Courier Forschungsinstitut Senckenberg **181:** 271-273, 1 Tab., Frankfurt am Main, 14.06.1995

Middle Pleistocene birds of Elaichoria 3, Greece

JIŘÍ MLÍKOVSKÝ

Abstract

A small Middle Pleistocene avifauna from Elaichoria 3 in northern Greece is described. Five species are identified, of which *Tetrao tetrix* is now absent from the area.

Key words: Aves; Pleistocene; Greece.

Kurzfassung

Eine kleine mittelpleistozäne Avifauna von Elaichoria 3 (Nordgriechenland) wird beschrieben. Von den 5 identifizierten Arten kommt *Tetrao tetrix* heute in diesem Gebiet nicht mehr vor.

Schlagwörter: Aves; Pleistozän; Griechenland.

Introduction

The Pleistocene record of birds in Greece is still rather poor. More or less rich Pleistocene avifaunas have recently been described from the islands of Karpathos (WEESIE 1984), Armathia (PIEPER 1984), Tylos (ALCOVER et al. 1992) and Crete (SURIANO 1980, WEESIE 1982, 1987a,b), and the mainland localities of Kitsos, Attiké (MOURER-CHAUVIRÉ 1971, 1981) and Petralona, Chalkidiké (KRETZOI 1977, KRETZOI & POULIANOS 1981). The small Pleistocene avifauna of Elaichoria, presented below, is thus a welcome addition to the Quaternary paleornithology of Greece.

Elaichoria is a recently abandoned quarry near the village with the same name, some 3 km from the locality Petralona in the Chalkidiké Province in northern Greece; approximately 40°20' N, 23°35' E. In the walls of the quarry, a number of fissures, filled with reddish or yellowish clays, are found. Only a few of these fissures are fossiliferous, however, yielding bones of Pleistocene or Miocene age, respectively. The locality was discovered in 1988 by Czech paleontologist IVAN HORÁČEK and subsequently briefly visited by the present writer in 1991. The fissure Elaichoria 3, which yielded the Middle Pleistocene avian bones described below was mined out inbetween, so that my visit of Elaichoria brought no new Pleistocene bones. A detailed description of the locality will be given elsewhere (HORÁČEK, in prep.). Based on rare remains of small and large mammals, the age of the deposit has been determined as Middle Pleistocene, i.e. biozone Q3 sensu HORÁČEK and LOŽEK (1988).

JIŘÍ MLÍKOVSKÝ, Institute of Ecology, Czech Academy of Sciences, Květná 8, CZ-60365 Brno, Czech Republic.

Systematic list

I list here all species of birds identified from the Elaichoria 3 site. The sequence of families and species, and nomenclature are all according to VOOUS (1977). MNI = minimum number of individuals *sensu* GRAYSON (1984).

Family Accipitridae VIGORS 1824

Neophron percnopterus (LINNAEUS 1758) (Egyptian Vulture):
Material: symphysial fragment of a furculum; MNI = 1.

Family Tetraonidae LEACH 1820

Tetrao tetrix LINNAEUS 1758 (Black Grouse):
Material: distal part of right tibiotarsus, left tarsometatarsus; MNI = 1.

Family Phasianidae HORSEFIELD 1821

Alectoris graeca (MEISNER 1804) (Rock Partridge):
Material: distal part of right femur; MNI = 1.

Family Columbidae LEACH 1820

Columba livia GMELIN 1789 (Rock Dove):
Material: proximal part of left humerus, proximal part of right ulna, 2 distal parts of left ulnae, distal part of right ulna, right carpometacarpus, left carpometacarpus, distal part of right tibiotarsus, right tarsometatarsus; MNI = 2.

Family Corvidae LEACH 1820

Pyrrhocorax graculus (LINNAEUS 1766) (Alpine Chough):
Material: proximal part of right humerus; MNI = 1.

	Nr. of bones	MNI	% MNI
Neophron percnopterus	1	1	16,7
Tetrao tetrix	2	1	16.7
Alectoris graeca	1	1	16.7
Columba livia	9	2	33.3
Pyrrhocorax graculus	1	1	16.7
Total	**14**	**6**	**100.0**

Tab. 1: Middle Pleistocene birds of Elaichoria 3, Greece.

Discussion

Taphonomy

The taphonomic origin of the avian assemblage found in Elaichoria 3 is not apparent. The gamefowl (*Tetrao* and *Alectoris*) were probably brought to the site by some predator (a large owl?), while the remaining three species may have bred at the site and their remains could originate from naturally deceased individuals.

Ecology

The presence of *Pyrrhocorax graculus* and *Columba livia* indicates occurrence of rocky terrain and the presence of *Alectoris graeca* indicates dry shrubland near Elaichoria at the time when the fossils were deposited. These habitats still occur in Chalkidiké. On the other hand, *Tetrao tetrix* prefers marshy meadows surrounded by woods which are absent from the present-day Chalkidiké.

Biogeography

All the species listed above except *Tetrao tetrix*, still occur in Chalkidiké. The latter species is absent from the whole southern and southeastern Balkan Peninsula (CRAMP & SIMMONS 1980). The date of its disappearance is unknown, but a single find in Kazanlák in central Bulgaria (BOEV 1988) indicates that it survived in southern Balkan Peninsula at least until the early Neolithic. The record of *Tetrao tetrix* in Elaichoria 3 is probably the first Pleistocene record of this species in Greece.

Summary

The late Pleistocene avian taphocenosis of Elaichoria 3 consists of five species (MNI = 6). One of them, *Tetrao tetrix*, is today absent from Greece which may be due to climatic change and/or deforestation of the southern Balkan Peninsula during the Holocene.

Acknowledgements

IVAN HORÁČEK (Praha) placed the fossil bird remains from Elaichoria at my disposal and introduced me to the paleontology of Elaichoria. LUDĚK SEITL (Brno) allowed me to use the comparative collection of bird skeletons in the Moravian Museum in Brno. I thank them both.

References

ALCOVER, J.A., FLORIT, F., MOURER-CHAUVIRÉ, C. & WEESIE, P.D.M. (1992): The avifaunas of the isolated Mediterranean islands during the middle and late Pleistocene. - Nat. Hist. Mus. Los Angeles Co., Sci. Ser. **36:** 273-283.

BOEV, Z.N. (1988): Părvi dokazatelstva za săsučestvuvaneto na tetreva (*Tetrao tetrix* (L.) (Aves, Tetraonidae)) v Bălgarija [First evidence for the occurrence of the Black Grouse (*Tetrao tetrix* (L.) (Aves, Tetraonidae)) in Bulgaria]. - Acta Zool. Bulgar. **36:** 72-77. [In Bulgarian.]

CRAMP, S., & SIMMONS, K.E.L. (Eds., 1980): The birds of the western Palearctic. Vol. II. Hawks to bustards. - 695 p.; Oxford (Oxford University Press).

GRAYSON, D.K. (1984): Quantitative zooarchaeology. - 202 p.; Orlando (Academic Press).

HORÁČEK, I. & LOŽEK, V. (1988): Palaeozoology and the mid-European Quaternary past: scope of the approach and selected results. - 103 p.; Praha (Academia).

KRETZOI, M. (1977): The fauna of small vertebrates of the Middle Pleistocene at Petralona. - Anthrôpos (Athéné) **4:** 131-143.

KRETZOI, M. & POULIANOS, N. A. (1981): Remarks on the Middle and Lower Pleistocene Vertebrate Fauna in the Petralona Cave. - Anthrôpos (Athéné) **8:** 57-72.

MOURER-CHAUVIRÉ, C. (1971): Rapport sur les travaux de l'École française en 1970. Grotte de Kitsos (Laurion). V. La faune: B. Oiseaux. - Bull. Corresp. Hellen. **95**: 730-732.

MOURER-CHAUVIRÉ, C. (1981): Les oiseaux de la grotte de Kitsos (Attique, Grece). - in: LAMBERT, N. (ed.): La grotte préhistorique de Kitsos (Attique): 595-606. Paris (ADPF), & Athéné (École Française d'Athenes).

PIEPER, H. (1984): Eine neue *Mesocricetus*-Art (Mammalia: Cricetidae) von der griechischen Insel Armathia. - Stuttgart. Beitr. Naturk. (B) **107**: 1-9.

SURIANO, F. (1980): Fossil birds of Simonelli Cave. - Quad. Acad. Naz. Lincei **249**: 123-126.

VOOUS, K.H. (1977): List of Recent Holarctic bird species. - 85 p. ; London (Academic Press).

WEESIE, P. (1982): A Pleistocene endemic island form within the genus *Athene*: *Athene cretensis* n. sp. (Aves, Strigiformes) from Crete. - Proc. Kon. Nederl. Akad. Wetensch. (B) **85**: 323-336.

WEESIE, P. (1984): On some Pleistocene bird fossils from the south Aegean island of Karpathos (Greece). - Géobios **17**: 845-849.

WEESIE, P. (1987a): The Quaternary avifauna of Crete, Greece. Unpubl. PhD Thesis, Rijksuniversiteit te Utrecht, 90 pp. + 9 pls.

WEESIE, P. (1987b): Preliminary report on the Pleistocene birds from Crete. - Doc. Labor. Géol. Lyon **99**: 197-200.