many harbours and estuaries and some lakes throughout New Zealand (Sagar *et al.* 1999, Medway 2000c). Regular summer visitor to Norfolk (Moore 1999), Kermadec (Veitch *et al.* 2004) and Chatham Islands (Aikman & Miskelly 2004). Straggles to Auckland Islands.

▶ *Pluvialis dominicus* (Statius Müller)

American Golden Plover

Charadrius dominicus Statius Müller, 1776: *Vollst. Natursyst. Suppl.*: 116 – Hispaniola, Antilles.

Pluvialis dominicus (Statius Müller); Sangster *et al.* 1999, *Ardea* 87(1): 148.

The correct name of the American golden plover is *P. dominicus*, not *P. dominica* (Sangster *et al.* 1999). American golden plovers and Pacific golden plovers are specifically distinct (Connors *et al.* 1993, Sangster *et al.* 1999). Breeds in north Siberia, Alaska, and northern Canada. Migrates to South America. Vagrant to New Zealand. One record: Karikari Peninsula, Northland, 1991 (Guest 1992).

▶ *Pluvialis squatarola* (Linnaeus)

Grey Plover

Tringa Squatarola Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 149 – Europe, restricted to Sweden (fide Hartert 1920, *Vögel Pal. Fauna*: 1553).

Tringa helvetica Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 250 – Europe.

Squatarola helvetica; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 131.

Squatarola squatarola (Linnaeus); Peters 1934, *Check-list Birds World* 2: 243.

Charadrius squatarola (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 42.

Pluvialis squatarola (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 138.

Breeds throughout the arctic tundra; almost circumpolar except for Greenland and Scandinavia. Migrates to North and South America, Africa, south Asia and Australasia. Released in Otago (1867) and again (at Manuherikia, 1881), but failed to establish (Thomson 1922). An uncommon but probably annual visitor to New Zealand. Widespread, from Parengarenga Harbour to Southland. One record (1966) from Kermadec Islands (Veitch *et al.* 2004). Vagrant at Chatham Islands (Freeman 1994).

Genus *Charadrius* Linnaeus

- Charadrius* Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 150 – Type species (by tautonymy) *Charadrius hiaticula* Linnaeus.
- Aegialitis* Boie, 1822: *Isis von Oken*, Heft 5: col. 558 – Type species (by subsequent designation) *Charadrius hiaticula* Linnaeus.
- Eupoda* Brandt, 1845: in Tchihatcheff, *Voy. Sci. Altai Orient.*: 444 – Type species (by monotypy) *Charadrius asiaticus* Pallas.
- Ochthodromus* Reichenbach, 1852: *Avium Syst. Nat.* 3: 18 – Type species (by original designation) *Charadrius wilsonia* Ord.
- Cirripidesmus* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 417 – Type species (by tautonymy) *Charadrius cirrhipidesmus* Wagler = *Charadrius atrifrons* Wagler.
- Leucopoliis* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 417 – Type species (by subsequent designation) *Charadrius marginatus* Vieillot.
- Pluviorhynchus* Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 417 – Type species (by subsequent designation) *Charadrius obscurus* Gmelin.
- Hyetoceryx* Heine & Reichenow, 1890: *Nom. Mus. Hein. Ornith.*: 336. Unnecessary *nomen novum* for *Pluviorhynchus* Bonaparte, 1856.
- Pagoa* Mathews, 1913: *Birds Australia* 3: 82 – Type species (by original designation) *Charadrius geoffroyi* Wagler = *Charadrius leschenaultii* Lesson.
- Eupodella* Mathews, 1913: *Birds Australia* 3: 83. Unnecessary *nomen novum* for *Eupoda* Brandt, 1845.
- Nesoceryx* Mathews, 1920: *Bull. Brit. Ornith. Club* 41: 35 – Type species (by original designation) *Charadrius bicinctus* Jardine & Selby.

▶ *Charadrius obscurus* Gmelin

New Zealand Dotterel

Endemic to New Zealand. Widespread until late 19th Century. Since then it has declined in range and numbers and is now found in two breeding populations separated by c. 1100 km. Two subspecies.

Charadrius obscurus aquilonius Dowding

Northern New Zealand Dotterel

- Charadrius obscurus* Gmelin; Checklist Committee 1990, *Checklist Birds N.Z.*: 132. In part.
Charadrius obscurus aquilonius Dowding, 1994: *Notornis* 41: 230 – Mangere International Airport, Auckland.

The whole population, estimated at 1400 birds, breeds from North Cape (Otou) to the beach at Taharoa near Kawhia Harbour in the west, with a small isolated population near Cape Egmont (Medway 1999), and from North Cape (Otou) to the Mahia Peninsula in the east. After nesting, many adults and their progeny form post-breeding flocks at favoured coastal sites, the largest numbers regularly being at Mangawhai and Omaha on the Northland east coast, and at Big Sand Island and Papakanui Spit in Kaipara Harbour (Dowding & Chamberlin 1991, Medway 2000c). Breeding productivity without management is low due to flooding of nests by high tides or storms, predation of eggs and chicks, and human disturbance (Wills *et al.* 2003).

Charadrius obscurus obscurus Gmelin

Southern New Zealand Dotterel

- Charadrius obscurus* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 686. Based on the “Dusky Plover” of Latham 1785, *Gen. Synop. Birds* 3(1): 208 – Dusky Sound, Fiordland.
Charadrius glareola J.R. Forster, 1829: in J.G. Wagler, *Isis von Oken*, Heft 6: col. 653 – New Zealand, restricted to Dusky Sound, Fiordland (*vide* Mathews 1944, *Emu* 43: 244).
Pluviorhynchus obscurus (Gmelin); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 43: 417.

Ochthodromus obscurus (Gmelin); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 211.
Ochthodromus [sic] *obscurus* (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 1: 175.
Charadrius obscurus Gmelin; Checklist Committee 1990, *Checklist Birds N.Z.*: 132. In part.
Charadrius obscurus obscurus Gmelin; Dowding 1994, *Notornis* 41: 230.

Formerly widespread in the South Island (Barlow 1993, Dowding & Murphy 1993a), but now breeds only on Stewart Island/Rakiura. This population had declined to 60–65 birds by 1992 (Dowding & Murphy 1993a), but increased following predator control to 150 birds in 1999 (Dowding & Murphy 2001). There are three post-breeding flocks: at Awarua Bay, Southland, and on Stewart Island/Rakiura at Paterson Inlet/Whaka a Te Wera and Cooks Arm, Port Pegasus/Pikihaiti (Dowding & Murphy 1993a).

▶ **Charadrius semipalmatus** Bonaparte **Semipalmated Plover**

Charadrius semipalmatus Bonaparte, 1825: *Journ. Acad. Nat. Sci. Philad.* 5(1): 98 – no locality.
Charadrius hiaticula; Checklist Committee 1990, *Checklist Birds N.Z.*: 135. Not *Charadrius hiaticula* Linnaeus, 1758.
Charadrius semipalmatus Bonaparte; Scofield 2005, *Southern Bird* 23: 7.

Breeds in Alaska and Canada. Winters from southern California to southern Argentina and Chile. Vagrant to New Zealand. One record: Firth of Thames 1983–85. Two single birds, seen in the Firth of Thames in 1970–71 (Brown *et al.* 1971) and in 1983–85 (Howell 1985, 1986, 1987), have previously been considered to be ringed plovers *Charadrius hiaticula* Linnaeus, 1758 (Checklist Committee 1990). However, these records have recently been re-examined by the Rare Birds Committee and rejected. Therefore, ringed plover is removed from the New Zealand list. The Committee was not satisfied as to the identity of the 1970–71 bird, but accepted that the bird in the 1983–85 record was a semipalmated plover, thereby adding this species to the New Zealand list (Scofield 2005a).

▶ **Charadrius ruficapillus** Temminck **Red-capped Plover**

Charadrius ruficapillus Temminck, 1821: *Planch. Color. d' Oiseaux* 8: pl. 47, fig. 2 and 5: pl. 68 – “Oceanic”, restricted to New South Wales, Australia (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 253).
Aegialitis [sic] *ruficapilla* (Temminck); Hutton 1904, *Index Faunae N.Z.*: 38.
Aegialitis ruficapilla (Temminck); Buller 1905, *Suppl. Birds N.Z.* 1: 175.
Charadrius ruficapillus tormenti Mathews, 1912: *Novit. Zool.* 18(3): 217 – Point Torment, north-west Australia.
Leucopoliis ruficapillus ruficapillus (Temminck); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 253.
Leucopoliis ruficapillus tormenti (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 160.
Charadrius alexandrinus ruficapillus Temminck, 1822 [sic]; Checklist Committee 1953, *Checklist N.Z. Birds*: 43.
Charadrius ruficapillus Temminck; Checklist Committee 1990, *Checklist Birds N.Z.*: 134.

Breeds in Australia and Tasmania. First recorded in New Zealand near Waikanae in 1878. The next record was not until 1947–50 when a female bred with a banded dotterel *Ch. bicinctus* on the Ashley River/Rakahuri in North Canterbury. Between 1955 and 1975, further sightings were made on or near the Ashley River/Rakahuri, one was seen at Lake Tuakitoto in South Otago, and there were several sightings near Auckland. Breeding and non-breeding birds were seen during the 1960s and 1970s on three North

Canterbury rivers: Ashley/Rakahuri, Waipara and Leader. The last breeding record was from the Ashley River/Rakahuri in 1979, and the last non-breeding records were for Auckland in 1975, and Lake Ellesmere (Te Waihora) in 1981 which is the last New Zealand record (Hughey 1989).

▶ ***Charadrius bicinctus* Jardine & Selby** **Banded Dotterel**

Breeds in New Zealand and at the Auckland Islands. Two subspecies. Called double-banded plover in Australia.

***Charadrius bicinctus bicinctus* Jardine & Selby** **Banded Dotterel**

Charadrius bicinctus Jardine & Selby, 1827: *Illustr. Ornith. 1*: pl. 28 & text – New South Wales, Australia.

Hiaticula bicincta (Jardine & Selby); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 12.

Aegialitis bicincta (Jardine & Selby); Crowfoot 1885, *Ibis* 3 (5th series): 270.

Ochthodromus bicinctus (Jardine & Selby); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 212.

Ochthodromus [sic] *bicinctus* (Jardine & Selby); Buller 1905, *Suppl. Birds N.Z. 1*: 175.

Charadrius bicinctus incertus Mathews, 1912: *Novit. Zool.* 18(3): 217 – Port Malcolm, Western Australia.

Cirrepedesmus bicinctus (Jardine & Selby); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 252.

Nesoceryx bicinctus (Jardine & Selby); Mathews 1920, *Bull. Brit. Ornith. Club* 41: 35.

Nesoceryx bicinctus bicinctus (Jardine & Selby); Mathews 1927, *Syst. Avium Australasianarum* 1: 158.

Nesoceryx bicinctus incertus (Mathews); Mathews 1927, *Syst. Avium Australasianarum* 1: 158.

Charadrius bicinctus Jardine & Selby; Checklist Committee 1953, *Checklist N.Z. Birds*: 43.

Charadrius bicinctus bicinctus (Jardine & Selby); Checklist Committee 1990, *Checklist Birds N.Z.*: 133.

Total population estimated at c. 50,000 birds. Breeding concentrations are on shingle riverbeds of Hawke's Bay, Manawatu and Wairarapa in the North Island, and on braided riverbeds of Marlborough, Canterbury, Otago and Southland in the South Island. Main breeding stronghold is Canterbury, where an estimated 10,000 pairs nest. Regional populations have different post-breeding movement patterns that range from sedentary behaviour, through migration within New Zealand, to trans-Tasman migration. The banded dotterel is unique among waders in that a large part of the population undertakes an east–west migration. Most birds breeding in inland and high-altitude regions from North Canterbury southwards, possibly as many as 30,000, migrate to wintering areas in south-east Australia (Sagar *et al.* 1999, Medway 2000c). A regular visitor to Norfolk Island (Marchant & Higgins 1993, Moore 1999). One record (1913) at Kermadec Islands (Veitch *et al.* 2004). Breeds on Chatham and Pitt Islands, and occasionally on South East Island; total Chathams population estimated at c. 200–300 birds (Aikman & Miskelly 2004). Has been recorded at Auckland Islands (Pierce 1980).

***Charadrius bicinctus exilis* Falla** **Auckland Island Banded Dotterel**

Charadrius bicinctus exilis Falla, 1978: *Notornis* 25: 101 – Adams Island, Auckland Islands.

Charadrius exilis Falla; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 174, 178.

Holdaway *et al.* (2001) consider that the Auckland Island banded dotterel should be given specific status because of its greater weight and longer legs than *Ch. b. bicinctus*. However, those characters are not considered here to be sufficient of themselves to

warrant specific status for *Ch. b. exilis*. Endemic to Auckland Islands. Breeds on Adams and Enderby Islands, formerly on Auckland Island (Falla 1978, Pierce 1980, Walker *et al.* 1991). Population in 1989 conservatively estimated as 730 birds (Walker *et al.* 1991).

▶ ***Charadrius mongolus* Pallas**

Lesser Sand Plover

Charadrius mongolus Pallas, 1776: *Reise durch verschiedene Provinzen des Russischen Reichs* 3: 700 – “salt lakes towards Mongolian border”.

Cirrepedesmus mongolus (Pallas); Mathews 1927, *Syst. Avium Australasianarum* 1: 158.

Charadrius mongolus Pallas; Checklist Committee 1990, *Checklist Birds N.Z.*: 135.

Checklist Committee (1990) used the vernacular name Mongolian dotterel, but Christidis & Boles (1994, 2008) are followed here in using the name lesser sand plover to be consistent with current international usage. The lesser sand plover breeds across eastern Asia from the Himalayas to north-east Siberia. Five subspecies in two subspecies-groups are currently recognised. The *mongolus*-group comprises *Ch. m. mongolus* and *Ch. m. stegmanni* Portenko, 1939. They breed in eastern inland Russia, Kamchatka, the Commander Islands, and the Chukotsk Peninsula, wintering between Taiwan and Australia. The *atrifrons*-group comprises *Ch. m. atrifrons*, *Ch. m. pamirensis* Richmond, 1896 and *Ch. m. schaeferi* de Schaunsee, 1938. They breed in central Russia, the Himalayas, and southern and eastern Tibet, wintering from Africa through India to the Greater Sunda Islands (Marchant & Higgins 1993). The suggestion by Garner *et al.* (2003) that birds of the two subspecies-groups are best regarded as two separate species is not accepted here. Lesser sand plovers are uncommon but almost certainly annual visitors to New Zealand. Recorded from Parengarenga Harbour to coastal Southland, usually as single birds. Favoured northern sites are Kaipara and Manukau Harbours. Two records (before 1968 and 1976) at Norfolk Island (Marchant & Higgins 1993). One purported record (1987) at Chatham Islands (Freeman 1994). Parrish (2000a) has shown that birds of both the *mongolus*-group and the *atrifrons*-group visit New Zealand.

▶ ***Charadrius leschenaultii* Lesson**

Greater Sand Plover

Checklist Committee (1990) used the vernacular name large sand dotterel, but Christidis & Boles (1994, 2008) are followed here in adopting the name greater sand plover, consistent with current international usage. Three subspecies of the greater sand plover are currently recognised, of which *Ch. l. leschenaultii* visits New Zealand (Marchant & Higgins 1993).

***Charadrius leschenaultii leschenaultii* Lesson**

Greater Sand Plover

Charadrius Leschenaultii Lesson, 1826: in Levrault, *Dict. Sci. Nat.* 42: 36 – Pondicherry, India. *Pagoa leschenaultii* (Lesson); Mathews 1927, *Syst. Avium Australasianarum* 1: 159.

Charadrius leschenaultii Lesson; Checklist Committee 1953, *Checklist N.Z. Birds*: 43. Unjustified emendation.

Charadrius leschenaultii Lesson; Checklist Committee 1990, *Checklist Birds N.Z.*: 135.

Charadrius leschenaultii leschenaultii Lesson; Marchant & Higgins 1993, *HANZAB* 2: 868.

Breeds in eastern Central Asia. Migrates mainly to Australia. An uncommon but almost certainly annual visitor to New Zealand. Recorded, usually singly, from Parengarenga Harbour to coastal Southland, favoured northern sites being Kaipara and Manukau Harbours. One record (1996) of two birds at Norfolk Island (Moore 1999).

▶ **Charadrius veredus** Gould**Oriental Dotterel**

- Charadrius veredus* Gould, 1848: *Proc. Zool. Soc. London 1848* (16): 38 – Northern Australia.
Eupoda vereda (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 253.
Eupodella vereda (Gould); Mathews 1927, *Syst. Avium Australasianarum* 1: 159.
Charadrius asiaticus veredus Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 43.
Charadrius veredus Gould; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 45.

Breeds in Mongolia and Manchuria. Migrates mostly to Indonesia and Australia. A rare visitor to New Zealand. Thirteen records, mostly of single birds: Parengarenga Harbour 1955 (Sibson & Rutherford 1956), 1968 (Edgar 1968), 1969 (Edgar *et al.* 1969); Manukau Harbour 1975 (Edgar 1975), 1994 (Medway 2000a); Firth of Thames 1953, 1954–55 (McKenzie 1956); Greymouth 1982 (Booth 1984), 1987 (O'Donnell & West 1989); Lake Ellesmere (Te Waihora) 1989 (O'Donnell & West 1990); Wainono Lagoon 1977 (Edgar 1977); estuary at Invercargill 1988 (O'Donnell & West 1989); Waituna Lagoon 1988 (O'Donnell & West 1989). Two records (1908, 1982) at Kermadec Islands (Veitch *et al.* 2004), and one record (2000) at Chatham Islands (Medway 2001c).

Genus Anarhynchus Quoy & Gaimard

- Anarhynchus* Quoy & Gaimard, 1830: in Dumont d'Urville, *Voyage Astrolabe Zool. 1*: 252 – Type species (by monotypy) *Anarhynchus frontalis* Quoy & Gaimard.

Burton (1972) found that, apart from the laterally curved bill, the head and neck anatomy in the wrybill closely resembles that of plovers of the genus *Charadrius*. The laterally curved bill of the wrybill, unique among birds, is considered to be an adaptation to specialised feeding in stony riverbeds at its breeding grounds (Pierce 1979). Phillips (1980) tentatively considered the banded dotterel, wrybill and New Zealand dotterel to be closely related members of a single genus, and Holdaway *et al.* (2001) included the wrybill in *Charadrius*. However, new data (Baker *et al.* 2007) suggest a less close relationship to *Charadrius*, so we have retained the wrybill in its own genus as in the last Checklist (Checklist Committee 1990).

▶ **Anarhynchus frontalis** Quoy & Gaimard**Wrybill**

- Anarhynchus frontalis* Quoy & Gaimard, 1830: in Dumont d'Urville, *Voyage Astrolabe Zool. 1*: 252 – Hauraki Gulf.
Thinornis? frontalis (Quoy & Gaimard); G.R. Gray 1847, *Gen. Birds* 3: 545.
Anarhynchus albifrons Schlegel, 1857: *Handl. Dierk. 1*: 435 – Hauraki Gulf.
Charadrius frontalis (Quoy & Gaimard); G.R. Gray 1862, *Ibis* 4: 234.
Haematopus frontalis (Quoy & Gaimard); Finsch 1867, *Jour. für Ornith.* 15(5): 346.
Thinornis frontalis (Quoy & Gaimard); G.R. Gray 1871, *Hand-list Birds* 3: 17.
Anarhynchus frontalis Quoy & Gaimard; Checklist Committee 1990, *Checklist Birds N.Z.*: 137.
Charadrius frontalis (Quoy & Gaimard); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 174, 178.

Endemic to New Zealand. Breeds on braided riverbeds of Canterbury and Otago, the Rakaia River being the most important breeding locality. Migrates after nesting to wintering grounds in the northern harbours, most being congregated at the Firth of Thames and Manukau Harbour. A nationwide count in 1994 produced a total of c. 5100 birds. The population may be slowly declining (Davies 1997, Sagar *et al.* 1999, Veitch & Habraken 1999, Medway 2000c). One record (1999) at Chatham Islands (Bell & Bell 2000b).

Genus *Elseyornis* Mathews

Elseya Mathews, 1913: *Birds Australia*. 3: 125 – Type species (by original designation)

Charadrius melanops Vieillot. Junior homonym of *Elseya* Gray, 1867.

Elseyornis Mathews, 1914: *Austral Avian Rec.* 2: 87. *Nomen novum* for *Elseya* Mathews, 1913.

► *Elseyornis melanops* (Vieillot)

Black-fronted Dotterel

Charadrius melanops Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 27: 139 – “aux Terres Australes Baudin Exp.”, restricted to New South Wales, Australia (*vide* Mathews & Iredale 1921, *Man. Birds of Australia* 1: 173).

Charadrius nigrifrons Temminck & Laugier, 1821: *Nouv. Recueil Planch. Color. d'Oiseaux* 1: pl. 47 (ex Cuvier MS) – New South Wales, Australia.

Charadrius russatus Jerdon, 1840: *Madras Journ. Lit. Sci.* 12: 213 – Madras, India.

Charadrius melanops marnngli Mathews, 1912: *Novit. Zool.* 18(3): 218 – Marnngle Creek, north-west Australia.

Elseyornis melanops melanops (Vieillot); Mathews 1927, *Syst. Avium Australasianarum* 1: 163.

Elseyornis melanops russatus (Jerdon); Mathews 1927, *Syst. Avium Australasianarum* 1: 163.

Charadrius melanops Vieillot; Checklist Committee 1990, *Checklist Birds N.Z.*: 134.

Elseyornis melanops (Vieillot); Christidis & Boles 1994, *Taxonomy Species Birds Australia*: 15, 51.

Christidis & Boles (1994) pointed out that biochemical studies by Christian *et al.* (1992) support the placement of the black-fronted dotterel in its own monotypic genus *Elseyornis*. Breeds throughout Australia and in New Zealand. Colonised New Zealand from late 1950s, beginning in Hawke's Bay (Barlow 1989). Now breeds on shingle riverbeds of southern North Island, north-east South Island, Canterbury, Otago and Southland. Elsewhere in New Zealand is a non-breeding vagrant, but a small number regularly visit estuaries in eastern Bay of Plenty.

Genus *Thinornis* G.R. Gray

Thinornis G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): 11 – Type species (by monotypy) *Thinornis rossii* G.R. Gray = *Thinornis novaeseelandiae* (Gmelin).

► *Thinornis novaeseelandiae* (Gmelin)

Shore Plover

Charadrius novae Seelandiae Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 684. Based on the “New Zealand Plover” of Latham 1785, *Gen. Synop. Birds* 3(1): 206, pl. 83 – Dusky Sound, Fiordland (*vide* Medway 2008 [2007], *Notornis* 54: 116).

Charadrius Dudoroo Wagler, 1827: *Syst. Avium, Charad.*: sp. 14 – New Zealand.

Charadrius Torquatula J.R. Forster, 1829: in J.G. Wagler, *Isis von Oken*, Heft 6: col. 652 – Dusky Sound, Fiordland (*vide* Medway 2008 [2007], *Notornis* 54: 116).

Hiaticula Novae Seelandiae (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 195.

Thinornis novae seelandiae (Gmelin); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): 12, pl. 11.

Thinornis Rossii G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): 12, pl. 11 – “Auckland Island”, error (*vide* C.A. Fleming 1982, *George Edward Lodge. The unpublished N.Z. bird paintings*: 245).

Charadrius atricinctus Ellman, 1861: *Zoologist* 19: 7469 – New Zealand.

Thinornis novae zelandiae (Gmelin); Buller 1865, *Essay N.Z. Ornith.*: 17. Unjustified emendation.

Thinornis novae zealandiae (Gmelin); Sharpe 1896, *Cat. Birds Brit. Mus.* 24: 304. Unjustified emendation.

Thinornis novaeseelandiae (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 253.

Thinornis novae-seelandiae (Gmelin); Peters 1934, *Check-list Birds World* 2: 257.

Charadrius novaeseelandiae Gmelin; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 133, 178.

The holotype of *Th. rossii*, a putative endemic taxon from the Auckland Islands, is considered by most authorities to be an immature *Th. novaeseelandiae*, whose location was incorrectly recorded (Fleming 1982). Oliver (1955) regarded *Thinornis* G.R. Gray, 1845 as a distinct genus because of its long pointed bill that is longer than the tarsus, and the graduated tail. Holdaway *et al.* (2001) suggested that in all other respects the shore plover is a typical *Charadrius*, and placed it in that genus. However, Phillips (1980) considered, although noting his data were too inadequate to be certain, that the shore plover does not seem to belong to the same group as the banded dotterel, wrybill and New Zealand dotterel from which it differs in several respects that he enumerated. Detailed studies are necessary to determine the true generic status of the shore plover. Meanwhile, it is preferable to retain the shore plover in *Thinornis*. Endemic to New Zealand. Little reliable information about previous distribution, but in early–mid 19th Century was probably widely distributed around the South Island coast, with some reports from the North Island. Confined to Chatham Islands by late 1800s, where the only known natural wild population, estimated at 130 birds in 1993, was on South East Island (Dowding & Kennedy 1993, Davis 1994). Recent transfers from South East Island to Mangere Island have led to establishment of a small breeding population on Mangere Island (Aikman & Miskelly 2004). A second natural wild population of c. 21 birds was discovered on Western Reef off Chatham Island in 1999 (Bell & Bell 2000a), but it declined steadily after discovery to only one male which was taken into captivity in 2003 (Aikman & Miskelly 2004). Some captive-reared birds released on some northern New Zealand inshore islands have strayed to the North Island mainland (e.g. Medway 2004b).

Genus *Erythrogonys* Gould

Erythrogonys Gould, 1838: *Synop. Birds Australia* 4: pl. 73 and text – Type species (by monotypy)

Erythrogonys cinctus Gould.

► *Erythrogonys cinctus* Gould

Red-kneed Dotterel

Erythrogonys cinctus Gould, 1838: *Synop. Birds Australia* 4: pl. 73 and text – New South Wales, Australia.

Erythrogonys cinctus Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 136.

Breeds only in Australia. Vagrant to New Zealand. One record: Manawatu Estuary 1976 (Robertson & Dennison 1977).

Genus *Vanellus* Brisson

Vanellus Brisson, 1760: *Ornithologie* 1: 48, 5: 94 – Type species (by tautonymy) *Tringa vanellus* Linnaeus = *Vanellus vanellus* (Linnaeus).

Lobivanellus G.R. Gray, 1841: *List Gen. Birds* (2nd edition): 84 – Type species (by original designation) *Parra goensis* Gmelin = *Vanellus indicus* (Boddaert).

Lobibyx Heine, 1890: *Nom. Mus. Hein. Ornith.*: 334 – Type species (by original designation) *Tringa lobata* Latham = *Vanellus miles novaehollandiae* Stephens.

► *Vanellus miles* (Boddaert)

Masked Lapwing

Tringa miles Boddaert, 1783: *Tables des Planches Enluminées d'Histoire Naturelle de M. d'Aubenton*: 51 – Timor.

Two subspecies: *Vanellus m. miles* in northern Australia and New Guinea, *V. m. novae-hollandiae* from mid-Queensland to south-east Australia, Tasmania and New Zealand. Also called the masked plover.

***Vanellus miles novae-hollandiae* Stephens** **Spur-winged Plover**

Tringa lobata Latham, 1802: *Index Ornith. Suppl.*: lxx – New South Wales, Australia. Junior primary homonym of *Tringa lobata* Linnaeus, 1758.

Vanellus Novae-Hollandiae Stephens, 1819: *in* Shaw, *General Zool.* 11: 516 – New South Wales, Australia.

Lobivanellus lobatus (Latham); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 13. Not *Tringa lobata* Linnaeus, 1758.

Lobibyx novae-hollandiae (Stephens); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 251.

Lobibyx novae-hollandiae (Stephens); Checklist Committee 1953, *Checklist N.Z. Birds*: 42.

Vanellus miles novae-hollandiae Stephens; Checklist Committee 1990, *Checklist Birds N.Z.*: 139.

Colonised New Zealand from c. 1932, beginning at Invercargill. By 1970 had spread throughout Southland and parts of Otago (Barlow 1972) and, soon afterwards, to the rest of the South Island where it is now common in all suitable areas. Mainland New Zealand population increased dramatically since 1970s and is still growing; now common throughout all suitable North Island areas (Medway 2000c; Robertson, C. *et al.* 2007). Widespread on Stewart Island/Rakiura (Dowding & Murphy 1993b). Breeding first recorded on Chatham Island in 1981; now well established there and on Pitt Island (Aikman & Miskelly 2004). Vagrant at Norfolk Island (Moore 1999), Kermadec Islands (Veitch *et al.* 2004), Snares Islands/Tini Heke (Miskelly *et al.* 2001a), Antipodes Islands (Tennyson *et al.* 2002) and Campbell Island/Motu Ihupuku (Marchant & Higgins 1993, Scofield 2005a).

Family GLAREOLIDAE Brehm: Coursers and Pratincoles

Subfamily GLAREOLINAE Brehm: Pratincoles

Glareolidae Brehm, 1831: *Handb. Naturgesch. Vög. Deutschl.*: 564 – Type genus *Glareola* Brisson, 1760.

Genus *Glareola* Brisson

Glareola Brisson, 1760: *Ornithologie* 1: 48, 5: 141 – Type species (by tautonymy) *Hirundo pratincola* Linnaeus = *Glareola pratincola* (Linnaeus).

Stiltia G.R. Gray, 1855: *Cat. Genera Subgen. Birds Brit. Mus.*: 111 – Type species (by original designation) *Glareola isabella* Vieillot.

► ***Glareola maldivarum* J.R. Forster** **Oriental Pratincole**

Glareola (Pratincola) maldivarum J.R. Forster, 1795: *Faunula Indica*, 2nd edition: 11 – open sea near the Maldive Islands, northern Indian Ocean.

Glareola orientalis Leach, 1821: *Trans. Linn. Soc. London* 13(1): 132 – Java, Indonesia.

Glareola grallaria; Buller 1899, *Trans. N.Z. Inst.* 31: 23. Not *Glareola grallaria* Temminck, 1820 = *Glareola isabella* Vieillot, 1816.

Stiltia isabella; Buller 1905, *Suppl. Birds N.Z. 1*: 192. Not *Glareola isabella* Vieillot, 1816.

Glareola maldivarum maldivarum J.R. Forster; Mathews 1927, *Syst. Avium Australasianarum* 1: 185.

Glareola maldivarum orientalis Leach; Mathews 1927, *Syst. Avium Australasianarum* 1: 185.

Glareola maldivarum J.R. Forster; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 52.

Breeds in south Asia from Pakistan and India to Mongolia, China, Taiwan, and north Philippines. Almost entire migratory population may spend non-breeding season in Australia (Sitters *et al.* 2004). A rare visitor to New Zealand. Ten records: Westport 1898 (Falla 1959); Appleby, Nelson 1959 (Falla 1959); Port Adventure, Stewart Island/Rakiura 1963 (Falla 1963a); Wainono Lagoon 1977 (Pierce 1978); South Turnbull 1977 (Edgar 1977); Kaipara Harbour 1985 (Howell 1987); Ruapuke Island 1988 (O'Donnell & West 1989); Farewell Spit 1994 (Medway 2000a); New Plymouth 1999 (Medway 2000a); Lake Ellesmere (Te Waihora) 2002 (Medway 2002e). One record (1988) from Norfolk Island (Moore 1999), and one record (1976) from Kermadec Islands (Veitch *et al.* 2004).

Suborder LARI: Skuas, Gulls, Terns and Skimmers

Condon (1975) and Checklist Committee (1990) recognised three subfamilies within the Laridae (Larinae, Sterninae and Megalopterinae) but this division has not been widely adopted. We follow Gochfeld & Burger (1996) in recognising gulls in one family (Laridae) and terns and noddies in another (Sternidae). The sequence of species for Stercorariidae and Laridae follows Peters (1934) and for Sternidae follows Bridge *et al.* (2005).

Family STERCORARIIDAE Gray: Skuas

Stercorariinae G.R. Gray, 1870: *Hand-list Birds* 3: 110 – Type genus *Stercorarius* Brisson, 1760.

Skuas are often considered as a subfamily Stercorariinae within the family Laridae (Brooke 1978, Higgins & Davies 1996, Olsen & Larsson 1997) but we treat them as a separate family following Cramp & Simmons (1983); Furness (1987, 1996); Cohen *et al.* (1997); van Tuinen *et al.* (2004); Banks, R.C. *et al.* (2006) and Livezey & Zusi (2007). Osteological research has found no basis for recognising two skua genera (Olson 1985b) and a range of other research lends weight to this view (e.g. Cohen *et al.* 1997, Andersson 1999b). This reflects many earlier publications, which placed all skuas in the genus *Stercorarius* (e.g. Cramp & Simmons 1983). Nevertheless, many mainstream works in the last 20 years have maintained *Catharacta* and *Stercorarius* as distinct genera. A key finding of recent work was that the pomarine skua is more closely related to *Catharacta* skuas than to *Stercorarius* skuas (Furness 1996; Cohen *et al.* 1997; Andersson 1999a,b). We have, accordingly, adopted the recommendation of Braun & Brumfield (1998) by placing the pomarine skua in a monotypic genus *Coprotheres* Reichenbach, 1850, thereby retaining *Catharacta* for the largest skuas and *Stercorarius* for the smallest skuas. The greater skuas are also known as bonxies, and the lesser skuas as jaegers.

Genus *Catharacta* Brünnich

Catharacta Brünnich, 1764: *Ornithologia Borealis*: 32 – Type species (by subsequent designation) *Catharacta skua* Brünnich.

Megalestris Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 43: 643 – Type species (by monotypy) *Larus catarractes* Linnaeus = *Catharacta skua* Brünnich.

► *Catharacta antarctica* (Lesson)

Southern Skua

Lestris antarcticus Lesson, 1831: *Traité d'Ornith.* 8: 616 – Falkland Islands and New Zealand, restricted to Falkland Islands (*vide* Mathews 1912, *Novit. Zool.* 18(3): 212).

Three subspecies recognised (Furness 1996): *Catharacta a. antarctica* (breeding Falkland Islands and south-east Argentina), *C. a. hamiltoni* Hagen, 1952 (breeding Tristan da Cunha and Gough Island) and *C. a. lonnbergi* (breeding circumpolar on subantarctic islands). The latter also occurs on northern parts of the Antarctic Peninsula, where breeding overlaps with *C. maccormicki* (Saunders) (Furness 1996). *Catharacta skua* Brünnich and *C. antarctica* have often been treated as conspecific (Devillers 1977, 1978; Cramp & Simmons 1983; Furness 1987; Higgins & Davies 1996). However, a split between northern and southern *Catharacta* forms has been supported by recent research, e.g. Cohen *et al.* (1997), so we have followed Mathews (1912–13), Brooke (1978), Harrison (1983), Furness (1996) and Olsen & Larsson (1997) by treating the subantarctic skua as a subspecies of *C. antarctica*. Some authors regard the subantarctic skua as a full species, e.g. Sibley & Monroe (1990).

***Catharacta antarctica lonnbergi* Mathews**

Subantarctic Skua

Lestrnis antarcticus; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 200. Not *Lestrnis antarcticus* Lesson, 1831.

Stercorarius antarcticus madagascariensis Bonaparte, 1856: *Consp. Gen. Avium* 2: 207. Suppressed and invalid (*vide* ICZN 1995, Opinion 1814. *Bull. Zool. Nomenclature* 52(2): 222).

Lestrnis catarractes; Hutton 1871, *Cat. Birds N.Z.*: 39. Not *Larus catarractes* Linnaeus, 1766.

Stercorarius catarractes; Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds 1*: 32. Not *Larus catarractes* Linnaeus, 1766.

Stercorarius antarcticus; Hutton 1879, *Trans. Proc. N.Z. Inst.* 11: 338. Not *Lestrnis antarcticus* Lesson, 1831.

Stercorarius parasiticus; Finsch 1888, *Ibis* 6 (5th ser.): 309. Not *Larus parasiticus* Linnaeus, 1758.

Megalestris antarctica; Saunders 1896, *Cat. Birds Brit. Mus.* 25: 319. Not *Lestrnis antarcticus* Lesson, 1831.

Catharacta antarctica lonnbergi Mathews, 1912: *Novit. Zool.* 18(3): 212 – New Zealand Seas.

Catharacta lonnbergi lonnbergi Mathews; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 248.

Catharacta lonnbergi Mathews; Mathews 1927, *Syst. Avium Australasianarum* 1: 150.

Catharacta skua lonnbergi Mathews; Peters 1934, *Check-list Birds World* 2: 310.

Catharacta skua lonnbergi Mathews; Marples 1946, *New Zealand Bird Notes 1 (Suppl.)*: 6.

Stercorarius skua lonnbergi (Mathews); Checklist Committee 1953, *Checklist N.Z. Birds*: 49.

Catharacta antarctica lonnbergi Mathews; Olsen & Larsson 1997, *Skuas and Jaegers*: 76.

In the New Zealand region, breeds on Macquarie, Campbell/Motu Ihupuku, Auckland, Antipodes, Snares/Tini Heke, Chatham, Stewart/Rakiura and Solander Islands and their outliers (Higgins & Davies 1996). Rarely reported nesting in Fiordland (Higgins & Davies 1996), e.g. a mainland nest and eggs reported at Puysegur Point, Nov. 1962 (Checklist Committee 1970). Straggles to the Ross Sea in summer (Court & Davis 1990) but possibly breeding on the Balleny Islands (Watson 1975). Disperses north to 30°S in autumn, reaching southern Australia and the New Zealand mainland (Higgins & Davies 1996). Rare at Norfolk Island (Higgins & Davies 1996). Fossil and midden records from North, South and Chatham Islands (Checklist Committee 1990, Millener 1991).

▶ ***Catharacta maccormicki* (Saunders)**

South Polar Skua

Stercorarius maccormicki Saunders, 1893: *Bull. Brit. Ornith. Club* 3: 12 – Possession Island, Victoria Land, Antarctica.

Megalestris maccormicki (Saunders); Saunders 1896, *Cat. Birds Brit. Mus.* 25: 321, pl. 1.

Catharacta maccormicki wilsoni Mathews, 1913: *Birds Australia* 2: 495 – Weddell Sea, Antarctica.

Catharacta maccormicki maccormicki (Saunders); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 249.

Catharacta skua maccormicki (Saunders); Marples 1946, *New Zealand Bird Notes* 1 (Suppl.): 6.

Stercorarius skua maccormicki Saunders; Checklist Committee 1953, *Checklist N.Z. Birds*: 49.

Catharacta maccormicki (Saunders); Checklist Committee 1990, *Checklist Birds N.Z.*: 159.

Breeds on shores and offshore islands of Antarctica, mainly near penguin and petrel colonies; winters at sea, some ranging to the North Pacific, northern Indian and North Atlantic Oceans (Ainley *et al.* 1986, Higgins & Davies 1996). Occasionally recorded around New Zealand: Jan. 1940, Rangitikei; Apr. 1940, Muriwai (Falla 1940a); 1946–47, north of Hokianga; Aug. 1951, near the Kermadec Islands; Mar. 1953, Waikanae Beach; Jun. 1965, Himatangi; Feb. 1968, Campbell Island/Motu Ihupuku; Oct. 1972, Dargaville; Dec. 1972, Lake Ellesmere (Te Waihora); 1981–90, north of Macquarie Island (Higgins & Davies 1996); Mar. 1991, off Banks Peninsula; Nov. 1991, off north Taranaki (Petyt 2001a); Jan. 1993, Farewell Spit (Higgins & Davies 1996); late 1993, Norfolk Island (Moore 1999); Feb. and possibly Mar. 1994, Hauraki Gulf (Jowett 1995); Mar. 1994, Aramoana (Renner 1995); Jan. 1995, South Taranaki Bight; Nov. 1998, Chatham Rise (Petyt 2001a); Nov. 2004, in subantarctic seas (Scofield 2005a); Mar. 2005, off Kaikoura Peninsula (Anon. 2005b, Scofield 2006); Apr. 2005, Foveaux Strait; Dec. 2005, Hawke Bay (probable; Scofield 2006). There are two recoveries of birds well north of their banding sites in the Ross Sea, Antarctica: one banded at Cape Hallett, Jan. 1964, was recovered in Japan in Apr. 1966 (Robertson 1972a), and a Cape Crozier band was found in a northern giant petrel nest on the Chatham Islands in 1973 (Imber 1994). Tentatively identified from fossil remains on Chatham Island (Checklist Committee 1990, Millener 1991).

Genus *Coprotheres* Reichenbach

Coprotheres Reichenbach, 1852: *Avium Syst. Nat.* 3: 5 – Type species (by original designation)

Lestris pomarinus Temminck = *Coprotheres pomarinus* (Temminck).

► *Coprotheres pomarinus* (Temminck)

Pomarine Skua

Lestris pomarinus Temminck, 1815: *Manuel d'Ornith.*: 514 – Arctic regions of Europe.

Catharacta pomarina (Temminck); Mathews 1912, *Novit. Zool.* 18(3): 213.

Coprotheres pomarinus (Temminck); Mathews 1913, *Birds Australia* 2: 497.

Coprotheres pomarinus nutcheri Mathews, 1917: *Austral Avian Rec.* 3: 72 – Broken Bay, New South Wales, Australia.

Coprotheres pomarinus pomarinus (Temminck); Mathews 1927, *Syst. Avium Australasianarum* 1: 151.

Stercorarius pomarinus (Temminck); Falla 1936, *Rec. Auck. Inst. Museum* 2: 4.

Breeds in arctic regions, migrating to the Southern Hemisphere; an uncommon though regular visitor to New Zealand south to Foveaux Strait (Falla 1936, Higgins & Davies 1996) and east to the Chatham Islands (Imber 1994, Nilsson *et al.* 1994, Miskelly *et al.* 2006). More pelagic than *Stercorarius parasiticus* (Higgins & Davies 1996). An unusual assemblage of 38 counted, 56 nautical miles west of Waikato River mouth, Feb. 1984 (Checklist Committee 1990).

Genus *Stercorarius* Brisson

Stercorarius Brisson, 1760: *Ornithologie* 1: 56 – Type species (by tautonymy) *Stercorarius* Brisson = *Larus parasiticus* Linnaeus = *Stercorarius parasiticus* (Linnaeus).

Lestris Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 272 – Type species (by subsequent designation) *Larus parasiticus* Linnaeus = *Stercorarius parasiticus* (Linnaeus).

► *Stercorarius parasiticus* (Linnaeus)

Arctic Skua

Larus parasiticus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 136 – Within Tropic of Cancer of Europe, America and Asia, restricted to coast of Sweden (*vide* Peters 1934, *Check-list Birds World* 2: 311).

Larus crepidatus Banks, 1773: in J. Cook's *Voy.*, *Hawkesworth's ed.* 2: 15 – Atlantic Ocean, 8° 25'N, 22° 4'W.

Lestris parasiticus (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 40.

Stercorarius crepidatus (Banks); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 66. In part.

Catharacta parasitica (Linnaeus); Mathews 1912, *Novit. Zool.* 18(3): 213.

Stercorarius parasiticus visitori Mathews, 1915: *Austral Avian Rec.* 2: 126 – Sydney, New South Wales, Australia.

Stercorarius parasiticus (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 49.

Breeds in arctic and subarctic regions; migrates to the Southern Hemisphere, where it is in New Zealand waters mainly between Oct. and May (Falla 1936, Higgins & Davies 1996). In New Zealand it occurs from the Kermadec Islands south to Foveaux Strait and east to the Chatham Islands; sometimes in large gatherings, e.g. Kaipara Heads, c. 50 in Dec. 1955 (Higgins & Davies 1996) and 60+ in Apr. 1996 (Johnson 1997). One seen off the Antipodes Islands (Warham & Bell 1979).

► *Stercorarius longicaudus* Vieillot

Long-tailed Skua

Stercorarius longicaudus Vieillot, 1819: *Nouv. Dict. Hist. Nat.*, *nouv. éd.* 21: 157 – north Europe, Asia and America, restricted to northern Europe (*vide* Peters 1934, *Check-list Birds World* 2: 312).

Lestris longicaudus Brisson [sic]; Finsch 1872, *Jour. für Ornith.* 20(4): 241.

Stercorarius crepidatus (Banks); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 2: 66. In part.

Stercorarius longicaudus Vieillot; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 53.

Breeds in arctic and subarctic regions, migrating to the Southern Hemisphere; generally rare in the south-west Pacific. Two subspecies: *S. l. longicaudus* breeding in arctic and subarctic Scandinavia, east to delta of Lena River, and *S. l. pallescens* Løppenthin, 1932 breeding in arctic Greenland, North America and Siberia, east of Kolyma River (Higgins & Davies 1996). Subspecies migrating to Australasian region unknown but presumed to be *S. l. pallescens* (Sibson 1967, Higgins & Davies 1996). Rare visitor to New Zealand, reaching south to Oreti Beach (Jan. 2001, NMNZ 27155) and east to near the Chatham Islands (two live, Mar. 1985; Higgins & Davies 1996). First recorded in New Zealand on 30 Apr. 1864 (live) at Wanganui (Melville, D.S. 1985). Subsequently, dead specimens: Apr. 1942 (probable) and Jan. 1964 at Muriwai; Mar. 1969 probably two at Himatangi; probables Nov. 1971 at Muriwai and Dec. 1971 at Dargaville (Melville, D.S. 1985). More regularly reported since 1981, especially Jan. to Feb. 1983, when 17 dead (from Northland to Wellington) and a further probable 19 dead and 19 live in the same period (Melville, D.S. 1985; NMNZ 22964). All New Zealand records are Sep. to Apr. (Melville, D.S. 1985, Powlesland & Powlesland 1994b, Higgins & Davies 1996, Taylor

1996, Medway 2000a, Stephenson 2006). Tentatively identified from fossil remains on Chatham Island (Melville, D.S. 1985, Checklist Committee 1990, Millener 1991).

Family LARIDAE Rafinesque: Gulls

Laridia Rafinesque, 1815: *Analyse de la Nature*: 72 – Type genus *Larus* Linnaeus, 1758.

Genus *Larus* Linnaeus

Larus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 136 – Type species (by subsequent designation) *Larus marinus* Linnaeus.

Gavia Boie, 1822: *Isis von Oken*, Heft 10: col. 563 – Type species (by subsequent designation) *Larus ridibundus* Linnaeus. Junior homonym of *Gavia* Moehring, 1758.

Hydrocoleus Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thieru.*: 113 – Type species (by subsequent designation) *Larus minutus* Linnaeus.

Chroicocephalus Eyton, 1836: *Cat. Brit. Birds*: 53 – Type species (by subsequent designation) *Larus capistratus* Temminck = *Larus ridibundus* Linnaeus.

Gelastes Bonaparte, 1853: *Journ. für Ornith.* 1: 47 – Type species (by subsequent designation) *Larus gelastes* Lichtenstein = *Larus genei* Brème.

Dominicanus Bruch, 1853: *Journ. für Ornith.* 1: 100 – Type species (by subsequent designation) *Larus marinus* Linnaeus.

Clupearus Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 770 – Type species (by subsequent designation) *Larus fuscus* Linnaeus.

Bruchigavia Bonaparte, 1857: *Consp. Gen. Avium* 2: 228 – Type species (by monotypy) *Larus novaehollandiae* Stephens.

Astogavia Mathews, 1944: *Emu* 43: 244 – Type species (by original designation) *Bruchigavia melanorhyncha* Buller = *Larus bulleri* Hutton.

Crochet *et al.* (2000) proposed recognising several more gull genera than have recently been used world-wide but we have retained New Zealand species in *Larus* following Chu's (1998) recommendation to retain taxonomic stability. Boie (1844: 196) listed "*Larus melanoleucos*" as from New Zealand but, as it does not include a description of the bird, it is a *nomen nudum* (Mathews & Iredale 1913: 248).

▶ *Larus dominicanus* Lichtenstein

Kelp Gull

Five subspecies are recognised (Jiguet 2002): *L. d. dominicanus* Lichtenstein (South America, Australia, New Zealand and its subantarctic islands), *L. d. vetula* (Bruch, 1853) (southern Africa), *L. d. austrinus* Fleming, 1924 (Antarctica), *L. d. judithae* Jiguet, 2002 (south Indian Ocean) and *L. d. melisandae* Jiguet, 2002 (Madagascar). Straggles to the Ross Sea (Spurr *et al.* 1990) but race of these birds not determined.

Larus dominicanus dominicanus Lichtenstein

Southern Black-backed Gull

Larus dominicanus Lichtenstein, 1823: *Verzeich. Doubl., Berlin*: 82 – Coasts of Brazil.

Larus fuscus; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 200. Not *Larus fuscus* Linnaeus, 1758.

Larus antipodus? G.R. Gray, 1844: *List Birds Brit. Mus.* 3: 169 – New Zealand.

Dominicanus antipodus (G.R. Gray); Bruch 1853, *Journ. für Ornith.* 1: 100.

Dominicanus Antipodum Cabanis [sic]; Bruch 1855, *Journ. für Ornith.* 3: 281.

Clupearus antipodum (G.R. Gray); Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 770.

Lestris antarcticus Ellman, 1861: *Zoologist* 19: 7472 – New Zealand. Junior primary homonym of *Lestris antarcticus* Lesson, 1831.

Lestris fuscus Latham [sic]; Ellman 1861, *Zoologist* 19: 7472. Not *Larus fuscus* Linnaeus, 1758.

Larus antipodum G.R. Gray; G.R. Gray 1862, *Ibis* 4: 248.

Larus pacificus; Layard 1863, *Ibis* 5: 245. Not *Larus pacificus* Latham, 1802.

Larus dominicanus Lichtenstein; Finsch 1870, *Journ. für Ornith.* 18(5): 360.

Larus ?antipodum G.R. Gray; G.R. Gray 1871, *Hand-list Birds* 3: 112.

Larus dominicanus antipodus (Bruch) [sic]; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 248.

Larus dominicanus absolutus Mathews, 1944: *Emu* 43: 246 – subantarctic islands of New Zealand.

Larus dominicanus dominicanus Lichtenstein; Checklist Committee 1980, *Notornis* (Suppl.) 27: 18.

South America, Australia and New Zealand. In the New Zealand region, breeds throughout coastal districts and on most offshore islands, including Chatham, Bounty, Antipodes, Snares/Tini Heke, Auckland, Campbell/Motu Ihupuku and Macquarie Islands; also inland on riverbeds and high into the mountains (Kinsky 1963, Higgins & Davies 1996, Miskelly *et al.* 2001a, Tennyson *et al.* 2002). Straggles north to Norfolk Island (Hermes *et al.* 1986), the Kermadec Islands (Veitch *et al.* 2004), Lord Howe Island (Higgins & Davies 1996) and Niue (Worthy *et al.* 1998, Powlesland *et al.* 2000). Fossil and midden remains from North, South, Stewart/Rakiura and Chatham Islands (Checklist Committee 1990, Millener 1991); rare records from Late Pleistocene sites (e.g. Worthy 2000, Worthy & Grant-Mackie 2003).

▶ *Larus pipixcan* Wagler

Franklin's Gull

Larus Pipixcan Wagler, 1831: *Isis von Oken*, Heft 4: col. 515 – Mexico.

Larus franklini Swainson & Richardson, 1832: *Fauna Boreali-Americana, Birds* 2: 424, pl. 71 – North America.

Larus pipixcan Wagler; Onley & Schweigman 2004, *Notornis* 51: 49.

Breeds in North America; moving south, chiefly to South America, when not breeding; vagrants have been reported across the Pacific Ocean reaching as far as Australia (Peters 1934, Onley & Schweigman 2004). Two New Zealand records: Raoul Island, Jul. 1988 (Veitch *et al.* 2004) and Dunedin, Jun. to Jul. 2002 (Onley & Schweigman 2004).

▶ *Larus novaehollandiae* Stephens

Red-billed Gull

Larus Novae-Hollandiae Stephens, 1826: in G. Shaw, *General Zool.* 13(1): 196 – New South Wales, Australia.

Gavia Andersonii Bruch, 1853: *Journ. für Ornith.* 1: 100 – New Zealand, error for New South Wales, Australia (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 147).

Chroicocephalus novaehollandiae (Stephens); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 26, 146.

Three subspecies are recognised (Johnstone 1982, Higgins & Davies 1996): *L. n. novaehollandiae* Stephens (Australia); *L. n. forsteri* (Mathews, 1912) (New Caledonia and south-west Pacific); *L. n. scopulinus* J.R. Forster (New Zealand). *Larus hartlaubii* Bruch, 1853 of South Africa is sometimes treated as a subspecies of *L. novaehollandiae* (e.g. Checklist Committee 1990) but they are not closely related (Given *et al.* 2005). Schodde *et al.* (1983), Sibley & Monroe (1990) and Given *et al.* (2005) treated *L. scopulinus* as a full species but we await the inclusion of *L. n. forsteri* in a study before adopting this approach. Early reports of *L. n. novaehollandiae* in New Zealand (Dwight 1925) have not been verified (Johnstone 1982). The species straggles to Norfolk Island, where it has bred, but subspecies unknown, although both *L. n. novaehollandiae* and *L. n. scopulinus* suggested (Schodde *et al.* 1983, Hermes *et al.* 1986, Higgins & Davies 1996, Moore 1999).

Larus novaehollandiae scopulinus J.R. Forster**Red-billed Gull**

- Larus scopulinus* J.R. Forster, 1843: in G.R. Gray, in E. Dieffenbach, *Travels in N.Z.* 2: 200. *Nomen nudum*.
- Larus scopulinus* J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 106 – Dusky Sound, Fiordland.
- Larus Jamesoni*; G.R. Gray 1844, *List Birds Brit. Mus.* 3: 171. Not *Larus jamesoni* Wilson, 1831 = *Larus novaehollandiae* Stephens, 1826.
- Larus novae Hollandiae*; G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 18. Not *Larus novaehollandiae* Stephens, 1826.
- Chroicocephalus Schimperi* Bruch, 1853: *Journ. für Ornith.* 1: 104 – New Zealand.
- Chroicocephalus schimperi* Bruch; Bonaparte 1857, *Cons. Gen. Avium* 2: 229.
- Lestris scopulinus* (J.R. Forster); Ellman 1861, *Zoologist* 19: 7472.
- Larus schimperi* Bonaparte [sic]; G.R. Gray 1862, *Ibis* 4: 248.
- Xema jamesonii*; Layard 1863, *Ibis* 5: 245. Not *Larus jamesoni* Wilson, 1831 = *Larus novaehollandiae* Stephens, 1826.
- Gelastes scopulinus* (J.R. Forster); Blasius 1865, *Journ. für Ornith.* 13(6): 384.
- Larus (Gelastes) ?Andersonii* Gray, 1871: *Hand-list Birds* 3: 116 – New Zealand. Junior secondary homonym of *Gavia andersonii* Bruch, 1853 = *Larus novaehollandiae* Stephens, 1826.
- Larus scopulorum* J.R. Forster; Potts 1872, *Ibis* 2 (3rd ser.): 38. Unjustified emendation.
- Larus Novae-Hollandiae*; Finsch 1872, *Journ. für Ornith.* 20(4): 241. Not *Larus novaehollandiae* Stephens, 1826.
- Larus scopulinus* J.R. Forster; Saunders 1896, *Cat. Birds Brit. Mus.* 25: 238.
- Bruchigavia novaehollandiae scopulinus* (J.R. Forster); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 247.
- Bruchigavia novae-hollandiae*; Belcher 1914, *Ibis* 2 (10th ser.): 595.
- Bruchigavia novaehollandiae coincidens* Mathews, 1944: *Emu* 43: 244 – subantarctic islands of New Zealand.
- Larus novaehollandiae scopulinus* J.R. Forster; Checklist Committee 1953, *Checklist N.Z. Birds*: 50.
- Larus novaehollandiae*; Lindsay 1963, *Notornis* 10: 304. Not *Larus novaehollandiae* Stephens, 1826.
- Chroicocephalus scopulinus* (J.R. Forster); Crochet *et al.* 2000, *Journ. Evolut. Biology* 13: 54.

Breeding on coasts and islets from Manawatāwhi/Three Kings Islands to Stewart/Rakiura, Chatham, Snares/Tini Heke, Auckland and Campbell/Motu Ihupuku Islands; also breeds inland at Lake Rotorua (Gurr & Kinsky 1965, Higgins & Davies 1996). Straggler to the Kermadec Islands (possibly *L. n. novaehollandiae*; Veitch *et al.* 2004) and Lord Howe Island (McAllan *et al.* 2004). Fossil and midden records from North, South, Stewart/Rakiura and Chatham Islands (Checklist Committee 1990, Millener 1991); a few probable Late Pleistocene records (Worthy & Grant-Mackie 2003).

▶ **Larus bulleri** Hutton**Black-billed Gull**

- Bruchigavia melanorhyncha* Buller, 1869 (January): *Ibis* 5 (n. ser.): 43 – South Island. Junior secondary homonym of *Larus melanorhynchus* Temminck & Laugier, 1830 = *Larus philadelphia* (Ord, 1815).
- Larus (Bruchigavia) melanorhyncha* [sic] Buller; Finsch 1869 (October), *Ibis* 5 (n. ser.): 381. Not *Larus melanorhynchus* Temminck & Laugier, 1830 = *Larus philadelphia* (Ord, 1815).
- Larus bulleri* Hutton, 1871: *Cat. Birds N.Z.*: 41. *Nomen novum* for *Bruchigavia melanorhyncha* Buller, 1869.
- Larus bulleri* Potts, 1872 (January): *Ibis* 2 (3rd ser.): 38 – Near the mouth of the Waimakeriri [sic] River. Junior primary homonym and synonym of *Larus bulleri* Hutton, 1871.

Larus melanorhynchus (Buller); Potts 1872, *Ibis* 2 (3rd ser.): 38. Not *Larus melanorhynchus* Temminck & Laugier, 1830 = *Larus philadelphia* (Ord, 1815).

Larus (Bruchigavia) Bulleri Potts, 1872 (May): *Trans. Proc. N.Z. Inst.* 4: 203 – Near the mouth of the Waimakariri River. Junior primary homonym and synonym of *Larus bulleri* Hutton, 1871.

Larus Pomaræ [sic]; Finsch 1872, *Jour. für Ornith.* 20(4): 248. Not *Gavia pomare* Bruch, 1855 = *nomen dubium*.

Larus pomare; Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1: 32. Not *Gavia pomare* Bruch, 1855 = *nomen dubium*.

Larus bulleri Hutton; Saunders 1896, *Cat. Birds Brit. Mus.* 25: 233.

Hydrocoleus bulleri (Hutton); Dwight 1925, *Bull. Am. Mus. Nat. Hist.* 52: 293.

Bruchigavia melanorhynchus [sic] Buller; Dwight 1925, *Bull. Am. Mus. Nat. Hist.* 52: 293. Not *Larus melanorhynchus* Temminck & Laugier, 1830 = *Larus philadelphia* (Ord, 1815).

Bruchigavia (Astogavia) melanorhyncha (Buller); Mathews 1944, *Emu* 43: 244. Not *Larus melanorhynchus* Temminck & Laugier, 1830 = *Larus philadelphia* (Ord, 1815).

Chroicocephalus bulleri (Hutton); Crochet *et al.* 2000, *Journ. Evolut. Biology* 13: 54.

Throughout New Zealand but mainly south of the Auckland Isthmus; breeding mainly on South Island riverbeds but some breed on the coast; some movement north and to coastal areas in the non-breeding season (Higgins & Davies 1996). A few go south to Stewart Island/Rakiura and straggle to Snares Islands/Tini Heke (Higgins & Davies 1996, Miskelly *et al.* 2001a). North Island breeding range is expanding and includes: Kaipara Harbour; Manukau Harbour; near Clevedon; Firth of Thames; Coromandel Harbour; Matakana Island; Ohiwa Harbour; Waioeka River estuary; Lake Rotorua; Whakarewarewa; Lake Rotomahana; Lake Rerewhakaaitu; Lake Rotokawa; Lake Taupo; Poverty Bay; Wairoa; Portland Island; near Clive; Black Reef; Porangahau; Manawatu River; inland Wairarapa (Reid & Reid 1965, Drake 1980, Taylor & Parrish 1994a, Higgins & Davies 1996, Parrish & Lock 1997). Fossil and midden records from the South Island; midden only from the North Island (Checklist Committee 1990, Millener 1991).

Gavia pomare [sic] Bruch, 1855: 285 has been regarded as a synonym of *L. bulleri* but its identity is in doubt because its type locality, the Society Islands, is outside the known range of this species and the type specimen no longer exists (Steadman 2002; see also Saunders 1896: 233, 235). Notwithstanding the identity of *Gavia pomare* Bruch, 1855, that name is preoccupied by *Gavia pomarre* Bruch, 1853: 103, in turn a junior synonym of *Larus novaehollandiae novaehollandiae* Stephens, 1826.

Family STERNIDAE Bonaparte: Terns and Noddies

Sterninae Bonaparte, 1838: *Geogr. Comp. List. Birds*: 61 – Type genus *Sterna* Linnaeus, 1758.

Most recommendations from a new study of tern and noddy relationships, based on mtDNA (Bridge *et al.* 2005), have already been adopted by the Taxonomic Subcommittee of the British Ornithologists' Union Records Committee (Sangster *et al.* 2005) and the American Ornithologists' Union Committee on Classification and Nomenclature (Banks, R.C. *et al.* 2006). This follows many years of disagreement about the generic classification of terns for which 3–12 genera have recently been used (see Bridge *et al.* 2005). The genera and their sequence recommended by Bridge *et al.* (2005) are accepted here, with the exception that we place the crested tern in *Sterna* rather than *Thalasseus*, because the evidence for the latter association is weaker (Sangster *et al.* 2005).

Genus *Anous* Stephens

Anous Stephens, 1826: in G. Shaw, *General Zool.* 13(1): 139 – Type species (by subsequent designation) *Anous niger* Stephens = *Anous stolidus* (Linnaeus).

Megalopterus Boie, 1826: *Isis von Oken*, Heft 10: col. 980 – Type species (by monotypy) *Sterna tenuirostris* Temminck = *Anous tenuirostris* (Temminck).

Micranous Saunders, 1895: *Bull. Brit. Ornith. Club* 4: 19 – Type species (by original designation) *Micranous tenuirostris* (Temminck) = *Anous tenuirostris* Temminck.

The preferred common names for noddies are those used by Gochfeld & Burger (1996) and Holdaway *et al.* (2001).

► *Anous stolidus* (Linnaeus) Brown Noddy

Sterna stolidus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 137 – “Americæ Pelago” = Antilles and Atlantic Ocean (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 145).

Circumtropical, seldom ranging outside subtropical seas. Four subspecies recognised, differing in size and coloration of head and body, but differences between races are slight (Higgins & Davies 1996). Only one subspecies is known from the New Zealand region (Higgins & Davies 1996).

Anous stolidus pileatus (Scopoli) Brown Noddy

Sterna pileata Scopoli, 1786: *Delic. Flor. Faun. insubr.* 2: 92 – no locality = Philippines (*vide* Peters 1934, *Check-list Birds World* 2: 346).

Sterna unicolor Nordmann, 1837: in Erman, *Nat. Atlas Reise Erde*: 17 – Society and other Pacific Islands.

Anous stolidus; G.R. Gray 1862, *Ibis* 4: 249. Not *Sterna stolidus* Linnaeus, 1758.

Anous stolidus unicolor (Nordmann); Mathews 1927, *Syst. Avium Australasianarum* 1: 145.

Anous stolidus; Oliver 1930, *New Zealand Birds*, 1st edition: 252. Not *Sterna stolidus* Linnaeus, 1758.

Anous stolidus pileatus (Scopoli); Checklist Committee 1990, *Checklist Birds N.Z.*: 169.

Breeds widely in the Indian and Pacific Oceans; common breeder at Norfolk Island (Higgins & Davies 1996); not known at the Kermadec Islands until c. 25 pairs found nesting on Curtis Island in 1989 (Veitch *et al.* 2004). Two unverified early records: east coast of North Island (1885) and “high seas” (19th Century) (Iredale 1913, Gill & Driessen 1993). Singles dead in Jun. 1992 on Muriwai Beach (Gill & Driessen 1993) and in Jun. 2002 near Waitara (Medway 2004b). A few fossil remains have been found on Nepean Island, Norfolk Island Group (Meredith 1985b, 1991).

► *Anous minutus* Boie Black Noddy

Breeds mainly in the south-west Pacific region, with smaller numbers of breeding sites in the tropical and subtropical Atlantic, east Pacific and in South-east Asia (Higgins & Davies 1996). Seven subspecies are recognised, differing in size and coloration of cap and darkness of rest of plumage, but relationships between populations are poorly understood (Higgins & Davies 1996). Only the nominate form is known from the New Zealand region (Higgins & Davies 1996). *Anous minutus* is treated as a separate species from *A. tenuirostris* Temminck (breeding Indian Ocean), following Serventy *et al.* (1971) and Higgins & Davies (1996).

Anous minutus minutus Boie Black Noddy

Anous minutus Boie, 1844: *Isis von Oken*, Heft 37: col. 188 – New Holland, restricted to Raine Island, Queensland, Australia (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 146).

Anous leucocapillus Gould, 1846: *Proc. Zool. Soc. London 1845* (13): 103 – north coast of Australia.

Anoüs leucocapillus Gould; G.R. Gray 1862, *Ibis* 4: 250.

Anous melanogenys; Cheeseman 1891, *Trans. Proc. N.Z. Inst.* 23: 221. Not *Anous melanogenys* G.R. Gray, 1846.

Micranous leucocapillus (Gould); Buller 1905, *Suppl. Birds N.Z.* 1: 163.

Megalopterus minutus minutus (Boie); Iredale 1913, *Trans. Proc. N.Z. Inst.* 45: 85.

Megalopterus minutus kermadeci Mathews, 1916: *Austral Avian Rec.* 3: 55 – “Kermadec Island”, error for MacKay, Queensland, Australia (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 146).

Anoüs minutus minutus Boie; Peters 1934, *Check-list Birds World* 2: 347.

Anous tenuirostris minutus Boie; Checklist Committee 1953, *Checklist N.Z. Birds*: 52.

Anous minutus Boie; Lindsay 1963, *Notornis* 10: 304.

Anous minutus minutus Boie; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 56.

Anous tenuirostris; Medway 2001, *Notornis* 48: 62. Not *Anous tenuirostris* Temminck, 1823.

Breeds widely in the south-west Pacific from Tuamotu to Samoa, New Caledonia, New Guinea, Australia and Lord Howe Island; in the New Zealand region breeds commonly at Norfolk and Kermadec Islands (Higgins & Davies 1996). Rarely strays outside subtropical waters to mainland New Zealand. North Island records are: live Oct. 1953 and Aug. 1964, Kaipara Harbour; live Jan. 1965, Spirits Bay; live Feb. 1965, Whangarei Heads; dead Mar. 1975, Houhora Harbour; dead Jan. 1986, Muriwai Beach; dead Jan. 1986, Karikari Bay (Powlesland 1989a); live May 1989, Manawatāwhi/Three Kings Islands (Loh 1990); dead Oct. and Nov. 1989, near Dargaville (Taylor 2004); live Sep. 1990, Rangaunu Harbour (Guest 1991); dead Jan. 1997, Mangawhai Spit; dead Jan. 1997, Ruapuke Beach; and dead Oct. 1998, Muriwai Beach (Taylor 2004). Recorded from the South Island on about six occasions: live Jan. 1961, Farewell Spit; two live May 1975, off Waipara River mouth; live Apr. 1977, Taieri River mouth (Powlesland 1989a, Higgins & Davies 1996); live Oct. 1998, Nelson (unconfirmed; Gaze 2001); live Feb. 2000, Stephens Passage (unconfirmed, Medway 2000b); and live Sep. 2000, Rapahoe (Medway 2001a).

Genus *Procelsterna* Lafresnaye

Procelsterna Lafresnaye, 1842: *Mag. Zool., Paris* 4(2): pl. 29 – Type species (by monotypy)

Procelsterna tereticollis Lafresnaye = *Procelsterna cerulea* (F.D. Bennett).

► *Procelsterna cerulea* (F.D. Bennett)

Blue-grey Noddy

Sterna Cerulea F.D. Bennett, 1840: *Narr. Whaling Voy.* 2: 248 – Christmas Island, Pacific Ocean.

Breeds on tropical and subtropical islands of the Pacific Ocean. Four subspecies recognised here but relationships between races complicated and in need of review (Scofield 1994a, Higgins & Davies 1996, Christidis & Boles 2008): *Procelsterna c. cerulea* (F.D. Bennett, 1840) at Christmas Island, north-west Hawaiian, Marshall, northern Tuamotu, Society and Marqueses Groups; *P. c. neboxi* Mathews, 1912 at Phoenix, Ellice and Samoan Islands; *P. c. murphyi* Mougín & de Naurois, 1981 at Gambier Group; *P. c. albivitta* (Bonaparte, 1856) on islands from Chile to Lord Howe Island—this more subtropical race is sometimes treated as a separate species from the other more tropical subspecies.

Procelsterna cerulea albivitta Bonaparte

Grey Noddy

Anous cinereus Gould, 1846: *Proc. Zool. Soc. London 1845* (13): 104 – Lord Howe Island, Australia. Junior secondary homonym of *Sterna cinerea* Haldeman, 1843.

Procelsterna albivitta Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 773. *Nomen novum* for *Anous cinereus* Gould, 1846.

Anous cinereus Gould; G.R. Gray 1862, *Ibis* 4: 250. Not *Sterna cinerea* Haldeman, 1843.

Anous cinereus Gould; Cheeseman 1891, *Trans. Proc. N.Z. Inst.* 23: 222. Not *Sterna cinerea* Haldeman, 1843.

Procelsterna cinerea (Gould); Buller 1905, *Suppl. Birds N.Z.* 1: 161. Not *Sterna cinerea* Haldeman, 1843.

Procelsterna cerulea cinerea (Gould); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 246. Not *Sterna cinerea* Haldeman, 1843.

Procelsterna cerulea kermadeci Mathews, 1916: *Austral Avian Rec.* 3: 55 – Kermadec Islands.

Procelsterna cerulea albivitta Bonaparte; Checklist Committee 1953, *Checklist N.Z. Birds*: 52.

Procelsterna albivittata albivittata Bonaparte; Condon 1975, *Checklist Birds Australia* 1: 159. Unjustified emendation.

Procelsterna cerulea; Moore 1985, *Notornis* 32: 317. Not *Sterna cerulea* F.D. Bennett, 1840.

Procelsterna cerulea albivittata Bonaparte; Checklist Committee 1990, *Checklist Birds N.Z.* 171. Unjustified emendation.

Breeds at Isla Salas y Goméz and San Ambrosio, San Félix, Easter, Henderson, Austral, Tongan and Lord Howe Islands and in the New Zealand region on Norfolk and Kermadec Islands and islands off the North Island: Manawatāwhi/Three Kings Islands (West Island; Scofield 1994a, Higgins & Davies 1996) and in the Bay of Plenty (Volkner Rocks and Sugarloaf Rock, The Aldermen Islands; Falla 1970, Latham 2003). Occasionally in large flocks in the outer waters of the North Island from Northland to East Cape but rarely on the North Island's west coast (Higgins & Davies 1996, Foreman 2000). First recorded in the North Island in 1882 at Cape Maria van Diemen (Buller 1887–88). A single South Island record: Banks Peninsula, one wrecked in the 1968 “Wahine storm” (Latham 2003). The preferred common name is grey noddy, following Holdaway *et al.* (2001) and Dickinson (2003), but it is also called grey ternlet.

Genus *Gygis* Wagler

Gygis Wagler, 1832: *Isis von Oken*, Heft 11: col. 1223 – Type species (by monotypy) *Sterna candida* Gmelin = *Gygis alba candida* (Gmelin).

Leucanous Mathews, 1912: *Birds Australia* 2: 432 – Type species (by original designation) *Gygis microrhyncha* Saunders = *Gygis alba microrhyncha* Saunders.

► *Gygis alba* (Sparrman)

White Tern

Sterna alba Sparrman, 1786: *Mus. Carlsonianum* 1: n° XI, pl. 11 – East Indies, Cape of Good Hope and islands of the Pacific Ocean, restricted to Ascension Island, south Atlantic Ocean (*vide* Mathews 1912, *Birds Australia* 2: 441).

Circumtropical, also ranging widely over subtropical seas. Several forms named but relationships between populations are debated (e.g. Gochfeld & Burger 1996, Olson 2005). We follow Holyoak & Thibault (1976), Kinsky & Yaldwyn (1981) and Higgins & Davies (1996) in recognising *G. a. candida* (Gmelin, 1789) as the form breeding in the New Zealand region.

Gygis alba candida (Gmelin)

White Tern

Sterna candida Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 607 – Christmas Island, Pacific Ocean.

Gygis candida Wagler [sic]; G.R. Gray 1862, *Ibis* 4: 249.

? *Gygis alba*; Finsch 1872, *Jour. für Ornith.* 20(4): 254. Not *Sterna alba* Sparrman, 1786.

Gygis candida Gould [sic]; Cheeseman 1889, *Trans. Proc. N.Z. Inst.* 21: 122.

Gygis alba; Buller 1905, *Suppl. Birds N.Z. 1*: 163. Not *Sterna alba* Sparrman, 1786.

Gygis alba candida (Gmelin); Mathews 1912, *Novit. Zool.* 18(3): 211.

Gygis alba royana Mathews, 1912: *Birds Australia* 2: 433 – Kermadec Islands.

Leucanous albus royanus (Mathews); Mathews 1927, *Syst. Avium Australasianarum 1*: 142.

Leucanous albus candidus (Gmelin); Mathews 1927, *Syst. Avium Australasianarum 1*: 143.

Gygis alba; Lindsay 1963, *Notornis* 10: 304. Not *Sterna alba* Sparrman, 1786.

Gygis alba alba; Gochfeld & Burger 1996, in del Hoyo *et al. Handb. Birds World* 3: 666. Not *Sterna alba* Sparrman, 1786.

Breeds at Norfolk and Kermadec Islands and at many sites in the tropical Indian and Pacific Oceans (Higgins & Davies 1996). Straggles rarely to the North Island: two Mar. 1883, Waipu (Iredale 1913); May 1960, Te Henga (Bethells Beach); May 1964, Pakotai (Northland); Jun. 1972, Palmerston North; May 1986, Otaki Beach (Powlesland 1989a); Apr. 1988, Te Horo Beach; Jul. 1990, near Dargaville (Powlesland *et al.* 1993); May 1990, Muriwai Beach (Guest 1991); May 1998, Taupiri (Clifford 2000a); Jul. 1998, Dargaville Beach (Taylor 2004). Records at sea off Northland (Jan. 2005; Davies 2005a) and Ohiwa Harbour (Nov. 2006; Anon. 2007c) are unverified. Only three records from the South Island: Mar. 1945, Ettrick, Otago (Powlesland 1989a); Jan. 2002, Greymouth (NMNZ 27993); undated, near Hokitika (NMNZ 27989). One fossil found on Nepean Island, Norfolk Island Group (Meredith 1985b, 1991).

Genus *Onychoprion*

Onychoprion Wagler, 1832: *Isis von Oken*, Heft 2: col. 277 – Type species (by monotypy) *Sterna serrata* J.R. Forster = *Onychoprion fuscatus serratus* (J.R. Forster).

The gender of the genus *Onychoprion* is masculine, therefore, according to Article 30.1.2 of ICZN (1999), the species and subspecies names for New Zealand taxa should be *O. fuscatus serratus* and *O. anaethetus*.

► *Onychoprion fuscatus* (Linnaeus)

Sooty Tern

Sterna fuscata Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 228 – Santo Domingo, West Indies.

Anous fuscatus (Linnaeus); G.R. Gray 1846, *Gen. Birds* 3(21): 661.

Onychoprion fuscata [sic] (Linnaeus); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 25, 144.

Circumtropical, ranging widely over subtropical seas and sometimes, under stress, into temperate waters. Several subspecies have been described and the number accepted varies among authors; the differences between the subspecies are slight, involving coloration of underparts and measurements; the status of all need re-examination (Higgins & Davies 1996). Although the race *O. f. serratus* is supposedly confined to breeding around Australia and in the South Pacific (Higgins & Davies 1996), a chick banded at the Kermadec Islands has been found breeding at the Seychelles, Indian Ocean (Cossee 1995), where the supposed race *O. f. nubilosus* (Sparrman, 1788) breeds (Higgins & Davies 1996).

Onychoprion fuscatus serratus (J.R. Forster)

Sooty Tern

Sterna serrata J.R. Forster, 1830: in J.G. Wagler, *Natur. Syst. Amphib. Säug. Vögel*: 88, note 2 – New Caledonia.

Sterna fuliginosa; Cheeseman 1891, *Trans. Proc. N.Z. Inst.* 23: 221. Not *Sterna fuliginosa* Gmelin, 1789.

Onychoprion fuscatus serratus (J.R. Forster); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 245.

Onychoprion fuscatus kermadeci Mathews, 1916: *Austral Avian Rec.* 3: 55 – “Kermadec Islands”, error for Sydney, New South Wales, Australia (*vide* Mathews 1927, *Syst. Avium Australasianarum* 1: 142).

? *Sterna fuscata kermadeci* (Mathews); Peters 1934, *Check-list Birds World* 2: 338.

Sterna fuscata serratus J.R. Forster; Oliver 1955, *New Zealand Birds*, 2nd edition: 343. Unjustified emendation.

Sterna fuscata; Lindsay 1963, *Notornis* 10: 304. Not *Sterna fuscata* Linnaeus, 1766.

Sterna fuscata serrata J.R. Forster; Checklist Committee 1990, *Checklist Birds N.Z.*: 165.

Breeds abundantly in the south-west Pacific, including at Norfolk and Kermadec Islands. Strays to the North Island probably annually, often after storms (Turbott 1952, Jenkins 1962, Powlesland & Powlesland 1994a, Higgins & Davies 1996) and south to Foveaux Strait (Cooper 1991). An exceptional sighting was of at least 13 alive on 27 Jul. 1986 at Pakiri Beach (Fennell 1987). A few fossils have been found in Norfolk Island dunes and on Nepean Island, Norfolk Island Group (Meredith 1985b, 1991).

► ***Onychoprion lunatus* (Peale)**

Grey-backed Tern

Sterna lunata Peale, 1848: *U.S. Expl. Exped.* 8: 277 – Vincennes Island, Paumotu [= Tuamotu] Group, French Polynesia.

Sterna lunata; Scofield 2006, *Southern Bird* 27: 8.

Onychoprion lunatus (Peale); Banks *et al.* 2006, *Auk* 123: 927.

Breeds throughout much of Oceania, including islands between the northern Mariana and Hawaiian Islands and the Fijian and Tuamotu Groups; possibly as far east as Easter Island; becomes pelagic in the Pacific Ocean after breeding (Gochfield & Burger 1996). Two New Zealand records: Papakanui Spit, Kaipara Harbour, on 1 Feb. 1999; mouth of the Pungaereere Stream, Taranaki, on 18 and 24 Jan. 2002 (Scofield 2006).

► ***Onychoprion anaethetus* (Scopoli)**

Bridled Tern

Sterna Anaethetus Scopoli, 1786: *Delic. Flor. Faun. insubr.* 2: 92 – “In Guinea”, error for Panay, Philippine Islands (*vide* Peters 1934, *Check-list Birds World* 2: 337).

Sterna anaethetus Scopoli; Tunnickliffe & Langlands 1990, *Notornis* 37: 131.

Onychoprion anaethetus (Scopoli); Banks *et al.* 2006, *Auk* 123: 927.

Breeding and widely distributed in tropical seas, seldom straying to temperate waters. Four subspecies: *O. a. anaethetus* breeds eastern Indian Ocean, South-east Asia, Australia, western Pacific; *O. a. antarcticus* (Lesson, 1831) breeds Red Sea, Persian Gulf and west Indian Ocean; *O. a. melanopterus* (Swainson, 1837) breeds West Indies and West Africa; *O. a. nelsoni* (Ridgway, 1919) breeds Pacific coast of Mexico and Central America (Higgins & Davies 1996). Only one confirmed New Zealand record: beach-cast specimen, New Brighton, Canterbury, Nov. 1987 (Tunnickliffe & Langlands 1990).

Genus *Sternula* Boie

Sternula Boie, 1822: *Isis von Oken*, Heft 5: col. 563 – Type species (by monotypy) *Sterna minuta* Linnaeus = *Sternula albifrons* (Pallas).

► ***Sternula albifrons* (Pallas)**

Little Tern

Sterna albifrons Pallas, 1764: *in* Vroeg, *Cat. Raisonné Coll. Oiseaux, Adumbr.*: 6 – Maasland, Netherlands.

Widespread world-wide, with three subspecies: *S. a. albifrons* breeds Europe and North Africa and east to central Asia; *S. a. sinensis* breeds east Asia to Australia; *S. a. guineae* Bannerman, 1913 breeds central and West Africa (Higgins & Davies 1996).

Sterna albifrons sinensis* (Gmelin)*Eastern Little Tern**

Sterna sinensis Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 608 – China.

Sterna minuta; Finsch 1867, *Journ. für Ornith.* 15: 339, 347. Not *Sterna minuta* Linnaeus, 1766.

Sternula placens Gould, 1871: *Ann. Mag. Nat. Hist.*, London 8 (4th ser.): 192 – Torres Straits.

Sternula inconspicua Masters, 1875: *Proc. Linn. Soc. New South Wales* 1: 63 – Cape York, Australia.

Sterna sinensis placens (Gould); Mathews 1912, *Novit. Zool.* 18(3): 208.

Sterna sinensis tormenti Mathews, 1912: *Novit. Zool.* 18(3): 209 – Point Torment, north-west Australia.

Sternula albifrons sinensis (Gmelin); Mathews 1927, *Syst. Avium Australasianarum* 1: 140.

Sterna albifrons sinensis Gmelin; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 55.

Breeds in east Asia, east from Sri Lanka to New Guinea and north and east Australia south to Tasmania (Higgins & Davies 1996). Not recognised in New Zealand until the 1940s (McKenzie & Sibson 1957). Now known as regular non-breeding summer visitor, occasionally in flocks of 60+, especially at the big shallow inlets of northern New Zealand; also casually visits estuarine habitats south to Stewart Island/Rakiura (Pierce 1992, Higgins & Davies 1996). Vagrants have reached Kermadec (Veitch *et al.* 2004), Chatham (Bell & Bell 2002) and possibly Norfolk Islands (Hermes *et al.* 1986, Higgins & Davies 1996). Banding records have confirmed that some New Zealand migrants breed in Japan (Lawrie & Habraken 2001, Habraken 2002, Anon. 2003). Some juveniles, and the occasional birds that adopt breeding plumage in New Zealand during the southern summer, are considered to have Southern Hemisphere origins (Lawrie & Habraken 2001, Saville 2002, Pulham 2003). Immatures (Sibson & Edgar 1962), and occasionally birds in breeding plumage (e.g. McKenzie & Sibson 1957, Tennyson 1990a), may overwinter.

▶ ***Sterna nereis* Gould****Fairy Tern**

Sterna nereis Gould, 1843: *Proc. Zool. Soc. London 1842* (10): 140 – Bass Strait.

Predominantly an Australian species (n nominate subspecies) of the south and west coasts, with two other subspecies: *S. nereis exsul* (Mathews, 1912) in New Caledonia and *S. nereis davisae* in New Zealand. One possible record from Norfolk Island (White 1937, Hitchcock 1959, Hermes *et al.* 1986, Higgins & Davies 1996).

Sterna nereis davisae* Mathews & Iredale*New Zealand Fairy Tern**

Sterna (alba, sp. nov.) Potts, 1871: *Trans. Proc. N.Z. Inst.* 3: 106 – Plains from the Rangitata to the Rakaia, Canterbury. Junior primary homonym of *Sterna alba* Sparrman, 1786.

Sterna nereis; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 285. Not *Sternula nereis* Gould, 1843.

Sternula nereis davisae Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 245 – New Zealand.

Sterna nereis davisae (Mathews & Iredale); Oliver 1930, *New Zealand Birds*, 1st edition: 245.

Rare; known to breed only on the coasts of Northland at Ruakaka–Waipu, Mangawhai–Pakiri and the Kaipara Harbour (Parrish & Pulham 1995, Pulham 2004); formerly used to breed at Tauranga, the lower North Island coast and inland on eastern South Island shingle riverbeds (MacDonald 1953, Oliver 1955, Parrish & Pulham 1995). Moves locally, but not wholly migratory. Recently seen: 1988, 2002 and 2005 in the Firth of Thames (Taylor 1990, Battley & Pulham 2005); 1999 at the Manawatu River estuary (Medway 2001a); and 2004 in the Bay of Plenty (Cumming & Barnard 2005, Scofield

2006). Fossil records from North Island dunes (Millener 1991). Supposed midden records on Chatham Island were misidentifications (Holdaway *et al.* 2001).

Genus *Gelochelidon* Brehm

Gelochelidon Brehm, 1830: *Isis von Oken*, Heft 23: col. 994 – Type species (by monotypy)
Gelochelidon meridionalis Brehm = *Gelochelidon nilotica* (Gmelin).

► *Gelochelidon nilotica* (Gmelin)

Gull-billed Tern

Sterna nilotica Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 606 – Egypt.

Gelochelidon nilotica macrotarsa (Gould, 1837); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 54.

Gelochelidon nilotica (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 163.

Almost cosmopolitan, breeding across the temperate Northern Hemisphere and in Australia; migratory and nomadic. First recorded in New Zealand near Invercargill, where two overwintered in 1955 (McKenzie 1955). Now numerous sight records from coastal estuaries and marshes, occasionally in small flocks, e.g. eight in 1975–76 and six in 1976–77, Manukau Harbour (Falla *et al.* 1981), and six on 17 Nov. 2001, Kaipara Harbour (Riegen 2003). Six or seven subspecies recognised (Gochfeld & Burger 1996, Higgins & Davies 1996). The subspecies in New Zealand was assumed to be the Australian-breeding *G. n. macrotarsa* (Gould, 1837) by McKenzie (1955), but it could also be the Asian migrant *G. n. affinis* (Horsfield, 1821) (see Rogers & van de Kam 2004, Rogers *et al.* 2005).

Genus *Hydroprogne* Kaup

Hydroprogne Kaup, 1829: *Skizz. Entw.-Gesch. Eur. Thierw.*: 91 – Type species (by subsequent designation) *Sterna caspia* Pallas = *Hydroprogne caspia* (Pallas).

Sylochelidon Brehm, 1831: *Handb. Naturgesch. Vög. Deutschl.*: 770 – Type species (by monotypy)
Sterna caspia Pallas = *Hydroprogne caspia* (Pallas).

Heroprogne Buller, 1905: *Suppl. Birds N.Z. 1*: 157. Unjustified emendation.

► *Hydroprogne caspia* (Pallas)

Caspian Tern

Sterna caspia Pallas, 1770: *Novi Comment. Acad. Scient. Imperial. Petropol.* 14(1): 582, pl. 22, fig. 2 – Caspian Sea.

Sterna Tschegrava Lepechin, 1770: *Novi Comment. Acad. Scient. Imperial. Petropol.* 14(1): 500, pl. 13, fig. 2 – Shores of the Caspian Sea. Suppressed and invalid (*vide* ICZN 1969, Opinion 904. *Bull. Zool. Nomenclature* 26(5/6): 225).

Sylochelidon strenuus Gould, 1846: *Proc. Zool. Soc. London 1846* (14): 21 – southern coasts of Australia.

Sylochelidon strenua Gould; Bonaparte 1856, *Compt. Rend. Séa. Acad. Sci., Paris* 42: 772. Unjustified emendation.

Sterna major Ellman, 1861: *Zoologist* 19: 7472 – New Zealand.

Sterna (*Sylochelidon*) *strenuus* (Gould); G.R. Gray 1862, *Ibis* 4: 248.

Heroprogne caspia (Pallas); Buller 1905, *Suppl. Birds N.Z. 1*: 157.

Hydroprogne tschegrava oliveri Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 242 – New Zealand.

Hydroprogne caspia oliveri Mathews & Iredale; Oliver 1930, *New Zealand Birds*, 1st edition: 240.

Hydroprogne tschegrava strenua (Gould); Peters 1934, *Check-list Birds World* 2: 331.

Hydroprogne caspia (Pallas); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 54.

Hydroprogne caspia strenua (Gould); Howard & Moore 1991, *Complete Checklist Birds World*, 2nd edition: 77.

Sterna caspia Pallas; Checklist Committee 1990, *Checklist Birds N.Z.*: 164.

Almost cosmopolitan; breeding locally across temperate zones of Eurasia, Africa, and North America, and in Australia and New Zealand (Barlow & Dowding 2002). No subspecies accepted here. Partially migratory (Barlow 1998, Barlow & Dowding 2002). Occurs around the main islands of New Zealand, breeding in small colonies or singly, most commonly in the north. Mainly breeds coastally but often inland, especially on Canterbury's braided riverbeds (Pierce 1984, Bull *et al.* 1985, Higgins & Davies 1996). Some movement away from breeding colonies in the non-breeding season, especially north from southern colonies (Barlow 1998, Barlow & Dowding 2002). Two records from the Chatham Islands (Miskelly *et al.* 2006) and may have reached the Kermadec Islands (Veitch *et al.* 2004). Rarely found in fossil deposits and middens in the North and South Islands (Checklist Committee 1990, Millener 1991, Sibson 1992).

Genus *Chlidonias* Rafinesque

Chlidonias Rafinesque, 1822: *Kentucky Gazette* (n. ser.) 1(8): 3, col. 5 – Type species (by monotypy) *Sterna nigra* Linnaeus = *Chlidonias niger* (Linnaeus).

Hydrochelidon Boie, 1822: *Isis von Oken*, Heft 5: col. 563 – Type species (by subsequent designation) *Sterna nigra* Linnaeus = *Chlidonias niger* (Linnaeus).

Maoristerna Mathews, 1944: *Emu* 43: 246 – Type species (by original designation) *Hydrochelidon albostrata* G.R. Gray = *Chlidonias albostratus* (G.R. Gray).

► *Chlidonias leucopterus* (Temminck)

White-winged Black Tern

Sterna leucoptera Temminck, 1815: *Manuel d'Ornith.*: 483 – shores of the Mediterranean Sea. ? *Hydrochelidon leucoptera* (Temminck); Finsch 1872, *Jour. für Ornith.* 20(4): 254.

Hydrochelidon leucoptera (Temminck); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 287. *Hydrochelidon leucoptera grisea*; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 242. Not *Sterna grisea* Horsfield, 1821.

Chlidonias leucoptera (Temminck); Oliver 1930, *New Zealand Birds*, 1st edition: 238.

Chlidonias [sic] *leucoptera*; Stidolph 1932, *Emu* 31: 234.

Chlidonias leucopterus (Temminck); Checklist Committee 1953, *Checklist N.Z. Birds*: 50.

Breeds in marshes across Eurasia, north to Siberia, and probably in East Africa; migrates to the Southern Hemisphere and prone to wander, especially first-year birds. A regular visitor to New Zealand, from the harbours of Northland to the Southland lagoons and to Norfolk Island (Higgins & Davies 1996); sometimes in small flocks, e.g. 15 at Ahuriri Lagoons, Napier, in 1972 (Todd & Lloyd 1980) and 14 at Coopers Lagoon/Muriwai, Canterbury, in 1995 (O'Donnell & West 1996). The earliest New Zealand record is a pair in breeding plumage on the Waihopai River, Marlborough, in Dec. 1868 (Buller 1882). Stead (in Oliver 1955) suspected breeding in Canterbury as long ago as 1927; Pierce (1974) proved it in 1973 (Kinsky 1977b). The picture is obscured because white-winged black terns may be seen in breeding plumage in New Zealand in any month.

► *Chlidonias hybridus* (Pallas)

Whiskered Tern

Sterna hybrida Pallas, 1811: *Zoogr. Rosso-Asiatica* 2: 338 – south Russia.

Three subspecies recognised (Higgins & Davies 1996): *Ch. h. hybridus* Pallas (south Eurasia and North Africa), *Ch. h. delalandii* Mathews, 1912 (South and East Africa and Madagascar), and *Ch. h. javanicus* Horsfield (Australia). We have followed the recommendation of Mees (1977) in spelling the specific name as *Ch. hybridus*—as in Christidis & Boles (1994) and Higgins & Davies (1996)—rather than as *Ch. hybrida*, as used by Checklist Committee (1990), Christidis & Boles (2008) and recommended by David & Gosselin (2002a).

Chlidonias hybridus javanicus* Horsfield*Whiskered Tern**

- Sterna javanica* Horsfield, 1821: *Trans. Linn. Soc. London* 13: 198 – Java, Indonesia.
Hydrochelidon fluviatilis Gould, 1843: *Proc. Zool. Soc. London* 1842 (10): 140 – New South Wales, Australia.
Chlidonias leucopareia fluviatilis (Gould); Mathews 1927, *Syst. Avium Australasianarum* 1: 134.
Chlidonias hybrida; Oliver 1955, *New Zealand Birds*, 2nd edition: 328. Not *Sterna hybrida* Pallas, 1811.
Chlidonias hybridus javanicus (Horsfield); Higgins & Davies 1996, *HANZAB* 3: 765.

Vagrants to New Zealand thought to be from Australia, where the species breeds mainly in the south-east (Heather & Jones 1979, Higgins & Davies 1996). Five sight records: Lake Horowhenua, Aug. to Oct. 1977 (two birds) and May to Sep. 1978 (possibly present since 1975); lower Waikato River, Aug. to Sep. 1978; Pukekohe, Mar. 1980; Lake Rotorua, May 1987 (Heather & Jones 1979, Higgins & Davies 1996). Reported sightings at Christchurch in Dec. 2005, Blenheim in Jan. 2006 (Anon. 2006c) and Lake Grassmere/Kapara Te Hau in Feb. 2006 (Anon. 2006d) remain unverified

▶ ***Chlidonias albostriatum* (G.R. Gray)****Black-fronted Tern**

- Sterna antarctica* J.R. Forster, 1832: in J.G. Wagler, *Isis von Oken*, Heft 11: 1223 – Queen Charlotte Sound, Marlborough. Junior primary homonym of *Sterna antarctica* Lesson, 1831.
Sterna antarctica J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 107 – New Zealand. Junior primary homonym of *Sterna antarctica* Lesson, 1831 and of *Sterna antarctica* J.R. Forster, 1832.
Hydrochelidon albostriatum G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(8): 19, pl. 21 – New Zealand.
Sternula antarctica (Wagler); Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 773. Not *Sterna antarctica* Lesson, 1831.
Hydrochelidon albistriata G.R. Gray; Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 773. Unjustified emendation.
Sterna cinerea Ellman, 1861: *Zoologist* 19: 7473 – New Zealand. Junior primary homonym of *Sterna cinerea* Haldeman, 1843.
Hydrochelidon hybrida; Finsch 1867, *Journ. für Ornith.* 15: 347. Not *Sterna hybrida* Pallas, 1811.
Sterna albistriata (G.R. Gray); Buller 1905, *Suppl. Birds N.Z.* 1: 158. Unjustified emendation.
Sterna albistriata albistriata (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 243. Unjustified emendation.
Chlidonias albistriata (G.R. Gray); Oliver 1930, *New Zealand Birds*, 1st edition: 237. Unjustified emendation.
Maoristerna albostriatum (G.R. Gray); Mathews 1944, *Emu* 43: 246.
Chlidonias hybrida albistriata (G.R. Gray); Sibson 1948, *New Zealand Bird Notes*: 12. Unjustified emendation.
Chlidonias hybrida albostriatum (G.R. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 50.
Chlidonias albostriatum [sic] (G.R. Gray); Oliver 1955, *New Zealand Birds*, 2nd edition: 327.
Sterna albostriatum (G.R. Gray); Checklist Committee 1980, *Notornis (Suppl.)* 27: 19.
Chlidonias albostriatum (G.R. Gray); Bridge *et al.* 2005, *Molec. Phylogen. Evolution* 35: 461.

Breeds only on the riverbeds of the eastern South Island from Marlborough to Southland, rarely in Westland. In the non-breeding season, most feed coastally and at sea off the eastern South Island. Some regularly reach Stewart Island/Rakiura and as far

north as the Bay of Plenty (Lalas 1979, Latham 1981, Taylor 2000a); rarely hundreds cross Cook Strait (e.g. at Waikanae, 1985; Fleming & Fleming 1985); rarely reaches as far north as Northland (e.g. Higgins & Davies 1996, Parrish & Lock 1996, Davies 2007) and as far south as Snares Islands/Tini Heke (Miskelly *et al.* 2001a). One possible record from Norfolk Island (McAllan 2000). May formerly have bred on the North Island's Volcanic Plateau (Sibson 1948, Higgins & Davies 1996). Checklist Committee (1953, 1970) placed the black-fronted tern in the genus *Chlidonias*, but studies by Mees (1977) and Lalas & Heather (1980) led to its placement in *Sterna* (Checklist Committee 1980, 1990). However, recent mtDNA work by Bridge *et al.* (2005) firmly places its relationships among the species of *Chlidonias* and that conclusion is followed here. Rarely found in eastern South Island Holocene fossil deposits (e.g. Worthy & Holdaway 1996, Worthy 1998d); midden and fossil records from the North and Chatham Islands (Millener 1991) have been questioned (Holdaway *et al.* 2001).

Genus *Sterna* Linnaeus

Sterna Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 137 – Type species (by tautonymy) *Sterna hirundo* Linnaeus.

Thalasseus Boie, 1822: *Isis von Oken*, Heft 1: col. 563 – Type species (by subsequent designation) *Thalasseus cantianus* (Gmelin) = *Sterna sandwicensis* Latham.

Sterna vulgaris Ellman (1861: 7472 – New Zealand) is a junior synonym of *Sterna striata* according to Sibson (1992) but the description is inadequate, the beak colour does not fit *S. striata*, the Māori name refers to *S. caspia* and there is no type specimen; therefore, *S. vulgaris* cannot be identified and is a *nomen dubium*. *Sterna parva* Ellman (1861: 7473 – New Zealand) could refer to several small tern species and, with no type specimen to confirm its identity, *S. parva* is also a *nomen dubium*.

► *Sterna striata* Gmelin

White-fronted Tern

Sterna striata Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 609 – New Zealand.

Sterna velox Gould, 1843: *Proc. Zool. Soc. London 1842* (10): 139 – Bass Strait. Junior primary homonym of *Sterna velox* Cretzschmar, 1827 = *Sterna bergii velox* Cretzschmar, 1827.

Sterna frontalis G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds* 1(8): 9, pl. 20 – New Zealand.

Sterna melanorhyncha Gould, 1848: *Birds of Australia* 7(36): pl. 26 – Tasmania. Junior secondary homonym of *Sternula melanorhyncha* Lesson, 1847.

Sterna albifrons Peale, 1848: *U.S. Expl. Exped.* 8: 279, 337 – Bay of Islands. Junior secondary homonym of *Sternula albifrons* Pallas, 1764.

Sterna atripes Ellman, 1861: *Zoologist* 19: 7473 – New Zealand.

Sterna longipennis; Finsch 1867, *Journ. für Ornith.* 15: 339, 347. Not *Sterna longipennis* Nordmann, 1835.

Sterna longipennis Nordon (sic); Potts 1882, *Out in the Open*: 216. Not *Sterna longipennis* Nordmann, 1835.

Sterna bethunei Buller, 1896: *Trans. Proc. N.Z. Inst.* 28: 349 – Auckland Islands. Not *Sterna bethunei* Travers, 1896.

Sterna striata incerta Mathews, 1912: *Novit. Zool.* 18(3): 208. Unnecessary *nomen novum* for *Sterna melanorhyncha* Gould, 1848.

Sterna striata christopheri Mathews, 1912: *Novit. Zool.* 18(3): 209 – Point Cloates, Western Australia.

Sterna striata striata Gmelin; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 244.

Sterna striata bethunei Buller; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 244. Not *Sterna bethunei* Travers, 1896.

Sterna striata yorkei Mathews, 1914: *Austral Avian Rec.* 2: 86 – Cape York, Queensland, Australia.

Sterna striata melanorhyncha Gould; Mathews 1927, *Syst. Avium Australasianarum* 1: 139.

Sterna striata aucklandornis Mathews, 1929: *Bull. Brit. Ornith. Club* 50: 19. Unnecessary *nomen novum* for *Sterna bethunei* Buller, 1896.

Sterna striata Gmelin; Checklist Committee 1953, *Checklist N.Z. Birds*: 51.

Breeds abundantly from Northland (not Manawatāwhi/Three Kings Islands) to Stewart Island/Rakiura and at the Chatham and Auckland Islands; small numbers on some islands in Bass Strait (Higgins & Davies 1996, Taylor 2000a). A rare visitor to Norfolk (Hermes *et al.* 1986), Snares/Tini Heke (Miskelly *et al.* 2001a), Campbell/Motu Ihupuku and Macquarie Islands (Higgins & Davies 1996). Part of the New Zealand population, including many immature birds, migrates to south-east Australia (Hindwood 1946, Clark & Dawson 1957, Serventy *et al.* 1971, Powlesland & Powlesland 1994b, Higgins & Davies 1996). Taylor (2000a) recognised *Sterna striata aucklandornis* as breeding at Chatham and Auckland Islands and the distinctiveness of this subspecies is worthy of further investigation (Higgins & Davies 1996). Fossil and midden records from North, South and Chatham Islands (Checklist Committee 1990, Millener 1991); one Late Pleistocene record (Worthy & Grant-Mackie 2003).

▶ *Sterna vittata* Gmelin

Antarctic Tern

Sterna vittata Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 609 – Christmas Harbour, Kerguelen Island, south Indian Ocean.

Circumpolar; five subspecies recognised following Higgins & Davies (1996) but variation between races needs clarification.

Sterna vittata bethunei Travers

New Zealand Antarctic Tern

Sterna bethunei Travers, 1896: in Buller, *Trans. Proc. N.Z. Inst.* 28: 348 – Bounty Islands.

Sterna vittata; Buller 1905, *Suppl. Birds N.Z.* 1: 158. Not *Sterna vittata* Gmelin, 1789.

Sterna vittata bollonsi Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 244 – Subantarctic Islands of New Zealand.

Sterna vittata macquariensis Falla, 1937: *BANZARE Reports, ser. B*, 2: 260 – Macquarie Island.

Sterna vittata bethunei Buller [sic]; Checklist Committee 1953, *Checklist N.Z. Birds*: 51.

Breeds at Stewart Island/Rakiura (Port Pegasus/Pikihaiti) and its outliers (including Stage, Rerewhakaupoko/Solomon and Moggly Islands) and subantarctic islands: Snares/Tini Heke, Antipodes, Bounty, Auckland, Campbell/Motu Ihupuku and Macquarie (Blackburn 1965, Higgins & Davies 1996, Sagar *et al.* 2003). Has probably straggled to the Chatham Islands (Bell & Bell 2002). Fossil bones of this species, and/or of *Sterna paradisaea*, have been found in Chatham Island dunes (Checklist Committee 1990, Millener 1991).

▶ *Sterna paradisaea* Pontoppidan

Arctic Tern

Sterna Paradisaea Pontoppidan, 1763: *Danske Atlas* 1: 622 – no locality = Christiansø Island, off Bornholm, Denmark (*vide* Brünnich 1764, *Ornithologia Borealis*: 46).

Sterna macrura Naumann, 1819: *Isis von Oken*, Heft 3: col. 1847 – Nordstrand Island, Schleswig-Holstein, Germany.

Sterna paradisaea [sic]; Stidolph 1932, *Emu* 31: 233.

Sterna paradisaea Pontoppidan; Checklist Committee 1953, *Checklist N.Z. Birds*: 51.

Sterna macrura Naumann; Oliver 1955, *New Zealand Birds*, 2nd edition: 334.

Circumpolar, breeding in arctic and subarctic regions; strongly migratory, using two main routes to Antarctica (including the Ross Sea) by the eastern Atlantic and eastern Pacific Oceans; return routes less clearly defined (Storr 1958, Higgins & Davies 1996). No subspecies recognised here. First recorded in New Zealand at Waikanae in 1929 (Wodzicki 1946). Probably an annual visitor; confirmed records in New Zealand from Oct. to Jun., most commonly in Nov. (Latham 1979, Sibson 1982, Higgins & Davies 1996, Scofield 2005a). Records include Chatham (Imber 1994), Snares/Tini Heke (Miskelly *et al.* 2001a), Antipodes (Tennyson *et al.* 2002), Auckland, Campbell/Motu Ihupuku and Macquarie Islands (Higgins & Davies 1996). Kinsky (1969) considered that all Campbell Island/Motu Ihupuku records may refer to antarctic terns. A banded juvenile from Sweden was found dead on Stewart Island/Rakiura in Dec. 2003 (Morgan 2004). Fossil bones of this species, and/or *Sterna vittata*, have been found in Chatham Island dunes (Checklist Committee 1990, Millener 1991).

► ***Sterna hirundo* Linnaeus**

Common Tern

Sterna Hirundo Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 137 – Europe, restricted to Sweden (fide Peters 1934, *Check-list Birds World* 2: 332).

Breeds in eastern North America and across temperate Eurasia, both on the coast and inland; strongly migratory on a broad front. Three subspecies recognised (Higgins & Davies 1996): *S. h. hirundo* Linnaeus (breeds eastern North America, Caribbean, Europe, North and West Africa and Middle East east to western Siberia), *S. h. longipennis* Nordmann (breeds east Siberia to north-east China, non-breeding areas from South-east Asia to New Guinea and Australasia) and *S. h. tibetana* Saunders, 1876 (breeds Asia, in the region of western China).

***Sterna hirundo longipennis* Nordmann**

Eastern Common Tern

Sterna longipennis Nordmann, 1835: in A. Erman, *Verz. Thieren Pflanzen.*: 17 – Mouth of Kukhtuy River, Okhotsk, eastern Siberia.

Sterna hirundo longipennis Nordmann; Checklist Committee 1990, *Checklist Birds N.Z.*: 168.

A regular migrant to the east coast of Australia (Blakers *et al.* 1984, Higgins & Davies 1996) but not recognised with certainty in New Zealand until three sightings in 1984 (Pukerua Bay and Waikanae River mouth in Jan. and the Rangitaiki River mouth in Apr.; Latham 1986, Guest 1992). Since then, sightings have been reported most years: 1985–98, Waikanae (Higgins & Davies 1996, Tennyson 2000); 1987–89, Tauranga Harbour (Higgins & Davies 1996, Chudleigh 1998); 1987–2004, Manawatu River estuary (Moore 1991; Higgins & Davies 1996; Saville 1999; Medway 2001a, 2003a; Rare Birds Committee 2005); 1989, Tarawera River mouth; 1990, lakes and beach near Pouto; 1994, Pukerua Bay (Higgins & Davies 1996, Tennyson 1996a); 1995, estuary of the Ashley River/Rakahuri (only South Island record; Medway 2002g); 1996 and 2007, Kaipara Harbour (Johnson 1997, Anon. 2007d); 1996, Mataitai (Habraken 1997); 1999, Rangaunu Harbour (Medway 2000b); 1999, Papakanui Spit (Pulham 2000); 2001, Raglan (Medway 2002g); 2002, Miranda (Habraken 2002); 2003, Hawke's Bay (Medway 2004b); 2004, Lake Omapere (Rare Birds Committee 2005); 2004, Kapiti Island (Scofield 2005a); 2006, Whatipu (Phillips 2006); 2006, mouth of the Ashburton River/Hakateru (Anon. 2006c); 2006, Waiuku; 2006, Rakaia River mouth (Anon. 2007c); 2006–07, Bay of Plenty (Cuming 2007).

► ***Sterna bergii* Lichtenstein****Crested Tern**

Sterna bergii Lichtenstein, 1823: *Verzeich. Doubl., Berlin*: 80 – Cape of Good Hope, South Africa.

Thalasseus bergii (Lichtenstein); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 26, 144.

Sterna bergii cristata is thought to be the subspecies reaching New Zealand (Turbott 1952). It breeds in South-east Asia, Indonesia, Australia, western and central Pacific east to the Tuamotu Archipelago. Extralimital subspecies are: *S. b. bergii* Lichtenstein, breeds in Namibia and South Africa; *S. b. thalassina* Stresemann, 1914, breeds in Tanzania; and *S. b. velox* Cretzschmar, 1827, breeds in the Red Sea, Persian Gulf and Indian Ocean (Higgins & Davies 1996).

Sterna bergii cristata* Stephens*Crested Tern**

Sterna cristata Stephens, 1826: in G. Shaw, *General Zool.* 13(1): 146 – China and many of the southeastern islands of Asia, restricted to China (*vide* Peters 1934, *Check-list Birds World* 2: 342).

Sterna poliocerca Gould, 1837: *Proc. Zool. Soc. London 1837* (5): 26 – “in terrâ Van Diemen” = Tasmania, Australia.

Sterna rectirostris Peale, 1848: *U.S. Expl. Exped.* 8: 281, pl. 75, fig. 2 – Fiji Islands.

Sterna poliocerca Gould; G.R. Gray 1862, *Ibis* 4: 249.

Thalasseus bergii rectirostris (Peale); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 243.

Thalasseus bergii cristatus (Stephens); Mathews 1927, *Syst. Avium Australasianarum* 1: 137.

Thalassius [sic] *bergii*; Marples 1946, *New Zealand Bird Notes* 1 (Suppl.): 5. Not *Sterna bergii* Lichtenstein, 1823.

Sterna bergii cristata Stephens; Turbott 1952, *Rec. Auck. Inst. Museum* 4: 189.

Sterna bergii poliocerca Gould; Condon 1975, *Checklist Birds Australia* 1: 156.

Sterna bergii; Checklist Committee 1990, *Checklist Birds N.Z.*: 168. Not *Sterna bergii* Lichtenstein, 1823.

A vagrant to the New Zealand region: 1910, Kermadec Islands; 1951, Spirits Bay; 1960, Farewell Spit; 1974, Firth of Thames; 1981, Napier; 1981–95, Wellington Harbour and west coast (Higgins & Davies 1996); 1985, Kaikoura (Fennell 1986); 1993, Norfolk Island (Moore 1999); 1995, Manawatu River estuary (Medway 2000a); 1995, Washdyke Lagoon (Canterbury; southernmost record; Medway 2000a); 1995–97, near New Plymouth (Jowett 1997; Medway 1997, 2001a; Medway & Hartley 1998; Hartley 2000; Tennyson & Taylor 2000); and 2002, Wellington Harbour (Howell & Esler 2007).

Order **COLUMBIFORMES**: Pigeons and Doves

Suborder **COLUMBAE**: Pigeons and Doves

Family **COLUMBIDAE** Illiger: Pigeons and Doves

Columbini Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 243 – Type genus *Columba* Linnaeus, 1758.

Recent classifications of pigeons (e.g. del Hoyo & Sargatal 1997) usually divide the family into five subfamilies: Columbinae Illiger, 1811 (mainly seed-eating pigeons); Treroninae G.R. Gray, 1840 (fruit-eating pigeons); Gourinae G.R. Gray, 1840 (crowned pigeons); and the monotypic Otidiphapinae Verheyen, 1957 (pheasant pigeon) and Didunculinae G.R. Gray, 1848 (Samoan tooth-billed pigeon). The dodo and solitaire, often distinguished as the family Raphidae Wetmore, 1930, should be included within Columbidae (e.g. Kitchener 1993). Recent molecular studies by Johnson & Clayton (2000), Johnson *et al.* (2001) and Shapiro *et al.* (2002) show that all these taxa form a monophyletic clade, but do not support the division into the above subfamilies. Here we follow the generic order given by del Hoyo & Sargatal (1997). As both the ordinal status and subfamilial groupings are only partly supported by recent molecular work, future revisions of pigeon higher taxonomy are likely. For this reason we refrain from using subfamilial groupings.

Gray (1862: 232) listed *Phaps picata* (Latham, 1802) (= *Leucosarcia melanoleuca* (Latham, 1802), wonga pigeon) and *Phaps chalcoptera* (Latham, 1790) (= common bronzewing) from Norfolk Island. These species records have not been substantiated by specimens or by subsequent records of the same species on that island, so we have omitted them from the Norfolk Island list.

Genus **Ptilinopus** Swainson

Ptilinopus Swainson, 1825: *Zoological Journal* 1: 473 – Type species (by monotypy) *Ptilinopus purpuratus* var. *regina* Swainson.

Lamprotreron Bonaparte, 1854: *Consp. Gen. Avium* 2: 17 – Type species (by original designation) *Columba superba* Temminck.

Reginopus Mathews, 1913: *Austral Avian Rec.* 2: 73 – Type species (by original designation) *Ptilinopus ewingii* Gould.

► ***Ptilinopus regina*** Swainson

Red-crowned Fruit-dove

Ptilinopus purpuratus var. *regina* Swainson, 1825: *Zoological Journal* 1: 474 – New South Wales, Australia.

Ptilinopus swainsonii Gould, 1842: *Birds of Australia* 5: text to pl. 55 – Clarence River, New South Wales, Australia.

Ptilinopus regina yorki Mathews, 1922: *Austral Avian Rec.* 5: 1 – Cape York, Queensland, Australia.

Ptilinopus regina regina Swainson; Condon 1975, *Checklist Birds Australia* 1: 162.

Ptilinopus regina Swainson; Hermes *et al.* 1986, *Notornis* 33: 149.

Ptilinopus (Ptilinopus) regina regina Swainson; Schodde 1997, *Zool. Cat. Australia* 37.2: 57.

Australia: islands in Torres Strait, and from Cape York to north New South Wales, including islands off east Queensland. Migratory or nomadic. One record in Norfolk Island, 13 Sep. 1980 (Hermes *et al.* 1986).

Genus **Columba* Linnaeus

Columba Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 162 – Type species (by subsequent designation) *Columba oenas* Linnaeus.

▶ **Columba livia* Gmelin

Rock Pigeon

Columba domestica β *livia* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 769 – south Europe.

Columba livia Gmelin; Checklist Committee 1953, *Checklist N.Z. Birds*: 53.

Europe, North Africa and west Asia. Domestic forms brought to New Zealand in the early days of European settlement have become feral in most cities and major towns. In rural areas, widespread, mainly in low-rainfall zones of Hawke's Bay, Marlborough, Canterbury and Otago. It was a well-established, and numerous, breeding species on Norfolk Island by Mar. to Apr. 1825 (Backhouse 1843: 257, 264)—not 1838, as stated by Higgins & Davies (1996: 840).

Genus **Streptopelia* Bonaparte

Streptopelia Bonaparte, 1855: *Compt. Rend. Séa. Acad. Sci., Paris* 40: 17 – Type species (by subsequent designation) *Columba risoria* Linnaeus = *Streptopelia risoria* (Linnaeus, 1758).

▶ **Streptopelia risoria* (Linnaeus)

Barbary Dove

Columba risoria Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 165 – India.

Columbam roseogriseam Sundevall, 1857: *Kungl. Svenska Vetenskapskad. Handl.* 2(1): 54 – Nubia, Sudan.

Turtur risorius (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 64.

Streptopelia 'risoria' (Linnaeus); Goodwin 1970, *Pigeons Doves World*: 117.

Streptopelia roseogrisea (Sundevall); Checklist Committee 1990, *Checklist Birds N.Z.*: 173.

Streptopelia 'risoria' (Linnaeus); Higgins & Davies 1996, *HANZAB* 3: 864.

Streptopelia risoria (Linnaeus); ICZN 2008, *Bull. Zool. Nomenclature* 65(4): 327.

North Africa, Arabian Peninsula. This is the domesticated form, also known as ring dove. In New Zealand: first introduced to Nelson, in 1867, and later to Canterbury and Dunedin (Thomson 1922). Since about 1970, there have been feral populations at various places in the North Island from Northland to the Wairarapa. Presently in isolated locations and rare, though reported as locally common about Kerikeri, Auckland and in the Hawke's Bay. The Masterton population established in the 1970s (Stidolph 1974b) did not persist (Heather & Robertson 1996). A few recent South Island sightings (Robertson, C. *et al.* 2007).

▶ **Streptopelia chinensis* (Scopoli)

Spotted Dove

Columba chinensis Scopoli, 1786: *Delic. Flor. Faun. insubr.* 2: 94 – Canton, China.

South-east Asia from India to south China and Indonesia. Introduced to Australia, New Zealand, New Britain, Fiji, Hawai'i, California, and Mauritius.

**Streptopelia chinensis tigrina* (Temminck)

Spotted Dove

Columba Tigrina Temminck, 1810: *in* P. Knip & J.C. Temminck, *Les Pigeons, les Colombes*: 94, pl. 43 – Java and Timor, Indonesia.

Turtur tigrinus minor Parrot, 1907: *Abh. Kl. Bayer Akad. Wiss.* 24(1): 275 – Sumatra, Indonesia.

Streptopelia chinensis tigrina (Temminck); Checklist Committee 1953, *Checklist N.Z. Birds*: 53.

Bangladesh, Burma, South-east Asia. A common cage-bird introduced to New Britain, Fiji, and parts of Australia. Feral in Auckland since the 1920s, and steadily expanding its range. Now firmly established in the greater Auckland area from Warkworth to Firth of Thames, and in the Whangarei and Bay of Plenty areas (Heather & Robertson 1996; Robertson, C. *et al.* 2007).

Genus *Chalcophaps* Gould

Chalcophaps Gould, 1843: *Birds of Australia* 5(13): pl. 62 – Type species (by monotypy)

Columba chrysochlora Wagler = *Chalcophaps indica* (Linnaeus).

Monornis Hodgson, 1844: in J.E. Gray, *Zool. Miscell.*: 85 – Type species (by monotypy)

Monornis perpulchra Hodgson = *Chalcophaps indica* (Linnaeus).

► *Chalcophaps indica* (Linnaeus)

Emerald Dove

Columba indica Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 164 – Ambon, Indonesia.

A polytypic species with about seven forms in Australia, New Caledonia and Vanuatu, through to New Guinea, Philippines, South-east Asia, China and India. Two Australian forms extralimital to this checklist: *Ch. i. longirostris* Gould, 1848—Western Australia and Northern Territory; and *Ch. i. natalis* Lister, 1888—Christmas Island.

Chalcophaps indica rogersi Mathews

Emerald Dove

Chalcophaps chrysochlora rogersi Mathews, 1912: *Novit. Zool.* 18(3): 187 – Cairns, North Queensland, Australia.

Chalcophaps chrysochlora kempi Mathews, 1912: *Novit. Zool.* 18(3): 187 – Cape York, North Queensland, Australia.

Chalcophaps chrysochlora; Wakelin 1968, *Notornis* 15: 170. Not *Columba chrysochlora* Wagler, 1827.

Chalcophaps indica chrysochlora; Condon 1975, *Checklist Birds Australia* 1: 169. Not *Columba chrysochlora* Wagler, 1827.

Chalcophaps indica rogersi Mathews; Schodde 1997, *Zool. Cat. Australia* 37.2: 27.

Eastern Australia, New Guinea and Lord Howe Island. Widespread on Norfolk Island, having probably colonised in late 19th or early 20th Century (Higgins & Davies 1996). Holocene fossil bones reported by Meredith (1991) from Nepean Island, an islet 1 km from Norfolk Island.

Genus *Galllicolumba* Heck

Galllicolumba Heck, 1849: *Bilder, Atlas zum Conversations, Lexikon* 1: 434 – Type species (by monotypy) *Columba luzonica* Scopoli = *Galllicolumba cruenta* (Gmelin).

Pleogena Reichenbach, 1851: *Novit. Synop. Avium* 6(227): pl. 2479 – Type species (by original designation) *Columba luzonica* Scopoli = *Galllicolumba cruenta* (Gmelin).

Pampusanna Pucheran, 1853: in Dumont d'Urville, *Voyage Pôle Sud, Zoologie* 3: 118 – Type species (by subsequent designation) *Peristera criniger* Reichenbach = *Galllicolumba criniger* (Reichenbach).

► †*Galllicolumba norfolciensis* (Latham)

Norfolk Island Ground Pigeon

Columba Norfolciensis Latham, 1802: *Index Ornith. Suppl.*: lx – Norfolk Island.

? *Carpophaga norfolciensis* (Latham); G.R. Gray 1862, *Ibis* 4: 232.

Galllicolumba norfolciensis (Latham); Holdaway & Anderson 2001, *Rec. Austr. Museum, Suppl.* 27: 96.

Endemic to Norfolk Island. Based on a 1790 painting by John Hunter and references in correspondence, 1788–90. Extinct since about 1800 (Higgins & Davies 1996: 969).

Holocene fossil *Gallicolumba* bones have been referred to this species (Rich *et al.* 1983, Meredith 1991, Holdaway & Anderson 2001).

Genus *Hemiphaga* Bonaparte

Hemiphaga Bonaparte, 1854: *Compt. Rend. Séa. Acad. Sci., Paris* 39: 1076 – Type species (by original designation) *Columba novaeseelandiae* Gmelin = *Hemiphaga novaeseelandiae* (Gmelin).

► *Hemiphaga novaeseelandiae* (Gmelin)

New Zealand Pigeon

Columba novae Seelandiae Gmelin, 1789: *Syst. Nat., 13th edition* 1(2): 773. Based on the “New Zealand Pigeon” of Latham 1783, *Gen. Synop. Birds* 2(2): 640 – Dusky Sound, Fiordland.

Columba zealandica Latham, 1790: *Index Ornith.* 2: 603 – New Zealand.

Columba argetraea J.R. Forster, 1794: *Mag. merkwürdigen neuen Reise Beschreibungen* 11(3): 313, footnote – New Zealand and Norfolk Island, restricted to Dusky Sound, Fiordland (*vide* Steinheimer *et al.* 2008, *Notornis* 55(1): 35).

Columba argetraea J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 80 – South Island. Junior primary homonym of *Columba argetraea* J.R. Forster, 1794.

Hemiphaga novae-zealandiae (Gmelin); Bonaparte, 1854: *Compt. Rend. Séa. Acad. Sci., Paris* 39: 1077. Unjustified emendation.

Columba Novae-Zealandiae Gmelin; Ellman 1861, *Zoologist* 19: 7467. Unjustified emendation.

Carpophaga novae zealandiae (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 157. Unjustified emendation.

Carpophaga Novae Zealandiae (Gmelin); Buller 1876, *Trans. Proc. N.Z. Inst.* 8: 196. Unjustified emendation.

Carpophaga novae-zealandiae (Gmelin); Buller 1896, *Trans. Proc. N.Z. Inst.* 28: 347. Unjustified emendation.

Hemiphaga novaeseelandiae novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 53.

Hemiphaga novaeseelandiae (Gmelin); Holdaway, Worthy & Tennyson 2001, *New Zealand Journ. Zool.* 28(2): 134, 179.

New Zealand: North and South Islands, Stewart Island/Rakiura, and most of the large offshore islands. Common and widespread in native forests and remnants throughout range, including suburban areas. Holocene fossil and midden records from numerous sites. A 19th-Century report of large pigeons on Raoul Island, Kermadec Group (Cheeseman 1891), has been supported by the recent discovery of a bone in Polynesian middens, which was referred to *H. novaeseelandiae* (Worthy & Brassey 2000).

► *Hemiphaga chathamensis* (Rothschild)

Chatham Island Pigeon

Carpophaga chathamensis Rothschild, 1891: *Proc. Zool. Soc. London 1891* (21): 312, pl. 28 – Chatham Island.

Carpophaga chathamica Forbes, 1892: *Nature* 46: 252 – Chatham Islands.

Carpophaga chathamensis Rothschild; Buller 1896, *Trans. Proc. N.Z. Inst.* 28: 348. Unjustified emendation.

Hemiphaga chathamensis (Rothschild); Buller 1905, *Suppl. Birds N.Z.* 1: 41.

Hemiphaga Chathamensis (Rothschild); Hamilton 1909, *Hand-list Birds New Zealand*: 3.

Hemiphaga novaeseelandiae chathamensis (Rothschild); Checklist Committee 1953, *Checklist N.Z. Birds*: 53.

Chatham Islands: originally on Chatham, Mangere and Pitt Islands, but now breeding only on Chatham (Aikman & Miskelly 2004). Common as a Holocene fossil on Chatham, Mangere and Pitt Islands (Millener 1999, Tennyson & Millener 1994).

Abundant in middens on Chatham Island (Sutton & Marshall 1977, Marshall *et al.* 1987). Differences in plumage and skeletal morphology, compared to mainland birds, support the original species status of the Chatham Islands population (Higgins & Davies 1996, Millener & Powlesland 2001).

▶ †***Hemiphaga spadicea*** Latham

Norfolk Island Pigeon

Columba spadicea Latham, 1802: *Index Ornith. Suppl.*: lx, n° 7 – Norfolk Island.

Columba gigas Ranzani, 1821: *Elementi Ornitologia, in Elementi Zoologia* 3(1): 223. Unnecessary *nomen novum* for *Columba spadicea* Latham, 1802.

Columba leucogaster Wagler, 1827: *Syst. Avium, Columba*: sp. 12. Unnecessary *nomen novum* for *Columba spadicea* Latham, 1802.

Columba princeps Vigors, 1833: *Proc. Zool. Soc. London 1833* (1): 78 – Australia, restricted to Norfolk Island.

Carpophaga spadicea (Latham); G.R. Gray 1862, *Ibis* 4: 232.

Hemiphaga novaeseelandiae spadicea (Latham); Mathews 1913, *List Birds Australia*: 326.

Hemiphaga argetraea (J.R. Forster); Iredale 1937, *Emu* 37: 99. Not *Columba argetraea* J.R. Forster, 1794.

Hemiphaga spadicea (Latham); Holdaway, Worthy & Tennyson 2001, *New Zealand Journ. Zool.* 28(2): 134, 179.

Norfolk Island. Extinct about 1839, the last recorded sightings being an account by Best of taking three “wood quests” as they were called, two on 1 Nov. 1838 and one on 21 Mar. 1839 (Taylor, N.M. 1966). Moore (1985b) assumed that Best’s references to “pigeon”, “wood pigeon” and “wood quest” all related to *H. spadicea* and so reported that 17 hunting expeditions killed 72 birds between 1838 and 1840. Attributing all three kinds of pigeons named by Best to *H. spadicea* is untenable as it is known that the rock pigeon (*Columba livia*) had become well-established and numerous as a breeding species on the island by the time the second penal settlement commenced there in 1825 (Backhouse 1843). Differences in plumage from *H. novaeseelandiae* support the distinction of the Norfolk Island pigeon at species level (Salvadori 1893, Mathews 1936b, Higgins & Davies 1996).

Columba argetraea J.R. Forster, 1794, described from New Zealand and Norfolk Island, was restricted to a junior synonym of *Hemiphaga novaeseelandiae* by Steinheimer *et al.* (2008).

Order PSITTACIFORMES: Cockatoos, Parrots and Parakeets

New molecular data and analyses support a view that the two subfamilies Strigopinae and Nestorinae form a single clade sister to all other Recent members of the order Psittaciformes (e.g. de Kloet & de Kloet 2005, Astuti *et al.* 2006, Tokita *et al.* 2007, Wright *et al.* 2008). They therefore need to be put in a family of their own (rather than in Psittacidae, e.g. Checklist Committee 1990) placed ahead of Cacatuidae in the systematic list. The name Strigopidae G.R. Gray, 1848 has priority.

Family STRIGOPIDAE: Kakapo and Allies

Subfamily STRIGOPINAE: Kakapo

Strigopinae G.R. Gray, 1848: *List Specimens Birds Brit. Mus.* (2nd edition) 1: 101 – Type genus *Strigops* G.R. Gray, 1845.

Genus *Strigops* G.R. Gray

Strigops G.R. Gray, 1845: *Gen. Birds* 2: 426 – Type species (by monotypy) *Strigops habroptilus* Gray.

Strigopsis Bonaparte, 1849: *Consp. Gen. Avium* 1: 8. Unnecessary *nomen novum* for *Strigops* G.R. Gray, 1845.

Stringopsis van der Hoeven, 1855: *Handl. Dierk.* (2nd edition) 2: 692. Unjustified emendation.

Stringops Finsch, 1867: *Papageien*. 1: 233, 241. Unjustified emendation.

► *Strigops habroptilus* G.R. Gray

Kakapo

Strigops habroptilus G.R. Gray, 1845: *Gen. Birds* 2: 427 – Dusky Sound, Fiordland.

Strigopsis habroptilus (G.R. Gray); Bonaparte 1849, *Consp. Gen. Avium* 1: 8.

Strigops greyii G.R. Gray, 1862: *Ibis* 4: 230 – South Island.

Stringops (Strigops) habroptilus (G.R. Gray); Potts 1871, *Trans. N.Z. Inst.* 3: 90.

Stringops habroptilus G.R. Gray; Reichenow 1881, *Journ. für Ornith.* 29: 15.

Stringops Greyi G.R. Gray; Reichenow 1881, *Journ. für Ornith.* 29: 15. Unjustified emendation.

Strigops habroptilus habroptilus G.R. Gray; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 427.

Strigops habroptilus innominatus Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 427 – North Island.

Strigops habroptilus parsonsi Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 427 – north-west South Island.

New Zealand; historical and fossil records show a distribution at all altitudes throughout North and South Islands and Stewart Island/Rakiura. Its range shrank considerably before European settlement, particularly in the North Island, but it remained fairly widespread, and even abundant, in certain localities in the south and west South Island until c. 1900. After 1980 the only remaining populations, in Fiordland and Stewart Island/Rakiura, declined severely, and all remaining birds were transferred to predator-free locations: Codfish (Whenuahou), Hauturu/Little Barrier and Maud Islands (Clout & Merton 1998). Now considered extinct in the wild. Reports of fossils from the Chatham Islands are considered incorrect (Millener 1999).

Subfamily NESTORINAE: Kaka and Kea

Nestorinae Bonaparte, 1849: *Consp. Syst. Ornith.*: 1 – Type genus *Nestor* Lesson, 1830.

Genus *Nestor* Lesson

Nestor Lesson, 1830: *Traité d'Ornith.* 3: 190 – Type species (by monotypy) *Nestor novaeseelandiae* Lesson, 1830 = *Nestor meridionalis* (Gmelin).

Centrorous Swainson, 1837: *Cabinet Cyclopaedia* 92(2): 303 – Type species (by monotypy) *Psittacus australis* Shaw, 1792 = *Nestor meridionalis* (Gmelin).

Centurus Strickland, 1841: *Ann. Mag. Nat. Hist., London* 7: 34. Unjustified emendation.

Doreenia Mathews, 1930: *Bull. Brit. Ornith. Club* 50: 41 – Type species (by original designation) *Nestor notabilis* Gould.

Endemic to the New Zealand region, including Norfolk Island. Fossil bones from the Chatham Islands are of uncertain specific and subspecific status.

► *Nestor meridionalis* (Gmelin)

Kaka

New Zealand. Two subspecies have been recognised on morphological and behavioural characters (Buller 1873, Higgins 1999), but recent molecular analyses using nuclear allozyme and microsatellite loci show very little genetic differentiation between them (Huggins 2001, Sainsbury 2004).

Nestor meridionalis septentrionalis Lorenz

North Island Kaka

Nestor septentrionalis Lorenz, 1896: *Verh. zool.-bot. Ges. Wien* 46: 198 – North Island.

Nestor meridionalis septentrionalis Lorenz; Checklist Committee 1953, *Checklist N.Z. Birds*: 53.

North Island, from Mangamuka (Northland) to Rimutaka and Aorangi Ranges and on offshore islands (Hen and Chickens, Great Barrier (Aotea) and Hauturu/Little Barrier, Fanal (Motokino), Rakitu (Arid), Mayor (Tuhua) and Kapiti Islands). Straggles to isolated bush patches, sometimes to towns and cities and to other islands (e.g. Poor Knights and Mokohinau Islands). Common as a fossil throughout the North Island; common in middens, but seldom in large numbers.

Nestor meridionalis meridionalis (Gmelin)

South Island Kaka

Psittacus meridionalis Gmelin, 1788: *Syst. Nat., 13th edition* 1(1): 333. Based on the “Southern Brown Parrot” of Latham 1781, *Gen. Synop. Birds* 1: 264 – Dusky Sound, Fiordland.

Psittacus nestor Latham, 1790: *Index Ornith.* 1: 110 – Dusky Sound, Fiordland.

Psittacus australis Shaw, 1792: *Mus. Leverianum*: 87 – Dusky Sound, Fiordland.

Psittacus hypopolius J.R. Forster, 1794: *Mag. merkwürdigen neuen Reise Beschreibungen* 11(3): 313, footnote – New Zealand and Norfolk Island, restricted to Dusky Sound, Fiordland (*vide* Steinheimer *et al.* 2008, *Notornis* 55(1): 35).

Psittacus (Kakadoe) nestor Latham; Kuhl 1820, *Consp. Psittacorum*: 86.

Nestor Novae Zelandiae Lesson, 1830: *Traité d'Ornith.* 3: 191 – Dusky Sound, Fiordland.

Nestor hypopolius Wagler, 1832: *Abh. Kl. Bayer Akad. Wiss.* 1: 505, 696 – Dusky Sound, Fiordland. Junior secondary homonym of *Psittacus hypopolius* J.R. Forster, 1794.

Centrorous australis (Shaw); Swainson 1837, *Cabinet Cyclopaedia* 92(2): 303.

Psittacus hypopolius J.R. Forster, 1844: *in* M.H.C. Lichtenstein, *Descrip. Animalium*: 72 – South Island. Junior primary homonym of *Psittacus hypopolius* J.R. Forster, 1794.

Nestor australis (Shaw); G.R. Gray 1845, *Gen. Birds* 2: 426.

Nestor Hypopolius (J.R. Forster); Bonaparte 1854, *Revue Mag. Zool.* 6 (2nd series): 155.

Nestor Novae-Zelandiae Lesson; Bonaparte 1854, *Revue Mag. Zool.* 6 (2nd series): 155.

Nestor Esslingii Souancé, 1856: *Revue Mag. Zool.* 8 (2nd series): 223 – “Philips Island”, probably error for Marlborough District (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 424).

Nestor meridionalis (Gmelin); G.R. Gray, 1862: *Ibis* 4: 229.

Nestor esslingii Souancé; G.R. Gray, 1862: *Ibis* 4: 230.

Nestor superbus Buller, 1865: *Essay N.Z. Ornith.*: 11 – alpine districts of the South Island.

Nestor montanus Finsch, 1868: *Journ. für Ornith.* 16: 242 – alpine heights of the South Island.

Nestor occidentalis Buller, 1869: *Ibis* 5 (n. ser.): 40 – Westland.

Nestor meridionalis var. *esslingii* Souancé; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 152.

Nestor esslingi Souancé; Buller 1905, *Suppl. Birds N.Z.* 2: 77. Unjustified emendation.

Nestor meridionalis meridionalis (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 54.

South Island, Stewart Island/Rakiura and some offshore islands (e.g. D’Urville, Inner Chetwode, Bench, Codfish (Whenuahou) and Taukihepa/Big South Cape Islands). Chiefly west of the main divide and in Marlborough. Extends into Canterbury at lower mountain passes (e.g. Arthur’s Pass); also throughout the Southern Lakes District. An occasional straggler to coastal Canterbury and Otago. Common as a fossil throughout the South Island (Dawson 1952).

▶ †*Nestor productus* (Gould)

Norfolk Island Kaka

Plyctolophus productus Gould, 1836: *Proc. Zool. Soc. London 1836* (4): 19 – no locality = Philip Island, off Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 23).

Centurus productus (Gould); Bonaparte 1856, *Naumannia*: n° 235.

Nestor norfolcensis Pelzeln, 1860: *Sitzungsber. K. Akad. Wissen., Math.-Naturwissen. Cl., Wien* 41: 322, fig. 1 – Norfolk Island.

Nestor productus (Gould); G.R. Gray, 1862: *Ibis* 4: 230.

Nestor hypopolius; Iredale 1937, *Emu* 37: 99. Not *Psittacus hypopolius* J.R. Forster, 1794.

Extinct. Formerly endemic to Norfolk and Philip Islands—probably not Lord Howe Island (Higgins 1999). Last known specimen died in captivity in 1851.

▶ *Nestor notabilis* Gould

Kea

Nestor notabilis Gould, 1856 (26 April): *The Athenaeum* 1487: 524 – “the New Zeland [sic] group of islands”, restricted to South Island (*vide* Bruce & McAllan 1990, *Boll. Region. Sci. Natur. Torino* 8(2): 469).

Doreenia notabilis (Gould); Mathews 1930, *Bull. Brit. Ornith. Club* 50: 41.

Nestor notabilis Gould; Checklist Committee 1990, *Checklist Birds N.Z.*: 176.

South Island. High country from Fiordland to Nelson and Marlborough. Breeds chiefly above 760 m, coming down to the West Coast after heavy snow (Clarke 1970). Fossils recorded rarely at some South Island sites and abundantly at others (e.g. Oparara)—misidentification is a problem (see Worthy & Mildenhall 1989). One Pleistocene record from the North Island (Holdaway & Worthy 1993).

Family *CACATUIDAE: Cockatoos and Allies

Subfamily *CACATUINAE: White Cockatoos

Cacatuinae G.R. Gray, 1840: *List Gen. Birds* (1st edition): 53 – Type genus *Cacatua* Vieillot, 1817.

Genus **Cacatua* Vieillot

Cacatua Vieillot, 1817: *Nouv. Dict. Hist. Nat., nouv. éd.* 17: 6 – Type species (by subsequent designation) *Cacatua cristata* Vieillot, 1817 = *Cacatua alba* (Stadius Müller, 1776).

▶ ****Cacatua galerita*** (Latham)**Sulphur-crested Cockatoo**

Psittacus galeritus Latham, 1790: *Index Ornith. 1*: 109 – Turramurra, New South Wales, Australia.

Kakatoe galerita (Latham) subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 54.
Cacatua galerita (Latham); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 57.

North, east and south-east Australia, around Perth in Western Australia, Tasmania, New Guinea and islands from the Moluccas to the Bismarck and Louisiade Archipelagos. Three subspecies. Probably introduced to New Zealand by escape from captivity (Thomson 1922), but possibly self-introduced (e.g. Martin & Bartlett 1963, Waller 1959). Established in the Turakina Valley, near Wanganui, ranging to Hunterville and Marton; in the lower Waikato–Raglan area; and in the Wellington area with a few scattered records from the South Island. The subspecies of the New Zealand birds has not been identified.

Genus **Eolophus* Bonaparte

Eolophus Bonaparte, 1854: *Revue Mag. Zool. 6* (2nd series): 155 – Type species (by monotypy)
Cacatua rosea Vieillot = *Eolophus roseicapillus* (Vieillot).

▶ ****Eolophus roseicapillus*** (Vieillot)**Galah**

Cacatua roseicapilla Vieillot, 1817: *Nouv. Dict. Hist. Nat., nouv. éd. 17*: 12 – region of Shark Bay, Western Australia.

Eolophus roseicapillus (Vieillot); Higgins 1999, *HANZAB 4*: 105.

Widespread throughout continental Australia and Tasmania. Polytypic; three subspecies. Present in New Zealand as a cage-bird. Small population, presumed feral, in South Auckland (Ponui, Mangatawhiri, Bombay, Clevedon). Presumed escapees recorded elsewhere in Auckland region. The subspecies of New Zealand birds has not been determined (Higgins 1999).

Family PSITTACIDAE: Typical Parrots

Psittacini Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 195, 200 – Type genus *Psittacus* Linnaeus, 1758.

Subfamily LORIINAE: Lorikeets and Lories

Loriana Selby, 1836: *Naturalist's Library, Ornith. 6*: 57, 141 – Type genus *Lorius* Vigors, 1825.

Genus *Trichoglossus* Stephens

Trichoglossus Stephens, 1826: in G. Shaw, *General Zool. 14*(1): 129 – Type species (by subsequent designation) *Psittacus baematodus* Linnaeus = *Trichoglossus baematodus* (Linnaeus).

▶ ***Trichoglossus chlorolepidotus*** (Kuhl)**Scaly-breasted Lorikeet**

Psittacus chlorolepidotus Kuhl, 1820: *Nova Acta Acad. Caesarea Leopold.-Carol. 10*: 48 – “Nova Hollandia”, restricted to central east coast, New South Wales, Australia (*vide* Mathews 1912, *Novit. Zool. 18*(3): 259).

Trichoglossus chlorolepidotus (Kuhl); Schodde 1997, *Zool. Cat. Australia 37.2*: 132.

Eastern Australia. Single undated specimen record from Norfolk Island (National Museum of Ireland 2003.30.163; Sigwart *et al.* 2005). In 2000–01, the Department of Conservation trapped two free-living birds on the North Shore, Auckland, presumably as a result of deliberate release from captivity (Polkanov & Keeling 2002).

Subfamily PLATYCERCINAE: Rosellas and Broad-tailed Parrots

Platycercine Selby, 1836: *Natural History Parrots*: 64 – Type genus *Platycercus* Vigors, 1825.

Genus **Platycercus* Vigors

Platycercus Vigors, 1825: *Zoological Journal* 1: 527 – Type species (by original designation)

Psittacus pennantii Latham = *Platycercus elegans* (Gmelin).

► **Platycercus elegans* (Gmelin)

Crimson Rosella

Psittacus elegans Gmelin, 1788: *Syst. Nat.*, 13th edition 1(1): 318 – New South Wales, Australia.

Psittacus pennantii Latham, 1790: *Index Ornith.* 1: 90 – Botany Bay and Port Jackson, New South Wales, Australia.

Platycercus pennantii (Latham); G.R. Gray 1862, *Ibis* 4: 227.

Platycercus elegans (Gmelin); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 58.

East and south-east Australia. Polytypic, with three colour-types including seven subspecies (Higgins 1999). Birds of the crimson colour-type (subspecies *P. e. nigrescens* Ramsay, 1888 and *P. e. melanoptera* North, 1906) introduced to Wellington (c. 1963) and Otago (c. 1910 and possibly later), and to Norfolk Island before 1838, by escape from captivity (Schodde *et al.* 1983). Became established in the north-west suburbs of Wellington, and was seen regularly around the Dunedin district, where they may have partly hybridised with *P. eximius* (see Hamel 1970). Limited recent records from Wellington, Otago and elsewhere, suggest that many populations are now small or extinct. Birds introduced into the New Zealand region have not been identified to subspecific level.

► **Platycercus eximius* (Shaw)

Eastern Rosella

Psittacus eximius Shaw, 1792: *Nat. Miscell.* 3(31): text to pls 93–95 – region of Port Jackson, New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 180).

Platycercus eximius eximius (Shaw); Checklist Committee 1953, *Checklist N.Z. Birds*: 54.

Platycercus eximius (Shaw); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 58.

South-east Australia and Tasmania. Three subspecies. Introduced to New Zealand by escape from captivity. Well established in settled districts, native forests and forest remnants throughout Northland, Auckland, Waikato, King Country, western Bay of Plenty, Rotorua and Taupo (Robertson, C. *et al.* 2007) as part of a gradual southward spread (Wright & Clout 2001). Also (mainly at edge of forest remnants and in adjacent farmland) in Wairarapa, Waikanae, Upper Hutt Valley and Otago (between Waikouaiti River and Waipori River gorge); isolated records elsewhere. New Zealand birds have not been identified to subspecific level.

Genus *Cyanoramphus* Bonaparte

Cyanoramphus Bonaparte, 1854: *Revue Mag. Zool.* 6 (2nd series): 153 – Type species (by subsequent designation) *Cyanoramphus zealandicus* (Latham, 1790).

Cyanoramphus Sclater, 1858: *Journ. Linn. Soc. London, Zoology* 2: 164. Unjustified emendation.

Bulleria Iredale & Mathews, 1926: *Bull. Brit. Ornith. Club* 46: 76 – Type species (by original designation) *Platycercus unicolor* Lear = *Cyanoramphus unicolor* (Lear).

For general discussion of speciation in the genus see Taylor (1985), Boon, Daugherty *et al.* (2001), Kearvell *et al.* (2003) and Rawlence (2006). Identifications for fossil bones

of *Cyanoramphus* are tentative because most bones (particularly isolated ones) cannot be reliably assigned to species due to overlap in size.

► ***Cyanoramphus cookii* (G.R. Gray)** **Norfolk Island Parakeet**

Platycercus Cookii G.R. Gray, 1859: *List Specimens Birds Brit. Mus. Psittacidae* 3(2): 13 – “New Zealand”, error for Norfolk Island (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 146). *Nomen protectum* (*vide* Schodde, Bock & Steinheimer 2007, *Bull. Brit. Ornith. Club* 127(4): 275).

Platycercus rayneri G.R. Gray, 1862: *Ibis* 4: 228 – Norfolk Island.

Platycercus cooki G.R. Gray; G.R. Gray, 1862: *Ibis* 4: 228. Unjustified emendation.

Cyanoramphus novae-zeelandiae Rayneri (G.R. Gray); Reichenow 1881, *Journ. für Ornith.* 29: 42.

Cyanoramphus cooki (G.R. Gray); Rothschild 1893, *Proc. Zool. Soc. London* 1893 (35): 530. Unjustified emendation.

Cyanoramphus magnirostris Forbes & Robinson, 1897: *Bull. Liverpool Mus.* 1: 21 – “Tahiti”, error for Norfolk Island (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 146).

Cyanoramphus verticalis; Wakelin 1968, *Notornis* 15: 171. Not *Psittacus verticalis* Latham, 1802.

Cyanoramphus novaezeelandiae verticalis; Moore 1981, *Notornis* 28: 55. Not *Psittacus verticalis* Latham, 1802.

Cyanoramphus novaezeelandiae cookii (G.R. Gray); Schodde 1997, *Zool. Cat. Australia* 37.2: 146.

Cyanoramphus cookii (G.R. Gray); Juniper & Parr 1998, *Guide to Parrots of the World*: 110, 354, pl. 36, fig. 141.

Cyanoramphus cooki (G.R. Gray); Boon *et al.* 2001, *Emu* 101: 113. Unjustified emendation.

Norfolk Island. Until recently listed as subspecies of *C. novaezeelandiae* (Schodde 1997a), but later recognised as a full species by Juniper & Parr (1998) supported by DNA-DNA hybridisation data (Sibley & Ahlquist 1990); now confirmed by phylogenetic analyses of mtDNA sequences by Boon *et al.* (2000) and Boon, Daugherty *et al.* (2001).

► ***Cyanoramphus novaezeelandiae* (Sparrman)** **Red-crowned Parakeet**

Lord Howe Island, New Zealand (including Kermadec, Chatham and Auckland Islands). Recent taxonomic revision based on molecular phylogenetic analysis of mtDNA Control Region sequences has reduced the number of recognised subspecies from eight to five: *C. n. subflavescens* Salvadori, 1891 (Lord Howe Island, extinct) and the four subspecies listed below. The closely related taxa *C. saisseti* Verreaux & Des Murs, 1860 (New Caledonia), *C. cookii* (Norfolk Island) and *C. hochstetteri* (Antipodes Island) are now recognised as full species based on diagnostic nucleotide characters (Boon, Daugherty *et al.* 2001; Boon, Kearvell *et al.* 2001).

***Cyanoramphus novaezeelandiae cyanurus* Salvadori** **Kermadec Parakeet**

Cyanoramphus cyanurus Salvadori, 1891: *Ann. Mag. Nat. Hist., London* 7 (6th ser.): 68 – Raoul Island, Kermadec group.

Cyanoramphus novaezeelandiae cyanurus Salvadori; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 425.

Kermadec Islands: Raoul Island, Herald Islets and Macauley Island. Recent molecular analyses by Rawlence (2006) showed this taxon to form a distinct clade within the general group of *C. novaezeelandiae* taxa and with minimal separation from other *C. novaezeelandiae* subspecies. Data in the above source point towards diagnostic morphological and genetic differences between the Raoul, Herald and Macauley populations. Nonetheless, it has

been retained here as the unitary, but polytypic, subspecies *C. n. cyanurus*, pending publication of further information.

Cyanoramphus novaezelandiae novaezelandiae (Sparrman) **Red-crowned Parakeet**

Psittacus Novae Zelandiae Sparrman, 1787: *Mus. Carlsonianum* 2: n° XXVIII, pl. 28 – Dusky Sound, Fiordland.

Psittacus pacificus Gmelin, 1788: *Syst. Nat., 13th edition* 1(1): 329. Based on the “Pacific Parrot” of Latham 1781, *Gen. Synop. Birds* 1: 252 – Dusky Sound, Fiordland.

Lathamus Sparmanii Lesson, 1831: *Traité d’Ornith.* 1: 206 – Dusky Sound, Fiordland.

Pezoporus novae zeelandiae (Sparrman); Voigt 1831, in F. Cuvier, *Thierreich* 1: 750. Unjustified emendation.

Platycercus Novae Seelandiae (Sparrman); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 192. Unjustified emendation.

Psittacus pacificus J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 73 – South Island. Junior primary homonym and synonym of *Psittacus pacificus* Gmelin, 1788.

Cyanoramphus Pacificus (J.R. Forster); Bonaparte 1854, *Revue Mag. Zool.* 6 (2nd series): 153. Not *Psittacus pacificus* Gmelin, 1788.

Cyanoramphus Novae-Zelandiae (Sparrman); Bonaparte 1854, *Revue Mag. Zool.* 6 (2nd series): 153.

Cyanoramphus aucklandicus Bonaparte, 1856: *Naumannia* 6: 190 – New Zealand.

Platycercus novaeguineae G.R. Gray, 1859: *List Specimens Birds Brit. Mus. Psittacidae* 3(2): 14 – “New Guinea”, error for Dusky Sound, Fiordland (*vide* Mathews 1944, *Emu* 43: 245).

Platycercus Novae-Zelandiae (Sparrman); Ellman 1861, *Zoologist* 19: 7467. Unjustified emendation.

Platycercus pacificus (Gmelin); G.R. Gray 1862, *Ibis* 4: 228.

Platycercus aucklandicus (Bonaparte); G.R. Gray 1862, *Ibis* 4: 229.

Coriphilus Novae-Zelandiae (Sparrman); Schlegel 1864, *De Dierentuin*: 77. Unjustified emendation.

Euphema novae zeelandiae (Sparrman); Schlegel 1864, *Psittaci. Mus. d’Histoire Naturelle Pays-Bas*: 105. Unjustified emendation.

Platycercus Forsteri Finsch, 1868: *Papageien* 2: 287. *Nomen novum* for *Psittacus pacificus* J.R. Forster, 1844.

Platycercus novae zelandiae (Sparrman); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 58.

Platycercus rowleyi Buller, 1875: *Trans. N.Z. Inst.* 7: 220 – North Canterbury.

Cyanorhamphus novae-zeelandiae (Sparrman); Reichenow 1881, *Journ. für Ornith.* 29: 42. Unjustified emendation.

Cyanorhamphus novae-zeelandiae Rowleyi (Buller); Reichenow 1881, *Journ. für Ornith.* 29: 42. Unjustified emendation.

Cyanorhamphus novae-zeelandiae aucklandicus (Bonaparte); Reichenow 1881, *Journ. für Ornith.* 29: 42. Unjustified emendation.

Cyanorhamphus novae-zeelandiae Forsteri (Finsch); Reichenow 1881, *Journ. für Ornith.* 29: 43. Unjustified emendation.

Cyanorhamphus aucklandicus (Bonaparte); Hutton 1904, *Index Faunae N.Z.*: 29.

Cyanorhamphus novae-zeelandiae (Sparrman); Buller 1905, *Suppl. Birds N.Z.* 2: 83. Unjustified emendation.

Cyanoramphus novaezelandiae novaezelandiae (Sparrman); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 424.

Cyanoramphus novaezelandiae aucklandicus (Bonaparte); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 425.

Cyanorhamphus novaezelandiae rowleyi (Buller); Mathews 1944, *Emu* 43: 245.

Cyanorhamphus novaezelandiae sejunctus Mathews, 1944: *Emu* 43: 245 – North Island.

New Zealand. Very rare on the mainland, but common on many offshore islands. North Island: occasionally reported from remaining areas of heavy forest, but apparently absent from Mount Egmont/Mount Taranaki, East Cape and the Ruahine Ranges; present on Manawatāwhi/Three Kings, Poor Knights, Hen and Chickens, Mokohinau, Fanal (Motokino), Hauturu/Little Barrier, Rakitu (Arid), Tiritiri Matangi, Cuvier (Repanga), Mercury, The Aldermen and Kapiti Islands. South Island: occasionally reported in the west. Quite widespread on Stewart Island/Rakiura and its outliers (Codfish (Whenuahou), Taukihepa/Big South Cape, Bench, Ruapuke and Green Islands). Widely distributed on the Auckland Islands (Adams, Ewing, Enderby and Rose Islands) where molecular data from Boon, Kearvell *et al.* (2001) and Rawlence (2006) confirmed that it is still more or less genetically identical to the mainland type despite fairly extensive hybridisation with nominate *C. auriceps* (see below) present at the same locations.

***Cyanoramphus novaehollandiae chathamensis* Oliver**

Chatham Island Red-crowned Parakeet

Cyanoramphus novaehollandiae chathamensis Oliver, 1930: *New Zealand Birds*, 1st edition: 412 – Chatham Islands.

Chatham Islands: southern portion of Chatham Island and on Pitt, Mangere and South East Islands. Common as a fossil and in middens. The taxonomic status of this taxon has recently been supported by molecular phylogenetic analyses by Boon *et al.* (2000) and Boon, Kearvell *et al.* (2001).

†***Cyanoramphus novaehollandiae erythrotis* (Wagler)**

Macquarie Island Parakeet

Platycercus erythrotis Wagler, 1832: *Abb. Kl. Bayer Akad. Wiss.* 1: 526 – Macquarie Island.

Cyanoramphus Erythrotis (Wagler); Bonaparte 1854, *Revue Mag. Zool.* 6 (2nd series): 153.

Cyanoramphus novae-zeelandiae erythrotis (Wagler); Reichenow 1881, *Journ. für Ornith.* 29: 43. Unjustified emendation.

Cyanoramphus erythrotis (Wagler); Hutton 1904, *Index Faunae N.Z.*: 29.

Cyanoramphus novaehollandiae erythrotis (Wagler); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 425.

Cyanoramphus erythrotis (Wagler); Kearvell *et al.* 2003, *Notornis* 50: 28.

Macquarie Island. Plentiful between the discovery of the island in 1810 to c. 1880 then declined and was extinct by 1891, probably as a result of factors following from the introduction of rabbits (Taylor 1979). The argument given in Kearvell *et al.* (2003) that this taxon should be recognised as a full species, *C. erythrotis*, should be discounted for the present as it is based on molecular data in Boon, Kearvell *et al.* (2001) which are not accepted (see section on *C. hochstetteri* below) and resolution awaits DNA analysis from properly authenticated specimens (Chambers & Boon 2005).

▶ ***Cyanoramphus auriceps* (Kuhl)**

Yellow-crowned Parakeet

Psittacus pacificus variety δ Gmelin, 1788: *Syst. Nat.*, 13th edition 1(1): 329. Based on the “Pacific Parrot, var. C” of Latham 1781, *Gen. Synop. Birds* 1: 252 – Dusky Sound, Fiordland. Junior primary homonym of *Psittacus pacificus* Gmelin, 1788.

Psittacus auriceps Kuhl, 1820: *Nova Acta Acad. Caesarea Leopold.-Carol.* 10: 46 – South Island.

Platycercus Auriceps (Kuhl); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 193.

Trichoglossus Aurifrons; G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 193. Not *Psittacus aurifrons* Lesson, 1831.

Cyanoramphus Auriceps (Kuhl); Bonaparte 1854, *Revue Mag. Zool.* 6 (2nd series): 153.

Euphema auriceps (Kuhl); Lichtenstein 1854, *Nomencl. Av.*: 72.

Platycercus auriceps (Kuhl); G.R. Gray, 1862: *Ibis* 4: 229.

Coriphilus auriceps (Kuhl); Schlegel 1864, *De Dierentuin*: 77.

Cyanorhamphus auriceps (Kuhl); Reichenow 1881, *Journ. für Ornith.* 29: 43.

Cyanorhamphus auriceps intermedia Reichenow, 1881: *Journ. für Ornith.* 29: 44 – New Zealand.

Cyanoramphus auriceps auriceps (Kuhl); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 426.

Cyanoramphus auriceps macleani Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 426 – North Island.

Cyanoramphus auriceps novana Mathews, 1930: *Bull. Brit. Ornith. Club* 50: 42 – Birch Ridge, “Maungahaumia” [= Maungahaumi], Gisborne.

New Zealand. Now more common on the mainland than the red-crowned parakeet. North Island: mainly restricted to central forested areas and the Tararua Range; present on Manawatāwhi/Three Kings, Hen and Chickens, Hauturu/Little Barrier, Cuvier (Repanga) and Kapiti Islands. South Island: widespread in western Marlborough, Nelson, Westland, inland North Canterbury, western Otago, the Catlins and Fiordland; Chetwode Islands. Present on Stewart Island/Rakiura and outliers (Big and Little Solander, Bench, Ulva, Jacky Lee (Pukeokaoka), Codfish (Whenuahou) and Taukihepa/Big South Cape Islands). Auckland Islands. *Cyanoramphus auriceps* previously included the subspecies *C. a. malherbi* (South Island) and *C. a. forbesi* (Chatham), but these are now listed as full species. Members of *C. auriceps* formerly present on the Auckland Islands have recently been shown by molecular methods (Rawlence 2006) to be a distinct clade contained within the mainland form, but with some evidence of hybridisation with *C. malherbi* before 1942–43. There is now extensive hybridisation between *C. auriceps* and *C. n. novaezelandiae* on the Auckland Islands (Adams and Enderby) and the former taxon may no longer exist as a discrete genetic entity in these locations; it is retained here as *C. auriceps* pending publication of further information.

▶ ***Cyanoramphus malherbi* Souancé**

Orange-fronted Parakeet

Cyanoramphus Malherbi Souancé, 1857: *Revue Mag. Zool.* 9 (2nd series): 98 – “unknown locality” = South Island (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 426).

Platycercus malherbii (Souancé); G.R. Gray, 1862: *Ibis* 4: 229. Unjustified emendation.

Platycercus alpinus Buller, 1869: *Ibis* 5 (n. ser.): 39 – high country of the South Island.

Cyanorhamphus alpinus (Buller); Reichenow 1881, *Journ. für Ornith.* 29: 44.

Cyanorhamphus auriceps Malherbi (Souancé); Reichenow 1881, *Journ. für Ornith.* 29: 44.

Cyanorhamphus malherbei (Souancé); Hutton 1904, *Index Faunae N.Z.*: 29. Unjustified emendation.

Cyanoramphus malherbi Souancé; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 426.

Cyanoramphus auriceps auriceps; Checklist Committee 1990, *Checklist Birds N.Z.*: 179. Not *Psittacus auriceps* Kuhl, 1820.

New Zealand, formerly widespread but now confined to forested valleys in Canterbury region, notably the Hurunui River valley. Progeny from a captive breeding programme have recently been released on Chalky Island in Fiordland (Bain 2006). Until recently, classified as either a colour morph or as a subspecies of *C. auriceps* (see Taylor *et al.* 1986). Now established as a separate species based on field observation of assortative mating in sympatry and molecular evidence (Kearvell *et al.* 2003).

▶ ***Cyanoramphus forbesi* Rothschild**

Forbes' Parakeet

Cyanoramphus forbesi Rothschild, 1893: *Proc. Zool. Soc. London* 1893 (35): 529 – Chatham Islands.

Cyanoramphus auriceps forbesi Rothschild; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 426.
Cyanoramphus forbesi Rothschild; Chan *et al.* 2006, *Conservation Genetics* 7: 493.

Chatham Islands; resident on Little Mangere Island, ranging to Pitt and Mangere Islands (Greene 1989). Recognised as a full species based on molecular evidence from allozyme electrophoresis (Triggs & Daugherty 1996) and mtDNA sequencing (Boon, Kearvell *et al.* 2001; Chan *et al.* 2006). Hybridises extensively with *C. n. chathamensis* on Mangere Island (Boon *et al.* 1999), but still persists as a fairly distinct morphotype and genotype under active conservation management. Since the early 1980s recorded in small numbers in the southern, forested part of the main island (Melville 1984).

► **Cyanoramphus unicolor** (Lear) **Antipodes Island Parakeet**

Platycercus unicolor Lear, 1831: *Illustr. Psittac.* 4: pl. 25 – Antipodes Island.

Cyanoramphus unicolor (Lear); Reichenow 1881, *Journ. für Ornith.* 29: 41.

Platycercus fairchildii Hector, 1888: in Buller, *History of the Birds of N.Z.*, 2nd edition 1: 149 – Antipodes Island.

Pezoporus fairchildii (Hector); Hector 1895, *Trans. N.Z. Inst.* 27: 285.

Cyanoramphus unicolor (Lear); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 425.

Bulleria unicolor (Lear); Mathews 1944, *Emu* 43: 245.

Antipodes Island and its islets, including Bollons Island (Warham & Bell 1979). The specific status of this bird and its relationship to other members of the genus has recently been firmly established by Boon, Kearvell *et al.* (2001).

► **Cyanoramphus hochstetteri** (Reischek) **Reischek's Parakeet**

Platycercus hochstetteri Reischek, 1889: *Trans. N.Z. Inst.* 21: 387 – Antipodes Island.

Cyanoramphus novaezelandiae hochstetteri (Reischek); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 425.

Cyanoramphus erythrotis hochstetteri (Reischek); Kearvell *et al.* 2003, *Notornis* 50: 28.

Cyanoramphus hochstetteri (Reischek); Chambers & Boon 2005, *Notornis* 52: 250.

Antipodes and Bollons Islands and all adjacent islets (Warham & Bell 1979). Molecular data from Boon, Kearvell *et al.* (2001), and discussions in Kearvell *et al.* (2003), make a strong case that this taxon is recognisable as a distinct species from all forms of *C. novaezelandiae*. However, their suggestion that it is a subspecies of the Macquarie Island parakeet, i.e. *C. erythrotis hochstetteri* (after Salvadori 1891), must be disregarded as it is based on an incorrect identification of a museum specimen (Scofield 2005b). The species status adopted here follows that recommended in Rawlence (2006) and by Chambers & Boon (2005).

Order CUCULIFORMES: Cuckoos

Suborder CUCULI: Cuckoos

An agreed phylogeny of the cuckoos and their relatives has not yet been achieved—see Christidis & Boles (2008) for the latest review of recent studies.

Family CUCULIDAE Leach: Cuckoos

Subfamily CUCULINAE Leach: Parasitic Cuckoos

Cuculidae Leach, 1819: *Eleventh room. In Synopsis Contents British Museum 15th Edition, London*: 66 – Type genus *Cuculus* Linnaeus, 1758.

Order of species follows Christidis & Boles (1994) and Mason (1997). Christidis & Boles (2008) approximately reversed the sequence of genera to *Eudynamys*, *Scythrops*, *Chalcites*, *Cacomantis* and *Cuculus*. We have not adopted this since the situation seems unstable and liable to further change.

Genus *Cuculus* Linnaeus

Cuculus Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 110 – Type species (by tautonymy) *Cuculus canorus* Linnaeus.

Heteroscenes Cabanis & Heine, 1863: *Mus. Heineanum* 4(1): 26 – Type species (by monotypy) *Columba pallida* Latham = *Cuculus pallidus* (Latham).

► *Cuculus optatus* Gould

Oriental Cuckoo

Cuculus optatus Gould, 1845: *Proc. Zool. Soc. London 1845* (13): 18 – Port Essington, Northern Territory, Australia.

Cuculus horsfieldi Moore, 1858: *Cat. Birds Brit. Mus. East Indian Co.* 2: 703 – Java, Indonesia.

Cuculus saturatus Horsfield [sic]; Buller 1905, *Suppl. Birds N.Z.* 2: 102. Not *Cuculus saturatus* Hodgson, 1843.

Cuculus optatus Gould; Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 430.

Cuculus saturatus horsfieldi Horsfield & Moore [sic]; Checklist Committee 1953, *Checklist N.Z. Birds*: 55.

Cuculus saturatus horsfieldi Moore; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 60.

Cuculus saturatus Blyth [sic]; Checklist Committee 1990, *Checklist Birds N.Z.*: 181. Not *Cuculus saturatus* Hodgson, 1843.

Cuculus (*Cuculus*) *saturatus optatus* Gould; Mason 1997, *Zool. Cat. Australia* 37.2: 226.

Breeds widely in Eurasia. Migratory; winters in South-east Asia, New Guinea, the Solomon Islands and north and north-east Australia (uncommon). There is confusion and uncertainty about the specific and subspecific status (and nomenclature) of various populations of this and closely related Asian cuckoos, both migratory and resident. Mason (1997) considered that the species reaching Australia and New Zealand is *C. saturatus* Hodgson, 1843, which was the name (but not the author) used by Checklist Committee (1990), but we follow Payne (2005), Banks, R.C. *et al.* (2006) and Christidis & Boles (2008) in using *C. optatus*. More than one subspecies may reach Australia (Higgins 1999), and presumably New Zealand. Given this uncertainty, New Zealand birds cannot be assigned to a subspecies without further investigation. Straggler to New Zealand; around 15 records since Feb. 1902, when a specimen was shot at Lake Te Anau (previously, doubtfully recorded in Hawke's Bay in 1889). Localities range from Northland (Watt 1953) to Southland and Snares Islands/Tini Heke, all Oct. to Apr.

Recent records are: Christchurch, Mar. 1993 (Medway 2000a); Te Kuiti, Nov. to Dec. 1993 (Medway 2000a); Invercargill, Apr. 1998 (Medway 2001d); Dunedin, Mar. 2001 (Medway 2001c); Kakanui, North Otago, Dec. 2001 (Medway 2002e); Muriwai Beach, Dec. 2002 (Medway 2003a); Whataroa, South Westland, Jan. 2005 (Scofield 2005a). One record from Norfolk Island, Jan. to Feb. 1997 (Moore 1999).

▶ ***Cuculus pallidus* (Latham)**

Pallid Cuckoo

Columba pallida Latham, 1802: *Index Ornith. Suppl.*: lx – “Nouvelle-Hollande”, restricted to New South Wales, Australia (*vide* Mason 1997, *Zool. Cat. Australia* 37.2: 228).

Cuculus pallidus (Latham); Checklist Committee 1953, *Checklist N.Z. Birds*: 55.

Cuculus (*Heteroscenes*) *pallidus* (Latham); Mason 1997, *Zool. Cat. Australia* 37.2: 228.

No subspecies. Breeds in southern parts of Australia, including Tasmania. Migratory; winters in inland and north Australia. Also found in southern New Guinea (occasionally) and Indonesia (Flores, Timor, Moluccas). Straggler to New Zealand region. Six records (Marples 1942a, Guest 1991, Higgins 1999: 664): Craig Flat, Otago (one bird seen between May and Oct. in 1939, 1940 and 1941, and then found dead); Okarito, Dec. 1941; Greymouth, Mar. 1942; Wairarapa, 1977; Omarama, Otago, Jan. 1990; Macquarie Island, Sep. 1990. The generic position is uncertain; Christidis & Boles (2008) placed this species in *Cacomantis*.

Genus *Cacomantis* Statius Müller

Cacomantis Statius Müller, 1843: *Verhand. Natur. Gesch. Nederl. Overz. Berit.*: 177 – Type species (by subsequent designation) *Cuculus flavus* Gmelin = *Cacomantis merulinus* (Scopoli).

Recognition of *Cacomantis* as a genus distinct from *Cuculus* follows Christidis & Boles (1994, 2008) and Mason (1997).

▶ ***Cacomantis flabelliformis* (Latham)**

Fan-tailed Cuckoo

Australia and Tasmania, New Guinea, Vanuatu, New Caledonia and Fiji. Five subspecies.

***Cacomantis flabelliformis flabelliformis* (Latham)**

Fan-tailed Cuckoo

Cuculus flabelliformis Latham, 1802: *Index Ornith. Suppl.*: xxx. Based on the “Fan-tailed Cuckoo” of Latham 1802, *Suppl. 2. Gen. Synop. Birds*: 138 – “Nova Hollandia”, restricted to Sydney, New South Wales, Australia (*vide* Mason 1997, *Zool. Cat. Australia* 37.2: 236).

Cuculus prionurus Lichtenstein, 1823: *Verzeich. Doubl., Berlin*: 9 – “Nov. Cambr. austr.” = New South Wales, Australia (*vide* Mason 1997, *Zool. Cat. Australia* 37.2: 236).

Cacomantis pyrrhophanus prionurus (Lichtenstein); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 60.

Cuculus pyrrhophanus prionurus (Lichtenstein); Checklist Committee 1980, *Notornis* (*Suppl.*) 27: 20.

Cacomantis flabelliformis flabelliformis (Latham); Checklist Committee 1990, *Checklist Birds N.Z.*: 182.

Breeds in south-west and south-east Australia including Tasmania. Nomadic or partly migratory within Australia; irregular migrant to eastern Solomon Islands. Straggler to New Zealand. Five records: Governors Bay, Lyttelton Harbour/Whakaraupō, Jun. 1960 (Turbott & Scarlett 1964); Wanaka, Central Otago, Sep. 1991 (Guest 1992); Haast, South Westland, and Karikari Moana, Northland, Oct. 1991 (Medway 2000a); Culverden, North Canterbury, Dec. 1999 (Medway 2001a).

Genus *Chrysococcyx* Boie

Chrysococcyx Boie, 1826: *Isis von Oken*, Heft 2: col. 977 – Type species (by monotypy) *Cuculus cupreus* Shaw = *Chrysococcyx cupreus* (Shaw).

Chalcites Lesson, 1830: *Traité d'Ornith.* 2: 152 – Type species (by tautonymy) *Cuculus chalcites* Temminck = *Chrysococcyx lucidus plagosus* (Latham).

Lamprococcyx Cabanis & Heine, 1863: *Mus. Heineanum* 4(1): 11 – Type species (by original designation) *Cuculus lucidus* Gmelin = *Chrysococcyx lucidus lucidus* (Gmelin).

Chalococcyx Cabanis & Heine, 1863: *Mus. Heineanum* 4(1): 15 – Type species *Cuculus xanthorhynchus* Horsfield = *Chrysococcyx xanthorhynchus* (Horsfield).

There is long-standing disagreement on whether to use *Chalcites* for the Australo-Asian glossy cuckoos, leaving *Chrysococcyx* for the African species, or whether to unite all under *Chrysococcyx*. Mason (1997) and Christidis & Boles (2008) used *Chalcites*, but we follow Checklist Committee (1990), Christidis & Boles (1994) and Payne (2005) in using *Chrysococcyx*.

▶ *Chrysococcyx lucidus* (Gmelin)

Shining Bronze-cuckoo

Breeds in south-west and south-east Australia (including Tasmania), New Zealand, Vanuatu, and New Caledonia. Migratory to the Lesser Sundas (Indonesia), New Guinea and the Solomon Islands. Four subspecies, some doubtful.

Chrysococcyx lucidus lucidus (Gmelin)

Shining Cuckoo

Cuculus lucidus Gmelin, 1788: *Syst. Nat.*, 13th edition 1(1): 421. Based on the “Shining Cuckoo” of Latham 1782, *Gen. Synop. Birds* 2: 528, pl. 23 – “nova Zeelandia”, restricted to Queen Charlotte Sound, Marlborough (*vide* Mason 1997, *Zool. Cat. Australia* 37.2: 242).

Cuculus nitens J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 151 – Queen Charlotte Sound, Marlborough.

Chrysococcyx plagosus; Hutton 1872, *Ibis* 2 (3rd ser.): 246. Not *Cuculus plagosus* Latham, 1802.

Chrysococcyx lucidus (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 77.

Chalococcyx lucidus (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 101.

Lamprococcyx lucidus (Gmelin); Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 430.

Lamprococcyx lucidus australis Mathews, 1916: *Bull. Brit. Ornith. Club* 36: 83 – Queensland, Australia.

Chalcites lucidus lucidus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 55.

Chalcites lucidus (Gmelin); Wakelin 1968, *Notornis* 15: 171.

Chrysococcyx lucidus lucidus (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 182.

Chalcites (Chalcites) lucidus lucidus (Gmelin); Mason 1997, *Zool. Cat. Australia* 37.2: 241.

Breeds in New Zealand, including Stewart/Rakiura and Chatham Islands, and on Norfolk Island. Straggler to Kermadec, Snares/Tini Heke, Macquarie and Auckland Islands. Reaches Lord Howe Island but unable to breed there as the local population of *Gerygone* (likely host) is extinct. Found throughout New Zealand in spring and summer; rare in May, Jun. and Jul. Brood-parasite of grey and Chatham Island warblers (*Gerygone* spp.). Winters in New Britain, New Ireland, Bougainville and the Solomon Islands. Many (perhaps most) migrate via New South Wales and Queensland (Gill 1983). Recorded as a Holocene fossil from Chatham Islands (Millener 1999).

Genus *Eudynamis* Vigors & Horsfield

Eudynamis Vigors & Horsfield, 1826: *Trans. Linn. Soc. London* 15(1): 303 – Type species (by subsequent designation) *Cuculus orientalis* Linnaeus = *Eudynamis orientalis* (Linnaeus).

Eudynamis Cabanis & Heine, 1863: *Mus. Heineanum* 4(1): 49. Unjustified emendation.

Urodynamis Salvadori, 1880: *Ornitologia Papuasie Molucche* 1: 370 – Type species (by original designation) *Cuculus taitensis* Sparrman = *Eudynamis taitensis* (Sparrman).

Payne (2005) recognised *Urodynamis* as a monotypic genus for the long-tailed cuckoo, and in an analysis of mitochondrial gene sequences found that *Urodynamis* was closer to *Scythrops* than to *Eudynamis scolopacea* (Linnaeus, 1758). However, it was an admittedly preliminary study, and only one long-tailed cuckoo was sampled. We retain the status quo pending further investigation.

► *Eudynamis taitensis* (Sparrman)

Long-tailed Cuckoo

Cuculus taitensis Sparrman, 1787: *Mus. Carlsonianum* 2: n° XXXII, pl. 32 – no locality = Tahiti, French Polynesia (*vide* Rothschild & Hartert 1905, *Novit. Zool.* 12(2): 258).

Cuculus tabitiuis Gmelin, 1788: *Syst. Nat.*, 13th edition 1(1): 412 – Tahiti, French Polynesia.

Cuculus perlatus Vieillot, 1817: *Nouv. Dict. Hist. Nat.*, nouv. éd. 8: 232 – Tahiti, French Polynesia.

Eudynamis taitensis (Sparrman); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 193.

Cuculus fasciatus J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 160 – Tahiti, French Polynesia.

Eudynamis cuneicauda Peale, 1848: *U.S. Expl. Exped.* 8: 139, 322 – Ovalau, Fiji Islands.

Eudynamis taitensis (Sparrman); G.R. Gray 1870, *Hand-list Birds* 2: 221. Unjustified emendation.

Eudynamis Tabitiensis (Sparrman); Potts 1871, *Trans. N.Z. Inst.* 3: 90. Unjustified emendation.

Eudynamis tabitiuis (Gmelin); Layard & Layard 1878, *Ibis* 2 (4th ser.): 275.

Urodynamis taitensis (Sparrman); Salvadori 1880, *Ornitologia Papuasie Molucche* 1: 370.

Eudynamis taitensis (Sparrman); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 127.

Eudynamis taitensis (Sparrman); Shelly 1891, *Cat. Birds Brit. Mus.*: 314. Unjustified emendation.

Urodynamis taitensis pheletes Wetmore, 1917: *Proc. Biol. Soc. Washington* 30: 1 – Otago.

Urodynamis taitensis belli Mathews, 1918: *Bull. Brit. Ornith. Club* 39: 24 – Norfolk Island.

Urodynamis taitensis cuneicauda (Peale); Mathews 1944, *Emu* 43: 245.

Eudynamis taitensis (Sparrman); Checklist Committee 1990, *Checklist Birds N.Z.*: 183.

Eudynamis (*Urodynamis*) *taitemensis* (Sparrman); Mason 1997, *Zool. Cat. Australia* 37.2: 251.

Urodynamis [sic] *taitemensis* (Sparrman); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 28, 275.

Urodynamis taitensis (Sparrman); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 159.

Breeds in New Zealand, including Hauturu/Little Barrier, Great Barrier (Aotea), Kapiti, Stewart/Rakiura and Codfish (Whenuahou) Islands. Brood-parasite of whitehead, brown creeper and yellowhead (*Mohoua* spp.). Found throughout New Zealand in spring and summer, but especially forested areas where its hosts reside (Robertson, C. *et al.* 2007). Straggler to Chatham, Snares/Tini Heke and Auckland Islands. Rarely overwinters. Migrates through Norfolk, Lord Howe and Kermadec Islands to Oceania: Bismarck Archipelago and Micronesia in the west to the Marquesas and Tuamotus in the east (Bogert 1937). Sometimes present in winter months on the Kermadecs (Veitch *et al.* 2004). Chief wintering range is Fiji to the Society Islands. No subspecies. Few Holocene fossil records.

Genus *Scythrops* Latham

Scythrops Latham, 1790: *Index Ornith.* 1: 141 – Type species (by monotypy) *Scythrops novaehollandiae* Latham.

► ***Scythrops novaehollandiae*** Latham

Channel-billed Cuckoo

Scythrops novae Hollandiae Latham, 1790: *Index Ornith. 1*: 141 – “nova Hollandia”, restricted to New South Wales, Australia (*vide* Mason 1997, *Zool. Cat. Australia* 37.2: 253).

Scythrops novaehollandiae Latham; Checklist Committee 1953, *Checklist N.Z. Birds*: 56.

Eastern Indonesia, New Guinea, Bismarck Archipelago, north and east Australia. Migratory. Straggler to New Zealand and Norfolk Island. Six New Zealand records. Invercargill, Dec. 1924; Ngataki, Northland, Oct. 1986; Raglan, Oct. 1996; Te Pahi, Northland, Oct. 1996; Pukerua Bay, Wellington, Nov. 1996; Mangawhai Heads, Northland, Oct. 2002 (Tennyson & Brackenbury 1998, Medway 2003a). Two at Norfolk Island, Oct. to Nov. 1996 (Higgins 1999: 784, Moore 1999).

Order STRIGIFORMES: Owls

Regarding the following *nomina dubia*, see under genus *Aegothales* Vigors & Horsfield:
Strix parvissima Ellman, 1861: *Zoologist* 19: 7465. *Nomen dubium*.

Strix parvissima Potts, 1871: *Trans. N.Z. Inst.* 3: 68 – Rangitata River, Canterbury.
Nomen dubium.

Athene (Strix) parvissima Potts; Potts 1873, *Trans. N.Z. Inst.* 5: 172. *Nomen dubium*

Family STRIGIDAE Leach: Typical Owls

Strigidae Leach, 1819: *Eleventh room. In Synopsis Contents British Museum 15th Edition, London*:
64 – Type genus *Strix* Linnaeus, 1758.

Subfamily BUBONINAE Vigors: Hawk-owls and Allies

Bubonina Vigors, 1825: *Zoological Journal* 2: 393 – Type genus *Bubo* Dumeril, 1805.

Genus *Ninox* Hodgson

Ninox Hodgson, 1837: *Madras Journ. Lit. Sci.* 5: 23 – Type species (by original designation)

Ninox nipalensis Hodgson = *Ninox scutulata lugubris* (Tickell).

Hieracoglaux Kaup, 1848: *Isis von Oken*, Heft 41: col. 768 – Type species (by subsequent designation) *Falco connivens* Latham = *Ninox connivens* (Latham). As a subgenus of *Ninox*.

Spiloglaux Kaup, 1848: *Isis von Oken*, Heft 41: col. 768 – Type species (by subsequent designation) *Strix boobook* Latham = *Ninox boobook* (Latham). As a subgenus of *Ninox*.

Ieraglaux Kaup, 1852: *in Jardine, Contrib. Ornith.*: 107 – Type species (by subsequent designation) *Falco connivens* Latham = *Ninox connivens* (Latham).

Rhabdoglaux Bonaparte, 1854: *Revue Mag. Zool.* 2(2): 543 – Type species (by subsequent designation) *Athene humeralis* Bonaparte = *Ninox rufa humeralis* (Bonaparte).

Berneynornis Mathews, 1916: *Birds Australia* 5: 305 – Type species (by original designation and monotypy) *Athene? strenua* Gould = *Ninox strenua* (Gould).

► *Ninox novaeseelandiae* (Gmelin)

Morepork

There are several taxa in this complex for which opinions are divided regarding taxonomic rank (Mees 1964, 1982; Schodde & Mason 1980; Christidis & Boles 1994; Schodde 1997b). Several forms from islands north of Australia were all accepted in the most recent morphological study (Johnstone & Darnell 1997): *N. n. plesseni* Stressemann, 1929—Alor; *N. n. fusca* (Vieillot, 1817)—Timor; *N. n. moae* Mayr, 1914—Moa, Romah and Leti; *N. n. cinnamomina* Hartert, 1906—Babar; *N. n. remigialis* Stressemann, 1930—Kai; *N. n. rotiensis* Johnstone & Darnell, 1997—Roti; and *N. n. pusilla* Mayr & Rand, 1935—New Guinea. Australian boobooks i.e., *N. n. ocellata* (Bonaparte, 1850); *N. n. boobook* (Latham, 1802); *N. n. lurida* De Vis, 1887; *N. n. leucopsis* (Gould, 1838); and *N. n. halmaturina* Mathews, 1912, were usually considered subspecies of *N. novaeseelandiae* (e.g. Christidis & Boles 1994). Others (e.g. Schodde 1997b) assigned them to a species—*N. boobook* (Latham)—separate from *N. novaeseelandiae* and including *N. b. undulata* (Latham, 1802) on Norfolk Island and *N. b. albaria* Ramsay, 1888 on Lord Howe Island. However, genetic studies (Norman, Christidis *et al.* 1998; Norman, Olsen *et al.* 1998) supported the conclusion of Christidis & Boles (1994) that the Australian, Norfolk and New Zealand forms comprise one species with intra-taxon genetic variation much less than between taxa whose distinction at species level is uncontested. We therefore accept the following subspecies in the New Zealand region: *N. n. novaeseelandiae* restricted to New Zealand, and *N. n. undulata* (Latham, 1802) on Norfolk Island.

†***Ninox novaeseelandiae undulata*** (Latham)**Norfolk Island Boobook**

- Strix undulata* Latham, 1802: *Index Ornith. Suppl.*: 17 – Norfolk Island.
Ninox boobook royana Mathews, 1912: *Austral Avian Rec. 1*: 120 – Norfolk Island.
Spiloglaux novaeseelandiae royana (Mathews); Mathews 1916, *Birds Australia* 5(3): 333.
Ninox novaeseelandiae undulata (Latham); Peters 1940, *Check-list Birds World* 4: 140.
Ninox royana Mathews; Wakelin 1968, *Notornis* 15: 171.
Ninox novaeseelandiae; Moore 1981, *Notornis* 28: 55. Not *Strix novaeseelandiae* Gmelin, 1788.
Ninox undulata (Latham); Moore 1985, *Notornis* 32: 318.
Ninox (*Ninox*) *novaeseelandiae undulata* (Latham); Schodde 1997, *Zool. Cat. Australia* 37.2: 276.

Extinct. Norfolk Island only. The population declined until just one female survived in about 1996, when New Zealand individuals of *N. n. novaeseelandiae* were introduced and interbred. A population of hybrids is slowly increasing (Higgins 1999).

Ninox novaeseelandiae novaeseelandiae (Gmelin)**Morepork**

- Strix novae Seelandiae* Gmelin, 1788: *Syst. Nat., 13th edition* 1(1): 296. Based on the “New Zealand Owl” of Latham 1782, *Gen. Synop. Birds*: 149 – Queen Charlotte Sound, Marlborough.
Strix fulva Latham, 1790: *Index Ornith. 1*: 65 – Queen Charlotte Sound, Marlborough.
Strix novae-seelandiae maculata Kerr, 1792: *Anim. Kingdom* 1: 538 – New Zealand.
Noctua zelandica Quoy & Gaimard, 1830: in Dumont d’Urville, *Voyage Astrolabe Zool. 1*: 168 – Tasman Bay.
Athene Novae Seelandiae (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 186.
Strix fulva J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 71 – Queen Charlotte Sound, Marlborough. Junior primary homonym of *Strix fulva* Latham, 1790.
Noctua venatica Peale, 1848: *U.S. Expl. Exped.* 8: 75, 309 – Bay of Islands.
Ieraglaux novae zealandiae (Gmelin); Kaup 1852, *Trans. Zool. Soc. London* 4(6): 218. Unjustified emendation.
Athene nova zealandiae (Gmelin); Cassin 1858, *U.S. Expl. Exped. Ornithology* 8: 112. Unjustified emendation.
Athene novae zealandiae (Gmelin); G.R. Gray 1862, *Ibis* 4: 216. Unjustified emendation.
Spiloglaux novae zealandiae (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 17. Unjustified emendation.
Ninox novae-zealandiae (Gmelin); Hutton 1904, *Index Faunae N.Z.*: 29. Unjustified emendation.
Spiloglaux novaeseelandiae novaeseelandiae (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 421.
Spiloglaux novaeseelandiae venatica (Peale); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 422.
Ninox novaeseelandiae novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 56.

New Zealand: North and South Islands and Stewart Island/Rakiura plus most larger forested offshore islands from the Manawatāwhi/Three Kings Group to Codfish Island (Whenuahou). Absent from the Kermadec, Chatham and subantarctic islands, except as a vagrant on the Snares Islands/Tini Heke (Miskelly *et al.* 2001a). Widespread, but sparingly distributed in drier eastern areas. Late Pleistocene and Holocene fossil and midden records from both North and South Islands. Its reported fossil occurrence on Chatham Island (Forbes 1893) has not been verified by subsequent investigations of the fossil fauna.

Genus †*Sceloglaux* Kaup

Sceloglaux Kaup, 1848: *Isis von Oken*, Heft 41: col. 768 – Type species (by monotypy)
Athene albifacies G.R. Gray, 1844 = *Sceloglaux albifacies* (G.R. Gray). As a subgenus of
Ninox.

A monotypic genus endemic to New Zealand. König *et al.* (1999) noted that the laughing owl and the fearful owl *Nesasio solomonensis* of the Solomon Islands were very similar species but whether this is due to a relationship or convergence is unknown.

†*Sceloglaux albifacies* (G.R. Gray)

Laughing Owl

Extinct. Known from North and South Islands and Stewart Island/Rakiura. Fossils of this owl, especially at sites where they accumulated food remains, are abundant in drier eastern regions of both main islands (Worthy & Holdaway 2002). Its reported fossil occurrence on Chatham Island has been discounted (Dawson 1960, Millener 1999). For a review of the species, see Williams & Harrison (1972). Gill (1996a) found significant size differences between North and South Island samples and favoured subspecific distinction.

†*Sceloglaux albifacies rufifacies* Buller

North Island Laughing Owl

Sceloglaux rufifacies Buller, 1904: *Ibis* 4 (8th ser.): 639 – Wairarapa District.
Sceloglaux albifacies rufifacies Buller; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 422.

North Island only. Extinct. Only two recent specimens were taken (Buller 1905–06, Oliver 1955), both now lost (Worthy 1997c): near Mount Egmont/Mount Taranaki (1856) and Wairarapa (“about 50 miles from Wellington”, 1868–69, holotype). Only two early sight records seem reliable: Waikohu near Te Karaka (1889) and near Porirua (before 1892). Fossil at numerous sites, including swamps, caves, dunes and in a few middens (Gill 1996a).

†*Sceloglaux albifacies albifacies* (G.R. Gray)

South Island Laughing Owl

Athene albifacies G.R. Gray, 1844: in Richardson & J.E. Gray (eds), *Zool. Voy. ‘Erebus’ & ‘Terror’*, *Birds* 1(3): 2, pl. 1 – Waikouaiti, Otago.
Ieraglaux albifacies (G.R. Gray); Kaup 1852, *Trans. Zool. Soc. London* 4(6): 219.
Athene (Sceloglaux) albifacies G.R. Gray; G.R. Gray 1862, *Ibis* 4: 216.
Strix haastii Buller, 1865: *Essay N.Z. Ornith.*, reprinted 1869, *Trans. N.Z. Inst.* 1 (2nd edition): 219 – Canterbury.
Athene albifrons Taylor, 1870: *Te Ika a Maui* (2nd edition): 612. Unjustified emendation.
Athene ejulans Potts, 1871: *Trans. N.Z. Inst.* 3: 63 – Lindis Pass, Otago.
Sceloglaux albifacies (G.R. Gray); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 21.
Strix haastii Potts, 1882: *Out in the Open*: 123 – Unjustified emendation.
Sceloglaux albifacies albifacies (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 422.

South Island (Nelson, Canterbury, Otago, Fiordland) and Stewart Island/Rakiura. Declined rapidly after about 1880; almost certainly now extinct. Last specimen obtained July 1914 (Blue Cliffs, South Canterbury). It apparently preferred rocky areas in open country or at the forest edge. Late Pleistocene and Holocene fossil bones and midden records widespread, including Stewart Island/Rakiura (Gill 1996a).

Genus **Athene* Boie

Athene Boie, 1822: *Isis von Oken*, Heft 1: col. 549 – Type species (by subsequent designation)
Athene noctua (Scopoli).

▶ ****Athene noctua* (Scopoli)****Little Owl**

Strix noctua Scopoli, 1769: *Annus 1, Hist. Nat.*: 22 – Carniolia = Krain, Slovenia.

Athene noctua (Scopoli) subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 57.

Athene noctua (Scopoli); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 61.

Europe, North Africa, Middle East, Central Asia. Twelve subspecies. The subspecific status of the New Zealand population has not been determined. Introduced to New Zealand in 1906–11 (Thomson 1922, Marples 1942b), and now widespread in all eastern parts of the South Island. Occasional sightings in Westland and Fiordland. No recent records from Stewart Island/Rakiura (present 1956–57) or the North Island (heard at Rotorua 1958; Higgins 1999).

Family TYTONIDAE Ridgway: Barn Owls**Subfamily TYTONINAE Ridgway: Barn Owls**

Tytonidae Ridgway, 1914: *Bull. U.S. Nat. Mus.* 50(6): 598 – Type genus: *Tyto* Billber, 1828.

Genus *Tyto* Billberg

Strix Savigny, 1809: *Descrip. Egypte Hist. Nat.* 1: 69 – Type species (by monotypy) *Strix flammea auctorum* = *Tyto alba* (Scopoli). Junior homonym of *Strix* Linnaeus, 1758.

Aluco Fleming, 1822: *Phil. Zool.* 2: 236 – Type species (by monotypy) *Strix flammea auctorum* = *Tyto alba* (Scopoli). Junior homonym of *Aluco* Link, 1807.

Tyto Billberg, 1828: *Syn. Faun. Scand.* 1(2): tab. A – Type species (by monotypy) *Strix alba* Scopoli = *Tyto alba* (Scopoli).

Ulula Nitzsch, 1829: *Obs. Avium Arter. Carot. Comm.*: 20. Unnecessary *nomen novum* for *Strix* Savigny, 1809. Junior homonym of *Ulula* Cuvier, 1817.

Hybris Nitzsch, 1833: *Pterylogr. Avium*: 16 – Type species (by monotypy) *Strix alba* Scopoli = *Tyto alba* (Scopoli).

Flammea Fournel, 1836: *Faune Moselle*: 101 – Type species (by monotypy) *Strix vulgaris* Brehm = *Tyto alba* (Scopoli).

Eustrinx Webb, Berthelot & Moquin-Tandon, 1841: *Hist. Nat. Iles Canaries* 2: 8. Unnecessary *nomen novum* for *Strix* Savigny, 1809.

Stridula Selys-Longchamps, 1842: *Faune Belg.*: 60 – Type species (by monotypy) *Stridula flammea* Selys-Longchamps = *Tyto alba* (Scopoli).

Glyphidiura Reichenbach, 1850: *Avium Syst. Nat.*: pl. 92 – Type species (by subsequent designation) *Strix perlata* Lichtenstein = *Tyto alba tuidara* (J.E. Gray).

Glaux Blyth, 1851: *Journ. Asiatic Soc. Bengal.* 19(7): 513 – Type species (by monotypy) *Strix candida* Tickell = *Tyto capensis longimembris* (Jerdon). Junior homonym of *Glaux* Rylands, 1836.

Scelostrix Kaup, 1852: *Jardine's Contrib. Ornith.*: 119 – Type species (by monotypy) *Strix candida* Tickell = *Tyto capensis longimembris* (Jerdon).

Dactylostrix Kaup, 1852: *Jardine's Contrib. Ornith.*: 119 – Type species (by monotypy) *Strix castanops* Gould = *Tyto novaehollandiae castanops* (Gould).

Strigymnhemipus Des Murs, 1853: *Chenu's Encycl. Hist. Nat., Oiseaux* 1: 146 – Type species (by subsequent designation) *Strix perlata* Lichtenstein = *Tyto alba tuidara* (J.E. Gray).

Glaucostrix Gray, 1855: *Cat. Genera Subgen. Birds Brit. Mus.*: 135. Unnecessary *nomen novum* for *Glaux* Blyth, 1851.

▶ ***Tyto alba* (Scopoli)****Barn Owl**

Strix alba Scopoli, 1769: *Annus 1, Hist. Nat.*: 21 – Friuli, northern Italy.

Almost world-wide. More than 30 subspecies.

Tyto alba delicatula (Gould)**Australian Barn Owl**

Strix delicatulus Gould, 1837: *Proc. Zool. Soc. London* 1836 (4): 140 – “Novà Cambrià Australi” = New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 291).

Aluco delicatula (Gould); Sharpe 1875, in Richardson & J.E. Gray (eds), *Zool. Voy. Erebus' & 'Terror', Birds* 1: 23.

Tyto alba alexandrae Mathews, 1912: *Novit. Zool.* 18(3): 256 – Alexandria, Northern Territory, Australia.

Tyto alba delicatula (Gould); Checklist Committee 1953, *Checklist N.Z. Birds*: 56.

Tyto (Tyto) alba delicatula (Gould); Schodde 1997, *Zool. Cat. Australia* 37.2: 290.

Throughout mainland Australia. Rare in Tasmania, where it is probably a recent arrival (first recorded 1910). Several records from Norfolk Island (Higgins 1999). Vagrant in New Zealand. Three records of birds shot or accidentally killed in Westland: Barrytown 1947, Haast River mouth 1955, Runanga 1960 (Falla 1948, Falla & Riney 1958, Grant 1960). Two birds near Auckland were linked to transport on aeroplanes: 1983 (one, alive, Papatoetoe, on flight-path to Auckland International Airport; Gill & Turbott 1984); and 1985 (remains of one, Auckland International Airport, in undercarriage of aeroplane from USA via Hawaii; Gill & Turbott 1985). Other records include: Feb. 1986 (one seen, south Kaipara Head; Guest 1990); 17 Aug. 1990 (one specimen, New Plymouth; Guest 1991); 21 Apr. 1992 (one seen, RNZAF base, Whenuapai); 30 Jun. to 18 Sep. 1992 (one, Hauturu/Little Barrier Island; Smuts-Kennedy & Lovegrove 1996); and one found injured in Apr. 2008, and others seen, at Kaitaia (Anon. 2008). Captive birds are in private hands, so some records may be of escaped cage-birds. Natural New Zealand records are assumed to be of the Australian subspecies, but it is likely that other subspecies have also reached New Zealand (e.g. Gill & Turbott 1985). Some authors consider all barn owls from South-east Asia, Australia and the Pacific to be *T. javanica* (Gmelin, 1788) (Christidis & Boles 2008). Not known as a fossil in New Zealand (see Millener 1983).

Order **APODIFORMES:** Swifts, Hummingbirds and Owllet-nightjars

The monophyly of the Caprimulgiformes has long been questioned, as reviewed by Mayr (2002). That *Aegotheles* does not belong in this order was clearly stated in a generally overlooked study of cranial morphology (Simonetta 1967), in which *Aegotheles* was found to be more closely related to basal or primitive apodids than to caprimulgids. The differences were so profound that Simonetta erected Aegothelae for the genus (Simonetta 1967: 31). Sibley *et al.* (1988) also placed *Aegotheles* at subordinal level, based on DNA evidence, calling the group Aegotheli, apparently unaware of Simonetta's name (1967). Recent osteological and genetic studies (e.g. Mayr 2002, 2005; Mayr *et al.* 2003; Barrowclough *et al.* 2006) provide overwhelming evidence that the Caprimulgiformes (*sensu del Hoyo et al.* 1999) is paraphyletic, and that Aegothelidae forms a clade with Apodiformes—Hemiprocnidae and Apodidae (swifts) and Trochilidae (hummingbirds)—outside the other members of Caprimulgiformes. Many additional studies (reviewed by Sangster 2005) have supported this relationship. Sangster (2005) gave the non-Linnaean name Daedalornithes for the clade of Apodiformes and *Aegotheles*, however the relationship can be as easily accommodated by transferring Aegothelae to the Apodiformes (Barrowclough *et al.* 2006), which suggestion we follow here.

Suborder **AEGOTHELAE: Owllet-nightjars**

Family **AEGOTHELIDAE Bonaparte: Owllet-nightjars**

Aegothelinae Bonaparte, 1853: *Compt. Rend. Séa. Acad. Sci., Paris* 37(18): 645 – Type genus *Aegotheles* Vigors & Horsfield, 1827.

Genus **Aegotheles** Vigors & Horsfield

Aegotheles Vigors & Horsfield, 1826: *Trans. Linn. Soc. London* 15(1): 194 – Type species (by monotypy) *Caprimulgus novaehollandiae* Latham = *Aegotheles cristatus* (White).

Euaegotheles Mathews, 1918: *Birds Australia* 7: 52 – Type species (by original designation) *Batrachostomus psilopterus* Gray = *Aegotheles crinifrons* (Bonaparte).

Megaegotheles Scarlett, 1968: *Notornis* 15: 254 – Type species (by monotypy) *Megaegotheles novaeseelandiae* Scarlett = *Aegotheles novaeseelandiae* (Scarlett).

Potts (1871, 1873) described a small bird from locations in both Canterbury and Westland that he considered was either a small owl or a member of Podargidae. It was poorly described and no specimen was kept, but it was described as the size of a kingfisher and of very gentle nature. It is possible that this bird was *Aegotheles novaeseelandiae*, not otherwise recorded alive. The use of the name *Strix parvissima* by Ellman indicates that this bird was known several years before Potts (1871), making the name available. However, in the absence of an adequate description these records are unidentifiable, and the following names are *nomina dubia*:

Strix parvissima Ellman, 1861: *Zoologist* 19: 7465. *Nomen dubium*.

Strix parvissima Potts, 1871: *Trans. N.Z. Inst.* 2: 68 – Rangitata River, Canterbury. *Nomen dubium*.

Athene (Strix) parvissima Potts; Potts 1873, *Trans. N.Z. Inst.* 5: 172. *Nomen dubium*.

▶ †**Aegotheles novaeseelandiae** (Scarlett)

New Zealand Owllet-nightjar

Megaegotheles novaeseelandiae Scarlett, 1968: *Notornis* 15: 254 – Canaan, Takaka, Nelson.

Aegotheles novaeseelandiae (Scarlett); Olson, Balouet & Fisher 1987, *Gerfaut* 77: 349.

Aegotheles novaezelandiae (Scarlett); Tennyson & Martinson 2006, *Extinct Birds of New Zealand*: 104. Unjustified emendation.

Extinct. Widespread at Late Pleistocene and Holocene fossil sites (particularly caves) in the North and South Islands. Rarely recorded from middens. Larger than *Aegotheles* of Australia and probably flightless or nearly so (Rich & Scarlett 1977). Olson *et al.* (1987) synonymised *Megaegotheles* with *Aegotheles*. The phylogeny of Aegothelidae was recently assessed, based on mtDNA sequences, and *A. novaezelandiae* shown to be the sister taxon of *A. savesi* from New Caledonia. Together they are basal in the genus (Dumbacher *et al.* 2003).

Suborder APODI: Swifts and Treeswifts

Family APODIDAE Olphe-Galliard: Swifts

Subfamily APODINAE Olphe-Galliard: Swiftlets, Spinetails and Typical Swifts

Apodidae Olphe-Galliard, 1887: *Contrib. Faune Ornith. Europe Occidentale* 22: 90 – Type genus *Apus* Scopoli, 1777.

Order of species follows Christidis & Boles (1994, 2008) and Schodde (1997c).

Tribe CHAETURINI: Needletails

Chaetureae Bonaparte, 1857: *Rivista Contemporanea, Torino* 9: 212 – Type genus *Chaetura* Stephens, 1826.

Genus *Hirundapus* Hodgson

Hirundapus Hodgson, 1837: *Journ. Asiatic Soc. Bengal* 5: 780 – Type species (by original designation) *Hirundapus nudipes* Hodgson = *Hirundapus caudacutus nudipes* Hodgson.

▶ *Hirundapus caudacutus* (Latham) **White-throated Needletail**

Breeds from western Siberia east to Japan and south to Taiwan, Burma and the Himalayas. Two subspecies. Nominate race a long-distance migrant to New Guinea and Australia. Also called the spine-tailed swift.

Hirundapus caudacutus caudacutus (Latham) **White-throated Needletail**

Hirundo caudacuta Latham, 1802: *Index Ornith. Suppl.*: lvii – “Nova Hollandia”, restricted to New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 341).

Chaetura [sic] *caudacuta* (Latham); Buller 1905, *Suppl. Birds N.Z.* 1: 95.

Chaetura caudacuta caudacuta (Latham); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 428.

Hirundapus caudacutus caudacutus (Latham); Checklist Committee 1990, *Checklist Birds N.Z.*: 188.

Hirundapus caudacutus (Latham); Moore 1999, *Notornis* 46: 363.

Breeds from western Siberia and Mongolia to Sakhalin, Kurile Islands, Manchuria and Japan. Migrates through China to winter in New Guinea, Australia and Tasmania from Oct. to Mar. / Apr. Straggler to New Zealand: many records from 1888 (mainly between Nov. and Apr.), mostly in the North Island but as far south as the Snares Islands/Tini Heke; also Chatham Islands (Scofield 2005a, Miskelly *et al.* 2006). Irruptions noted in some years (1942–43, 1968–69; e.g. McCaskill 1943). Vagrant to Macquarie Island (e.g. Jan. 1960; Warham 1961). Irregular migrant on Norfolk Island (Schodde *et al.* 1983).

Tribe APODINI: Typical Swifts

Apodidae Olphe-Galliard, 1887: *Contrib. Faune Ornith. Europe Occidentale* 22: 90 – Type genus *Apus* Scopoli, 1777.

Genus *Apus* Scopoli

Apus Scopoli, 1777: *Intro. Hist. Nat.*: 483 – Type species (by tautonymy) *Hirundo apus* Linnaeus = *Apus apus* (Linnaeus).

Cypselus Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 229 – Type species (by subsequent designation) *Hirundo apus* Linnaeus = *Apus apus* (Linnaeus).

► *Apus pacificus* (Latham)

Fork-tailed Swift

Breeds in Siberia, China, Japan, Taiwan, Indochina, Malaysia and west to India, Tibet and the Himalayas. Migratory or sedentary. Four subspecies.

Apus pacificus pacificus (Latham)

Fork-tailed Swift

Hirundo pacifica Latham, 1802: *Index Ornith. Suppl.*: lviii – “Nova Hollandia”, restricted to New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 344).

Micropus pacificus Blyth [sic]; Hutton 1904, *Index Faunae N.Z.*: 37.

Cypselus pacificus (Latham); Buller 1905, *Suppl. Birds N.Z.* 1: 95.

Apus pacificus (Latham); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 428.

Apus pacificus pacificus (Latham); Checklist Committee 1953, *Checklist N.Z. Birds*: 57.

Apus (Apus) pacificus pacificus (Latham); Schodde 1997, *Zool. Cat. Australia* 37.2: 344.

Breeds in north-east Asia, including Japan and Korea. Winters in New Guinea, Australia and Tasmania from Oct. to Apr. Straggler to New Zealand: more than a dozen records since 1884 from both main islands; also Manawatāwhi/Three Kings (Medway 2001c), Chatham (Guest 1992, Miskelly *et al.* 2006) and Antipodes Islands (Medway 2003a). Many sightings have been between Oct. and Feb., but others, surprisingly, have been in May, Jun., Jul., Aug. and Sep. Occasional vagrant to Macquarie Island (e.g. Dec. 1958; Gibson 1959). Irregular migrant on Norfolk Island (Schodde *et al.* 1983).

Order **CORACIIFORMES**: Kingfishers, Bee-eaters, Rollers and Allies

Suborder **ALCEDINES**: Kingfishers, Todies and Motmots

Family **HALCYONIDAE** Vigors: Forest Kingfishers

Halcyonidae Vigors, 1825: *Trans. Linn. Soc. London* 14(3): 428 – Type genus *Halcyon* Swainson, 1821.

This group is sometimes treated as a subfamily within Alcedinidae (e.g. Schodde 1997d) but we follow Christidis & Boles (1994, 2008) in recognising it at the familial level. Order of species follows Christidis & Boles (2008).

Genus ***Dacelo** Leach

Dacelo Leach, 1815: *Zool. Miscell.* 2: 125 – Type species (by subsequent designation) *Alcedo gigantea* Latham = *Dacelo novaeguineae* (Hermann).

▶ ***Dacelo novaeguineae** (Hermann)

Laughing Kookaburra

Eastern Australian mainland. Introduced to Western Australia, Tasmania and New Zealand. Two subspecies.

***Dacelo novaeguineae novaeguineae** (Hermann)

Laughing Kookaburra

Alcedo novae Guineae Hermann, 1783 (before November): *Tabula Affinit. Animalium*: 192 – “Nouvelle Guinée”, error for Cumberland, New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 356).

Alcedo gigas Boddaert, 1783 (December): *Tables des Planches Enluminées d'Histoire Naturelle de M. d'Aubenton*: 40 – “Nouvelle Guinée” and “New Holland”, restricted to Cumberland, New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 356).

Dacelo novaeguineae novaeguineae (Hermann); Checklist Committee 1953, *Checklist N.Z. Birds*: 58.

Dacelo gigas (Boddaert); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 63.

Dacelo novaeguineae (Hermann); Checklist Committee 1980, *Notornis (Suppl.)* 27: 21.

Australia. In New Zealand a small number persist on Kawau Island and the adjacent mainland from Cape Rodney to the Whangaparaoa Peninsula. These are assumed to be descended from Sir George Grey's introduction of kookaburras to Kawau Island in the early 1860s (Thomson 1922). Some evidence of an increase southward into urban Auckland (Robertson, C. *et al.* 2007). Stragglers occur more widely in Northland, and occasionally reach other parts of New Zealand as far afield as Otago (Heather & Robertson 1996).

Genus **Todiramphus** Lesson

Todiramphus Lesson, 1827: *Mém. Soc. Hist. Nat. Paris* 3: 420 – Type species (by subsequent designation) *Todiramphus sacer* Lesson = *Todiramphus tutus* (Gmelin).

Sauropatis Cabanis & Heine, 1860: *Mus. Heineanum* 2: 158 – Type species (by subsequent designation) *Halcyon sanctus* Vigors & Horsfield = *Todiramphus sanctus* (Vigors & Horsfield).

Todirhamphus Salvadori, 1880: *Ornitologia Papuasie Molucche* 1: 468. Unjustified emendation.

Todiramphus is now used for the Australasian and south-west Pacific kingfishers of this group, leaving *Halcyon* for the Afro-Asian species (e.g. Christidis & Boles 1994, 2008; Schodde 1997d). A molecular phylogeny supported this (Moyle 2006). Swainson (1821) figured and described the Micronesian kingfisher *Todiramphus cinnamominus* with a type locality of New Zealand, and Potts (1871) reported two further sightings.

Subsequent workers have dismissed these as a mislabelling and mistaken identifications respectively (e.g. Finsch 1873).

► **Todiramphus macleayii** (Jardine & Selby) **Forest Kingfisher**

Halcyon Macleayii Jardine & Selby, 1830: *Illustr. Ornith.* (ser. 1) 7: pl. 101 & text – “New Holland”, restricted to Port Essington, Northern Territory, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 369).

Halcyon macleayii macleayii Jardine & Selby; Peters 1945, *Check-list Birds World* 5: 202.

Todiramphus macleayii (Jardine & Selby); Christidis & Boles 1994, *Taxonomy Species Birds Australia* 2: 19.

Todiramphus (Lazulena) macleayii (Jardine & Selby); Schodde 1997, *Zool. Cat. Australia* 37.2: 369.

Widespread in north and east Australia, in Top End and from eastern Gulf of Carpentaria to north-east New South Wales; also southern and eastern New Guinea. One record from Norfolk Island, Oct. 1996 (Anon. 1996); subspecies not known but most likely *T. m. incinctus* Gould, 1838, which occurs on the Australian east coast.

► **Todiramphus sanctus** Vigors & Horsfield **Sacred Kingfisher**

Halcyon sanctus Vigors & Horsfield, 1827: *Trans. Linn. Soc. London* 15: 206 – “New Holland”, restricted to New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 365).

Widespread in Australia (n nominate subspecies); southern populations wintering in northern Australia, Philippines, Indonesia, New Guinea and Solomon Islands. Resident in New Zealand and Lord Howe Island (subspecies *T. s. vagans*), Norfolk Island (*T. s. norfolkiensis*), the Loyalty Islands (*T. s. macmillani* Mayr, 1940) and New Caledonia (*T. s. canacorum* Brasil, 1916).

Todiramphus sanctus norfolkiensis (Tristram) **Norfolk Island Kingfisher**

Halcyon norfolkiensis Tristram, 1885: *Ibis* 3 (5th ser.): 49 – Norfolk Island.

Halcyon norfolkiensis; Tristram 1889, *Cat. Coll. Birds H.B. Tristram*: 93. Unjustified emendation. *Sauropatis sancta norfolkiensis* (Tristram); Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 27.

Halcyon sancta norfolkiensis Tristram; Peters 1945, *Check-list Birds World* 5: 205.

Halcyon sanctus; Lindsay 1963, *Notornis* 10: 304. Not *Halcyon sanctus* Vigors & Horsfield, 1827.

Halcyon sancta; Wakelin 1968, *Notornis* 15: 171. Not *Halcyon sanctus* Vigors & Horsfield, 1827.

Todiramphus (Todiramphus) sanctus norfolkiensis (Tristram); Schodde 1997, *Zool. Cat. Australia* 37.2: 366.

A common and widespread resident on Norfolk Island, presently restricted to the main island (Schodde *et al.* 1983).

Todiramphus sanctus vagans (Lesson) **New Zealand Kingfisher**

Alcedo vagans Lesson, 1828: *Manuel d'Ornith.* 2: 89 – Bay of Islands.

Halcyon vagans (Lesson); G.R. Gray 1843, *in* E. Dieffenbach, *Travels in N.Z.* 2: 186.

Alcedo cyanea J.R. Forster, 1844: *in* M.H.C. Lichtenstein, *Descrip. Animalium*: 76 – North Island.

Dacelo vagans (Lesson); Peale 1848, *U.S. Expl. Exped.* 8: 162.

Dacelo albifrons Peale, 1848: *U.S. Expl. Exped.* 8: 162 – Bay of Islands.

Todirhamphus vagans (Lesson); Bonaparte 1850, *Consp. Gen. Avium* 1: 157.

Halcyon cinnamominus; Potts 1871, *Trans. N.Z. Inst.* 3: 71. Not *Todiramphus cinnamominus* (Swainson, 1821).

Sauropatis sanctus vagans (Lesson); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 429.

Sauropatis sanctus forsteri Mathews & Iredale, 1913; *Ibis* 1 (10th ser.): 429 – South Island.

Halcyon sancta vagans (Lesson); Checklist Committee 1953, *Checklist N.Z. Birds*: 58.

Todiramphus (Todiramphus) sanctus vagans (Lesson); Schodde 1997, *Zool. Cat. Australia* 37.2: 367.

Widespread throughout North and South Islands and Stewart Island/Rakiura—and on most offshore islands; also the Kermadec Island Group. Especially common and widespread in the North Island; least numerous in inland and southern areas of the South Island (Robertson, C. *et al.* 2007). There appears to be a movement in winter from inland high country and forest to lowland farmland and the coast (Taylor, R.H. 1966). Straggler to Chatham Islands (Miskelly *et al.* 2006). Poorly represented in Holocene fossil deposits. This could mean that the species colonised New Zealand relatively recently (Millener 1990), or that it was confined to coastal habitats before the major episode of Māori deforestation 400–600 years ago (Holdaway *et al.* 2001: 136).

Suborder CORACII: Rollers and Allies

Family CORACIIDAE Rafinesque: Rollers

Coracina Rafinesque, 1815: *Analyse de la Nature*: 67 – Type genus *Coracias* Linnaeus, 1758.

Genus *Eurystomus* Vieillot

Eurystomus Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 37 – Type species (by monotypy)

Coracias orientalis Linnaeus = *Eurystomus orientalis orientalis* (Linnaeus).

Hirundolanius Buller, 1882: *Man. Birds of N.Z.*: 7 – Type species (by monotypy) *Hirundolanius*

coeruleus Buller = *Eurystomus orientalis pacificus* (Latham).

► *Eurystomus orientalis* (Linnaeus)

Dollarbird

Coracias orientalis Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 159 – “India orientali” = Java, Indonesia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 386).

Asia and Australasia. Resident, nomadic or migratory. Ten subspecies. Also called the eastern broad-billed roller.

Eurystomus orientalis pacificus (Latham)

Dollarbird

Coracias pacifica Latham, 1802: *Index Ornith. Suppl.*: xxvii – “Nova Hollandia”, restricted to Port Jackson, New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 387).

Eurystomus Australis Swainson, 1838: *Cabinet Cyclopaedia* 98: 326 – “New Holland”, restricted to New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 387).

Hirundolanius coeruleus Buller, 1882: *Man. Birds of N.Z.*: 7 – Westport.

Eurystomus pacificus (Latham); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 118.

Eurystomus australis Swainson; Buller 1905, *Suppl. Birds N.Z.* 1: 96.

Eurystomus orientalis pacificus (Latham); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 428.

Eurystomus orientalis; Stidolph 1927, *Emu* 26: 218. Not *Coracias orientalis* Linnaeus, 1766.

Breeds in north and east Australia. Migrates at the end of summer to Indonesia and New Guinea. Straggler to New Zealand (e.g. Brathwaite 1956, Barlow 1967, Clunie 1971): many records since 1882, mostly of young birds, singly or in small groups, usually between Dec. and May (the time of the northward migration). Irregular migrant on Norfolk Island (Schodde *et al.* 1983).

Order PASSERIFORMES: Passerine (Perching) Birds

See Christidis & Boles (2008) for a review of recent studies relevant to the higher-level systematics of the passerine birds.

Suborder ACANTHISITTI: New Zealand Wrens

Sibley *et al.* (1982) confirmed the primitive nature of the Acanthisittidae among passerines and proposed separating them as the infraorder Acanthisittides. Recent molecular work by Ericson *et al.* (2002) and Barker *et al.* (2004) went further, showing that New Zealand wrens are the basal member of the passerine clade and the sister-taxon to all other passerines. We therefore place them in their own suborder (Acanthisitti) rather than in the suboscines (suborder Tyranni or Oligomyodi).

Family ACANTHISITTIDAE Sundevall: New Zealand Wrens

Acanthisittinae Sundevall, 1872: *Methodi Naturalis Avium Tentamen 1*: 47 – Type genus *Acanthisitta* Lafresnaye, 1842.

Order of species follows Checklist Committee (1990), except that the North Island form of *Pachyplichas* is placed before the South Island form. *Dendroscansor* is placed last in the sequence as it seems to be a highly modified form.

Genus *Acanthisitta* Lafresnaye

Acanthisitta Lafresnaye, 1842: *Mag. Zool., Paris* (ser. 2) 4: 1, pl. 27 – Type species (by monotypy) *Acanthisitta tenuirostris* Lafresnaye = *Acanthisitta chloris chloris* (Sparrrman).

Acanthisittositta Buller, 1888: *History of the Birds of N.Z., 2nd edition 1*: 113. Unjustified emendation.

Chlorisitta Mathews, 1935: *Bull. Brit. Ornith. Club* 55: 113 – Type species (by original designation) *Sitta chloris* Sparrrman = *Acanthisitta chloris chloris* (Sparrrman).

► *Acanthisitta chloris* (Sparrrman)

Rifleman

New Zealand. Originally occurred widely in North and South Islands, Stewart Island/Rakiura, and outliers. Range reduced following settlement mainly to residual forests, although (unlike *Xenicus* spp.) capable of adapting to exotic vegetation and occurs widely in commercial pine plantations. Common in *Nothofagus* forests of mountainous areas of both main islands.

Acanthisitta chloris granti Mathews & Iredale

North Island Rifleman

Acanthisitta chloris granti Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 432 – North Island.

Chlorisitta chloris granti (Mathews & Iredale); Mathews 1935, *Bull. Brit. Ornith. Club* 55: 113.

North Island, Great Barrier (Aotea) and Hauturu/Little Barrier Islands. Widespread in forests of central and southern North Island, but signs of a recent range reduction in the west (Robertson, C. *et al.* 2007). In Northland restricted to a small relict population recently discovered at Warawara Forest, north of Hokianga Harbour (Pierce 1994). Holocene fossils have been found at Cape Reinga (Gill 1996b), Waitomo and Hawke's Bay.

Acanthisitta chloris chloris (Sparrrman)

South Island Rifleman

Sitta Chloris Sparrrman, 1787: *Mus. Carlsonianum* 2: n° XXXIII, pl. 33 – “Cape of Good Hope”, error for Queen Charlotte Sound, Marlborough (*vide* Oliver 1955, *New Zealand Birds*, 2nd edition: 449).

Motacilla citrina Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 979. Based on the “Citrine Warbler” of Latham 1783, *Gen. Synop. Birds* 2: 464 – “Nova Seelandia”, restricted to Dusky Sound, Fiordland (*vide* Oliver 1955, *New Zealand Birds*, 2nd edition: 451).

Sylvia citrina (Gmelin); Latham 1790, *Index Ornith.* 2: 529.

Sitta punctata Quoy & Gaimard, 1830: *in* Dumont d’Urville, *Voyage Astrolabe Zool.* 1: 221 – Tasman Bay.

Acanthisitta punctata (Quoy & Gaimard); G.R. Gray 1841, *List Gen. Birds* (2nd edition) Appendix: 6.

Acanthisitta tenuirostris Lafresnaye, 1841: *Rev. de Zool., Paris* 4: 242 – New Zealand.

Acanthisitta citrina (Gmelin); G.R. Gray 1841, *List Gen. Birds* (2nd edition) Appendix: 6.

Acanthisitta tenuirostris (Lafresnaye); Lafresnaye 1842, *Mag. Zool., Paris* (ser. 2) 4: 1, pl. 27.

Motacilla citrinella J.R. Forster, 1844: *in* M.H.C. Lichtenstein, *Descrip. Animalium*: 89 – South Island.

Acanthisitta punctata (Quoy & Gaimard); Ellman 1861, *Zoologist* 19: 7466.

Acanthisitta chloris (Sparman); G.R. Gray 1862, *Ibis* 4: 219.

Acanthisitta chloris (Sparman); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 113.

Acanthisitta citrina (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 103.

Acanthisitta chloris chloris (Sparman); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 431.

Chlorisitta chloris chloris (Sparman); Mathews 1935, *Bull. Brit. Ornith. Club* 55: 113.

Acanthisitta chloris citrina (Gmelin); Oliver 1955, *New Zealand Birds*, 2nd edition: 451.

Widespread from Nelson and Marlborough to Fiordland; also Stewart Island/Rakiura and outliers. Holocene fossils have been found in cave sites in north-west Nelson, Punakaiki and North Canterbury (e.g. Worthy 1993a, Worthy & Holdaway 1995).

Genus *Xenicus* G.R. Gray

Xenicus G.R. Gray, 1855: *Cat. Genera Subgenera Birds*: 31 – Type species (by original designation) *Motacilla longipes* Gmelin = *Xenicus longipes longipes* (Gmelin).

Xenicornis Mathews & Iredale, 1926: *Bull. Brit. Ornith. Club* 46: 76 – Type species (by original designation) *Xenicus gilviventris* Pelzeln.

†*Xenicus longipes* (Gmelin)

Bush Wren

Extinct. New Zealand. Formerly North Island, South Island, and Stewart Island/Rakiura and its outliers. Last reliable sighting 1972 on Kaimohu Island off Stewart Island/Rakiura, following transfer of birds to that island (Merton 2004).

†*Xenicus longipes stokesii* G.R. Gray

North Island Bush Wren

Xenicus stokesii G.R. Gray, 1862: *Ibis* 4: 219 – “Rima-Taka” = Rimutaka Hills (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 434).

Xenicus stokesi G.R. Gray; Buller 1905, *Suppl. Birds N.Z.* 2: 107. Unjustified emendation.

Xenicus longipes stokesii G.R. Gray; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 434.

Xenicus longipes stokesi G.R. Gray; Checklist Committee 1953, *Checklist N.Z. Birds*: 58. Unjustified emendation.

Possible sightings on Kapiti Island, 1911 (Miskelly 2003b); near Wellington, 1918 (Stidolph 1926); and at Lake Waikaremoana, 1949 (Edgar 1949) and 1955 (St Paul 1977). Only three museum specimens (skins) known; two from Rimutaka Range, 1850, and one from Taupo (Fisher 1981). Holocene fossil bones from cave and dune sites show that the species was formerly widely distributed in the North Island.

†***Xenicus longipes longipes*** (Gmelin)**South Island Bush Wren**

Motacilla longipes Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 979. Based on the “Long-legged Warbler” of Latham 1783, *Gen. Synop. Birds* 2: 465 – “Nova Seelandia”, restricted to Dusky Sound, Fiordland (*vide* Oliver 1955, *New Zealand Birds*, 2nd edition: 453).

Sylvia longipes (Gmelin); Latham 1790, *Index Ornith.* 2: 529.

Acanthisitta longipes (Gmelin); G.R. Gray 1841, *List Gen. Birds* (2nd edition) *Appendix*: 6.

Motacilla longipes J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 88 – South Island. Junior primary homonym of *Motacilla longipes* Gmelin, 1789.

Xenicus longipes (Gmelin); G.R. Gray 1862, *Ibis* 4: 218.

Zenicus [sic] *longipes* (Gmelin); Travers 1883, *Trans. Proc. N.Z. Inst.* 15: 186.

Xenicus longipes longipes (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 434.

Formerly widespread, especially in forests of mountainous areas. Possible sightings near Lake Hauroko, Southland, 1947 (Dunckley & Todd 1949), and in Nelson Lakes National Park, 1968 (Cresswell 1968).

†***Xenicus longipes variabilis*** Stead**Stead’s Bush Wren**

Xenicus longipes variabilis Stead, 1936: *Trans. Proc. Roy. Soc. N.Z.* 66: 313 – Islands southwest of Stewart Island.

Xenicornis longipes steadi Mathews, 1944: *Emu* 43: 245 – Solomon Island, off Stewart Island.

Formerly on Stewart Island/Rakiura (presumably this subspecies) and outlying islands south-west of Stewart Island/Rakiura. The last known population became extinct in 1965 after ship rats *Rattus rattus* reached Taukihepa/Big South Cape Island (Bell 1978). Birds transferred to nearby Kaimohu Island were last seen in 1972 (Merton 2004). Possible sightings on Stewart Island/Rakiura, 1950 (Tily 1951) and 1951 (Dawson 1951b).

▶ ***Xenicus gilviventris*** Pelzeln**Rock Wren**

Xenicus gilviventris Pelzeln, 1867: *Verh. zool.-bot. Ges. Wien* 17: 316 – New Zealand, restricted to mountains of South Island (*vide* Checklist Committee 1990, *Checklist Birds N.Z.*: 193).

Xenicus haastii Buller, 1869: *Ibis* 5 (n. ser.): 37 – “Otago” = Southern Alps (*vide* Tennyson & Bartle 2008, *Tuhinga* 19: 199).

Acanthisitta gilviventris (Pelzeln); G.R. Gray 1869, *Hand-list Birds* 1: 183.

Acanthisitta haastii Buller; G.R. Gray 1869, *Hand-list Birds* 1: 183. Unjustified emendation.

Xenicus haastii Buller; Hutton 1871, *Cat. Birds N.Z.*: 72. Unjustified emendation.

Zenicus [sic] *gilviventris* (Pelzeln); Travers 1883, *Trans. Proc. N.Z. Inst.* 15: 187.

Xenicornis longipes gilviventris (Pelzeln); Mathews 1944, *Emu* 43: 245.

Xenicus gilviventris vineyi Falla, 1953: *Notornis* 5: 142 – Lake McArthur, southwestern Fiordland.

Xenicus gilviventris Pelzeln; Checklist Committee 1990, *Checklist Birds N.Z.*: 193.

Currently and historically restricted to South Island alpine and subalpine areas (Nelson to western Southland). Known from Holocene fossils from caves in both North and South Islands (Millener 1990) although the North Island bones may have been incorrectly identified (Worthy & Holdaway 2002: 425). Fossils especially common in certain north-west Nelson caves (e.g. Honeycomb Hill, Oparara). Established in subalpine fell-fields and, in Fiordland, at lower altitudes. Locally common in a few well-known areas, but in need of further management (Wilson 2005). The name “rock wren” is also used for a North American species (*Salpinctes obsoletus*, Troglodytidae).

Genus †*Traversia* Rothschild

Traversia Rothschild, 1894: *Bull. Brit. Ornith. Club* 4: 10 – Type species (by monotypy and original designation) *Traversia lyalli* Rothschild.

▶ †***Traversia lyalli*** Rothschild**Lyall's Wren**

Traversia lyalli Rothschild, 1894: *Bull. Brit. Ornith. Club* 4: 10 – Stephens Island, Cook Strait.

Xenicus insularis Buller, 1895: *Ibis* 1 (7th ser.): 237, pl. 7 – Stephens Island, Cook Strait.

Traversia insularis (Buller); Hamilton 1909, *Hand-list Birds New Zealand*: 14.

Xenicus lyalli (Rothschild); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 64.

Traversia lyalli Rothschild; Checklist Committee 1990, *Checklist Birds N.Z.*: 194.

Formerly North and South Islands and Stephens Island (Takapourewa), Cook Strait. Small relict population discovered on Stephens Island (Takapourewa) in 1894 quickly died out, probably due to predation from several feral cats, rather than, as suggested in most accounts, destruction by one lighthouse keeper's cat (Galbreath & Brown 2004). Holocene fossil bones from accumulations of laughing owl food remains, and other sites, on both main islands, show that Stephens Island (Takapourewa) birds were a relict of a formerly more widespread species. Traditionally called "Stephens Island wren", but this name is clearly inappropriate and we follow others (e.g. Worthy & Holdaway 2002) in using "Lyall's wren".

Genus †*Pachyplichas* Millener

Pachyplichas Millener, 1988: *Journ. Royal Soc. N.Z.* 18(4): 387 – Type species (by original designation) *Pachyplichas yaldwyni* Millener.

North and South Island forms of *Pachyplichas* may not warrant separation (Holdaway *et al.* 2001, Worthy & Holdaway 2002), or they may be best recognised as subspecies of a single species. If this is upheld by new data, *P. yaldwyni* (described on p. 391 of the original description) takes priority over *P. jagmi* (described on p. 395).

▶ †***Pachyplichas jagmi*** Millener**North Island Stout-legged Wren**

Pachyplichas jagmi Millener, 1988: *Journ. Royal Soc. N.Z.* 18(4): 395 – Ruakuri Cave, Waitomo, Waikato.

North Island. Bones found as Holocene fossils in dune-sands in the Far North and in predator deposits and cave pitfall deposits in the King Country, Hawke's Bay and the Wairarapa.

▶ †***Pachyplichas yaldwyni*** Millener**South Island Stout-legged Wren**

Pachyplichas yaldwyni Millener, 1988: *Journ. Royal Soc. N.Z.* 18(4): 391 – Honeycomb Hill Cave, Oparara, north West Coast.

South Island. Bones found as Holocene fossils in predator deposits and cave pitfall deposits in north-west Nelson, Westland, Canterbury and Southland. Known from one archaeological site (Worthy 1999b).

Genus †*Dendroscansor* Millener & Worthy

Dendroscansor Millener & Worthy, 1991: *Journ. Royal Soc. N.Z.* 21(2): 181 – Type species (by monotypy and original designation) *Dendroscansor decurvirostris* Millener & Worthy.

▶ †***Dendroscansor decurvirostris*** Millener & Worthy**Long-billed Wren**

Dendroscansor decurvirostris Millener & Worthy, 1991: *Journ. Royal Soc. N.Z.* 21(2): 182 – Moonsilver Cave, Takaka State Forest, northwest Nelson.

South Island. Extinct in Late Holocene. The rarest species in the Late Quaternary fossil avifauna (Worthy & Holdaway 2002). Fossil bones have been found at only four sites

(caves in north-west Nelson and Southland) and belong to fewer than six individuals in total. Apparently restricted to high-altitude habitats and absent from lowlands of the eastern South Island.

Suborder PASSERES (or POLYMYODI): Oscines (Songbirds)

The arrangement of songbirds in the 1970 Checklist (Checklist Committee 1970) was based on the premise that the species endemic to the Australasian region were derived directly from Eurasian groups and belonged in Old World families (e.g. *Gerygone* and *Petroica* in Muscicapidae). The 1990 Checklist (Checklist Committee 1990) followed the Australian lead in allocating various native songbirds to their own Australasian families (e.g. *Gerygone* to Acanthizidae, and *Petroica* to Eopsaltriidae), but the sequence was still based largely on the old Peters-Mayr arrangement. Since the late 1980s, when the 1990 Checklist was finalised, evidence from molecular biology, especially DNA studies, has shown that most of the Australian and New Zealand endemic songbirds are the product of a major Australasian radiation parallel to the radiation of songbirds in Eurasia and elsewhere. Many superficial morphological and ecological similarities between Australasian and Eurasian songbirds are the result of convergent evolution.

Sibley & Ahlquist (1985, 1990) and Sibley *et al.* (1988) recognised a division of the songbirds into two groups which were called Corvida and Passerida (Sibley & Ahlquist 1990). The Parvorder Corvida contained songbirds with Australasian affinities—nearly all the endemic New Zealand songbirds plus the introduced Australian magpie. The Parvorder Passerida contained songbirds with Old World affinities—nearly all the songbirds introduced to New Zealand, plus one endemic genus (*Bowdleria*) and a few native songbirds (e.g. *Hirundo*, *Zosterops*).

Recent studies (e.g. Barker *et al.* 2004, Cracraft *et al.* 2004) partly supported the distinction between Corvida and Passerida, but questioned the monophyly of the Corvida. Passerida is now thought not to be the sister group to Corvida but to be embedded within it (see detailed discussion by Christidis & Boles 2008) with *Petroica* added to the list of native Australasian passeridans. The following arrangement of New Zealand songbirds is based largely (and where relevant) on the sequence justified by Christidis & Boles (2008). It is an interim scheme which is likely to change in future checklists with further research on songbird phylogeny.

Recent improvements in techniques to eliminate or control mammalian predators on islands, or in defined mainland areas, mean that some of the New Zealand endemic songbirds are being translocated (re-introduced) to growing lists of localities at which predators are controlled. This is extending the ranges of the species concerned—ranges that were shrinking. Many of the more recent transfers are not mentioned in the species accounts because several years must pass before the viability of a given transfer can be assured.

“CORVIDA”: Australasian Songbirds

Corvida is not a monophyletic grouping and it will be split up when the details are worked out through further research. Meanwhile, it is convenient to distinguish the songbirds of Australasian origin and affinity from those (Passerida) that derive from groups with immediate ancestry elsewhere. The families recognised in this section, and their sequence, largely follow Christidis & Boles (2008). The three endemic families of New Zealand

oscines—New Zealand wattlebirds (Callaeidae), stitchbird (Notiomystidae) and piopios (Turnagridae)—have presumably all had long evolutionary histories in New Zealand, with relatively early divergence from other corvidan lineages, and are placed first. The taxonomy of Norfolk Island songbirds follows Schodde & Mason (1999) which was based on a detailed analysis of Australian and Norfolk Island specimens.

In his list of the birds of New Zealand, G.R. Gray (1862) included the species *Climacteris scandens* Temminck, 1824—now a junior synonym of *Cormobates leucophaeus leucophaeus* (Latham, 1802)—giving its locality as Norfolk Island, following a record published by Pelzeln (1860). As we have not been able to find further confirmation of that record, we have not included that species in this checklist.

INCERTAE SEDIS

Family CALLAEIDAE Sundevall: New Zealand Wattlebirds

Callaeidides Sundevall, 1836: *Kungl. Svenska Vetenskapsakad. Handl.* 1835: 92 – Type genus *Callaeas* J.R. Forster, 1788.

Some authors use “Callaeatidae”, but Callaeidae is better established and was recommended by Bock (1994: 219). The relationships of this endemic New Zealand family, and hence its place in the sequence of passerine families, are uncertain, other than for a distant relationship to the stitchbird (Ewen *et al.* 2006, Driskell *et al.* 2007). Barker *et al.* (2004) reported a newly discovered clade that included Callaeidae, cnemophiline birds-of-paradise and Melanocharitidae (berrypeckers). Some support for this has emerged (Shepherd & Lambert 2007) but not strong support (Ewen *et al.* 2006). Further uncertainty came from a study by Irestedt & Ohlson (2008) who, surprisingly, found “reasonable support” for a passeridan affinity of Callaeidae and Cnemophilidae. Whatever the case, as families endemic to New Zealand, both Callaeidae and Notiomystidae are likely to have branched early from their sister taxa. Although *incertae sedis*, they are placed first in the oscine sequence until their exact position is resolved. The sequence of genera follows Checklist Committee (1990).

Genus *Callaeas* J.R. Forster

Callaeas J.R. Forster, 1788 (27 March): *Enchiridion*: 35 – Type species (by monotypy) “great Wattle bird of N. Zealand” = *Callaeas cinerea* (Gmelin).

Glaucopis Gmelin, 1788 (25 July): *Syst. Nat., 13th edition* 1(1): 363 – Type species (by monotypy) *Glaucopis cinerea* Gmelin = *Callaeas cinerea* (Gmelin).

Cryptorhina Wagler, 1827: *Syst. Avium* 1: sign. 814. *Nomen novum* for *Crypsirina* Vieillot, 1816. In part.

Calloeus Daudin, 1800: *Traité Elém. Compl. Ornith.* 1: 410. Unjustified emendation.

Callaeus G.R. Gray, 1840: *List Gen. Birds* (1st edition): 38. Unjustified emendation.

Two species of kokako are recognised, reflecting marked differences in wattle colour. This follows Oliver (1955) and Holdaway *et al.* (2001). Murphy *et al.* (2006) confirmed a phylogenetic divergence between North and South Island taxa.

► *Callaeas wilsoni* (Bonaparte)

North Island Kokako

Glaucopis wilsoni Bonaparte, 1851: *Consp. Gen. Avium* 1: 368 – New Zealand.

Callaeas olivascens Pelzeln, 1867: *Verh. zool.-bot. Ges. Wien* 17: 317 – New Zealand.

Glaucopis olivascens (Pelzeln); Finsch 1870, *Journ. für Ornith.* 18: 324.

Callaeas wilsoni (Bonaparte); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 452.

Callaeas cinerea wilsoni (Bonaparte); Checklist Committee 1953, *Checklist N.Z. Birds*: 68.

Found on European settlement in forests of the mid-northern, central and southern North Island, and on Great Barrier Island (Aotea Island); absent from extensive areas of the eastern North Island. Underwent steady decline which continues. Still present in native forest in parts of Northland, Hunua Ranges, Bay of Plenty and Te Urewera National Park; very small remnant populations in Coromandel Peninsula, west Waikato and north Taranaki. Mainland birds were successfully transferred to Hauturu/Little Barrier Island (1980–88), and two birds remaining in northern Great Barrier Island (Aotea Island) were moved to Hauturu/Little Barrier Island in 1994. Translocated successfully to Tiritiri Matangi Island (1997–98) and Kapiti Island (1991–96); other translocations underway. Holocene fossils of this species are particularly numerous, indicating that it was formerly present in many areas (especially coastal) from which it was absent at the time of European settlement. Particularly abundant as a fossil in Far North sand-dune sites and King Country caves. Recorded also from a few midden sites.

▶ †***Callaeas cinerea*** (Gmelin)

South Island Kokako

Glaucoptis cinerea Gmelin, 1788: *Syst. Nat.*, 13th edition 1(1): 363. Based on the “Cinereous Wattle-bird” of Latham 1781, *Gen. Synop. Birds* 1: 364, pl. 14 – Queen Charlotte Sound, Marlborough.

Cryptorhina Callaeas Wagler, 1827: *Syst. Avium* 1: sp. 5 – New Zealand.

Callaeas cinerea (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 191.

Callaeas cinerea cinerea (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 68.

Regarded as extinct. Distribution on European settlement included western forest regions from north-west Nelson to Fiordland; also Banks Peninsula and, probably, large areas of beech forest adjacent to the mountains and subalpine scrub; in forest and scrub on Stewart Island/Rakiura. The last generally accepted sighting was in Mount Aspiring National Park in 1967 (McBride 1981). Recent records are few, and unconfirmed. Holocene fossil, and midden, records from widely distributed sites; one Stewart Island/Rakiura fossil record. David & Gosselin (2002b) stated that *Callaeas* is masculine and the correct form of the name should be *C. cinereus* not *C. cinerea*, but the point is arguable (see Introduction).

Genus *Philesturnus* Geoffroy St-Hilaire

Creadion of authors. Not *Creadion* Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 34 (*vide* Mathews 1925, *Bull. Brit. Ornith. Club* 45: 76).

Philesturnus Geoffroy St-Hilaire, 1832: *Nouv. Ann. Mus. Hist. Nat. Paris* 1: 390 – Type species (by monotypy) *Sturnus carunculatus* Gmelin = *Philesturnus carunculatus* (Gmelin).

Oxyostomus Swainson, 1837: *Classification of Birds* 2: 270 – Type species (by monotypy) *Sturnus carunculatus* Gmelin = *Philesturnus carunculatus* (Gmelin).

We follow Holdaway *et al.* (2001) in recognising two species of saddleback, reflecting differences in juvenile plumage and skeletal measurements.

▶ ***Philesturnus rufusater*** (Lesson)

North Island Saddleback

icterus [sic] *rufusater* Lesson, 1828 (June): *Manuel d'Ornith.* 1: 355 – Bay of Islands, Northland.

Icterus novaeseelandiae Lesson & Garnot, 1829 (4 April): in M.L.I Duperrey, *Voy. Coquille, Zool.* 1: 415 – Bay of Islands, Northland. Junior secondary homonym of *Creadion novaeseelandiae* Stephens, 1826.

Icterus rufusater Lesson & Garnot, 1829 (4 April): in M.L.I Duperrey, *Voy. Coquille, Zool.* 1: pl. 23, fig. 1 – Bay of Islands, Northland. Junior primary homonym of *Icterus rufusater* Lesson, 1828.

Philesturnus carunculata rufusater (Lesson); Mathews 1944, *Emu* 43: 246. Unjustified emendation.

Philesturnus carunculatus rufusater (Lesson & Garnot); Checklist Committee 1953, *Checklist N.Z. Birds*: 67.

Creadion carunculatus rufusater (Lesson); Amadon in Peters 1962, *Check-list Birds World* 15: 158.

Philesturnus carunculatus rufusater (Lesson); Checklist Committee 1990, *Checklist Birds N.Z.*: 225.

Philesturnus rufusater (Lesson); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 138, 180.

Distribution on European settlement included the whole of the North Island; also Great Barrier (Aotea) and Hauturu/Little Barrier, Hen and Chickens and Cuvier (Repanga) Islands. By about 1950 it had been reduced to a single population on Hen Island/Taranga Island (Hen and Chickens Group). From there, under the management programme of the Wildlife Service (later, Department of Conservation), beginning in 1964, it has been successfully transferred to: other islands of the Hen and Chickens Group, namely Lady Alice (1971), Whatupuke (1964), and from the latter by self-introduction to Coppermine; Cuvier Island (Repanga Island) (1968); islands of the Mercury Group, namely Red Mercury (Whakau) (1966) and KawhITU/Stanley (1977); Hauturu/Little Barrier Island (1984–88); Kapiti Island (1981–89); Tiritiri Matangi Island (1984); and Mokoia Island in Lake Rotorua (1992). Other translocations underway. Unsuccessful transfers to Motukawanui (Cavalli Group) and Fanal Island (Motukino) (Mokohinau Group). Holocene fossil records numerous and widely distributed; relatively few midden records.

► *Philesturnus carunculatus* (Gmelin)

South Island Saddleback

Sturnus carunculatus Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 805. Based on the "Wattle Stare" of Latham 1783, *Gen. Synop. Birds* 3: 9, pl. 36 – Queen Charlotte Sound, Marlborough.

Creadion pharoides Vieillot, 1817: *Nouv. Dict. Hist. Nat.*, nouv. éd. 8: 390. Unnecessary *nomen novum* for *Sturnus carunculatus* Gmelin, 1789.

Creadion novaezealandiae Stephens, 1826: in G. Shaw, *General Zool.* 14(1): 265. Unnecessary *nomen novum* for *Sturnus carunculatus* Gmelin, 1789.

Xanthornus carunculatus (Gmelin); Quoy & Gaimard 1830, in Dumont d'Urville, *Voyage Astrolabe Zool.* 1: 212, pl. 12, fig. 4.

Philesturnus carunculatus (Gmelin); Geoffroy St-Hilaire 1832, *Nouv. Ann. Mus. Hist. Nat. Paris* 1: 391.

Oxystomus carunculatus (Gmelin); Swainson 1837, *Classification of Birds* 2: 270.

Sturnus carunculatus J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 81 – South Island. Junior primary homonym of *Sturnus carunculatus* Gmelin, 1789.

Creadion carunculatus (J.R. Forster); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 8.

Creadion cinereus Buller, 1865: *Essay N.Z. Ornith.*: 10 – Banks Peninsula.

Creadion carunculatus (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 149.

Philesturnus carunculata carunculata (Gmelin); Mathews 1944, *Emu* 43: 246. Unjustified emendation.

Philesturnus carunculatus carunculatus (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 67.

Creadion carunculatus carunculatus (Gmelin); Amadon in Peters 1962, *Check-list Birds World* 15: 158.

Philesturnus carunculatus (Gmelin); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 138, 180.

Found on European settlement throughout forests of northern, western and southern South Island; also Banks Peninsula, D'Urville Island, Stephens Island (Takapourewa), Stewart Island/Rakiura and various outliers. By about 1950 apparently survived only on three of the South Cape Islands (south-west of Stewart Island/Rakiura), but even there the accidental introduction of the ship rat (*Rattus rattus*) in 1963–64 made it necessary to transfer the remaining birds to smaller islands nearby, namely Big (Stage) Island (Boat Group) and Kaimohu Islands. Since then successfully transferred to many other islands in the Stewart Island/Rakiura area; to Breaksea Island, Fiordland (1992); and to Motuara Island, Marlborough Sounds (1994). Unsuccessful transfers to other Marlborough Sounds islands (Inner Chetwode, Maud). Numerous Holocene fossil, and a few midden, records.

Genus †*Heteralocha* Cabanis

Neomorpha Gould, 1837: *Synop. Birds Australia 1*: pl. 11 & text – Type species (by monotypy)

Neomorpha acutirostris Gould = *Heteralocha acutirostris* Gould. Suppressed and invalid (fide ICZN 1958, Opinion 514. *Opinions & Declarations 18*(18): 305).

Heteralocha Cabanis, 1851: *Mus. Heineanum 1*: 218 – Type species (by original designation)

Heteralocha Gouldi G.R. Gray = *Heteralocha acutirostris* Gould. Name placed in the *Official List of Generic Names in Zoology* (fide ICZN 1958, Opinion 514. *Opinions & Declarations 18*(18): 305).

▶ †*Heteralocha acutirostris* (Gould)

Huia

Neomorpha acutirostris Gould, 1837: *Synop. Birds Australia 1*: pl. 11 & text – North Island.

Neomorpha crassirostris Gould, 1837: *Synop. Birds Australia 1*: pl. 11 & text – North Island.

Neomorpha Gouldii G.R. Gray, 1841: *List Gen. Birds* (2nd edition): 15. Unnecessary *nomen novum* for *Neomorpha acutirostris* Gould, 1837.

Heteralocha Gouldi (G.R. Gray); Cabanis 1851, *Mus. Heineanum 1*: 218. Unjustified emendation.

Heteralocha gouldi (G.R. Gray); G.R. Gray 1862, *Ibis 4*: 217. Unjustified emendation.

Heteralocha acutirostris (Gould); Buller 1872, *History of the Birds of N.Z.*, 1st edition: 63.

Heteralocha acutirostris (Gould); Enys 1876, *Trans. Proc. N.Z. Inst.* 8: 204. Unjustified emendation.

New Zealand. Recorded historically only from forests of the eastern and southern North Island (Raukumara Range and Turakina River south to Wellington) but, as indicated by Holocene fossils, range probably included the whole of the North Island. Last generally accepted record 1907, but quite credible reports to mid-1920s (Tennyson & Martinson 2007: 126, 157). Recorded from Holocene cave and dune fossil localities from North Cape (Otou) to the southern tip of the North Island. Rarer than expected at inland cave sites. Also from sand-dune midden sites.

INCERTAE SEDIS

Family NOTIOMYSTIDAE Driskell, Christidis, Gill, Boles, Barker & Longmore: Stitchbird

Notiomystidae Driskell, Christidis, Gill, Boles, Barker & Longmore, 2007: *Australian Journ. Zool.* 55: 76 – Type genus *Notiomystis* Richmond, 1908.

Preliminary DNA studies by Driskell (2001) suggested that the stitchbird is not a honeyeater, and this was confirmed with further samples (Ewen *et al.* 2006, Driskell *et al.* 2007). Molecular studies by Ewen *et al.* (2006) found a close relationship between

the stitchbird and the single callaeid in their study (*Callaeas*); Driskell *et al.* (2007) found a similar relationship between stitchbird and *Philesturnus*. The divergence between *Notiomystis* and *Philesturnus* was estimated at 33.8 Ma (Oligocene) by Driskell *et al.* (2007) who placed the stitchbird in a new endemic family.

Genus *Notiomystis* Richmond

Pogonornis G.R. Gray, 1846: *Gen. Birds* 1: 123 – Type species (by monotypy) *Meliphaga cincta* du Bus de Gisignies = *Notiomystis cincta* (du Bus de Gisignies). Junior homonym of *Pogonornis* Billberg, 1828.

Notiomystis Richmond, 1908: *Proc. U.S. Nat. Mus.* 35: 634. *Nomen novum* for *Pogonornis* G.R. Gray, 1846.

► *Notiomystis cincta* (du Bus de Gisignies)

Stitchbird

Meliphaga cincta du Bus de Gisignies, 1839: *Bull. Acad. Roy. Sci. Bruxelles* 6(4): 295, & plate – New Zealand, restricted to North Island (*vide* Checklist Committee 1953, *Checklist N.Z. Birds*: 64).

Pilotis auritus Lafresnaye, 1839: *Rev. de Zool., Paris* 2: 257 – New Zealand.

Pilotis cincta (du Bus de Gisignies); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 187.

Pogonornis cincta (du Bus de Gisignies); G.R. Gray 1862, *Ibis* 4: 218.

Notiomystis cincta hautura Mathews, 1935: *Bull. Brit. Ornith. Club* 55: 159 – Little Barrier Island.

Notiomystis cincta (du Bus de Gisignies); Checklist Committee 1953, *Checklist N.Z. Birds*: 64.

New Zealand: recorded, living or from Holocene fossils, only from the North Island. Up to the early 1870s said to have been comparatively common in southern parts of the North Island (as far north as the Waikato area), as well as on Hauturu/Little Barrier, Great Barrier (Aotea) and Kapiti Islands; a rapid decline followed and by 1885 the species had vanished from the mainland, Great Barrier (Aotea) and Kapiti Islands, remaining only on Hauturu/Little Barrier Island. Holocene fossil records from Far North sand-dune sites indicate that its original distribution included the whole of the North Island; also known from Holocene fossils in the King Country and Hawke's Bay. Successful recent transfers to Tiritiri Matangi (1995) and Kapiti Islands, and to Karori Sanctuary (Wellington), have required artificial nest-boxes and supplemental feeding. Transferred unsuccessfully to Cuvier (Repanga), Hen/Taranga and Mokoia Islands (the latter in Lake Rotorua). Success of very recent transfers (e.g. Waitakere Ranges, 2006) not yet known.

Family †TURNAGRIDAE Buller: Piopio

Turnagridae Buller, 1888: *History of the Birds of N.Z.*, 2nd edition 1: 30 – Type genus *Turnagra* Lesson, 1837.

The piopio were often placed in their own family in New Zealand lists (e.g. Checklist Committee 1953, 1970), but familial distinction was seldom acknowledged in world lists (e.g. placed as a genus *incertae sedis* at the end of Pachycephalinae in Peters 1931–87: vol. 12). An anatomical study by Olson *et al.* (1983) concluded that piopio were probably the most primitive members of the “bird-of-paradise/bowerbird assemblage” and not closely related to the Pachycephalinae. This became a problematic conclusion subsequently, when the Paradisaidae and Ptilonorhynchidae (bowerbirds) came to be regarded as not particularly closely related. However, a DNA study by Christidis *et al.* (1996) found that *Turnagra* is basal to the bowerbirds (including the catbirds), and

thus, by definition, is not one of them. They suggested that *Turnagra* be retained in its own family, placed in sequence before the Ptilonorhynchidae. Christidis & Boles (2008) placed Ptilonorhynchidae very early in the oscine sequence, and that is followed here with the early placement of Turnagridae. Note, however, that many physical attributes and life-history traits of the piopio are at variance with those of bowerbirds (Worthy & Holdaway 2002), and Schodde & Mason (1999) considered *Turnagra* to belong in the Pachycephalidae on anatomical grounds.

Genus †*Turnagra* Lesson

Turnagra Lesson, 1837: *Compléments Oeuvres Buffon* 8: 216 – Type species (by monotypy) *Tanagra macularia* Quoy & Gaimard = *Turnagra capensis* (Sparrrman).

Keropia G.R. Gray, 1840: *List Gen. Birds* (1st edition): 28 – Type species (by monotypy) *Turdus crassirostris* Gmelin = *Turnagra capensis* (Sparrrman).

Otagon Bonaparte, 1851: *Consp. Gen. Avium* 1: 374 – Type species (by monotypy) *Loxia turdus* J.R. Forster = *Turnagra capensis* (Sparrrman).

Ceropia Sundevall, 1857: *Kungl. Svenska Vetenskapsakad. Handl.* 2(3): 9. Unjustified emendation.

Two species of *Turnagra* are recognised here, because of their plumage differences, following Oliver (1955) and Holdaway *et al.* (2001).

▶ †*Turnagra tanagra* (Schlegel)

North Island Piopio

Otagon tanagra Schlegel, 1866: *Ned. Tijdsch. Dierk.* 3: 190 – no locality = North Island (*vide* Checklist Committee 1953, *Checklist N.Z. Birds*: 68).

Turnagra hectori Buller, 1869: *Ibis* 5 (n. ser.): 39 – North Island.

Keropia tanagra (Schlegel); Finsch 1870, *Journ. für Ornith.* 18: 323.

Turnagra capensis tanagra (Schlegel); Checklist Committee 1953, *Checklist N.Z. Birds*: 68.

Turnagra tanagra (Schlegel); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 445.

On European settlement, present in forest, and even common, over most of the North Island, but had all but disappeared by 1900. Early records suggest that it was rare in Northland. Sight records (unconfirmed) claimed from: inland from Patea (1923), inland from Te Araroa (c. 1927), between Gisborne and Wairoa (May 1947), Whanganui River (Mar. 1950), Okataina, Waikaremoana. Holocene fossil, and midden, records are widely distributed over the North Island, including the Far North.

▶ †*Turnagra capensis* (Sparrrman)

South Island Piopio

South Island and Stephens Island (Takapourewa).

†*Turnagra capensis minor* J.H. Fleming

Stephens Island Piopio

Turnagra capensis minor J.H. Fleming, 1915: *Proc. Biol. Soc. Washington* 38: 121 – Stephens Island.

Turnagra capensis capensis (Sparrrman); Checklist Committee 1990, *Checklist Birds N.Z.*: 229. In part.

Turnagra capensis minor J.H. Fleming; Medway 2004, *Notornis* 51: 232.

Stephens Island (Takapourewa) in Cook Strait. Birds of the Stephens Island (Takapourewa) population are distinctive in their plumage and small size, so are recognised as a subspecies here following Medway (2004d). Said to have been numerous in 1894 and a specimen was collected in Jan. 1897 (Medway 2004d); presumably the population died out soon after.

†*Turnagra capensis capensis* (Sparrman)

South Island Piopio

Tanagra capensis Sparrman, 1787: *Mus. Carlsonianum* 2: n° XLV, pl. 45 – “Cape of Good Hope”, error for Dusky or Queen Charlotte Sound (*vide* Oliver 1930, *New Zealand Birds*, 1st edition: 447).

Turdus crassirostris Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 815. Based on the “Thick-billed Thrush” of Latham 1783, *Gen. Synop. Birds* 2: 34, pl. 37 – Dusky Sound, Fiordland.

Campephaga ferruginea Vieillot, 1817: *Nouv. Dict. Hist. Nat.*, *nouv. éd.* 10: 48 – New Zealand.

Tanagra macularia Quoy & Gaimard, 1830: in Dumont d’Urville, *Voyage Astrolabe Zool.* 1: 186, pl. 7, fig. 1 – Tasman Bay.

Keropia crassirostris (Gmelin); G.R. Gray 1840, *List Gen. Birds* (1st edition): 28.

Loxia Turdus J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 85 – South Island.

Otagon turdus (J.R. Forster); Bonaparte 1851, *Consp. Gen. Avium* 1: 374.

Ceropia crassirostris (Gmelin); Sundevall 1857, *Kungl. Svenska Vetenskapsakad. Handl.* 2(3): 9.

Turnagra crassirostris (Gmelin); G.R. Gray 1862, *Ibis* 4: 225.

Tanagra turdus (J.R. Forster); G.R. Gray 1869, *Hand-list Birds* 1: 284.

Otagon crassirostris (Gmelin); Sundevall 1872, *Methodi Naturalis Avium Tentamen*: 19.

Turnagra capensis (Sparrman); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 445.

Turnagra capensis capensis (Sparrman); Checklist Committee 1953, *Checklist N.Z. Birds*: 68.

On European settlement widespread in forested areas throughout the South Island. Also Stewart Island/Rakiura (Buller 1905–06, 2: 162). Although early records refer to it as abundant in several localities, it was “a fast expiring species” at the time of Buller’s *Supplement* (Buller 1905–06). Unconfirmed sight records claimed from: west Nelson (Jan. 1948); Southland (Dec. 1947); Waiuna Lagoon, Fiordland (Aug. 1962); and Fiordland (May 1963). Holocene fossil, and midden, records widely distributed.

Family ACANTHIZIDAE Bonaparte: Scrubwrens, Thornbills and Allies

Acanthizeae Bonaparte, 1854: *Ann. Sci. Nat.*, *Zool. Paris*, 4th Series 1: 119 – Type genus *Acanthiza* Vigors & Horsfield, 1825.

Christidis & Boles (1994) placed these birds in the Pardalotidae, but we follow Schodde & Mason (1999) and Christidis & Boles (2008) in keeping Acanthizidae as a family separate from the pardalotes.

Genus *Gerygone* Gould

Psilopus Gould, 1838: *Synop. Birds Australia* 4: 61 – Type species (by subsequent designation) *Psilopus albobularis* Gould = *Gerygone albobularis* (Gould). Junior homonym of *Psilopus* Poli, 1795.

Gerygone Gould, 1841: in G. Grey, *Journ. Two Exped. Discovery Northwest Western Australia* 2: 417. *Nomen novum* for *Psilopus* Gould, 1838.

Ostiarius Gistel, 1848: *Naturg. Thierreichs*: x. Unnecessary *nomen novum* for *Psilopus* Gould, 1838.

Pseudogerygone Sharpe, 1879: *Notes Leyden Mus.* 1: 29 – Type species (by original designation) *Gerygone personata* Gould.

Hapolorhynchus Reichenow, 1908: *Journ. für Ornith.* 56: 488 – Type species (by original designation) *Pseudogerygone albofrontata* (G.R. Gray) = *Gerygone albofrontata* G.R. Gray.

Ethelornis Mathews, 1912: *Austral Avian Rec.* 1: 110 – Type species (by original designation)

Gerygone magnirostris Gould, 1843.

Royigerygone Mathews, 1912: *Austral Avian Rec. 1*: 110 – Type species (by original designation) *Gerygone mathewsae* Mathews, 1912 = *Gerygone modesta* Pelzeln, 1860.

Wilsonavis Mathews, 1912: *Austral Avian Rec. 1*: 110 – Type species (by original designation) *Psilopus fusca* Gould, 1838 = *Gerygone fusca* (Gould, 1838).

Maorigerygone Mathews & Iredale, 1913: *Ibis 1* (10th ser.): 437 – Type species (by original designation) *Curruca igata* Quoy & Gaimard = *Gerygone igata* (Quoy & Gaimard).

The populations of *Gerygone* on Norfolk Island (*G. modesta*) and Lord Howe Island (*G. insularis*, extinct) were regarded as subspecies of *G. igata* by Meise (1931) and Schodde & Mason (1999), but as separate species by Ford (1986) and Christidis & Boles (2008). We follow the latter arrangement.

▶ *Gerygone modesta* Pelzeln

Norfolk Island Gerygone

Gerygone modesta Pelzeln, 1860: *Sitzungsber. K. Akad. Wissen., Math.-Naturwissen. Cl., Wien 41*: 320 – Norfolk Island.

Pseudogerygone modesta (Pelzeln); Mathews 1908, *Handlist Birds Australia*: 63.

Gerygone mathewsae Mathews, 1912: *Novit. Zool.* 18(3): 449. Unnecessary *nomen novum* for *Gerygone modesta* Pelzeln, 1860.

Royigerygone modesta (Pelzeln); Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 36.

Gerygone modesta Pelzeln; Wakelin 1968, *Notornis 15*: 173.

Gerygone igata modesta Pelzeln; Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 181.

Endemic to Norfolk Island. Abundant and widespread on main island wherever there are trees and shrubs (Schodde *et al.* 1983). Absent from smaller islands, probably because they lack suitable habitat. Recorded as a Holocene fossil (Meredith 1991: 1371).

▶ *Gerygone igata* (Quoy & Gaimard)

Grey Warbler

Curruca igata Quoy & Gaimard, 1830: in Dumont d'Urville, *Voyage Astrolabe Zool. 1*: 201 – Tasman Bay.

Acanthiza igata (Quoy & Gaimard); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z. 2*: 189.

Psilopus ? igata (Quoy & Gaimard); G.R. Gray 1844, in Richardson & J.E. Gray (eds) 1844, *Zool. Voy. 'Erebus' & 'Terror', Birds 1*(3): 3.

Psilopus flaviventris G.R. Gray, 1844: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds 1*(3): 3, pl. 4, fig. 1 – Bay of Islands, Northland.

Gerygone igata (Quoy & Gaimard); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds 1*(3): 5.

Gerygone flaviventris (G.R. Gray); G.R. Gray 1845, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror', Birds 1*(3): 5.

Gerygone assimilis Buller, 1865: *Essay N.Z. Ornith.*: 9 – New Zealand.

Gerygone aucklandica Pelzeln, 1865: *Reise der Oesterreich. Fregatte Novara Erde, Vögel*: 65 – New Zealand.

Acanthiza flaviventris (G.R. Gray); G.R. Gray 1869, *Hand-list Birds 1*: 219.

Gerygone sylvestris Potts, 1873: *Trans. N.Z. Inst.* 5: 177 – near Lake Mapourika, Westland.

Pseudogerygone flaviventris (G.R. Gray); Buller 1905, *Suppl. Birds N.Z. 2*: 117.

Pseudogerygone sylvestris (Potts); Buller 1905, *Suppl. Birds N.Z. 2*: 119.

Pseudogerygone macleani Ogilvie-Grant, 1907: *Ibis 1* (9th ser.): 545 – Mt Maungahaumi (2,000 feet a.s.l.), northwest of Poverty Bay.

Maorigerygone igata igata (Quoy & Gaimard); Mathews & Iredale 1913, *Ibis 1* (10th ser.): 437.

Maorigerygone igata sylvestris (Potts); Mathews & Iredale 1913, *Ibis 1* (10th ser.): 437.

Maorigerygone igata flaviventris (G.R. Gray); Mathews & Iredale 1913, *Ibis 1* (10th ser.): 438.

Maorigerygone igata macleani (Ogilvie-Grant); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 438.
Pseudogerygone igata (Quoy & Gaimard); Oliver 1930, *New Zealand Birds*, 1st edition: 454.
Gerygone igata (Quoy & Gaimard); Checklist Committee 1953, *Checklist N.Z. Birds*: 63.
Gerygone igata igata (Quoy & Gaimard); Schodde & Mason 1999, *Directory Australian Birds*.
Passerines: 182.

New Zealand: common throughout North and South Islands, Stewart Island/Rakiura and on most offshore islands. The most widely distributed endemic bird (Robertson, C. *et al.* 2007). Occurs up to 1400–1500 m a.s.l. Vagrant to the Snares Islands/Tini Heke (Miskelly *et al.* 2001a). Holocene fossils rare, but, as with all small birds, this may be because the bones are small and fragile.

► ***Gerygone albofrontata* G.R. Gray**

Chatham Island Warbler

Gerygone? albofrontata G.R. Gray, 1845: in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 5, pl. 4, fig. 2 – Chatham Islands.
Acanthiza albofrontata (G.R. Gray); G.R. Gray 1869, *Hand-list Birds* 1: 219.
Pseudogerygone albofrontata (G.R. Gray); Buller 1905, *Suppl. Birds N.Z.* 2: 119.
Hapolorhynchus albofrontatus (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 439.
Gerygone albofrontata (G.R. Gray); Checklist Committee 1953, *Checklist N.Z. Birds*: 63.
Gerygone (Hapolorhynchus) albofrontata G.R. Gray; Oliver 1955, *New Zealand Birds*, 2nd edition: 477.

Chatham Islands: present on Chatham, Houruakopara, Pitt, South East, Mangere, Little Mangere and Star Keys. A few Holocene fossil records from cave, dune and midden sites on Chatham Island.

Family MELIPHAGIDAE Swainson: Honeyeaters

Meliphagidae Swainson, 1825: *Zoological Journal* 1: 463 – Type genus *Meliphaga* Lewin, 1808.

The stitchbird, *Notiomystis cincta*, long considered to be a honeyeater (e.g. Checklist Committee 1953, 1970, 1990), has been shown by recent molecular studies not to be a honeyeater at all and has been removed to its own family (Driskell *et al.* 2007) placed early in this listing of oscine birds. Otherwise, the sequence of honeyeaters (below) follows Checklist Committee (1990). Molecular work by Driskell *et al.* (2007) estimated the divergence between *Anthornis* and *Prosthemadera* at 2.9 Ma.

Genus *Anthornis* G.R. Gray

Anthornis Swainson, 1837: *Classification of Birds* 2: 326 – Type species (by monotypy)
Anthornis caeruleocephala Swainson, 1837 = *Anthornis melanura melanura* (Sparman).
Nomen oblitum (*vide* Scofield *et al.* 2005, *Notornis* 52: 171).
Anthomyza G.R. Gray, 1840: *List Gen. Birds* (1st edition): 15. Unjustified emendation of
Anthornis Swainson, 1837 and junior homonym of *Anthomyza* Fallén, 1810.
Anthornis G.R. Gray, 1840: *List Gen. Birds* (1st edition): 15. Unnecessary *nomen novum* for
Anthornis Swainson, not junior homonym of *Anthomyza* Fallén, 1810. *Nomen protectum*
(*vide* Scofield *et al.* 2005, *Notornis* 52: 171).

The last revisers of the bellbird (Bartle & Sagar 1987) regarded all forms as subspecies. They characterised the Chatham Island bellbird as a “strong” subspecies with “overall similarity” to the mainland form. Holdaway *et al.* (2001) listed *A. melanocephala* as a separate species, citing differences that were outlined by Oliver (1955) and Bartle & Sagar (1987), and we follow that arrangement.

▶ ***Anthornis melanura*** (Sparрман) **Bellbird**

New Zealand. North and South Islands, Stewart Island/Rakiura, and many mainland offshore islands including Manawatāwhi/Three Kings; Auckland Islands.

Anthornis melanura obscura Falla **Three Kings Bellbird**

Anthornis melanura obscura Falla, 1948: *Rec. Auck. Inst. Museum* 3: 337 – Three Kings Islands.

Manawatāwhi/Three Kings Islands: in forest and scrub, throughout the group.

Anthornis melanura oneho Bartle & Sagar **Poor Knights Bellbird**

Anthornis melanura oneho Bartle & Sagar, 1987: *Notornis* 34(4): 297 – Poor Knights Islands.

Poor Knights Islands: throughout the group.

Anthornis melanura melanura (Sparрман) **Bellbird**

Certhia melanura Sparрман, 1786: *Mus. Carlsionianum* 1: n° V, pl. 5 – “Promontorium Bonae Spei”, error for Queen Charlotte Sound, Marlborough (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 446).

Certhia sannio Gmelin, 1788: *Syst. Nat.*, 13th edition 1(l): 471. Based on the “Mocking Creeper” of Latham 1783, *Gen. Synop. Birds* 2: 735 – New Zealand.

Philedon dumerilii Lesson & Garnot, 1828: in M.L.I. Duperrey, *Voy. Coquille, Zool. 1 Atlas* (6): pl. 21, fig. 1 – New Zealand, restricted to Bay of Islands (*vide* Bartle & Sagar 1987, *Notornis* 34(4): 260).

Anthorniza caeruleocephala Swainson, 1837: *Classification of Birds* 2: 327 – New Zealand. Unnecessary *nomen novum* for *Certhia melanura* Sparрман, 1786.

Philedon sannio (Gmelin); Lesson 1838, *Compléments Oeuvres Buffon* 11: 165.

Anthornis melanura (Sparрман); G.R. Gray 1840, *List Gen. Birds* (1st edition): 15.

Certhia olivacea J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 79 – New Zealand.

Anthornis melanura Ellman, 1861: *Zoologist* 19: 7466 – New Zealand. Junior secondary homonym of *Certhia melanura* Sparрман, 1786.

Anthornis ruficeps Pelzeln, 1867: *Verh. zool.-bot. Ges. Wien* 17: 316 – New Zealand.

Anthornis incoronata Bangs, 1911: *Proc. Biol. Soc. Washington* 24: 23 – Auckland Islands.

Anthornis melanura melanura (Sparрман); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 446.

Anthornis melanura dumerilii (Lesson) [sic]; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 447.

Anthornis melanura incoronata Bangs; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 447.

North and South Islands, Stewart Island/Rakiura, and many offshore islands: present and often common throughout, excepting Northland, Waikato, southern Hawke’s Bay, Manawatu, Canterbury Plains and Central Otago. Formerly abundant in Auckland and Northland but became locally extinct in these areas in the 1860s (see Lee 2005). In Northland, may occur on the mainland as a stray opposite the offshore islands (e.g. at Whangaparaoa Peninsula near Tiritiri Matangi Island). Found in forest and forest remnants; also in exotic vegetation of orchards, gardens, etc., especially in the South Island; also in large exotic plantations. On the Auckland Islands, in forest throughout. Recorded at Campbell Island/Motu Ihupuku in 2003 and 2004 (Scofield 2005a, 2006). Holocene fossil and midden records from widely scattered sites in both North and South Islands.

▶ †***Anthornis melanocephala*** G.R. Gray **Chatham Island Bellbird**

Anthornis melanocephala G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 188 – Chatham Islands.

Anthornis auriocula Buller, 1865: *Essay N.Z. Ornith.*: 8 – Chatham Islands.

Anthornis melanura melanocephala G.R. Gray; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 447.

Anthornis melanocephala G.R. Gray; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 138, 180.

Extinct since about 1906. Formerly throughout the Chatham Group; last recorded on Little Mangere Island. Holocene fossils from Chatham and Mangere Islands.

Genus *Prosthemadera* G.R. Gray

Prosthemadera G.R. Gray, 1840: *List Gen. Birds* (1st edition): 15 – Type species (by original designation) *Merops cinninnatus* Latham = *Prosthemadera novaeseelandiae novaeseelandiae* (Gmelin).

► *Prosthemadera novaeseelandiae* (Gmelin)

Tui

New Zealand: North, South, Kermadec, Auckland, Chatham Islands and Stewart Island/Rakiura. Further study may show that the Chatham Island form is a separate species (Holdaway *et al.* 2001).

Prosthemadera novaeseelandiae novaeseelandiae (Gmelin)

Tui

Merops novae Seelandiae Gmelin, 1788: *Syst. Nat.*, 13th edition 1(1): 464. Based on the “Poë Bee-eater” of Latham 1782, *Gen. Synop. Birds* 2: 682 – “Nova Seelandia”, restricted to Queen Charlotte Sound, Marlborough (*vide* Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 447).

Merops cinninnatus Latham, 1790: *Index Ornith.* 1: 275 – New Zealand.

Sturnus crispicollis Daudin, 1800: *Traité Élém. Compl. Ornith.* 2: 314.

Philemon cinninnatus (Latham); Bonnaterre & Vieillot 1822, *Tableaux Encycl. Méthod. Ornith.* 2(91): 613.

Meliphaga novaehollandiae Stephens, 1826: *in* G. Shaw, *General Zool.* 14: 259 – New Zealand.

Prosthemadera concinnata G.R. Gray, 1840: *List Gen. Birds* (1st edition): 15 – New Zealand.

Prosthemadera novae seelandiae (Gmelin); G.R. Gray 1841, *List Gen. Birds* (2nd edition): 20.

Prosthemadera Novae Seelandiae (Gmelin); G.R. Gray 1843, *in* E. Dieffenbach, *Travels in N.Z.* 2: 187.

Certhia cinninnata J.R. Forster, 1844: *in* M.H.C. Lichtenstein, *Descrip. Animalium*: 78 – New Zealand. Junior secondary homonym of *Merops cinninnatus* Latham, 1790.

Prosthemadera circinata Reichenbach, 1852: *Handb. Orn. Merop.*: 127, pl. 492, fig. 3466 – no locality.

Meliphaga Novae-Zealandiae (Gmelin); Ellman 1861, *Zoologist* 19: 7466. Unjustified emendation.

Lamprotornis Novae-Zealandiae (Gmelin); Schlegel 1868, *Jaarboek. K. Zool. Genootschap ‘Nat. Art. Mag.’*: plate. Unjustified emendation.

Prosthemadera Novae-Zealandiae (Gmelin); Finsch 1870, *Journ. für Ornith.* 18: 248. Unjustified emendation.

Meliphaga circinata; Schlegel 1872, *De Dierentuin*: 125.

Prosthemadera novae zealandiae (Gmelin); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 94. Unjustified emendation.

Prosthemadera novae-zealandiae (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 144. Unjustified emendation.

Prosthemadera novae-seelandiae phoebe Kemp, 1912: *Austral Avian Rec.* 1: 124 – Umawera, Hokianga.

Prosthemadera novae-seelandiae kwini Kemp, 1912: *Austral Avian Rec.* 1: 124 – Auckland Islands.

Prosthemadera novaeseelandiae kermadecensis Mathews & Iredale, 1914: *Austral Avian Rec.* 2: 113 – Sunday [= Raoul] Island, Kermadec Islands.

Prosthemadera novaeseelandiae novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 64.

North and South Islands, Stewart Island/Rakiura, and larger offshore islands; also Kermadec and Auckland Islands. Recorded at Manawatāwhi/Three Kings Islands in 1887 (Cheeseman 1888) but not subsequently (Turbott & Buddle 1948). One record from Snares Islands/Tini Heke (Warham 1967). Present through most of North Island, and over about half the South Island, being patchy in the east between Dunedin and Picton (Robertson, C. *et al.* 2007). Widespread in forest and forest remnants. Present and breeding in some settled districts, including urban areas (e.g. greater Auckland), but mainly an occasional visitor in larger exotic plantations. In Holocene fossil and midden deposits, abundant in both North and South Islands, including eastern South Island where rare today.

***Prosthemadera novaeseelandiae chathamensis* Hartert** **Chatham Island Tui**

Prosthemadera novaeseelandiae chathamensis Hartert, 1928: *Novit. Zool.* 34(3): 204 – Chatham Islands.

Chatham Islands: now rare on the main island, in moderate numbers on Pitt Island, common on South East Island, and a visitor to Mangere Island and Star Keys. Holocene fossil and midden records on Chatham Island.

Genus *Anthochaera* Vigors & Horsfield

Creadion Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 34 – Type species (by subsequent designation) *Corvus paradoxus* Latham [sic] = *Anthochaera paradoxa* (Daudin) [see below].

Anthochaera Vigors & Horsfield, 1827: *Trans. Linn. Soc. London.* 15: 320 – Type species (by subsequent designation) *Certhia mellivora* Latham = *Anthochaera chrysoptera* (Latham).

Acanthochaera Giebel, 1872: *Thesaurus Ornith.* 1: 259. Unjustified emendation.

Dyottornis Mathews, 1912: *Austral Avian Rec.* 1: 116 – Type species (by original designation)

Corvus paradoxus Daudin = *Anthochaera paradoxa* (Daudin).

Coleia Mathews, 1912: *Austral Avian Rec.* 1: 116 – Type species (by original designation) *Coleia carunculata* (Latham) = *Anthochaera carunculata* (Shaw).

Colena Mathews, 1931: *Bull. Brit. Ornith. Club* 52: 25. Unnecessary *nomen novum* for *Coleia* Mathews, 1912 not *Coleia* Broderip, 1837.

▶ ***Anthochaera carunculata* (Shaw)**

Red Wattlebird

Merops carunculatus Shaw, 1790: in J. White, *Journ. Voy. New South Wales, ed. 1*: 240 – New South Wales, Australia (*vide* Mathews 1925, *Birds Australia.* 12: 64).

Anthochaera carunculata (Latham) [sic]; Vigors & Horsfield 1827, *Trans. Linn. Soc. London.* 15: 321.

Creadion carunculatus Vieill. [sic]; Lesson 1837, *Compléments Oeuvres Buffon* 9: 7.

Mimus carunculatus Buller, 1865: *Essay N.Z. Ornith.*: 10 – extreme north of New Zealand. Junior secondary homonym of *Merops carunculatus* Shaw, 1790.

Anthochaera Bulleri Finsch, 1867: *Journ. für Ornith.* 15: 321, 342. Unnecessary *nomen novum* for *Mimus carunculatus* Buller, 1865.

Anthochaera carunculata (Latham) [sic]; Buller 1884, *Trans. N.Z. Inst.* 16: 313.

Acanthochaera carunculata (Latham) [sic]; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 106.

Coleia carunculata (Latham) [sic]; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 448.

Anthochaera carunculata carunculata (White) [sic]; Checklist Committee 1953, *Checklist N.Z. Birds*: 65.

Anthochaera carunculata (White) [sic]; Checklist Committee 1990, *Checklist Birds N.Z.*: 217.

South-east, southern and south-west Australia, including coastal Great Australian Bight; moves altitudinally and at least partially migratory between south and north. Two New Zealand records (Buller 1887–88): Matakana, Northland (about 1855); and Rahunu, Taranaki (1882). The first record is particularly doubtful given poor documentation (Galbreath 1989: 89), and a locality “Matakana” in Australia. The specimen was seen by W.L. Buller at Auckland Museum in about 1855 (Galbreath 1989: 89), and is now at the Museum of New Zealand Te Papa Tongarewa (NMNZ OR.1331). While at Auckland, it was illustrated by Richard Laishley (see fig. 1 of Sibson 1987).

Although *Creadion* is senior to *Anthochaera*, we have retained the red wattlebird in the latter genus as indicated by prevailing usage, and pending an application to the ICZN to suppress *Creadion* under its plenary powers.

Family CAMPEPHAGIDAE Vigors: Cuckoo-shrikes and Trillers

Campephagina Vigors, 1825: *Zoological Journal* 2(7): 395 – Type genus *Campephaga* Vieillot, 1816.

Sequence of species follows Schodde & Mason (1999).

Genus *Coracina* Vieillot

Coracina Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 37 – Type species (by subsequent designation) “Choucarri” of Buffon = *Coracina papuensis* (Gmelin).

► *Coracina novaehollandiae* (Gmelin)

Black-faced Cuckoo-shrike

Turdus Novae Hollandiae Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 814 – “terra van Diemen” = Adventure Bay, Tasmania (*vide* Mayr in Peters 1960, *Check-list Birds World* 9: 172).

Colluricincla concinna Hutton, 1871: *Cat. Birds N.Z.*: 15 – Motueka, Nelson.

Graucalus concinnus (Hutton); Hutton 1872, *Trans. N.Z. Inst.* 5: 225.

Graucalus melanops; Buller 1873, *History of the Birds of N.Z.*, 1st edition: 148. Not *Corvus melanops* Latham, 1802.

Coracina robusta robusta; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 442. Not *Lanius robustus* Latham, 1802.

Coracina novaehollandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 59.

Coracina novaehollandiae novaehollandiae (Gmelin); Mayr in Peters 1960, *Check-list Birds World* 9: 172.

Throughout Australia and Tasmania; also Lesser Sunda Islands, New Guinea and west Solomon Islands; southern Australian birds partly migratory. Rare straggler to New Zealand; less than 20 New Zealand records (e.g. Hutton 1871, Turbott 1954, Wilson 1955, Guest 1991, Medway 2002g, Scofield 2006), mainly sight records: Motueka (1869); Invercargill (1870); Westport (c. 1895, 1931); Lake Ellesmere (Te Waihora) (1904); Greymouth (1914?); Okato (1914); north Kaipara Heads (Jan. to Sep. 1953); Himatangi (Jan. 1955); Feilding (1965); Okuru (1966); near Rotorua (1987); Tarras, Central Otago (Mar. 1990); Halfmoon Bay, Stewart Island/Rakiura (Jul. 2001); New Plymouth (May 2005). The subspecific identity of New Zealand birds has not been determined; they are presumed to be from Australia where there are three subspecies (Schodde & Mason 1999).

Genus *Lalage* Boie

Lalage Boie, 1826: *Isis von Oken*, Heft 10: col. 973 – Type species (by monotypy) *Turdus orientalis* Gmelin = *Lalage nigra* J.R. Forster.

Symmorphus Gould, 1838: *Synop. Birds Australia*: 3 – Type species (by monotypy) *Symmorphus leucopygus* 1838 = *Lalage leucopyga* (Gould). Junior homonym of *Symmorphus* Wesmael, 1836.

Diaphoropterus Oberholser, 1899: *Proc. Acad. Nat. Sci. Philad.* 1899 (1): 214. Unnecessary *nomen novum* for *Symmorphus* Gould, 1838.

▶ **Lalage tricolor** (Swainson)

White-winged Triller

Ceblepyris tricolor Swainson, 1825: *Zoological Journal* 1: 467 – Australia, restricted to Sydney (fide Mathews 1930, *Synop. Av. Australia*: 546).

Lalage tricolor (Swainson); Checklist Committee 1990, *Checklist Birds N.Z.*: 199.

Throughout Australia; vagrant to Tasmania; southern populations migratory. Rare straggler to New Zealand; one sight record, Feb. to Jun. 1969, Macandrew Bay, Otago Peninsula (McPherson 1973). Sometimes united with *L. sueurii* (Timor) under that name (e.g. Christidis & Boles 2008).

▶ **Lalage leucopyga** (Gould)

Long-tailed Triller

South-east Solomon Islands to New Caledonia and Norfolk Island.

† **Lalage leucopyga leucopyga** (Gould)

Long-tailed Triller

Symmorphus leucopygus Gould, 1838: *Synop. Birds Australia* 4, App.: 3 – “New South Wales”, error for Norfolk Island (fide Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 45).

Campephaga longicaudata Pelzeln, 1860: *Sitzungsber. K. Akad. Wissen., Math.-Naturwissen. Cl., Wien* 41: 321 – Norfolk Island.

Lalage naevia leucopyga (Gould); Mathews 1912, *Novit. Zool.* 18(3): 449.

Diaphoropterus leucopygus (Gould); Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 45.

Lalage leucopyga (Gould); Wakelin 1968, *Notornis* 15: 172.

Lalage leucopyga leucopyga (Gould); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 592.

Norfolk Island. Still abundant in 1941 but not seen since 1942 (Schodde *et al.* 1983) or 1976 (Tennyson & Martinson 2007: 114, 155). Recorded as a Holocene fossil (Meredith 1991: 1371). Sometimes regarded as a full species (e.g. Holdaway *et al.* 2001).

Family PACHYCEPHALIDAE Swainson:
Whistlers, Shrike-thrushes and Allies

Recognition of this group at the family level follows Schodde & Mason (1999) and Christidis & Boles (2008).

Subfamily PACHYCEPHALINAE Swainson:
Whistlers, Shrike-thrushes and Allies

Pachycephalinae Swainson, 1831: *Fauna Boreali-Americana, Birds* 2: 492 – Type genus *Pachycephala* Vigors, 1825.

Genus *Pachycephala* Vigors

Pachycephala Vigors, 1825: *Trans. Linn. Soc. London* 14(3): 444 – Type species (by original designation) *Muscicapa pectoralis* Latham = *Pachycephala pectoralis pectoralis* (Latham).

▶ ***Pachycephala pectoralis*** (Latham)

Golden Whistler

Muscicapa pectoralis Latham, 1802: *Index Ornith. Suppl.*: li – “Nova Hollandia”, restricted to Port Jackson, Sydney, Australia (fide Mathews 1920, *Birds Australia* 8: 208).

South-west, east and south-east Australia, including Tasmania; Norfolk and Lord Howe Islands. Populations in New Guinea and the south-west Pacific islands (beyond Norfolk

and Lord Howe Islands) are probably best regarded as separate species (Schodde & Mason 1999).

***Pachycephala pectoralis xanthoprocta* Gould**

Golden Whistler

Pachycephala xanthoprocta Gould, 1838: *Synop. Birds Australia* 3: pl. 53 – “New South Wales”, error for Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 40).

Pachycephala longirostris Gould, 1838: *Synop. Birds Australia* 3: pl. 55 – “New South Wales”, error for Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 40).

Pachycephala gatturalis xanthoprocta Gould; Mathews 1912, *Novit. Zool.* 18(3): 449.

Pachycephala xanthoprocta Gould; Wakelin 1968, *Notornis* 15: 172.

Pachycephala pectoralis xanthoprocta Gould; Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 442.

Norfolk Island. Widespread and moderately abundant in forest and scrub (Schodde *et al.* 1983). Sometimes regarded as a full species (e.g. Holdaway *et al.* 2001). Recorded as a Holocene fossil (Meredith 1991: 1371).

Subfamily MOHOUINAE Mathews: Whitehead and Allies

Mohouinae Mathews, 1946: *Working List Austr. Birds*: 173 – Type genus *Mohoua* Lesson, 1835.

Recognition of this endemic New Zealand subfamily follows Keast (1976, 1977) and Mayr *et al.* (1986). Sibley & Ahlquist (1987) supported the distinction of this group, but as the tribe Mouhouini of the subfamily Pachycephalinae. The sequence of species follows Checklist Committee (1990). The endemic genus *Finschia* (for the brown creeper) was synonymised with *Mohoua* by Sibley & Ahlquist (1987).

Genus *Mohoua* Lesson

Mohoua Lesson, 1837: *Compléments Oeuvres Buffon* 9: 139 – Type species (by monotypy)

Certhia heteroclitus Quoy & Gaimard = *Mohoua ochrocephala* (Gmelin).

Mohua Lesson, 1840: *Revue Zool.*: 268. Unjustified emendation.

Certhiparus Lafresnaye, 1842: *Rev. de Zool., Paris* 5: 69 – Type species (by original designation)

Parus senilis du Bus de Gisignies = *Mohoua albicilla* (Lesson).

Clitonyx Reichenbach, 1849: *Avium Syst. Nat.* pl. 38 – Type species (by original designation)

Muscicapa ochrocephala Gmelin = *Mohoua ochrocephala* (Gmelin).

Phyllodytes Finsch, 1873: *Journ. für Ornith.* 21 (ser. 4): 397 – Type species (by original designation)

Parus novaeseelandiae Gmelin = *Mohoua novaeseelandiae* (Gmelin). Junior homonym of *Phyllodytes* Wagler, 1830.

Finschia Hutton, 1903: *Ibis* 3 (8th ser.): 319. Unnecessary *nomen novum* for *Phyllodytes* Finsch, 1873.

► ***Mohoua albicilla* (Lesson)**

Whitehead

Fringilla albicilla Lesson, 1830: in M.L.I. Duperrey, *Voy. Coquille, Zool. Atlas I*(15): 662 – Bay of Islands, Northland.

Parus senilis du Bus de Gisignies, 1839: *Bull. Acad. Roy. Sci. Bruxelles* 6(4): 297 – New Zealand.

Certhiparus senilis (du Bus de Gisignies); Lafresnaye 1842, *Rev. de Zool., Paris* 5: 69.

Certhiparus albicillus (Lesson); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds I*(3): 6, pl. 5, fig. 2.

Certhiparus cinerea Ellman, 1861: *Zoologist* 19: 7465 – New Zealand.

Mohoua ? albicilla (Lesson); G.R. Gray 1862, *Ibis* 4: 220.

Orthonyx (Mohoua) albicillus (Lesson); Potts 1871, *Trans. N.Z. Inst.* 3: 74.

- Phylloodytes albicilla* (Lesson); Finsch 1873, *Journ. für Ornith.* 21 (ser. 4): 398.
Orthonyx albicilla (Lesson); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 101.
Clitonyx albicapilla (Lesson); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 53.
 Unjustified emendation.
Certhiparus albicilla [sic] (Lesson); Hutton 1903, *Ibis* 3 (8th ser.): 319.
Certhiparus albicillus (Lesson); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 443.
Certhiparus albicilla hauturu Mathews, 1935: *Bull. Brit. Ornith. Club* 55: 160 – Little Barrier Island.
Mohoua ochrocephala albicilla (Lesson); Checklist Committee 1953, *Checklist N.Z. Birds*: 62.
Mohoua albicilla (Lesson); Checklist Committee 1990, *Checklist Birds N.Z.*: 204.

North Island only: largely restricted to central and southern forested areas; Hauturu/Little Barrier and Kapiti Islands. Successfully transferred from Hauturu/Little Barrier to Tiritiri Matangi Island (1989); translocations from Tiritiri to mainland “islands” with predator-control recently attempted. Has colonised exotic pine forests in central North Island. Apparently now extinct on Rakitu Island (Arid Island), east of Great Barrier Island (Aotea Island), where last seen 1957 (Bellingham *et al.* 1982). Holocene fossil records from cave, predator and dune sites throughout North Island.

▶ *Mohoua ochrocephala* (Gmelin)

Yellowhead

- Muscicapa ochrocephala* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 944. Based on the “Yellow-headed Flycatcher” of Latham 1783, *Gen. Synop. Birds* 2: 342 – Queen Charlotte Sound, Marlborough.
Certhia heteroclitus Quoy & Gaimard, 1830: in Dumont d’Urville, *Voyage Astrolabe Zool.* 1: 223, pl. 17, fig. 1 – Tasman Bay.
Mohoua hua Lesson, 1837: *Compléments Oeuvres Buffon* 9: 139 – South Island.
Orthonyx icterocephalus Lafresnaye, 1839: *Rev. de Zool., Paris* 2: 257 – South Island.
Orthonyx heteroclitus [sic] Lafresnaye, 1839: *Mag. Zool., Paris*: pl. 8 – South Island.
Muscicapa Chloris J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 87 – South Island.
Clitonyx (Muscicapa) ochrocephala (Gmelin); Reichenbach 1851, *Handb. spec. Ornith.* 1: 167.
Mohoua ochrocephala (Gmelin); G.R. Gray 1862, *Ibis* 4: 220.
Orthonyx ochrocephala (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 103.
Certhiparus ochrocephalus (Gmelin); Gadow 1883, *Cat. Birds Brit. Mus.* 8: 76.
Clitonyx ochrocephala (Gmelin); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 56.
Mohua [sic] *ochrocephala* (Gmelin); Hutton 1903, *Ibis* 3 (8th ser.): 319.
Mohoua ochrocephala ochrocephala (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 62.

New Zealand: formerly widespread in South Island and Stewart Island/Rakiura forests, now absent from most of its former range and threatened. Well established only in or near Fiordland and Mount Aspiring National Parks, with remnant populations at Arthur’s Pass National Park and Southland. Recently extinct at Mount Stokes (Marlborough Sounds; Gaze 2003). Translocations to predator-free islands are in progress. Holocene fossil records from widespread South Island sites, especially laughing owl food deposits.

▶ *Mohoua novaeseelandiae* (Gmelin)

Brown Creeper

- Parus novae Seelandiae* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 1013. Based on the “New Zealand Titmouse” of Latham 1783, *Gen. Synop. Birds* 2: 558 – Dusky Bay = Dusky Sound, Fiordland.

Parus zelandicus Quoy & Gaimard, 1830: in Dumont d'Urville, *Voyage Astrolabe Zool.* 1: 210, pl. 11, fig. 3 – Tasman Bay.

Certhiparus Novae-Zelandiae (Gmelin); Lafresnaye 1842, *Rev. de Zool., Paris* 5: 69. Unjustified emendation.

Certhiparus Novae Seelandiae (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 189.

Certhiparus maculicaudus G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 189 – New Zealand.

Parus urostigma J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 90 – South Island.

Certhiparus urostigma (J.R. Forster); Ellman 1861, *Zoologist* 19: 7465.

Certhiparus novae seelandiae (Gmelin); G.R. Gray 1862, *Ibis* 4: 221.

Phylodytes Novae-Zelandiae (Gmelin); Finsch 1873, *Journ. für Ornith.* 21 (ser. 4): 397. Unjustified emendation.

Finschia novaeseelandiae (Gmelin); Hutton 1903, *Ibis* 3 (8th ser.): 319.

Certhiparus novae-zealandiae (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 136. Unjustified emendation.

Mohoua novaeseelandiae (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 205.

New Zealand: widespread in South Island and Stewart Island/Rakiura forests and scrub; on several islands off Stewart Island/Rakiura and in the Marlborough Sounds. Holocene fossil records from widespread South Island sites, especially laughing owl food deposits. The name brown creeper is also used for a North American species (*Certhia americana*, Certhiidae).

Family ARTAMIDAE Blyth: Butcherbirds, Currawongs and Woodswallows

Artamidae Blyth, 1849: *Cat. Birds Mus. Asiatic Soc.*: 199 – Type genus *Artamus* Vieillot, 1816.

We follow Schodde & Mason (1999) and Christidis & Boles (2008) in uniting woodswallows, magpies, butcherbirds and currawongs in one family. The sequence of species follows Schodde & Mason (1999). Some Australian authorities (e.g. Christidis & Boles 2008) have placed the Australian magpie in *Cracticus*, but the point is arguable and we await consensus from Australia.

Genus **Gymnorhina* G.R. Gray

Gymnorhina G.R. Gray, 1840: *List Gen. Birds* (1st edition): 37 – Type species (by original designation) *Coracias tibicen* Latham = *Gymnorhina tibicen* (Latham).

▶ **Gymnorhina tibicen* (Latham)

Australian Magpie

Coracias tibicen Latham, 1802: *Index Ornith. Suppl.*: xxvii – New South Wales, Australia.

Gymnorhina leuconota Gould, 1844: *Birds of Australia* 2: pl. 47 – South Australia.

Gymnorhina leuconota Gould; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 151.

Gymnorhina hypoleuca; Oliver 1930, *New Zealand Birds*, 1st edition: 521. Not *Cracticus hypoleucus* Gould, 1837.

Gymnorhina tibicen (Latham); Checklist Committee 1953, *Checklist N.Z. Birds*: 67.

Gymnorhina tibicen tibicen (Latham); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 73.

Gymnorhina tibicen hypoleuca; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 73. Not *Cracticus hypoleucus* Gould, 1837.

Cracticus tibicen (Latham); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 35, 196.

Australia and southern New Guinea. New Zealand: successfully introduced to both North and South Islands during the 1860s. Now common and widespread throughout the North Island, and much of the South Island, from sea level to 1700 m a.s.l. Least evident along the South Island West Coast and on Stewart Island/Rakiura (Robertson, C. *et al.* 2007). It used to be thought that two forms, the black-backed magpie and white-backed magpie, were introduced, with various degrees of inter-breeding and hybridisation around the country: see 1990 Checklist (Checklist Committee 1990) for details. The situation is less clear now that Schodde & Mason (1999) have recognised eight subspecies from Australia and Tasmania, with extensive zones of intergradation between abutting subspecies.

Genus *Artamus* Vieillot

Artamus Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 41 – Type species (by monotypy) “Langraien (Buffon)” = *Lanius leucorhynchus* Linnaeus = *Artamus leucorhynchus* (Linnaeus).

▶ *Artamus personatus* (Gould)

Masked Woodswallow

Ocypterus personatus Gould, 1841: *Proc. Zool. Soc. London 1840* (8): 149 – southern and western Australia.

Artamus personatus (Gould); Checklist Committee 1990, *Checklist Birds N.Z.*: 227.

Mainland Australia (not Tasmania), particularly inland; migratory and nomadic. Associates with the white-browed woodswallow on migration and in breeding colonies. One pair recorded in New Zealand (Darby 1972; Child 1974, 1975a): Naseby Forest, Central Otago, Jan. 1972 to Aug. 1973. The pair bred and reared two chicks; with them were associated four white-browed woodswallows (*q.v.*). Straggler to Norfolk Island (Moore 1999).

▶ *Artamus superciliosus* (Gould)

White-browed Woodswallow

Ocypterus superciliosus Gould, 1837: *Synop. Birds Australia 1*: pl. 1, fig. 2 – Interior of New South Wales, Australia.

Artamus superciliosus (Gould); Checklist Committee 1990, *Checklist Birds N.Z.*: 227.

East and central Australia (not Tasmania); particularly inland. Rare straggler to New Zealand. Four at Naseby Forest, Central Otago, Dec. 1971 to Jul. 1973, associating with a pair of masked woodswallows (Darby 1972; Child 1974, 1975a). One at Miranda, Firth of Thames, Sep. 1991 (Guest 1992). Straggler to Norfolk Island (Moore 1999).

Family RHIPIDURIDAE Sundevall: Fantails

Rhipiduridae Sundevall, 1872: *Methodi Naturalis Avium Tentamen 1*: 25 – Type genus *Rhipidura* Vigors & Horsfield, 1827.

We follow Christidis & Boles (2008) in placing *Rhipidura* in its own family rather than in Dicruridae. We follow Schodde & Mason (1999) in recognising *Rh. fuliginosa* as a species endemic to New Zealand and Lord Howe Island, and distinct from *Rh. albiscapa* of mainland Australia and Norfolk Island.

Genus *Rhipidura* Vigors & Horsfield

Rhipidura Vigors & Horsfield, 1827: *Trans. Linn. Soc. London 15*: 246 – Type species (by subsequent designation) *Muscicapa flabellifera* Gmelin = *Rhipidura fuliginosa* Sparrman.

Leucocirca Swainson, 1838: *Naturalist's Library, Ornith.* 21(10): 126, pl. 11 – Type species (by monotypy) *Leucocirca laticauda* Swainson = *Rhipidura leucophrys* (Latham).

Leucocerca Strickland, 1841: *Ann. Mag. Nat. Hist., London 7*: 28. Unjustified emendation.

▶ ***Rhipidura albiscapa* Gould****Grey Fantail**

Rhipidura albiscapa Gould, 1840: *Birds of Australia 1*: pl. & text – Tasmania, Australia.

South-west, east and south-east Australia; parts of central Australia; Norfolk Island.

▶ ***Rhipidura albiscapa pelzelni* G.R. Gray****Norfolk Island Fantail**

Rhipidura assimilis Pelzeln, 1860: *Sitzungsber. K. Akad. Wissen., Math.-Naturwissen. Cl., Wien* 41: 320 – Norfolk Island. Junior primary homonym of *Rhipidura assimilis* G.R. Gray, 1858.

Rhipidura pelzelni G.R. Gray, 1862: *Ibis* 4: 226. *Nomen novum* for *Rhipidura assimilis* Pelzeln, 1860.

Rhipidura flabellifera pelzelni G.R. Gray; Mathews 1912, *Novit. Zool.* 18(3): 449.

Rhipidura fuliginosa pelzelni G.R. Gray; Mayr in Peters 1986, *Check-list Birds World* 11: 547.

Rhipidura albiscapa pelzelni G.R. Gray; Schodde & Mason 1999, *Directory Australian Birds. Paserines*: 482.

Norfolk Island. Abundant and widespread on the main island (Schodde *et al.* 1983).

▶ ***Rhipidura fuliginosa* (Sparman)****New Zealand Fantail**

New Zealand (including Chatham Islands); Lord Howe Island (subspecies *Rh. f. cervina*; extinct). Forms a superspecies with *Rh. albiscapa* of Australia, and taxa on islands of the Melanesian region of the south-west Pacific (Schodde & Mason 1999).

▶ ***Rhipidura fuliginosa placabilis* Bangs****North Island Fantail**

Rhipidura flabellifera kemp Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 441 – North Island. Junior primary homonym of *Rhipidura rufifrons kemp* Mathews, 1912.

Rhipidura flabellifera placabilis Bangs, 1921: *Bull. Am. Mus. Nat. Hist.* 44: 583. *Nomen novum* for *Rhipidura flabellifera kemp* Mathews & Iredale, 1913.

Rhipidura flabellifera melandae [sic] Mathews, 1926: *Bull. Brit. Ornith. Club* 47: 40. Unnecessary *nomen novum* for *Rhipidura flabellifera kemp* Mathews & Iredale, 1913.

Rhipidura fuliginosa placabilis Bangs; Checklist Committee 1953, *Checklist N.Z. Birds*: 60.

North Island and offshore islands. Common throughout, both in residual forest and in settled districts wherever there are trees and shrubs; accepted modified conditions from the earliest days of European settlement. Scattered Holocene fossil and midden records. The species is dimorphic (see account for next subspecies), but melanistic individuals are rare in the North Island.

▶ ***Rhipidura fuliginosa fuliginosa* (Sparman)****South Island Fantail**

Muscicapa fuliginosa Sparman, 1787: *Mus. Carlsonianum* 2: n° XLVII, pl. 47 – “In Deserto Africano inter rivulum Heuj et Fontem Quamedacka”, error for South Island (*vide* Mayr in Peters 1986, *Check-list Birds World* 11: 546).

Muscicapa flabellifera Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 943. Based on the “Fantail Flycatcher” of Latham 1783, *Gen. Synop. Birds* 2(1): 340, pl. 49 – Dusky Sound, Fiordland.

Muscicapa deserti Gmelin, 1789: *Syst. Nat.* 13th edition 1(2): 949 – ?New Zealand.

Mostacilla [sic] *ventilabrum* J.R. Forster, 1794: *Mag. merkwürdigen neuen Reise Beschreibungen* 11(3): 313, footnote – New Zealand and Norfolk Island, restricted to South Island (*vide* Steinheimer *et al.* 2008, *Notornis* 55(1): 35).

Rhipidura melanura G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 190 – “Cook’s Straits”.

Muscicapa Ventilabrum J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 86 – South Island. Junior secondary homonym of *Motacilla ventilabrum* J.R. Forster, 1794.

- Rhipidura flabellifera* (Gmelin); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 8.
- Leucocerca melanura* (G.R. Gray); Bonaparte 1850, *Consp. Gen. Avium* 1: 324.
- Rhipidura tristis* Hombron & Jacquinot, 1853: in Dumont d'Urville, *Voyage Pôle Sud, Zoologie* 3: 76, pl. 2, fig. 5 – Otago.
- Rhipidura sombre* Hombron & Jacquinot, 1853: in Dumont d'Urville, *Voyage Pôle Sud, Zoologie Atlas*: pl. 11, fig. 4 – South Island.
- Rhipidura fuliginosa* (Sparrrman); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 72.
- Rhipidura flabellifera flabellifera* (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 441.
- Rhipidura fuliginosa fuliginosa* (Sparrrman); Checklist Committee 1953, *Checklist N.Z. Birds*: 60.

South Island; Stewart Island/Rakiura and outliers; Snares Islands/Tini Heke. Widespread throughout excepting alpine tops and tussock (Robertson, C. *et al.* 2007). A few scattered Holocene fossil and midden records, but more common in laughing owl food deposits. The species is dimorphic in the South Island, the proportion of “black” (melanistic) to “pied” birds varying locally (Craig 1972, Atkinson & Briskie 2007).

***Rhipidura fuliginosa penita* Bangs**

Chatham Island Fantail

- Rhipidura flabillifera* [sic] *penitus* Bangs, 1911: *Proc. Biol. Soc. Washington* 24: 41 – Chatham Islands.
- Rhipidura flabellifera penitus* Bangs; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 441.
- Rhipidura fuliginosa penitus* [sic] Bangs; Checklist Committee 1953, *Checklist N.Z. Birds*: 60.
- Rhipidura fuliginosa penita* Bangs; Checklist Committee 1990, *Checklist Birds N.Z.*: 208.

Chatham, Pitt and South East Islands of the Chatham Group. A few Holocene fossil cave, dune and midden records from Chatham Island.

▶ ***Rhipidura leucophrys* (Latham)**

Willie Wagtail

- Turdus leucophrys* Latham, 1802: *Index Ornith. Suppl.*: xlv – “New Holland”, restricted to Sydney, Australia (*vide* Mathews 1930, *Syst. Avium Australasianarum* 2: 496).
- Leucocirca leucophrys leucophrys* (Latham); Mathews 1930, *Syst. Avium Australasianarum* 2: 496.
- Rhipidura leucophrys* (Latham); Mayr in Peters 1986, *Check-list Birds World* 11: 537.

Moluccas, New Guinea, Solomon Islands, Australia. Vagrant to Tasmania. Rare straggler to New Zealand: one record (Mangere Island, Chatham Islands Group, Oct. 1999; Gummer 2002). Subspecies reaching New Zealand not known, but probably the nominate race, from southern and eastern Australia.

Family CORVIDAE Leach: Crows and Jays

Corvidae Leach, 1820: *Eleventh room. In Synopsis Contents British Museum 17th Edition, London*: 67 – Type genus *Corvus* Linnaeus, 1758.

Genus *Corvus* Linnaeus

- Corvus* Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 105 – Type species (by tautonymy) “*Corvus*” = *Corvus corax* Linnaeus.
- Palaeocorax* Forbes, 1892: *Bull. Brit. Ornith. Club* 1(4): 21 – Type species (by original designation) *Corvus moriorum* Forbes.

Dawson (1964) reported one raven bone of uncertain species from sand-dunes at Enderby Island, Auckland Islands. This may have been a cultural artefact, and not a naturally occurring bone, because it was found near a site where people from the Chatham Islands had settled.

▶ †**Corvus antipodum** (Forbes) **New Zealand Raven**

Extinct. Widespread in coastal Holocene fossil deposits, especially sand-dunes, in North and South Islands of New Zealand (Gill 2003). Also present at a few Pleistocene sites in the South Island. Widely represented in midden deposits at coastal archaeological sites.

†**Corvus antipodum antipodum** (Forbes) **North Island Raven**

Palaeocorax antipodum Forbes, 1893: *Ibis* 5 (6th ser.): 544 – North Island, restricted to Tokerau Beach, Doubtless Bay, Northland (*vide* Gill 2003, *Journ. Syst. Palaeont.* 1(1): 53).

Corvus antipodum antipodum (Forbes); Gill 2003, *Journ. Syst. Palaeont.* 1(1): 53.

North Island: widespread in coastal Holocene fossil deposits and midden sites throughout. Present at Poukawa and Te Aute (Hawke's Bay) within 25 km of the sea, but absent from the Waitomo karst sites further inland.

†**Corvus antipodum pycrafti** Gill **South Island Raven**

Corvus antipodum pycrafti Gill, 2003: *Journ. Syst. Palaeont.* 1(1): 54 – Marfell Beach, Marlborough.

Widespread in coastal Holocene fossil deposits and midden sites along the South Island east coast. Present on West Coast at now-forested areas (e.g. Punakaiki, Oparara) when these were open habitats in the Pleistocene. Also recorded on Stewart Island/Rakiura (fossil and midden). Present at Pyramid Valley (North Canterbury) within 25 km of the sea, but absent from sites further inland, e.g. Earnscleugh Cave, Central Otago.

▶ †**Corvus moriorum** Forbes **Chatham Island Raven**

Corvus moriorum Forbes, 1892: *Nature* 46(1185): 252 – Chatham Islands, restricted to main Chatham Island (*vide* Gill 2003, *Journ. Syst. Palaeont.* 1(1): 53).

Palaeocorax moriorum (Forbes); Checklist Committee 1990, *Checklist Birds N.Z.*: 230.

Known from abundant Holocene fossils in sand-dunes on Chatham Island, and a few fossils from Pitt Island (Millener 1999, Gill 2003). Present in midden deposits on Chatham Island.

▶ ***Corvus frugilegus** Linnaeus **Rook**

Corvus frugilegus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 105 – Europe, restricted to Sweden (*vide* Hartert 1903, *Vögel Pal. Fauna* 1: 13).

Corvus frugilegus Linnaeus; Checklist Committee 1953, *Checklist N.Z. Birds*: 67.

Northern and central Europe, west and central Asia, east Siberia, and north and central China. Northern populations migratory; winters to North Africa, India and southern China and Japan. New Zealand: introduced to Auckland, Napier and Christchurch during the 1870s. After an initial increase, the Auckland population disappeared about 1905. The Hawke's Bay population prospered; now widely distributed on farmlands of the east coast of the North Island from northern Hawke's Bay to southern Wairarapa (Coleman 1971, Bull & Porter 1975). Smaller isolated colonies, many ephemeral, and stragglers, have been recorded at widely scattered localities throughout the North and South Islands, and one bird from Chatham Island (Heather & Robertson 1996; Robertson, C. *et al.* 2007). The population peaked in 1978 (c. 30,000 birds), but has since been reduced by frequent poisoning and shooting by local authorities.

Family **MONARCHIDAE** Bonaparte: **Monarch Flycatchers**

Monarchinae Bonaparte, 1854: *Ann. Sci. Nat., Zool. Paris*, 4th Series 1: 126 – Type genus *Monarcha* Vigors & Horsfield, 1827.

We follow Christidis & Boles (2008) in the use of this family, and the order of species.

Genus *Myiagra* Vigors & Horsfield

Myiagra Vigors & Horsfield, 1827: *Trans. Linn. Soc. London* 15: 250 – Type species (by subsequent designation) *Myiagra rubeculoides* Vigors & Horsfield = *Myiagra rubecula* (Latham).

Submyiagra Mathews, 1913: *Austral Avian Rec.* 2: 61 – Type species (by original designation) *Platyrhynchos vanikorensis* Quoy & Gaimard = *Myiagra vanikorensis* (Quoy & Gaimard).

▶ *Myiagra cyanoleuca* (Vieillot) **Satin Flycatcher**

Platyrhynchos cyanoleucus Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.*, 27: 11 – “Timor”, error for Sydney, Australia (*vide* Mathews 1930, *Syst. Avium Australasianarum* 2: 502).

Submyiagra cyanoleuca cyanoleuca (Vieillot); Mathews 1930, *Syst. Avium Australasianarum* 2: 502.

Myiagra cyanoleuca (Vieillot); Blackburn 1963, *Notornis* 10: 262.

Eastern Australia from Cape York to Tasmania; migratory from southern part of range to northern Queensland and New Guinea. Rare straggler to New Zealand: sight record, Hexton, near Gisborne, Jun. 1963 (Blackburn 1963); one found dead, Motueka, Dec. 1988 (Guest 1990).

Genus *Monarcha* Vigors & Horsfield

Monarcha Vigors & Horsfield, 1827: *Trans. Linn. Soc. London* 15: 254 – Type species (by monotypy) *Muscipeta carinata* Swainson = *Monarcha melanopsis* (Vieillot).

▶ *Monarcha melanopsis* (Vieillot) **Black-faced Monarch**

Muscicapa melanopsis Vieillot, 1818: *Nouv. Dict. Hist. Nat., nouv. éd.* 21: 450 – “New South Wales”, restricted to Sydney, Australia.

Monarcha melanopsis (Vieillot); Tennyson 1997, *Notornis* 44: 267.

East coast of Australia, migrating north in winter to Cape York Peninsula and New Guinea. No subspecies. Rare straggler to New Zealand: one record (Stratford, Taranaki, Apr. 1996; Tennyson 1997).

“PASSERIDA”: Eurasian and New World Songbirds

The families recognised within Passerida, and their sequence, follow Christidis & Boles (2008) except for the Prunellidae, which they did not cover. *Petroica* is now seen as a passeridan genus rather than a corvidan one, for the reasons discussed by Christidis & Boles (2008). Niethammer (1971) attempted to assign subspecific attributions to all the populations of European songbirds established in New Zealand. However, in some cases this is problematical for a list of reasons discussed by Checklist Committee (1990: xii), and until more work is done on these taxa some are best named at just the binomial level.

Family PETROICIDAE Mathews: Australasian Robins

Petroicinae Mathews, 1920: *Birds Australia.* 8: 80 – Type genus *Petroica* Swainson, 1830.

Genus *Petroica* Swainson

The order of New Zealand taxa follows Checklist Committee (1990), which recognised three New Zealand species following Fleming (1950a,b). Miller & Lambert (2006) analysed mtDNA sequences of New Zealand populations of *Petroica*. Their study

supported the specific status of the black robin, and supported the separation of North and South Island robins at the specific level. The North Island robin is considerably smaller than its South Island congener, with marked plumage differences, as detailed in the major study by Fleming (1950a,b). We have given them specific rank, but the Stewart Island/Rakiura population is poorly distinguished, both genetically (Miller & Lambert 2006) and morphologically, and is retained here as a subspecies of the South Island robin. Miller & Lambert (2006) recommended retaining the tomtit populations as subspecies; the greatest genetic distinction, in the sequences they studied, was for the Chatham Island tomtit rather than the melanistic Snares Island tomtit. Given this, we have retained the status quo (Checklist Committee 1990) with the tomtit taxa kept as subspecies, pending further data. Fleming's hypothesis (1950a,b) that the black robin is an insular derivative of the mainland robins, was not supported by Miller & Lambert (2006), who found that it grouped strongly with the tomtit instead. If upheld by further data (such as sequences from other genes) this could mean the removal of *P. traversi* from the subgenus *Miro* to the subgenus *Petroica*.

Hamilton (1909: 15) listed "*Petroeca vittata*, Quoy et Gaim. (Dusky Robin.)", as a species present in New Zealand. That species, currently known as *Melanodryas* (*Amaurodryas*) *vittata* (Quoy & Gaimard, 1830), is endemic to Tasmania (Green 1989: 58) and has not been recorded in New Zealand. Hamilton's "*Petroeca vittata*" is almost certainly a misidentification.

Subgenus *Petroica* Swainson

- Petroica* Swainson, 1830: *Zool. Illustr.* (ser. 2) 80: pl. 36 & text – Type species (by monotypy)
Muscicapa multicolor Gmelin = *Petroica* (*Petroica*) *multicolor* (Gmelin).
Myiomoira Reichenbach, 1850: *Avium Syst. Nat.*: pl. 67 – Type species (by monotypy)
Muscicapa toitoi Lesson = *Petroica* (*Petroica*) *macrocephala toitoi* (Lesson).

► *Petroica* (*Petroica*) *multicolor* (Gmelin)

Pacific Robin

More than a dozen subspecies on islands of the south-west Pacific between the Solomon Islands, Vanuatu, Fiji, Samoa and Norfolk Island. Now regarded as separate from the scarlet robin *P. boodang* of southern Australia (Schodde & Mason 1999).

Petroica (*Petroica*) *multicolor multicolor* (Gmelin)

Norfolk Island Robin

- Muscicapa multicolor* Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 944. Based on the "Red-bellied Flycatcher" of Latham 1783, *Gen. Synop. Birds* 2(1): 343, pl. 50 – Norfolk Island.
Muscicapa erythrogastra Latham, 1790: *Index Ornith.* 2: 479. Unnecessary *nomen novum* for *Muscicapa multicolor* Gmelin, 1789.
Muscicapa rhodogastra Latham, 1802: *Index Ornith. Suppl.*: pl. 52 – "New South Wales", error for Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 33).
Petroica modesta Gould, 1838: *Synop. Birds Australia* 4, App.: 3 – "East coast of New Holland", error for Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 33).
Petroica pulchella Gould, 1840: *Proc. Zool. Soc. London* 1839 (7): 142 – Norfolk Island.
Muscicapa dibapha J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 267 – Norfolk Island.
Petroica erythrogastra (Latham); Gould 1847, *Birds of Australia* 3(27): pl. 4.
Petroeca [sic] *multicolor* (Gmelin); Sharpe 1879, *Cat. Birds Brit. Mus.* 4: 168.
Petroica (*Petroica*) *multicolor multicolor* (Gmelin); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 387.
Petroica multicolor multicolor (Gmelin); Moore 1999, *Notornis* 46: 363.
Petroica multicolor (Gmelin); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 137, 180.

Endemic on Norfolk Island. Moderately abundant on the main island in native forest, particularly in the north (Schodde *et al.* 1983, Moore 1999). Absent from smaller islands, probably because there is no suitable habitat. Sometimes regarded as a full species (e.g. Holdaway *et al.* 2001).

► ***Petroica (Petroica) macrocephala* (Gmelin) Tomtit**

New Zealand. North, South, Chatham and Auckland Islands, and Stewart Island/Rakiura. Still widely established in remaining native forests and scrublands, and has entered many exotic forests, but not a permanent inhabitant of gardens and settled areas.

***Petroica (Petroica) macrocephala toitoi* (Lesson) North Island Tomtit**

Muscicapa toitoi Lesson, 1828: *Manuel d'Ornith.* 1: 188 – Bay of Islands, Northland.

Miro toitoi (Lesson); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 191.

Petroica toitoi (Lesson); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. Erebus' & 'Terror'*, *Birds* 1(3): 6.

Muscicapa albopectus Ellman, 1861: *Zoologist* 19: 7465 – New Zealand.

Myiomoira toitoi (Garnot) [sic]; Buller 1896, *Trans. Proc. N.Z. Inst.* 28: 337.

Petroeca [sic] *toitoi* (Garnot) [sic]; Buller 1905, *Suppl. Birds N.Z.* 2: 114.

Myiomoira toitoi (Lesson); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 436.

Petroica macrocephala toitoi (Lesson); C.A. Fleming 1950, *Trans. Roy. Soc. N.Z.* 78(1): 33.

Petroica (Petroica) macrocephala toitoi (Lesson); Checklist Committee 1990, *Checklist Birds N.Z.*: 209.

Petroica toitoi (Lesson); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 137, 180.

North Island: widespread in forested areas of Northland, Coromandel, central areas from Taranaki to East Cape, and the south; also on larger offshore islands including Hen and Chickens, Hauturu/Little Barrier, Great Barrier (Aotea) and Kapiti Islands. Holocene fossils in several cave sites.

***Petroica (Petroica) macrocephala macrocephala* (Gmelin) South Island Tomtit**

Parus macrocephalus Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 1013. Based on the “Great-headed Titmouse” of Latham 1783, *Gen. Synop. Birds* 2: 557 – Queen Charlotte Sound, Marlborough.

Pachycephalus? australis Stephens, 1826: in G. Shaw, *General Zool.* 13(2): 267 – New Zealand.

Unnecessary *nomen novum* for *Parus macrocephalus* Gmelin, 1789.

Rhipidura macrocephala (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 190.

Miro Forsterorum G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 191 – Queen Charlotte Sound, Marlborough.

Miro dieffenbachii G.R. Gray, 1843: in E. Dieffenbach, *Travels in N.Z.* 2: 191 – “Chatham Islands”, probably error for South Island (*vide* C.A. Fleming 1950, *Trans. Roy. Soc. N.Z.* 78(1): 29).

Turdus minutus J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 83 – Queen Charlotte Sound, Marlborough.

Petroica macrocephala (Gmelin); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 6.

Petroica dieffenbachii (G.R. Gray); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 6, pl. 6, fig. 1.

Miro macrocephala (Gmelin); Bonaparte 1850, *Consp. Gen. Avium* 1: 299.

Muscicapa macrocephala (Gmelin); Ellman 1861, *Zoologist* 19: 7465.

Muscicapa minutus (J.R. Forster); Ellman 1861, *Zoologist* 19: 7465.

Myiomoira dieffenbachii (G.R. Gray); G.R. Gray 1869, *Hand-list Birds* 1: 229.

- Petroica dieffenbachii* (G.R. Gray); Hutton 1871, *Cat. Birds N.Z.*: 12. In part.
Myiomoira macrocephala (Gmelin); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 126.
Petroeca [sic] *macrocephala* (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 114.
Myiomoira macrocephala macrocephala (Gmelin); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 436.
Myiomoira macrocephala dieffenbachii (G.R. Gray); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 436.
Petroica macrocephala macrocephala (Gmelin); C.A. Fleming 1950, *Trans. Roy. Soc. N.Z.* 78(1): 28.
Petroica (Petroica) macrocephala macrocephala (Gmelin); Checklist Committee 1990, *Checklist Birds N.Z.*: 209.

South Island, Stewart Island/Rakiura and outliers, Solander Island (Hautere). Widespread in most areas excepting Central Otago, the Canterbury Plains and parts of Marlborough (Robertson, C. *et al.* 2007). Holocene fossils rare except in laughing owl food deposits.

***Petroica (Petroica) macrocephala chathamensis* C.A. Fleming Chatham Island Tomtit**

- Petroica macrocephala chathamensis* C.A. Fleming, 1950: *Trans. Roy. Soc. N.Z.* 78(1): 36 – Rangatira [= South-East] Island, Chatham Islands.
Petroica (Petroica) macrocephala chathamensis C.A. Fleming; Checklist Committee 1990, *Checklist Birds N.Z.*: 209.

Chatham Islands. Extinct since c. 1975 on Chatham Island; well established in residual forest and scrub on Pitt, Mangere, Little Mangere and South East Islands. Recorded as a Holocene fossil (Millener 1999).

***Petroica (Petroica) macrocephala dannefaerdi* (Rothschild) Snares Island Tomtit**

- Myiomoira traversi*; Finsch 1888, *Ibis* 6 (5th ser.): 308. Not *Miro traversi* Buller, 1872.
Miro dannefaerdi Rothschild, 1894: *Novit. Zool.* 1: 688 – Snares Islands.
Miro dannefordi Rothschild; Buller 1905, *Suppl. Birds N.Z.* 2: 125. Unjustified emendation.
Nesomiro traversi dannefaerdi (Rothschild); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 440.
Petroica macrocephala dannefaerdi (Rothschild); Checklist Committee 1953, *Checklist N.Z. Birds*: 61.
Petroica dannefaerdi (Rothschild); Oliver 1955, *New Zealand Birds*, 2nd edition: 484.
Petroica (Petroica) macrocephala dannefaerdi (Rothschild); Checklist Committee 1990, *Checklist Birds N.Z.*: 210.

Snares Islands/Tini Heke, inhabiting mainly the *Olearia* scrub that covers much of the main island but also in tussock areas.

***Petroica (Petroica) macrocephala marrineri* (Mathews & Iredale)**

Auckland Island Tomtit

- Petroica dieffenbachii* (G.R. Gray); Hutton 1871, *Cat. Birds N.Z.*: 12. In part.
Myiomoira macrocephala marrineri Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 436 – Auckland Islands.
Petroica macrocephala marrineri (Mathews & Iredale); Oliver 1930, *New Zealand Birds*, 1st edition: 459.
Myiomoira macrocephala enderbyi Mathews, 1930: *Bull. Brit. Ornith. Club* 51: 21 – Enderby Island, Auckland Islands.
Petroica (Petroica) macrocephala marrineri (Mathews & Iredale); Checklist Committee 1990, *Checklist Birds N.Z.*: 210.
Petroica marrineri (Mathews & Iredale); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 137, 174.

Auckland Islands: forest and scrub on Auckland, Adams, Ocean, Rose, Ewing, and Enderby Islands.

Subgenus *Miro* Lesson

Miro Lesson, 1831: *Traité d'Ornith.* 5(1): 389 – Type species (by monotypy) *Muscicapa longipes* Garnot = *Petroica (Miro) longipes* (Lesson).

Myioscopus Reichenbach, 1850: *Avium Syst. Nat.*: pl. 67 – Type species (by monotypy) *Muscicapa longipes* Garnot = *Petroica (Miro) longipes* (Garnot).

Nesomiro Mathews & Iredale, 1913: *Ibis* 1 (10th ser.): 440 – Type species (by original designation) *Miro traversi* Buller = *Petroica (Miro) traversi* (Buller).

▶ ***Petroica (Miro) longipes* (Garnot)**

North Island Robin

Muscicapa longipes Garnot, 1827: in M.L.I. Duperrey, *Voy. Coquille, Zool. Atlas* 1(3): pl. 19, fig. 1 – Bay of Islands, Northland.

Myiothera novae-zelandiae Lesson, 1828: *Manuel d'Ornith.* 1: 248. Unnecessary *nomen novum* for *Muscicapa longipes* Garnot, 1827.

Miro longipes (Garnot); Lesson 1831, *Traité d'Ornith.* 5(1): 389.

Petroica australis; G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 7. Not *Turdus australis* Sparrman, 1788.

Petroica longipes (Garnot); G.R. Gray 1862, *Ibis* 4: 223.

Myioscopus longipes (Lesson) [sic]; Finsch 1872, *Journ. für Ornith.* 20: 112.

Miro australis; Buller 1905, *Suppl. Birds N.Z.* 2: 122. Not *Turdus australis* Sparrman, 1788.

Miro australis longipes (Garnot); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 439.

Petroica (Miro) australis longipes (Lesson, 1828) [sic]; Checklist Committee 1953, *Checklist N.Z. Birds*: 61.

Petroica longipes (Garnot); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 138, 180.

North Island: widespread in native and older exotic forests of the central North Island; Hauturu/Little Barrier and Kapiti Islands. Recent re-introductions to Tiritiri Matangi Island (1992) and Wenderholm Regional Park (1999) near Auckland seem successful, and more recent transfers have been made to predator-controlled forest “islands” (e.g. Waitakere Ranges, Great Barrier Island (Aotea Island)). Holocene fossils and midden records from many localities, including areas well outside the present range (and, in the Far North, outside the historical range).

▶ ***Petroica (Miro) australis* (Sparrman)**

South Island Robin

South Island plus Stewart Island/Rakiura and its outliers.

***Petroica (Miro) australis australis* (Sparrman)**

South Island Robin

Turdus australis Sparrman, 1788: *Mus. Carlsonianum* 3: n° LXIX, pl. 69 – Dusky Sound, Fiordland.

Turdus albifrons Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 882. Based on the “White-fronted Thrush” of Latham 1783, *Gen. Synop. Birds* 2(1): 71 – Dusky Sound, Fiordland.

Miro albifrons (Gmelin); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 190.

Aplonis australis (Sparrman); G.R. Gray 1843, in E. Dieffenbach, *Travels in N.Z.* 2: 192.

Petroica albifrons (Gmelin); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 7, pl. 6, fig. 2.

Turdus ochrotarsus J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 82 – Dusky Sound, Fiordland.

Muscicapa saxicolina Bonaparte, 1851: *Consp. Gen. Avium* 1: 300 – New Zealand.

Muscicapa albifrons (Gmelin); Ellman 1861, *Zoologist* 19: 7465.

Myioscopus albifrons (Gmelin); Finsch 1872, *Journ. für Ornith.* 20: 112.

Miro ochrotarsus (J.R. Forster); Buller 1896, *Trans. Proc. N.Z. Inst.* 28: 337.

Miro albifrons (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 120.

Miro bulleri Sharpe, 1905: in Buller, *Suppl. Birds N.Z.* 2: 123 – Karamea Saddle, north West Coast.

Miro australis bulleri Buller [sic]; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 439.

Miro australis australis (Sparman); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 439.

Miro australis (Sparman); Oliver 1930, *New Zealand Birds*, 1st edition: 466.

Petroica (Miro) australis australis (Sparman); Checklist Committee 1990, *Checklist Birds N.Z.*: 210.

Petroica australis (Sparman); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 138, 180.

South Island: native and older exotic forests especially in the northern third of the island and the south-west (Fiordland); otherwise of restricted and local distribution. Widely distributed Holocene fossil and midden records, several outside the present range.

***Petroica (Miro) australis rakiura* C.A. Fleming** **Stewart Island Robin**

Petroica (Miro) australis rakiura C.A. Fleming, 1950: *Trans. Roy. Soc. N.Z.* 78(1): 141 – Jacques Lees [= Jacky Lee] Island, off east coast of Stewart Island.

Miro australis rakiura (C.A. Fleming); Oliver 1955, *New Zealand Birds*, 2nd edition: 489.

Stewart Island/Rakiura and outliers (e.g. Jacky Lee Island (Pukeokaoka) and Green Island).

► ***Petroica (Miro) traversi* (Buller)** **Black Robin**

Miro traversi Buller, 1872 (June): *Birds of N.Z.* (part 2): 123 – Chatham Islands.

Petroica traversi Hutton, 1872 (July): *Ibis* 2 (3rd ser.): 245 – “Mangere”, Chatham Islands.

Junior secondary homonym of *Miro traversi* Buller, 1872.

Petroica traversii Hutton; Travers & Travers 1873, *Trans. Proc. N.Z. Inst.* 5: 216. Unjustified emendation.

Myiomoira Traversii (Hutton); Finsch 1874, *Journ. für Ornith.* 22: 189. Unjustified emendation.

Myiomoira traversi (Buller); Finsch 1888, *Ibis* 6 (5th ser.): 308. In part.

Nesomiro traversi traversi (Buller); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 440.

Petroica (Miro) traversi (Buller); Checklist Committee 1953, *Checklist N.Z. Birds*: 61.

Chatham Islands. Originally presumably on all the larger islands; by 1937 restricted to Little Mangere Island (Fleming 1939b). When the Wildlife Service management programme began in 1976, the total remaining population on Little Mangere Island (five males, two females) was transferred to Mangere Island. Now established and breeding on Mangere and South East Islands. Holocene fossils from Chatham and Mangere Islands.

Family *ALAUDIDAE Vigors: Larks

Alaudina Vigors, 1825: *Zoological Journal* 2(7): 398 – Type genus *Alauda* Linnaeus, 1758.

Genus **Alauda* Linnaeus

Alauda Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 165 – Type species (by subsequent designation)

Alauda arvensis Linnaeus.

At various times, all forms of *Alauda* have been united as one species or separated into two or more species.

► ****Alauda arvensis* Linnaeus** **Eurasian Skylark**

Alauda arvensis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 165 – Europe, restricted to Uppsala, Sweden (*vide* Meinertzhagen 1951, *Fauna Svecica*: 128).

Alauda arvensis Linnaeus; Checklist Committee 1953, *Checklist N.Z. Birds*: 59.

Alauda arvensis arvensis Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 64.

Alauda arvensis scotica Tschusi, 1903; Niethammer 1971, *Journ. für Ornith.* 112(2): 205.

North Palaearctic from Europe to north Japan; migrating south to winter at lower latitudes. New Zealand: introduced on several occasions during the 1860s and 1870s (Thomson 1922). Now common from North Cape (Otou) to Stewart Island/Rakiura in open farmland, sand-dunes, tussock grasslands and subalpine herb fields to an altitude of 1900 m a.s.l. (breeding to at least 1700 m a.s.l.; Child 1975b). Absent from dense forest and thick scrub; evidence of a recent reduction on the South Island West Coast (Robertson, C. *et al.* 2007). Breeds also at Chatham Islands, and stragglers have reached the Kermadec, Snares/Tini Heke, Antipodes and Auckland Islands. Assigned to nominate subspecies in Checklist Committee (1970), but to *A. a. scotica* by Niethammer (1971); subspecies in New Zealand therefore uncertain, but probably nominate (see discussion in Schodde & Mason 1999: 719).

Family ACROCEPHALIDAE Salvin: Reed-warblers

Acrocephalinae Salvin, 1882: *Cat. Coll. Birds H.E. Strickland*: 49 – Type genus *Acrocephalus* Naumann & Naumann, 1811.

We follow Christidis & Boles (2008) in recognising Acrocephalidae and Megaluridae for Australasian species that were previously placed in Sylviidae.

Genus *Acrocephalus* Naumann & Naumann

Acrocephalus Naumann & Naumann, 1811: *Naturgesch. Land-Wasser-Vögel Nördl. Deutsch.*: 199 – Type species (by subsequent designation) *Turdus arundinaceus* Linnaeus = *Acrocephalus arundinaceus* (Linnaeus).

▶ *Acrocephalus australis* (Gould)

Australian Reed-warbler

Calamoherpe australis Gould, 1838: in J. Lewin, *Nat. Hist. Birds New South Wales*: index to synonyms to pl. 18 – Parramatta, New South Wales, Australia.

Acrocephalus australis (Gould); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 698.

Acrocephalus australis; Scofield 2005, *Southern Bird* 23: 8.

Australia. Widespread in western and eastern regions, including Tasmania; non-breeding migrant to northern Australia. Two subspecies (Schodde & Mason 1999). One New Zealand record: St Anne's Lagoon, Cheviot, Nov. 2004 (Scofield 2005a; subspecies not known).

Family MEGALURIDAE Blyth: Grassbirds and Allies

Megaluridae Blyth, 1875: *Journ. Asiatic Soc. Bengal* (n. ser.) 43(2) (extra number): 117 – Type genus *Megalurus* Horsfield, 1821.

Genus *Bowdleria* Rothschild

Bowdleria Rothschild, 1896: *Novit. Zool.* 3: 539 – Type species (by subsequent designation) *Synallaxis punctata* Quoy & Gaimard = *Bowdleria punctata* (Quoy & Gaimard).

Sibley & Ahlquist (1987) synonymised *Bowdleria* with *Megalurus*, but anatomical reasons for maintaining a distinct genus were given by Olson (1990). The Chatham Islands species is very distinctive morphologically. The status (species versus subspecies) of the morphologically more homogeneous allopatric mainland populations is problematic. Holdaway *et al.* (2001) considered the Snares Islands/Tini Heke population

(*B. p. caudata*) to be a full species and suggested that the Codfish Island (Whenuahou) population (*B. p. wilsoni*) might be likewise. They are all retained as one species here pending further work on the issue.

► ***Bowdleria punctata* (Quoy & Gaimard)**

Fernbird

New Zealand. Originally widespread in swamp, fernland and low scrub on North and South Islands; less abundant now. North and South Island subspecies, plus well-defined subspecies on Stewart Island/Rakiura, Codfish Island (Whenuahou) and Snares Islands/Tini Heke.

***Bowdleria punctata vealeae* Kemp**

North Island Fernbird

Bowdleria punctata vealeae Kemp, 1912: *Austral Avian Rec. 1*: 124 – Umawera, Hokianga, Northland.

Now of limited range, restricted to particular areas of residual swampland and scrubland and, in some localities, scrub adjacent to shorelines. Still fairly plentiful in north and central North Island, but rare in the south and east (Robertson, C. *et al.* 2007). Present on Great Barrier Island (Aotea Island) and The Aldermen Islands; translocated to Tiritiri Matangi Island (2001). Formerly present on Manawatāwhi/Great Island in the Manawatāwhi/Three Kings Islands (Turbott & Buddle 1948). Holocene fossil and midden records from widely distributed sites.

***Bowdleria punctata punctata* (Quoy & Gaimard)**

South Island Fernbird

Synallaxis punctata Quoy & Gaimard, 1830: *in* Dumont d'Urville, *Voyage Astrolabe Zool. 1*: 225 – Tasman Bay.

Sphenoeacus punctatus (Quoy & Gaimard); G.R. Gray 1862, *Ibis 4*: 220.

Sphenoeacus fulvus G.R. Gray, 1862: *Ibis 4*: 221 – “New Zealand”, restricted to Tasman Bay.

Megalurus fulvus (G.R. Gray); G.R. Gray 1869, *Hand-list Birds 1*: 206.

Bowdleria punctata (Quoy & Gaimard); Buller 1905, *Suppl. Birds N.Z. 2*: 131.

Bowdleria fulva (G.R. Gray); Buller 1905, *Suppl. Birds N.Z. 2*: 131.

Bowdleria punctata punctata (Quoy & Gaimard); Checklist Committee 1953, *Checklist N.Z. Birds*: 62.

Megalurus punctatus (Quoy & Gaimard); Sibley & Monroe 1990, *Distr. and Taxon. Birds of the World*: 625.

Now restricted, as in North Island, to residual areas of suitable habitat, especially in Nelson, Westland, Otago and Southland; rare in the east north of Dunedin (Robertson, C. *et al.* 2007). Holocene fossil and midden records from a few sites.

***Bowdleria punctata stewartiana* Oliver**

Stewart Island Fernbird

Bowdleria punctata stewartiana Oliver, 1930: *New Zealand Birds*, 1st edition: 451 – Stewart Island.

Bowdleria punctata stewartiae Oliver; Stead 1936, *Trans. Proc. Roy. Soc. N.Z. 66*: 312. Unjustified emendation.

Bowdleria punctata insularis Stead, 1936: *Trans. Proc. Roy. Soc. N.Z. 66*: 312 – Stewart Island.

Stewart Island/Rakiura, and outliers except Codfish Island (Whenuahou).

***Bowdleria punctata wilsoni* Stead**

Codfish Island Fernbird

Bowdleria punctata wilsoni Stead, 1936: *Trans. Proc. Roy. Soc. N.Z. 66*: 312 – Codfish Island.

Codfish Island (Whenuahou), west of Stewart Island/Rakiura.

Bowdleria punctata caudata (Buller)**Snares Island Fernbird**

Sphenoeacus fulvus; Finsch 1888, *Ibis* 6 (5th ser.): 308. Not *Sphenoeacus fulvus* G.R. Gray, 1862.

Sphenoeacus caudatus Buller, 1894: *Ibis* 6 (6th ser.): 523 – Snares Islands.

Bowdleria caudata (Buller); Buller 1905, *Suppl. Birds N.Z.* 2: 132.

Bowdleria punctata caudata (Buller); Checklist Committee 1953, *Checklist N.Z. Birds*: 62.

The most abundant land-bird on the Snares Islands/Tini Heke, occupying all vegetated habitats on North East Island, Broughton Island and Alert Stack (Miskelly *et al.* 2001a). Retained here as a subspecies, but large size and more uniform brown coloration may justify recognition as a species in a future revision (Holdaway *et al.* 2001).

▶ †**Bowdleria rufescens** (Buller)**Chatham Island Fernbird**

Sphenoeacus rufescens Buller, 1869: *Ibis* 5 (n. ser.): 38 – Chatham Islands.

Megalurus rufescens (Buller); G.R. Gray 1869, *Hand-list Birds* 1: 206.

Bowdleria rufescens (Buller); Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 445.

Bowdleria punctata rufescens (Buller); Checklist Committee 1953, *Checklist N.Z. Birds*: 62.

The osteology of *B. rufescens* (see Olson 1990), together with evidence from plumage characteristics, indicate that it is specifically distinct from *B. punctata*. Extinct since about 1892 (Tennyson & Millener 1994). Formerly on Chatham, Pitt and Mangere Islands. Recorded as Holocene fossils and in midden sites.

Family ZOSTEROPIDAE Bonaparte: White-eyes

Zosteropinae Bonaparte, 1853: *Compt. Rend. Séa. Acad. Sci., Paris* 37: 644 – Type genus *Zosterops* Vigors & Horsfield, 1827.

Christidis & Boles (2008) moved *Zosterops* to the Timaliidae (true babblers) on the strength of a study by Cibois (2003). We maintain Zosteropidae until there is widespread acceptance of the new findings, however we have moved Zosteropidae to the position in the sequence where Timaliidae would be. Order of species follows Schodde & Mason (1999).

Genus Zosterops Vigors & Horsfield

Zosterops Vigors & Horsfield, 1827: *Trans. Linn. Soc. London* 15: 234 – Type species (by subsequent designation) *Motacilla maderaspatana* Linnaeus = *Zosterops maderaspatana* (Linnaeus).

Nesozosterops Mathews, 1912: *Novit. Zool.* 18(3): 451 – Type species (by original designation) *Zosterops strenuus* Gould, 1855.

▶ **Zosterops lateralis** (Latham)**Silvereye**

Coastal Australia (from northern Queensland to the western tip of Western Australia), Tasmania and south-west Pacific islands (New Caledonia, Loyalty Islands, Vanuatu, Banks Islands, Fiji). Recent colonist of Norfolk Island and New Zealand. Schodde & Mason (1999) recognised nine subspecies in Australia with some zones of intergradation between abutting taxa.

Zosterops lateralis lateralis (Latham)**Silvereye**

Sylvia lateralis Latham, 1802: *Index Ornith. Suppl.*: lv – Tasmania, Australia.

Zosterops dorsalis Vigors & Horsfield, 1827: *Trans. Linn. Soc. London* 15: 235 – New South Wales, Australia.

Zosterops dorsalis Vigors & Horsfield; Hutton 1870, *Ibis* 6 (n. ser.): 398.

Zosterops lateralis (Latham); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 80.

Zosterops caerulescens; Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: 77. Not *Motacilla caerulescens* Latham, 1802 = *Rhipidura albiscapa alisteri* Mathews, 1911.

Zosterops lateralis tasmanica Mathews, 1912: *Novit. Zool.* 18(3): 385 – Tasmania, Australia.

Zosterops lateralis tasmanica Mathews; Mathews & Iredale 1913, *Ibis* 1 (10th ser.): 449.

Zosterops lateralis norfolkensis Mathews, 1929: *Bull. Brit. Ornith. Club* 50: 10 – Norfolk Island.

Zosterops balmaturina tasmanica Mathews; Oliver 1930, *New Zealand Birds*, 1st edition: 479.

Zosterops lateralis (Latham) subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 65.

Zosterops lateralis lateralis (Latham); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 69.

Breeds in Tasmania; migrates north to coastal eastern Australia from South Australia to Queensland. New Zealand: apparently colonised permanently by silvereyes of this race in 1856, when large numbers were first recorded (Oliver 1955); before this, noticed by explorers and settlers as early as 1832 (Milford Sound/Piopiota) and 1851 (Otago). The bird had not been known to the Māori, and was called tauhou (Appendix 3; meaning “stranger”). Now one of New Zealand’s commonest non-introduced passerines, found throughout in orchards, gardens, exotic plantations and in native forest and scrub. Has reached the Kermadec, Chatham, Snares/Tini Heke, Auckland, Antipodes, Campbell/Motu Ihupuku and Macquarie Islands. Colonised Norfolk Island (possibly from New Zealand) in 1904; now abundant and widespread, more so than the endemic species of *Zosterops* (Schodde *et al.* 1983, Moore 1999).

▶ ***Zosterops albogularis* Gould**

White-chested White-eye

Zosterops albogularis Gould, 1837: *Synop. Birds Australia* 1: pl. 18 – “Murrumbidgee River”, error for Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 51).

Zosterops gularis [sic] Gould; Lesson 1840, *Rev. de Zool., Paris*: 135.

Zosterops albigularis Gould; Sharpe 1884, *Cat. Birds Brit. Mus.* 9: 154. Unjustified emendation.

Nesozosterops albogularis (Gould); Mathews & Iredale 1920, *Austral Avian Rec.* 4: 110.

Zosterops albogularis Gould; Moore 1999, *Notornis* 46: 364.

Norfolk Island; endemic. Now very rare and restricted to remnant forest (Schodde *et al.* 1983, Moore 1999). Also called “white-breasted white-eye”.

▶ ***Zosterops tenuirostris* Gould**

Slender-billed White-eye

Norfolk and Lord Howe Islands; one subspecies on each.

***Zosterops tenuirostris tenuirostris* Gould**

Long-billed White-eye

Zosterops tenuirostris Gould, 1837: *Synop. Birds Australia* 1: pl. 18 – “Murrumbidgee River”, error for Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 52).

Nesozosterops tenuirostris (Gould); Mathews & Iredale 1920, *Austral Avian Rec.* 4: 110.

Zosterops tenuirostris tenuirostris Gould; Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 694.

Zosterops tenuirostris Gould; Moore 1999, *Notornis* 46: 363.

Norfolk Island. Moderately abundant in primary forest. Hybridises with *Z. lateralis*, but no introgression has followed (Schodde *et al.* 1983).

Family HIRUNDINIDAE Rafinesque: Swallows and Martins

Hirundia Rafinesque, 1815: *Analyse de la Nature*: 68 – Type genus *Hirundo* Linnaeus, 1758.

Taxonomy and order of species follows Schodde & Mason (1999).

Genus *Hirundo* Linnaeus

Hirundo Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 191 – Type species (by subsequent designation) *Hirundo rustica* Linnaeus.

▶ *Hirundo neoxena* Gould

Welcome Swallow

Australia including Tasmania; breeding in the south and extending north and inland during the winter. Also Norfolk and Lord Howe Islands. Self-introduced to New Zealand. Two subspecies (eastern and western) recognised in Australia. See Schodde & Mason (1999) for separation of this species from *H. tahitica* (South-east Asia, New Guinea, Melanesia, Polynesia except New Zealand).

Hirundo neoxena neoxena Gould

Welcome Swallow

Hirundo neoxena Gould, 1842: *Birds of Australia* 9: pl. 13 – “the whole southern portions of Australia”.

Hirundo neoxena Gould; Checklist Committee 1953, *Checklist N.Z. Birds*: 59.

Hirundo tahitica neoxena Gould; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 64.

Hirundo neoxena neoxena Gould; Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 669.

South-east Australia including Tasmania; a partial migrant within Australia, many staying in winter in the south while others move north. Recent colonist in New Zealand; at first recorded only as a rare straggler (Northland, 1920; Auckland Islands, 1943; Awhitu peninsula, 1944; Stewart Island/Rakiura, 1953; Farewell Spit, 1955). First recorded breeding near Awanui, Northland, in 1958 (Michie 1959). By 1965, common throughout Northland, spreading elsewhere in the North Island and breeding in the South Island (Turbott 1965, Edgar 1966). Now common throughout the North Island and most of the South Island except the south-west (Robertson, C. *et al.* 2007). Common on Chatham Islands having bred there since c. 1976 (Aikman & Miskelly 2004). Straggler to Snares Islands/Tini Heke; first recorded 1981 (Miskelly *et al.* 2001a). Recorded since 1958 from Kermadec Islands. First recorded at Norfolk Island in 1969 (Schodde *et al.* 1983), now recorded in every month except Jan. (Moore 1999).

Genus *Petrochelidon* Cabanis

Petrochelidon Cabanis, 1850: *Mus. Heineanum* 1: 47 – Type species (by subsequent designation)

Hirundo melanogaster Swainson = *Petrochelidon pyrthonota* (Vieillot).

Hylochelidon Gould, 1865: *Handb. Birds Australia* 1: 111 – Type species (by original designation)

Hirundo nigricans Vieillot = *Petrochelidon nigricans* (Vieillot).

▶ *Petrochelidon ariel* (Gould)

Fairy Martin

Collocalia Ariel Gould, 1842: *Birds of Australia* 9: pl. 15 – New South Wales, Australia.

Hirundo ariel (Gould); Checklist Committee 1990, *Checklist Birds N.Z.*: 197.

Petrochelidon ariel (Gould); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 673.

Throughout mainland Australia; migratory in the south. Straggler to Tasmania and New Guinea. First recorded in New Zealand when nests believed to be of this species were found at Te Hopai, southern Wairarapa, in 1978. Subsequent sight records: near base of Farewell Spit, Nov. 1982; Totaranui, Nelson, Feb. 1983; Lake Holm Farm, Taieri Plain (sightings 1981–84); Cape Reinga, Nov. 1983; Leigh, Nov. 1984; Papakura, Jan. 1986; between Te Pahi and Cape Reinga (Te Rerengawairua), Aug. 2001; Rahotu, Cape Egmont, Sep. 2001; Taporā, Kaipara Harbour, Jul. 2004; Snares Islands/Tini Heke,

Nov. 2004 (Bell 1984; Nevill 1984; Riddell & Taylor 1984; Medway 2001d, 2002e; Scofield 2005a, 2006).

► ***Petrochelidon nigricans* (Vieillot)**

Tree Martin

The population breeding in Tasmania (*P. n. nigricans*) migrates to the eastern Australian mainland. Another population breeding throughout southern Australia (*P. n. neglecta*) also migrates north. The differentiation is between the mainland and Tasmanian populations rather than eastern and western populations (Schodde & Mason 1999). Also present on Lesser Sunda Islands and Timor (*P. n. timoriensis*). A returning Tasmanian bird overshoot to Macquarie Island (Schodde & Mason 1999). Which subspecies reaches New Zealand needs further investigation. Vagrant to New Zealand, both singly and in small flocks, mainly in autumn (Wright 1960; Nevill 1984; Medway 2000a): Hicks Bay; Mahia; Cape Campbell; Collingwood; Wakapuaka; Blenheim; Mokihinui; Christchurch; Oamaru; Featherston (May to Sep. 1946); Farewell Spit (Jan. 1960); Miranda (Feb. 1979); Vernon Lagoons (Apr. 1980); Nelson (Nov. 1983); Lake Holm Farm, Taieri Plain (1981–84); Eglinton Valley (1983); Farewell Spit (Jan. 1988); Pukete, Hamilton (Feb. 1992). May have nested at Oamaru around 1893 (Buller 1895, Oliver 1955: 457). Recorded on Snares Islands/Tini Heke 1969, 1982 and 1984 (Warham & Keeley 1969, Miskelly *et al.* 2001a). One confirmed record for Chatham Islands (Miskelly *et al.* 2006).

***Petrochelidon nigricans nigricans* (Vieillot)**

Tree Martin

Hirundo nigricans Vieillot, 1817: *Nouv. Dict. Hist. Nat., nouv. éd. 14*: 523 – “New Holland”, error for Hobart, Tasmania (*vide* Mathews 1913, *Austral Avian Rec.* 2: 65).

Hylochelidon nigricans (Vieillot); Buller 1873, *History of the Birds of N.Z.*, 1st edition: 141.

Petrochelida [sic] *nigricans* (Vieillot); Hutton 1904, *Index Faunae N.Z.*: 37.

Petrochelidon nigricans (Vieillot); Buller 1905, *Suppl. Birds N.Z.* 2: 113.

Hylochelidon nigricans nigricans (Vieillot); Checklist Committee 1953, *Checklist N.Z. Birds*: 59.

Hirundo nigricans nigricans (Vieillot); Checklist Committee 1990, *Checklist Birds N.Z.*: 197.

Petrochelidon nigricans nigricans (Vieillot); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 675.

Tasmania (breeding) and eastern Australian mainland (non-breeding migrant). Rare vagrant to Macquarie Island (one record; Schodde & Mason 1999).

Family **TURDIDAE** Rafinesque: Thrushes and Allies

Turdinia Rafinesque, 1815: *Analyse de la Nature*: 67 – Type genus *Turdus* Linnaeus, 1758.

We follow Christidis & Boles (2008) in the use of Turdidae. Order of species follows Schodde & Mason (1999).

Genus ***Turdus*** Linnaeus

Turdus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 168 – Type species (by subsequent designation) *Turdus viscivorus* Linnaeus.

Merula Leach, 1816: *Syst. Cat. Specimens Mamm. Birds Brit. Museum*: 20 – Type species (by monotypy) *Merula nigra* Leach = *Turdus merula* Linnaeus.

Planesticus Bonaparte, 1854: *Compt. Rend. Séa. Acad. Sci., Paris* 38: 3 – Type species (by subsequent designation) *Turdus lereboulleti* Bonaparte = *Turdus jamaicensis* Gmelin.

► ****Turdus merula*** Linnaeus

Eurasian Blackbird

Europe, North Africa, western and southern Asia, Indian subcontinent (except south-

west), Sri Lanka, southern China. Migratory in northern part of its range and in the Far East.

****Turdus merula merula* Linnaeus**

Eurasian Blackbird

Turdus Merula Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 170 – Europe, restricted to Sweden (fide Hartert 1910, *Vögel Pal. Fauna* 1: 665).

Merula merula (Linnaeus); Hamilton 1909, *Hand-list Birds New Zealand*: 18.

Turdus merula Linnaeus; Checklist Committee 1953, *Checklist N.Z. Birds*: 63.

Turdus merula merula Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 69.

New Zealand: introduced to both North and South Islands several times during 1860s and 1870s. Now widespread from Manawatāwhi/Three Kings Islands to Stewart Island/Rakiura. Has successfully colonised the Kermadec, Chatham, Snares/Tini Heke, Auckland and Campbell/Motu Ihupuku Islands, and strays have reached Antipodes Island. Common in suburban gardens, hedgerows, orchards, plantations and scrub, and widespread in native forest, reaching at least 1500 m a.s.l. By far the most widespread species reported during the 1969–79 and 1999–2004 surveys for the New Zealand bird distribution atlases (Bull *et al.* 1985; Robertson, C. *et al.* 2007). Introduced to Norfolk Island in the first half of the 20th Century, where now very common and widespread (Schodde *et al.* 1983). Assigned to nominate subspecies by Checklist Committee (1970) and Niethammer (1971), with agreement by Schodde & Mason (1999).

▶ ***Turdus poliocephalus* Latham**

Island Thrush

Many subspecies from Christmas Island (north-west of Australia) and Greater Sundas (Indonesia) to Lord Howe Island, Fiji and Samoa.

†***Turdus poliocephalus poliocephalus* Latham**

Grey-headed Blackbird

Turdus poliocephalus Latham, 1802: *Index Ornith. Suppl.*: xliv – Norfolk Island.

Turdus fuliginosus Latham, 1802: *Index Ornith. Suppl.*: xlii – Norfolk Island.

Merula nestor Gould, 1836: *Proc. Zool. Soc. London 1835* (3): 186 – “Novâ Cambriâ Australi”, error for Norfolk Island (fide Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 48).

Geocichla poliocephala (Latham); Bonaparte 1850, *Consp. Gen. Avium* 1: 268.

Merula poliocephala (Latham); Gould 1859, *Birds of Australia, Suppl.* 3: pl. 30.

Turdus badius G.R. Gray, 1869: *Hand-list Birds*: 255, n° 3707 – Norfolk Island.

Turdus fuliginosus fuliginosus Latham; Mathews 1912, *Novit. Zool.* 18(3): 450.

Planesticus fuliginosus fuliginosus (Latham); Mathews 1913, *List Birds Australia*: 324.

Turdus poliocephalus Latham; Wakelin 1968, *Notornis* 15: 175.

Turdus poliocephalus poliocephalus Latham; Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 649.

Endemic to Norfolk Island. Once abundant, but declined from the 1940s (Schodde *et al.* 1983). Recorded as a Holocene fossil (Meredith 1991: 1371). Sometimes regarded as a full species (e.g. Holdaway *et al.* 2001).

▶ ****Turdus philomelos* Brehm**

Song Thrush

Turdus musicus Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 292 – Europe. Suppressed and invalid (fide ICZN 1959, Opinion 551. *Opinions & Declarations* 20: 199).

Turdus Ericetorum Turton, 1807: *British Fauna* 1: 35 – Great Britain, restricted to North Kent, England (fide Clancey 1943, *Ibis* 85: 90). Suppressed and invalid (fide ICZN 1956, Opinion 405. *Opinions & Declarations* 13: 107).

Turdus philomelos Brehm, 1831: *Handb. Naturgesch. Vög. Deutschl.*: 382 – central Germany.

Turdus musicus Linnaeus; Hutton 1871, *Cat. Birds N.Z.*: 56.

Turdus philomelos Brehm; Oliver 1930, *New Zealand Birds*, 1st edition: 514. Unjustified emendation.

Turdus ericetorum Turton; Checklist Committee 1953, *Checklist N.Z. Birds*: 63.

Turdus philomelos clarkei Hartert, 1909; Niethammer 1971, *Journ. für Ornith.* 112(2): 223.

Turdus philomelos Brehm; Checklist Committee 1990, *Checklist Birds N.Z.*: 202.

Europe, west and central Asia. Migratory in northern part of range; winters to North Africa and south Asia. New Zealand: introduced to both the North and South Islands several times during the 1860s and 1870s. Now widespread from North Cape (Otu) to Stewart Island/Rakiura (Robertson, C. *et al.* 2007) and has spread to the Kermadec, Chatham, Snares/Tini Heke, Antipodes, Auckland, Campbell/Motu Ihupuku and Macquarie Islands, breeding on all except Antipodes and Macquarie. Common in gardens, hedgerows and orchards; especially common along farmland hedgerows, but scarce in native forest. Norfolk Island: introduced or self-introduced (from New Zealand); first noted in 1913 and now moderately common (Schodde *et al.* 1983). New Zealand birds were assigned to subspecies *T. ph. clarkei* Hartert, 1909 by Niethammer (1971) and in the amendments of Checklist Committee (1980), but see Schodde & Mason (1999: 651) for doubts about subspecific status of Australian birds.

Family STURNIDAE Rafinesque: Starlings and Mynas

Sturnidia Rafinesque, 1815: *Analyse de la Nature*: 68 – Type genus *Sturnus* Linnaeus, 1758.

Order of species follows Schodde & Mason (1999).

Genus *Aplonis* Gould

Aplonis Gould, 1836 (1–3 October): *Analyst* 17: 152 – Type species (by subsequent designation)

Aplonis fusca Gould.

Aplonis Gould, 1836 (18 October): *Proc. Zool. Soc. London* 1836 (4): 73. Unjustified emendation.

Aplonis zelandica (Quoy & Gaimard, 1830) and *A. obscura* (du Bus de Gisignies, 1839) were described in error as originating from New Zealand (Gray 1862: 227, Buller 1876b: 198). The former is from Vanikoro, Santa Cruz Islands and the latter—a junior synonym of *Aplonis striata* (Gmelin, 1788) (see Mayr 1934: 334)—is from New Caledonia (Amadon 1962: 76, 78).

Schodde *et al.* (2007: 275, 277) regarded *Aplornis* as a *nomen oblitum* and *Aplonis* as a *nomen protectum* invoking Art. 23.9 of ICZN (1999) on reversal of precedence. McAllan (2007: 141) showed that *Aplornis* has been used as a valid name after 1899; thus, it cannot be rejected as a *nomen oblitum* because the first condition required in Art. 23.9.1.1 of ICZN (1999) to invoke reversal of precedence is not met. Following Art. 23.10 of ICZN (1999), i.e. to maintain prevailing usage until a ruling is made by the ICZN, we use the junior synonym *Aplonis*.

▶ †*Aplonis fusca* Gould

Tasman Starling

Norfolk and Lord Howe Islands; one subspecies on each; both extinct.

†*Aplonis fusca fusca* Gould

Norfolk Island Starling

Aplonis fusca Gould, 1836: *Proc. Zool. Soc. London* 1836 (4): 73 – “Murrumbidgee, in Novâ Hollandiâ Australi”, error for Norfolk Island (*vide* Mathews 1928, *Birds Norfolk & Lord Howe Islands*: 54).

Aplonis fuscus Gould; Sharpe 1890, *Cat. Birds Brit. Mus.* 13: 133. Unjustified emendation.
Aplonis fuscus fuscus Gould; Mathews 1912, *Novit. Zool.* 18(3): 451. Unjustified emendation.
Aplornis fuscus Gould; Mathews 1946, *Working List Aust. Birds*: 145. Unjustified emendation.
Aplonis fusca fusca Gould; Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 653.
Aplornis fusca Gould; Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 39.

Endemic to Norfolk Island. Last seen in 1923 (Schodde *et al.* 1983). Recorded as a Holocene fossil (Meredith 1991: 1371).

Genus ***Sturnus** Linnaeus

Sturnus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 167 – Type species (by tautonymy) *Sturnus* = *Sturnus vulgaris* Linnaeus.

▶ ***Sturnus vulgaris** Linnaeus

Common Starling

Europe and central and south-west Asia; migrates to Spain, North Africa, Iran and north India.

***Sturnus vulgaris vulgaris** Linnaeus

Common Starling

Sturnus vulgaris Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 167 – Sweden.

Sturnus vulgaris vulgaris Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 71.

Sturnus vulgaris Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 222.

Introduced to New Zealand. Now ubiquitous over much of the country, especially in the North Island and eastern South Island; less evident in the western South Island and on Stewart Island/Rakiura (Robertson, C. *et al.* 2007). Also recorded from the Kermadec, Chatham, Snares/Tini Heke, Auckland, Antipodes, Campbell/Motu Ihupuku and Macquarie Islands. Self-introduced to Norfolk and Lord Howe Islands. Assigned to nominate subspecies by Niethammer (1971), with agreement by Schodde & Mason (1999).

Genus ***Acridotheres** Vieillot

Acridotheres Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 42 – Type species (by subsequent designation) *Paradisea tristis* Linnaeus = *Acridotheres tristis* (Linnaeus).

Christidis & Boles (2008) placed the common myna in *Sturnus* as *S. tristis* but we wait to see whether this proposal is widely accepted.

▶ ***Acridotheres tristis** (Linnaeus)

Common Myna

Paradisea tristis Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 167 – “Philippines”, probably error for Pondicherry, India (*vide* Stresemann 1952, *Ibis* 94(3): 515).

Acridotheres tristis (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 66.

Afghanistan, Turkistan, India, Andamans, Sri Lanka; as the result of recent extensions of range or introductions has reached much of South-east Asia. Widely introduced and established (tropical islands in all oceans, Australia, New Zealand, South Africa). New Zealand: introduced to both North and South Islands during the 1870s. Persisted in the South Island (Nelson, Christchurch and Dunedin) only until about 1890 (Thomson 1922). In the North Island they became common in Taranaki, Hawke’s Bay and southern parts of the Auckland provincial area, and during the late 1940s and early 1950s they spread almost explosively. They remain common in the northern half of the North Island south to Taranaki, Lake Taupo and southern Hawke’s Bay (Robertson, C.

et al. 2007). Odd birds appear sporadically further south. Mynas have spread to offshore islands, including Hauturu/Little Barrier. Vagrant on Norfolk Island; recorded once, in Sep. 1971 (Moore 1981). The subspecies in New Zealand is not confirmed but is probably the nominate one, as in Australia (Schodde & Mason 1999: 660).

Family *PASSERIDAE Rafinesque: Old World Sparrows

Passernia Rafinesque, 1815: *Analyse de la Nature*: 68 – Type genus *Passer* Brisson, 1760.

We follow Schodde & Mason (1999) and Christidis & Boles (2008) in placing *Passer* in a more narrowly defined Passeridae, rather than in the Ploceidae as in Checklist Committee (1990).

Genus **Passer* Brisson

Passer Brisson, 1760: *Ornithologie 1*: 36 – Type species (by subsequent designation) *Fringilla domestica* Linnaeus = *Passer domesticus* (Linnaeus).

► **Passer domesticus* (Linnaeus)

House Sparrow

Europe and Asia (except eastern and South-east Asia), Nile Valley, north-west Africa. Essentially sedentary.

**Passer domesticus domesticus* (Linnaeus)

House Sparrow

Fringilla domestica Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 183 – Sweden.

Passer domesticus (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 66.

Passer domesticus domesticus (Linnaeus); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 71.

New Zealand: introduced to both North and South Islands on several occasions between 1866 and 1871. Now ubiquitous over much of New Zealand, especially in the North Island and eastern South Island; less evident in the western South Island and on Stewart Island/Rakiura (Robertson, C. *et al.* 2007). Also on the Chatham Islands. Vagrant to Snares/Tini Heke, Campbell/Motu Ihupuku, Auckland and Antipodes Islands. Common on Norfolk Island, but whether introduced or self-introduced, and whether from Australian or New Zealand populations, is not known (Schodde *et al.* 1983). Subspecies in New Zealand and Norfolk Island is probably nominate (Checklist Committee 1970, Niethammer 1971, Schodde & Mason 1999: 730).

Family MOTACILLIDAE Vigors: Pipits and Wagtails

Motacillina Vigors, 1825: *Zoological Journal* 2(7): 396 – Type genus *Motacilla* Linnaeus, 1758.

Genus *Anthus* Bechstein

Anthus Bechstein, 1805: *Gemein. Nat. Deutschl.* 2: 247, 302, 465 – Type species (by subsequent designation) *Alauda pratensis* Linnaeus = *Anthus pratensis* (Linnaeus).

Corydalla Vigors, 1825: *Zoological Journal* 2(7): 397 – Type species (by original designation) *Anthus Richardi* Vieillot.

Until recently, pipit populations widely distributed in Africa, Eurasia (except the north where a winter vagrant), and south-east through Indonesia to Australia and New Zealand were frequently united as one species (Richard's pipit, *Anthus novaeseelandiae*). Others considered several species (forming a superspecies) to be involved. Schodde & Mason (1999: 739) recognised the Australian pipit *A. australis* Vieillot, 1818 as a species distinct from the New Zealand form, which we follow. However, Christidis & Boles (2008) preferred to unite Australian, New Zealand and New Guinean birds

as *A. novaeseelandiae*. There are a few records of pipits straggling to Norfolk Island (Moore 1999), but it is not known whether these are from Australia or New Zealand.

▶ ***Anthus novaeseelandiae* (Gmelin)**

New Zealand Pipit

New Zealand and outlying islands. Foggo *et al.* (1997) considered allozyme loci and morphometric data from populations in the New Zealand area and found a two-way separation between mainland and other (insular) populations. However, in the absence of comparisons with Australian and other foreign populations, they refrained from any taxonomic recommendations. Without further clarification we retain the status quo for New Zealand populations as in Checklist Committee (1990).

***Anthus novaeseelandiae novaeseelandiae* (Gmelin)**

New Zealand Pipit

Alauda novae Seelandiae Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 799. Based on the "New-Zealand Lark" of Latham 1783, *Gen. Synop. Birds* 2: 384, pl. 21 – Queen Charlotte Sound, Marlborough.

Anthus novae zealandiae (Gmelin); G.R. Gray 1844, in Richardson & J.E. Gray (eds), *Zool. Voy. 'Erebus' & 'Terror'*, *Birds* 1(3): 4. Unjustified emendation.

Alauda littorea J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 90 – South Island.

Anthus grayi Bonaparte, 1850: *Consp. Gen. Avium* 1: 249 – New Zealand.

Corydalla novae zealandiae (Gmelin); G.R. Gray 1869, *Hand-list Birds* 1: 253. Unjustified emendation.

Anthus novaezealandiae reischeki Lorenz-Liburnau, 1902: *Ann. k.-k. Naturhist. Hofmus. Wien* 17: 308 – Little Barrier Island and Waikato. Unjustified emendation.

Anthus novae-zealandiae (Gmelin); Buller 1905, *Suppl. Birds N.Z.* 2: 151. Unjustified emendation.

Anthus novaeseelandiae taupoensis Mathews, 1930: *Bull. Brit. Ornith. Club* 50: 42 – Lake Taupo.

Anthus novaeseelandiae novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 64. In part.

Anthus novaeseelandiae (Gmelin); Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 137, 179.

North and South Islands, Stewart Island/Rakiura, and offshore islands; a straggler to the Kermadec Islands and Snares Islands/Tini Heke. No recent records from the Kermadecs (Veitch *et al.* 2004). Originally probably restricted to mountain and lowland tussock grasslands, riverbeds and the coastal zone, but with European settlement its range increased greatly; now avoids pure pasture land, but still fairly common in rougher farmland and open country generally (including alpine). Widely distributed Holocene fossil and midden records from North and South Islands, and Stewart Island/Rakiura.

***Anthus novaeseelandiae chathamensis* Lorenz-Liburnau**

Chatham Island Pipit

Anthus novaezealandiae chathamensis Lorenz-Liburnau, 1902: *Ann. k.-k. Naturhist. Hofmus. Wien* 17: 309 – Chatham Islands. Unjustified emendation.

Anthus novaeseelandiae novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z. Birds*: 64. In part.

Anthus novaeseelandiae chathamensis Lorenz-Liburnau; Checklist Committee 1990, *Checklist Birds N.Z.*: 198.

Anthus chathamensis Lorenz-Liburnau; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 174, 179.

Chatham Islands: common throughout. Also Holocene fossil and midden records.

Anthus novaeseelandiae aucklandicus* G.R. Gray*Auckland Island Pipit**

Anthus aucklandicus G.R. Gray, 1862: *Ibis* 4: 224 – Auckland Islands.

Corydalla aucklandica (G.R. Gray); G.R. Gray 1869, *Hand-list Birds* 1: 253.

Anthus novaeseelandiae novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z.*

Birds: 64. In part.

Anthus novaeseelandiae aucklandicus G.R. Gray; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 65.

Anthus aucklandicus G.R. Gray; Holdaway *et al.* 2001, *New Zealand Journ. Zool.* 28(2): 179.

Auckland Islands and Campbell Island/Motu Ihupuku. At Campbell Island/Motu Ihupuku, formerly on the main island, then restricted to small offshore islands, but now recolonising the main island following eradication of rats (Thompson *et al.* 2005).

Anthus novaeseelandiae steindachneri* Reischek*Antipodes Island Pipit**

Anthus steindachneri Reischek, 1889: *Trans. N.Z. Inst.* 21: 388 – Antipodes Islands.

Anthus novaeseelandiae novaeseelandiae (Gmelin); Checklist Committee 1953, *Checklist N.Z.*

Birds: 64. In part.

Anthus novaeseelandiae steindachneri Reischek; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 65.

Antipodes Islands.

Family *PRUNELLIDAE Richmond: Accentors

Prunellidae Richmond, 1909: *Proc. U.S. Nat. Mus.* 35: 585 – Type genus *Prunella* Vieillot, 1816.

This family is placed in sequence after Motacillidae following Higgins *et al.* (2001: 52).

Genus **Prunella* Vieillot

Accentor Bechstein, 1802: *Ornith. Taschenb. Deutschland* 1: 191 – *Motacilla alpina* Gmelin = *Prunella collaris* (Scopoli). Junior homonym of *Accentor* Bechstein, 1797.

Prunella Vieillot, 1816: *Analyse Nouv. Ornith. Elem.*: 43 – Type species (by monotypy) “Fauvette de haie” Buffon = *Prunella modularis* (Linnaeus).

► **Prunella modularis* (Linnaeus)**Dunnock**

Motacilla modularis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 184 – Europe, restricted to Sweden (*vide* Hartert 1910, *Vögel Pal. Fauna* 1: 772).

Accentor modularis (Linnaeus); Thomson 1922, *Naturalisation Animals Plants New Zealand*: 148.

Prunella modularis occidentalis (Hartert, 1910); Checklist Committee 1953, *Checklist N.Z. Birds*: 63.

Prunella modularis (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 200.

Europe and western Asia; wintering to Mediterranean and North Africa. New Zealand: introduced to both North and South Islands on several occasions between 1868 and 1882. Now common and widespread from Manawatāwhi/Three Kings Islands to Stewart Island/Rakiura. Breeding at Chatham Islands, Campbell Island/Motu Ihupuku and Antipodes Islands, and present on Snares Islands/Tini Heke and Auckland Islands. A common garden bird in Wellington, Christchurch and Dunedin, but rare in urban Auckland. Also called hedge sparrow. Assigned to subspecies *P. m. occidentalis* (Hartert, 1910) by Checklist Committee (1970) and Niethammer (1971) but this requires critical evaluation.

Family *FRINGILLIDAE Leach: Old World Finches

Subfamily *FRINGILLINAE Leach: True Finches

Fringillidae Leach, 1819: *Eleventh room. In Synopsis Contents British Museum 15th Edition, London*: 65 – Type genus *Fringilla* Linnaeus, 1758.

Genus **Fringilla* Linnaeus

Fringilla Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 179 – Type species (by subsequent designation) *Fringilla coelebs* Linnaeus.

► **Fringilla coelebs* Linnaeus

Chaffinch

Fringilla coelebs Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 179 – Sweden.

Fringilla coelebs [sic] Linnaeus; Hamilton 1909, *Hand-list Birds New Zealand*: 18.

Fringilla coelebs; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 170.

Fringilla coelebs gengleri Kleinschmidt, 1909; Checklist Committee 1953, *Checklist N.Z. Birds*: 65.

Fringilla coelebs coelebs Linnaeus; Mayr 1968, in Peters *Check-list Birds World 14*: 204.

Fringilla coelebs Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 218.

Europe, west and central Asia, and north-west Africa; northern populations migratory. New Zealand: introduced on several occasions during the 1860s and 1870s to both the North and South Islands. Now the second-most widely distributed bird, common throughout the three main islands of New Zealand except for the South Island mountain tops (Robertson, C. *et al.* 2007). Has spread to the Chatham, Snares/Tini Heke, Auckland and Campbell/Motu Ihupuku Islands. Recorded once at both the Kermadec and Antipodes Islands. Common in urban areas, farmland, orchards, scrub lands, pine forests and, to a lesser extent, native bush. Assignment to the subspecies *F. c. gengleri* in Checklist Committee (1970) and by Niethammer (1971) requires critical evaluation.

Subfamily *CARDUELINAE Vigors: Cardueline Finches

Carduelina Vigors, 1825: *Zoological Journal 2*(7): 398 – *Carduelis* Brisson, 1760.

Order of species follows Checklist Committee (1990) and Schodde & Mason (1999).

Genus **Carduelis* Brisson

Carduelis Brisson, 1760: *Ornithologie 1*: 36 – Type species (by tautonymy) *Fringilla carduelis* Linnaeus = *Carduelis carduelis* (Linnaeus).

Acanthis Borkhausen, 1797: *Deutsche Fauna 1*: 248 – Type species (by subsequent designation)

Fringilla linaria Linnaeus = *Carduelis flammaea* (Linnaeus).

Chloris Cuvier, 1800: *Lecons Anat. Comp. 1*: pl. 2 – Type species (by tautonymy) *Loxia chloris* Linnaeus = *Carduelis chloris* (Linnaeus).

Ligurinus Koch, 1816: *Syst. Baierischen Zool. 1*: 229 – Type species (by subsequent designation) *Loxia chloris* Linnaeus = *Carduelis chloris* (Linnaeus).

Linota Bonaparte, 1838: *Comp. List Birds Europe & North Amer.*: 34 – Type species (by subsequent designation) *Fringilla cannabina* Linnaeus = *Carduelis cannabina* (Linnaeus).

We follow Checklist Committee (1990) and Schodde & Mason (1999) in placing the greenfinch and redpoll in *Carduelis*. There is some support for a separate genus *Chloris* for greenfinches (e.g. Sangster *et al.* 1999, Christidis & Boles 2008). The redpoll is sometimes placed in *Acanthis* (e.g. Christidis & Boles 2008) but support for this is not strong (Sangster *et al.* 1999). Recent studies (see discussion by Christidis & Boles 2008) do not agree on a clear solution to the problem.

▶ ****Carduelis chloris* (Linnaeus)****European Greenfinch**

Loxia chloris Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 174 – Europe, restricted to Sweden (*vide* Hartert 1903, *Vögel Pal. Fauna*: 61).

Fringilla chloris (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 60.

Ligurinus chloris; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 174.

Chloris chloris (Linnaeus); Checklist Committee 1953, *Checklist N.Z. Birds*: 65.

Carduelis chloris chloris (Linnaeus); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 71.

Carduelis chloris aurantiiventris Cabanis, 1851; Niethammer 1971, *Journ. für Ornith.* 112(2): 223.

Carduelis chloris (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 219.

Europe, south-west Asia, North Africa; northern populations partly migratory. New Zealand: introduced several times during the 1860s. Now common throughout much of the country, but least evident in parts of the central North Island, and along the western South Island (Robertson, C. *et al.* 2007). Present on Stewart Island/Rakiura and the Chatham Islands; straggler to Snares Islands/Tini Heke, Campbell Island/Motu Ihupuku and Kermadec Islands. Particularly favours farmland, edges of pine plantations, orchards and large gardens, but winter flocks range over open paddocks and along seashores. Widespread but uncommon on Norfolk Island (Schodde *et al.* 1983) where self-introduced from Australia or New Zealand. The subspecies of New Zealand birds is uncertain; they were assigned to the nominate race in Checklist Committee (1970), and to *C. c. aurantiiventris* Cabanis by Niethammer (1971); see also discussion in Schodde & Mason (1999: 777).

▶ ****Carduelis carduelis* (Linnaeus)****European Goldfinch**

Fringilla carduelis Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 180 – Europe, restricted to Sweden (*vide* Hartert 1903, *Vögel Pal. Fauna*: 67).

Europe, central and south-west Asia, North Africa; northern populations migratory.

▶ ****Carduelis carduelis britannica* (Hartert)****European Goldfinch**

Fringilla carduelis; Hutton 1871, *Cat. Birds N.Z.*: 60. Not *Fringilla carduelis* Linnaeus, 1758.

Acanthis carduelis britannica Hartert, 1903: *Vögel Pal. Fauna*: 68 – Rottingdean, Sussex, England.

Carduelis elegans; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 173. Not *Carduelis elegans* Stephens, 1826.

Carduelis carduelis; Oliver 1930, *New Zealand Birds*, 1st edition: 510. Not *Fringilla carduelis* Linnaeus, 1758.

Carduelis carduelis britannica (Hartert); Checklist Committee 1953, *Checklist N.Z. Birds*: 65.

New Zealand: introduced to both North and South Islands on several occasions between 1862 and 1883. Now present throughout New Zealand (similar distribution to that of greenfinch), especially in orchards and farmlands, but scarce or absent at higher altitudes and in unbroken areas of native forest (Robertson, C. *et al.* 2007). Also present on Chathams, Snares/Tini Heke and Auckland Islands, and has straggled to Kermadec, Campbell/Motu Ihupuku, Antipodes and Macquarie Islands (Keith & Hines 1958, Westerskov 1960, Sorensen 1964, Warham & Bell 1979, Miskelly *et al.* 2001a, Aikman & Miskelly 2004, Veitch *et al.* 2004). Uncommon but increasing on Norfolk Island (Schodde *et al.* 1983) where self-introduced from Australia or New Zealand. New Zealand birds were assigned to subspecies *C. c. britannica* (Hartert, 1903) by Checklist

Committee (1970) and by Niethammer (1971). Australian birds are similarly assigned (Schodde & Mason 1999).

▶ ****Carduelis flammea* (Linnaeus)**

Common Redpoll

Fringilla flammea Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 182 – Europe, restricted to Norrland, Sweden (*vide* Hartert 1903, *Vögel Pal. Fauna*: 77).

Fringilla linaria Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 322 – Europe.

Fringilla linaria Linnaeus; Hutton 1871, *Cat. Birds N.Z.*: 61.

Linota rufescens; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 172. Not *Linaria rufescens* Vieillot, 1816.

Acanthis cabaret (Stadius Müller, 1776); Oliver 1930, *New Zealand Birds*, 1st edition: 509.

Carduelis flammea cabaret (Stadius Müller); Checklist Committee 1953, *Checklist N.Z. Birds*: 65.

Acanthis flammea cabaret (Stadius Müller); Paynter 1968, in Peters *Check-list Birds World* 14: 252.

Acanthis flammea (Linnaeus); Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 71.

Carduelis flammea (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 220.

Northern Eurasia and North America. Partial migrant; winters to southern Europe and Asia, and northern United States. Some authorities in Europe (Sangster *et al.* 1999; Sangster, Knox *et al.* 2002) and North America (Banks, Cicero *et al.* 2002) proposed that two species should be recognised—lesser redpoll *C. cabaret* (monotypic) and common redpoll *C. flammea* (polytypic)—based on behavioural data (Lifjeld & Bjerke 1996) and morphological data and interpretation (Knox *et al.* 2001). However, a subsequent study (Ottval *et al.* 2002) failed to show significant differences between the mtDNA of the taxa.

Stenhouse (1960, 1962) gave evidence to suggest that the migratory *C. f. flammea* was among birds imported to New Zealand in 1862. Based on the morphology of contemporary New Zealand birds, *C. f. flammea* may have been present and interbred with *C. f. cabaret*, according to Stenhouse (1962), but Westerskov (1953b) and Niethammer (1971) determined that only *C. f. cabaret* (British Isles, and mountainous areas of central Europe) was present. Fennell, Sagar *et al.* (1985) found that in many but not all characteristics, New Zealand birds deviated little from the taxon *C. f. cabaret*. These authors recommended that “redpolls in New Zealand should not be defined trinomially in terms of the European races”. Until there is more study of New Zealand birds, and further clarification from Europe and North America, we recommend listing New Zealand birds as *Carduelis flammea* and without indicating a subspecies.

New Zealand: introduced to both North and South Islands on several occasions between 1862 and 1875. Now present from North Cape (Orou) to Stewart Island/Rakiura in coastal sand-dunes, farmlands, forest margins and subalpine scrub to at least 1750 m a.s.l. Tends to be more common at higher altitudes than at sea level, and in the South Island than the North (Robertson, C. *et al.* 2007). Has spread to Kermadec, Chatham, Snares/Tini Heke, Antipodes, Auckland, Campbell/Motu Ihupuku and Macquarie Islands.

Family *EMBERIZIDAE Brehm:
Buntings, Cardinals, Tanagers and Allies

Subfamily *EMBERIZINAE Brehm: Buntings and American Sparrows

Emberizidae Brehm, 1831: *Handb. Naturgesch. Vög. Deutschl.*: 261, 289, 1049 – Type genus

Emberiza Linnaeus, 1758.

Genus **Emberiza* Linnaeus

Emberiza Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 176 – Type species (by subsequent designation) *Emberiza citrinella* Linnaeus.

► **Emberiza citrinella* Linnaeus

Yellowhammer

Emberiza citrinella Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 177 – Europe, restricted to Sweden (*vide* Hartert 1904, *Vögel Pal. Fauna*: 167).

Emberiza citrinella citrinella Linnaeus; Checklist Committee 1953, *Checklist N.Z. Birds*: 66.

Emberiza citrinella caliginosa Clancey, 1940; Niethammer 1971, *Journ. für Ornith.* 112(2): 223.

Emberiza citrinella Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 217.

Europe and west Asia, wintering to south-west and central Asia and North Africa. In New Zealand: successfully introduced to both main islands during the 1860s. Now common and widespread from North Cape (Oudou) to Stewart Island/Rakiura, and has spread to the Kermadec Islands. Rare on the Chatham Islands and may not be resident (Miskelly *et al.* 2006). Strays have reached Lord Howe Island, Snares Islands/Tini Heke and Campbell Island/Motu Ihupuku. Mainly a bird of open country, especially farmland with nearby scrub. Winter flocks are common in farmland, city parks and along coasts. Assignment to subspecies *E. c. caliginosa* Clancey, 1940 by Niethammer (1971) requires critical evaluation.

► **Emberiza cirrus* Linnaeus

Cirl Bunting

Emberiza cirrus Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 311 – southern Europe.

Emberiza cirrus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 175.

Emberiza cirrus cirrus Linnaeus; Checklist Committee 1970, *Annot. Checklist Birds N.Z.*: 70.

Emberiza cirrus Linnaeus; Checklist Committee 1990, *Checklist Birds N.Z.*: 218.

Central and southern Europe (including southern England) to Mediterranean islands, Asia Minor and North Africa. Mainly sedentary. Currently regarded as monotypic (Knox *et al.* 2002). New Zealand: only two small introductions have been documented (seven birds to Otago in 1871 and four to Wellington in 1880–81), but probably others were made and not recorded. By far the rarest introduced passerine; more common in the South Island, especially in parts of Marlborough (Taylor 1978), Nelson, Canterbury and Otago (Robertson, C. *et al.* 2007). North Island records sporadic and isolated. Most records are from farmland with hedgerows or scattered scrub.

APPENDIX 1: Fossil Birds of New Zealand

This Appendix lists birds recorded as fossils in New Zealand from sediments older than the Middle Pleistocene (≥ 1 Ma). It therefore includes material from the Kaimatira Pumice Sand of the Kai Iwi Group (Oxygen Isotope Stage 25–27, c. 1 Ma) found at Marton (Worthy 1997a). All younger fossil birds are members of the Recent fauna, are of species that persisted to human arrival and are covered in the main text. The pre-Pleistocene record of birds in New Zealand has until recently comprised mainly penguins, as reviewed by Fordyce (1991b). No marine taxa other than penguins and pelagornithids had been described, but rare procellariid bones were known (Worthy & Holdaway 2002). The record of Tertiary terrestrial avifauna was until recently restricted to two undescribed anatids from the Miocene of Otago (Fordyce 1991b). Renewed investigations of the Miocene deposits at St Bathans, Otago, have recovered a rich avifauna from lacustrine deposits comprising at least 24 taxa (Worthy *et al.* 2007). In addition to the taxa named below (a diving petrel and several waterfowl), the St Bathans Fauna includes the following unnamed taxa: ratite (eggshell), two rails (Rallidae), a possible aptornithid (?Aptornithidae), three parrots (Psittacidae), an eagle (Accipitridae), two pigeons (Columbidae), at least three waders (Charadriiformes), and several passerines (Passeriformes). The ages of several taxa have been revised in line with the revision of the New Zealand geological timescale (Cooper 2004).

Order **ANSERIFORMES**: Duck-like Birds

Suborder **ANSERES**: Swans, Geese and Ducks

Family **ANATIDAE** Leach: Swans, Geese and Ducks

Anatidae Leach, 1819: *Eleventh room*. In *Synopsis Contents British Museum 15th Edition*, London: 67 – Type genus *Anas* Linnaeus, 1758.

Subfamily **OXYURINAE** Phillips: Stiff-tailed Ducks

Oxyurinae J.C. Phillips, 1926: *Nat. Hist. Ducks* 4: 201 – Type genus *Oxyura* Bonaparte, 1827.

When described by Worthy *et al.* (2007), *Manuherikia* was placed in the extinct subfamily Dendrocheninae, created by Livezey & Martin (1988), and *Dunstanetta* in *Tribus incertae sedis*. However, Worthy & Lee (2008) and Worthy (2009) conducted extensive phylogenetic analyses of *Manuherikia* and *Dunstanetta* and found no support for Dendrocheninae and that both the New Zealand genera are basal in a clade inclusive of traditional oxyurines. Accordingly, they advocated that Oxyurinae be expanded to encompass an enlarged set of taxa that included the fossil European Oligo-Miocene *Mionetta* and New Zealand *Manuherikia* and *Dunstanetta*, as well as the modern genera *Malacorhynchus*, *Stictonetta*, *Thalassornis*, *Nomonyx*, *Oxyura* and *Biziura*. We follow this course here.

Genus †*Manuherikia* Worthy, Tennyson, Jones, McNamara & Douglas

Manuherikia Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 9 – Type species (by original designation) *Manuherikia lacustrina* Worthy, Tennyson, Jones, McNamara & Douglas.

▶ **†*Manuherikia lacustrina* Worthy, Tennyson, Jones, McNamara & Douglas****Manuherikia Duck**

Manuherikia lacustrina Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 10, figs 4G, H, 5D, H, I, 6D – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma) in the St Bathans Fauna from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007).

▶ **†*Manuherikia minuta* Worthy, Tennyson, Jones, McNamara & Douglas****Minute Manuherikia Duck**

Manuherikia minuta Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 12, figs 4B, D, 5B, E, F, 6A – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma) in the St Bathans Fauna from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007).

▶ **†*Manuherikia douglasi* Worthy, Tennyson, Hand & Scofield****Douglas' Duck**

Manuherikia douglasi Worthy, Tennyson, Hand & Scofield, 2008: *Journ. Royal Soc. N.Z.* 38(2): 100, fig. 1A–H – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma) in the St Bathans Fauna from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007, 2008).

Genus †*Dunstanetta* Worthy, Tennyson, Jones, McNamara & Douglas

Dunstanetta Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 17 – Type species (by monotypy) *Dunstanetta johnstoneorum* Worthy, Tennyson, Jones, McNamara & Douglas.

▶ **†*Dunstanetta johnstoneorum* Worthy, Tennyson, Jones, McNamara & Douglas****Johnstones' Duck**

Dunstanetta johnstoneorum Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 18, figs 7C, 8C, 9E – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma) in the St Bathans Fauna from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007).

Subfamily TADORNINAE Reichenbach: Shelducks**Tribe TADORNINI Reichenbach: Shelducks**

Tadorninae Reichenbach, 1849: *Avium Syst. Nat.*: 10 – Type genus *Tadorna* J.D.D. Fleming, 1822.

Genus †*Miotadorna* Worthy, Tennyson, Jones, McNamara & Douglas

Miotadorna Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.*

5(1): 14 – Type species (by monotypy) *Miotadorna sanctibathansi* Worthy, Tennyson, Jones, McNamara & Douglas.

▶ †***Miotadorna sanctibathansi*** Worthy, Tennyson, Jones, McNamara & Douglas
St Bathans Shelduck

Miotadorna sanctibathansi Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 14, figs 7A, D, 8A, D, 9A, B – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma) in the St Bathans Fauna from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007).

Subfamily ANATINAE Leach: Ducks
Tribe ?ANATINI Leach: Typical Ducks

Anatidae Leach, 1819: *Eleventh room. In Synopsis Contents British Museum 15th Edition, London.* 67 – Type genus *Anas* Linnaeus, 1758.

Genus †*Matanas* Worthy, Tennyson, Jones, McNamara & Douglas

Matanas Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 19 – Type species (by monotypy) *Matanas enrighti* Worthy, Tennyson, Jones, McNamara & Douglas.

▶ †***Matanas enrighti*** Worthy, Tennyson, Jones, McNamara & Douglas **Enright's Duck**

Matanas enrighti Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 20, figs 4A, C, 5A, C, 6C – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma) in the St Bathans Fauna from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007).

Order PROCELLARIIFORMES: Albatrosses, Petrels and Shearwaters

Family PELECANOIDIDAE Gray: Diving Petrels

Pelecanoidinae Gray, G.R. 1871: *Hand-list Birds* 3: x, 102 – Type genus *Pelecanoides*, Lacépède, 1799.

Genus *Pelecanoides* Lacépède

Pelecanoides Lacépède, 1799: *Tableaux Method. Mamm. Oiseaux*: 13 – Type species (by monotypy) *Procellaria urinatrix* Gmelin = *Pelecanoides urinatrix* (Gmelin).

▶ †***Pelecanoides miokuaka*** Worthy, Tennyson, Jones, McNamara & Douglas
Miocene Diving Petrel

Pelecanoides miokuaka Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 8, figs 3A, D – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma) in the St Bathans Fauna, from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007). An indeterminate *Pelecanoides* qualitatively distinct from modern taxa was reported from the Waiauian, Middle Miocene, Double Corner Shell Beds of North Canterbury (Scofield *et al.* 2006). It was represented by elements not yet known for *P. miokuaka* so direct comparison is not yet possible.

Order SPHENISCIFORMES: Penguins

Family SPHENISCIDAE Bonaparte: Penguins

Spheniscidae Bonaparte, 1831: *Giornale Arcadico di Scienze, Lettere ed Arti* 49: 62 – Type genus *Spheniscus* Brisson, 1760.

We list all fossil penguins in Spheniscidae, not following Clarke *et al.* (2003) or Ksepka *et al.* (2006) in restricting the family just to the common ancestor of living taxa and its descendants. Our reasons are: (1) the order Sphenisciformes has long been considered to have just a single family in which all fossil taxa have been included (e.g. Simpson 1946, Brodkorb 1963); and (2) Tambussi *et al.* (2005) placed *Crossvallia* from the Late Palaeocene of Seymour Island in Spheniscidae, thereby effectively expanding the definition of Spheniscidae as given by, for example, Simpson (1946), Myrcha *et al.* (2002), and Jadwiszczak (2006a), who had referred all known fossil penguins (Eocene–Recent) to one family.

New Zealand has a rich record of fossil penguins (16 named species, at least three undescribed taxa) extending from the Palaeocene (Palaeocene, Eocene, Oligocene; 65.0–23.8 Ma) through to the Neogene (Miocene–Holocene) of the Tertiary as reviewed by Fordyce (1991a,b) and Fordyce & Jones (1990). The Australian fossil record of penguins is sparse with four named and four indeterminate species (Fordyce 1991a). Exceedingly rich records of fossil penguins are known from the Eocene of Seymour Island (e.g. Myrcha *et al.* 2002 and references therein); Patagonia in Argentina (Simpson 1972a, 1981; Cione & Tonni 1981; Cozzuol *et al.* 1993; Acosta-Hospitaleche *et al.* 2004); Chile (Walsh & Hume 2001); and Peru (Noriega & Tambussi 1989, Stucchi 2002, Stucchi *et al.* 2003, Acosta-Hospitaleche & Stucchi 2005). To date, no species or genera overlap in ranges between New Zealand and South America (Acosta-Hospitaleche *et al.* 2004) and there is only limited co-occurrence of genera in Seymour Island, Australia and New Zealand (Fordyce 1991a,b; Myrcha *et al.* 2002). Common names of fossil species follow Gill & Martinson (1991) but “Simpson’s penguin” is used here for the first time.

Genus †*Waimanu* Jones, Ando & Fordyce

Waimanu Jones, Ando & Fordyce, 2006: in Slack *et al.*, *Molec. Biol. Evolution* 23(6): 1145 – Type species (by original designation) *Waimanu manneringi* Jones, Ando & Fordyce, 2006.

Slack *et al.* (2006) did not allocate *Waimanu* to any family. However, Sphenisciformes has only a single included family, Spheniscidae. Considering that *Crossvallia*, a genus of similar Palaeocene age to *Waimanu*, was included in Spheniscidae (Tambussi *et al.* 2005), we also include *Waimanu* in Spheniscidae, even though Slack *et al.* (2006) did not mention *Crossvallia* in their analysis.

▶ †*Waimanu manneringi* Jones, Ando & Fordyce Mannering’s Penguin

Waimanu manneringi Jones, Ando & Fordyce, 2006: in Slack *et al.*, *Molec. Biol. Evolution* 23(6): 1145 – Waipara River, North Canterbury.

Teurian Stage (late Early Palaeocene; 60.5–61.6 Ma); basal Waipara Greensand, Waipara River, Canterbury, South Island (Slack *et al.* 2006).

▶ †*Waimanu tuatahi* Ando, Jones & Fordyce Waipara Penguin

Waimanu tuatahi Ando, Jones & Fordyce, 2006: in Slack *et al.*, *Molec. Biol. Evolution* 23(6): 1146 – Waipara River, North Canterbury.

Teurian Stage (late Early Palaeocene; 58–60 Ma); middle–upper Waipara Greensand, Waipara River, Canterbury, South Island (Slack *et al.* 2006).

Genus †*Palaeodyptes* Huxley

Palaeodyptes Huxley, 1859: *Quart. Journ. Geol. Soc. London* 15: 675 – Type species (by monotypy) *Palaeodyptes antarcticus* Huxley.

Eosphaeniscus Wiman, 1905: *Bull. Geological Inst. Uppsala* 6: 250 – Type species (by monotypy) *Eosphaeniscus Gunnari* Wiman = *Palaeodyptes gunnari* (Wiman).

Several indeterminate specimens from New Zealand, Australia and Seymour Island (Antarctic Peninsula) have been referred to the genus (Hector 1872; Marples 1952, 1962; Simpson 1971, 1975; Fordyce 1991a,b). Two extralimital fossil species, *Palaeodyptes klekowskii* Myrcha, Tatur & del Valle, 1990 and *P. gunnari* (Wiman, 1905) have been named from the Eocene La Meseta formation of Seymour Island, Antarctica (Myrcha *et al.* 2002).

▶ †*Palaeodyptes antarcticus* Huxley

Narrow-flipped Penguin

Palaeodyptes antarcticus Huxley, 1859: *Quart. Journ. Geol. Soc. London* 15: 675 – Kakanui, near Oamaru.

Age uncertain within the range Whaingaroan Stage (Early Oligocene; 34.3 Ma) to Waitakian Stage (Late Oligocene–Early Miocene; 21.7 Ma); Kakanui, South Island (Simpson 1971; Fordyce & Jones 1990; Fordyce 1991a,b). Records of this taxon from Australia (Simpson 1957, Brodkorb 1963) are now referred to *Palaeodyptes* sp. indet. (Simpson 1971, Jenkins 1974). The referral of humeri from Seymour Island to this species (Tambussi *et al.* 2006) has been challenged by Jadwiszczak (2006b).

▶ †*Palaeodyptes marplei* Brodkorb

Marples' Penguin

Palaeodyptes cf. *antarcticus* Huxley, 1859; Marples 1952, *New Zealand Geol. Surv. Pal. Bull.* 20: 31.

Palaeodyptes marplei Brodkorb, 1963: *Bull. Florida State Museum (Biol. Sci.)* 7: 231 – Burnside, near Dunedin, Otago.

Kaiatan or Runangan Stage (Late Eocene; 37.0–34.3 Ma); Burnside, South Island (Brodkorb 1963; Simpson 1971, 1975; Fordyce 1991a,b). A specimen (South Australian Museum P.10870) from the Upper Eocene, Blanche Point Marls, Christie's Beach, Adelaide, South Australia (Simpson 1957), was referred first to this taxon (Brodkorb 1963) but later to *Palaeodyptes* sp. indet. (Simpson 1971).

Genus †*Pachydyptes* Oliver

Pachydyptes Oliver, 1930: *New Zealand Birds*, 1st edition: 85 – Type species (by original designation) *Pachydyptes ponderosus* Oliver.

Pachydyptes simpsoni Jenkins, 1974 from Australia was regarded as conspecific with *Anthropornis nordenskjöldii* Wiman, 1905 from Seymour Island (Fordyce 1991a, Vickers-Rich 1991). However, Simpson (1971: 347) considered *Anthropornis* Wiman, 1905 to be tentatively distinct from *Pachydyptes*.

▶ †*Pachydyptes ponderosus* Oliver

New Zealand Giant Penguin

Palaeodyptes antarcticus; Hector 1873, *Trans. Proc. N.Z. Inst.* 5: 438. Not *Palaeodyptes antarcticus* Huxley, 1859.

Pachydyptes ponderosus Oliver, 1930: *New Zealand Birds*, 1st edition: 86 – Fortification Hill, Oamaru.

Pachydyptes ponderosa Oliver; Lowe 1939, *Ibis* 3 (14th ser.): 282. Unjustified emendation.

Anthropornis ponderosus (Oliver); Lowe 1939, *Ibis* 3 (14th ser.): 291.

Anthropornis ponderosa (Oliver); Lowe 1939, *Ibis* 3 (14th ser.): 291. Unjustified emendation.

Anthropornis (*Pachydyptes*) *ponderosus* (Oliver); Lowe 1939, *Ibis* 3 (14th ser.): 292.

Anthropornis nordenskjöldii; Lowe 1939, *Ibis* 3 (14th ser.): 293. Not *Anthropornis nordenskjöldii* Wiman, 1905.

Runangan Stage (Late Eocene; 36.0–34.3 Ma); near Oamaru, South Island (Marples 1952; Brodkorb 1963; Simpson 1971, 1975; Fordyce 1991a,b).

Genus †*Platydyptes* Marples

Platydyptes Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 37 – Type species (by original designation) *Pachydyptes novaezealandiae* Oliver = *Platydyptes novaezealandiae* (Oliver).

▶ †*Platydyptes marplei* Simpson

Simpson's Penguin

Platydyptes novaezealandiae (Oliver, 1930); Marples 1952, *New Zealand Geol. Surv. Pal. Bull.* 20: 38. In part.

? *Platydyptes marplei* Simpson, 1971: *Bull. Am. Mus. Nat. Hist.* 144 (5): 354 – Waitaki Valley, north Otago.

? *Platydyptes marplesigi* Simpson; in Stonehouse (Ed.) *Biology of Penguins*: 31. Unjustified emendation.

“*Platydyptes*” *marplei* Simpson; Checklist Committee 1990, *Checklist Birds N.Z.*: 64.

Dunroonian Stage (Late Oligocene; 27.3–25.2 Ma); probably Wharekuri, South Island (Simpson 1971; Fordyce 1991a,b). Simpson (1971) assigned this species to *Platydyptes* but considered this assignment “quite doubtful”.

▶ †*Platydyptes novaezealandiae* (Oliver)

Wide-flipped Penguin

Pachydyptes novaezealandiae Oliver, 1930: *New Zealand Birds*, 1st edition: 86 – Oamaru district.

Pachydyptes novae-zelandiae Oliver; Lowe 1939, *Ibis* 3 (14th ser.): 282. Unjustified emendation.

Platydyptes novaezealandiae (Oliver); Marples 1952, *New Zealand Geol. Surv. Pal. Bull.* 20: 38. In part.

Dunroonian to Waitakian Stage (Late Oligocene–Early Miocene; 27.3–21.7 Ma); Oamaru, South Island (Simpson 1971, Fordyce 1991b).

▶ †*Platydyptes amiesi* Marples

Amies' Penguin

Platydyptes amiesi Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 39 – Hakataramea Valley, South Canterbury.

Dunroonian to Waitakian Stage (Late Oligocene–Early Miocene; 27.3–21.7 Ma); Hakataramea and Dunroon, South Island (Marples 1952; Fordyce 1991a,b). Known from many specimens (Fordyce 2003).

Genus †*Archaeospheniscus* Marples

Archaeospheniscus Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 40 – Type species (by original designation) *Archaeospheniscus lowei* Marples.

Notodyptes Marples, 1953: *Falkland Islands Dependencies Survey Scientific Reports* 5: 11 – Type species (by original designation) *Notodyptes wimani* Marples = *Archaeospheniscus wimani* (Marples).

An extralimital fossil species, *Archaeospheniscus wimani* (Marples, 1953), is known from the Eocene in La Meseta Formation of Seymour Island, Antarctica (Myrcha *et al.* 2002, Jadwiszczak 2006a).

- ▶ †***Archaeospheniscus lowei*** Marples **Lowe's Penguin**
Archaeospheniscus lowei Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 41 – Duntroon, North Otago.

Duntroonian Stage (Late Oligocene; 27.3–25.2 Ma); Duntroon, South Island (Marples 1952; Fordyce 1991a,b).

- ▶ †***Archaeospheniscus lopedelli*** Marples **Lopdell's Penguin**
Archaeospheniscus lopedelli Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 41 – Duntroon, North Otago.

Duntroonian Stage (Late Oligocene; 27.3–25.2 Ma); Duntroon, South Island (Marples 1952; Fordyce 1991a,b). The referral of humeri from Seymour Island, Antarctica, to this species (Tambussi *et al.* 2006) has been challenged by Jadwyszczak (2006b).

Genus †***Duntroornornis*** Marples

Duntroornornis Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 42 – Type species (by original designation) *Duntroornornis parvus* Marples.

- ▶ †***Duntroornornis parvus*** Marples **Duntroon Penguin**
Duntroornornis parvus Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 42 – Duntroon, North Otago.

Duntroonian Stage (Late Oligocene; 27.3–25.2 Ma); Duntroon, South Island (Marples 1952; Fordyce 1991a,b). Possibly also Waitakian Stage (Late Oligocene–Early Miocene; 25.2–21.7 Ma) at Hakataramea Valley, South Canterbury, South Island (Fordyce & Jones 1990).

Genus †***Korora*** Marples

Korora Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 43 – Type species (by original designation) *Korora oliveri* Marples.

- ▶ †***Korora oliveri*** Marples **Oliver's Penguin**
Korora oliveri Marples, 1952: *New Zealand Geol. Surv. Pal. Bull.* 20: 43 – Hakataramea Valley, South Canterbury.

Waitakian Stage (Late Oligocene–Early Miocene; 25.2–21.7 Ma); Hakataramea Valley, South Island (Marples 1952; Fordyce & Jones 1990; Fordyce 1991a,b).

Genus †***Marplesornis*** Simpson

Marplesornis Simpson, 1972: *Rec. Cant. Museum* 9: 162 – Type species (by original designation) *Palaeospheniscus novaezealandiae* Marples = *Marplesornis novaezealandiae* (Marples).

- ▶ †***Marplesornis novaezealandiae*** (Marples) **Harris' Penguin**
Palaeospheniscus novaezealandiae Marples, 1960: *Rec. Cant. Museum* 7: 194 – Motunau Beach, North Canterbury.

Marplesornis novaezealandiae (Marples); Simpson 1972, *Rec. Cant. Museum* 9: 162.

Age uncertain, within the range Otaian to Waipipian Stage (Early Miocene–Pliocene; 21.7–3.0 Ma), probably Late Pliocene; Motunau, North Canterbury, South Island (Simpson 1972b; Fordyce 1991a,b).

Genus ***Aptenodytes*** Miller

Aptenodytes J.F. Miller, 1778: *Icones Animalium* 4: pl. 23 – Type species (by monotypy) *Aptenodytes patagonicus* Miller.

▶ †***Aptenodytes ridgeni*** Simpson **Ridgen's Penguin**

Aptenodytes ridgeni Simpson, 1972: *Rec. Cant. Museum* 9: 167 – Motunau Beach, North Canterbury.

Age uncertain within the range Otaian to Waipipian Stage (Early Miocene–Pliocene; 21.7–3.0 Ma), probably Late Pliocene; Motunau, North Canterbury, South Island (Simpson 1972b; Fordyce 1991a,b).

Genus *Pygoscelis* Wagler

Pygoscelis Wagler, 1832: *Isis von Oken*, Heft 2: col. 281 – Type species (by monotypy) *Aptenodytes papua* J.R. Forster = *Pygoscelis papua* (J.R. Forster).

▶ †***Pygoscelis tyreei*** Simpson **Tyree's Penguin**

Pygoscelis tyreei Simpson, 1972: *Rec. Cant. Museum* 9: 166 – Motunau Beach, North Canterbury.

Age uncertain within the range Otaian to Waipipian Stage (Early Miocene–Pliocene; 21.7–3.0 Ma), probably Late Pliocene; Motunau, North Canterbury, South Island (Simpson 1972b; Fordyce 1991a,b).

Genus †*Tereingaornis* Scarlett

Tereingaornis Scarlett, 1984: *New Zealand Journ. Geol. Geophys.* 26: 419 – Type species (by monotypy) *Tereingaornis moisleyi* Scarlett.

▶ †***Tereingaornis moisleyi*** Scarlett **Moisley's Penguin**

Tereingaornis moisleyi Scarlett, 1984: *New Zealand Journ. Geol. Geophys.* 26: 419 – near Te Reinga Falls, Hawke's Bay.

Waipipian Stage (Pliocene; 3.6–3.0 Ma), Hawke's Bay and near Hawera, North Island (Scarlett 1984, McKee 1988). Scarlett (1984) considered this species to be closely related to, if not congeneric with, *Spheniscus*.

Genus *Eudyptula* Bonaparte

Eudyptula Bonaparte, 1856: *Compt. Rend. Séa. Acad. Sci., Paris* 42: 775 – Type species (by monotypy) *Aptenodytes minor* J.R. Forster = *Eudyptula minor* (J.R. Forster).

The reference to a “*Eudyptula* fossil in New Zealand about 24 mya” (Baker *et al.* 2006) appears to refer to a specimen of a small penguin that has no close affinity with *Eudyptula*, as discussed by Fordyce & Jones (1990), Fordyce (1991b) and Acosta-Hospitaleche *et al.* (2004).

▶ ***Eudyptula minor*** (J.R. Forster) **Little Penguin**

Aptenodytes minor J.R. Forster, 1781: *Comment. Phys. Soc. Reg. Sci. Gottingensis* 3: 135, 147 – Dusky Sound, Fiordland.

Eudyptula minor (J.R. Forster); Simpson 1975, in Stonehouse, B. (Ed.) *Biology of Penguins*: 23, 26.

Possible Late Pliocene record (Simpson 1975). This species is extant.

Order PELECANIFORMES: Pelicans, Gannets, Cormorants and Allies**Family PELAGORNITHIDAE Fürbringer: Bony-toothed Pelicans**

Pelagornithinae Fürbringer, 1888: *Untersuch. Morph. Syst. Vögel* 2: 1565, footnote – Type genus *Pelagornis* Lartet, 1857.

Common names follow Gill & Martinson (1991). Fossil bones from Tangahoe Formation, Hawera, North Island, of Middle Pliocene age were described as the first record of pseudodontornids, possibly of *Pseudodontornis*, from the North Island (McKee 1985). McKee has reported the discovery of isolated pseudodontorn bones of Pliocene age from Hawera and Hawke's Bay, North Island, in the *Society of Avian Paleontology and Evolution Newsletter (SAPE)* as follows: *SAPE 4*, 1990; *SAPE 5*, 1991; *SAPE 10*, 1996, first Miocene (9–10 Ma) North Island record; *SAPE 12*, 1998, two pelagornithid humeri; *SAPE 13*, 1999; *SAPE 16*, 2002. However, all remain undescribed.

Genus †*Pelagornis* Lartet

Pelagornis Lartet, 1857: *Compt. Rend. Séa. Acad. Sci., Paris 44*: 740 – Type species (by monotypy) *Pelagornis miocaenus* Lartet.

▶ †*Pelagornis miocaenus* Lartet Miocene False-toothed Pelican

Pelagornis miocaenus Lartet, 1857: *Compt. Rend. Séa. Acad. Sci., Paris 44*: 740 – France.

Middle Miocene of France (Harrison & Walker 1976). In New Zealand: Middle to Late Miocene, near mouth of Waipara River, North Canterbury, South Island (Scarlett 1972). The assignment by Harrison & Walker (1976) of the single proximal humerus described by Scarlett (1972) to *Pelagornis miocaenus* was tentative.

Genus †*Neodontornis* Harrison & Walker

Neodontornis Harrison & Walker, 1976: *Tertiary Res. Spec. Pap. 2*: 22 – Type species (by original designation) *Pseudodontornis stirtoni* Howard & Warter = *Neodontornis stirtoni* (Howard & Warter).

We use *Neodontornis* in preference to the Middle Miocene European genus *Pseudodontornis* Lambrecht, 1930, which is unknown from the Pacific Basin, following Matsuoka *et al.* (2003).

▶ †*Neodontornis stirtoni* (Howard & Warter) Stirton's False-toothed Pelican

Pseudodontornis stirtoni Howard & Warter, 1969: *Rec. Cant. Museum 8*: 348 – Motunau Beach, North Canterbury.

Neodontornis stirtoni (Howard & Warter); Harrison & Walker 1976: *Tertiary Res. Spec. Pap. 2*: 22

Age uncertain, within the range Otaian to Waipipian Stage (Early Miocene–Pliocene; 21.7–3.0 Ma), probably Late Pliocene; Motunau Beach, North Canterbury (Howard & Warter 1969). A Pliocene age would make this the youngest named species in the family (Olson 1985b).

Order GRUIFORMES: Rails, Cranes and Allies

Family RALLIDAE Rafinesque: Rails, Gallinules and Coots

Subfamily RALLINAE Rafinesque: Rails

Rallia Rafinesque, 1815: *Analyse de la Nature*: 70 – Type genus *Rallus* Linnaeus, 1758.

Genus †*Pleistorallus* Worthy

Pleistorallus Worthy, 1997: *Alcheringa 21*: 74 – Type species (by original designation) *Pleistorallus flemingi* Worthy.

▶ †*Pleistorallus flemingi* Worthy Fleming's Rail

Pleistorallus flemingi Worthy, 1997: *Alcheringa 21*: 74 – Marton, Manawatu.

Found in the Kaimatira Pumice Sand of the Kai Iwi Group, Lower Castledcliffian, Oxygen Isotope Stage 25–27, c. 1 Ma. Known by holotype tibiotarsus and paratype femur. Relationships to Recent rails unresolved, but most like *Gallirallus* group (Worthy 1997a).

Order **COLUMBIFORMES**: Pigeons and Doves

Suborder **COLUMBAE**: Pigeons and Doves

Family **COLUMBIDAE** Illiger: Pigeons and Doves

Columbini Illiger, 1811: *Prodromus Syst. Mamm. Avium*: 243 – Type genus *Columba* Linnaeus, 1758.

Genus **Rupephaps** Worthy T., Hand, Worthy J., Tennyson & Scofield

Rupephaps Worthy T., Hand, Worthy J., Tennyson & Scofield, 2009: *Auk* 126: 651 – Type species (by original designation) *Rupephaps taketake* Worthy T., Hand, Worthy J., Tennyson & Scofield.

► **Rupephaps taketake** Worthy T., Hand, Worthy J., Tennyson & Scofield

St Bathans Pigeon

Rupephaps taketake Worthy T., Hand, Worthy J., Tennyson & Scofield, 2009: *Auk* 126: 651 – St Bathans, Central Otago.

Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene 19–16 Ma) in the St Bathans Fauna from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island (Worthy *et al.* 2007). The authors described this species as the sister to *Hemiphaga* (Worthy *et al.* 2009).

Order **APODIFORMES**: Swifts, Hummingbirds and Owlet-nightjars

Family **AEOTHOLIDAE** Bonaparte: Owlet-nightjars

Aegothelinae Bonaparte, 1853: *Compt. Rend. Séa. Acad. Sci., Paris* 37(18): 645 – Type genus *Aegotheles* Vigors & Horsfield, 1827.

Genus **Aegotheles** Vigors & Horsfield

Aegotheles Vigors & Horsfield, 1826: *Trans. Linn. Soc. London* 15(1): 194 – Type species (by monotypy) *Caprimulgus novaehollandiae* Latham = *Aegotheles cristatus* (White).

► **Aegotheles** sp. indet.

(owlet-nightjar)

Aegotheles sp. indet. Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 25, figs 15B, D, F.

This entry refers to a specimen of uncertain age, within Awamoan–Altonian Stages (upper Lower Miocene; 20.0–16.5 Ma), from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island.

Family **APODIDAE** Olphe-Galliard: Swifts and Swiftlets

Apodidae Olphe-Galliard, 1887: *Contrib. Faune Ornith. Europe Occidentale* 22: 90 – Type genus *Apus* Scopoli 1777.

Genus **Collocalia** Gray

Collocalia G.R. Gray, 1840: *List Gen. Birds*: 8 – Type species (by original designation) *Hirundo esculenta* Linnaeus = *Collocalia esculenta* (Linnaeus).

► ***Collocalia* sp. indet.** (swiftlet)

Collocalia sp. indet. Worthy, Tennyson, Jones, McNamara & Douglas, 2007: *Journ. Syst. Palaeont.* 5(1): 26, fig. 16A.

Worthy *et al.* (2007) referred a specimen from the St Bathans Fauna to *Collocalia* sp. but did not name it. Age uncertain, within Awamoan–Altonian Stages (upper Lower Miocene; 19–16 Ma), from the lower Bannockburn Formation, Manuherikia Group; near St Bathans, Central Otago, South Island.

INCERTAE SEDIS

Order (unknown)

Genus †*Manu* Marples

Manu Marples, 1946: *Trans. Roy. Soc. N.Z.* 76: 133 – Type species (by monotypy) *Manu antiquus* Marples.

The former placement of *Manu* in the order Procellariiformes, family Diomededidae, based on a part furcula, being the only material available, is uncertain (Olson 1985b).

► †*Manu antiquus* Marples (bird of unknown affinities)

Manu antiquus Marples, 1946: *Trans. Roy. Soc. N.Z.* 76: 133 – Duntroon, North Otago.

Middle to Late Oligocene; near Duntroon, North Otago (Marples 1946b).

APPENDIX 2: Failed Introductions of Foreign Birds to New Zealand

Previous attempts to list non-native species that failed to become established in New Zealand have been inconsistent in their approach. Here we identify five types of failed introduction of foreign birds to New Zealand:

- Deliberately or accidentally released but the presence of the species *may also have been natural* (Section 1, below).
- Brought to New Zealand but *no release* in the wild (deliberate or accidental) ever recorded.
- Release documented but was *not viable* (i.e. only one individual or sex released).
- Viable release documented but *no published record of reproduction* in the wild (Section 2, below).
- Deliberate introduction documented, and published records appear to indicate the species *bred*, but currently *no longer extant* (Section 3, below).

Thomson (1922) quoted from Hutton (1871) inconsistently. Here we accept that all species mentioned by Hutton as having been “introduced” were actually released. We also include, for the first time, manuscript notes of Hutton held in the Canterbury Museum that mention three other species not previously published. We accept that those species on p. 18 of Hamilton (1909) that are listed as “established introductions” were so at, or before, 1909. Those species listed on p. 19 by Hamilton (1909) as introduced but not established are not listed here (unless in Hutton 1871 or Thomson 1922) as it is not clear that any or all of these were actually released into the wild.

The use of language in Thomson (1922) is problematic. He used the term “introduced” to indicate both simply bringing a species into the country and also, apparently in some cases, releasing it into the wild. He used the unambiguous terms “released” and “liberated” in some cases. Here, we include in Sections 2 and 3 (below) only species for which Thomson (1922), or some other source, made it clear that birds were released into the wild.

Section 1

Species that are not established, yet appear to have been deliberately or accidentally released in New Zealand, but for which there is some possibility that their presence may also have been natural.

SPHENISCIDAE

Spheniscus magellanicus (J.R. Forster)

Magellanic Penguin

Aptenodytes magellanicus J.R. Forster, 1781: *Comment. Phys. Soc. Reg. Sci. Göttingensis* 3: 134, 143, pl. 5 – Straits of Magellan, South America.

Aptenodytes magellanica [sic] J.R. Forster, 1844: in M.H.C. Lichtenstein, *Descrip. Animalium*: 351 – Tierra del Fuego, Falkland Islands, Staten Island, and Straits of Magellan, South America. Junior primary homonym and synonym of *Aptenodytes magellanicus* J.R. Forster, 1781.

Spheniscus magellanicus (J.R. Forster); Checklist Committee 1980, *Notornis (Suppl.)* 27: 6.

Breeds on islands and coasts of southern South America and on Falkland and Juan Fernández Islands (Boswall & MacIver 1975, Marchant & Higgins 1990). Migrates generally northward in the non-breeding season, sometimes as far as Peru and southern Brazil (Marchant & Higgins 1990). Two New Zealand records: Mar. 1972, beach at Waimarama, Hawke's Bay (Robertson *et al.* 1972); and Mar. 1990, Otago Harbour (Darby 1991, Guest 1991). The behaviour of both these birds indicated close previous contact with humans, so they may have reached New Zealand by ship (Robertson *et al.* 1972, Darby 1991, Guest 1991).

CUCULIDAE

Genus *Eudynamys* Vigors & Horsfield

Eudynamys Vigors & Horsfield, 1826: *Trans. Linn. Soc. London* 15(1): 303 – Type species (by subsequent designation) *Cuculus orientalis* Linnaeus = *Eudynamys orientalis* (Linnaeus).

Species uncertain

A single specimen of a koel *Eudynamys* sp. was found at Lees Valley, Canterbury, Mar. 1997 (Medway 2001a). Specimen originally believed to be of Australian origin and, therefore, self-introduced. However it shows measurements and plumage more typical of Asian koel *Eudynamys scolopacea* (Linnaeus, 1758) (R.B. Payne pers. comm. to P. Scofield, 2005). Due to its age and sex (1st winter male moulting into 1st summer plumage) it is not possible at present to determine which population it originated from. Most *Eu. scolopacea* populations are sedentary, so the New Zealand bird may have arrived on a ship at nearby Lyttelton Harbour/Whakaraupō. Taxonomy unsettled, split by Mason (1997: 248) into Pacific koel *Eu. orientalis* (Linnaeus, 1766) and Asian koel *Eu. scolopacea*.

Section 2

Species for which a viable release has been documented, but with no published record of reproduction in the wild.

DROMAIIDAE

Dromaius novaehollandiae (Latham)

Emu

Casuarium N. Hollandiae Latham, 1790: *Index Ornith.* 2: 665 – “Nova Hollandia”, restricted to Sydney, New South Wales, Australia (*vide* Mathews 1910, *Birds Australia* 1: 3).

Dromaius novae-hollandiae; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 99.

Dromaius novaehollandiae (Latham); Condon 1975, *Checklist Birds Australia* 1: 1.

Introduced to Kawau Island in 1868 but “all died” (Thomson 1922). Subspecies not known.

MEGAPODIIDAE

Alectura lathamii J.E. Gray

Australian Brush-turkey

Alectura lathamii J.E. Gray, 1831: *Zool. Miscell.* 1: 4 – Near Sydney, New South Wales, Australia.

Tallegallus lathamii (J.E. Gray); Hutton 1871, *Cat. Birds N.Z.*: 65.

Catheturus lathamii; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 107.

Alectura lathamii J.E. Gray; Condon 1975, *Checklist Birds Australia 1*: 92.

Released at Kaipara (before 1869), but failed to establish (Thomson 1922). Subspecies not known, but probably *A. l. lathamii* from south-east Queensland.

PHASIANIDAE

Coturnix pectoralis Gould

Stubble Quail

Coturnix pectoralis Gould, 1837: *Synop. Birds Australia 2*: pl. 29, fig. 1 – Sydney, New South Wales, Australia.

Coturnix pectoralis Gould; Hutton 1871, *Cat. Birds N.Z.*: 67.

Coturnix pectoralis; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 119.

Introduced to Auckland and Canterbury (Hutton 1871) and subsequently to the Hokianga (Kemp *in* Thomson 1922), but failed to establish (Thomson 1922). Subspecies not known, but probably *C. p. pectoralis* from eastern Australia. The stubble quail and New Zealand quail (*C. novaezelandiae*, q.v.) have sometimes been regarded as subspecies of the same species (e.g. Checklist Committee 1990), but are now considered specifically distinct.

Coturnix coturnix coturnix (Linnaeus)

Eurasian Quail

Tetrao Coturnix Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 161 – Europa, Asia and Africa, restricted to Sweden (*vide* Peters 1934, *Check-list Birds World 2*: 92).

“Egyptian Quail (species?”); Thomson 1922, *Naturalisation Animals Plants New Zealand*: 120.

Coturnix coturnix coturnix (Linnaeus); McGowan *in* del Hoyo *et al.* 1994, *Handb. Birds World 2*: 509.

Released valley of Waitaki River, Canterbury (c. 1883) and Auckland (before 1914), but failed to establish (Thomson 1922).

Coturnix coromandelica (Gmelin)

Rain Quail

Tetrao coromandelicus Gmelin, 1789: *Syst. Nat.*, 13th edition 1(2): 764. Based on the “Coromandel Quail” of Latham 1783, *Gen. Synop. Birds 2*(2): 789 – Coromandel Coast, India.

Coturnix coromandelica; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 120.

Coturnix coromandelica (Gmelin); McDowall 1994, *Gamekeepers for the Nation*: 326.

Recorded in McDowall (1994) as introduced to Otago (c. 1880) “without successful establishment” but Thomson (1922; as Indian Quail) questioned whether any were released. Hamilton (1909) did not list the species.

Coturnix chinensis chinensis (Linnaeus)

Asian Blue-breasted Quail

Tetrao chinensis Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 277 – China and Philippines, restricted to Nanking, China (*vide* Peters 1934, *Check-list Birds World 2*: 95).

Excalphatoria [sic] *sinensis*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 118. Unjustified emendation.

Excalphatoria chinensis chinensis (Linnaeus); Peters 1934, *Check-list Birds World 2*: 95.

Excalphatoria [sic] *sinensis*; McDowall 1994, *Gamekeepers for the Nation*: 326. Unjustified emendation.

Coturnix chinensis chinensis (Linnaeus); McGowan *in* del Hoyo *et al.* 1994, *Handb. Birds World 2*: 511.

Excalphatoria chinensis (Linnaeus); Christidis & Boles 2008, *Syst. Taxon. Australian Birds*: 14, 61.

Recorded in McDowall (1994) as introduced to Otago “without successful establishment”, but Thomson (1922) did not document any release.

***Symmaticus reevesii* (J.E. Gray)**

Reeves' Pheasant

Phasianus reevesii J.E. Gray, 1829: in E. Griffith, *Anim. Kingdom* 8 (Aves, 3): 25 – China.
Phasianus reevesii; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 117.
Symmaticus reevesii (J.E. Gray); Peters 1934, *Check-list Birds World* 2: 128.

Released “up the Wanganui River” (c. 1899), but failed to establish (Thomson 1922).

***Chrysolophus pictus* (Linnaeus)**

Golden Pheasant

Phasianus pictus Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 158 – China.
Thaumalea picta (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 69.
Chrysolophus pictus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 110.
Chrysolophus pictus (Linnaeus); Peters 1934, *Check-list Birds World* 2: 130.

Imported by Auckland, Wellington, Christchurch and Otago Acclimatisation Societies. Thomson (1922) stated, “I do not think these birds were liberated at any time”. However, Hamilton (1909) listed it as introduced and established.

***Lophura nycthemera* (Linnaeus)**

Silver Pheasant

Phasianus nycthemerus Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 159 – China.
Gallophasis nycthemerus (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 69.
Gennaenus nycthemerus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 117.
Lophura nycthemera (Linnaeus); Howard & Moore 1991, *Complete Checklist Birds World*, 2nd edition: 54.

Released before 1868 near Whangarei (Taylor 1868), but failed to establish (Thomson 1922).

***Tragopan temminckii* (J.E. Gray)**

Temminck's Tragopan

Satyra temminckii J.E. Gray, 1831: in Hardwicke, *Illust. Indian Zool.* 1(9): pl. 50 – no locality = China (*vide* Peters 1934, *Check-list Birds World* 2: 109).
Cerionis temminckii; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 117.
Tragopan temminckii (J.E. Gray); Peters 1934, *Check-list Birds World* 2: 109.

Two apparently released in Auckland, but failed to establish (Thomson 1922).

TETRAONIDAE

***Lagopus scoticus* (Latham)**

Red Grouse

Tetrao scoticus Latham, 1789: *Gen. Synop. Birds, Suppl.* 1: 290 – Scotland.
Lagopus scoticus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 128.
Lagopus scoticus (Latham); Peters 1934, *Check-list Birds World* 2: 30.

Introduced to Matamata (1872, 1873) but failed to establish (Thomson 1922).

***Lyrurus tetrix* (Linnaeus)**

Black Grouse

Tetrao Tetrix Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 159 – Europe, restricted to Sweden (*vide* Peters 1934, *Check-list Birds World* 2: 27)
Lyrurus tetrix; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 128.
Lyrurus tetrix (Linnaeus); Peters 1934, *Check-list Birds World* 2: 27.

Introduced to South Otago (1879) but failed to establish (Thomson 1922). Subspecies not known, but probably *L. t. britannicus* Witherby & Lönnberg, 1913, from Great Britain.

Tympanuchus phasianellus* (Linnaeus)*Sharp-tailed Grouse**

Tetrao Phasianellus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 160 – Canada, restricted to Hudson Bay, North America (*vide* Peters 1934, *Check-list Birds World* 2: 40).

Pedioecetes phasianellus (Linnaeus); Williams 1969, *Natural History Canterbury*: 442.

Tympanuchus phasianellus (Linnaeus); Howard & Moore 1991, *Complete Checklist Birds World*, 2nd edition: 44.

Birds of unspecified subspecies were released in South Canterbury in 1927, but were not seen again (Williams 1969).

Tympanuchus phasianellus columbianus* (Ord)*Columbian Sharp-tailed Grouse**

Phasianus Columbianus Ord, 1815: *in* Guthrie, *Geography*, 2nd edition, 2: 317 – Great Plains of the Columbia River.

Podioecetus [sic] *columbianus*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 129.

Pedioecetes phasianellus columbianus (Ord); Peters 1934, *Check-list Birds World* 2: 40.

Tympanuchus phasianellus columbianus (Ord); Howard & Moore 1991, *Complete Checklist Birds World*, 2nd edition: 44.

Introduced to Piako (1876), but failed to establish (Thomson 1922).

Tympanuchus cupido pinnatus* (Brewster)*Greater Prairie-chicken**

Cupidonia pinnata Brewster, 1885: *Auk* 2: 82 – Vermilion, South Dakota, USA.

Tympanuchus americanus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 127. Not *Cupidonia americana* Reichenbach, 1853.

Tympanuchus cupido pinnatus (Brewster); Peters 1934, *Check-list Birds World* 2: 41.

Tympanuchus cupido; Williams 1969, *Natural History Canterbury*: 442. Not *Tetrao cupido* Linnaeus, 1758.

Introduced to central Canterbury (1879) and Auckland (1881), but failed to establish (Thomson 1922, Williams 1969).

ODONTOPHORIDAE***Oreortyx picta* (Douglas)****Mountain Quail**

Oryx picta Douglas, 1829: *Phil. Magaz.* (n. ser.) 5: 74 – “Interior of New California” = Headwaters of the Umpqua River near the Calapooia Mountains, USA (*vide* Peters 1934, *Check-list Birds World* 2: 43).

Oreortyx pictus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 119.

Oreortyx picta (Douglas); Peters 1934, *Check-list Birds World* 2: 43.

Oregon pictus (Douglas); McDowall 1994, *Gamekeepers for the Nation*: 326.

Released at Matamata (1877), Lake Omapere in Northland (1881), south of Dunedin and northern Southland (1881), and in the Rock and Pillar Range (1882), but failed to establish (Thomson 1922). Subspecies not known.

PTEROCLIDIDAE***Pterocles alchata* (Linnaeus)****Pin-tailed Sandgrouse**

Tetrao Alchata Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 276 – Europe.

“probably *Pterochlorus alchatus*”; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 132.

Pterocles alchata (Linnaeus); Howard & Moore 1991, *Complete Checklist Birds World*, 2nd edition: 80.

Released in the Rock and Pillar Range (1882), but failed to establish (Thomson 1922). Subspecies not known.

ANATIDAE

Branta hutchinsii* (Richardson)*Cackling Goose**

Anser Hutchinsii Richardson, 1832: in Swainson & Richardson, *Fauna Boreali-Americana, Birds* 2: 470 – Melville Peninsula, Canada.

Branta canadensis hutchinsii (Richardson); Johnsgard 1979, in Peters *Check-list Birds World 1*, 2nd edition: 443.

Branta hutchinsii (Richardson); Banks *et al.* 2004, *Auk* 121: 986.

Banks *et al.* (2004) split the Canada goose (*Branta canadensis* (Linnaeus)) into two species: Canada goose (*B. canadensis*) and cackling goose (*B. hutchinsii*). The larger subspecies previously recognised (*B. c. maxima*) is included under *B. canadensis*, with the smaller subspecies included under *B. hutchinsii*. The surviving birds in New Zealand are from the *B. c. maxima* stock (see Imber 1971), now included in *B. canadensis (sensu stricto)*, but some of the many independent introductions made by local Acclimatisation Societies were of the smaller species.

Anser caerulescens caerulescens* (Linnaeus)*Lesser Snow Goose**

Anas caerulescens Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 124 – Canada, restricted to Hudson Bay (*vide* Johnsgard 1979, in Peters *Check-list Birds World 1*, 2nd edition: 439).

Anser hyperboreus Pallas, 1769: *Spicilegia Zool.* 6: 25 – North-eastern Siberia.

Chen hyperboreus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 106.

Anser caerulescens caerulescens (Linnaeus); Johnsgard 1979, in Peters *Check-list Birds World 1*, 2nd edition: 439.

Released at Matamata in the late 1870s but failed to establish (Thomson 1922).

Biziura lobata* (Shaw)*Musk Duck**

Anas lobata Shaw, 1796: in Shaw & Nodder, *Nat. Miscell.* 8: pl. 255 and text – New South Wales, error for King George Sound, Western Australia (*vide* Mathews 1915, *Birds Australia* 4: 143).

Biziura lobata (Shaw); Johnsgard 1979, in Peters *Check-list Birds World 1*, 2nd edition: 504.

Hamilton (1909) listed the species as “established”, but it was not mentioned by Thomson (1922).

Aix galericulata* (Linnaeus)*Mandarin Duck**

Anas galericulata Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 128 – China.

Aix galericulata; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 103.

Aix galericulata (Linnaeus); Johnsgard 1979, in Peters *Check-list Birds World 1*, 2nd edition: 457.

Released in Canterbury (1871, 1885), Otago (1907) and possibly elsewhere, but failed to establish (Thomson 1922).

Anas crecca* Linnaeus*Common Teal**

Anas Crecca Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 126 – Europe, restricted to Sweden (*vide* Linnaeus 1761, *Fauna Svecica*, 2nd edition: 45).

Nettion crecca; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 100.

Anas crecca Linnaeus; Johnsgard 1979, in Peters *Check-list Birds World 1*, 2nd edition: 464.

Released in Wellington, Canterbury, Nelson and elsewhere (1897) but failed to establish (Thomson 1922).

Anas penelope Linnaeus**Eurasian Widgeon**

Anas penelope Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 126 – Europe, restricted to Sweden (*vide* Linnaeus 1761, *Fauna Svecica*, 2nd edition: 44).

Mareca penelope; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 100.

Anas penelope Linnaeus; Johnsgard 1979, in *Peters Check-list Birds World 1*, 2nd edition: 462.

Released on Lake Kaniere, Westland (1904), but failed to establish (Thomson 1922).

Aythya ferina (Linnaeus)**Common Pochard**

Anas ferina Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 126 – Europe, restricted to Sweden (*vide* Linnaeus 1761, *Fauna Svecica*, 2nd edition: 45).

Anas Ferina Linnaeus; Hamilton 1909, *Hand-list Birds New Zealand*: 19.

Nyroca ferina; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 99.

Aythya ferina (Linnaeus); Johnsgard 1979, in *Peters Check-list Birds World 1*, 2nd edition: 483.

Released in Wellington (1894, 1895), Taranaki (1898) and elsewhere, but failed to establish (Thomson 1922).

Aythya (fuligula?) (Linnaeus)**Indian Black Duck**

Anas Fuligula Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 128 – Europe, restricted to Sweden (*vide* Linnaeus 1761, *Fauna Svecica*, 2nd edition: 47).

Anas cristata J.B. Fischer, 1778: *Versuch Natur. Livland*: 81 – Eurasia.

“Black Indian Duck” *Fuligula cristata*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 103.

Aythya fuligula (Linnaeus); Johnsgard 1979, in *Peters Check-list Birds World 1*, 2nd edition: 486.

Long (1981) considered that the “Indian black duck (golden-eye)” released at Lake Okareka (1906) that failed to establish (Thomson 1922) belonged to this species. However, it could have been any of several species of *Aythya* from India, for example, the ferruginous pochard, *Aythya nyroca* Gldenstdt, 1770.

TURNICIDAE

Turnix varia (Latham)**Painted Buttonquail**

Perdix varia Latham, 1802: *Index Ornith. Suppl.*: lxiii – “Nova Hollandia”, restricted to Sydney, New South Wales, Australia (*vide* Condon 1975, *Checklist Birds Australia 1*: 98).

Turnix varius (Latham); Hutton 1871, *Cat. Birds N.Z.*: 67.

Turnix varia (Latham); Condon 1975, *Checklist Birds Australia 1*: 98.

Introduced to Auckland and Canterbury (Hutton 1871) but failed to establish (Thomson 1922). Subspecies not known, but probably nominate.

CHARADRIIDAE

Vanellus vanellus (Linnaeus)**Eurasian Lapwing**

Tringa Vanellus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 148 – Europe and Africa, restricted to Sweden (*vide* Peters 1934, *Check-list Birds World 2*: 235).

Vanellus cristatus Wolf & Meyer, 1805: *Hist. Nat. Oiseaux 1*: 110 – Eurasia.

Vanellus aristatus [sic] (Linnaeus); Hamilton 1909, *Hand-list Birds New Zealand*: 18.

Vanellus cristatus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 130.

Vanallus [sic] *cristatus*; Drummond 1907, *N.Z. Dept. Agriculture, Biology Horticulture Bulletin* 16: vii, 15.

Vanellus vanellus (Linnaeus); Peters 1934, *Check-list Birds World 2*: 235.

Released in Auckland (1872), Canterbury (1873), Otago (1897), Wellington (1904; Thomson 1922), Westland (1904; Drummond 1907). Doubtful whether any releases resulted in viable populations (Thomson 1922).

***Pluvialis apricaria* (Linnaeus)**

Golden Plover

Charadrius apricarius Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 150 – “Oelandia, Canada”, restricted to Lapland (*vide* Peters 1934, *Check-list Birds World* 2: 244).

Charadrius pluvialis Linnaeus, 1766: *Syst. Nat.*, 12th edition 1: 254 – Northern Europe.

Charadrius pluvialis; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 130.

Pluvialis apricaria (Linnaeus); Peters 1934, *Check-list Birds World* 2: 244.

Released in Otago (1897) and possibly elsewhere, but failed to establish (Thomson 1922). Subspecies not known.

COLUMBIDAE

***Ocyphaps lophotes* (Temminck)**

Crested Pigeon

Columba lophotes Temminck, 1822: in Temminck & Laugier de Chartrouse, *Nouv. Recueil Planch. Color. d'Oiseaux* 2(24): text to pl. 142 – New South Wales, west of Blue Mountains, Australia.

Ocyphaps lophotes; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 132.

Ocyphaps lophotes (Temminck); Peters 1937, *Check-list Birds World* 3: 118.

Released in Wellington (1876, 1877) and Auckland (1887) but failed to establish (Thomson 1922). Subspecies not known.

***Geophaps scripta* (Temminck)**

Squatter Pigeon

Columba scripta Temminck, 1821: *Trans. Linn. Soc. London* 13: 127 – Shoalwater Bay, lat. 22°S, Queensland, Australia.

Geophaps scripta; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 136.

Geophaps scripta (Temminck); Peters 1937, *Check-list Birds World* 3: 119.

Two pairs were received by the Canterbury Acclimatisation Society in 1866 but there is no record of their release (Thomson 1922). Long (1981) incorrectly ascribed this record to the partridge pigeon *Geophaps smithii* (Jardine & Selby, 1830).

***Streptopelia turtur* (Linnaeus)**

European Turtle-dove

Columba Turtur Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 164 – India, error for England (*vide* Peters 1937, *Check-list Birds World* 3: 89).

Turtur auritus; Hutton 1871, *Cat. Birds N.Z.*: 64. Not *Columba aurita* Temminck, 1811.

Turtur turtur; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 134.

Streptopelia turtur (Linnaeus); Peters 1937, *Check-list Birds World* 3: 89.

Released in Nelson and Auckland before 1871 (Hutton 1871) but failed to establish. Subspecies not known.

***Streptopelia bitorquata* (Temminck)**

Island Collared Dove

Columba Bitorquata Temminck, 1811: in Knip, *Les Pigeons, les Colombes* 9: 86, pl. 40 – Indies, restricted to Timor (*vide* Hellmayr 1914, *Avif. Timor*: 91).

“Java Dove”; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 136.

Streptopelia bitorquata (Temminck); Peters 1937, *Check-list Birds World* 3: 97.

Five “Java doves” were released at Green Island, Dunedin, in 1867 (Thomson 1922). The Nelson and Wellington Acclimatisation Societies introduced some but it is unclear whether they were released (Thomson 1922). Long (1981) assumed that this species was the “Java dove”.

Phaps histrionica (Gould)**Flock Bronzewing**

Peristera histrionica Gould, 1841: *Birds of Australia* 5: pl. 66 & text – Plains in interior of New South Wales = Liverpool Plains, New South Wales, Australia (*vide* Peters 1937, *Check-list Birds World* 3: 120).

Phaps histrionica (Gould); Hutton 1871, *Cat. Birds N.Z.*: 64.

Phaps histrionica; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 132.

Introduced to Auckland (1869; Thomson 1922) and apparently released (Hutton 1871), but failed to establish (Thomson 1922). Subspecies not known.

Genus and species uncertain

Green pigeon, *Drepanoptila holosericea* (Temminck, 1811), Solomon Island crowned pigeon *Microgoura meeki* Rothschild, 1904 (now considered extinct) and diamond dove *Geopelia cuneata* (Latham, 1802) were all mentioned by Hutton (1871) as introduced to Auckland, but he stated that he did not see the birds and thus the identifications are questionable. The “Moreton Bay dove” was released in Canterbury (1867) but failed to establish (Thomson 1922)—see main text for emerald dove *Chalcophaps indica*.

PSITTACIDAE

Melopsittacus undulatus (Shaw)**Budgerigar**

Psittacus undulatus Shaw, 1805: *in* Shaw & Nodder, *Nat. Miscell.* 16: text to pl. 673 – “Australasia/ New Holland”, restricted to coastal south and west Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 151).

Melopsittacus undulatus (Shaw); Hutton 1871, *Cat. Birds N.Z.*: 63.

Melopsittacus undulatus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 136.

Released in Canterbury (Hutton 1871) and Auckland (1871), but failed to establish (Thomson 1922).

STRIGIDAE

Strix aluco Linnaeus**Tawny Owl**

Strix Aluco Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 93 – Europe, restricted to Sweden (*vide* Peters 1940, *Check-list Birds World* 4: 159).

Syrnium aluco (Linnaeus); Buller 1888, *History of the Birds of N.Z.*, 2nd edition 1: xlvii.

Smyrnum [sic] *aluco*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 140.

Strix aluco Linnaeus; Peters 1940, *Check-list Birds World* 4: 159.

A pair released at Napier in 1873 (Buller 1887–88) failed to establish (Thomson 1922). Subspecies not known.

Ninox boobook (Latham)**Southern Boobook**

Strix Boobook Latham, 1802: *Index Ornith. Suppl.*: xv – “Nova Hollandia”, restricted to region of Port Jackson, New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 270).

Ninox boobook; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 140.

Ninox (Ninox) boobook (Latham); Schodde 1997, *Zool. Cat. Australia* 37.2: 270.

A pair of “Australian owls,” probably this species, was released at Waikouaiti but failed to establish (Thomson 1922). Subspecies not known.

TYTONIDAE

Tyto alba alba (Scopoli)**European Barn Owl**

Strix alba Scopoli, 1769: *Annus 1, Hist. Nat.*: 21 – Friuli, northern Italy.

Strix flammea; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 138. Not *Strix flammea* Pontoppidan, 1763.

Tyto alba alba (Scopoli); Peters 1940, *Check-list Birds World* 4: 77.

Released west Taieri (1899) but failed to establish (Thomson 1922). Subspecies probably *T. a. alba* from Britain, unlike genuine vagrants to New Zealand which are *T. a. delicatula*.

MALURIDAE

Malurus cyaneus cyanochlamys Sharpe

Eastern Superb Fairy-wren

Malurus cyanochlamys Sharpe, 1881: *Proc. Zool. Soc. London* 1881 (50): 788 – Moreton Bay, south-eastern Queensland, Australia.

Malurus cyaneus; Westerskov 1953, *Notornis* 5(3): 106. Not *Motacilla cyanea* Latham, 1783.

Malurus cyaneus cyanochlamys Sharpe; Mayr 1986, in Peters *Check-list Birds World* 11: 396.

A total of 12 birds from Sydney Zoo were released in 1923 at three localities around Lake Rotorua, and at the base of Mount Tongariro (Westerskov 1953a). No subsequent reports.

MELIPHAGIDAE

Philemon corniculatus (Latham)

Noisy Friarbird

Merops corniculatus Latham, 1790: *Index Ornith.* 1: 276 – “Nova Hollandia”, restricted to New South Wales, Australia (*vide* Salomonsen 1967, in Peters *Check-list Birds World* 12: 411).

Philemon corniculatus (Latham); Salomonsen 1967, in Peters *Check-list Birds World* 12: 411.

“Naturalised in N. Wellington” (Hutton undated). Subspecies not known.

CORVIDAE

Corvus monedula Linnaeus

Jackdaw

Corvus Monedula Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 106 – Europe, restricted to Sweden (*vide* Hartert 1903, *Vögel Pal. Fauna*: 15).

Corvus monedula Linnaeus; Hutton 1871, *Cat. Birds N.Z.*: 57.

Corvus monedula; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 154.

Released in Canterbury before 1871 (Hutton 1871), but failed to establish (Thomson 1922).

ALAUDIDAE

Lullula arborea (Linnaeus)

Woodlark

Alauda arborea Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 166 – Europe, restricted to Sweden (*vide* Peters 1960, *Check-list Birds World* 9: 65).

Lullula arborea; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 142.

Lullula arborea (Linnaeus); Peters 1960, *Check-list Birds World* 9: 65.

Three (Hutton undated) or five birds (Thomson 1922) were introduced to Auckland and apparently released (Hutton undated). Probably of the nominate subspecies from Western Europe.

SYLVIIDAE

Sylvia communis Latham

Whitethroat

Sylvia communis Latham, 1787: *Gen. Synop. Birds Suppl.*: 287 – England, restricted to Kent (*vide* Clancey 1950, *Auk* 67: 393).

Sylvia cinerea Bechstein, 1803: *Ornith. Taschenb. Deutschland*: 170 – Germany.

Sylvia cinerea Latham [sic]; Hutton 1871, *Cat. Birds N.Z.*: 55.

Sylvia cinerea; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 149.

Sylvia communis Latham; Watson 1986, in Peters, *Check-list Birds World 11*: 273.

Released in Auckland (two in 1868) but failed to establish (Thomson 1922). Subspecies not known.

***Sylvia atricapilla* (Linnaeus)**

Blackcap

Motacilla Atricapilla Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 187 – Europe, restricted to Sweden (*vide* Hartet 1909, *Vögel Pal. Fauna*: 583).

Sylvia atricapilla; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 150.

Sylvia atricapilla (Linnaeus); Watson 1986, in Peters *Check-list Birds World 11*: 271.

Released in Auckland (five in 1872) but failed to establish (Thomson 1922). Subspecies not known.

PARIDAE

***Cyanistes caeruleus* (Linnaeus)**

Blue Tit

Parus caeruleus Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 190 – Europe, restricted to Sweden (*vide* Snow in Peters 1967, *Check-list Birds World 12*: 113).

Parus caeruleus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 152.

Cyanistes caeruleus (Linnaeus); Sangster *et al.* 2005, *Ibis 147*(4): 826.

Released in Canterbury (c. 1871) but failed to establish (Thomson 1922). Subspecies not known.

MUSCICAPIDAE

***Luscinia megarhynchos* (Brehm)**

Common Nightingale

Luscinia megarhynchos C.L. Brehm, 1831: *Handb. Naturgesch. Vög. Deutschl.*: 356 – Germany.

Odon luscinia; Hamilton 1909, *Hand-list Birds New Zealand*: 18. Not *Motacilla luscinia* Linnaeus, 1758.

Daulias luscinia; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 148. Not *Motacilla luscinia* Linnaeus, 1758.

Luscinia megarhynchos Brehm; Cramp 1988, *Birds Western Palearctic 5*: 626.

Thomson (1922) described three failed importation attempts by the Otago, Auckland and Canterbury Acclimatisation Societies from 1871 to 1879, including a single bird released into Hagley Park, Christchurch (Drummond 1907). Although listed by Hamilton (1909) as introduced and established, it failed to establish (Thomson 1922). Probably of the nominate subspecies from western Europe.

ICTERIDAE

***Sturnella neglecta* Audubon**

Western Meadowlark

Sturnella neglecta Audubon, 1844: *Birds Amer.* 7: 339, pl. 489 – Missouri River above Fort Croghan = old Fort Vernon, North Dakota, USA (*vide* Blake 1968, in Peters *Check-list Birds World 14*: 180).

Sturnula ludoviciana Linnaeus; Hutton 1871, *Cat. Birds N.Z.*: 58.

Sturnella neglecta; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 164.

Sturnella neglecta Audubon; Blake 1968, in Peters *Check-list Birds World 14*: 180.

Two introduced to Auckland from California in 1869 (Thomson 1922) and apparently released (Hutton 1871), but failed to establish.

***Agelaius phoeniceus* (Linnaeus)**

Red-winged Blackbird

Oriolus phoeniceus Linnaeus, 1766: *Syst. Nat., 12th edition 1*: 161 – North America, restricted to Charleston, South Carolina, USA (*vide* Howell & van Rossem 1928, *Auk 45*: 157).

Agelaius phoeniceus [sic] Dand. [sic]; Hutton 1871, *Cat. Birds N.Z.*: 58.
Agelaius phoeniceus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 164.
Agelaius phoeniceus (Linnaeus); Blake 1968, in *Peters Check-list Birds World 14*: 171.

Two introduced to Auckland from California in 1869 (Thomson 1922) and apparently released (Hutton 1871), but failed to establish. Subspecies not known.

PASSERIDAE

***Passer montanus* (Linnaeus)**

Tree Sparrow

Fringilla montana Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 183 – Europe, restricted to Bagnacavallo, Ravenna, Italy (*vide* Clancey 1948, *Bull. Brit. Ornith. Club* 68: 135).
Passer montanus (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 62.
Passer montanus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 170.

Released in Otago (1868) and Auckland (1868, 1871), but failed to establish (Thomson 1922). Subspecies not known.

ESTRILDIDAE

***Lonchura oryzivora* (Linnaeus)**

Java Sparrow

Loxia oryzivora Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 173 – Asia and Ethiopia, restricted to Java (*vide* Mayr 1968, in *Peters Check-list Birds World 14*: 388).
Padda oryzivora (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 62.
Munia oryzivora [sic] Linnaeus; Hamilton 1909, *Hand-list Birds New Zealand*: 18.
Munia oryzivora; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 163.
Lonchura oryzivora (Linnaeus); Christidis & Boles 1994, *Taxonomy Species Birds Australia* 2: 26.

Introduced to Nelson (1862) and Auckland (1867; Thomson 1922) and apparently released (Hutton 1871, Drummond 1907), but failed to establish (Thomson 1922). Subspecies not known.

***Stagonopleura bella* (Latham)**

Beautiful Firetail

Loxia bella Latham, 1802: *Index Ornith. Suppl.*: xlv – “Nova Hollandia”, restricted to Sydney, New South Wales, Australia (*vide* Mayr 1968, in *Peters Check-list Birds World 14*: 354).
Zonaeginthus bellus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 164.
Stagonopleura bella (Latham); Christidis & Boles 1994, *Taxonomy Species Birds Australia* 2: 26.

Birds of unspecified subspecies were received by the Auckland Acclimatisation Society (1870) but apparently not released; a further eight birds were introduced in Wellington before 1885, but failed to establish (Thomson 1922).

***Stagonopleura bella samueli* (Mathews)**

South-east Australian Beautiful Firetail

Zonaeginthus bellus samueli Mathews, 1912: *Austral Avian Rec. 1*: 102 – Kangaroo Island, Australia.
Stagonopleura bella samueli (Mathews); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 745.

Introduced from Tasmania and released in Auckland (Hutton undated), but failed to establish.

***Taeniopygia guttata castanotis* (Gould)**

Australian Zebra Finch

Amadina castanotis Gould, 1837: *Synop. Birds Australia 1*: pl. 10, fig. 1 – interior of New South Wales, Australia.
Taeniopygia castanotis; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 164.

Taeniopygia guttata castanotis (Gould); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 761.

Twelve birds introduced in Wellington before 1885, but failed to establish (Thomson 1922). A common cage-bird species, which regularly escapes and is occasionally reported from the wild (Robertson, C. *et al.* 2007), but without confirmed self-sustaining populations.

Poephila cincta (Gould)

Black-throated Finch

Amadina cincta Gould, 1837: *Proc. Zool. Soc. London 1836* (4): 105 – Upper Hunter River district, New South Wales, Australia.

Poephila cincta (Gould); Mayr 1968, in Peters *Check-list Birds World 14*: 361.

Released in Auckland from Queensland (Hutton undated), but failed to establish. Subspecies not known, but probably *P. c. cincta*.

Neochmia temporalis (Latham)

Red-browed Finch

Fringilla temporalis Latham 1802 *Index Ornith. Suppl.*: xlvi – “Nova Hollandia”, restricted to Sydney, New South Wales, Australia (*vide* Mayr 1968, in Peters *Check-list Birds World 14*: 353).

Estrela temporalis (Latham); Hutton 1871, *Cat. Birds N.Z.*: 59.

Aegintha temporalis; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 163.

Neochmia temporalis (Latham); Christidis & Boles 1994, *Taxonomy Species Birds Australia 2*: 26.

Introduced to Otago in 1867 and Auckland in 1871 (Thomson 1922) from Queensland and apparently released (Hutton 1871). Subspecies not known but probably *N. t. temporalis*. Thomson (1922) inferred from the common name “nutmeg sparrow” that Hutton (1871) actually referred to *Lonchura punctulata* and not to *Neochmia temporalis* but, if Hutton’s information about the birds coming from Queensland is correct, *L. punctulata* is ruled out as this species was not introduced to Queensland until the 1930s (Schodde & Mason 1999).

FRINGILLIDAE

Serinus canaria (Linnaeus)

Canary

Fringilla Canaria Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 181 – Islas Canarias, Spain.

Fringilla canaria Linnaeus; Hutton 1871, *Cat. Birds N.Z.*: 60.

Serinus canarius [sic]; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 176.

Serinus canaria (Linnaeus); Paynter 1968, in Peters *Check-list Birds World 14*: 210.

There was no serious attempt to introduce this species by Acclimatisation Societies, but deliberate private releases to establish it had no success (Thomson 1922).

Carduelis flavirostris (Linnaeus)

Twite

Fringilla flavirostris Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 182 – Europe, restricted to Sweden (*vide* Hartert 1903, *Vögel Pal. Fauna*: 76).

Linota flavirostris; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 172.

Carduelis flavirostris (Linnaeus); Cramp & Perrins 1994, *Birds Western Palearctic 8*: 625.

Released in Dunedin (1871) but failed to establish (Thomson 1922). Probably *C. f. pipilans* from the British Isles.

Pyrhula pyrrhula (Linnaeus)

Bullfinch

Loxia Pyrrhula Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 171 – Europe.

Pyrrhula rubicilla Pallas, 1811: *Zoogr. Rosso-Asiatica* 2: 7 – Russia.

Pyrrhula europoea Vieillot, 1816: *Nouv. Dict. Hist. Nat., nouv. éd.* 4: 286 – Europe, restricted to western France (fide Mayaud 1933, *Alauda* 5: 462).

Pyrrhula rubicilla Pallas; Hutton 1871, *Cat. Birds N.Z.*: 59.

Pyrrhula europoea; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 175.

Pyrrhula pyrrhula (Linnaeus); Paynter 1968, in Peters *Check-list Birds World* 14: 296.

Hutton (1871) refers to six birds released in Nelson but Thomson (1922) gives evidence to the contrary. There are sight records, notably in Hawke's Bay by H. Guthrie-Smith (Drummond 1907), but no definite records of release, although Thomson (1922) suggested that releases were made in the 1870s. Probably *P. p. pileata* MacGillivray, 1837 from the British Isles.

EMBERIZIDAE

***Emberiza schoeniclus* (Linnaeus)**

Reed Bunting

Fringilla schoeniclus Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 182 – Europe, restricted to Sweden (fide Hartert 1904, *Vögel Pal. Fauna*: 194).

Emberiza schoeniculus [sic] (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 63.

Emberiza schoeniclus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 175.

Emberiza schoeniclus (Linnaeus); Paynter 1970, in Peters *Check-list Birds World* 13: 31.

Released in Otago (1871) but failed to establish (Thomson 1922). Probably the nominate subspecies from Western Europe.

Genus and species uncertain

An “Australian shrike” was released in Wellington (1877, 1878) but failed to establish (Thomson 1922).

Section 3

Species for which a deliberate introduction took place, and published records appear to indicate the species bred, but it is no longer extant.

PHASIANIDAE

***Alectoris rufa* (Linnaeus)**

Red-legged Partridge

Tetrao rufus Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 160 – Southern Europe, restricted to northern Italy (fide Peters 1934, *Check-list Birds World* 2: 66).

Caccabis rufa; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 123.

Alectoris rufa (Linnaeus); Peters 1934, *Check-list Birds World* 2: 66.

Caccabis rufa (Linnaeus); McDowall 1994, *Gamekeepers for the Nation*: 329.

Originally released in Wellington (before 1897), Stewart Island/Rakiura (1899) and probably elsewhere (Thomson 1922). Released east of Huntly in the 1970s, and widely over the northern half of the North Island between 1984 and 1987 (Checklist Committee 1990). From these releases, a few birds survived near Te Kauwhata, Waikato, until the mid-1990s (McDowall 1994). Releases in Manawatu, North and South Canterbury and Marlborough in the 1980s are believed to have had limited success, with five records from these areas between 1999 and 2004 (Robertson, C. *et al.* 2007). Subspecies not known but probably *A. r. rufa*, as also introduced to England.

***Alectoris barbara barbara* (Bonnaterrre)**

Barbary Partridge

Perdix Barbara Bonnaterrre, 1792: *Tableaux Encycl. Method. Ornith.* 1(51): 208, pl. 94, fig. 2 – no locality = Morocco (fide Peters 1934, *Check-list Birds World* 2: 67).

Perdix petrosa Meyer; Hutton 1871, *Cat. Birds N.Z.*: 66. Not *Tetrao petrosus* Gmelin, 1788.
Caccabis petrosa; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 124. Not *Tetrao petrosus* Gmelin, 1788.
Alectoris barbara barbara (Bonnaterre); Peters 1934, *Check-list Birds World* 2: 67.

Two birds released in Auckland (1868), and 13 on Kapiti Island (1892) where it apparently bred successfully but failed to establish (Thomson 1922). Subspecies of Kapiti birds not known.

***Perdix perdix perdix* (Linnaeus)**

Grey Partridge

Tetrao Perdix Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 160 – Europe, restricted to Sweden (*vide* Peters 1934, *Check-list Birds World* 2: 88).
Perdix cinerea Brisson, 1760: *Ornithologie 1*: 219 – Europe.
Perdix cinerea Brisson; Hutton 1871, *Cat. Birds N.Z.*: 66.
Perdix cinerea; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 120.
 “*Caccabis saxatilis*?”; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 124. Not *Perdix saxatilis* Bechstein, 1805.
Perdix perdix perdix (Linnaeus); Checklist Committee 1990, *Checklist Birds N.Z.*: 115.
Perdix perdix (Linnaeus); McDowall 1994, *Gamekeepers for the Nation*: 326.

Released around Auckland (1867–68, 1871, 1875, c. 1912), Waikato (c. 1912), Taranaki (1894, 1939), Wellington (1889, 1891, 1897), Christchurch (1867?, 1875, 1880), Otago (1869, 1871, 1896–97, 1900, 1909, 1911), Hawera (1898), Southland (c. 1879) and Stewart Island/Rakiura (1900). Some of these early introductions were briefly successful but all ultimately failed (Thomson 1922, McDowall 1994). In 1961, a concerted attempt was made with releases in South Canterbury, Otago and Southland. Releases continued apace and, between 1964 and 1970, 11,000 grey partridges were released in North Canterbury alone. All these more recent releases also ultimately failed. The last published record of a bird in the wild was for 1975 (McDowall 1994). Subspecies not recorded but in most cases probably *P. p. perdix* from United Kingdom and Europe. Some early releases were of the “Hungarian partridge” but this bird—sometimes misidentified as *Perdix saxatilis*—is now included in *P. p. perdix*.

***Coturnix ypsilophora ypsilophora* (Bosc)**

Tasmanian Brown Quail

Coturnix ypsilophorus Bosc, 1792: *Journ. d'Hist. Natur.* 2: 297, pl. 39 – no locality = Tasmania (*vide* Mathews Mathews 1913, *List Birds Australia*: 7).
Synoicus Diemenensis Gould, 1847: *Proc. Zool. Soc. London 1847* (15): 33 – “Van Diemen’s Land” = Tasmania, Australia.
Coturnix australis; Hutton 1871, *Cat. Birds N.Z.*: 66. Not *Perdix australis* Latham, 1802.
Synoecus [sic] *australis*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 118. Not *Perdix australis* Latham, 1802.
Synoecus [sic] *diemenensis*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 119.
Coturnix ypsilophora ypsilophora (Bosc); Marchant & Higgins 1993, *HANZAB* 2: 404.

Recorded as introduced by the Auckland Acclimatisation Society in 1869 but without record of release (Thomson 1922), although Hutton (1871) listed the species as introduced (i.e. released) from Tasmania. Hamilton (1909) referred to *C. australis* as established, probably the taxon now regarded as *C. y. australis*. An unverified specimen record from Pirongia (June 1916; specimen not located) may indicate release and persistence (Thomson 1922) but more likely represents misidentification or self-introduction.

Colinus virginianus taylori* Lincoln*Midwestern Northern Bobwhite Quail**

Ortyx virginianus [sic]; Hamilton 1909, *Hand-list Birds New Zealand*: 19.

Colinus virginianus taylori Lincoln, 1915: *Proc. Biol. Soc. Washington* 28: 103 – Laird, Yuma County, Colorado, USA.

Ortyx virginiana; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 127. Not *Tetrao virginianus* Linnaeus, 1758.

Colinus virginianus; McDowall 1994, *Gamekeepers for the Nation*: 326. Not *Tetrao virginianus* Linnaeus, 1758.

Colinus virginianus (Linnaeus) subspecies; Checklist Committee 1953, *Checklist N.Z. Birds*: 37.

Colinus virginianus; Checklist Committee 1990, *Checklist Birds N.Z.*: 113. Not *Tetrao virginianus* Linnaeus, 1758.

Colinus virginianus taylori Lincoln; McGowan in del Hoyo *et al.* 1994, *Handb. Birds World* 2: 425.

Introduced and liberated throughout the North and South Islands (summer 1899–1900) with a second release on the east coast of the North Island (1902). Persisted in south Auckland until at least 1922 and possibly in the Wairoa area until 1970 (Thomson 1922, Westerskov 1956, Checklist Committee 1990). Released unsuccessfully in Otago (1947–48; Gurr 1953, McDowall 1994).

ANATIDAE***Aix sponsa* (Linnaeus)****American Wood Duck**

Anas sponsa Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 128 – North America, restricted to Carolina, USA (*vide* Johnsgard 1979, in Peters *Check-list Birds World* 1, 2nd edition: 457).

Dafila acuta; Hamilton 1909, *Hand-list Birds New Zealand*: 18. Not *Anas acuta* Linnaeus, 1758.

Aex [sic] *sponsa*; Hamilton 1909, *Hand-list Birds New Zealand*: 19.

Aix sponsa; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 103.

Aix sponsa (Linnaeus); Johnsgard 1979, in Peters *Check-list Birds World* 1, 2nd edition: 457.

Released in Auckland (1867), Christchurch (before 1871), Wellington (1894, 1899), Otago (1906) and Lake Okareka near Rotorua (1906). The Christchurch population was apparently “thriving” in 1906, but no population seems to have persisted (Thomson 1922).

Alopochen aegyptiaca* (Linnaeus)*Egyptian Goose**

Anas aegyptiaca Linnaeus, 1766: *Syst. Nat., 12th edition* 1: 197 – Egypt.

Chenalopex aegyptiacus (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 69.

Chenalopex aegyptiaca; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 103.

Alopochen aegyptiaca (Linnaeus); Johnsgard 1979, in Peters *Check-list Birds World* 1, 2nd edition: 449.

Introduced to Kawau Island (1860) and possibly elsewhere; spread throughout North Island but became extinct in the late 1800s (Thomson 1922).

Cairina moschata* (Linnaeus)*Muscovy Duck**

Anas moschata Linnaeus, 1758: *Syst. Nat., 10th edition* 1: 124 – India.

Cairina moschata; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 99.

Cairina moschata (Linnaeus); Johnsgard 1979, in Peters *Check-list Birds World* 1, 2nd edition: 454.

Six birds released on Adams Island, Auckland Group (1865) but failed to establish (Thomson 1922). A number of feral populations reported from various parts of New Zealand, but their status needs further investigation (Robertson, C. *et al.* 2007).

COLUMBIDAE

Phaps chalcoptera (Latham)

Common Bronzewing

Columba chalcoptera Latham, 1790: *Index Ornith.* 2: 604 – Norfolk Island, error for Sydney, New South Wales, Australia (*vide* Mathews 1921, *Man. Birds of Australia*: 251).

Phaps chalcoptera (Latham); Hutton 1871, *Cat. Birds N.Z.*: 64.

Phaps chalcoptera; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 132.

Released in Christchurch (1867 and possible later), Otago (1867) and Kaipara (1867, 1869). Christchurch birds spread to Banks Peninsula and may have increased, but ultimately failed to establish (Thomson 1922). Subspecies not known.

Leucosarcia melanoleuca (Latham)

Wonga Pigeon

Columba melanoleuca Latham, 1802: *Index Ornith. Suppl.*: lix – Port Jackson, New South Wales, Australia.

Columba picata Latham, 1802: *Index Ornith. Suppl.*: lix – Port Jackson, New South Wales, Australia.

Phaps picata (Latham); Hutton 1871, *Cat. Birds N.Z.*: 65.

Leucosarcia picata; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 133.

Leucosarcia melanoleuca (Latham); Schodde 1997, *Zool. Cat. Australia* 37.2: 39.

Released in South Canterbury (c. 1890), Otago (c. 1869) and Wellington (1875–76). Wellington population survived for “some considerable time” and spread, but ultimately failed to establish (Thomson 1922).

Oena capensis (Linnaeus)

Namaqua Dove

Columba capensis Linnaeus, 1766: *Syst. Nat., 12th edition* 1: 286 – Cape of Good Hope, South Africa.

Oena capensis; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 136.

Oena capensis (Linnaeus); Peters 1937, *Check-list Birds World* 3: 111.

Released Kawau Island (c. 1860) and became “very numerous” but ultimately failed to establish (Thomson 1922). Probably nominate subspecies. Also known as Cape dove.

PSITTACIDAE

Trichoglossus haematodus moluccanus (Gmelin) **Eastern Australian Rainbow Lorikeet**

Pitracus moluccanus Gmelin, 1788: *Syst. Nat. 13th edition* 1(1): 316 – Sydney, New South Wales, Australia (*vide* Schodde 1997, *Zool. Cat. Australia* 37.2: 135).

Trichoglossus haematodus moluccanus (Gmelin); Schodde 1997, *Zool. Cat. Australia* 37.2: 135.

Deliberately and illegally released c. 1992, mainly on the North Shore, Auckland (up to 120 individuals). Spread over an area from Maraetai and Manurewa in south Auckland, to Whangaparaoa in the north, with the highest concentration on the North Shore. They bred successfully and reached a maximum of 150–200 individuals in the wild. The Department of Conservation began eradication in late 1999, removing the viable population by 2002. Since then, 20–34 per year have been released, but most are captured before they become established. Most individuals are *T. h. moluccanus*, but two caught in 2001–02 were either of the Indonesian “red-necked” subspecies, or hybrids between *T. h. moluccanus* and the “red-necked” subspecies (Boyd 1999, Polkanov & Keeling 2002).

MELIPHAGIDAE

Manorina melanocephala melanocephala (Latham) **Victorian Noisy Miner**

Gracula melanocephala Latham, 1802: *Index Ornith. Suppl.*: xxviii – “Nova Hollandia”, restricted to Sydney, New South Wales, Australia (*vide* Salomonsen 1967, in Peters *Check-list Birds World* 12: 440).

Merops garrulus Latham, 1802: *Index Ornith. Suppl.*: xxxiv – “Nova Hollandia”, restricted to Sydney, New South Wales, Australia (*vide* Salomonsen 1967, in Peters *Check-list Birds World* 12: 440).

Myzantha garrula Vigors & Horsfield [sic]; Hutton 1871, *Cat. Birds N.Z.*: 55.

Myzantha garrula; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 160.

Manorina melanocephala melanocephala (Latham); Salomonsen 1967, in Peters *Check-list Birds World* 12: 440.

Released in Nelson and Canterbury before 1871 (Hutton 1871) and possibly in Canterbury (1879), Otago, and Wellington (1874, 1876–78). “A colony was seen for a time at Taita” and, following a release in Nelson (c. 1870), they “flourished” there “for a time” (Huddleston in Thomson 1922). All introductions ultimately failed to establish (Thomson 1922). The introductions before 1871 were from Victoria (Hutton 1871) but it is not clear that all were of the Victorian subspecies.

MONARCHIDAE

Grallina cyanoleuca cyanoleuca (Latham) **Southern Magpie-lark**

Corvus cyanoleucus Latham, 1802: *Index Ornith. Suppl.*: xxv – Sydney, New South Wales, Australia.

Tanyptus australis Oppel, 1812: *Denkschr. Ak. Wissen. Münch.*: 164 – New South Wales, Australia.

Saxicola picata; Hamilton 1909, *Hand-list Birds New Zealand*: 18. Not *Saxicola picata* Blyth, 1847.

Grallina australis; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 151.

Grallina cyanoleuca cyanoleuca (Latham); Schodde & Mason 1999, *Directory Australian Birds. Passerines*: 507.

Released on the west coast of the North Island (1898) and began nesting (Thomson 1922); also at Auckland, Hawke’s Bay and Wellington (1900), where it spread widely (Kirk in Drummond 1907). However, it ultimately failed to establish (Thomson 1922).

THRAUPIDAE

Piranga rubra (Linnaeus) **Summer Tanager**

Fringilla rubra Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 181 – America, restricted to South Carolina (*vide* Storer 1970, in Peters *Check-list Birds World* 13: 306).

Pyranga [sic] *rubra* Wils. [sic]; Hutton 1871, *Cat. Birds N.Z.*: 59.

Pyranga [sic] *rubra*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 162.

Piranga rubra (Linnaeus); Storer 1970, in Peters *Check-list Birds World* 13: 306.

Released in Auckland in 1868 (Hutton 1871, Thomson 1922) and bred, becoming “not rare in the vicinity of the gardens”, but they ultimately failed to establish (Thomson 1922). Subspecies not known.

PYCNONOTIDAE

Pycnonotus cafer bengalensis Blyth **Indian Red-vented Bulbul**

Pycnonotus bengalensis Blyth, 1845: *Journ. Asiatic Soc. Bengal* 14: 566 – Bengal.

Pycnonotus cafer; Turbott 1956, *Notornis* 6(7): 185. Not *Turdus cafer* Linnaeus, 1766.

Pycnonotus cafer bengalensis Blyth; Checklist Committee 1990, *Checklist Birds N.Z.*: 200.

In 1952 released in the eastern suburbs of Auckland, where they bred; 50 birds by 1954. Exterminated by 1955 (Turbott 1956a). More recent reports to the present time suggest subsequent releases, but none have been viable.

TURDIDAE

***Erithacus rubecula* (Linnaeus)**

Eurasian Robin

Motacilla Rubecula Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 188 – Europe, restricted to Sweden (fide Ripley 1964, in Peters *Check-list Birds World 10*: 36).

Erithacus rubecula (Linnaeus); Hutton 1871, *Cat. Birds N.Z.*: 56.

Erithacus rubeculus (Linnaeus); Hamilton 1909, *Hand-list Birds New Zealand*: 18. Unjustified emendation.

Erithacus rubecula; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 147.

Released at Nelson (before 1871; Hutton 1871), Auckland (1868, 1871–72), Canterbury (1879), Wellington (1883), Otago (1885–86). Indications of survival in Wellington (three years) and in Otago (six years). Some may have bred successfully but they ultimately failed to establish (Thomson 1922). Subspecies probably *E. r. melophilus* from the British Isles.

ESTRILDIDAE

***Stagonopleura guttata* (Shaw)**

Diamond Firetail

Loxia guttata Shaw, 1796: *Mus. Leverianum 6*: 47 – Australia, restricted to Sydney, New South Wales (fide Mayr 1968, in Peters *Check-list Birds World 14*: 355).

Pardalotus punctatus Temminck; Hutton 1871, *Cat. Birds N.Z.*: 56.

Steganopleura [sic] *guttata*; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 163.

Stagonopleura guttata (Shaw); Christidis & Boles 1994, *Taxonomy Species Birds Australia 2*: 26.

Released in Nelson before 1871 (Hutton 1871), Wellington in 1874 (Thomson 1922) and Canterbury (1864), where “flocks” were seen by 1866 (Anon. 1866), but it ultimately failed to establish. Also released, but not established, on Kawau Island (Thomson 1922). We accept Thomson’s contention that Hutton (1871) mistook this species for that given in his list as *Pardalotus punctatus*, since Hutton (1871: v, as “diamond sparrow”) stated that he had not seen this bird.

***Lonchura castaneothorax castaneothorax* (Gould)**

Australian Chestnut-breasted Munia

Amadina castaneothorax Gould, 1837: *Synop. Birds Australia 2*: pl. 21, fig. 2 & text – Australia, restricted to interior of New South Wales (fide Mayr 1968, in Peters *Check-list Birds World 14*: 385).

Donacola castaneothorax Latham [sic]; Hutton 1871, *Cat. Birds N.Z.*: 59.

Munia castaneithorax [sic]; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 163.

Lonchura castaneothorax castaneothorax (Gould); Mayr 1968, in Peters *Check-list Birds World 14*: 385.

Introduced from Queensland (Hutton 1871); released in Nelson before 1864 and Auckland (1867, 1871), where they became “thoroughly acclimatized” but ultimately failed to establish (Thomson 1922).

FRINGILLIDAE

***Fringilla montifringilla* Linnaeus**

Brambling

Fringilla montifringilla Linnaeus, 1758: *Syst. Nat., 10th edition 1*: 179 – Sweden.

Fringilla montifringilla; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 171.

Fringilla montifringilla Linnaeus; Mayr 1968, in Peters *Check-list Birds World* 14: 206.

Released in Canterbury (1868, 1871), Wellington (1874, 1877) and subsequently seen in 1885, suggesting that breeding occurred (Thomson 1922). No further records.

Carduelis spinus (Linnaeus)

Eurasian Siskin

Fringilla Spinus Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 181 – Europe, restricted to Sweden (fide Hartert 1903, *Vögel Pal. Fauna*: 71).

Chrysomitris spinus (Linnaeus); Hamilton 1909, *Hand-list Birds New Zealand*: 18.

Carduelis spinus; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 173.

Carduelis spinus (Linnaeus); Paynter 1968, in Peters *Check-list Birds World* 14: 238.

Released in Wellington (1876) and in Canterbury (1879) without success (Thomson 1922), but it was apparently present south and west of New Plymouth c. 1919 (Thomson 1922, 1926). No further records.

Carduelis cannabina (Linnaeus)

Eurasian Linnet

Fringilla cannabina Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 182 – Europe, restricted to Sweden (fide Hartert 1903, *Vögel Pal. Fauna*: 73).

Fringilla cannabina Linnaeus; Hutton 1871, *Cat. Birds N.Z.*: 61.

Linota cannabina; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 171.

Carduelis cannabina (Linnaeus); Cramp & Perrins 1994, *Birds Western Palearctic* 8: 604.

Released Otago (1867–68), Canterbury (1867–69, 1875), Auckland (1865, 1867–68), Wellington (before 1882). Apparently present in south Westland (before 1930; Oliver 1930), but the status of this species was questioned by Fleming (1953). It was not mentioned in Oliver (1955) despite claims that it was at Pleasant Point, South Canterbury, in 1953 (MacDonald 1954). Inclusion here (in Section 3) is based on the statement by the Auckland Acclimatisation Society (c. 1874) that the species was “thoroughly established” (in Thomson 1922), and records from Westland and between Wellington and Wanganui “within last few years” (Thomson 1926). No further records. Note: many early records of linnets were undoubtedly greenfinches (e.g. account in Lamb 1964: 43–44). Subspecies not known.

EMBERIZIDAE

Emberiza hortulana Linnaeus

Ortolan Bunting

Emberiza hortulana Linnaeus, 1758: *Syst. Nat.*, 10th edition 1: 177 – Europe, restricted to Sweden (fide Hartert 1903, *Vögel Pal. Fauna*: 165).

Emberiza hortulana; Thomson 1922, *Naturalisation Animals Plants New Zealand*: 176.

Emberiza hortulana Linnaeus; Paynter 1970, in Peters *Check-list Birds World* 13: 14.

Released at Otaki (1885), successfully breeding in the following year and forming a small flock, but it ultimately failed to establish (Thomson 1922).

APPENDIX 3: Māori Names of New Zealand Birds

Coverage of Māori names was patchy in previous editions of the Checklist. There have been unintended misspellings of Māori names, and macrons were lacking. To improve the coverage for this edition, Paul Scofield and Geoff Chambers met, and discussed Māori names, with representatives of the Māori Language Commission Te Taura Whiri i te Reo Māori.

To create a list of single preferred Māori names for each native New Zealand bird is a difficult and often controversial task, which is why we have gathered the names into an appendix. Māori name different ages, sexes and growth stages of birds, based primarily on the species' use and its role in whakapapa (genealogy) and mythology. For example, the name “tītī” gained wide acceptance in recent decades as the Māori name for the sooty shearwater *Puffinus griseus*. However, it is not the name Rakiura Māori would give an individual adult *P. griseus* seen in flight. Instead, “tītī” refers to the chicks of *P. griseus* at an age when they are ready for harvest. There is no agreement, even among owners of individual muttonbird islands, on the name for adult *P. griseus*, with at least four different names in local use. Young, unharvestable chicks have yet another name.

Furthermore, Māori originally did not recognise as different, and separately name, certain species of birds. Different iwi (tribes) have different dialects and thus the spelling of essentially the same name may differ substantially between different regions in the country. In the late 19th Century, Māori bird names were taken from the works of prominent Pākehā (Europeans) who lived and worked with particular iwi. This is how the names used by certain iwi became more prevalent in recent usage than other tribal names for the same bird. We hope that in future someone will compile and publish a complete dictionary of Māori names of New Zealand birds, giving all dialect and iwi variations.

In the list on pages 355–58, macrons are used to mark long vowels. They were first used systematically on bird names in the 5th edition of Williams (1917) *A Dictionary of the Maori Language*. Birds are listed alphabetically by their scientific name. The second column (“Māori name”) gives preferred names. This may be compared (third column) with the name given previously by Checklist Committee (1990). The final column cites a key reference for these names.

SCIENTIFIC NAME	MĀORI NAME 1990	CHECKLIST	REFERENCE
<i>Acanthisitta chloris</i>	tītipounamu	tītipounamu	Williams 1957
<i>Anarhynchus frontalis</i>	ngutu pare	ngutuparore	Williams 1906
<i>Anas chlorotis</i>	pāteke	pateke	Williams 1957
<i>Anas gracilis</i>	tētē moroiti	tete	Williams 1957
<i>Anas rhynchotis</i>	kuruwhengi	kuruwhengi	Williams 1906
<i>Anas superciliosa</i>	pāpera	parera	Williams 1957
<i>Anthornis melanura</i>	korimako	korimako	Williams 1906
<i>Anthus novaeseelandiae</i>	pihoihoi	pihoihoi	Williams 1957
<i>Apteryx australis</i>	tokoeka	tokoeka	Williams 1906
<i>Apteryx haastii</i>	roa	roa	Williams 1906
<i>Apteryx owenii</i>	kiwi pukupuku	kiwi-pukupuku	Williams 1906
<i>Apteryx rowi</i>	rowi		Williams 1906
<i>Ardea modesta</i>	kōtuku	kotuku	Williams 1957
<i>Aythya novaeseelandiae</i>	pāpango	papango	Williams 1957
<i>Botaurus poiciloptilus</i>	matuku hūrepo	matuku	Williams 1906
<i>Bowdleria punctata punctata</i>	mātātā	matata	Williams 1957
<i>Bowdleria punctata vealeae</i>	koroātito	matata	Tregear 1891
<i>Cabalus modestus</i>	matirakahu		Williams 1906
<i>Callidris canutus</i>	huahou	huahou	Williams 1906
<i>Callaeas cinerea</i>	kōkā	kokako	Williams 1971
<i>Callaeas wilsoni</i>	kōkāko	kokako	Williams 1957
<i>Catharacta antarctica lonnbergi</i>	hākoakoa	hakoakoa	Williams 1957
<i>Charadrius bicinctus</i>	pohowera	tuturiwhatu	Williams 1906
<i>Charadrius obscurus</i>	tūturiwhatu	tuturiwhatu	Williams 1906
<i>Chlidonias albobstriatus</i>	tarapirohe	tarapiroe	Williams 1906
<i>Chrysochoccyx lucidus</i>	pīpīwharaua	pipiwharaua	Williams 1957
<i>Circus approximans</i>	kāhu	kahu	Williams 1957
<i>Coenocorypha huegeli</i>	tutukiwi		Williams 1906
<i>Coenocorypha iredalei</i>	tutukiwi		Williams 1906
<i>Coturnix novaeseelandiae</i>	koreke	koreke	Williams 1906
<i>Cyanoramphus auriceps</i>	kākāriki	kakariki	Williams 1957
<i>Cyanoramphus novaeseelandiae</i>	kākāriki	kakariki	Williams 1957
<i>Diomedea exulans</i>	toroa		Williams 1906
<i>Egretta sacra</i>	matuku moana	matuku-moana	Williams 1906
<i>Eudynamys taitensis</i>	koekoeā	koekoea	Williams 1957
<i>Eudyptes pachyrhynchus</i>	tawaki	pokotiwaha	Williams 1906
<i>Eudyptula minor</i>	kororā	korora	Williams 1957
<i>Falco novaeseelandiae</i>	kārearea	karearea	Williams 1957
<i>Gallirallus australis</i>	weka	weka	Williams 1906

SCIENTIFIC NAME	MĀORI NAME	CHECKLIST 1990	REFERENCE
<i>Gallirallus dieffenbachii</i>	moeriki		Buller 1888
<i>Gallirallus philippensis</i> <i>assimilis</i>	moho pererū	moho-pereru	Williams 1957
<i>Garrodia nereis</i>	reoreo		Williams 1906
<i>Gerygone igata</i>	riroriro		Williams 1906
<i>Haematopus chathamensis</i>	tōrea tai		Shand 1895
<i>Haematopus finschi</i>	tōrea	torea	Williams 1957
<i>Haematopus unicolor</i>	tōrea tai	torea	Williams 1957
<i>Haematopus unicolor</i> [dark phase]	tōrea pango	toreapango	Williams 1957
<i>Hemiphaga novaeseelandiae</i>	kererū	kereru	Williams 1957
<i>Heteralocha acutirostris</i>	huia	huia	Williams 1906
<i>Himantopus himantopus</i> <i>leucocephalus</i>	poaka	poaka	Williams 1906
<i>Himantopus novaeseelandiae</i>	kaki	kaki	Williams 1957
<i>Hydroprogne caspia</i>	taranui	taranui	Williams 1906
<i>Hymenolaimus</i> <i>malacorhynchos</i>	whio	whio	Williams 1906
<i>Ixobrychus novaeseelandiae</i>	kaoriki	kaoriki	Williams 1906
<i>Larus bulleri</i>	tarāpuka		Beattie 1994
<i>Larus dominicanus</i>	karoro	karoro	Williams 1906
<i>Larus novaehollandiae</i> <i>scopulinus</i>	tarāpunga	tarapunga	Williams 1957
<i>Limosa lapponica baueri</i>	kuaka		Williams 1906
<i>Macronectes</i> sp.	pāngurunguru		Williams 1957
<i>Megadyptes antipodes</i>	hoiho	hoiho	Crowe & Gunson 2001
<i>Mohoua albicilla</i>	pōpokotea	popokatea	Williams 1957
<i>Mohoua novaeseelandiae</i>	pīpipi	pipipi	Williams 1957
<i>Mohoua ochrocephala</i>	mohua	mohua	Williams 1906
<i>Morus serrator</i>	tākupu	takupu	Williams 1957
<i>Nestor meridionalis</i>	kākā	kaka	Williams 1957
<i>Nestor notabilis</i>	kea	kea	Williams 1906
<i>Ninox novaeseelandiae</i>	ruru	ruru	Williams 1906
<i>Notiomystis cincta</i>	hihi	hihi	Williams 1906
<i>Pachyptila desolata</i>	totorore		Williams 1957
<i>Pachyptila turtur</i>	tītī wainui	titi wainui	Williams 1957
<i>Pachyptila vittata</i>	pararā	parara	Williams 1957
<i>Pelagodroma marina</i>	takahikare	takahikare-moana	Williams 1906
<i>Pelecanoides urinatrix</i>	kuaka	kuaka	Williams 1906
<i>Petroica australis</i>	kakariwai	toutouwai	Beattie 1994

SCIENTIFIC NAME	MĀORI NAME	CHECKLIST 1990	REFERENCE
<i>Petroica longipes</i>	toutouwai	toutouwai	Williams 1906
<i>Petroica macrocephala macrocephala</i>	ngirungiru	ngiru-ngiru	Williams 1906
<i>Petroica macrocephala toitoi</i>	miromiro	miromiro	Williams 1906
<i>Phaethon rubricauda</i>	amokura		Williams 1906
<i>Phalacrocorax carbo novaehollandiae</i>	kawau	kawau	Williams 1906
<i>Phalacrocorax melanoleucos brevirostris</i>	kawau paka	kawaupaka	Williams 1957
<i>Phalacrocorax sulcirostris</i>	kawau tūi		Williams 1957
<i>Phalacrocorax varius</i>	kāruhiruhi	karuhiruhi	Williams 1957
<i>Philesturnus</i> sp.	tieke	tieke	Williams 1906
<i>Phoebetria palpebrata</i>	toroa pango		Williams 1906
<i>Platalea regia</i>	kōtuku ngutupapa	kotuku ngutupapa	Williams 1957
<i>Podiceps cristatus australis</i>	pūteketeke	puteketeke	Williams 1957
<i>Poliiocephalus rufopectus</i>	weweia	weweia	Williams 1906
<i>Porphyrio hochstetteri</i>	takahē	takahe	Williams 1957
<i>Porphyrio mantelli</i>	moho		Tennyson & Martinson 2007
<i>Porphyrio melanotus melanotus</i>	pūkeko	pukeko	Williams 1957
<i>Porzana pusilla affinis</i>	kotoreke	koitareke	Williams 1957
<i>Porzana tabuensis</i>	pūweto	puweto	Williams 1957
<i>Procellaria cinerea</i>	kuia		Williams 1906
<i>Procellaria parkinsoni</i>	tāiko		Williams 1906
<i>Prothemadera novaeseelandiae</i>	tūi	tui	Williams 1957
<i>Pterodroma cookii</i>	tītī	titi	Williams 1957
<i>Pterodroma inexpectata</i>	kōrure	korure	Williams 1957
<i>Pterodroma macroptera gouldi</i> [adult]	ōi	oi	Williams 1957
<i>Pterodroma macroptera gouldi</i> [chick]	tītī		Phillipps 1958
<i>Pterodroma magentae</i> [Māori name]	tāiko		Checklist Committee 1990 Williams 1957
<i>Pterodroma magentae</i> [Moriori name]	tchaik		King 1989
<i>Puffinus carneipes</i>	tuanui		Heather & Robertson 1996

SCIENTIFIC NAME	MĀORI NAME	CHECKLIST 1990	REFERENCE
<i>Puffinus gavia</i>	pakahā	pakaha	Williams 1957
<i>Puffinus griseus</i> [adult]	hākoakoa	titi	Williams 1906
<i>Puffinus griseus</i> [chick]	tītī		Williams 1957
<i>Rhipidura fuliginosa</i>	pīwakawaka	piwakawaka	Williams 1957
<i>Sceloglaux albifacies</i> <i>albifacies</i>	whēkau	whekau	Williams 1957
<i>Sterna striata</i>	tara	tara	Williams 1906
<i>Sternula nereis davisae</i>	tara iti		Williams 1906
<i>Stictocarbo punctatus</i> <i>punctatus</i>	kawau tikitiki	parekareka	Williams 1906
<i>Strigops habroptilus</i>	kākāpō	kakapo	Williams 1957
<i>Tadorna variegata</i>	pūtangitangi	putangitangi	Williams 1957
<i>Thalassarche melanophris</i>	toroa		Williams 1906
<i>Thinornis novaeseelandiae</i>	tuturuatu	tuturuatu	Williams 1906
<i>Todiramphus sanctus vagans</i>	kōtare	kotare	Williams 1957
<i>Turnagra</i> sp.	piopio	piopio	Williams 1906
<i>Xenicus gilviventris</i>	pīwauwau		Williams 1906
<i>Xenicus longipes</i>	mātuhituhi	matuhi	Williams 1957
Self-introduced birds			
<i>Aythya australis</i>	karakahia		
<i>Cygnus atratus</i>	kakiānau		
<i>Egretta novaehollandiae</i>	matuku moana		
<i>Hirundo neoxena</i>	warou		
<i>Zosterops lateralis</i>	tauhou		
Family-level names			
Ardeidae	matuku		
Dinornithiiformes	moa		
Diomedeidae	toroa		
Phalacrocoracidae	kawau		

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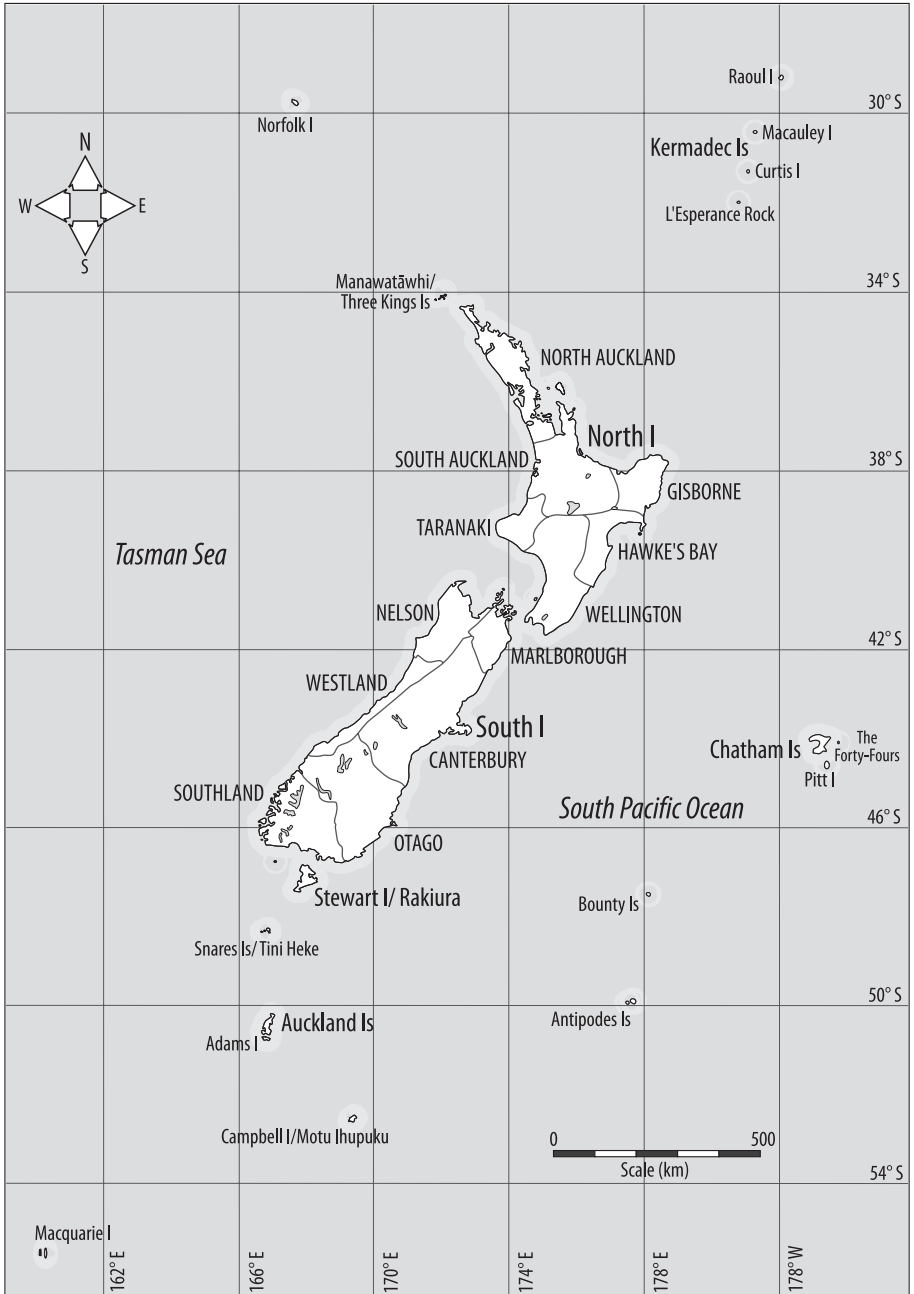
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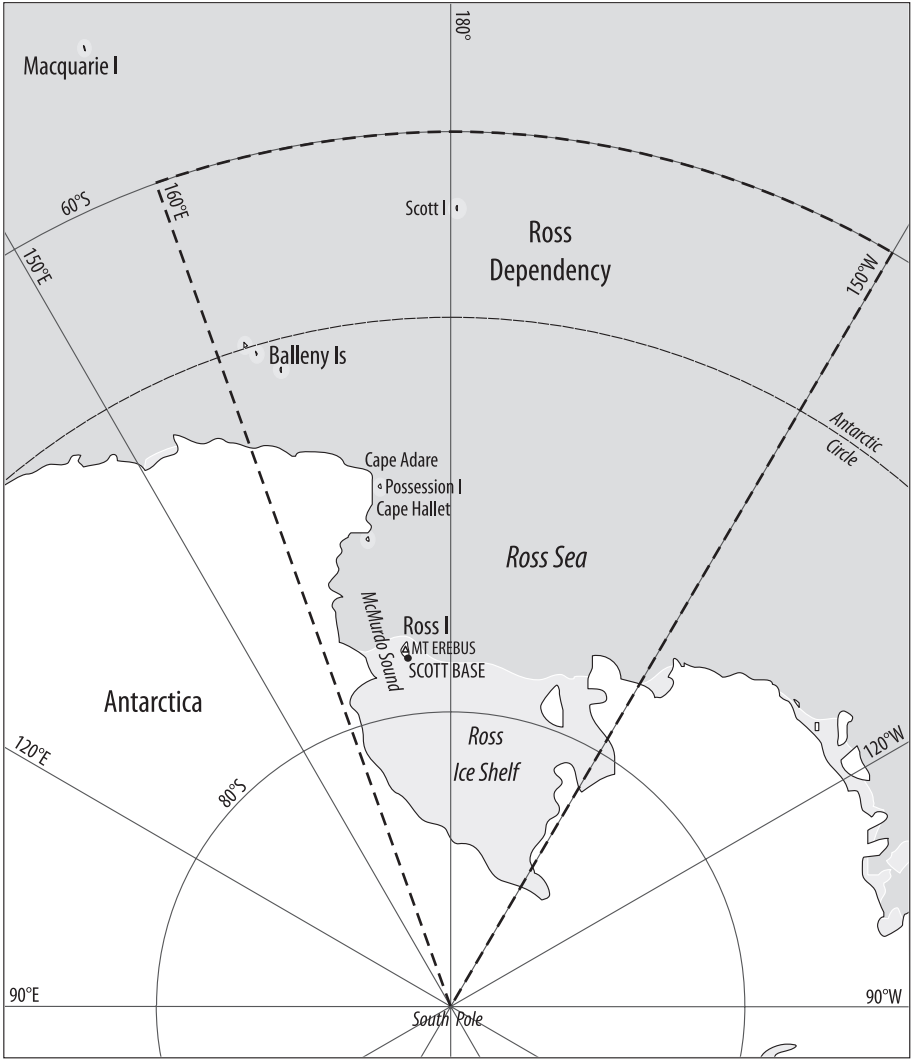
NEW ZEALAND SHOWING LAND REGISTRATION DISTRICTS AND SURROUNDING ISLANDS



SOUTH ISLAND AND STEWART ISLAND/RAKIURA



ROSS DEPENDENCY, ANTARCTICA



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This species was not included in the 2010 Checklist of the birds of New Zealand.