

The tachinid fly *Phasia hemiptera* (Fabricius, 1794) (Diptera, Tachinidae) in Norway

Øivind Gammelmo & Bjørn Arve Sagvolden

Gammelmo, Ø. & Sagvolden, B. A. 2007. The tachinid fly *Phasia hemiptera* (Fabricius, 1794) (Diptera, Tachinidae) in Norway. Norw. J. Entomol. 54, 51-54.

We report the first record of the tachinid fly *Phasia hemiptera* (Fabricius, 1794) from Norway. The number of Norwegian Phasiinae is thus increased to fifteen.

Keywords: *Phasia hemiptera*, Phasiinae, Tachinidae, Diptera, Norway, new record.

Øivind Gammelmo, Natural History Museum, University of Oslo, P. O. Box 1172 Blindern, NO-0318 Oslo, Norway. E-mail: oivind.gammelmo@nhm.uio.no

Bjørn Arve Sagvolden, NO-3626 Rollag, Norway. E-mail: bjorn.arve.sagvolden@online.no

INTRODUCTION

Tachinidae is one of the most diverse and ecologically important families of Diptera. Approximately 10,000 species are described worldwide (Irwin et al. 2003). Four subfamilies of Tachinidae are recognized by most authors: Exoristinae, Dexiinae, Phasiinae and Tachininae. A key to the subfamilies is given by Tschorsnig (1994). *Phasia hemiptera* (Fabricius, 1794) belongs in the Phasiinae. Rognes (2006) gives detailed distribution of 14 species of Phasiinae in Norway. With *P. hemiptera* the total number of Norwegian Phasiinae is increased to 15. Below we give details of the biology of this species, some details of the locality, including specimen depositories, and how it can be identified.

BIOLOGY

With the exceptions of the genera *Strongygaster* Macquart, 1834 and *Arcona* Richter, 1988, larvae of Phasiinae parasitize Heteroptera (Belshaw 1993, Tschorsnig & Richter 1998). Eggs of *Phasia*

hemiptera have been observed in *Palomena prasina* (Linnaeus, 1761) (Pentatomidae). But direct oviposition has not been observed (Dupuis 1963). *Phasia* eggs do not hatch immediately after oviposition. According to Dupuis (1963) eggs of *P. hemiptera* incubates from 52-91 hours before hatching. The larva develops in the host for about 2 weeks before it pupates. Adults emerge after 2½-4 weeks. Like other tachinid flies, males emerge earlier than females. According to Dupuis (1963) the maximum longevities for *P. hemiptera* are 21 and 31 days for males and females, respectively. In the field, however, adults of *P. hemiptera* can only survive for 15 days and disperse only 250-900 m (Dupuis 1985). Most *Phasia*-species are polyvoltine, but *P. hemiptera* is bivoltine (Rubtsov 1947). In Europe, the first generation of *P. hemiptera* parasitizes *Pentatoma rufipes* (Linnaeus, 1761) (Pentatomidae) in the spring, and *P. prasina* in the autumn (Dupuis 1963, Tschorsnig & Herting 1994). Both these species are common and widespread in Norway (A. Endrestøl pers. comm.), at least in the south-eastern parts. Several records from Denmark and Sweden indicates that *P. hemiptera* are beneficiary of



Figure 1. *Phasia hemiptera* (Fabricius, 1794), male. Photo K. Sund.

the warmer climate changes and are expanding northwards (Byggebjerg 2004, C. Bergström pers. comm.).

THE RECORD

Nine specimens of *P. hemiptera*, 3 ♂♂ and 6 females ♀♀, were collected on *Heracleum* sp. L. on a bog / overgrown pasture at Vestfold (VE) Larvik: Lauvås (EIS 19; UTM WGS84 32V NL 536 569) on 30 July 2006 by B. A. Sagvolden. The material are kept in the following collections: Natural History Museum, University of Oslo (NHMO) (1 ♂ 4 ♀♀), and private collections of Svein Svendsen (1 ♂ 1 ♀) and Knut Rognes (1 ♂ 1 ♀).

IDENTIFICATION

P. hemiptera is an impressive fly which shows a remarkable sexual dimorphism, especially involving the coloration of the wing. Particularly the striking appearance of the male makes it possible to other people than tachinid experts to recognize this species (Figures 1-3). *P. hemiptera* is closely related to *Phasia aurulans* Meigen, 1824, which also occurs in Norway. However, they can be separated by the coloration of the basal half of the hind femora (Figures 1-2). *P. hemiptera* has reddish yellow markings whilst in *P. aurulans* they are all dark. The vestiture on the side of the thorax is bright orange red in *P. hemiptera*, whereas in other European phasiinae the hairs in this position are black, whitish or yellowish. Sun and Marshall (2003) provide a key to all known



Figure 2. *Phasia hemiptera* (Fabricius, 1794) female.



Figure 3. *Phasia hemiptera* (Fabricius, 1794) male.

Phasia-species. Belshaw (1993) provides a key to British tachinids, but only three *Phasia* species, including *P. hemiptera*, are covered.

Acknowledgments. Many thanks to Christer Bergström, Swedish Species Information Centre (ArtDatabanken), for checking the identity. Thanks to Anders Endrestøl, Samarbeidsrådet for biologisk mangfold (Sabima), for providing information about Heteroptera species distribution. Also thanks to Eirik Rindal, Natural History Museum, University of Oslo, and Knut Rognes, University of Stavanger for comments to the manuscript.

REFERENCES

- Belshaw, R. 1993. Tachinid flies. Diptera: Tachinidae. Handbooks for the identification of British Insects. Royal Entomological Society of London 10, Part 4a(i). 170 pp.
- Byggebjerg, R. 2004. Snyltefluen *Phasia hemiptera* (Diptera, Tachinidae) genfundet i Danmark. Ent. meddl. 72, 75-77.
- Dupuis, C. 1963. Essai monographique sur les Phasiinae. Mém. Mus. Nat. Hist. Nat., A(26), 1-461.
- Dupuis, C. 1985. Capacités de déplacement et longévité dans la nature de trois Phasiinae (Diptera: Tachinidae). Isr. J. Entomol. 19, 55-59.
- Irwin, M.E., Schlinger, E.I. & Thompson, F.C. 2003. Diptera, True Flies. - In: Goodman, S.M. & Benstead, J.P. (Eds.): Natural History of Madagascar, 1760 pp. + 144 pls (692-702), University of Chicago Press,

Chicago.

- Rognes, K. 2006. Faunistics of Norwegian Phasiinae (Diptera, Tachinidae). *Norw. Entomol.* 52, 127-136.
- Robtsov, I.A. 1947. O dvoukh parazitakh vriednoï tsherepashki iz siem. Phasiidae (Diptera). *Entomol. Obozr.* 28, 85-100.
- Sun, X. & Marshall, S.A. 2003. Systematics of *Phasia* Latreille (Diptera: Tachinidae). *Zootaxa* 276, 1-320.
- Tschorsnig, H.P. & Herting, B. 1994. Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas. Bestimmungstabellen und Angaben zur Verbeitung und ökologie der einzelnen Arten. Stuttgarter Beiträge zur naturkunde, Serie A. Nr. 506.
- Tschorsnig, H.P. & Richter, V.A. 1998. Family Tachinidae. Pp. 691-827. In: Papp, L. & Darvas, B. (Eds.). Contributions to a Manual of Palaearctic Diptera (with special references to flies of economic importance). Volume 3. Higher Brachycera. Science Herald, Budapest. 880 pp.