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Birds and People in Medieval Bulgaria—A Review of the Subfossil Record of Birds During the First and Second Bulgarian Empires

Zlatozar Boev

National Museum of Natural History, Bulgarian Academy of Sciences, 1 Tsar Osvoboditel Blvd., 1000 Sofia, Bulgaria; boev@nmnhs.com

Abstract

For the first time, the numerous scattered data on birds (wild and domestic) have been collected based on their medieval bone remains discovered on the modern territory of the Republic of Bulgaria. The collected information is about a total of 37 medieval settlements from the time of the First and Second Bulgarian Empires. Among the settlements studied are both the two medieval Bulgarian capitals (Pliska and Veliki Preslav), as well as other cities, smaller settlements, military fortresses, monasteries, and inhabited caves. The data refer to a total of 48 species of wild birds and 6 forms of domestic birds of 11 avian orders: Accipitriformes, Anseriformes, Ciconiiformes, Columbiformes, Falconiformes, Galliformes, Gruiformes, Otidiformes, Passeriformes, Pelecaniformes, and Strigiformes. The established composition of wild birds amounts to over one tenth (to 11.5%) of the modern avifauna in the country. Five of the established species (10.4%) have disappeared from the modern nesting avifauna of the country—the bearded vulture, the great bustard, the little bustard, the gray crane, and the saker falcon (the latter two species have reappeared as nesters in the past few years). First Bulgarian Empire (681–1018): Investigated settlements—22. Period covered—five centuries (7th to 11th c.). Found in total: at least 44 species/forms of birds, of which 39 species of wild birds and 5 forms of poultry. Second Bulgarian Empire (1185–1396): Investigated settlements—15. Period covered—3 centuries (12th to 14th c.). Found in total: at least 39 species/forms of birds, of which 33 species of wild birds and 6 forms of poultry. The groups of raptors, water, woodland, openland, synanthropic and domestic birds were analyzed separately. The conclusion was made that during the two periods of the Middle Ages, birds had an important role in the material and spiritual life of the population of the Bulgarian lands. Birds were mainly used for food (domestic birds), although some were objects of hunting. No traces of processing were found on the bones. Birds were subjects of works of applied and monumental art. Their images decorated jewelry, tableware, walls of buildings and other structures.

Keywords: Balkan ornithoarchaeology; subfossil birds; subrecent avifaunas; gamefowl; medieval hunting birds; domestic birds

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1. Introduction

Throughout human history, birds have had an extremely important and multifaceted significance for people of all social classes in all countries and on all inhabited continents. Birds have played a very important role in the cultural life of ancient civilizations. In the Middle Ages, birds certainly had an important symbolic value, as they feature substantially

in both iconographic and written sources [1,2]. After Masetti (2015) [1], "Throughout human history, people have been interested and fascinated by birds well beyond their exploitation as a food source. In the Middle Ages, birds certainly had an important symbolic value, as they feature substantially in both iconographic and written sources".

In medieval Europe, birds even had a direct significance for written cultural heritage. Thousands of pages of medieval manuscripts were written with pens made of hollow bird wing bones of quills [3]. Archaeozoology (and ornithoarchaeology) have so far dealt mainly with the utilitarian significance of birds with their primary use in the material life of people; their aesthetic (visual and acoustic), emotional, educational, or even heraldic or grammatical significance in the spiritual life of people, to this day remain unjustifiably underestimated.

To date, 420 species of birds have been established on the territory of modern Bulgaria, which is almost three times smaller than at the height of the First and Second Bulgarian Empires. So far, according to materials from Bulgaria, only one species of modern birds has been described as new to world science—the Eurasian collared dove (*Streptopelia decaocto* (Frivaldszky, 1838)), and 35 species of fossil birds. That is why Bulgaria is also important for the study of subfossil finds of birds from the thousands of archaeological sites in the country. As of 2017, over 400,000 archaeological sites are known in Bulgaria [4] and, after Greece and Italy, it is the richest in Europe in terms of its archaeological heritage.

2. Scope of the Topic

Regarding birds and people, the importance of birds in the lives of Bulgarians begins with the appearance of the latter, because birds have been on planet Earth since 155 million years ago. Bulgarians are mentioned in ancient sources as early as 1669 years ago, i.e., long before the beginning of the Middle Ages. The Middle Ages (at least in the Balkans) encompassed an almost 1200-year period from the 5th to the 17th centuries [5]. Bulgaria—the largest state in the Balkans during the Middle Ages was the state of the Bulgarians. As is well known, the Bulgarians had several states on two continents—first in Asia, then in Europe. The present study outlines our data on the relationships of people with birds in two of the four European states of the Bulgarians during the Middle Ages—the First (Figure 1) and Second (Figure 2) Bulgarian Empires on the Balkan Peninsula. All 37 studied localities are located within the modern borders of the Republic of Bulgaria. No similar studies have been conducted so far on the birds of medieval settlements from the Bulgarian period in the territories of neighboring countries.

The early medieval Old Great Bulgaria near the Caucasus, as well as its successor, Volga Bulgaria, remain outside the scope of this study, although they both were also powerful medieval states. It is worth noting that Bulgaria is the oldest European state, existing under that same name for more than eighteen centuries [7]. Part of the medieval history of Bulgaria is included in the Ottoman period of its rule (1396–1878); here we consider only the information about birds in the two Christian Bulgarian empires–the First and the Second. During the reign of Tsar Simeon the Great in 927 and Tsar Ivan Assen II in 1230, the Bulgarian state reached its greatest rise and became the largest Balkan state and one of the largest on the European continent. These clarifications are necessary to clearly define the scope of the present topic.



Figure 1. Map of the First Bulgarian Empire during the reign of Tsar Simeon I (927) according to [6].



Figure 2. Map of the Second Bulgarian Empire during the reign of Tsar Ivan Asen II (1230) according to [6].

3. Materials and Methods

Here we consider the relationship between humans and birds equally as the relationship of two organism communities—(1) that of the Bulgarian population (part of the modern population of *Homo sapiens sapiens* in Europe) since the 7th to the 17th century in the very variable territorial borders of the medieval Balkan Bulgarian states and (2) the birds (modern birds Neornithes, which arose 66 million years ago)—wild and domesticated in these territories. This has not been carried out before, and this was our challenge. One more clarification is necessary: here we will consider the birds established on the basis of their bone remains found in archaeological monuments from the First and Second Bulgarian Empires only within the modern territory of the Republic of Bulgaria. Here, materials from a total of 37 studied medieval settlements have been analyzed (see Table 1)—22 from the

First Bulgarian Empire and 15 from the Second Bulgarian Empire. Some of the settlements contain materials from both the First and Second Bulgarian Empires, but these materials have not been chronologically separated, which is why they are present here in the data for both empires.

Here we consider all six established domestic birds (chicken, goose, duck, turkey, peacock, pigeon) as domestic forms (forma *domestica*), which do not have a status according to the International Code of Zoological Nomenclature [8].

The avian bone remains were identified through the osteological collections of the National Museum of Natural History at the Bulgarian Academy of Sciences (Vertebrate Animals Department). All bone finds are inventoried and kept at the same department, except the material of sites No. 2, 22, 32, and 36.

Table 1. Composition of birds (wild and domestic) found in the settlements of the First and Second Bulgarian Empires (archaeornithological data).

First Bulgarian Empire (681–1018)					
N	**Settlement**	**Province**	**Age (Century AD)**	**Avian Species/Domesticated Forms**	**Source**
1.	Garvan	Silistra	6–11	Wild: *Phasianus colchicus*; Domestic: –;	[9]
2.	Popina	Silistra	8–12	Wild: –; Domestic: *Gallus gallus domestica*	[10]
3.	Pliska–Zlatna Niva	Shumen	10	Wild: *Anser albifrons*, *Anser anser*, *Phasianus colchicus*, *Columba livia*, *Corvus corax*, *Otis tarda*, *Falco peregrinus*, *Gypaetus barbatus*; Domestic: *Gallus gallus domestica*, *Anas platyrhynchos domestica*	[11,12]
4.	Pliska–Citadel	Shumen	10	Wild: *Cygnus olor*, *Anser anser*, *Grus grus*, *Phasianus colchicus*, *Columba palumbus*, *Corvus cornix*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*, *Columba livia domestica*	[13]
5.	Dolni Lukovit	Pleven	9–10	Wild: *Columba palumbus*; Domestic: *Gallus gallus domestica*	[14]
6.	Veliki Preslav–Inner Town	Shumen	9–10	Wild: *Anser fabalis*, *Anser erythropus*, *Anser anser*, *Anser albifrons/fabalis*, *Anser* sp., *Anas platyrhynchos*, *Anas penelope*, *Tadorna tadorna*, *Tadorna ferruginea*, Anatidae gen., *Perdix perdix*, *Accipiter nisus*, *Phasianus colchicus*, cf. *Aquila fasciata*, *Strix aluco*, *Corvus cornix*, cf. *Gyps fulvus*, *Ardea cinerea/Ardea alba*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*, *Columba livia domestica*	[15,16]
7.	Veliki Preslav–Outer Town	Shumen	9–10	Wild: *Anser erythropus*, *Anser fabalis*, *Anas penelope*, *Anas platyrhynchos*, *Anser* sp., Anatinae gen., *Phasianus colchicus*, *Circaetos gallicus*, cf. *Columba livia*, *Aquila fasciata*, *Strix aluco*, *Corvus cornix*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*	[16,17]

Table 1. *Cont.*

First Bulgarian Empire (681–1018)					
N	**Settlement**	**Province**	**Age (Century AD)**	**Avian Species/Domesticated Forms**	**Source**
8.	Veliki Preslav–Palace Center–North	Shumen	11–13	Wild: cf. *Alectoris graeca*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*	[18]
9.	Veliki Preslav–Mostich Monastery	Shumen	10–12	Wild: *Anser* cf. *erythropus* Domestic: *Gallus gallus domestica*	[19]
10.	Veliki Preslav–South Gate	Shumen	9–16	Wild: –; Domestic: *Gallus gallus domestica*, *Anser anser domestica*, *Anas platyrhynchos domestica*, *Meleagris gallopavo domestica*	[20]
11.	Serdica–Northern Fortification Wall	Sofia City	3–6	Wild: *Grus grus*, *Otis tarda*, *Gyps fulvus*, *Buteo buteo*; Domestic: *Gallus gallus domestica*	[21]
12.	Brankovtsi	Vidin	10–13	Wild: –; Domestic: *Gallus gallus domestica*	[22]
13.	Petarch	Sofia	7–9	Wild: –; Domestic: *Gallus gallus domestica*	[23]
14.	Sliven–Hisarlaka	Sliven	10–12	Wild: *Alectoris graeca*, *Phasianus colchicus*, *Alectoris/Perdix*; *Tetrao urogallus*, *Buteo buteo*, *Astur gentilis*, *Streptopelia turtur*, *Strix aluco*, *Otis tarda*, *Columba livia*, cf. *Aquila fasciata*, Domestic: *Gallus gallus domestica*, *Gallus/Phasianus*, *Anser anser domestica*	[24]
15.	Karnobat–Markeli Fortress	Burgas	6–11	Wild: *Phasianus colchicus*, *Otis tarda*, *Cygnus olor*, *Clanga clanga*, *Clanga pomarina*, *Falco tinnunculus*; Domestic: *Gallus gallus domestica*	[11,25]
16.	Krivnya	Ruse	9–10	Wild: *Pelecanus onocrotalus*, *Cygnus olor*, *Anser anser*, *Anas platyrhynchos*, *Phasianus colchicus*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*, *Anas platyrhynchos domestica*	[11]
17.	Karanovo	Stara Zagora	10–12	Wild: *Anser anser*, *Corvus corax*, *Clanga pomarina*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*	[11,25]
18.	Yambol–Necropol	Yambol	9–12	Wild: –; Domestic: *Gallus gallus domestica*, *Anser anser domestica*	[11,26]
19.	Voden–Voden Cave	Haskovo	10–14	Wild: *Phasianus colchicus*, *Pica pica*; Domestic:–	[11,26]

Table 1. *Cont.*

N	Settlement	Province	Age (Century AD)	Avian Species/Domesticated Forms	Source
First Bulgarian Empire (681–1018)					
20.	Vidin–Baba Vida Fortress	Vidin	8–17	Wild: *Anas platyrhynchos*, *Anas* sp., *Tetrao urogallus*, *Ardea cinerea*, *Grus grus*, *Ciconia ciconia*; Domestic: *Gallus gallus domestica*, *Meleagris gallopavo domestica*, *Anas platyrhynchos domestica*	[11,26]
21.	Durankulak	Dobrich	9–11	Wild: *Cygnus* sp., *Anser* sp., *Anas platyrhynchos*, *Anas* sp., *Fulica atra*, *Perdix perdix*; Domestic: *Gallus gallus domestica*, *Anas platyrhynchos domestica*, *Anser anser domestica*	[26–28]
22.	Ezerovo	Varna	6–8	Wild: *Cygnus* sp.; Domestic: *Gallus gallus domestica*, *Anas platyrhynchos domestica*	[29]
Second Bulgarian Empire (1185–1396)					
23.	Serdica–Forum	Sofia City	14–19	Wild: *Pelecanus onocrotalus*, *Anas platyrhynchos*, *Anas crecca*, *Tadorna tadorna*, *Ciconia ciconia*, *Perdix perdix*, *Phasianus colchicus*, *Tetrao urogallus*, cf. *Otis tarda*, *Tetrax tetrax*, *Columba palumbus*, *Buteo buteo*, *Aegypius monachus*, *Gyps fulvus*, *Aquila chrysaetos*, *Aquila heliaca*, *Clanga pomarina*, *Astur gentilis*, *Falco cherrug*, *Corvus cornix*, *Coloeus monedula*; Domestic: *Gallus gallus domestica*, *Anas platyrhynchos domestica*, *Anser anser domestica*, *Pavo cristatus domestica*, *Columba livia domestica*, *Gallus/Phasianus*	[30,31]
24.	Dolni Lukovit	Pleven	11–14	Wild: *Columba palumbus*; Domestic: *Gallus gallus domestica*	[14]
25.	Brankovtsi	Vidin	10–13	Wild: –; Domestic: *Gallus gallus domestica*	[22]
26.	Karanovo	Stara Zagora	10–12	Wild: *Anser anser*, *Corvus corax*, *Clanga pomarina*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*	[11,26]
27.	Iskritsa	Stara Zagora	11–12	Wild: *Anser anser*, *Perdix perdix*, *Phasianus colchicus*, *Otis tarda*, *Columba livia*, *Athene noctua* Domestic: *Gallus gallus domestica*	[25]
28.	Dyadovo	Sliven	11–12	Wild: *Phasianus colchicus*, *Streptopelia turtur*; Domestic: *Gallus gallus domestica*	[32]
29.	Yambol–Necropol	Yambol	9–12	Wild: –; Domestic: *Gallus gallus domestica*, *Anser anser domestica*	[11,26]

Table 1. *Cont.*

Second Bulgarian Empire (1185–1396)					
N	**Settlement**	**Province**	**Age (Century AD)**	**Avian Species/Domesticated Forms**	**Source**
30.	Yambol–Town	Yambol	11–14	Wild: *Alectoris graeca*, *Alectoris/Perdix*, *Phasianus colchicus*, *Astur gentilis*, *Tetrao urogallus*, *Otis tarda*, *Streptopelia turtur*, *Columba livia*, *Buteo buteo*, cf. *Aquila fasciata*, *Strix aluco*; Domestic: *Gallus gallus domestica*, *Gallus/Phasianus*, *Anser anser domestica*, *Columba livia domestica*	[33,34]
31.	Sliven–Hisarlaka	Sliven	10–12	Wild: *Alectoris graeca, Phasianus colchicus*, *Gallus/Phasianus*, *Buteo buteo*, *Astur gentilis*, *Tetrao urogallus*, *Streptopelia turtur*, *Strix aluco*, *Otis tarda*, *Columba livia*, cf. *Aquila fasciata*, *Alectoris/Perdix*; Domestic: *Gallus gallus domestica*, *Anser anser domestica*	[24]
32.	Kovachevo	Pazardzhik	12	Wild: –; Domestic: *Gallus gallus domestica*	[35]
33.	Gledachevo	Stara Zagora	12	Wild: *Corvus frugilegus*; Domestic: *Gallus gallus domestica*	[25]
34.	Vidin–Baba Vida Fortress	Vidin	8–17	Wild: *Anas platyrhynchos*, *Anas* sp., *Tetrao urogallus*, *Ardea cinerea*, *Ciconia ciconia*, *Grus grus*; Domestic: *Gallus gallus domestica, Meleagris gallopavo domestica*, *Anas platyrhynchos domestica*	[11,26]
35.	Voden–Voden Cave	Haskovo	10–14	Wild: *Phasianus colchicus*, *Pica pica*; Domestic: –	[11,26]
36.	Kardzhali–Monastery	Kardzhali	11–14	Wild: –; Domestic: *Gallus gallus domestica*	[36]
37.	Shumen–Fortress	Shumen	14–15	Wild: *Perdix perdix*; Domestic: –	[26]

4. Results

In this archaeornithological study, for convenience, we divide the data into two groups—those for (1) "Birds under ground", i.e., based on the known bone finds of birds, deposited (and excavated) in ancient settlements, and for (2) "Birds above ground", i.e., for finds related to birds, but found on above-ground monuments—walls, enclosures, buildings, manuscripts, etc.

4.1. First Bulgarian Empire (681–1018 AD)

Number of studied settlements with identified bird remains in them—22. Period covered—7–11 centuries. A total of at least 44 species/forms of birds were identified, of which 39 species of wild birds and 5 forms of domestic birds (Table 1; Figure 3).

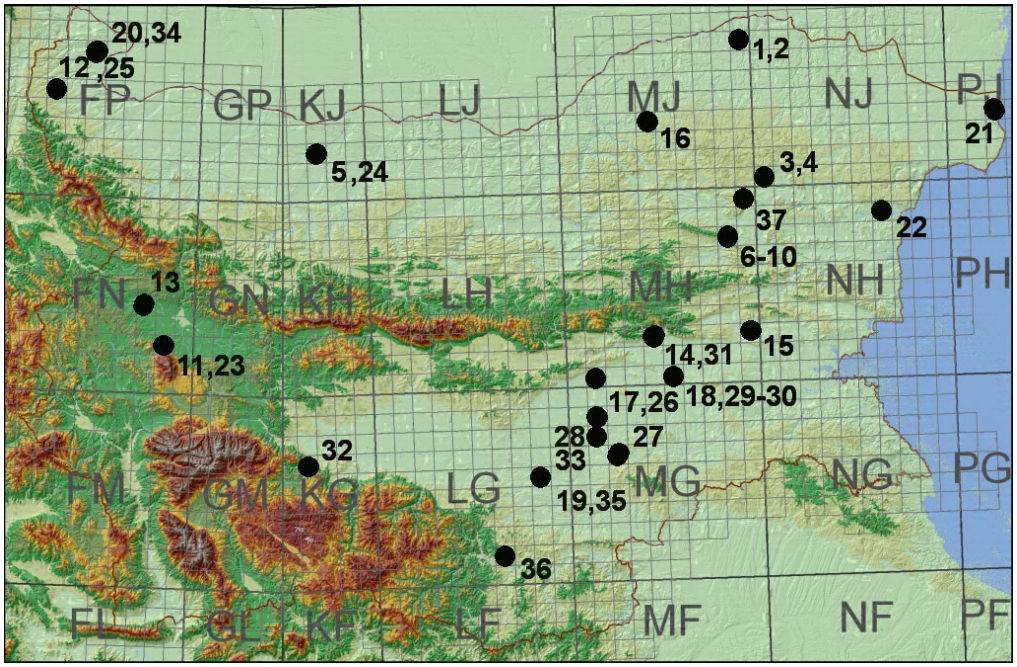


Figure 3. Location of the studied medieval archaeological sites in Bulgaria (Numbers of the sites correspond to those of Table 1).

At the time of the First Bulgarian Empire, the most species/forms of birds (22) were established in the Inner City of Veliki Preslav (9th–10th centuries)—the state's capital. The origin of most of the avian remains of wild birds is related to bird hunting. It is possible that birds were also used as a source of feathers for various uses, as was the practice of other European countries during the Middle Ages, but there is no direct evidence of that.

4.2. Second Bulgarian Empire (1185–1396 AD)

Although the Middle Ages in the Balkans continued until the 17th century, here we limit ourselves to the period of the existence of the Second Bulgarian Empire, i.e., until 1396, although the last Bulgarian medieval state–the Tsardom of Vidin–existed until 1422.

Number of studied settlements with identified bird remains in them—15. Period covered—12th–14th centuries. A total of 39 species/forms of birds were identified, of which 33 species of wild birds and 6 forms of domestic birds (Table 2).

Table 2. Comparative composition of the wild and domestic birds in the First and Second Bulgarian Empires.

	First Bulgarian Empire (681–1018 AD)		**Second Bulgarian Empire (1185–1396 AD)**
1.	*Astur gentilis*	1.	*Astur gentilis*
2.	*Accipiter nisus*	2.	-
3.	-	3.	*Aegypius monachus*
4.	*Alectoris graeca*	4.	*Alectoris graeca*
5.	*Alectoris/Perdix*	5.	*Alectoris/Perdix*
6.	*Anas penelope*	6.	-
7.	-	7.	*Anas crecca*

Table 2. *Cont.*

	First Bulgarian Empire (681–1018 AD)		Second Bulgarian Empire (1185–1396 AD)
8.	*Anas platyrhynchos*	8.	*Anas platyrhynchos*
9.	*Anas platyrhynchos domestica*	9.	*Anas platyrhynchos domestica*
10.	*Anas* sp.	10.	*Anas* sp.
11.	Anatidae gen.	11.	-
12.	*Anser anser*	12.	*Anser anser*
13.	*Anser albifrons*	13.	-
14.	*Anser anser domestica*	14.	*Anser anser domestica*
15.	*Anser albifrons/fabalis*	15.	-
16.	*Anser erythropus*	16.	-
17.	*Anser fabalis*	17.	-
18.	*Anser* sp.	18.	-
19.	-	19.	*Athene noctua*
20.	*Ardea cinerea*	20.	*Ardea cinerea*
21.	*Ardea cinerea/Ardea alba*	21.	-
22.	-	22.	*Aquila heliaca*
23.	-	23.	*Aquila chrysaetos*
24.	*Circaetos gallicus*	24.	-
25.	*Buteo buteo*	25.	*Buteo buteo*
26.	*Ciconia ciconia*	26.	*Ciconia ciconia*
27.	*Aquila fasciata*	27.	*Aquila fasciata*
28.	*Clanga pomarina*	28.	*Clanga pomarina*
29.	*Clanga clanga*	29.	-
30.	-	30.	*Coloeus monedula*
31.	*Columba livia*	31.	*Columba livia*
32.	*Columba livia domestica*	32.	*Columba livia domestica*
33.	*Columba palumbus*	33.	*Columba palumbus*
34.	*Corvus corax*	34.	*Corvus corax*
35.	*Corvus cornix*	35.	*Corvus cornix*
36.	-	36.	*Corvus frugilegus*
37.	-	37.	*Falco cherrug*
38.	*Falco peregrinus*	38.	-
39.	*Falco tinnunculus*	39.	-
40.	-	40.	*Gallus/Phasianus*
41.	*Grus grus*	41.	*Grus grus*
42.	*Cygnus olor*	42.	-
43.	-	43.	*Gyps fulvus*
44.	*Cygnus* sp.	44.	-

Table 2. *Cont.*

	First Bulgarian Empire (681–1018 AD)		Second Bulgarian Empire (1185–1396 AD)
45.	-	45.	*Meleagris gallopavo domestica*
46.	*Otis tarda*	46.	*Otis tarda*
47.	-	47.	*Pavo cristatus domestica*
48.	-	48.	*Pelecanus onocrotalus*
49.	*Fulica atra*	49.	-
50.	*Perdix perdix*	50.	*Perdix perdix*
51.	*Gallus gallus domestica*	51.	*Gallus gallus domestica*
52.	*Gallus/Phasianus*	52.	-
53.	-	53.	*Phasianus colchicus*
54.	*Pica pica*	54.	*Pica pica*
55.	*Gypaetus barbatus*	55.	-
56.	*Streptopelia turtur*	56.	*Streptopelia turtur*
57.	*Gyps fulvus*	57.	-
58.	*Tadorna tadorna*	58.	*Tadorna tadorna*
59.	*Tadorna ferruginea*	59.	-
60.	*Tetrao urogallus*	60.	*Tetrao urogallus*
61.	-	61.	*Tetrax tetrax*
62.	*Pelecanus onocrotalus*	62.	-
63.	*Phasianus colchicus*	63.	-
64.	*Strix aluco*	64.	*Strix aluco*

5. Discussion

5.1. Representativeness of Bird Finds

First of all, we must point out that bird bone remains in general are underrepresented in the vast majority of archaeological sites studied in Bulgaria in the collected archaeozoological material because the thin cortical of the bird bone remains does not allow good preservation. The cortical is compact and its main function is mechanical stability [37].

On the other hand, small bird species are also underrepresented. In the medieval settlements studied here, the excavated soil was not sieved and washed, and the bone remains (mainly of medium-sized and large mammals) were extracted only by their macroscopic collection. The bones of larger birds are also more often present in the materials. The bones of the smallest birds are the least represented. For this reason, the bones of passerine birds (which are generally smaller species) are underrepresented [38]. However, they are also the most numerous [39] and contain valuable information about the paleolandscape and the natural paleoenvironment. The different preservation and representation of bone remains in the examined materials inevitably distort our ideas about the relationships between humans and animals in the past (including those between humans and birds).

5.2. Birds of Prey

The relatively diverse composition of diurnal birds of prey—Accipitriformes and Falconiformes—is impressive. The former are represented by at least 16 species (59.2% of their composition in the country), and the latter by three species (33.3% of their composition

in the country). Comparably, nocturnal birds of prey (Strigiformes) are represented by two species (20.0% of their composition in the country—*Athene noctua* and *Strix aluco*). All three groups, as they include species that are apex predators in natural ecosystems, are very low in number and very rare. However, in medieval settlements, they are overrepresented, especially considering that due to their taste, the meat of birds of prey does not constitute a food resource for people [40]. Probably, the reason for the overrepresentation of these birds is different. Falcons (genus *Falco*) are represented by 1/3 of their contemporary composition in Bulgaria—*Falco cherrug*, *Falco peregrinus*, and *Falco tinnunculus*. The remains of the first two species of large falcons may have been birds trained for hunting with falcons by falconers, and the third species (*F. tinnunculus*) may have been birds that nested in settlements. Even today, the species is synanthropic in Bulgarian cities.

Of interest are also the three species of vultures—*Gyps fulvus*, *Aegypius monachus*, and *Gypaetus barbatus* (represented by three out of a total of four species of vultures in the modern Bulgarian fauna). The same applies to buzzards (one out of three species—*Buteo buteo*) and hawks (two out of three species—*Astur gentilis* and *Accipiter nisus*). Eagles are particularly well represented. Of the 10 species (nine of Accipitridae and one of Pandionidae) in the studied settlements, six species have been established: *Aquila chrysaetos*, *Aquila fasciata*, *Aquila heliaca*, *Circaetos gallicus*, *Clanga clanga*, and *Clanga pomarina*. This representation is explained by the use of these birds in falconry for hunting, as well as because of their feathers, of which the stabilizers of hunting arrows were made—the main hunting weapon after traps until the entry of gunpowder firearms into mass use. In Europe, these weapons appeared in the 14th century, i.e., after the decline of the Second Bulgarian Empire.

5.3. Synanthropic Birds

Unfortunately, to date, there are too few archaeornithological studies of the process of synanthropization of birds in historical time, parallel to the development of the process of urbanization and the emergence of settlement landscapes. Some general regularities in the process of synanthropization of birds in Bulgaria have been established by Boev [24,41]. A general correlation was established between the degree of synanthropization and the age of the earliest finds of a given species in the studied settlements. The group of least synanthropized birds (seasonal synanthropes) is the group with the oldest finds, but it is also the group represented by the most species. The situation is the same in modern ornithocenoses in urban landscapes.

It is confirmed that in all medieval settlements there are no remains of *Streptopelia decaocto*—a species that is categorically known to have been unknown to the avifauna of Bulgaria, the Balkans, and all of Europe until the 16th century.

The Eurasian collared dove appeared in the European lands of the Ottoman Empire only in the first half of the 17th century [41]. Both in the recent past and today, this species is highly synanthropized and inhabits mainly urban landscapes in Bulgaria. Dončev and Iankov [42] classify it as an extreme synurbanist.

Seasonal synanthrops: This category, corresponding to the lowest degree of synanthropy, includes species that reproduce only outside the anthropogenic landscape or the country in general, but visit populated areas as single individuals or flocks at certain times of the year [42]. Some representatives established in the settlements of Medieval Bulgaria (six species): *Ardea cinerea*, *Cygnus olor*, *Astur gentilis*, *Buteo buteo*, *Falco peregrinus*, and *Corvus corax*.

Passive synanthrops: These are species, the majority of which reproduce in natural biotopes, but individual pairs nest in populated areas in biotopes similar to natural ones. This category also includes species, an insignificant part of the population of which nests

on individual anthropogenic structures outside settlements or shows tolerance to the appearance of such structures in their natural habitats [42]. Some representatives established in the settlements of Medieval Bulgaria (five species): *Anas platyrhynchos*, *Accipiter nisus*, *Perdix perdix*, *Phasianus colchicus*, and *Fulica atra*.

Initial synurbanists: This category includes bird species, the majority of whose population nests outside populated areas, but in quantities from single pairs to one quarter of all individuals of the species in the country breed in settlements, including their highly urbanized areas [42]. Some representatives established in the settlements of Medieval Bulgaria (two species): *Falco tinnunculus* and *Corvus cornix*.

Advanced synurbanists. These are species, a significant part of which breeds in the territory of populated areas, thus forming a separate population, different from the natural one. Each of these two populations includes at least a quarter of the total number of this species in the country. At the same time, birds of the population living in settlements necessarily nest in highly urbanized areas and in biological terms show visible differences from birds living in natural biotopes [42]. Some of them, such as the little owl (*Athene noctua*), are synanthropic species. The species is categorized as an "advanced synurbanist" [42]. Other "advanced synurbanists" among the identified are three species of corvids: *Pica pica*, *Coloeus monedula*, and *Corvus frugilegus*.

Extreme synurbanists: These are species, the majority of which breed in populated areas, including their highly urbanized parts. A small number, most often single pairs or small colonies, nest in natural biotopes, but their number does not exceed a quarter of the total population of the species in the country [42]. Some representatives established in the settlements of Medieval Bulgaria (two species): *Ciconia ciconia* and *Columba livia domestica*.

5.4. Waterfowl

A large proportion of birds representing the so-called waterfowl—mainly ducks, geese, swans, and shelducks. A total of 20 species/taxa of 4 orders were identified: (1) Anseriformes—15 (*Anas crecca*, *Anas penelope*, *Anas platyrhynchos*, *Anas* sp., Anatidae gen., *Anser albifrons*, *Anser albifrons/fabalis*, *Anser anser*, *Anser erythropus*, *Anser fabalis*, *Anser* sp., *Tadorna ferruginea,* and *Tadorna tadorna*, *Cygnus olor*, *Cygnus* sp.); (2) Pelecaniformes—three species (*Ardea cinerea*, *Ardea cinerea/Ardea alba*, and *Pelecanus onocrotalus*); (3) Ciconiiformes—one species (*Ciconia ciconia*), whose presence could be explained both as a possible game for feathers or meat, and as a bird with a high degree of synanthropization and (4) Gruiformes—one species (*Fulica atra*)—the largest and most widespread species of the rail birds (Rallidae), which is still a valuable hunting object in winter. Waterfowl are among the largest and most common game, whose remains are also the most numerous among kitchen waste in medieval Bulgarian settlements. As mentioned above, in some countries in Europe during the Middle Ages, bird bones were used to make writing instruments (pens). No such bone tools were found among the materials from medieval Bulgaria, although the "Golden Age" in the culture of medieval Bulgaria, with an incredible rise, including in terms of literature, was precisely then (the end of the 9th—beginning of the 10th century).

5.5. Woodland Birds

The birds that mainly inhabit the forests are not particularly diverse. Only eight species have been identified, which include the aforementioned two species of hawks (Accipitriformes), two species of owls (Strigiformes), two species of pigeons (Columbiformes)—*Columba livia* and *Columba palumbus*, as well as two species of grouse/pheasant (Galliformes)—*Tetrao urogallus* and *Phasianus colchicus*. Even today, although it is protected, the capercaillie is the largest forest feathered game in Bulgarian nature (used under limited conditions). It should be noted that in the past, the capercaillie

was not only distributed in the mountain forests of Bulgaria. Its remains have also been found in former forested areas in the foothills and even in the plains Another species (*Lyrurus tetrix*), which is assumed to have existed in the mountain forests of Bulgaria until the 19th and even the 20th century has not been found among the materials from medieval settlements in Bulgaria so far. Today it is considered an extinct species in Bulgarian nature. The native common pheasant (*Phasianus colchicus colchicus*) is also an extinct species, existing until 1990.

5.6. Field-Steppe Birds

All 37 medieval settlements studied are located in flat and slightly hilly landscapes at relatively low altitudes. In most cases, they are located on rivers or near them. In the open spaces in their surroundings, their inhabitants hunted bustards, partridges, cranes, turtle doves, etc. *Grus grus*, *Otis tarda*, and *Tetrax tetrax*, which are among the largest field birds in the European avifauna, are found in this group, but also some other grassland-steppe birds such as *Perdix perdix*, *Alectoris graeca*, and *Alectoris/Perdix* and *Streptopelia turtur*, which are the most numerous birds classified as field game, are found. *G. grus*, *O. tarda*, and *T. tetrax* were considered extinct species from the modern breeding avifauna of Bulgaria for six to seven decades. In 2023, in the Dragoman Marsh for so many years, a pair of grey cranes successfully raised their young [43]. It has already been proven that in the past, the common crane was widespread in the plains of Bulgaria. The absence of *Coturnix coturnix* in this group is curious, which we can only explain with the small body size of this species, which is why its bone remains have remained uncollected by archaeologists. Four species of corvid birds of the family Corvidae (*Coloeus monedula*, *Corvus cornix*, *Corvus frugilegus,* and *Pica pica*) can also be considered as game.

5.7. Domestic Birds

In the Middle Ages, the oldest remains of poultry are the domestic chicken (8th century), and the latest–the domestic turkey (16th century), although its presence dates back to a later period after the end of the Second Bulgarian Empire.

It is curious that in less than 100 years from the last (fourth) expedition of Christopher Columbus (1502–1504), the domestic turkey had already reached the two former Bulgarian capitals—Veliki Preslav (of the First Bulgarian Empire) and Vidin (of the Tsardom of Vidin). At that time, both cities were already under the rule of the Ottoman Empire. The information about the domestic turkey is given here only for completeness, as the latest domestic bird to appear in medieval Bulgaria, although it refers to a later period than the scope of the present topic. Important clarification: In the 1970s and 1980s, the materials collected by archaeologists from the two capitals (Veliki Preslav and Vidin–localities 10, 20, and 34 in Table 1) were dated in a broader way. They cover the periods up to the 16th and 17th centuries, respectively. The remains of bird bones are also dated in the same broad way. Therefore, in Table 1, we exclude the domestic turkey from the data for the First Bulgarian Empire, since it is obvious that it could not have been present in Europe before the 16th century.

Domestic chickens were bred into both small breeds (such as modern bantams) and medium-sized breeds, which were still significantly smaller than modern breeds such as Leghorn or Plymouth Rock.

In Bulgaria, there is no evidence that the mute swan (*Cygnus olor*) and the helmeted Guineafowl (*Numida meleagris*) were domesticated during the Middle Ages. Domesticated forms of both bird species are well known from archaeological sites in Western Europe.

5.8. Birds in Medieval Bulgarian Art

It is an extremely vast and intriguing topic, both for ornithologists and art historians, ethnographers, and museologists. Here we will only try to set the stage and provoke interest in it. Old Bulgarian art (especially from the preserved monuments from the 9th–10th centuries) abounds with animalistic subjects.

The theme of birds in medieval Bulgarian art has so far been almost undeveloped. Some images of birds on pottery, ceramic vessels, marble bas-reliefs, sculptures, metal, plastics, coins, jewelry (Figures 4 and 5), etc., are especially common. Some of these samples have been briefly analyzed by [44] without any claims to exhaustiveness.

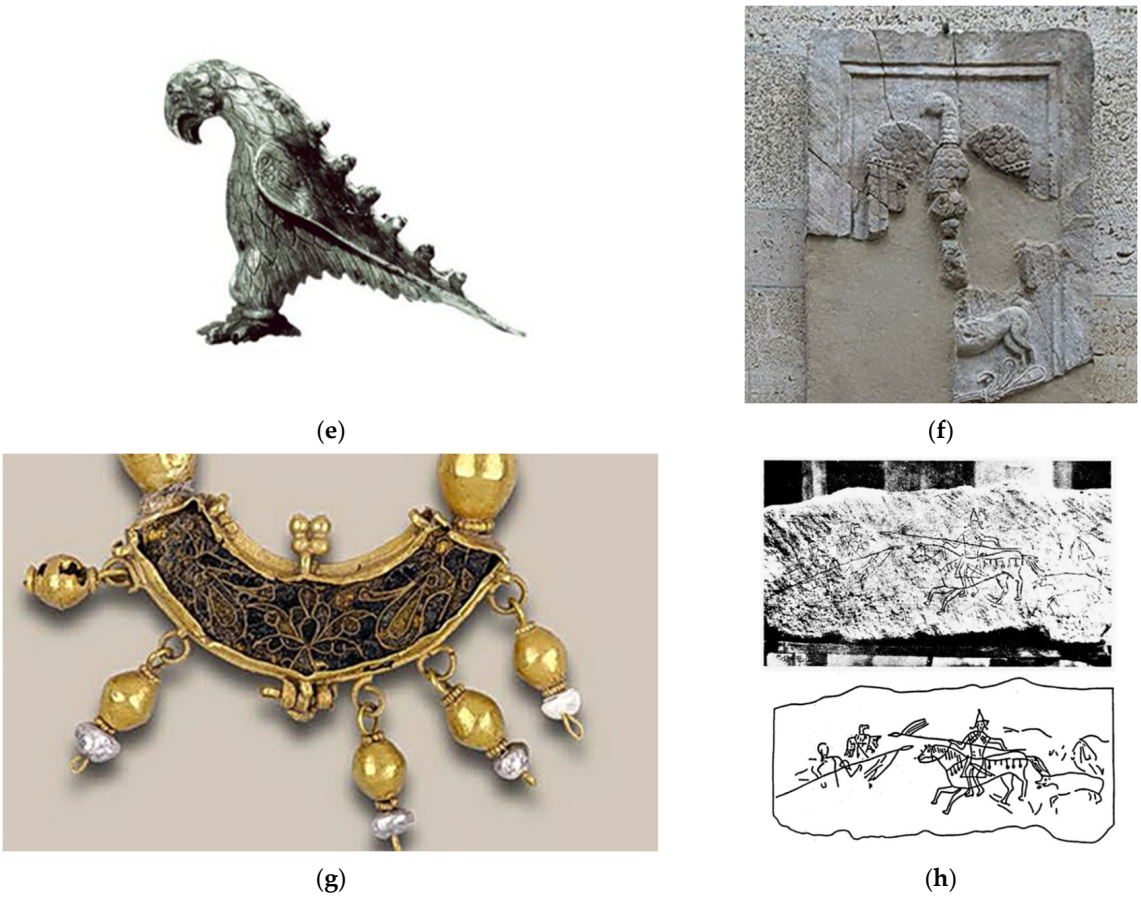
According to [45], "Preserved manuscripts of the Preslav Literary School, works of artistic ceramics, goldsmithing and stone sculpture represent a rich and diverse collection of animals with all the complexity of their symbolic and allegorical meaning, in which we find remnants of both the totemistic representations of the great-grandfathers, as well as from the contemporary 9–10th century Christian interpretation of the fauna [i.e., of the wildlife—Z.B.]". According to the same author, "The precision, elegance, realism and anatomical credibility of the animal body speak of the great artistic talent of the Old Bulgarian masters, of their fidelity to traditions whose roots are lost far in history. At the same time, this rich animal world, depicted on objects with a ritual purpose, in the decoration of Christian temples and on household utensils is an illustration of the complex spiritual peace of the medieval Bulgarian—a world filled with allegories and symbols through which he denoted ideas and themes related to his complex worldview and his knowledge of the surrounding reality" [46].



(**a**) (**b**)

(**c**) (**d**)

Figure 4. *Cont.*



(**e**) (**f**)

(**g**) (**h**)

Figure 4. Some images of birds in monuments from the First Bulgarian Empire (681–1018): Stylized image of a bird. Preslav treasure. 10th c. A.D., after [45] (**a**); double-headed eagle, stone plate, Stara Zagora, stone plate. The 9th–11th c. A.D.: after [47] (**b**); Indian Peafowl—*Pavo cristatus* Linnaeus, 1758, stone plate, Stara Zagora, 9th–11th c. A.D., after [48] (**c**); European turtle-doves—*Streptopelia turtur* (Linnaeus, 1758). Voznesenka treasure, 7th c. A.D., after [49] (**d**); Eagle. Voznesenka treasure, 7th c. A.D., after: [50] (**e**); decorative stone bas-relief of an eagle. Veliki Preslav, 9th–10th c. A.D., after [50] (**f**); song birds, ear-ring, the Preslav gold treasure. Veliki Preslav, 9th–10th c. A.D., after [51] (**g**); stone image of falconry/hunting scene. Veliki Preslav, 9th–10th c. A.D., after [52] (**h**).



(**a**) (**b**)

Figure 5. *Cont.*

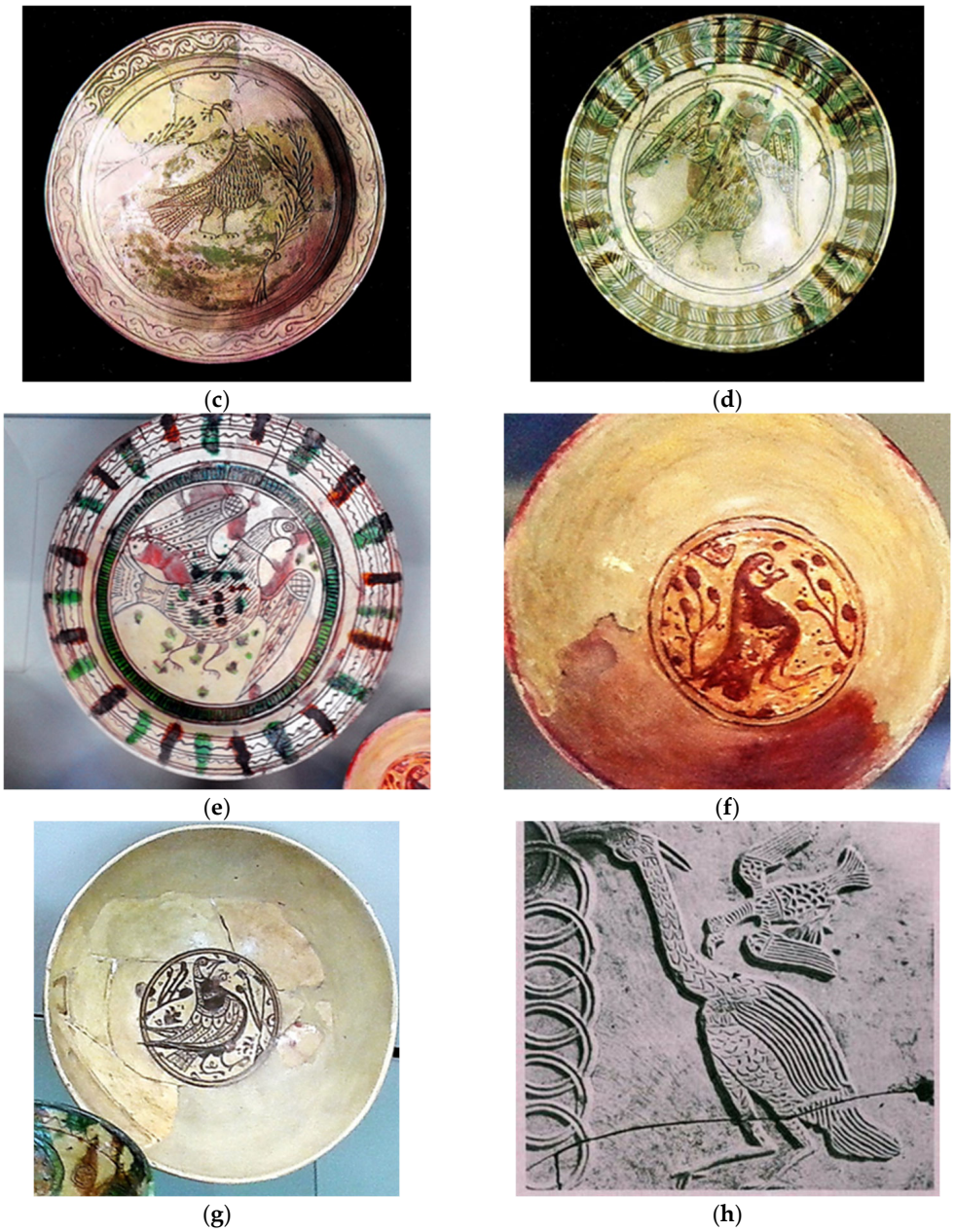


Figure 5. Some images of birds in monuments from the Second Bulgarian Empire (1185–1396): Stylized image of Horned Lark–*Eremophila alpestris* (Linnaeus, 1758). Exact copy of the original. Sgraffito pottery from Tsarevgrad Tarnov. Late 14th c. A. D., photograph: Z. Boev (**a**); stylized image of Rock Partridge—*Alectoris graeca* (Meisner, 1804). Earthen bowl, graphito (etching). Tsarevets, City of Tarnovo. 13th–14th c. A. D., after [53] (**b**); Stylized image of Europaean Turtle Dove—*Streptopelia turtur* (Linnaeus, 1758). Earthen tray, sgraphito (etching). Tsarevets, City of Tarnovo 13th–14th c. A. D., after [53] (**c**); stylized image of Horned Lark—*Eremophila alpestris* (Linnaeus, 1758). Earthen tray, graphito (etching). Tsarevets, City of Tarnovo. 13th–14th c. A. D. after [53] (**d**); stylized image of Horned Lark—*Eremophila alpestris* (Linnaeus, 1758). Veliki Preslav, 7th–14th c. A.D., National Archaeological Institute and Museum—BAS. Photograph: Z. Boev (**e**); stylized image of Common Quail—*Coturnix coturnix* (Linnaeus, 1758)—male. Veliki Preslav, 7th–14th c. A.D., National Archaeological Institute and Museum—BAS. Photograph: Z. Boev (**f**); stylized image of Calandra Lark *Melanocorypha calandra* (Linnaeus, 1766). Veliki Preslav, 7th–14th c. A.D., National Archaeological Institute and Museum—BAS. Photograph: Z. Boev (**g**); Grey heron (*Ardea cinerea* Linnaeus, 1758) attacked by a falcon. Stone plate. Basilica of St. Achillios, 986–990 A.D., near Prespa, Greece, after [54] (**h**).

6. Conclusions

The total species composition of wild birds established in the First and Second Bulgarian Empires amounts to 11.51% of the country's contemporary avifauna, Of the domestic birds, the most numerous was the domestic hen, and the rarest was the peacock. Remains of eagles and falcons are relatively common. The largest birds identified are the great bustard, the mute swan, the grey crane, the great white pelican, and the cinereous vulture. Among the smallest are the European Turtle-dove and the Eurasian magpie. The most diverse composition of birds (26 species/forms) was identified in the Forum of Serdica (14th century) from the time of the Second Bulgarian Empire. During the First Bulgarian Empire, the largest number of bird species/forms (22) were identified in the inner city of Veliki Preslav (9th–10th centuries). The origin of most of the bird remains of wild birds is related to bird hunting. Their established composition is most likely incomplete, and most of the smaller hunted birds are not represented in the examined material due to the "selective" extraction of only the larger finds. Nevertheless, the collected information clearly proves the important significance of birds, mainly as a food resource, for the medieval population of the two Bulgarian states. Birds were probably also used as a source of feathers for various uses, as was the practice in other European countries during the Middle Ages, but there is no direct evidence for this.

In the considered periods of the Middle Ages, the oldest remains of domestic birds are of the domestic hen (8th century). The latest ones are those of the domestic turkey (16th century), although its findings relate to a later period than those considered in this review. In less than 100 years since the last expedition of Christopher Columbus, the domestic turkey had already reached Bulgarian lands.

It is difficult to establish whether changes that occurred in the 167-year hiatus between the existence of the First and Second Bulgarian Empires led to significant differences in the composition of the birds established in them. Of the 64 bird taxa established in total, only 25 (38%) were found in the settlements in both states. The remaining 39 of the birds were established in only one of the two empires—the First or the Second, but not in both.

The present study is the first attempt to outline the complex and multifaceted relationships between humans and birds during the Middle Ages in Bulgaria. The ongoing archaeological excavations of sites throughout the country will undoubtedly provide many new materials through which we will supplement our understanding of the significance of birds for people in the past in Bulgarian lands and on the Balkans.

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Data Availability Statement: Some data supporting reported results can be found at: https://www.nmnhs.com/boev-zlatozar-en.html (accessed on 19 February 2025) and: https://image.nauka.bg/file/BOEV1999NEOGENE-QUATERNARYBIRDSOFBG-READABLE.pdf (accessed on 19 February 2025).

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