Opusc. Zool. Budapest, 2013, 44(1): 61–76

New earthworm records from the former Yugoslav countries (Oligochaeta, Lumbricidae)

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Abstract. A rich earthworm material from different countries of the former Yugoslavia has been elaborated. Altogether 39 species and subspecies are reported including six new records. *Aporrectodea cemernicensis* proved to be new to the fauna of Serbia, *Eisenia spelaea* to Bosnia-Herzegovina, *Aporrectodea sineporis* is new to Croatia and *Denrobaena hrabei* to Macedonia. *Dendrobaena cognettii* represents a new record to the fauna of Croatia and Macedonia. *Dendrodrilus rubidus subrubicundus* is new to the fauna of Montenegro.

Keywords. Earthworms, faunistics, new records, former Yugoslavia

INTRODUCTION

The earthworm fauna of the former Yugoslavian countries is more or less well explored. The beginning of the researches goes back to the turn of the last century (Rosa 1897, Szüts 1919, Černosvitov 1930, 1935, 1938). These early researches were later followed by local scientists as well (Karaman 1972, Šapkarev 1972, 1977, 1979).

The most complete summary of the earthworms of the Balkan Peninsula including Yugoslavia was presented by Mršić (1991), recording altogether 135 species and subspecies from this region; by countries 57 from Serbia, 68 from Slovenia, 59 from Croatia, 47 from Macedonia, 45 from Bosnia-Herzegovina and 36 from Montenegro.

After this comprehensive work, only a few papers dealt with the earthworm fauna of the former Yugoslav states (Šapkarev 1993, Stojanović & Karaman 2006, 2007, Stojanović *et al.* 2008). The recent data are mainly from Serbia (Karaman & Stojanović 1996, 2002, Stojanović & Karaman 2003a, 2005a, 2005b, Milutinović *et al.* 2010), Macedonia (Šapkarev 1991, 2001) and Montenegro (Stojanović & Karaman 2003b).

In the last decade, researchers of the Hungarian Natural History Museum organized several collecting trips to the Balkan Peninsula (Fehér et al. 2004, Murányi *et al.* 2011). The rich earthworm material collected from the former Yugoslav countries has recently been elaborated and the results are presented herein.

MATERIAL AND METHODS

Earthworms were collected by the diluted formaldehyde method (Raw 1959), complemented with digging and searching under stones and the bark of fallen logs. The specimens were killed and fixed in 96% ethanol then transferred into 75% ethanol and deposited in the earthworm collection of the Hungarian Natural History Museum (HNHM). For later molecular studies, tail parts of specimens of taxonomic importance were placed into 96% ethanol.

RESULTS

Allolobophora mehadiensis voivodinensis (Šapkarev, 1989)

Allolobophora (Serbiona) mehadienis voivodinensis Šapkarev, 1989: 40.
Serbiona mehadiensis voivodinensis: Mršić 1991: 189.

urn:lsid:zoobank.org:pub:8611C144-CFB4-4019-ABED-7771F5C8C46A
HU ISSN 2063-1588 (online), HU ISSN 0237-5419 (print)

Material examined. HNHM/16029, 3 ex., Serbia, Đerdap Mts., Donji Milanovac, 335 m, oak forest, N44°28,551' E22°04,406', 28.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16038, 3 ex., Serbia, Đerdap Mts., Rudna Glava, 151 m, meadow with a nut tree, N44°18,662' E22°07,016', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16051, 2 ex., Serbia, Đerdap Mts., Golubinje, 194 m, orchard around a house, N44°30,996' E22°12,913', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16053, 1 ex., Serbia, Đerdap Mts., Golubinje, 191 m, dry oak forest, N44°33,922' E22°14,893', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Allolobophora robusta robusta Rosa, 1895

Allolobophora robusta Rosa, 1895: 2., Zicsi 1982: 437.
Serbiona robusta robusta: Mršić 1991: 193., Stojanović & Karaman 2007: 23.
Allolobophora robusta robusta: Csuzdi *et al.* 2011: 12.

Material examined. HNHM/16020, 6 ex., Serbia, Đerdap Mts., Miroč, 502 m, beech forest fragment on a pasture, N44°30,154' E22°15,018', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16026, 4 ex., Serbia, Đerdap Mts., Lepenski Vir, small valley at the Eastern end of Tunnel 10, 127 m, mixed forest, N44°33,959' E22°01,202', 28.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16028, 10 ex., Serbia, Đerdap Mts., Donji Milanovac, 335 m, oak forest, N44°28,551' E22°04,406', 28.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16031, 4 ex., Serbia, Đerdap Mts., between Miroč and Brza Palanka, 407 m, beech forest, N44°28,616' E22° 21,074', 27.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16036, 2 ex., Serbia, Đerdap Mts., Golubinje, 194 m, orchard around a house, N44°30,996' E22°12,913', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16054, 2 ex., Serbia, Đerdap Mts., Miroč, 502 m, beech forest fragment on a pasture, N44°30,154' E22° 15,018', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Remarks. The new specimens from the Đerdap Mts. are smaller than those of Băile Herculane, Romania (Csuzdi *et al.* 2011) but morphologically fit well in the description of the nominal subspecies.

Allolobophora sturanyi sturanyi Rosa, 1895

(Figure 1)

Allolobophora sturanyi Rosa, 1895: 5., Zicsi 1982: 439.
Karpatodinariona sturanyi: Mršić 1991: 250., Stojanović *et al.* 2008: 59.
Allolobophora sturanyi sturanyi: Csuzdi & Pop 2008a: 26.

Material examined. HNHM/16046, 1 ex., Serbia, Đerdap Mts., Golubinje, 191 m, dry oak forest, N44°33,922' E22°14,893', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16052, 1 ex., Serbia, Đerdap Mts., Golubinje, 191 m, dry oak forest, N44°33,922' E22°14,893', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Allolobophoridella eiseni (Levinsen, 1884)

Lumbricus eiseni Levinsen, 1884: 241.
Allolobophoridella eiseni: Mršić 1991: 254., Csuzdi *et al.* 2011: 12.
Eisenia eiseni: Karaman & Stojanović 2002: 224.

Material examined. HNHM/15899, 1 ex., Macedonia, Prov. Veles, Babuna valley, between Omorani and Martolci, 04.04.2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi; HNHM/15903, 2 ex., Macedonia, Prov. Gostivar, along the Mavrovi Anovi–Galičnik road, 2,6 km after the junction to Mavrovo, beech forest, 1500 m, 09.04.2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi; HNHM/15877, 2 ex., Montenegro, 3 km SE of Grnčar along the Gushinje–Shkodër road, beech forest, 962 m, 04. 10.2005., leg. D. Murányi; HNHM/15885, 1 ex., Montenegro, E of Velika, Murino 18 km toward Čakor-pass, mixed pine forest, subalpine grassland, 1554 m, 05.10.2005., leg. D. Murányi; HNHM/15682, 1 ex., Serbia, Fruska Gora, Petrovarazdin, mesic forest, 2 km E from the pass, 19. 04.2004., leg. J. Kontschán; HNHM/15957, 1 ex., Serbia, 9 km E of Surdulica, dam of Vrla stream, 20 km from Vladičin Han, non limestone rocks, 890 m, 08.04.2006., leg. Z. Erőss, Z. Fehér, A.

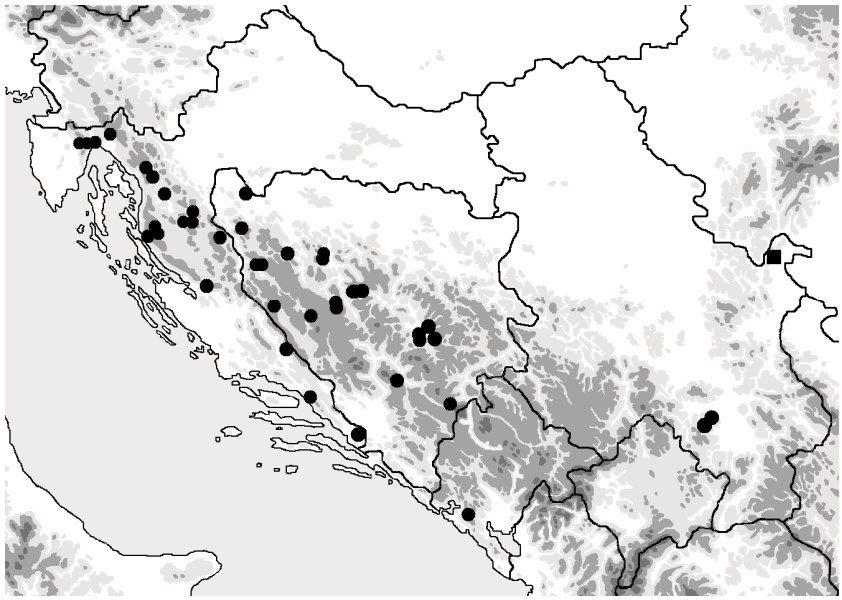

Figure 1. Distribution of *A. sturanyi sturanyi* Rosa, 1895. Black dots = literature data, black square = new record.

Hunyadi, D. Murányi; HNHM/16024, 1 ex., Serbia, Đerdap Mts., Golubinje, foot of Mt. Mali Štrbac, 120 m, old beech forest, N44°38,201' E22°18,418', 27.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16039, 1 ex., Serbia, Đerdap Mts., Majdanpek, 326 m, alder forest along a stream, N44°22,823' E21°59,162', 26.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Remarks. This species is quite common in the Balkan found almost exclusively under bark of fallen logs.

Aporrectodea cemernicensis Mršić, 1991

(Figure 2)

Aporrectodea (Aporrectodea) cemernicensis Mršić, 1991: 284.

Material examined. HNHM/15927, 6 ex., Serbia, Đerdap Mts., Golubinje, stream valley with young forest N of the village, 88 m, N44°30,993' E22°12,692', 13.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi.

Remarks. This species was described from Bosnia-Herzegovina and this is its first record from Serbia.

Aporrectodea georgii (Michaelsen, 1890)

Allolobophora georgii Michaelsen, 1890: 3.
Aporrectodea (Aporrectodea) georgii: Mršić 1991: 315.
Aporrectodea georgii: Milutinović *et al.* 2010: 629.

Material examined. HNHM/15940, 2 ex., Macedonia, Valandovsko Basin, Rabrovo, grassland along the Anska River S of the village, 104 m, N41°18,248' E22°35,185', 18.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi.

Aporrectodea handlirschi (Rosa, 1897)

Allolobophora handlirschi Rosa, 1897: 3.
Aporrectodea (Aporrectodea) handlirschi: Mršić 1991: 292.
Aporrectodea handlirschi: Csuzdi & Zicsi 2003: 84.
Aporrecodea handlirschi handlirschi: Stojanović *et al.* 2008: 59.

Material examined. HNHM/15935, 4 ex., Macedonia, Demir Kapija, Vardar River, gallery forest and dry grassland E of the city, 115 m, N41°24,348' E22°15,938', 17.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15938, 4 ex., Macedonia, Belasica Mts., Kolešino, rude-

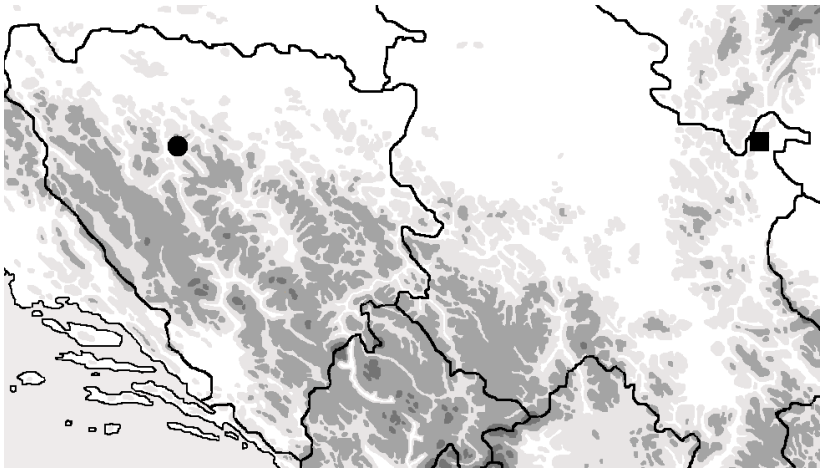

Figure 2. Distribution of *Ap. cemernicensis* Mršić, 1991. Black dot = type locality, black square = new record.

ral vegetation above the village, 300 m, N41° 22,780' E22°48,580', 18.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15654, 1 ex., Serbia, Đerdap Mts., Dobra, limestone rocks and secondary forest, 105 m, N44°34,913' E22° 01,190', 12.10.2006 leg. L. Dányi, J. Kontschán, D. Murányi.

Aporrectodea rosea (Savigny, 1826)

Enterion roseum Savigny, 1826: 182.
Aporrectodea (Aporrectodea) rosea rosea: Mršić 1991: 296.
Aporrectodea rosea: Šapkarev 2001: 111., Stojanović & Karaman 2003b: 55., 2005a: 128.

Material examined. HNHM/15645, 1 ex., Serbia, Gamzigrad, Crni Timok River and its gallery, 183 m, N43°55,510' E22°07,770', 14.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi.

Remarks. *Aporrectodea rosea* is a common peregrine species distributed all over the Balkans but its collection was not forced.

Aporrectodea sineporis (Omodeo, 1952)

(Figure 3)

Eiseniella balcanica sine-poris Omodeo, 1952: 31.
Aporrectodea (Aporrectodea) sineporis: Mršić 1991: 287.
Aporrectodea sineporis: Csuzdi & Zicsi 2003: 99., Stojanović & Karaman 2005b: 133., Milutinović *et al*. 2010: 629.

Material examined. HNHM/15598, 1 ex., Croatia, Ivanscica, ~250 m below the mountain ridge, sparse northern side, 01.04.2006. leg. Á. Garai, J. Kontschán, D. Murányi; HNHM/15599, 2 ex., Croatia, Ivanscica, Lobor, beech-oak mixed forest, 01.04.2006. leg. Á. Garai, J. Kontschán, D. Murányi; HNHM/15695, 1 ex., Croatia, Papuk, 20.04.2004., leg. J. Kontschán; HNHM/15699, 1 ex., Croatia, Papuk, Drenovac, stream bank, near the bridge, 21.04.2004., leg. J. Kontschán; HN HM/15712, 1 ex., Croatia, Papuk, Jankovac pass, beech forest, 24.10.2004., leg. D. Murányi; HN HM/15633, 1 ex., Serbia, Đerdap Mts., Mosna, stream valley with oak forest at the edge of the village, 99 m, N44°25,777' E22°10,633', 12.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15648, 1 ex., Serbia, Đerdap Mts., Mosna, stream valley with oak forest at the edge of the village, 99 m, N44°25,777 E22°10,633', 12.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/16042, 2 ex., Serbia, Đerdap Mts., Majdanpek, 326 m, alder forest along a stream, N44° 22,823' E21°59,162', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16050, 3 ex., Serbia, Đerdap Mts., Golubinje, 135 m, beech for est, N44°30,913' E22°12 831', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

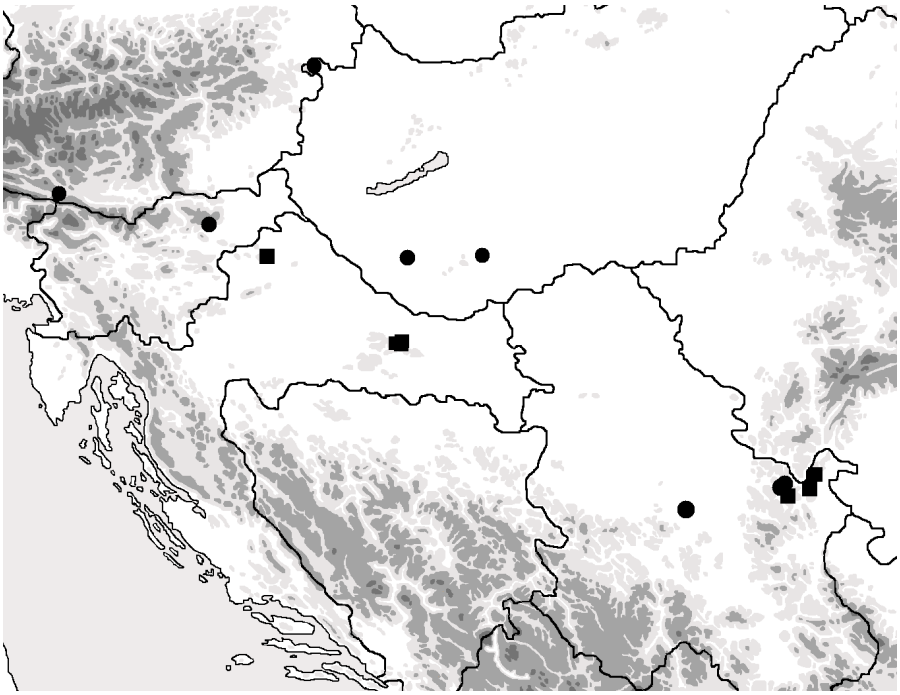

Figure 3. Distribution of *Ap. sineporis* (Omodeo, 1952). Black dots = literature data, black squares = new records.

Remarks. Csuzdi & Zicsi (2003) described *Ap. sineporis* as a typical Southern-Alpine species. Later findings in Serbia (Stojanović & Karaman 2005b) and the present records in Croatia corroborates the view of Stojanović & Karaman (2005b) that this species has a wider distribution in the Balkan, and fits better in the Illyric type of distribution.

Aporrectodea smaragdina (Rosa, 1892)

Allolobophora smaragdina Rosa, 1892: 5.
Aporrectodea (Aporrectodea) smaragdina: Mršić 1991: 308.
Aporrectodea smaragdina: Stojanović & Karaman 2003b: 55.
Aporrectodea smaragdinoides Šapkarev, 1989: 42. **syn. nov.**
Aporrectodea (Aporrectodea) smaragdinoides: Mršić 1991: 312.

Material examined. HNHM/15854, 1 ex., Bosnia-Herzegovina, Zelengora, Suha, spring above the settlement, 1112 m, N43°15,892' E18° 35,595', 10.05.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15861, 2 ex., Bosnia-Herzegovina, Zelengora, Tjentište, sidebrook of the Sutjeska River above the settlement, 765 m, N43°17,372' E18°37,067', 09.05.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15884, 1 ex., Montenegro, Lim valley, River Lim 4 km S of Brodarevo, river, limestone rocks, roadside bush, 530 m, 03.10.2005., leg. D. Murányi; HN HM/15980 1 ex., Slovenia, Moste, near the lake, 630 m, beech forest with pine trees, N46°24,418' E14°08,767', 13.04.2006., leg. L. Dányi, J. Kontschán.

Remarks. Šapkarev (1989) described *Ap. smaragdinoides* because it has not expressed the intensive emerald-green colour, characteristic for *Ap. smaragdina,* and possessed slightly longer clitellum (24–33 vs. 25, 26–33). Already Mršić (1991: 313) raised the question of validity the species *Ap. smaragdinoides* but formally did not synonymise the two names. In our material all colour forms (from turquoise green to much paler greenish-grey) occur and all clitellar positions can be observed therefore, *Ap. smaragdinoides* Šapkarev, 1989 is only a synonym name of *Ap. smaragdina* (Rosa, 1892).

Dendrobaena alpina alpina (Rosa, 1884)

Allolobophora alpina Rosa, 1884: 28.
Dendrobaena alpina alpina: Mršić 1991: 627., Csuzdi *et al.* 2005: 127.
Dendrobaena alpina: Šapkarev 2001: 112., Stojanović & Karaman 2005a: 129.

Material examined. HNHM/15953, 2 ex., Macedonia, Ogražden Mts., beech forest with a brook at the Prevedena Pass, 1167 m, N41° 33,960' E22°50,643', 18.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/16030, 1 ex., Serbia, Đerdap Mts., Donji Milanovac, 335 m, oak forest, N44°28,551' E22°04,406', 28.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16033, 6 ex., Serbia, Đerdap Mts., between Miroč and Brza Palanka, 407 m, beech forest, N44°28,616' E22°21,074', 27.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/ 16041, 1 ex., Serbia, Đerdap Mts., Majdanpek, 326 m, alder forest along a stream, N44°22,823' E21°59,162', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Remarks. *D. alpina* is a polytypic species distributed from France across Central and Southern Europe to Turkey. In the Balkan, apart from *D. alpina alpina* occurs also the subspecies *D. a. popi* mainly in mountainous habitats. The other subspecies *D. a. mavrovensis* Šapkarev, 1971 described from Macedonia according to the online database of Csuzdi (2012) is a synonym of *D. clujensis*.

Dendrobaena alpina popi Šapkarev, 1971

Dendrobaena alpina popi Šapkarev, 1971: 160., Mršić 1991: 634., Csuzdi *et al.* 2011: 13.

Material examined. HNHM/15902, 1 ex., Macedonia, Prov. Gostivar, along the Mavrovi Anovi – Galičnik road, 2,6 km after the junction to Mavrovo, beech forest, 1500 m, 09.04.2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi.

Dendrobaena attemsi (Michaelsen, 1902)

Helodrilus (Dendrobaena) attemsi Michaelsen, 1902: 74.
Dendrobaena attemsi: Mršić 1991: 604., Šapkarev 2001: 112., Stojanović & Karaman 2005a: 129., Csuzdi *et al.* 2011: 14.

Material examined. HNHM/15853, 1 ex., Bosnia-Herzegovina, Zelengora, Suha, forest spring above the settlement, 1112 m, N43°15,892' E18° 35,595', 10.05.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15905, 1 ex., Macedonia, Prov. Ohrid, Galičica Mts.,19 km W of Carina, along the Carina – Trpejča road, spring, 1370 m, 06.04.2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi; HNHM/15906, 1 ex., Macedonia, Prov. Ohrid, Galičica Mts., 16.6 km W of Carina, along the Carina – Trpejča road, rocky beech forest, 1450 m, 06.04.2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi; HNHM/15907, 1 ex., Macedonia, Prov. Gostivar, 2 km SE of Gorno Jelovce, Planinarski dom Šarski Vodi, beech forest,1275 m, 09.04.2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi; HNHM/ 15936, 4 ex., Macedonia, Ogražden Mts., beech forest with a brook at the Prevedena Pass, 1167 m, N41°33,960' E22°50,643', 18.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15951, 1 ex., Macedonia, Galičica Mts., Leskoec, oak forest above the Prespa Lake, 1217 m, N40° 58,577' E20°53,122', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15952, 1 ex., Macedonia, Peštani, karstic forest above the Ohrid Lake, S of the village, 829 m, N40°58,598' E20° 47,645', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/16022, 1 ex., Serbia, Đerdap Mts., between Majdanpek and Donji Milanovac, 621 m, beech forest, N44°26,659' E21°58,858', 28.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Remarks. *D. attemsi* is a widely distributed Balkanic-Alpine species (Csuzdi *et al.* 2011). In the Romanian literature it was frequently lumped under the name of *D. alpina* (Pop *et al.* 2007).

Dendrobaena auriculifera Zicsi, 1969

Dendrobaena auriculifera Zicsi, 1969: 381., Mršić 1991: 574.

Material examined. HNHM/15981, 1 ex., Slovenia, Moste, near the lake, 630 m, beech forest

with pine trees, N46°24,418' E14°08,767', 13.04. 2006., leg. L. Dányi, J. Kontschán.

Dendrobaena byblica byblica (Rosa, 1893)

Allolobophora byblica Rosa, 1893a: 4.
Dendrobaena byblica (part.): Mršić 1991: 566., Csuzdi *et al.* 2011: 14.
Dendrobaena byblica: Šapkarev 2001: 113., Stojanović & Karaman 2005a: 129.

Material examined. HNHM/15649, 1 ex., Serbia, Đerdap Mts., Mosna, stream valley with oak forest at the edge of the village, 99 m, N44° 25,777' E22°10,633', 12.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi.

Remarks. *D. byblica* is a widely distributed polytypic species complex which urgently needs revision (Csuzdi & Pavlíček 1999). Zicsi (1991) resurrected the species *D. ganglbaueri* (Rosa, 1894) which clearly differs from *D. byblica* in the position of the clitellum (24–29 vs. 25–30). In the present work *D. ganglbaueri* is also recognized as a valid species.

Dendrobaena cognettii (Michaelsen, 1903)

Helodrilus cognettii Michaelsen, 1903: 130.
Dendrobaena cognettii: Zicsi 1982: 426., Csuzdi & Zicsi 2003: 114.
Dendrobaena pygmaea: Mršić 1991: 643., Blakemore 2004: 2.

Material examined. HNHM/15620, 1 ex., Croatia, Krk Island, Glavotok, oak forest, 30.04. 2006., leg. L. Dányi; HNHM/15950 1 ex., Macedonia, Šar Planina, Tetovo, Popova Šapka, beech forest, 1153 m, N42°00,940' E20°55,597', 15.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi.

Remarks. This species has not been recorded from the former Yugoslavia (Mršić 1991) therefore it is new to the fauna of Croatia and Macedonia as well.

Dendrobaena ganglbaueri (Rosa, 1894)

Allolobophora (Dendrobaena) ganglbaueri Rosa, 1894: 1.
Dendrobaena byblica (part.): Mršić 1991: 566.
Dendrobaena ganglbaueri: Zicsi 1991: 176., Csuzdi & Zicsi 2003: 116.

Material examined. HNHM/15595, 1 ex., Croatia, Ivanscica, near the mountain foot, mixed beech forest, 01.04.2006. leg. Á. Garai, J. Kontschán, D. Murányi; HNHM/15628, 1 ex., Croatia, Papuk, Drenovac, stream bank, 21.04.2004., leg. J. Kontschán; HNHM/15629, 1 ex., Croatia, Papuk, Novo Zvecevo, after the village, stream bank, 22.04.2004., leg. J. Kontschán; HNHM/ 15687, 2 ex., Croatia, Papuk, Novo Zvecevo, after the village, stream bank, 22.04.2004., leg. J. Kontschán; HNHM/15693, 4 ex., HNHM/15692, 6 ex., Croatia, Papuk, 20.04.2004., leg. J. Kontschán; HNHM/15893, 1 ex., Serbia, 14 km S of Valjevo, 500 m, 19.10.2002., leg. J. Kontschán.

Dendrobaena hortensis (Michaelsen, 1890)

Allolobophora subrubicunda var. *hortensis* Michaelsen, 1890: 15.
Dendrobaena hortensis: Mršić 1991: 622., Stojanović & Karaman 2005a: 129.

Material examined. HNHM/15647, 3 ex., Macedonia, Ohrid Lake and lakeshore N of Peštani, 695 m, N41°02,857' E20°48,093', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/ 15904, 1 ex., Macedonia, Prov. Resen, Krani, the upper end of the village, stream bank, spring, 990 m, 05.04.2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi; HNHM/15933, 4 ex., Macedonia, Sveti Naum, springs and spring lake above the Ohrid Lake, 704 m, N40°54,595' E20°44,868', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15945, 1 ex., Macedonia, Sveti Naum, springs and spring lake above the Ohrid Lake, 704 m, N40°54,595' E20°44,868', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15954, 1 ex., Macedonia, Pelister Mts, Nižepole, brooks in alpine grasslands and beech forests around the ski course, 1375 m, N40°58,812' E21°15,165', 17.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15948, 1 ex., Serbia, Đerdap Mts., quarry N of Golubinje, 100 m, N44°34,143' E22° 14,735', 13.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi.

***Dendrobaena hrabei* (Černosvitov, 1934)**

(Figure 4)

Eisenia veneta var. *hrabei* Černosvitov, 1934: 72.
Dendrobaena hrabei: Mršić 1991: 631.

Material examined. HNHM/15935, 5 ex., Macedonia, Ogražden Mts., beech forest with a brook at the Prevedena Pass, 1167 m, N41°33,960' E22° 50,643', 18.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi

Remarks. This species was described from Bulgaria and this is the first record from Macedonia.

***Dendrobaena octaedra* (Savigny, 1826)**

Enterion octaedrum Savigny, 1826: 183.
Dendrobaena octaedra: Mršić 1991: 607., Stojanović & Karaman 2003: 55., 2005a: 130.

Material examined. HNHM/15694, 1 ex., Croatia, Papuk, 20.04.2004., leg. J. Kontschán; HN HM/15934, 2 ex., Macedonia, Jakupica Mts., Bogomila, Babuna River and its softwood gallery below the village, 460 m, N41°35,610' E21° 30,260', 19.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15941, 1 ex., Macedonia, Šar Planina, Tetovo, Popova Šapka, brook in alpine grassland, 1792 m, N42°00,910' E20° 52,612', 15.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15651, 2 ex., Serbia, Đerdap Mts., Majdanpek, dry beech forest, 141 m, N44° 24,983' E21°56,277', 13.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15897, 1 ex., Serbia, 14km S of Valjevo, 500m, 19.10.2002., leg. J. Kontschán; HNHM/15876, 1 ex., Serbia, Ibar River valley, 1 km SW of Spiljani, river and the littoral alders, limestone rocks, karstic forest, 829 m, 12.10.2005., leg. D. Murányi.

***Dendrobaena papukiana* Mršić, 1988**

Dendrobaena papukiana Mršić, 1988: 16., Mršić 1991: 579.

Material examined. HNHM/15698, 2 ex., Croatia, Papuk, Novo Zvecevo, after the village, stream bank, 22.04.2004., leg. J. Kontschán; HN HM/15711, 8 ex., Croatia, Papuk, Jankovac pass, beech forest, 24.10.2004., leg. D. Murányi.

Rermark. This species has not been reported so far since the original description.

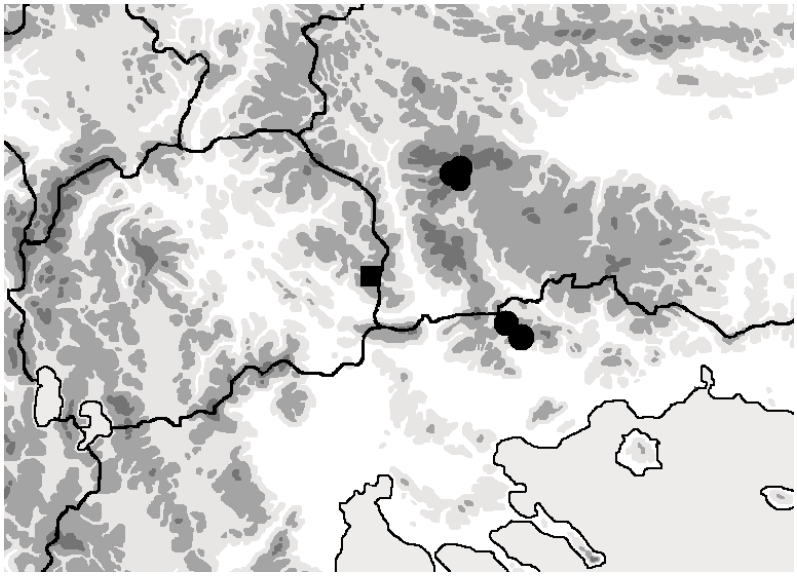

Figure 4. Distribution of *D. hrabei* (Černosvitov, 1934). Black dots = literature data, black square = new record.

Dendrobaena veneta veneta (Rosa, 1886)

Allolobophora veneta Rosa, 1886: 674.
Dendrobaena veneta veneta: Mršić 1991: 613.

Material examined. HNHM/15646, 4 ex., Macedonia, Ohrid Lake and lakeshore N of Peštani, 695 m, N41°02,857' E20°48,093', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15932, 2 ex., Macedonia, Sveti Naum, springs and spring lake above the Ohrid Lake, 704 m, N40° 54,595' E20°44,868', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15947, 4 ex., Macedonia, Sum, spring lake, grassland and pine forest above the Ohrid Lake, 707 m, N41°10,972' E20°37,928', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15949, 3 ex., Serbia, Đerdap Mts., quarry N of Golubinje, 100 m, N44° 34,143' E22°14,735', 13.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi

Dendrodrilus rubidus rubidus (Savigny, 1826)

Enterion rubidum Savigny, 1826: 182.
Dendrodrilus rubidus rubidus: Mršić 1991: 263., Šapkarev 2001: 111., Stojanović & Karaman 2005a: 130., Blakemore 2008: 584.
Dendrodrilus rubidus tenuis: Šapkarev 2001: 111., Stojanović & Karaman 2003b: 56., 2005a: 130., Blakemore 2008: 584.

Material examined. HNHM/15643, 1 ex., Serbia, Gamzigrad, Crni Timok River and its gallery, 183 m, N43°55,510' E22°07,770', 14.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15688, 1 ex., Serbia, Fruska Gora, Grgurevci, mesic forest, 2 km E from the pass, 19.04.2004., leg. J. Kontschán.

Dendrodrilus rubidus subrubicundus (Eisen, 1873)

Allolobophora subrubicunda Eisen, 1873: 51.
Dendrodrilus rubidus subrubicundus: Mršić 1991: 267., Šapkarev 2001: 111., Blakemore 2008: 585.
Dendrodrilus rubidus subrubicunda: Karaman & Stojanović 2002: 224.

Material examined. HNHM/15942, 1 ex., Macedonia, Šar Planina, Tetovo, Popova Šapka, brook in alpine grassland, 1792 m, N42°00,910' E20°52,612', 15.10.2006., leg. L. Dányi, J. Konschán, D. Murányi; HNHM/15946, 1 ex., Macedonia, Sveti Naum, springs and spring lake above the Ohrid Lake, 704 m, N40°54,595' E20° 44,868', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/16007, 2 ex., Macedonia, Polog region, Reka Mts., Vrben, stream in the village 1285 m, N41°43,359' E20°44,149', 16.05. 2010., leg. Z. Fehér, D. Murányi, Zs. Ujvári; HNHM/15886, 1 ex., Montenegro, Lim valley, River Lim 4 km S of Brodarevo, limestone rocks, roadside bush, 530 m, 03.10.2005., leg. D. Murányi; HNHM/15683, 1 ex., Serbia, Fruska Gora, Petrovarazdin, mesic forest, 2 km E from the pass, 19.04.2004., leg. J. Kontschán; HNHM/15928, 1 ex., Serbia, Đerdap Mts., Golubinje, stream valley with young forest N of the village, 88 m, N44° 30,993' E22°12,692', 13.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/16034, 2 ex., Serbia, Đerdap Mts., Golubinje, foot of Mt. Veliki Štrbac, 93 m, beech forest, N44°35,690' E22° 16,073', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16035, 1 ex., Serbia, Đerdap Mts., Dobra, 502 m, beech forest, N44°34,987' E21°58,736', 28.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16040, 3 ex., Serbia, Đerdap Mts., Majdanpek, 326 m, alder forest along a stream, N44°22,823' E21°59,162', 26.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16045, 2 ex., Serbia, Đerdap Mts., Mala Orlova, 91 m, beech-alder forest with stream, N44°38,730' E21°48,769', 25.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16055, 2 ex., Serbia, Đerdap Mts., Majdanpek, 326 m, alder forest along a stream, N44°22,823' E21° 59,162', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Remarks. Acording to Mršić (1991) and Stojanović & Karaman (2003), this peregrine subspecies has not been reported so far from Montenegro.

Eisenia fetida (Savigny, 1826)

Enterion fetidum Savigny, 1826: 182.
Eisenia fetida: Mršić 1991: 497., Blakemore 2008: 587.
Eisenia foetida: Šapkarev 2001: 111.

Material examined. HNHM/16006, 6 ex., Macedonia, Polog region, Reka Mts., Vrben, stream in the village, 1285 m, N41°43,359' E20°44,149', 16.05.2010., leg. Z. Fehér, D. Murányi, Zs. Ujvári.

Eisenia lucens (Waga, 1857)

Lumbricus lucens Waga, 1857: 161.
Eisenia lucens: Mršić 1991: 500., Šapkarev 2001: 111., Csuzdi & Zicsi 2003: 146., Stojanović & Karaman 2005a: 130.

Material examined. HNHM/15926, 5 ex., Macedonia, Osogovski Planina, Sasa, valley of a sidebrook of the Kamenica Stream above the village, 1007 m, N42°06,507' E22°31,555', 19. 10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15544, 2 ex., Serbia, Đerdap Mts., Golubinje, foot of Mt. Mali Štrbac, 120 m, old beech forest, N44°38,201' E22°18,418', 27.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/15653, 4 ex., Serbia, Đerdap Mts., Donji Milanovac, Grgeči spring and its outlet in a beech forest, ~500 m, N44°28' E22°02', 13.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/ 15691, 6 ex., Serbia, Fruska Gora, Petrovarazdin, ruderal habitat, 3 km under the pass, 19.04.2004. leg. J. Kontschán; HNHM/15918, 2 ex., Serbia, 6 km E of Surdulica, 17 km from Vladičin Han, forest, 750 m, 08.04.2006., leg. Z. Erőss, Z. Fehér, A. Hunyadi, D. Murányi; HNHM/15939, 1 ex., Serbia, Krajište Mts., Surdulica, Vrla River above the city, 712 m, N42°41,288' E22°15,125', 20.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15956, 3 ex., Serbia, 9 km E of Surdulica, dam of Vrla stream, 20 km from Vladičin Han, non limestone rocks, 890 m, 08.04. 2006., leg. Z. Erőss, Z. Fehér, A. Hunyadi, D. Murányi; HNHM/16027, 2 ex., Serbia, Đerdap Mts., Lepenski Vir, small valley at the Eastern end of Tunnel 10 , 127 m, mixed forest, N44° 33,959' E22°01,202', 28.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16047, 12 ex., Serbia, Đerdap Mts., Golubinje, foot of Mt. Veliki Štrbac, 93 m, beech forest, N44°35,690' E22° 16,073', 26.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16048, 1 ex., Serbia, Đerdap Mts., Golubinje, foot of Mt. Mali Štrbac, 105 m, rocky roadside under an oak forest, N44°36,561' E22°16,465', 27.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Eisenia spelaea (Rosa, 1901)

Allolobophora spelaea Rosa, 1901: 36.
Eisenia spelaea: Mršić 1991: 503., Csuzdi & Zicsi 2003: 149.

Material examined. HNHM/15852, 3 ex., Bosnia-Herzegovina, Zelengora, Suha, forest spring above the settlement, 1112 m, N43°15,892' E18° 35,595', 10.05.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15594, 3 ex. Croatia, Ivanscica, near the mountain foot, mixed beech forest, 01.04.2006. leg. Á. Garai, J. Kontschán, D. Murányi; HNHM/15597, 1 ex., Croatia, Ivanscica, above Prigorec, stream bank, 01.04.2006., leg. Á. Garai, J. Kontschán, D. Murányi; HNHM/15627, 1 ex., Croatia, Papuk, Drenovac, stream bank, 21.04.2004., leg. J. Kontschán; HNHM/15686, 1 ex., Croatia, Papuk, Novo Zvecevo, after the village, stream bank, 22.04.2004., leg. J. Kontschán; HNHM/15978, 10 ex., Slovenia, Golnik, 460 m, mixed beech forest, N46°19,700' E14° 20,585', 14.04.2006., leg. L. Dányi, J. Kontschán.

Remarks. This species is new to the fauna of Bosnia-Herzegovina.

Fitzingeria platyura platyura (Fitzinger, 1833)

Enterion platyurum Fitzinger, 1833: 553.
Fitzingeria platyura platyura: Mršić 1991: 542., Stojanović & Karaman 2005a: 130.

Material examined. HNHM/15955, 1 ex., Serbia, 9 km E of Surdulica, dam of Vrla stream, 20 km from Vladičin Han, non limestone rocks, 890 m, 08.04.2006., leg. Z. Erőss, Z. Fehér, A. Hunyadi, D. Murányi.

Fitzingeria platyura depressa (Rosa, 1893)

Allolobophora platyura depressa Rosa, 1893b: 439.
Fitzingeria platyura depressa: Mršić 1991: 543.
Fitzingeria viminiana Mršić 1986: 111. (Csuzdi & Zicsi 2003).

Material examined. HNHM/15697, 1 ex., Croatia, Papuk, Novo Zvecevo, after the village, stream bank, 22.04.2004., leg. J. Kontschán; HN HM/15650, 1 ex., Serbia, Đerdap Mts., Mosna, stream valley with oak forest at the edge of the village, 99 m, N44°25,777' E22°10,633', 12.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15929, 1 ex., Serbia, Đerdap Mts., Golubinje, stream valley with young forest N of the village, 88 m, N44°30,993' E22°12,692', 13.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/16021, 1 ex., Serbia, Đerdap Mts., between Majdanpek and Donji Milanovac, 621 m, beech forest, N44°26,659' E21°58,858', 28.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16025, 4 ex., Serbia„ Đerdap Mts., Dobra, 314 m, beech forest, N44°35,755' E21° 51,483', 28.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16044, 1 ex., Serbia, Đerdap Mts., Mala Orlova, 91 m, beech-alder forest with stream, N44°38,730' E21°48,769', 25.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/ 16049, 2 ex., Serbia, Đerdap Mts., Golubinje, 135 m, beech forest, N44°30,913' E22°12,831', 26.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Lumbricus castaneus (Savigny, 1826)

Enterion castaneum Savigny, 1826: 180.
Lumbricus castaneus: Mršić 1991: 466., Karaman & Stojanović 2002: 224., Blakemore 2008: 623.

Material examined. HNHM/15596, 1 ex., Croatia, Ivanscica, above Prigorec, stream bank, 01.04.2006., leg. Á. Garai, J. Kontschán, D. Murányi; HNHM/15630, 1 ex., Croatia, Papuk, Villic Selo, stream bank, 21.04.2004., leg. J. Kontschán; HNHM/15684, 1 ex., Croatia, Papuk, Drenovac, stream bank near the bridge, 21.04. 2004., leg. J. Kontschán; HNHM/15692, 6 ex., Croatia, Papuk, 20.04.2004., leg. J. Kontschán; HNHM/15700, 3 ex., Croatia, Papuk, Drenovac, stream bank, near the bridge, 21.04.2004., leg. J. Kontschán.

Lumbricus polyphemus (Fitzinger, 1833)

Enterion polyphemum Fitzinger, 1833: 552.
Lumbricus polyphemus: Mršić 1991: 473., Karaman & Stojanović 2002: 224., Stojanović & Karaman 2005a: 128.

Material examined. HNHM/15652, 1 ex., Serbia, Đerdap Mts., Majdanpek, mixed beech forest, 604 m, N44°25,752' E21°57,292', 13.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15689, 1 ex., Serbia, Fruska Gora, Petrovarazdin, ruderal habitat, 3 km under the pass, 19. 04.2004. leg. J. Kontschán; HNHM/15690, 1 ex., Serbia, Fruska Gora, Petrovarazdin, ruderal habitat, 3 km under the pass, 19.04.2004. leg. J. Kontschán; HNHM/15898, 1 ex., Serbia, Prov. Paracin, along the Paracin – Zaječar road, 1 km W of the junction to Grza, riverside, 280 m, 11.04. 2004., leg. Z. Erőss, Z. Fehér, A. Hunyadi; HNHM/16032, 4 ex., Serbia, Đerdap Mts., between Miroč and Brza Palanka, 407 m, beech forest, N44°28,616' E22°21,074' 27.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Lumbricus rubellus Hoffmeister, 1843

Lumbricus rubellus Hoffmeister, 1843: 187., Mršić 1991: 474., Šapkarev 2001: 112., Stojanović & Karaman 2003b: 56., 2005a: 130.

Material examined. HNHM/15622, 1 ex., Croatia, Krk Island, Glavotok, oak forest, 30.04. 2006., leg. L. Dányi.

Remark. This is a common peregrine species distributed all over the Balkans but its collection was not forced.

Octodriloides kamnensis (Baldasseroni, 1919)

Octolasium complanatus f. *kamnensis* Baldasseroni, 1919: 3.
Octodriloides kamnensis: Zicsi 1986: 107., Mršić 1991: 458.

Material examined. HNHM/15979, 6 ex., Slovenia, Golnik, 460 m, mixed beech forest, N46°19,700' E14°20,585', 14.04.2006., leg. L. Dányi, J. Kontschán.

Remarks. Mršić (1991) regarded *Oi. karawankensis* (Zicsi, 1969) as a synonym of *Oi. kamnensis*. The present material constantly shows the characteristics of *Oi. kamnensis* (tb. 30–39) and differs from *Oi. karawankensis* (tb. 30–40). Re-

cent taxonomic analysis (Pop *et al.* 2008) also suggests the independence of the two species.

Octodriloides kovacevici (Zicsi, 1970)

Octolasium (Octodrilus) kovacevici Zicsi, 1970: 169.
Octodriloides kovacevici: Zicsi 1986: 107., Mršić 1991: 452.

Material examined. HNHM/15685, 1 ex., Croatia, Papuk, Kokocak, alder forest, 20.04.2004., leg. J. Kontschán; HNHM/15696, 5 ex., Croatia, Psunj, Strmac, mesic forest, 21.04.2004., leg. J. Kontschán.

Octodrilus complanatus (Dugès, 1828)

Lumbricus complanatus Dugès, 1828: 289.
Octodrilus complanatus: Mršić 1991: 398., Karaman & Stojanović 2002: 224., Stojanović & Karaman 2003b: 56., 2005a: 130.

Material examined. HNHM/15623, 1 ex., Croatia, Krk Island, Rudine, near the Biserujka cave, under stone, 29.04.2006., leg. L. Dányi; HNHM/15624, 1 ex., Croatia, Krk Island, Krk, pine and holm oak forest, 29.04.2006., leg. L. Dányi; HN HM/15625, 1 ex., Croatia, Krk Island, Krk, pine and holm oak forest, 29.04.2006., leg. L. Dányi.

Octodrilus lissaensis (Michaelsen, 1891)

Allolobophora lissanesis Michaelsen, 1891: 18.
Octodrilus lissaensis: Mršić 1991: 381.
Non *Octodrilus lissaensis*: Zicsi 1991: 179.

Material examined. HNHM/15621, 2 ex., Croatia, Krk Island, Glavotok, oak forest, 30.04. 2006., leg. L. Dányi.

Remarks. The present specimens fit the originnal description form Vis Island (Lissa), Croatia. The above sited Hungarian material (Zicsi 1991) together with the other Carpathian specimens (Zicsi & Pop 1984, Csuzdi & Pop 2006, 2008b) belongs to *Octodrilus compromissus* Zicsi & Pop, 1984. The main difference between the two species is the position of the tubercles. It is on 29–36 in case of *Oc. lissaensis* and 29–37 in *Oc. compromissus.*

Octodrilus transpadanus (Rosa, 1884)

Allolobophora transpadana Rosa, 1884: 45.
Octodrilus transpadanus: Mršić 1991: 371.

Material examined. HNHM/15931, 1 ex., Macedonia, Sveti Naum, springs and spring lake above the Ohrid Lake, 704 m, N40°54,595' E20° 44,868', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15943, 5 ex., Macedonia, Prespa Lake and lakeshore S of Oteševo, 852 m, N40°57,930' E20°54,352', 16.10.2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/15944, 1 ex., Macedonia, Sveti Naum, springs above the Ohrid Lake, 704 m, N40°54,595' E20°44,868', 16.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi.

Octolasion lacteum (Örley, 1881)

Lumbricus terrestris var. *lacteus* Örley, 1881: 584.
Octolasium lacteum: Zicsi 1982: 431., Šapkarev 2001: 111., Stojanović & Karaman 2003b: 56., 2005a: 130.
Octolasion tyrtaeum: Mršić 1991: 347.

Material examined. HNHM/15644, 1 ex., Serbia, Gamzigrad, Crni Timok River and its gallery, 183 m, N43°55,510' E22°07,770', 14.10. 2006., leg. L. Dányi, J. Kontschán, D. Murányi; HNHM/16023, 1 ex., Serbia, Đerdap Mts., between Majdanpek and Donji Milanovac, 621 m, beech forest, N44°26,659' E21°58,858', 28.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári; HNHM/16043, 2 ex., Serbia, Đerdap Mts., Mala Orlova, 91 m, beech-alder forest with stream, N44°38,730' E21°48,769', 25.10.2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

Proctodrilus opisthoductus Zicsi, 1985

Proctodrilus opisthoductus Zicsi, 1985: 285., Mršić 1991: 130.

Material examined. HNHM/16037 2 ex., Serbia, Đerdap Mts., Rudna Glava, 151 m, meadow with a nut tree, N44°18,662' E22°07,016', 26.10. 2010, leg. L. Dányi, J. Kontschán, Zs. Ujvári.

DISCUSSION

During the recent expeditions altogether 39 earthworm species and subspecies were collected from the former Yugoslavian countries, including six new records. *Ap. cemernicensis* proved to be new to the fauna of Serbia, *E. spelaea* to Bosnia-Herzegovina, *Ap. sineporis* to Croatia as well as *D. hrabei* is new to Macedonia. *D. cognettii* has not been previously reported from the former Yugoslavian countries therefore it represents a new record for the fauna of Croatia and Macedonia. Surprisingly, the peregrine *Dd. rubidus subrubicundus* has also not been reported so far from Montenegro.

Considering the recent data, the number of the known earthworm species and subspecies from the former Yugoslavia is now 147; by countries 70 from Serbia, 69 from Slovenia, 63 from Croatia, 53 from Macedonia, 47 from Bosnia-Herzegovina and 43 from Montenegro.

Acknowledgements – The present work was supported by the Hungarian Scientific Research Fund (OTKA K72744, and K100369). My thanks are due to all collector of the material elaborated.

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