



## Dangers in nature

The four seasons conceal typical dangers for the inhabitants of certain biotopes.

### *Spring wind brings flood*

Sources of danger in water habitats:

When it rains, water gathers, it finds the way and flows afar.

In spring with the melting of snow, water rushing down from the mountains swells the rivers and carries with it whatever gets in its way across country borders. Chemicals and poisonous materials as well.

In water habitats, fishponds, flooding and plains different poisonings and infectious diseases may cause damages.



The origin of the *poisonings* may be natural, such is **botulism**. In the summer heat in case of low water levels, besides increased organic material intake, in an anoxia environment, due to the over-reproduction of algae and water-weed, the *botulinus toxin* produced by the *Clostridium botulinum bacteria* present in nature, causes the so-called „pond paralysis”. This may even lead to the mass dieing off of water-birds. The disease can be prevented by significantly increasing and streaming the water level, and with moderating organic material intake. The paralysed patients may be saved in a number of cases by large amounts of drink water being introduced through a blow-pipe.



The **insecticides** getting into the water due to human carelessness are regularly traceable in the waters, algae, fish and those fish and birds who eat these. Due to the diversity of insecticides diagnosis is often uncertain and extensive, and requires expensive laboratory work. From agricultural territories mostly caustics with active ingredients of carbamate and pesticides get into the water. Most often the suitable antidote is applied too late.



### Infectious diseases:

In water habitats the water participates in the fast spreading of infectious diseases among wild-duck and other water fowls feeding and voiding on the water. Infectious diseases in wild birds living wild is quite rare, they may get bacterial or viral diseases mainly from domesticated poultry species, if owners do not meet elementary hygienic prescriptions.

**Poultry cholera** (caused by the bacteria called *Pasteurella multocida*) is dangerous for all bird species. It is mainly characteristic of water fowls and turkey stock, after a 24 hours latency period it causes mass dieing out. If breeders do not take precautions with vaccination the disease is highly probable to occur, and it is accompanied by such an amount of mass dieing that the breeder will be physically unable to remove the dead animals in time. It may spread from the grazing goose stock and fishpond goose and duck stocks onto those birds living wild, or to crows, magpies and white-tailed eagles feeding on uncollected carcasses.

### Bird flue

The name of the disease is misleading. The form of **influenza viruses** settling in birds – apart from a few exceptions – is dangerous only to some domestic poultry species. So it would be more correct to call it poultry flue.

Its spreading among domestic poultry stock is in connection with poultry stock transport during human activities rather than the transmission by migrating birds, although this latter cannot be excluded.



In case of birds, sensitivity differs among groups of species: water fowls are less sensitive; geese are practically not, although the Indian geese died in great numbers in China as a result of the disease. Doves are not sensitive, ducks are sensitive to a small extent, and the mute swan seems to be the most susceptible among wild birds.

Among domestic poultry species the turkey and chicken are the most susceptible. Due to the variability of the virus it may cause great numbers of deaths in certain domestic geese stocks.

In susceptible species after 1-3 days latency period the disease causes severe respiratory, and from time to time nervous system symptoms, and in case of chickens the death rate is 70%, in case of turkeys it is close to 90-100%, and spreads extremely fast. Because of the large economic damage the basis for protection is de-population, that is from certain districts the removal of susceptible and potentially vector bird species, observation and traffic control for 30 days in the area.

The less susceptible species may become carriers of the virus without any symptoms, thus jeopardizing their environment. Wild birds cannot be put in quarantine, so the possibility of their introduction of the disease cannot be



excluded. The classic place of spreading the disease is water habitats visited both by large masses of poultry stocks and wild birds. The epidemic may potentially be spread by wild geese and wild duck.

It is important to diagnose the disease in time, which is the task of the veterinary. This is why it is especially important to report sick animals and carcasses and perform a veterinarian and laboratory examination. Dead or sick wild birds have to be reported to the official veterinary or by dialling 189 free, to the official services.

It is unnecessary to reduce the number of and keeping away wild birds through hunting, dispersing the birds will only lead to introducing the pathogens in other areas.

The virus with the H5N1 antigen characteristics that is especially dangerous to poultry, does not spread over to humans, although there are exceptions. These include the appr. one hundred human cases and among these 90 deaths in Asia, where the present practice of poultry keeping makes connection and infection with the virus much more possible than here.

### *Summer in the plain*

The birds of prey feeding in the plain on small mammals (mice, field mice, ground squirrels) and storks, herons and egrets looking for rodents and grasshoppers left uncovered after hay-making can live safely in the protected lowland plains. They are exposed to practically no danger. In protected areas, in theory there is no hunting, use of agricultural chemicals, there is no vehicle

traffic, and shortly electrical cables will be placed underground as well.

However the human factor is present here as well. There is poaching, deliberate poisoning, tourist traffic and still a lot of pylons and cables. There is fire in the plain lit by humans and there are inland waters bringing chemicals and poison used elsewhere. There is littering and fishlines lacing down the leg of birds.

Spring and summer is the time for nesting and bringing up the young ones. At this time mainly the young falling out of nests and abandoned are found. The young leaving the nest suffer accidents due to their lack of skill and inexperience.

### Birds of prey

In the middle of summer the alfalfa and wheat stubble-fields, burnt down areas provide a table laid with field mice left uncovered for birds of prey. The young leaving the nests practice hunting together with their parents. Eagles, buzzards, marsh harriers and sakers on pastures with ground squirrels can be observed on the plain.

From ancient times the *saker* has been the most popular falconry bird. It is big, strong and beautiful and can be taught everything. It is especially favoured for its intelligence and its attachment to its owner; it is like the Hungarian pointer among hunting dogs.

It likes catching ground squirrels best, but Arabs also like to use it for hunting collared great bustards and gazelles. Of course it does not kill the gazelle just slows it down until the mounted hunters catch up.



Its dispersion corresponds with the dispersion of its favourite food, the ground squirrel, which spreads from the Altai to the Small Plain. Since it cannot be found west and north from our borders because instead of plains, there are mountains there, and instead of the ground squirrel there are marmots, which the falcon hunting on flat ground does not favour, to this day Hungary is the westernmost border of the spreading of the saker.

Agricultural chemicalization, the DDT, and the increased hunting of the predators considered harmful in the 50s and 60s happened on account of falconry, but in reality commercial nest looters also contributed to reducing the number of domestic nesting saker couples to just a few in the 70s. Thanks to the national and international environment and nature protection, we have more than one hundred nesting here today.

Today only bred falcons can be used for hunting in Hungary – due to the exclusion of abuse – falconry with sakers is forbidden, they cannot be bred for falconry or commercial reasons. The

permanently injured specimens are bred at rehabilitation-stations with the help of falconers, and their off-springs are let free.

### The pigeon-breeders and the falcons

Around larger cities pigeon groups of several hundred go to feed at agricultural areas.



The favourite food of the peregrine falcon is the pigeon. Pigeon-breeders experience this and dislike falcons. Although the falcon “on duty” selects the weakest from the group and keeps the flying pigeons in training, the pigeon-breeders do not require this service. Since there is no legal way of excluding falcons from pigeon-breeding, occasionally cruel answers are given: bait-pigeons full of hooks are put out for the falcons hoping that the falcon will miserably die. We hope this rarely happens, we have not experienced this yet.

It is more frequent when pigeon-breeders bring in the hospital falcons that have flown against the pigeonry and suffered concussion.



### Injuries of the falcon

The factor most dangerous to the saker nowadays is electrocution, which threatens them when landing on the cross arm of pylons of medium voltage cables. The same applies to an increased extent to peregrine and hybrid falcons used in falconry, since the span long antenna of the tracking transmitter fitted on their legs or wings increases the risk of electrocution. This can fully be prevented by insulating pylons.

Nowadays though it still occurs, illegal shooting is rare, purposeful poisoning does not endanger falcons catching exclusively live, moving preys. The secondary effect of insecticides and pesticides used in agriculture – through eating a still live prey already having consumed the poison – can be observed in falcons and other birds of prey, which becoming weaker often become the prey of other predators.

Sometimes accidents also happen; at one occasion we had a saker that lost its tail feathers to the airscrews of an airplane, which we had set free since then.

### *Bird migration in autumn*

#### Wild geese and cranes in agricultural areas

To get away from the winter setting in at the tundra, wild geese and cranes arrive here. They spend the night gathered together in shallow, open water fishponds, during the daytime they eat at agricultural areas around the Hortobágy plains. They also cause damages to growers on corn and alfalfa stubble-fields and on the winter wheat sowing.

Alarming them can only be done with the permission of the nature conservation authorities.



#### Hunting

Among the wild geese mainly the bean-geese migrating in the Trans-Danubian region can be hunted, the white-fronted goose to be found in the Great Plain in the largest numbers is protected, the hunting of which is usually allowed for damage prevention reasons on agricultural fields.

#### Poisoning

On agricultural fields protected wild-geese may die in masses from pelleted seeds. In 2005 more than one-hundred cranes died as a result of eating the poison irregularly placed out against rodents around Gyomaendrőd.

#### *Winter and the birds*

It is cold in winter, waters freeze and snow falls. Several animal species do not find food, and survive the cold season in different ways.



One strategy is inactivity. With decreasing their vital processes to the minimum, their existing energy may be enough till spring. Certain mammals hibernate, insects form pupae and hibernate themselves, frogs bury in mud, fish pit themselves at the bottom of the water, etc.

Another strategy is migrating. Some of the birds move to warmer, faraway lands, where, besides food, they are sure to find the appropriate habitat, and then in spring they return with almost scheduled punctuality.

Some of them just stray: they move away from their original habitat just as much as is required by the need of getting food, resting and finding a place for night, and as soon as the weather turns more favourable, they return. In mild winters the wild geese overwinter, or move south for only a couple of weeks. If there is no snow they can find food in the crop, and if the water they spend the night on does not freeze, they stay until they can.

Some of the predators, the crow types and several seed-eaters – pigeons, sparrows, green finches – and some insect-eaters such as the tit stay, because they can find their special food even in the

cold. Other singing-birds (hawfinch, brambling, waxwing) and some predators (merlin, peregrine falcon, rough-legged buzzard, hen harrier, white-tailed eagle) come from the north to overwinter here.



When snow falls, it covers the food. Non-hibernating field mice that provide the food base for predators also often move under the snow. In this case cleaned highways are a well laid table for animals. The seeds falling off of fodder transporting vehicles are eaten by seed-eater birds and rodents, this latter of which are then eaten by predators; crows and magpies then eat the carcasses of the ones run over.

Another food base is human environment. At this time omnivorous crows flood the parks and dumps of built-up areas in masses, tens and twenties of long-eared owls hunting night mice can be seen on groups of trees. Tiny singing birds are the guests of bird tables, together with sparrowhawks trying to hunt them down.

Autumn and winter is the time for hunting, following pheasant, wild-duck and wild-goose hunters, there is always one or two injured prey for predators as well. White-tailed eagles know this too. On the sound of gunshot they often appear at the hunting territory. The white-tailed eagle is originally



piscivorous, but if it is not too exhausting, it catches the injured wild-duck, wild goose as well. This is why they follow migrating wild-geese groups and stay until there is food. If wild-geese go on eagles still stay if there is an ice hole on the frozen fishponds where they can fish, or find fish carcasses left outside.



If there isn't any, they leave, but if they are fed they stay until spring. Feeding can be done with fish, which the foxes carry off. The carcass of larger animals (cattle, horse) cannot be taken away easily and lasts longer too. Of course, due to epidemic protection and hygienic reasons this way of destroying carcasses does not agree with animal health regulations. So it can only be done with separate permission, under controlled conditions, with the carcasses of animals free of infectious diseases, inspected by a vet, in a specific area, that can be disinfected, where a fence keeps away grazing domestic animals and wild boars.

In the area of the Hortobágy National Park there are four feeding places that are regularly visited by eagles staying for the winter.

### Poaching

All birds of prey are protected here and in the EU. No bird of prey can be shot at pheasant farms either, at the very most – with separate permission – the goshawk can be trapped, which after being caught, has to be set free elsewhere. Birds of prey cannot be mistaken for any other fair species, so killing them is always deliberate and illegal. Anybody who does that is a poacher even if he/she has permission to hunt in the area. Although it is prohibited and strictly punished by law, year by year we find shot-gun injured buzzards, goshawks and specially protected eagles and falcons as well. Unfortunately we have got many x-ray pictures of the victims of poachers.



Shooting a gun is a fraction of a second, healing takes months, it is difficult and costs a lot of money and is little successful. Shooting with a shotgun kills immediately due to the shock the several shots hitting the surface of the body evoke. The bird can stay alive if too few shots hit it, winged or shots of smaller energy outside the gun-reach hit it. The shot predators still alive when found are usually of medium or large size and usually winged, they have often been suffering for several days or weeks. They are generally found in hunting territories around pheasant breeding farms. The skin



above the bullet entry hole is usually closed, bleeding is not apparent, diagnosis is often only possible through x-ray.

## Lead-poisoning

It is an injury connected to hunting that mostly affects natatores and the predators eating them. The reason is the effect of the lead bullet.

The encapsulated shots left in injured birds are harmless in themselves, but with the deterioration of the condition they may well become poisonous.

In predators feeding on them - e.g. in white-tailed eagles - digestive juices dissolve the lead, which may cause poisoning.

Lead particles that have missed target are picked up by ducks instead of grinder stones from the mud, and these coming in direct contact with the digestive juices poison the duck, and the predator or hunter eating it.

To prevent this, lately it has become forbidden to hunt on fishponds with lead shots, steel shots may be used instead. Lead however permanently stays there from long ago, not only from bullets, but together with heavy metal getting there several times in relation with the cyanide poisoning of the Tisza, they poison plankton and fish and through these, creatures eating them. It is never discharged from the body; it is stored in the bones, with additional intake its effect adds up. It causes chronic poisoning, blindness, cancer and eventually death.

## Deliberate poisoning

Every form of poisoning is forbidden, but nevertheless it is still present. They still use forbidden but well-

tried methods for protecting bred pheasants against predators and crow types. Not only foxes but protected and specially protected species also suffer cruel deaths mainly from placing out chicken heads injected with insecticides. True hunters distance themselves from the above crimes which shed a bad light on the whole hunter community.

## **Rescuing wild birds at the bird hospital of Hortobágy**



At Hortobágy the Bird Hospital Foundation operates a hospital unique in the country. The institution performs the veterinarian attendance, hospital care and rehabilitation of injured, sick, protected birds arriving from the whole country but mainly from the Hortobágy and Bükk National Parks. From the 200-300 patients annually 35-40% return to nature.

### *The bird hospital*

The Hortobágy bird hospital has been operating since 1999. Bird saving activities in an organised form have been going on since 1991 at the birds of prey rehabilitation station at the Góres farm in the Hortobágy National Park. At present only the rehabilitation of the already





healed patients and the indoors breeding of specially protected birds that are unfit for setting free is being done there For the treatment of patients requiring veterinarian care we have established an animal health centre in the town of Hortobágy. Besides the animal hospital, an eagle fly cage for re-alienation, animal pharmacy and public laboratory also operates. Rooms allowing for appropriately specialized attendance suitable for hospital level operation (examining room, x-ray, operating room, laboratory, infectious isolation ward, intensive care) appropriate equipments, rooms, yards, fly cages of different sizes and internal constructions appropriate for the hospitalization of patients in different healing phases as well as 24 hour specialist care is required. This latter is done by dr. János Déri, and in his absence by substituting volunteer veterinaries. The hospital operation is accompanied by research and training activities, coordinated by dr. Attila Beregi, the associate professor of the Internal Medicine Department of the Veterinary Medicine Faculty of the Szent István University. For years Hungarian and foreign veterinary medicine students have been fulfilling their medical practice here and several university and other voluntary students help our work during the summer.



The hospital is open to the public the Hortobágy Bird Park is completed by a public hospital, bird rescuing exhibition and eco-house, and is surrounded by visitable large fly cages, ponds, playgrounds and rest-parks, where the bird rehabilitation can be followed with attention.

### *Reasons of injuries and diseases of wild birds*

Among the reasons for being brought in mainly broken wings, casualties, shot, electrocution and poisoning cases are considerable. These are in every case related to human civilization, causing careless or deliberate damages but by all means with the effects of human presence.

Among **accident casualties** small or medium sized birds are injured on the roads owing to *car accidents*. Bigger birds, eagles are more careful, they avoid roads, and large wading birds do not feed there. Small singing-birds collecting seeds falling off fodder transporting vehicles usually do not survive the hit. Crows and magpies are cleverer, but predators, during the daytime buzzards, kestrels, during the night owls, concentrating mainly on killing preys looking for rodents that find food here, become victims of significantly speeding vehicles, riding at a rate unusual for the birds. The injured are usually poly-traumatized, broken forearm and upper arms often occur together, broken legs are common and collar-bone and pelvic fractures also occur often together with intestine injuries, internal bleeding and concussion.



Small predators such as sparrowhawks and hobbies, passionately chasing flying preys, and *hitting reflecting glass surfaces or white walls* usually suffer single concussion.

Species of bigger size and longer wings (large eagles, storks, cranes and heron) usually suffer forearm more rarely carpal or upper arm fractions from *flying against aerals*. This mainly happens under bad visibility conditions (in fog or during dusk, in the dark). Electrocution does not play a role here; birds are injured merely as a result of the physical collision

Among the accident cases leg fraction usually happens when the young *fall out of nests*.

**Shooting** protected animals is generally deliberate poaching affecting goshawks and buzzards. In such events poly-traumatized, cases with injuries of several organs are typical, but those arriving still alive usually have broken wings.

Birds suffer **electrocution** when landing on a metal cross branch of pylons and coming in contact with either cable and short-circuiting the circuit with their feet and wings. It affects 99% of kestrels and 30% of buzzards that are found. The limbs of the patients that stay alive first become paralyzed then necrose.

**Poisoning** usually occurs as a result of botulism arising from upsetting the biological balance of fishponds at water habitats by fertilizing aiming at the reproduction of plankton, and as a result of chemicals getting into live waters through agricultural chemicalization.

Unfortunately the deliberate poisoning of predators considered harmful

occurs every year around animal farms and pheasant hunting territories. Most often organic phosphate esters used for disinfestations and carbamates in use also as caustics are shown.

**Infectious diseases** are often related to not observing the regulations of animal keeping and the hazardous waste disposal, when sick domestic animals or the infectious carcasses, secretion thereof get into nature.

Birds becoming less careful as a result of subacute and chronic poisoning, internal medicine, or infectious diseases, more often become the victims of accidents or poachers.

*Bird rescuing, until the patient is taken to a doctor*

On the basis of the above the place of occurrence of injured, sick birds is most commonly near roads, under pylons, at the bottom of pylons, around poultry farms, pheasant farms and in waters. Mostly those of bigger size, primarily large birds of prey and big wading birds are found, on the one hand because they are easier to spot, on the other hand because due to their bigger energy reserves they can stay alive longer than small singing-birds.

How can we recognize a sick bird?

It lets us catch it. If you can seize a bird, it is severely ill. Wild birds are afraid of humans, and fly away keeping a safe distance, even if they may be sick. If they do not fly away, either its wing is injured or it only has hours or minutes left.

A sick bird has to be caught!



Whenever and wherever we found it. We have to take the opportunity to save it, because it may pull itself together and fly away with its last strength and then we can never find it. Then it is sure to miserably die.

**Catching** a sick bird may be dangerous; birds of prey may try to defend themselves with their claws, storks and herons with their beaks. So it is practical to cover the bird's head and secure it under our arms pressing down its wings and carefully holding its neck and tarsus with a leather glove. Due to the prospective occurrence of infectious diseases and especially bird flu it is advisable to wear rubber or foil gloves and mask.



During on-site **first aid** it is good to have a helping hand. During the examination of the patient we first check the irregular movement of the limbs to diagnose usually frequent fractions. The possibly bleeding limbs have to be

dressed, in case of a compound fracture, to prevent contamination the bones sticking out have to be covered with antiseptic gauze, and this has to be kept wet by tying some cotton on it and applying physiological saline solution. If there is none other, temporarily clean water and cloth will do too. The contamination and drying out of the periosteum may lead to the necrose of the bone end, so hygiene and keeping it wet is essentially important for the rehabilitation of the bird. The limb has to be fixed in position and to the body as well with a bandage.

In case of a compound fracture the limb can be saved by an immediate operation within hours or the same day the latest. So to prevent vomiting possibly occurring during anaesthesia do not feed the patient.

The condition can be checked by feeling the pectoral muscle, possible dehydration by lifting the wrinkles of the skin at the toes. If the wrinkle becomes smooth slowly or not at all, the patient is seriously dehydrated. In this case we should try to carefully make it drink from a glass, or pour drops of water into its lower mandible. It is important to prevent water from getting into its bronchial tubes. Do not feed dehydrated birds because the secretion of the fluids necessary for digestion only distract more fluid. So if it does not drink it has to be taken to a vet immediately and infusion or physiological saline solution has to be injected to its vein, or in case of a small bird under the skin of the leg.

### *Transport*

Birds should preferably be transported in a carton box lined with



cloth or grass, hay (never in a cage!). The box should be big enough for the bird to fit inside with closed wings and legs folded underneath it, without crushing its tail feathers. It should not be able to see out and for a one, one and a half hour journey air holes are not needed. If the journey lasts long the patient should only stay in the box for a couple of hours at most! The box shall be securely tied in all cases, but it is even better to tape it with a wide adhesive tape. The patient in the box should be taken to hospital in a car as soon as possible precluding the possibility of shaking and flipping over, in silence, without listening to the radio.



We should by all means avoid the possibility of the bird escaping in the car, thus endangering the safety of driving, not to mention the severe injuries the bird may cause itself by trying to get out through the window. (The goshawk, the sparrowhawk and the imperial eagle are all great “escapees” double care has to be taken of them.) This is why it is advisable to have another person besides the driver when transporting the patient, to provide help, which is always a “two person” job. It should be protected from stress; we should not be looking at it, showing it or checking it over and over again. But if it is struggling a lot, we should check maybe it got tangled up in its bandage, stepped on

its own wing, or turned on its back or across in the box, or it may be vomiting, swallowed the wrong way or is bleeding. In the summer heat we should not leave it in a closed car, transport it preferably in an air-conditioned car or with the windows down.

The speed of getting to hospital plays a vital part in saving the bird. The harmful consequences of delay may endanger the life of the patient. In case of a compound fracture even the partial necrose of the bone or the soft tissue – despite the most professional attendance – may lead to permanent disability. If, in accordance with the present official standpoint of environmental protection, there is no other possibility of - as the law puts it - “utilizing” the crippled individuals of protected “mass species” (such as e.g.: the buzzard) or even the specially protected, but also common species (such as e.g.: the white stork), they urge culling it.

Patients found with relatively simple, easily healing injuries or with a concussion to be healed in a couple of days, due to the upset hormone system resulting from captivity causing continuous stress, may consume their energy reserves and die.

With the exception of the liquid compensation described above with infusion first-aid, a veterinarian surgery or animal hospital not specializing in the treatment of wild-birds may often not be able to provide the appropriate treatment for the extremely demanding preparation of setting birds free. So transporting the casualties to the animal hospital is of vital importance!