

Bulgaria

Barbara Rzebik-Kowalska & Vasil V. Popov

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B. Rzebik-Kowalska, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Sławkowska 17, 31-016 Kraków, Poland (rzebik@isez.pan.krakow.pl); V.V. Popov, Institute of Zoology, Bulgarian Academy of Sciences, Tsar Osvoboditel 1, 1000 Sofia, Republic of Bulgaria (popov@zoology.bas.bg).

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Introduction

Research on Bulgarian fossil small mammals had a relatively late start and it was researchers from neighbouring countries who published the first few studies. The first fossil shrew, *Crocidura* sp., was mentioned by Jakubowski & Kraszewski (1972). It was found in the southeastern part of Bulgaria at Sarafovo, a locality of probably Pliocene age. A decade later, Rzebik-Kowalska (1982) and Horáček (1982a, b) described shrews and moles from Late Pleistocene localities. Then, in 1984, one of us (VP) started to study fossil insectivores from his country. The majority of Bulgarian fossil insectivores are Pleistocene (Popov, 1988, 1989, 1994b, 2000) and are not further considered herein. Pliocene insectivores are known from three localities, elaborated during the late 1980s and 1990s. There are no Miocene finds so far.

The oldest Bulgarian insectivores come from the Early Pliocene (MN14b) lacustrine deposits of Dorkovo. The paper describing material from this locality (Thomas *et al.*, 1986) contains only a preliminary list of insectivores, which was prepared by C.G. Rümke. A recent revision of the material (Popov, herein) reveals that *Mygalinia* sp. should be eliminated from the list; a revised list of the Dorkovo fauna is presented herein. The other two localities are karst fissure fillings; Muselievo (Popov, 1994a, 2004b) and Varshets (Popov, 2001, 2003, 2004a). Given the paucity of localities, the list of Bulgarian Neogene fossil insectivores is still rather incomplete when compared to other European countries.

All the material listed in this paper is stored at the Institute of Zoology of the Bulgarian Academy of Sciences in Sofia (IZ-BAS), except for the material from Sarafovo, of which the whereabouts are unknown.

Insectivore faunas in the Neogene of Bulgaria

MN 14

Dorkovo

Location – Pazardjik district.

Stratigraphy – Early Pliocene.

Literature – Thomas *et al.* (1986).

Insectivores – Talpidae: *Archaeodesmana* sp., *Desmana* cf. *verestchagini* Topachevsky, 1961, *Talpa minor* Freudenberg, 1914, *Desmanella* cf. *dubia* Rümke, 1976. Soricidae: *Asoriculus gibberodon* (Petényi, 1864), *Mafia csarnotensis* Reumer, 1984, *Deinsdorfia* cf. *kerkhoffi* Reumer, 1995, *Deinsdorfia* cf. *janossyi* Reumer, 1984, *Petenyia hungarica* Kormos, 1934, *Sorex* (size *S. minutus* Linnaeus, 1766)

Taxonomic descriptions – Rümke (in Thomas *et al.* 1986) gave a preliminary list of the insectivores. *Deinsdorfia*, *Mafia* and *Asoriculus* are added herein, following a revision of the fauna by one of us (VP). *Petenyia* sp. is here included in *Petenyia hungarica*, *Dibolia* sp. is changed into *Archaeodesmana* sp. (see remarks of Ciuperceeni-1, Romania and Podlesice, Poland in Rzebik-Kowalska, 2005a, b) and *Talpa* sp. is identified as *Talpa minor*. *Mygalinia* sp. in Thomas *et al.* (1986) was not encountered and may have now been included in *Desmanella* cf. *dubia*.

Storage of material – IZ-BAS.

MN 15

Muselievo

Location – Highest terrace of the Osam River, Pleven district, northern Bulgaria.

Stratigraphy – Early Pliocene, Late Ruscinian.

Literature – Popov (1994a, 2004b).

Insectivores – Talpidae: *Talpa minor* Freudenberg, 1914. Soricidae: *Asoriculus gibberodon* (Petényi, 1864), *Blarinoides mariae* Sulimski, 1959, *Mafia* cf. *csarnotensis* Reumer, 1984, *Deinsdorfia kordosi* Reumer, 1984.

Taxonomic descriptions – Popov (1994a) gave a preliminary list of species, which were subsequently described by Popov (2004b). In the latter paper *Episoriculus gibberodon* was changed into *Asoriculus gibberodon* and *Talpa* cf. *csarnotana* into *Talpa minor*.

Storage of material – IZ-BAS.

MN 17**Varshets**

Location – Prebalkan region, north Bulgaria.

Stratigraphy – Late Pliocene, Late Villanyian.

Literature – Popov (2001, 2003, 2004a).

Insectivores – Erinaceidae: *Erinaceus* cf. *lechei* Kormos, 1934. Talpidae: *Desmana* cf. *polonica* (Pashkov & Topachevsky, 1990), *Talpa* cf. *levantis* Thomas, 1906, *Scalopoides*? cf. *copernici* Skoczeń, 1980, *Quyania* aff. *polonica* (Skoczeń, 1980). Soricidae: *Asoriculus gibberodon* (Petényi, 1864), *Mafia* aff. *csarnotensis* Reumer, 1984, *Beremendia fissidens* (Petényi, 1864), *Petenya hungarica* Kormos, 1934, *Sorex* cf. *minutus* Linnaeus, 1766, *Sorex runtonensis* Hinton, 1911.

Taxonomic descriptions – Popov gave descriptions of the Soricidae (2003) and of the Erinaceidae and the Talpidae (2004a). Storch & Qiu (1983) noted the similarity of *Neurotrichus? polonicus* Skoczeń, 1980 to *Quyania chowi* Storch & Qiu, 1983. However, in the absence of a complete anterior dentition for the Polish species, they did not change the original qualification. Popov (2004a) did place material resembling the Polish species in *Quyania*, although Rzebik-Kowalska (2005a) kept the species under its original classification for the Polish material.

Storage of material – IZ-BAS.

Sarafovo

Location – Burgas district, south-east Bulgaria.

Stratigraphy – Pliocene?

Literature – Jakubowski & Kraszewski (1972).

Insectivores – Soricidae: *Crocidura* sp.

Taxonomic descriptions – Jakubowski & Kraszewski (1972) described the single mandible belonging to *Crocidura*.

Storage of material – not known.

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