

# Avian Remains from the Early Neolithic Settlement Near Yabalkovo Village (Haskovo Region, South-East Bulgaria)

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**Abstract:** Twelve bird bone remains (MNI=8), of 3 orders, 3 families and 5 species (including domestic forms), dated ca. 6500 B. P. of *Cygnus olor*, *Anser* sp. (cf. *Anser albifrons* or *Anser anser*, *Gallus gallus domestica*, and *Fulica atra* have been identified. The findings of *C. olor* and *F. atra* are among the oldest ones so far in the country.

Yabalkovo is the oldest site in Bulgaria, proving the existence of poultry-breeding.

Game fowling (mainly of water birds), along with the poultry-breeding, played an important role in the life of inhabitants of the settlement. Poultry-breeding was non-selective and both large (of the Colchic pheasant size) and small (of the Bantam breeds size) adult individuals of domestic fowl have been found.

It is concluded from a broken and healed ulna of an adult individual of *F. atra* that the bird had the opportunity to survive besides its incapability to fly. Hence, the conclusion that suitable refuges of dense swampy vegetation existed in the surroundings of the settlement.

Complete review of Bulgarian fossil/subfossil record of all recorded species is represented.

**Key words:** Early Neolithic birds, Holocene avian remains, Bulgaria, Archaeozoology, early poultry-breeding, game-fowl, bone abnormalities

## Introduction

**Location:** The archaeological site is located in the central part of Upper Thrace in the Karabyulyuk locality near Yabalkovo village (UTM grid: LG75) at ca. 150 m a. s. l. (42-03'00"N; 25-30'00"E), 1 km E of Yabalkovo village, SE Bulgaria).

**Excavations:** The site was explored in 2000-2007 by a team, leaded by DR. KRASSIMIR LESHTAKOV (Sofia University, Department of Archaeology) and dated (different layers) Early Neolithic, Antiquity and Medieval Ages. The site was known even since the second half of the 19th century during the construction of Plovdiv-Edirne railway. In 2005 the excavated area of the site covers over 0.5 ha (LESHTAKOV *et al.*, 2007). **Dating and cultural interrelationships:** The up-

permost layer is dated 'mid 5th millennium B. C.' (LESHTAKOV *ET AL.*, 2007), while the lower layers refer to the 2nd phase of the Early Neolithic period. Tools and stone-industry suggest some Anatolian parallels. In general, the culture of Yabalkovo belongs to the s. c. Early Balkan Neolithic milieu (WIKIPEDIA 2008 A).

**Associated fauna:** The established species composition is based on ca. 700 bone fragments from 'sure Early Neolithic contexts.' (LESHTAKOV *et al.*, 2007). **Mammalia:** Domestic - *Sus scrofa domestica*, *Ovis aries*, *Capra hircus*, *Bos taurus*; Wild - *Bos primigenius*, *Capreolus capreolus*, *Erinaceus concolor* (probably misdated) (NIKOLAY SPASSOV, NMNHS - unpubl. data).

## Material and Methods

Avian bone material (12 bones and bone fragments) has been handed for examination by DR. VET. NIKOLAY ILIEV in 2006-2007. All findings are kept at the Fossil and Recent Birds Department of the National Museum of the Natural History (NMNHS) of Bulgarian Academy of Sciences in Sofia (No NMNHS 16 503-16 514). They have been identified through the comparative avian osteological collection of the NMNHS. All measurements (Table 1) are given in mm.

### Species composition

According to the identifications, collected bird remains belong to 5 avian taxa/forms, referred to 3 orders, and 3 families (Table 1).

#### Mute Swan *Cygnus olor* (GMELIN, 1789)

The Mute Swan always was among the most valuable waterfowl in the prehistoric times. Its wide distribution and utilization as a source of meat for food are well documented in Bulgarian fossil and subfossil record from 11 sites, all of Holocene age: Kazanlak (Early Neolithic; KOVACHEV 1988; BOEV 1993), Durankulak-1 (Neolithic-Eneolithic, 6500-4000 B.C.; BOEV 1999), Golyamo Delchevo (Eneolithic; V. NIKOLOV unpubl. data), Urdoviza, (Early Bronze Age, 5000-4000 B. P.; BOEV, RIBAROV 1990), Nicopolis-ad-Istrum (1st-6th century A. D.; BOEV 1991; BOEV, BEECH 2007), Novae (6th century A. D.; BARTOSIEWICZ, CHOYKE 1991), Novae (7th century A.D.; SCHRAMM 1975), Durankulak-2 (Antiquity; Medieval Ages; BOEV 1999), Karnobat (6th-11th century A. D.; BOEV 1995), Krivnya (9th-10th century A. D.), Iskritsa (11th-12th century A. D.; BOEV 1999). The site of Yabalkovo along with the site of Kazanlak (dated 6000-5000 B. C.) is probably the oldest site of Mute Swan in Bulgaria.

#### Domestic Fowl *Gallus gallus* (LINNAEUS, 1758), *forma domestica*

Collected material originates from at least four individuals of different individual age and different body size (Table 1). All specimens of domestic fowl

belong to small to lower range of the medium body size breeds in comparison to recent breeds. At least one specimen (No 16 503) was of very small size, fully comparable to the modern 'bantam chicken'. We accept the statement, that many modern standard chicken breeds have a bantam counterpart sometimes referred to as a miniature, and that miniatures are usually one-fifth to one-quarter the size of the standard breed (WIKIPEDIA 2008 B). On the other hand, we establish a relatively large domestic fowl (No 16 513), which size corresponds to that of the cocks of modern *Phasianus colchicus* LINNAEUS, 1758. Such a wide range of the size of domestic fowl could only be explained by nonselective poultry-breeding, more specific for the primitive poultry-breeding at its earlier stages. Some aspects of the appearance of domestic chicken on the Balkans has been discussed by BOEV (1995, 2009).

#### Goose *Anser* sp. (cf. *Anser albifrons* (SCOPOLI, 1769))

A large goose of the size of Greater White-fronted Goose (*Anser albifrons* (SCOPOLI, 1769)) and Greylag Goose (*Anser anser*, LINNAEUS, 1758) is represented in the material by three highly fragmentary bone findings (splinters) of leg bones, that could not be identified further.

*Anser albifrons* is recorded in the medieval sites Pliska, Veliki Preslav, Krivnya (9th-10th century A. D.), and Hisarlaka (BOEV 1999), while the record of *Anser anser* is much richer: Malak Preslavets (Early Neolithic, 6000 B. C.), Durankulak-1 (Neolithic-Eneolithic, 6000-4000 B. C.), Galabovo (Eneolithic-Middle Bronze Age), Yaylata (Middle Holocene), Pipra (4200 B. C. – 6th century A. D.), Urdoviza, Nicopolis-ad-Istrum, Kabile, and in the medieval sites Garvan (6th-11th century A. D.), Iskritsa, Krivnya, Veliki Preslav, Pliska, Hisarlaka (BOEV, 1999). The last species has been also recorded in Golyamo Delchevo (Early Neolithic; IVANOV, VASILEV 1975), Ovcharovo (Early Eneolithic; VASILEV 1983), Ezero (Eneolithic; IVANOV, VASILEV 1979), Kabile (beginning of the 1st millenium B. C.; RIBAROV, 1991), Novae (7th century A. D.; SCHRAMM 1975), Yambol (9th-12th century A. D.; RIBAROV

**Table 1.** Taxonomic list, collection numbers and measurements of avian findings of Early Neolithic birds of the settlement near Yabalkovo village

Species	Skeletal element/ Age	NMNH collection number	Measurement	Dimension	MNI
ANSERIFORMES					
Anatidae					
<i>Cygnus olor</i> (GMELIN, 1789)	femur sin. dist. ad.	16 514	maximum width of distal epiphysis	25.6	1
<i>Anser</i> sp. (cf. <i>Anser albifrons</i> (SCOPOLI, 1769)	ulna dex. prox. ad. (splinter of the 2 <sup>nd</sup> fifth of diaphysis)	16 505	medio-lateral diameter	7.3	1
	radius dex. dist. ad. (splinter)	16 504	maximum thickness	5.3	
<i>Anser</i> sp.	tibiotarsus dex. dist. ad.	16 506	minimum width of diaphysis	6.3	1
GALLIFORMES					
Phasianidae					
<i>Gallus gallus</i> (LINNAEUS, 1758), forma <i>domestica</i>	humerus sin. ad.	16 513	total maximum length	71.9	4
	humerus dex. ad. (without proximal epiphysis)	16 512	width of distal epiphysis	9.6	
	femur dex. juv.	16 508	total maximum length	59.0	
	scapula dex. ad.	16 507	maximum width of facies articularis humeralis	7.3	
	tibiotarsus sin. prox. ad. (splinter just below crista fibularis)	16 503	thickness below the lower end of crista fibularis	6.8	
	coracoid dex. ad.	16 511	total maximum length	60.7	
	humerus dex. juv. (without epiphyses)	16 510	maximum width of diaphysis in distal end of facies mi. latissimi dorsi	7.4	
GRUIFORMES					
Rallidae					
<i>Fulica atra</i> LINNAEUS, 1758	ulna sin. ad. (pre- mortally broken diaphysis)	16 509	total maximum length	ca. 65.5	1
<b>Total</b>					<b>8</b>

1981), Durankulak (Medieval Ages; VASILEV 1989). As seen, both geese were widely and highly appreciated as valuable game-fowl all over the country.

#### Eurasian Coot *Fulica atra* LINNAEUS, 1758

The Eurasian Coots of Eneolithic to Bronze Age (7000-4400 B. P.) from Sozopol have been referred to an extinct subspecies (*F. a. pontica* BOEV & KARAIVANOVA, 1998), because of the significant pro-

portional differences in the length of the long bones of fore and hind limbs. The total length of ulna in 13 recent specimens is 63.0-74.0 (mean 67.48), while this measurement in 8 fossil (Eneolithic to Bronze Age) specimens of the site is 62.2-70.5 (mean 66.09) (BOEV, KARAIVANOVA 1998). The value of the same measurement in Early Neolithic specimen of Yabalkovo is ca. 65.5 (Table 1) and fall within the range of both, recent and subfossil coots. It is worthy

to mention, that the collected specimen bears clearly marked features of a pre-mortal breaking of the bone (its diaphysis; Fig. 1) and it's followed knitting together. It is an extremely important observation, indicating the presence of dense water vegetation (*Phragmites*, *Typha*, etc.) along Maritsa river banks, where the flightless coot survived for a long period during recovering of its broken wing.

Fossil/subfossil record of *Fulica atra* includes findings of 9 sites, all of post-glacial period: Madara (Early Holocene ?10 000-7000 B.P.; MITEV, BOEV 2006), Sozopol (Eneolithic to Bronze Age, 7000-4400 B.P.; BOEV, KARAIANOVA 1998), Shirokovo

(Early to Late Holocene; MITEV, 2006), Durankulak-1 (Neolithic-Eneolithic, 6500-4000 B.C.; BOEV & KARAIANOVA 1998), Urdoviza (Eneolithic-Early Bronze Age, 3000-2000 B. C.; BOEV, KARAIANOVA 1998), Yaylata (Middle Holocene; BOEV, 1999), Nisovo (Late Holocene; MITEV 2006), Topchii (Late Holocene; MITEV, BOEV 2006), Ruse (Late Holocene; BOEV, KARAIANOVA 1998). The new site of Yabalkovo confirms once again the species' distribution in the Neolithic. It is the third site in Southern Bulgaria and probably the oldest site of the Eurasian coot in Bulgaria.



**Fig. 1.** Ulna sin. of *Fulica atra* (left to right): specimen from the Early Neolithic of Yabalkovo (NMNHS 13 509) and recent specimen from Tuzlata, Dobrich Region, NE Bulgaria (NMNHS 23/1997 (Photo: Z. Boev).

## Conclusions

The poultry-breeding (of domestic fowl) has been practiced in the settlement. Dimensional features of the examined four specimens indicate a lack of selective (meat) breed. No other domestic birds, except the domestic fowl, have been established.

Along with the poultry-breeding, the game fowling played an important role in the bird meat supply. All game fowl species in the material belong to water birds – swans, geese and Eurasian Coot, indicating the preferable water hunting grounds for the Neolithic inhabitants. The broken ulna of a Eurasian Coot proves the presence of dense water vegetation along the Maritsa river banks.

At the moment, the site of Yabalkovo is probably the oldest site of the Mute Swan and the Eurasian Coot in Bulgaria.

The five avian taxa, established by twelve findings represent 41.6 % of the total species composition of the animals in the collected archaeozoological material from the site, although their number is even 1.7 % of the collected findings. Thus Yabalkovo confirms once again the exclusive importance of the ornitho-archaeological researches in restoring the life and paleoenvironment of the ancient people.

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# Останки от птици от ранно-неолитното селище при с. Ябълково (Хасковска област, Югоизточна България)

Златозар Боев

## (Резюме)

Проучени са 12 костни находки (MNI=8) на птици от 3 разряда, 3 семейства и 5 вида (вкл. одомашнени форми), датирани преди ок. 6500 г.: *Cygnus olor*, *Anser* sp. (cf. *Anser albifrons*, *Anser* sp., *Gallus gallus domestica* и *Fulica atra*. Находките от *C. olor* и *F. atra* са сред най-древните досега в страната.

Ябълково е най-древното селище в България, в което се е практикувало птицевъдството.

Ловът на птици (главно водолюбиви), наред с птицевъдството, е имал важно значение за обитателите на селището. Птицевъдството е било неселективно. Установени са, както едри (с размерите на колхидски фазан), така и дребни (колкото бантамки) възрастни индивиди.

От счупената и зараснала преживе лакътна кост на един възрастен екземпляр *F. atra* се заключава, че птицата е имала възможността да преживее възстановяването на крилото си през период, в който не е можела да лети. От това следва, че в околността на праисторическото селище е имало надеждни укрития от гъста блатна растителност, сред която този индивид е оцелял.

За всички установени видове е представен пълен преглед на разпространението им в археологичния контекст на България.