



Fig. 2. Map of territorial types C (vertically hatched) and D (diagonally hatched). 1 – Pavlov region, 2 – Znojmo-Pouzďřany region, 3 – Kyjov region, 4 – Uherské Hradiště region, 7 – Prerov-Hranice region, 8 – Ostrava region, 9 – Bučovice region, 10 – Bohemia-Moravia Highland.

## Revision of Plio-Pleistocene quails of the Western Palearctic

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Fossil birds still belong among relatively poorly known faunal groups. In Europe this is due to the fact that between the 1930s and 1970s, this group was neither regularly nor thoroughly studied. Nevertheless, other palaeontologists gathered a large quantity of skeletal remains of birds that can be studied today. Dr. V. Ložek is one such person who still maintains an outstanding role in Bohemia. Thus, it is also to his credit that this paper, dealing with the revision of the Plio-Pleistocene quails of the Western Palearctic, could come into being.

The history of Pleistocene quail research is surprisingly rich. Fossil quails were described for the first time from the Middle Pleistocene locality of Perpignan by Depéret (1892) under the name *Palaeocryptonyx donnezani*. Three decades later, several bones of small fossil rasorial birds from the Hungarian Early Pleistocene locality Püspökföld, which is presently called Betfia and belongs to Romania, were inspected by the Hungarian palaeornithologist Kálmán Lambrecht. He considered them to be the remains of francolinids and described them as *Francolinus capeki*. Due to this, mysterious francolinids were introduced to the European Pleistocene avifauna; every Quaternary palaeontologist has surely encountered the name. They are mysterious for the reason that they would have inhabited the biotopes that do not suit recent francolinids, and that they did not possess calcars whereas other francolinids do. The myth of European francolinids was reinforced in the 1970s

by another Hungarian palaeontologist, Dénes Jánossy, who described two new species, *Francolinus minor* and *Francolinus subfrancolinus*, from localities of Southern Poland. However, a revision by Mlíkovský proved that the bones of these three bird species do not resemble those of the francolinids, but instead they belong to quails of the genus *Palaeocryptonyx*.

Small rasorials have also been found in Middle Pleistocene deposits at the well-known catacombs of Odessa, Ukraine. From that locality the Russian palaeontologist Tugarinov described part of the remains as a fossil hen, *Pliogallus coturnoides*, and the rest as the fossil quail *Ammoperdix ponticus*. The revision carried out by Bochensky and Kurochkin (1987) showed that all of the remains belong to fossil quails. The unhappy history of these quails was completed in 1980 by Israeli palaeontologist Eitan Tchernov. He studied skeletal remains from the Early Pleistocene locality Ubeidiya and considered them to belong to a fossil partridge, and he named them *Alectoris baryosefi*.

The present author carried out the revision of the Palearctic rasorials of the Late Cenozoic and discovered that all the three of the above mentioned fossils belong to quails of the genus *Palaeocryptonyx*, first described in 1908 from the Middle Pleistocene of France. Morphological comparisons and morphometric analysis proved that only a single species is involved, which should be referred

to as *Palaeocryptonyx donnezani* Depéret 1892. Seven species and subspecies of three genera of fossil birds from Poland, Romania, Ukraine, and Israel are synonymous with this species.

The fossil quail *Palaeocryptonyx donnezani* ranges from the Middle Pliocene (MN 15) to the end of the Early Pleistocene (Q2). Its geographic distribution ranged from the Iberian Peninsula to Ukraine and the Near East, and perhaps more eastwards. Its eastern extent is uncertain because suitable localities are lacking, except

for an isolated find from the Beregovaya locality near Lake Baikal. The quail *Palaeocryptonyx donnezani* was only slightly larger than the recent European quail. Both species lived together, as documented, e.g., from the Early Pleistocene locality of Stránská skála near Brno. *Palaeocryptonyx donnezani* is a characteristic element of Plio-Pleistocene bird faunas of Europe. This is of interest not only to palaeornithologists, but also to other palaeontologists dealing with European natural history of that period.

## Reconstruction of the vegetational evolution of the Boží Dar peat bog during Late Glacial and Holocene

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The Krušné hory Mts. (northern Bohemia) are an area rich in peat-bog complexes in the Czech Republic. The Boží Dar peat bogs (51°60' N, 12°95' E) are the richest among them.

Pollen analysis of sediments was carried out from localities of Boží Dar - V rezervaci ("In the reserve", Břízová 1993 MS) and Boží Dar (Vile et al. 1995). The analysed sections were c. 2.90 m and c. 1 m. thick, respectively.

Palynological and stratigraphical analysis of the Boží Dar - V rezervaci Section clearly shows the peat bog to have started forming in the Late Glacial period, according to the classification of Firbas (1949, 1952) in the (I) Oldest Dryas - Bölling - Older Dryas period (the inorganic sandy sediments have not been palynologically studied). The evolution continued in the (II) Alleröd-mudda, and was radiocarbon-dated to  $11\,240 \pm 290$  B.P. (Hv - 19008,  $^{14}\text{C}$  - Laboratorium, Niedersächsisches Landesamt für Bodenforschung, Hannover) at a depth of 2.90 - 3.00 m. In the (III) Younger Dryas period, the mudda sediments are transitional to fen and peat bog deposits which comprise the remaining part of the section.

Fen deposition marks the infilling of the peat bog from the (IV) Preboreal period continuously until the (VII) Younger Atlantic period, being followed by peaty sedimentation until the Older Subatlantic period (IX). The fen and peat-bog types vary according to vegetational character at particular evolutionary phases. Sphagnum-dominated peat exists from 0.00 - 1.43 m, where it replaced an *Eriophorum-Carex*-dominated fen at 1.43 - 2.80 m depth, which is then transitional to mudda at 2.80 - 2.90 m.

The vegetational sequence obtained from pollen diagrams for the peat bogs and the Krušné hory Mts. is the following: pine (*Pinus*) - alternating birch (*Betula*) - hazel (*Corylus*) - mixed woodland (QM) - spruce (*Picea*) - beech (*Fagus*) - fir (*Abies*). This was confirmed by several authors (Rudolph 1930, Jankovská 1992, Břízová 1993 MS).

Reconstruction of the vegetation evolution from the Subboreal (VIII) period through the older Subatlantic period (IX) to the younger Subatlantic period (X), was based on pollen analysis of the Boží Dar section (Vile et

al. 1995), and was dated by the  $^{210}\text{Pb}$  method (by M. Novák, Czech Geological Survey, Prague).

Pollen analysis shows the obviously negative impact of humans on the Krušné hory ecosystems beginning roughly in the early 19th century. The pollen spectrum records an abrupt decrease of pollen grains of some trees such as spruce (*Picea*), beech (*Fagus*), fir (*Abies*), birch (*Betula*), and alder (*Alnus*), and an increase is observed in the number of grains of pine (*Pinus*), which is typical for the younger Subatlantic period.

The peat bog at Boží Dar is an example of an upland bog, and both analysed sections represent a continuous vegetation evolution from the Late Glacial period to the present day.

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