Avian Remains from the Thracian Trade Settlement Pistiros (5–2 c. BC) near Vetren, Pazardzhik Province (SC Bulgaria)

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Abstract. A total of 16 taxa (8 species/forms at least) of 6 orders represented by 116 avian bone finds dated ca. 2400 BP are studied. Among them: Anas platyrhynchos, Anser anser, Buteo buteo, Gallus gallus domestica, Grus grus, Ciconia ciconia, Corvus cornix, Turdus cf. torquatus. Both poultry breeding and hunting of wild birds were practiced. Domestic chickens represent 68.9% of all finds. Common Crane was a hunted bird and represents 5.4% of the collected finds. A review of the distribution of the white stork and hooded crow in the ancient settlements in Bulgaria is presented.

Key words: Ornithoarchaeology, Subfossil birds, Thracian Bulgaria, Emporion Pistiros, Odrysian Kingdom.

Introduction
The site is located in the Adziyska Vodenitsa locality on the left bank of the Maritsa River near the town of Vetren (Pazardzhik Province). The first excavations started in 1988 by Prof. Mieczysław Domaradzki. Later a consortium of Bulgarian, Czech, and British teams joined him and continued fieldwork (1995–2016). Pistiros was a city and an important trading center, an emporion (trade settlement) from the time of King Amadocus I (410 BC–400 BC) of the Thracian Odrysian Kingdom. The present paper is a first attempt to provide some archaeozoological information about the everyday life of the inhabitants of this important ancient settlement in the Balkans, based on bird bones collected during excavations by the British team.

Material and Methods
The studied avian bone material was initially recorded in a preliminary manner (i.e. without a comparative reference collection) by SS in 2004–2007. Most of the material was recovered by hand during excavation, with a small amount extracted through wet-sieving and flotation of whole earth samples (0.5 mm mesh). It was handed for detailed identification in 2007 to ZB. The finds have been identified through the comparative osteological collection of birds of the Vertebrate Animals Department of the National Museum of Natural History (NMNHS), Bulgarian Academy of Sciences in Sofia. All material is inventoried and stored in the NMNHS avian collection of fossil and subfossil birds (col. No NMNHS 16373–16488). A similar quantity of material has been recovered from subsequent excavations and is still in the process of being studied.

Abbreviations: AD – Anno Domini, ad. – adult, BP – before present, c. – century, cmc – carpometacarpus, dex. – dextra (right), dig. – digitus, dist. – distal, juv. – juvenile, ph. – phalanx; prox. – proximal, sin. – sinistra (left), tbt – tibiotarsus, tmt – tarsometatarsus.

Short description of the site
Pistiros was a Thracian town with many imports from the northern Aegean and Black Sea. It was located on the bank of the Maritsa
River (ARCHIBALD, 2013). About 2400 years ago the Maritsa River was navigable by boats transporting commodities as far as Vetren and the modern town of Septemvri, for international merchants and for local citizens of the Odryssian Kingdom. Later, in the Roman period, the Maritsa River was an essential trade corridor between the Aegean region and the inland Eastern Balkans. The settlement suffered at least two major, albeit partial destructions. The first destruction was probably in the 370s BC, the second was shortly before 300 BC, and third destruction was possibly caused by a Celtic invasion (early 3 c. BC). Two kinds of tree are represented in charcoal at the site – oak (Quercus sp.) and Austrian (Black) pine (Pinus nigra) J. F. Arnold, 1785). The second species was not present in the former surrounding flora of Pistiros (YURUKOVA et al., 2003).

Results and Discussion

A total of 19 taxa (with 8 species/forms at least) have been found (Appendix 1). As seen the most numerous were the domestic chicken, representing 68.9 % of all finds. This clearly proves the practice of well-developed poultry breeding. The domestic chicken wasn’t the only domestic bird. Along with chickens, inhabitants of Pistiros bred also domestic geese and domestic ducks. Together, bones of geese and ducks represented 6.9 % of the finds.

Hunting of wild birds was a relatively limited practice. We may only assume that the common crane was a hunted species. It is very likely that the cranes were resident in the Thracian Plain. This species’ finds represent 5.4 % of all examined bone remains. In addition some gallinaceous birds (grey or rock partridges) were hunted in the surrounding plain landscapes.

Other five species of wild birds have been established - *Anser anser* (Linnaeus, 1758), *Buteo buteo* (Linnaeus, 1758), *Ciconia ciconia* (Linnaeus, 1758), *Corvus cornix* Linnaeus, 1758, and *Turdus cf. torquatus* Linnaeus, 1758 (Appendix 1). Two of them (white stork and hooded crow) are known in the ancient Bulgarian settlements since the early Neolithic and are considered synurbanist bird species. *C. ciconia* is categorized as an extreme synurbanist, while *C. cornix* is an initial synurbanist from a modern point of view (BOEV, 1993). It is useful to trace the history of penetration of these two birds in the ancient urban landscapes.

In the ancient settlements in Bulgaria the white stork was registered in seven sites ranging from the Chalcolithic till 16-18 c. AD: Dolnoslav (Chalcolthic, 3530–3480 BP; SPASSOV et al., 2001); Burgas (Early Chalcolthic; BOEV, 2009a), Kabile (1st millennium – 6 c. AD; BOEV & RIBAROV, 1993; BOEV, 1999), Durankulak (ancient and medieval settlement), Novae (1–7 c. AD; BARTOSIEWICZ & CHOYKE, 1991), Armira (3 c. AD, BOEV, 2006), and Forum Serdica of 3–5 c. AD (BOEV, 2017) and 16–18 c. AD (BOEV, 2016). This record proves the past presence of white stork in human settlements in the country for more than 5000 years.

The hooded crow is known from six ancient settlements: Slatina (Sofia City; early Neolithic, 8000 BP; BOEV, 2009b), Kazanlak (early-middle Neolithic, 8000–7000 BP, BOEV, 1993), Novae (1–7 c. AD; WALUSHEVSKA-BUBIN & KRUPSKA, 1983), Nicopolis-ad-Istrum (175–450 AD; BOEV & BEECH, 2007); Forum Serdica (3–5 c. AD; BOEV, 2017), and Veliki Preslav (9–10 c. AD; BOEV & ILIEV, 1989, 1991; ILIEV & BOEV, 1991). Thus, the presence of *C. cornix* in the human settlements in Bulgaria is documented for a period of ca. 8000 years.

We may speculate whether the bone remains of the white stork and the hooded crow are representative for such a conclusion, but it is undoubted that their present day urbanistic status has a long history through the millennia. We couldn’t ignore all their records in the ancient settlements and towns.

The ring ouzel (*T. torquatus*) is a kind of thrush. In Thrace at present it is mainly a wintering bird. It usually winters in the lowlands such as the plain of the Maritsa River. It breeds on mountain meadows, grasslands with rocks and screes, heathland and moorland with shrubs and stony slopes (HARRISON, 1982). Similar rougher, more upland breeding habitats do exist close by (10 kilometres).

The Common buzzard is a widely spread common diurnal raptor inhabiting open habitats, scattered trees and all types of forests up to c. 3,000 m a.s.l. (HARRISON, 1982). As both species haven’t any well-grounded utilitarian importance to man, their remains may be accidentally deposited in the scope of
the Pistiros settlement. On the other side we may adopt some unknown special utilization of the common buzzard's body because its only find (a hind leg bone – femur) bear clear traces of cutting, s. c. cutmarks.

Only one bone (of domestic goose) was burnt but this isn’t an indication of roasting of bird meat, as the burnt bones may mean charred meat.

Conclusion

Although not very abundant, the examined avian material demonstrates that the ancient population of Pistiros used at least two practices of bird utilization. They had well developed poultry breeding (domestic chicken, goose and duck) and also they hunted wild large-bodied birds such as common cranes, as well as smaller medium-sized birds such as grey rock partridges.

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Appendix 1. Taxonomic and anatomical representation of the avian bone material from Pistiros (near Vetren village, Pazardzhik Region, SC Bulgaria).

**Anseriformes**

1. *Anser anser* - coracoid dex. ad. 16473.

2. *Anser anser domestica* - clavicula dex. humeral part ad. 16486 burnt; radius dex. diaphysal part sad. 16385.

3. *Anser cf. anser domestica* - cmc sin. prox. ad. 16401; scapula sin. ad. 16402; tbt dex. prox. ad. 16403; synsacrum - corpora vertebrorum ad. 16404.

4. *Anas platyrhynchos* - tbt sin. dist. ad. 16488; tmt dex. ad. 16438; coracoid sin. ad. 16449; sternum sin. tabula sterni ad. 16453; humerus dex. diaphysal part ad. 16459.

5. *Anas cf. platyrhynchos* - clavicula dex. humeral part ad. 16411.


**Galliformes**

7. *Gallus gallus domestica* - ulna dex. juv. 16386; ulna dex. juv. 16387; humerus sin. prox. juv. 6388; femur sin. dist. juv. 16389; tmt dex. diaphysal part juv. 16390; tbt dex. dist. juv. 16391; os quadratum ad. 16450; tbt dex. dist. ad. 16451; femur sin. diaphysal part ad. 16452; femur sin. ad. 16474; tmt sin. dist. juv. 16483; coracoid sin. ad. 16484; tbt sin diaphysal part ad. 16485; scapula dex. prox. ad. 16475; sternum crista sterni ad. 16476; tmt dex. dist. juv. 16392; tbt sin. dist. sad. 16393; tmt dex. diaphysal part juv. 16394; humerus dex. diaphysal part juv. 16395; tbt dex. diaphysal part juv. 16396; radius dex. dist. ad. 16397; tmt dex. diaphysal part ad. 16398; tbt sin. dist. juv. 16399; tbt sin. prox. juv. 16400; sternum sin. dist. ad. 16433; tmt sin. diaphysal part ad. 16431; tmt dex. dist. juv. 16434; tmt sin. diaphysal part ad. 16423; tmt sin. diaphysal part ad. 16424; tmt dex. diaphysal part juv. 16437; tmt sin. diaphysal part juv. 16426; tmt sin. dist. juv. 16435; humerus dex. diaphysal part ad. 16439; coracoid sin. 16440; tmt dex. ad. male 16444; synsacrum corpora vertebrorum sad. 16445; synsacrum - os ilium sad. 1646; femur sin. ad. 16405; ciracoid dex. ad. 16406; tmt dex. dist. ad. 16407; femur sin. diaphysal part juv. 16408; tbt dex. dist. ad. 16409; tbt sin. prox. ad. 16410; synsacrum sin. ilium ad. 16412; sternum – rostral part ad. 16413; femur sin. ad. 16414; tbt dex. dist. ad. 16415; tmt dex. diaphysal part ad. 16416; tmt sin. m. ad. 16470; tmt sin. m. ad. 16471; sternum sin. dist. ad. 16472; coracoid sin. ad. 16467; humerus sin. diaphysal part ad. 16468; sternum cranial part ad. 16457; sternum caudal part ad. 16458; tmt dex. dist. ad. 16445; tbt sin. ad. 16375; tbt sin. prox. juv. 16376; tmt sin. dist. ad. 16377; humerus dex. ad. 16378; clavicula sin. sad. 16379; femur sin. - cranial part sad. 16380; tbt sin. ad. 16381; femur sin. diaphysal part ad. 16382; tmt sin. diaphysal part juv. 16383; phalanx dig. pedis sad. 16384.

8. *cf. Gallus gallus domestica* - costae sternalis sad. 16429; tmt dex. diaphysal part juv. 16478; scapula dex. prox. ad. 16480; sternum crista sterni ad. 16481; vertebra cervicalis ad. 16461; vertebra cervicalis ad. 16462; coracoid sin. prox. ad. 16482; sternum lamina lateralis
sterni ad. 16465; sternum lamina lateralis sterni ad. 16466; tmt dex. juv. 16469; tbt dex. prox. juv. 16455; tmt sin. diaphysal part juv. 16456; tmt sin. sad. female 16448.

10. cf. Alectoris sp. / Perdix perdix - clavicula sin. ad. 16427.

Ciconiiformes

Accipitriformes

Gruiformes
13. Grus grus - radius sin. prox. 16421; tbt sin. dist. ad. 16487; tmt dex. prox. ad. 16447; phalanx dig. pedis 16441; tbt dex. diaphysal part ad. 16479; phalanx dig. pedis 16442; humerus 16443; tmt sin. ad. 16432

Passeriformes
15. Corvus cornix - humerus dex. dist. ad. 16477

Aves ordo indet.
Aves ordo indet. Non-Passeriformes - ulna sin. prox. ad. 16373; femur dex. dist. ad. 16374; atlas ad. 16417
Aves ordo indet. - ossa longa tubulosa ad. 16418; ulna dex. diaphysal part 16420.

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