Buteo spassovi sp. n. - a Late Miocene Buzzard (Accipitridae, Aves) from SW Bulgaria

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Introduction

The genus Buteo Lacepede, 1799 numbers 28 species of the recent avifauna, most of them (18) of New World distribution (Thiollay, 1994). Populations of the species spread in the Holarctic Region are resident or migratory. Only 3 species (B. buteo Linnaeus, 1758, B. rufinus Cretzschmar, 1827 and B. lagopus Pontoppidan, 1763) inhabit Western Palearctic (Cramp, 1980).

Fossil records of genus Buteo

Brodkorb (1964) lists 8 fossil species of this genus: Buteo grangeri Wetmore & Case, 1934 of Middle Oligocene of South Dakota, B. fluviaticus A. H. Miller & Sybley, 1942 of Middle Oligocene of Colorado, B. antecursor Wetmore, 1933 of Upper Oligocene of Wyoming, and five species from Nebraska: B. ales (Wetmore, 1926) of Lower Miocene, B. typhoicus Wetmore, 1923 of Upper Miocene-
B. contortus (Wetmore, 1923) of Upper Miocene, B. danaus (Marsh, 1871) of Lower Pliocene, and B. conterminus (Wetmore, 1923) of Lower Pliocene. Later, Ballmann (1969) described B. pusillus from the Middle Miocene (MN zone 7-8) of S France, the only fossil species, originated from the Palaeartic Region. Mourer-Chauvire' (1975) described in addition, a Middle Pliocene subspecies, B. rufinus jansoni from S France. No other fossil taxa are described in g. Buteo (Olson, 1985; 1993). Alcover (1989) reports on Buteo remains from the Late Pliocene (MN zone 17) of Ibiza island (Spain) without species determination.

**Taxonomic description of the species**

*Buteo spassowi* sp. n. Boev

*Holotype.* An almost complete tibiotarsus sin. (Fig. 1). Collections of the Fossil and Recent Birds Department of the National Museum of Natural History, Bulgarian Academy of Sciences, No NMNHS - 10 190. Collected in 1990s by Dimitar Kovachev.

*Paratypes.* No additional material was collected and no paratypes were specified.

*Locality.* 2 km from the Hadzhidimovo village near the town of Gotse Delchev (Sofia Region/ former Blagoevgrad District/, UTM code GM 30), on the right bank of the Mesta river (SW Bulgaria). Ca. 500 m a.s.l. (Fig. 2).

Fig. 1. *Buteo spassowi* sp. n. - tibiotarsus sin., No NMNHS 10 190 (holotype), left to right: cranial view, medial view, lateral view, and caudal view (Photographs: Boris Andreev)

*Stratigraphic position.* Unconsolidated, unstratified sediments accumulated in yellowish sands and clay sands.

*Chronostratigraphy.* Upper Miocene (Turolian-Meotian, lower part), MN zone 11-12 according to

Fig. 2. Location of the Late Miocene site of vertebrate fauna near the town of Hadzhidimovo (Drawing: Vera Hristova)

**Etymology.** The name "spassovi" is given in honour of the Bulgarian paleontologist Dr Nikolay Spassov (National Museum of Natural History, Sofia), who contributed in much for the studying of the Bulgarian Neogene and Quaternary macro­mammalian fauna.

**Measurements.** See table 1, fig. 3.

**Measurements of tibiotarsus in fossil and recent Accipitridae (ref. to Fig. 3)**

<table>
<thead>
<tr>
<th>Species</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fossil</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buteo spassovi sp. n. NNMHS 10 190</td>
<td>105.5</td>
<td>6.5</td>
<td>12.7</td>
<td>8.7</td>
</tr>
<tr>
<td><strong>Recent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buteo buteo NNMHS 26/ 1989</td>
<td>98.1</td>
<td>5.8</td>
<td>11.3</td>
<td>7.7</td>
</tr>
<tr>
<td>Buteo buteo NNMHS 30/ 1991</td>
<td>116</td>
<td>5.8</td>
<td>11.7</td>
<td>8.0</td>
</tr>
<tr>
<td>Buteo buteo NNMHS 32/ 1992</td>
<td>116.3</td>
<td>6.6</td>
<td>13.2</td>
<td>8.7</td>
</tr>
<tr>
<td>Buteo rufinus NNMHS 1/ 1989</td>
<td>116.9</td>
<td>7.2</td>
<td>13.9</td>
<td>9.6</td>
</tr>
<tr>
<td>Buteo rufinus NNMHS 3/ 1989</td>
<td>130.6</td>
<td>7.2</td>
<td>13.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Buteo lagopus NNMHS 2/ 1987</td>
<td>100.8</td>
<td>6.0</td>
<td>12.4</td>
<td>8.2</td>
</tr>
<tr>
<td>Buteo lagopus NNMHS 3/ 1987</td>
<td>ca. 98.7</td>
<td>6.1</td>
<td>11.6</td>
<td>7.8</td>
</tr>
<tr>
<td>Accipiter gentilis NNMHS 16/ 1992</td>
<td>119.3</td>
<td>7.8</td>
<td>9.0</td>
<td>9.7</td>
</tr>
</tbody>
</table>
slightly inclined medially in its proximal third. It differs analogically by the presence of characters (1-6) also.

In comparison with *B. lagopus* and *Pernis apivorus* the find from Hadzhidimovo has longer diaphysis and shows the differences (1-6) mentioned above.

The specimen No 10 190 resembles *Milvus migrans* by feature (3), but remaining features (1-2; 4-6) are different also. In comparison with *Accipiter gentilis* the find from Bulgaria differs the same way, but it also has thinner and medially inclined diaphysis in the proximal end.

As Ballmann (1969) writes in the diagnosis, *B. pusillus* was a buzzard of "... a taille assez petite, mai plus grand que *Buteo magnirostris* ..." (p. 173). External dimensions of *B. magnirostris* are about 68% of the dimensions of *B. buteo* (Thiollay, 1994). As seen from Tabl. 1, *B. spassovi* sp. n. was larger than recent *B. buteo*. This exclude *B. pusillus* of our discussion. In spite of its Miocene Age, that species may be excluded also due the lacking of analogous bone finds. It was described by a right carpometacarpus.

All other species, except *B. dananus*, were described by different skeletal elements, which does not allow to compare our find. *B. dananus* is known by a distal part of left tibiotarsus. Chronostratigraphically ("Lower Pliocene") this species is close to the find of *B. spassovi* sp. n. and originated of C Nort America (Nebraska). Because of the lack of analogous bones, all other fossil species in the genus cannot be compared. The find No 10 190 differs from *B. dananus* by the more concave medial and lateral trochanter surfaces of distal epiphyses of tibiotarsus, smaller size and the relatively wider pons supratendineus. As seen from the fig. 13 of Plate II of the work of Shufeldt (1915), the contour of the condylus lateralis in cranial view is more angular and it is slightly thicker than in *B. spassovi* sp. n.

*B. rufinus jansoni* Mourer-Chauvire', 1975 differs from modern specimens by the smaller size of the tarsometatarsus. This subspecies may be excluded from our considerations of taxonomical identity because of the stratigraphical difference too.

**Diagnosis.** A fossil Late Miocene species of *g. Buteo*, differing from modern *B. buteo*, *B. rufinus* and *B. lagopus* by the sharper proximal edge of pons supratendineus, narrower sulcus extensorius, almost twice larger tuberositas retinaculi m. fibularis, better developed linea intermuscularis on the cranial surface of diaphysis, blunter (without a

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**Fig. 5.** The geographical distribution of *g. Buteo* in Europe in the Miocene: the site of Grive-Saint-Alban (Isere) in SE France (1); the site of Hadzhidimovo (Blagoevgrad District) in SW Bulgaria (2)
tip) distal end of symphysis tibio-fibularis, and widther distal epiphysis, settled widther apart edges of sulcus tendineus on the lateral side of distal epiphysis.

Collections acronyms. NMNHS - National Museum of Natural History - Sofia.


Discussion

Judging by the higher number of recent species, spread both in S and N America, and bigger number of fossil taxa, described there, we may conclude that the g. Buteo originated in Western Hemisphere, possibly in S America, where most of the species still occur. As seen from the provided review, the finds of fossil Buteo species in the Old World are very rare. The site of Hadzidimovo provides the second find of Europe and Western Palearctic respectively. At the same time, it belongs to the second European fossil species of g. Buteo. Now, the two Miocene sites (Grive-Saint-Alban and Hadzhidimovo) marks the S-European distribution of g. Buteo throughout the Miocene of Europe (fig. 5).

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References


