

Vertebrates of the Pálava Biosphere Reserve of UNESCO

Edited by

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ABSTRACT

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Faunistic investigations involving all groups of aquatic and terrestrial vertebrates were implemented in the proposed extended territory of the Pálava Biosphere reserve which, besides the present Pálava Protected Landscape Area, also comprises the Lednice - Valtice area and the area of confluence of the rivers Morava and Dyje. Furthermore, all available data, both published and unpublished, were gathered on the animals inhabiting the target area. Also, ecological data were evaluated, particularly as regards population sizes and variation in numbers, and the degree of danger and need for protection of the respective species were expressed. Some of the groups have been monitored for decades, and it is expected to continue monitoring selected vertebrates (fishes, birds, bats, souslik, beaver, etc.)

Of fishes (Osteichthyes), the part of the Morava drainage area belonging to the target area (i.e. mainly the lower reaches of the Dyje and the water bodies in the adjacent floodplains) was found to harbour 44 autochthonous and 10 allochthonous fish species, i.e. 93.6 and 67.7 % respectively of the fish fauna of the Czech Republic. Recently, fish species new to the Czech Republic (*Proterorhinus marmoratus*, *Stizostedion volgensis*, *Gymnocephalus baloni*) have been recorded in the area under study. Several species that had vanished in the past (*Acipenser ruthenus*, *Pelecus cultratus*, *Zingel zingel*) have returned to the area. Due to the barrier-free connection of the local running waters with the Danube, the local ichthyofauna is markedly influenced by that of the Black Sea river system. In its species diversity and dynamics of its present development, the lower reaches of the Dyje and its drainage area present a unique hydrological fragment in the Czech Republic. Data on the occurrence of the particular fish species have been used in selecting habitats to be included among specially protected ones for the system NATURA 2000.

Of amphibians (Amphibia), the extended territory of the Pálava BR was found to harbour 14 species, including *Rana* kl. *esculenta*, i.e. 66.7 % of the total number of amphibian species in the Czech Republic. Among them is the newt, *Triturus dobrogicus* which was first discovered in the Czech Republic in this very area, in the Soutok locality. All amphibian species reproduce in the study area. Of reptiles (Reptilia), 8 species (i.e. 72.7 % of the total reptile species in the Czech Republic) have been recorded in the study area. Five of them reproduce in it, while the remaining three, *Emys orbicularis*, *Elaphe longissima* and *Natrix tessellata*, probably do not inhabit the area permanently. However a reproducing population of *Emys orbicularis* has been introduced into the neighbouring Betlém locality.

Birds (Aves) is the richest component of local vertebrate fauna as regards the number of species. A total of 306 bird species have been recorded in the extended territory of the Pálava BR, i.e. 76.7 % of the bird species known in the Czech Republic. The birds can be divided into several biological groups in which the

numbers of species are given below (in brackets, percentage of numbers of species in the Czech Republic). Regular breeders include 132 species (71 %); irregular breeders, 24 spp. (80 %); regular migrants incl. breeding ones, 165 spp. (89.7 %); regular wintering spp. among the regular breeders, plus winter visitors, 87 spp. (65.4 %); and bird species that irregularly occur on migration, in winter or at other times and have been recorded only once or just a few times, 140 spp. (83.8 %). Within the past two centuries (from 1800 until 2000) 170 bird species were breeding in the extended territory of the Pálava BR but 14 of them should now be considered vanished. This territory is the one in which certain bird species have been first recorded in the Czech Republic (*Dendrocopos syriacus*, *Calidris bairdii*, *C. melanotos*) or have bred there for the first time (*Platalea leucorodia*, *Aquila heliaca*, *Porzana parva*, *Himantopus himantopus*, *Larus melanocephalus*, *Merops apiaster*). At present, the study area is the only breeding locality in the Czech Republic for *Aquila heliaca* and the most important breeding ground for ten more species (*Milvus milvus*, *M. migrans*, *Falco cherrug*, *Upupa epops*, *Dendrocopos medius*, *D. syriacus*, *Sylvia nisoria*, *Locustella luscinioides*, *Panurus biarmicus*, *Miliaria calandra*).

Mammals are treated in three separate contributions, the first one concerned with insectivores and rodents. Eight species of insectivores (80 % of the total species in the Czech Republic) and 17 species of rodents (74 % of the total spp. in the CR) have been recorded. As to the insectivores, the occurrence of one more species, *Erinaceus europaeus*, is probable. The total of rodent species includes *Apodemus agrarius*, although only rather old data indicate its presence in the BR and they have been doubted upon by some authors. Considering the documented recent occurrence of that species in the neighbouring Hodonín area, its present occurrence in the extended Pálava BR is possible. *Apodemus microps* may be more abundant in steppe habitats and some of the field crops than indicated by the available records. *Spermophilus citellus* should be considered an endangered species; although ground squirrel colonies were observed in three localities still in the 1980s and 1990s, they vanished from them. On the other hand, *Castor fiber* has been spreading during the past two decades; so far, it has occupied the lower reaches of the rivers Morava and Dyje up to the Novomlýnské nádrže Reservoirs, and it has been observed in several additional localities.

Of chiropterans, 21 species (87.5 %) have been recorded. Moreover, the occurrence is probable of *Nyctalus lasiopterus*, which species has been sound-recorded and observed visually but has never been captured. Breeding was demonstrated for 10 species and is probable in further species except in *Rhinolophus ferrumequinum*, which has been found only once. Compared to other regions, the Pálava BR harbours relatively large populations of *R. hipposideros* and *Myotis emarginatus*, the former showing an increasing trend in the development of its numbers. The recently recognised cryptic species, *Pipistrellus pygmaeus* (syn. *P. mediterraneus*), is among the most abundant local bat species; new data have been obtained on its ecology and behaviour.

Information on carnivores, lagomorphs and artiodactyls were largely obtained from questionnaires and gamekeepers statistics. Data were obtained on the occurrence of 11 carnivore species (68.8 % of their total in the CR incl. allochthonous ones). Of three allochthonous carnivore species, two (*Mustela vison*, *Nyctereutes procyonoides*) have been recorded in the area under study. The autochthonous ones do not include the extinct or eradicated species, *Mustela*

lutreola, and the occurrence of another one, *M. eversmannii*, is problematical at present. Both lagomorph species were documented in the study area (100 %), *Lepus europaeus* being autochthonous and *Oryctolagus cuniculus* allochthonous, present in central Europe since the 16th century. The study area is inhabited by 3 autochthonous and 3 allochthonous species of artiodactyls, amounting to 54.6 % of their total in the CR. A herd of *Capra aegagrus*, introduced earlier, has recently been removed from the area. The allochthonous species are irrelevant for estimating the biological value of the area but even the development of the numbers of autochthonous species (*Sus scrofa*, *Cervus elaphus*, *Capreolus capreolus*) is considerably dissimilar to the natural one due to the absence of predators and due to gamekeeping management.

The extended territory of the Pálava Biosphere Reserve of UNESCO exhibits exceptionally high species diversity of vertebrates. Considering the numbers of species, this territory is most important for the occurrence of birds, fishes, amphibians, and certain groups of mammals. The territory also harbours a large number of species that are rare in the Czech Republic or central Europe in general. Some of these species even breed here occasionally or regularly, sometimes producing numerous local populations. The research results contained in the present volume support the proposed extension of the present territory of the Pálava BR in the easterly direction in order to secure protection and conservation of the natural richness of this region.

Keywords: biosphere reserve, protected landscape area, Osteichthyes, Amphibia, Reptilia, Aves, Mammalia, faunistics, distribution, monitoring, conservation.