Centipedes (Chilopoda) from Greece in the collection of the National Museum of Natural History, Sofia

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Abstract. The paper is devoted to the treatment of the centipedes in the National Museum of Natural History, Sofia collected by Bulgarian zoologists in Greece. It deals with material gathered in the provinces of Macedonia and Thrace, and the islands of Tassos, Thasopulo, Samothraki, Kythira, Syros, Amorgos, Santorini, Kalymnos and Karpathos. A total of 22 species were identified, three of them, Lithobius ferganensis Trotzina, 1880, L. viziae (Ribarov, 1987) and Henia (Turkophilus) porosa (Verhoeff, 1941), are new to the fauna of the country. An examination of the holotype of Lithobius serenensis Matic et Stavropoulos, 1990 showed that it is a junior synonym of Lithobius schuleri Verhoeff, 1925, not of L. erythrocephalus C.L. Koch, 1847 as thought previously. Lithobius viziae (Ribarov, 1987) is briefly re-described and its taxonomic position discussed.

Key words: Centipedes, Chilopoda, Faunistics, Taxonomy, Greece

Introduction

The Greek centipede fauna is among the richest in species in Europe and is undoubtedly very attractive for biogeographical analysis. Even though it has been an object of intensive investigation almost since the beginning of the nineteenth century, yet very little is known about some regions of mainland Greece and most of the islands. The ecology of certain species and the species communities are also insufficiently known. Many taxa are imprecisely diagnosed or known only from their original description. All the information concerning the taxonomic status, general and country distribution, phenology and ecology of the Greek centipedes was reviewed in detail by ZAPPAROLI (2002).

Among the hundreds of unidentified specimens in the collection of Chilopoda of the National Museum of Natural History in Sofia (NMNHS) a considerable number come from the neighbouring country of Greece. Different generations of Bulgarian zoologists have been collecting invertebrates from the region, most extensively from Macedonia, Thrace, Chalkidiki and the islands Thassos and Samothraki. Since the 1970s Dr. Petar Beron and his colleagues Dr. Vladimir Beshkov, Dr. Stoitsse Andreev, Dr. A. Bartsiokas have implemented a broad inventorising campaign, emphasizing the cave and high mountain faunae. This resulted in collecting a large number of soil arthropods, among which also a huge number of myriapods.
A substantial part of this collection has already been studied by MATIC (1980), MATIC & STAVROPOULOS (1988, 1990, 1993) and STAVROPOULOS & MATIC (1990).

In the autumn of 2000, Boyan Petrov, Dr. Stoyan Beshkov and I (all from the NMNHS) carried out a scientific expedition to northern Greece, including the Rhodopi, Olympos, Menikio and Falakro mountains and the Chalkidiki Peninsula. Different soil arthropods were gathered using various sampling methods, but mostly through hand collecting and sifting leaf litter. Special attention was paid to the fauna of the caves in the vicinities of the villages of Zigos, Maronia, Alistrati and Pachni, and along the river of Nestos.

The present work records only a part of the Greek collection in the NMNHS. It deals mostly with materials collected during the trip of Petrov, Stoev and Beshkov and those collected at the beginning of the last century by I. Buresch, N. Stoyanov, N. Karnozhitski, I. Tsonkov, D. Papazov, A. Petrov, V. Petrov and K. Tuleshkov in Thrace, Olympos and Thassos. A total of 22 species were identified, three of them, *Lithobius ferganensis* Trotzina, 1880, *L. vizicae* (Ribarov, 1987) and *Henia (Turkophilus) porosa* (Verhoeff, 1941), appeared to be new to the country’s fauna.

**Material and methods**

Species identification was made with the aid of an MBC-10 stereoscope, made in Russia. All centipedes are preserved in 70% ethanol. The whole collection is preserved in the Department of Non-Insect Invertebrates of the NMNHS. The general distribution is given only for the new species. Species localities are transliterated into English.

**List of species**

**Lithobiomorpha**

*S. littoralis* (L. Koch, 1867)


Note. These are the first records of *E. littoralis* for the islands of Samothraki, Amorgos and Syros.

*Eupolybothrus transsylvanicus* transsylvanicus (Latzel, 1882)

Material examined: Menikio Mts.: ad. σ, subad. σ, Timios Prodromous Monastery, 11 km from Seres, Piladele Cave, alt. ca. 500 m, under stones, guano, 19.09.2000, Petrov, Stoev, Beshkov leg.; Rhodopi Mts.: ad. σ, Xanthi District, village of Pachni, a small nameless cave
Centipedes (Chilopoda) from Greece

below Doupkata Cave, alt. ca. 600 m, under stones, 25.09.2000, Petrov, Stoev, Beshkov leg.; ad. σ', Didimoticho District, village of Koufovouno, Koufovouno Cave, under stones, guano, 29.09.2000, Petrov, Stoev, Beshkov leg.

Note. The examined specimens belong to the nominate form characterized by projections on the 6th, 7th, 9th, 11th and 13th tergites.

_Eupolybothrus werneri_ (Attems, 1903)

Material examined: Olympos (Ólimbos) Mts.: ad. σ', near a cave, alt. ca. 1300 m, 07.07.1936, K. Tuleshkov leg.; ad. σ, subad. 9, 10 km above village of Kalivia, alt. ca. 1500 m, under stones, 16.09.2000, Petrov, Stoev, Beshkov leg.

Notes. This species is restricted to the mountains of mainland Greece (Olympos, Parnassos, Vermio, Timfristos, Giona, Erimanthos, Aroania, Killini, Lambia) and the Llogorase Pass in Albania. It occurs in the zone between 700 and 2240 m altitude (ZAPPAROLI, 2002). A morphologically similar species to _werneri_, _E. dolops_, was described from near Stournaraiika and Kataras Pass in Pindos Mts. (ZAPPAROLI, 1998).

_Lithobius (s. str.) forficatus_ (Linnaeus, 1758)

Material examined: Falakro Mts.: 2 ad. σσ', above the ski-center, alt. ca. 2000 m, 21.09.2000, Petrov, Stoev, Beshkov leg.; 2 ad. 99, a pass between the mountains Menikio and Vrondou (Vrontous), alt. ca. 900 m, beech litter, 29.09.2000, Petrov, Stoev, Beshkov leg.; Rhodopi Mts.: ad. 9, 11 km from Leptokaria, alt. ca. 920 m, _Pinetum_, under logs, 27.09.2000, Petrov, Stoev, Beshkov leg.

Note. It is worth mentioning that though very common in other parts of Europe, _L. forficatus_ has so far been recorded in Greece only in the Falakro, Vrondou, Menikio and Rhodopi mountains, and the island of Samothraki (ZAPPAROLI, 2002; present study).

_Lithobius (s. str.) mutabilis_ L. Koch, 1862

Material examined: Rhodopi Mts.: subad. σ, ad. 9, Drama District, between Elatjas Forestry Enterprise and Thermi, alt. ca. 1100 m, broad-leaved forest, leaf litter and under stones, 24.09.2000, Petrov, Stoev, Beshkov leg.

Note. This is the first record of _L. mutabilis_ in northeastern Greece (Thráki province).

_Lithobius (s. str.) nigripalpis_ L. Koch, 1867

Material examined: ad. σ, ad. 9, a pass between the mountains Menikio and Vrondou, alt. ca. 900 m, beech litter, 29.09.2000, Petrov, Stoev, Beshkov leg.; Syros Is.: 2 ad. σσ', 2 ad. 99, 1 subad., Ano Syros - Mytakas, 30.12.2002, P. Beron leg.

Note. This is the first record of _L. nigripalpis_ in Syros Island.

_Lithobius (Monotarsobius) ferganensis_ Trotzina, 1880

Material examined: Rhodopi Mts.: ad. σ, 2 subad. σσ', 3 99, 11 km from Leptokaria, alt. ca. 920 m, _Pinetum_, under logs, 27.09.2000, Petrov, Stoev, Beshkov leg.

General distribution. Karakoram, Central Asia, Caucasus, Crimea, Greece.

Notes. This species is widespread in Central Asia, Caucasus and Crimea reaching Chinese Karakoram in the east (EASON, 1997). Until recently, it was known from Turkey as _Monotarsobius curtipes turkestanicus_ Attems, 1904 and _Monotarsobius nodonotatus_ Verhoeff, 1943, both taxa included
in the list of synonyms of *ferganensis* (EASON, 1997; ZAPPAROLI, 1999). The new record forms the westernmost border of species distribution. It is a new species for the Greek fauna.

**Lithobius (Sigibius) microps** Meinert, 1868

Material examined: Rhodopi Mts.: 2 ad. ♀♀, Drama District, between Elatjas Forestry Enterprise and Thermi, alt. ca. 1100 m, broad-leaved forest, leaf litter and under stones, 24.09.2000, Petrov, Stoev, Beshkov leg.; ad. ♂, 2 ad. ♀♀, Drama District, village of Skaloti, near Elatjas Forestry Enterprise, Chakalos Peak, beech litter, alt. ca. 1800 m, 24.09.2000, Petrov, Stoev, Beshkov leg.; ad. ♂, Falakro Mts.: Volakas, alt. ca. 970 m, *Fagetum*, leaf litter and under stones, 20.09.2000, Petrov, Stoev, Beshkov leg.; ad. ♂, a pass between the mountains Menikio and Vrondou, alt. ca. 900 m, beech litter, 29.09.2000, Petrov, Stoev, Beshkov leg. Samothraki Is.: ad. ♀, village of Chora, 200-1000 m, 25.05.1984, P. Beron leg.

**Lithobius (Sigibius) vizicae** (Ribarov, 1987)

Material examined: Rhodopi Mts.: 2 ad. ♂♂, ad. ♀, village of Dadja, Dadja Monastery, oak forest, dry, under stones, leaf litter, 28.09.2000, Petrov, Stoev, Beshkov leg.

General distribution. Southeastern Bulgaria, Northeastern Greece.

Description: Color: pale brown - yellowish. Head: longer rather than broad; posterior marginal ridge with medial thickening. Antennae: as long as the posterior edge of third tergite; composed of 28-29 articles; ultimate article about 1.2-1.5 times longer than penultimate one. Ocelli: 3, black, in a single row. Tömösváry's organ: equal in size to ocella. Prosternum: with 2+2 broadly separated teeth and very short and stout porodonts, emerging laterally to the lateral teeth. Medial concavity, deep and evenly rounded. Coxal pores: 2, 2, 2, 2; circular, well separated from each other. Tergites: smooth, without posterior projections; 10th and 12th tergites cover 11th and 13th, respectively. Posterior pair of legs: thickened femur and tibia; accessory apical claw present; internal pores are large and cover the whole surface of the legs. Female gonopods: with 2+2 long spurs and bipartite terminal article; lateral tooth emerges at the base of the principle claw as figured by RIBAROV (1987).

Notes. This species was described by RIBAROV (1987) from the Strandzha Mts., southeastern Bulgaria. Its closest relative in the Balkans is *L. trebinjanus* Verhoeff, 1900 from Albania, Montenegro and Bosnia and Herzegovina (re-description in EASON, 1983). Both species can be distinguished from each other by the number of antennal articles (26-29 vs. 42-43 in *trebinjanus*), shape of the terminal claw of the female gonopods (with basal protuberance vs. tripartite, with well-developed medial and smaller lateral denticle) and the shape of the 15th male tibia (hairless vs. distal third densely setose). The only character in common, making them a single group is the form of the prosternum, bearing 2+2 small teeth and very stout porodonts. Another Bulgarian congener having this peculiar character is *L. strandzanicus* (Ribarov, 1987), a species of uncertain taxonomic position. *Lithobius vizicae* is a new species to the fauna of Greece.

**A note on the status of Lithobius seresensis** Matic et Stavropoulos, 1990

*L. seresensis* Matic et Stavropoulos, 1990 has been described on the basis of a single female specimen collected in the region of Seres (North Greece). ZAPPAROLI (1994) assumed it to be a synonym of *Lithobius erythrocephalus* C.L. Koch, 1847, although he never studied the type. After a re-examination of the holotype kept in the NMNHS, it became clear that this species is based on an aberrant specimen of *Lithobius schuleri* Verhoeff, 1925. Hence, it should be removed from the list of synonyms of *erythrocephalus* and put in that of *schuleri*. 
**Scolopendromorpha**

*Scolopendra cingulata* Latreille, 1829


Note. This is the first record of *S. cingulata* in the island of Kalymnos.

*Cryptops anomalans* Newport, 1844

Material examined: Thassos Is.: 2 adults, October, 1942, collector unknown; 2 adults, one subad., Limena, 02.05.1942, V. Petrov leg.; one ad., same locality, 0-200 m, 24.10.1942, collector unknown; 4 adults, same locality, 20.04-01.05.1943, N. Karnozhitski leg.

Note. These are the first records of *C. anomalans* in Thassos.

*Cryptops croaticus* Verhoeff, 1931

Material examined: Menikio Mts.: one adult, Seres District, Timios Prodromus Monastery, Lakosh, ruins, near a stream, alt. ca. 500 m, *Platanus* forest, under stones, 20.09.2000, Petrov, Stoev, Beshkov leg.

Notes. The only recent and reliable record of this species in Greece is that of Matic (1976) from Lefkada (Lefkáda) Isle. The new record verifies its presence in Greece and considerably extends the species range in a northeast direction. This find is not surprising since *C. croaticus* has already been reported from the Bulgarian part of the Slavyanka (Orvilos) Mts. (Stoev, 2002), which is situated close to Menikio.

*Cryptops hortensis* (Donovan, 1810)

Material examined: Rhodopi Mts.: several specimens, Drama District, between Elatjas Forestry Enterprise and Thermit, alt. ca. 1100 m, broad-leaved forest, leaf litter and under stones, 24.09.2000, Petrov, Stoev, Beshkov leg.; several specimens, a pass between the mountains Menikio and Vrondou, alt. ca. 900 m, beech litter, 29.09.2000, Petrov, Stoev, Beshkov leg.; 1 specimen, Alexandropouli District, Leptokaria, beech litter, alt. ca. 740 m, 27.09.2000, Petrov, Stoev, Beshkov leg.; Thassos Is.: one specimen, Kazaviti Rock, 28.10.1942, collector unknown.

*Cryptops parisi* Brolemann, 1920

Material examined: Falakro Mts.: one specimen, Volakas, alt. ca. 970 m, *Fagetum*, leaf litter and under stones, 20.09.2000, Petrov, Stoev, Beshkov leg.; several specimens, a pass between the mountains Menikio and Vrondou, alt. ca. 900 m, beech litter, 20.09.2000, Petrov, Stoev, Beshkov leg.; Rhodopi Mts.: 2 specimens, Xanthi District, village of Pachni, alt. ca. 600 m,
beech litter, 25.09.2000, Petrov, Stoev, Beshkov leg.; one specimen, Alexandroupoli District, Leptokaria, beech litter, alt. ca. 740 m, 27.09.2000, Petrov, Stoev, Beshkov leg.; Santorini (= Thira) Is.: 5 specimens, under stones, 03.10.1974, P. Beron, V. Beshkov leg.

Notes. Until now C. parisii has been known only from the mainland part of Greece and the Ionian Islands (ZAPPAROLI, 2002). The new record from Santorini Island extends its range in a southeast direction, including the Aegean Islands.

Geophilomorpha

Clinopodes flavidus C.L. Koch, 1847

Pachymerium ferrugineum (C.L. Koch, 1835)

Note. These are the first records of P. ferrugineum from the islands Thassos and Kythira.

Dignathodon microcephalus (Lucas, 1846)
Material examined: Lekani Mts.: ♂, Kavala District, village of Drimia, Quercetum, alt. ca. 200 m, leaf litter and under stones, 25.09.2000, Petrov, Stoev, Beshkov leg.

Note. This is the first record of D. microcephalus in the province of Macedonia.

Henia illyrica (Meinert, 1870)

Note. These are the first records of H. illyrica in the Rhodopi Mts., Chalkidiki Peninsula and Thassos Island.

Henia (Turkophilus) porosa (Verhoeff, 1941)


Notes. Henia porosa is widespread in southeast Bulgaria (sub H. angelovi Ribarov, 1987) and the regions of Marmara and West Pontus in Turkey (ZAPPAROLI, 1999). It is the first record from Greece.
Strigamia transsilvanica (Verhoeff, 1928)
Material examined: Rhodopi Mts.: ♂ with 47 pairs of legs, Drama District, between Elatjas Forestry Enterprise and Thermi, alt. ca. 1100 m, broad-leaved forest, leaf litter and under stones, 24.09.2000, Petrov, Stoev, Beshkov leg.

Himantarium gabrielis (Linnaeus, 1767)

Note. These are the first records of H. gabrielis from the islands of Thassos and Karpathos.

Bothriogaster signata (Kessler, 1874)

Acknowledgements
I thank Mr. Boyan Petrov and Dr. Stoyan Beshkov for taking part in our joint trip to Greece, which was supported by the American Arachnological Society Research Fund. Dr. Jason Dunlop (Berlin, Germany) kindly improved the English of the final draft.

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Received on 15.01.2003

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Хилоподи (Chilopoda) от Гърция в колекцията на 
Националния природонаучен музей, София

Павел СТОЕВ

(Р е з ю м е)
Съобщават се 22 вида хилоподи от колекцията на Националния природонаучен музей в София, 
събрани в Северна Гърция (Македония, Тракия) и островите Тасос, Тасопуло, Самотраки, Кимиря, 
Сироос, Аморгос, Санторини, Калымнос, и Карпатос. Lithobius ferganensis Trotzina, 1880, 
L. vizicae (Ribarov, 1987) и Henia (Turkophilus) porosa (Verhoeff, 1941) са нови за фауната на Гърция. Нови за 
фауната на Тасос са Cryptops anomalans, Pachymerium ferrugineum, Henia illyrica и Himantarium gabrielis; 
за Самотраки и Аморгос – Eupolybothrus litoralis; за Кимиря – P. ferrugineum; за Сироос – L. litoralis и Lithobius 
nigripalpis; за Санторини – Cryptops parisi; за Калымнос – Scolopendra cingulata; за Карпатос – H. gabrielis; за провинции Тракия – Lithobius mutabilis; за провинция Македония – Cryptops croaticus и 
Dignathodon microcephalus. След преразглеждане на холотипа, Lithobius seresensis Matic et Stavropoulos, 
1990 е обявен за синоним на Lithobius schuleri Verhoeff, 1925, а не както се смяташе досега на L. 
erthrocephalus C.L. Koch, 1847. Lithobius vizicae е преописан по материали от района на манастира 
Дадя в Североизточна Гърция.