Short communication

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First Record of the Naumann's Thrush (*Turdus naumanni* Temminck, 1820, *sensu lato*) in Bulgaria

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Abstract: Six skeletal elements of pectoral girdle and forelimbs (coracoid dex. dist., coracoid sin. dist., scapula sin., ulna sin., carpometacarpus dex. and carpometacarpus sin.) found in food remains of Eagle Owl (*Bubo bubo*) in May 2003 have been identified remains of as an adult individual of Naumann's Thrush (*Turdus naumanni* Temminck, 1820, *sensu lato*). The Eagle Owl breeding locality is at the foot of the Bakadzhitsite Hills (SE Bulgaria, UTM square MG99). The owl hunting range may be described as an open hilly landscape with mostly scattered oak forest. This is the first record of the Naumann's Thrush in Bulgaria.

Keywords: Naumann's Thrush, *Turdus naumanni*, Dusky Thrush, Eagle Owl, *Bubo bubo*, Vagrant birds, Bulgaria

Introduction

The Naumann's Thrush (*Turdus naumanni* Temminck, 1820, *sensu lato*) breeds in Central Siberia and spends winter mainly from the north of the Indian Subcontinent to Japan. Vagrants of this species have been observed in Europe (westernmost to France and the United Kingdom), the Middle East and Northwest North America (Cramp 1988, Glutz von Blotzheim, Bauer 1988, Collar 2005). From 1800 to 1965, about 50 records of the species were known in Western Europe, most of them being between October and January (Cramp 1988). Pfeifer *et al*. (2007) considered this species as one of the most common vagrants in Central Europe. During migration and on the wintering grounds, it inhabits open cultivated agrarian landscapes (stubble fields) in the hilly areas with open oak woods and shrubs (Glutz von Blotzheim, Bauer 1988). Generally, being fairly common to common, the Naumann's Thrush is evaluated as Least Concern (BirdLife International 2012). Two subspecies are currently recognised within the Naumann's Thrush: *T. n. naumanni* Temminck, 1820 (Avibase ID: 22761AD4A981E2F6; Taxomic Serial Number: TSN: 179756) and *T. n. eunomus* Temminck, 1831 (Avibase ID: E3B6927817B7ABB4; Taxomic Serial Number: TSN: 179756) (ITIS 2014). Some authors split the Naumann's Thrush (*sensu lato*) into two distinct species, i.e. Naumann 's Thrush (*T. naumanni* Temminck, 1820) and Dusky Thrush (*T. eunomus* Temminck, 1831), both monotypic. The taxonomic separation needs further study as various intermediate forms between *T. naumanni* and *T. eunomus* have been recorded (Collar 2005). Recently, these two species have been considered as subspecies of *T. naumanni* again (Nylander *et al*. 2008).

This study reports the first record of the Naumann's Thrush in Bulgaria based on the analysis of pellets from the Eagle Owl, *Bubo bubo* (Linnaeus, 1758).

Material and Methods

The examined material, which contained bone fragments of the Naumann's Thrush, was pellets and food remains of Eagle Owls from a breeding locality

in South-East Bulgaria. The scope of this area and its physiographic and vegetation characteristics are presented by Milchev, Georgiev (2012). The Eagle Owl diet has been studied in this locality by analysing the food remains sampled usually in tree visits yearly (April-May, May-June and August) since 1994. All pellets (intact and broken), feathers and parts of old carcasses were collected from the nest, the feeding places and places for spending daytime on the neighbouring rocks. The birds' species determination is after the comparative osteological collection of the Vertebrate Animals Department, the National Museum of Natural History, Bulgarian Academy of Sciences (NMNH-BAS). The collection contains most of the thrushes in the Western Palearctic – Ring Ouzel *Turdus torquatus* Linnaeus, 1758, Common Blackbird *Turdus merula* Linnaeus, 1758, Fieldfare *Turdus pilaris* Linnaeus, 1758, Song Thrush *Turdus philomelos* Brehm, 1831, Redwing *Turdus iliacus* Linnaeus, 1766, Mistle Thrush *Turdus viscivorus* Linnaeus, 1758 and Red-throated Thrush *Turdus ruficollis* Pallas, 1776. The reference Naumann's Thrush skeleton was of an adult male specimen of *T. n. eunomus* (No NMNHS 1-1991; No 1168) from Primorsky Krai, Southeastern Russia (April 1961; Bikin River; coll. N. I. Burchak-Abramovich). The average home-range size of the Eagle Owls is up to 20 sq. km (Marks *et al*. 1999) and an area with the same size is used for the description of the Naumann's Thrush location, which is occupied by: 76.6% open non-forest lands, 16% forest, 0.5% wetlands and 6.9% urban lands (village and main road network).

Results and Discussion

Specimen No NMNHS 2-2014 is represented by six skeletal elements of pectoral girdle and forelimbs: coracoid dex. dist., coracoid sin. dist., scapula sin., ulna sin., carpometacarpus dex. and carpometacarpus sin. All bones except both coracoids are almost completely preserved and bear all morphologic diagnostic features. They suggest a mature individual with the size of the adult male individual of the reference *T. n. eunomus* (No NMNHS 1-1991). Specimen No NMNHS 2-2014 was compared metrically by 12 bone measurements, three of each skeletal element, with the reference Naumann's Thrush (Table 1). The measurements show significant similarities (differences less than 0.1 mm, except three – No 3, 4, 6).

The specimen differs (in its coracoids first of all) from all compared thrushes of the Western Palearctic and similarity of coracoids is found only with those of *T. naumanni*. The coracoid of *T. naumanni* has well-developed and longer processus procoracoideus in the humeral part (Fig. 1), which distinguishes it from all other compared Palearctic thrushes. This record adds Bulgaria to the list of the Balkan countries (Croatia, Greece, Montenegro, Serbia and Slovenia, where the Naumann's Thrush has been already reported (Glutz von Blotzheim, Bauer 1988, BirdLife International 2012).

Table 1. Measurements of some bones of the specimens of *Turdus naumanni* NMNHS 2-2014 from the Bakadzhitsite Hills (SE Bulgaria, NMNHS 2-2014) and *Turdus n. eunomus* (SE Russia, No NMNHS 1-1991)

No	Bone/ Measurement	*Turdus naumanni* NMNHS 2-2014	*Turdus n. eunomus* NMNHS 1-1991
	Coracoid		
1	width in facies articularis humeralis	1.68	1.70
2	width of diaphysis in processus procoracoideus	4.53	4.47
3	thickness of diaphysis in processus acrocoracoideus	1.54	1.68
	Scapula		
4	maximal height of proximal end	ca. 5.94	6.45
5	maximal width of facies articularis humeralis	2.82	2.75
6	width of corpus scapulae in the middle	2.16	2.29
	Ulna		
7	total length	ca. 34.7	34.07
8	maximal width of proximal epiphysis	4.70	4.65
9	thickness in the middle of the diaphysis	2.21	2.16
	Carpometacarpus		
10	total length	19.57	20.34
11	maximal width of proximal epiphysis	5.34	5.39
12	thickness of distal epiphysis	1.94	2.02

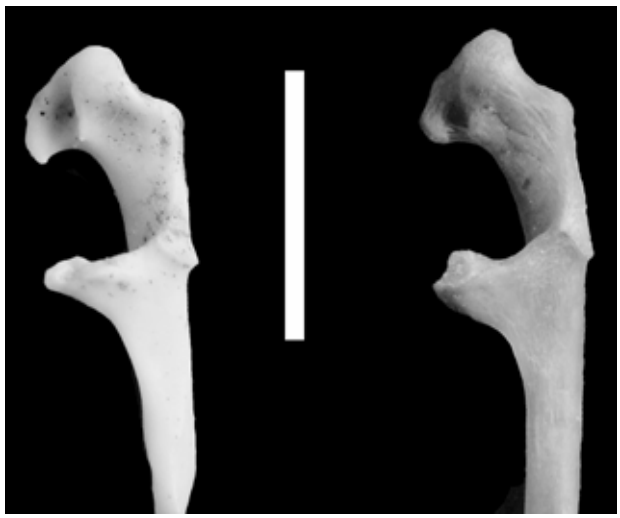

Fig. 1. Coracoid dex. (humeral part) of *Turdus naumanni*, No NMNHS 2-2014, May 2003, Bakadzhitsite Hills, SE Bulgaria (left), and *Turdus n. eunomus*, No NMNHS 1-1991, April 1961, Bikin River, Primorsky Krai, SE Russia (right). Scale bar = 5 mm (Photographs: Assen Ignatov)

The sample containing the specimen studied was collected in the Eagle Owl breeding locality on 01.06.2003. The last previous visit of the locality with a collection of food remains was on 01.05.2003. Therefore, the specimen of the Naumannn's Thrush was captured by the Eagle Owl in May 2003. The latest record in the year in Europe came from the Netherlands on 13.04.1964 (Glutz von Blotzheim, Bauer 1988). Thus, the examined specimen was captured at least three weeks later in the year than the last reported record so far.

The area around the Eagle Owls locality in UTM square MG99 has a hilly relief and an altitude of 50-200 m a.s.l. Its slanting slopes and rounded crests run down from the Bakadzhitsite Hills southwards to the Sredetska River valley and the northern slopes of the Strandzha Mountains. Open lands, both uncultivated and arable, dominate the landscape, while lightly grazed pastures and thorny bush-dominated shrublands appear locally. The forests are mostly scattered, small in area, mainly grazed, composed of oaks (*Quercus cerris* L., *Q. pubescens* Willd. and *Q. wirgiliana* (Ten.) (Bondev 1991). The new locality of the Naumann's Thrush resembles its typical landscape characteristics of migration and wintering grounds as described by Glutz von Blotzheim, Bauer (1988).

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