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BIRD REMAINS FROM THE EXCAVATIONS OF LATE MEDIEVAL HODOSIVKA- ROSLAVSKE SETTLEMENT (KYIV REGION, UKRAINE)

The bird remains obtained during the excavations of the medieval settlement Hodosivka-Roslavske (XI/XII–XIVth cent. AD) were analyzed. Five hundred seventy four bones (of total 795 specimens) were identified as belonging to 12 species. Twenty seven bones were identified to genus level only (*Anas* sp.). Besides, 221 bones are highly fragmented for the proper identification of their species affiliation. The identified bone fragments collected from the same layer were grouped by the number of source specimens. The majority of the processed remains are belonged to Mallard (*Anas platyrhynchos*). All other species are represented by a handful number of bone remains (except for the Garganey *Anas guerguedula*, Shoveler *Anas clypeata* and Gadwall *Mareca strepera*).

K e y w o r d s: birds, bones, diversity, archaeozoology, Hodosivka-Roslavske, Middle Ages, Eastern Europe, Ukraine.

Introduction

The medieval Hodosivka-Roslavske settlement is located in the Kyiv-Svyatoshynskiy district of the Kyiv region. It is characterized by a high level of the material and spiritual culture (Gotun, Kazymir, 2010).

According to archaeological data, inhabitants of the ancient Rus fortresses and settlements were little engaged in keeping of livestock and poultry, while a considerable attention was paid to hunting and fishing. Medieval people in the Eastern Europe used birds for food, falconry, in ritual as well as for aviary specimens and pets (Tajkova, 2009; Gorobets, Kovalchuk, in press). This is confirmed by the osteological material found in the “kitchen waste” during the excavations of the medieval Hodosivka-Roslavske settlement in 2010. Most likely, the distribution of hunting for game birds was facilitated by the successful location of this settlement (Tajkova, 2009; Kovalchuk

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et al., in press). Surrounding reservoirs were nesting place and area where the waterfowl stopped during the seasonal migrations. In winter, when ducks and geese were absent there, hunters could hunt on game birds, which were abundant in the surrounding forests.

In addition to establishing the role of hunting in the livelihood of people from the Hodosivka-Roslavske tract, the obtained bone remains make possible to partially track the species composition and the relative number of birds and compare it with the current state of ornithofauna in this region.

Material and methods

In total, 795 bones and their fragments (fig. 1) were found in the Hodosivka-Roslavske settlement during the field season in 2010. Among them, 574 were identified to species level. Other 221 bones are broken in different directions, so they were glued together, and (although still too damaged for proper identification to species) identified as post-cranial bones (pelvis ($n = 23$) and costae ($n = 10$)). At least 188 diaphyses of bird bones are unidentifiable neither to species nor to skeletal parts.



Fig. 1. Bird bones from the Hodosivka-Roslavske settlement.

Appendix 1. Bird checklist based on bone remnants excavated from Khodosivka-Roslavske settlement.

Identification of the osteological material was carried out using the comparative collection housed in the Department of paleontology (National Museum of Natural Sciences, National Academy of Sciences of Ukraine). Anatomical terminology used in the paper follows Baumel et al. (1993). Both personal and literature data were used for describing the biology of identified bird species (Lysenko, 1991; Stepanyan, 2003; Mavrodin, 2005).

Results and discussion

Remains identified to species level are belonged to 12 species (tabl. 1, 2). Besides, 27 bone fragments are identified to genus level, and represented by pelvis (n = 18), furcula (n = 8), cranium (n = 1). The identified bone fragments collected from the same layer were grouped by the number of source specimens (tabl. 1, 2).

Discussion

Examined remains of birds from the Hodosovka-Roslavske settlement are belonged to “kitchen waste”. Most of them are represented by the bones of mallard, and the bones of domestic fowl constitute only 0,7 % of the total number of processed bones. This may

Table 1. Species list and the number of remains belonging to birds from the Hodosivka-Roslavske settlement

Species	Number of identifiable specimens	%
<i>Anser anser</i>	1	0,2
<i>Lyrurus tetrrix</i>	1	0,2
<i>Corvus monedula</i>	2	0,3
<i>Tetrao urogallus</i>	2	0,3
<i>Anas penelope</i>	3	0,5
<i>Corvus cornix</i>	3	0,5
<i>Aythya ferina</i>	4	0,7
<i>Gallus gallus f. domestica</i>	4	0,7
<i>Mareca strepera</i>	16	2,8
<i>Anas sp.</i>	27	4,7
<i>Anas clypeata</i>	40	6,9
<i>Anas querquedula</i>	78	13,6
<i>Anas platyrhynchos</i>	393	68,5
Total	574	100

suggest that people inhabited the Hodosivka-Roslavske settlement did not kept poultry, although fowl was breed on the territory of Ukraine since at least from IIIrd cent. BC (Voinstvensky, 1967).

The domestic duck originates from mallard, and the domestication took place at least 4000 years ago, during the Neolithic Despite the long time of breeding in captivity, the bones of domestic ducks and mallards are hardly distinguishable from each other, and the bones of domestic ducks vary insignificantly in their morphology. The only recorded

Table 2. Anatomical distribution of examined bird remains in the materials from the Hodosivka-Roslavske

Species	Carina sterni	Carpometacarpus	Coracoid	Cranium	Femur	Furcula	Humerus	Pelvis	Radius	Scapula	Tarsometatarsus	Tibiotarsus	Ulna	Carpometacarpus	Total
<i>A. clypeata</i>		3	9		1		5		2	7		10	3		40
<i>A. penelope</i>			1				2								3
<i>A. platyrhynchos</i>	5	9	80	1	1	10	97	3	44	41	4	15	51	32	393
<i>A. querquedula</i>		8	19		5		6		7	4		12	12	5	78
<i>Anas</i> sp.				1		8		18							27
<i>M. strepera</i>			4		2		7		1			2			16
<i>A. anser</i>														1	1
<i>A. ferina</i>		2										2			4
<i>C. cornix</i>									1			1	1		3
<i>C. monedula</i>					1		1								2
<i>G. gallus</i> f. <i>domestica</i>	1	1										1	1		4
<i>L. tetrix</i>												1			1
<i>T. urogallus</i>			1				1								2
Total	6	23	114	2	10	18	119	21	55	52	6	43	67	38	574

difference is that the bones of recent domestic ducks are larger than those in the wild form (Umanskaya, 1972).

Duck bones from the Hodosivka-Roslavske settlement cannot be certainly referred either to mallard or to domestic duck based on their morphology. However most likely these remains are belonging to mallard taking into account the following reasons:

1. inhabitants of medieval fortresses of the Kyivan Rus were mostly warriors and urban residents who did not keep the poultry;
2. the Dnieper riverbed and system of its small tributaries around the medieval Hodosivka-Roslavske settlement were contributed to wetland hunting;
3. very small number of domestic fowl remains suggests the absence of poultry farming in the Hodosivka-Roslavske settlement, and thus breeding of domestic ducks is also doubtful.

Though the bones of domestic fowl bones prevail in materials of excavations of other Kyivan Rus settlements (Voinstvenky 1967; Umanskaya, 1972; Tajkova, 2009; Gorobets, Kovalchuk, in press), such remains are almost absent at the Hodosivka-Roslavske. The vast majority of processed bird bones from this settlement is belonged to different species of wildducks (*Anas platyrhynchos*, *A. querquedula*), whereas other birds are represented only by a few bones. Most likely that ducks were hunted directly, as reared from eggs collected in nature and then nurtured by local population.

Order ANSERIFORMES

Family Anatidae

Greylag Goose, *Anser anser* Linnaeus, 1758

The bones of the greylag goose were found in the excavated “kitchen waste” in different regions of Ukraine VI–Ist cent. BC. (Voistvensky, 1967). Only one bone of the greylag goose was found in the medieval Hodosivka-Roslavske settlement. It was most likely a wild bird because the number of bones belonging to domestic animals is rather small as compared with the number of bones of wild ones. Unfortunately, the bones of the wild and domestic gees are not morphologically distinguishable from each other.

Mallard, *Anas platyrhynchos* Linnaeus, 1758

Numerous bones and egg shell of mallards were found in the Quaternary deposits of the Chernihiv region and in all Slavic settlements of the XI–XIIIth cent. AD (Voinstvensky, 1967; Tajkova, 2009; Gorobets, Kovalchuk, in press). Mallard was often used for game breeding. The number of its remains (393) prevail and constitutes 69 % of all bones in the studied sample (tabl. 1, see above).

Garganey, *Anas querquedula* Linnaeus, 1758

The bones of garganey were discovered in Slavic settlements of XI–XIIth cent. AD the Poltava region and in the vicinities of Kyiv (Voinstvensky, 1967; Tajkova, 2009). The bone remains of this duck (n = 78) were second after those of mallard from the Hodosivka-Roslavske settlement (table 1), as well as represented by a single bone in the sample of 2015 from this site (Kovalchuk et al., in press). The possible reason why the garganey is less represented in the “kitchen waste” is its smaller size (as compared to mallard) and lesser hunting attractiveness as a game bird.

Gadwall, *Mareca strepera* (Linnaeus, 1758)

Fossil remains of gadwalls are recorded yet from the late Paleolithic in the Novgorod-Siverskyi site and on localities in the lower current of the Dnieper River (Voinstvensky, 1967; Tajkova, 2009). Sixteen bone remains of this species were found in the Hodosivka-Roslavske settlement; it may suggest that the population of this uncommon species was much denser during the Middle Ages.

Northern Shoveler, *Anas clypeata* Linnaeus, 1758

The northern shoveler was a traditional game bird species as evidenced by its subfossil remains in Slavic settlements of the XI–XIIIth cent. AD from the vicinities of Kyiv

(Voinstvensky, 1967). Forty bones of this species were found in the Hodosivka-Roslavske settlement. Such relatively big number may be explained by successful hunting along the Dnieper migration route, as well as denser and more widespread occurrence of the northern shoveler in the medieval time.

Widgeon, *Anas penelope* Linnaeus, 1758

This duck has long been used as a game species. Its remains were recorded in Slavic settlements of the XI–XIIth cent. AD in the vicinities of Kyiv and Zhytomyr (Voinstvensky, 1967). The bones of three individuals belonging to this species were found among the materials from the Hodosivka-Roslavske settlement. These birds were likely hunted during their seasonal migrations along with other ducks, likewise it is hunted nowadays.

Common Pochard, *Aythya ferina* (Linnaeus, 1758)

This species has long been a game bird on the modern territory of Ukraine, which is confirmed by findings in burials of the VI–Ist cent. BC and I–IVth cent AD in the Olbia settlement (Voinstvensky, 1967). Four remains of the common pochard were found among the processed bird bones. The limited number of remains belonging to this species in the “kitchen wastes” may be explained by that it is a diving bird, and thus more difficult to be hunted.

Order GALLIFORMES

Family Tetraonidae

Capercaillie, *Tetrao urogallus* (Linnaeus, 1758)

Only two bones of capercaillie were found in materials from the Hodosivka-Roslavske settlement. This bird has a traditional game species even despite its tough meat.

Black Grouse, *Lyrurus tetrix* (Linnaeus, 1758)

Only one bone belonging to black grouse was found among the materials from the medieval Hodosivka-Roslavske settlement.

Order PASSERIFORMES

Family Corvidae

Hooded Crow, *Corvus cornix* Linnaeus, 1758

Three bones of the hooded crow were found at the Hodosivka-Roslavske settlement. Remnants of this species are not associated with game hunting, but rather occasional.

Jackdaw, *Corvus monedula* (Linnaeus, 1758)

Two bone remains of jackdaw were found in materials from the medieval Hodosivka-Roslavske settlement. This species is common in urban areas and feed on human waste.

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С. Ю. Тайкова

КОСТНЫЕ ОСТАТКИ ПТИЦ ИЗ РАСКОПОК СРЕДНЕВЕКОВОГО ПОСЕЛЕНИЯ ХОДОСОВКА-РОСЛАВСКОЕ (КИЕВСКАЯ ОБЛАСТЬ, УКРАИНА)

Были проанализированы костные остатки птиц из материалов раскопок средневекового поселения Ходосовка-Рославское (XI / XII–XIV в. н.э.). Пятьсот семьдесят четыре кости, из 795 экземпляров, отнесены к 12 видам. Двадцать семь поврежденных костных остатков были идентифицированы только до рода (*Anas sp.*). 221 сильно поврежденная кость осталась неопределенной. Отобранные костные фрагменты, собранные из того же слоя, были сгруппированы по количеству исходных образцов. Большинство определенных остатков принадлежат *Anas platyrhynchos* — 68,5 %. Все остальные виды представлены небольшим количеством остатков, за исключением *Anas guerguedula* — 13,6 %, *Anas clypeata* — 6,9 % и *Mareca strepera* — 2,8 %.

К л ю ч е в ы е с л о в а: птицы, кости, раскопки, археозоология, Ходосовка-Рославское, Восточная Европа, Украина.

С. Ю. Тайкова

КІСТКОВІ ЗАЛИШКИ ПТАХІВ З РОЗКОПОК СЕРЕДНЬОВІЧНОГО ПОСЕЛЕННЯ ХОДОСІВКА-РОСЛАВСЬКЕ (КИЇВСЬКА ОБЛАСТЬ, УКРАЇНА)

Було проаналізовано кісткові залишки птахів з матеріалів розкопок середньовічного поселення Ходосівка-Рославське (XI / XII-XIV ст. н.е.). П'ятсот сімдесят чотири кістки з 795 належать до 12 видів. Двадцять сім пошкоджених кісткових залишків були ідентифіковані тільки до роду (*Anas sp.*). 221 сильно пошкоджена кістка залишилася невизначеною. Відібрані кісткові фрагменти, зібрані з того самого шару, було згруповано за кількістю вихідних зразків. Більшість визначених залишків належать *Anas platyrhynchos* — 68,5 %. Решта видів представлена невеликою кількістю залишків, за винятком *Anas guerguedula* — 13,6 %, *Anas clypeata* — 6,9 % і *Mareca strepera* — 2,8 %.

К л ю ч о в і с л о в а: птахи, кістки, розкопки, археозоологія, Ходосівка-Рославське, Східна Європа, Україна.