

NEW EARTHWORM SPECIES AND RECORDS FROM ALBANIA
(OLIGOCHAETA, LUMBRICIDAE)

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The earthworm fauna of Albania has recently been summarized by DHORA listing 19 species present in the country. Elaboration of a rich earthworm material collected from Albania resulted in describing two new species; *Dendrobaena luraensis* and *Octodrilus albanicus* spp. n. In addition to the so far reported 19 species 9 new records are also presented. Consequently, the earthworm species number recorded for Albania raised to 30.

Key words: earthworms, Oligochaeta, Lumbricidae, fauna, Albania, new species, new records

INTRODUCTION

The Balkan Peninsula is one of the three major Quaternary refugial areas in Europe (TABERLET *et al.* 1998, SCHMITT 2007) which, together with its natural geography and complex geological history resulted in an outstanding terrestrial diversity (GRIFFITHS *et al.* 2004). This provoked the attention of the early soil zoologists and among them, earthworm taxonomists (ROSA 1895, COGNETTI 1906, ČERNOSVITOV 1930). These researches, with shorter interruptions, continue even today (KARAMAN 1971, ŠAPKAREV 1978, MRŠIĆ 1991, STOJANOVIĆ & KARAMAN 2006, STOJANOVIĆ *et al.* 2008).

In spite of the intensive research, Albania remained an unexplored white spot in the Balkans. Its earthworm fauna hasn't been studied so far, there are only sporadic data from this region (POP 1943, OMODEO 1954, BOUCHÉ 1975) until recently DHORA (2010) summarized the fauna of Albania and reported 19 earthworm species present.

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

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 were 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. The sampling localities in Albania are shown in Figure 1.

SYSTEMATICS

Allolobophora demirkapiae KARAMAN, 1969

Allolobophora demirkapiae KARAMAN, 1969: 80., ZICSI 1972: 243.

Eophila demirkapiae: ŠAPKAREV 1978: 90.

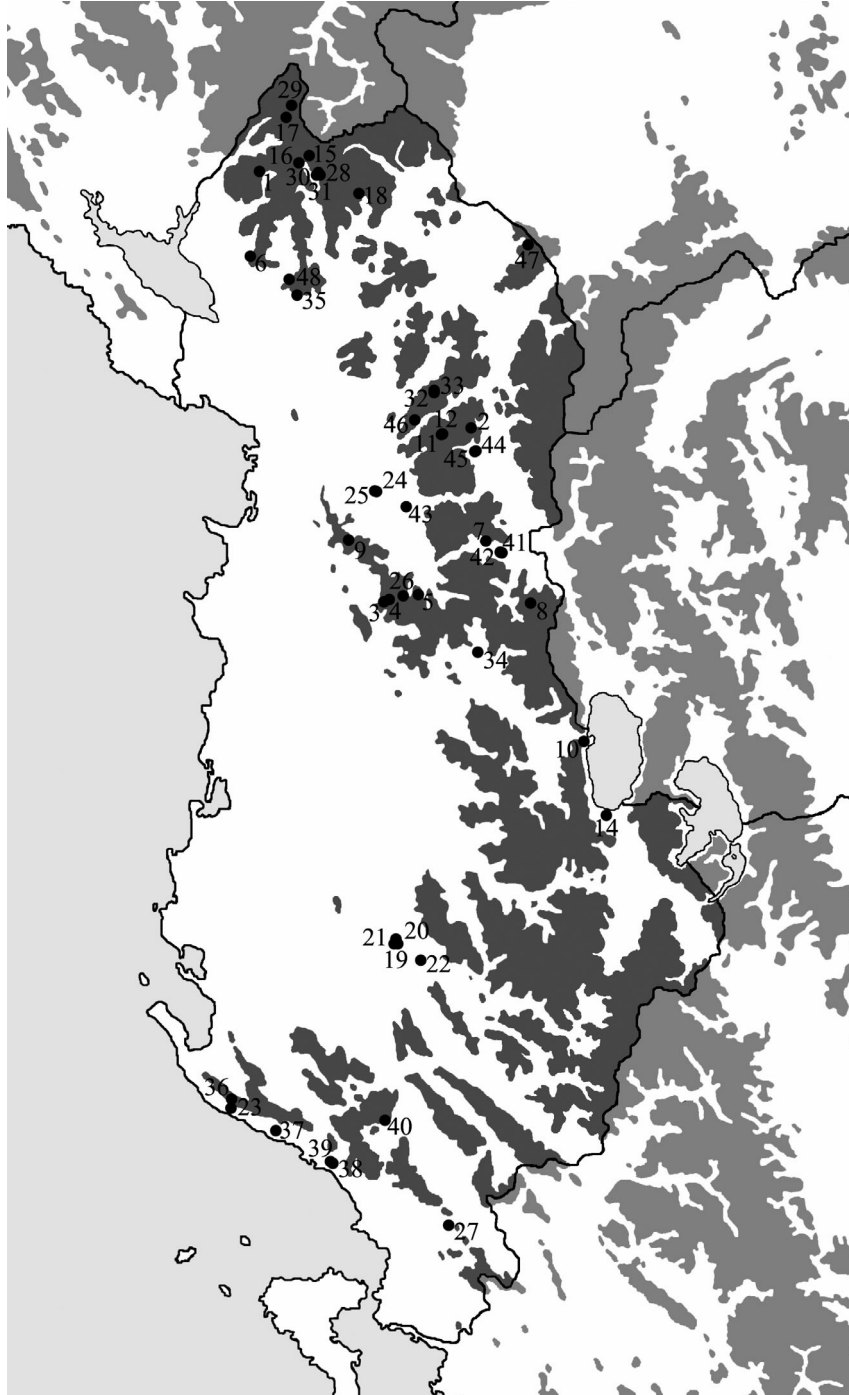
Italobalkaniona demirkapiae: MRŠIĆ & ŠAPKAREV 1988: 20., MRŠIĆ 1991: 163.

Material examined. HNHM/15919 3 ex., Albania, Pogradec district, 2 km E of Qafa e Thanës, along the Librazhd – Pogradec main road, limestone rocks, under calcareous stones, 860 m, 23.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Remarks. This species was described by KARAMAN (1969) from Demir Kapija, South-Central Macedonia and later has also been reported from Galičica (Ochrid Lake) near to the Albanian border (ZICSI 1972). Therefore, its present first report from Albania is not surprising.



Fig. 1. Collecting sites in Albania (after MURÁNYI *et al.* 2011). **1.** 9 km E of Bogë, **2.** 1 km NE of Ndërshenë, **3.** 4 km E of Qafëmollë, **4.** 10 km E of Qafëmollë, **5.** 3 km N of Qafa e Shtyllës, **6.** 2 km E of Qafa e Thanës, **7.** 2 km NE of Fushë Studia, **8.** 1.5 km S of Ostreni i Madh, **9.** Qafa e Shtamës, **10.** Lin, **11.** Krej-Lurë, Roman catholic cemetery, **12.** Krej-Lurë, 500 m S of the road, **13.** Qukës-Shkumbin, Lumi i Shkumbinit, **14.** Volorek, **15.** Qafa e Pejës, **16.** 4 km from Okol towards Qafa e Terthorës, **17.** Qafa e Predelecit, **18.** Shpella e Zeze, **19.** Tomor Mts, Vodice Stream, **20.** Tomor Mts, Karkanjos, **21.** Tomor Mts, Bogdan, **22.** Tomor Mts, Radesh, **23.** Çikë Mts, W side of Mt. Gurrë, **24.** Shkanderbeu Mts, SE of Shtamë Pass, **25.** Shkanderbeu Mts, E of Shtamë Pass, **26.** Gropë Mts, Gurri i Bardhë, **27.** Gjerë Mts, Muzinë, Syri i Kaltër, **28.** Prokletije Mts, Rogam, **29.** Madhë Mts, Vermosh, **30.** Prokletije Mts, Rogam, beneath Valbonë Pass, **31.** Prokletije Mts, N side of Valbonë Pass, **32.** Pezë Mts, Arrën, N of the village, **33.** Pezë Mts, Arrën, limestone rocks, **34.** Çermenikë Mts, Fushë Studen, **35.** Koman Lake, **36.** Çikë Mts, N of Llogara Pass, **37.** Lias, Canion Gjipesë, **38.** Çikë Mts, Borsh, Ixuor Spring **39.** Çikë Mts, Borsh, Ixuor Spring, **40.** Kendrevicë Mts, Progonat, Gurri Stream, **41.** Dejë Mts, upper valley of Varoshit Stream, **42.** Dejë Mts, Varoshit Stream **43.** Dejë Mts, Macukull, **44.** Lurë area, Fushë Lurë, **45.** Lurë area, Fushë Lurë, Vogël Lake, **46.** Shent Mts, **47.** Pashtrik Mts, **48.** Prokletije Mts, Prekal, Zhyla Cave and Kir River



Allolobophoridella eiseni (LEVINSEN, 1884)

Lumbricus eiseni LEVINSEN, 1884: 241.

Allolobophoridella eiseni: MRŠIĆ 1991: 254., CSUZDI & ZICSI 2003: 70., BLAKEMORE 2008: 577. (for complete synonymy), DHORA 2010: 79.

Material examined. HNHM/15858 1 ex., Albania, Dibër district, Krej-Lurë, near the Roman catholic cemetery, limestone rocks, 1000 m, 27.06.2003., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15859 1 ex., Albania, Malësia district, 4 km from Okol towards Qafa e Terthorës, seminatural beech forest, 1200 m, 06.07.2003., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15878 1 ex., Albania, Kukës district, Pezë Mts, Arrën, karst plateau with secondary beech forest, N of the village, N41°56.833' E20°16.773', 1320 m, 08.10.2005., leg. T. Deli, Z. ERŐSS, Z. FEHÉR, D. MURÁNYI; HNHM/15891 1 ex., Albania, Malësia district, 9 km E of Bogë along the road towards Theth, limestone rocks, 1450 m, 20.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15896 1 ex., Albania, Mat district, Qafa e Shtamës, at the relay station, along the road from Burrel to Krujë, natural beech forest, limestone rocks, 1250 m, 26.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15920 1 ex., Albania, Krujë district, Shkanderbeu Mts, forest torrent SE of Shtamë Pass, along the Burrel–Krujë road, N41°30.284' E19°55.334', 1150 m, 08.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15923 1 ex., Albania, Malësia district, 9 km E of Bogë along the road towards Theth, limestone rocks, 1450 m, 20.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15925 1 ex., Albania, Delvinë district, Gjerë Mts, Muzinë, Syri i Kaltër, karst springs W of the village, N39°55.286' E20°11.330', 155 m, 13.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15988 1 ex., Albania, Delvinë district, Gjerë Mts, Muzinë, Syri i Kaltër, karst springs W of the village, N39°55.286' E20°11.330', 155 m, 13.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/16014 2 ex., Albania, Dibër district, Lurë area, Fushë Lurë, small bog beneath the lakes, N41°47.595' E20°12.308', 1585 m, 20.05.2010., leg. Z. FEHÉR, D. MURÁNYI, Zs. UJVÁRI.

Aporrectodea georgii (MICHAELSEN, 1890)

Allolobophora georgii MICHAELSEN 1890: 3.

Aporrectodea georgii: MRŠIĆ 1991.; CSUZDI & ZICSI 2003: 81. (for complete synonymy), DHORA 210: 79.

Material examined. HNHM/16008 4 ex., Albania, Mat district, Dejë Mts, limestone rocks in the upper valley of Varoshit Stream, along the road to Lurë area, N41°39.905' E20°12.497', 1360 m, 18.05.2010., leg. Z. FEHÉR, D. MURÁNYI, Zs. UJVÁRI.

Aporrectodea rosea (SAVIGNY, 1826)

Enterion roseum SAVIGNY, 1826: 182.

Aporrectodea rosea: MRŠIĆ 1991: 296., BLAKEMORE 2008: 525. (for complete synonymy), DHORA 2010: 79.

Material examined. HNHM/16016 3 ex., Albania, Mat district, Dejë Mts, Macukull, rocky forest E of the village, N41°41.825' E20°08.171', 1280 m, 19.05.2010., leg. Z. FEHÉR, D. MURÁNYI, Zs. UJVÁRI.

Aporrectodea smaragdina (ROSA, 1892)*Allolobophora smaragdina* ROSA, 1892: 1.*Aporrectodea (Aporrectodea) smaragdina*: MRŠIĆ 1991: 308.

Material examined. HNHM/15868 1 ex., Albania, Malësia district, Qafa e Predelecit, along the road from Hani i Hotit to Vermosh at the conjunction to Lepushë, degraded seminatural beech forest, 1370 m, 07.07.2003., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15869 1 ex., Albania, Malësia district, Qafa e Pejës, N of Okol, limestone rocks, subalpine meadow, 1700 m, 06.07.2003., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15873 2 ex., Albania, Shkodër district, limestone rocks at Koman Lake, right bank 15 km above the dam, N42°12.321' E19°53.507', 180 m, 15.04.2006., leg. Z. ERŐSS, Z. FEHÉR, A. HUNYADI, D. MURÁNYI; HNHM/15875 1 ex., Albania, Malësi e Madhe district, Madhë Mts, Vermosh, limestone rocks, Lepushë Stream and its gallery along the Gusinje-Shkodër road, N42°34.325' E19°44.395', 1080 m, 04.10.2005., leg. T. DELI, Z. ERŐSS, Z. FEHÉR, D. MURÁNYI; HNHM/15879 1 ex., Albania, Tropojë district, Prokletije Mts, Rrogam, limestone rocks, cave and alpine grassland beneath Valbonë Pass, N42°24.681' E19°48.885', 1560 m, 06.10.2005., leg. T. DELI, Z. ERŐSS, Z. FEHÉR, D. MURÁNYI; HNHM/15917 2 ex., Albania, Tropojë district, Prokletije Mts, Rrogam, limestone rocks and alpine grassland beneath Valbonë Pass, N42°24.679' E19°48.784', 1650 m, 02.06.2005., leg. K. BALOGH, Z. BARINA, D. MURÁNYI, D. PIFKÓ; HNHM/16018 2 ex., Albania, Shkodër district, Prokletije Mts, Prekal, Zhyla Cave and Kir River in the village, N42°10.718' E19°43.205', 215 m, 23.05.2010., leg. Z. FEHÉR, D. MURÁNYI, ZS. UJVÁRI.

Remarks. *Ap. smaragdina* is a Dinaric–Alpine species. This is its first record from Albania.

Cernosvitovia rebeli (ROSA, 1897)*Allolobophora rebelii* ROSA, 1897: 2.*Octolasion rebeli*: MICHAELSEN 1900: 505.*Allolobophora (Cernosvitovia) rebeli*: OMODEO 1954: 125.*Cernosvitovia rebeli*: ZICSI 1981: 441., MRŠIĆ 1991: 148., DHORA 2010: 79.*Cernosvitovia rebelii*: CSUZDI, POP & POP 2011: 13.

Material examined. HNHM/15930 1 ex., Albania, Vlorë district, Cikë Mts, alpine meadow under limestone rocks on the W side of Mt. Gurrë, N40°12.830' E19°36.659', 1850 m, 12.08. 2004., leg. Z. BARINA, Z. FEHÉR, CS. NÉMETH, D. PIFKÓ.

Remarks. There are some inconsistencies in the spelling the species name *C. rebeli*, the type of the genus *Cernosvitovia*. ROSA (1897) described the species in honour of the Austrian entomologist HANS REBEL, however, he wrote the species name with double “i”. Later MICHAELSEN (1900) corrected the grammatical error and used *rebeli*. This emendation was generally accepted but recently CSUZDI *et al.* (2011) inadvertently used the incorrect original spelling.

Dendrobaena alpina alpina (ROSA, 1884)

Allolobophora alpina ROSA, 1884: 28.

Dendrobaena alpina alpina: MRŠIĆ 1991: 627., CSUZDI, POP & POP 2011: 13.

Material examined. HNHM/15880 5 ex., Albania, Tropojë district, Prokletije Mts, Rrogam, limestone rocks, cave and alpine grassland beneath Valbonë Pass, N42°24.681' E19°48.885', 1560 m, 06.10.2005., leg. T. DELI, Z. ERŐSS, Z. FEHÉR, D. MURÁNYI; HNHM/15882 1 ex., Albania, Tropojë district, Prokletije Mts, limestone walls over the N side of Valbonë Pass, N42°24.407' E19°48.732', 1850 m, 06.10.2005., leg. T. DELI, Z. ERŐSS, Z. FEHÉR, D. MURÁNYI; HNHM/15890 1 ex., Albania, Tiranë district, a spring 4 km E of Qafëmollë, along the road from Tiranë to Klos, in/near the spring, 800 m, 22.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Remarks. This is the first record of this species in Albania.

Dendrobaena alpina popi ŠAPKAREV, 1971

Dendrobaena alpina popi ŠAPKAREV, 1971: 159., MRŠIĆ 1991: 634., CSUZDI, POP & POP 2011: 13.

Material examined. HNHM/15874 2 ex., Albania, Bulqizë district, Çermenikë Mts, Fushë Studen, beech forest and forest brook NE of the village, N41°19.423' E20°25.376', 1190 m, 11.04.2006., leg. Z. ERŐSS, Z. FEHÉR, A. HUNYADI, D. MURÁNYI.

Remarks. *D. alpina popi* has been described from Macedonia (ŠAPKAREV 1971) and recently was recorder also from Romania (CSUZDI *et al.* 2011). This is the first record from Albania.

Dendrobaena attemsi (MICHAELSEN, 1902)

Helodrilus (Dendrobaena) attemsi MICHAELSEN, 1902: 74.

Dendrobaena attemsi: MRŠIĆ 1991: 604., BLAKEMORE 2008: 545., CSUZDI, POP & POP 2011: 14.

Dendrobaena apora QIU & BOUCHÉ, 1998: 156., DHORA 2010: 79. **syn. nov.**

Material examined. HNHM/15867 1 ex., Albania, Dibrë district, Krej-Lurë, 500 m S of the road, damp field around a spring, 1000 m, 27.06.2003., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15872 3 ex., Albania, Mat district, Gropë Mts, Gurri i Bardhë, beech forest and forest brook along the Klos–Elbasan road, S of the village, N41°23.232' E20°04.544', 1365 m, 09.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15883 1 ex., Albania, Kukës district, Pezë Mts, Arrën, limestone rocks with secondary hornbeam forest at the village, N41°55.450' E20°16.878', 1150 m, 08.10.2005., leg. T. DELI, Z. ERŐSS, Z. FEHÉR, D. MURÁNYI; HNHM/15887 1 ex., Albania, Tiranë district, a spring 10 km E of Qafëmollë, 1200 m, 22.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15889 1 ex., Albania, Tiranë district, a spring 4 km E of Qafëmollë, along the road from Tiranë to Klos, in/near the spring, 800 m, 22.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15901 1 ex., Albania, Mirditë district, 1 km NE of

Ndërshenë, beneath the Maja e Gurit te Çikut, in/near a brook, limestone rocks, 1350 m, 21.10.2002., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/16009 1 ex., Albania, Dibër district, Lurë area, Fushë Lurë, inflowing brooks, beech forest and puddles at Vogël Lake, N41°47.552' E20°11.675', 1700 m, 20.05.2010., leg. Z. FEHÉR, D. MURÁNYI, Zs. UJVÁRI.

Remarks. *D. attemsi* is a semiperegrine earthworm species found frequently also in disturbed habitats like green-houses etc. (FENDER 1982, CSUZDI *et. al.* 2008). It shows high morphological variability in term of coloration and the position of the first dorsal pore (FENDER 1982, ROTA & ERSÉUS 1997). The different specimens, even within a population, can be from slightly pigmented to possessing dark red-violet pigmentation and the dorsal pores are from different pre- or postclitellar positions to the complete loss of pores. The new species *D. apora* described by QIU & BOUCHÉ (1998) differs from *D. attemsi* only by its lighter pigmentation and lack of dorsal pores. However such variations occur even within a population, therefore *D. apora* is only a synonymous name of *D. attemsi*.

Dendrobaena byblica byblica (ROSA, 1893)

Allolobophora byblica ROSA, 1893: 4–5.

Dendrobaena byblica f. *typica*: V. POP 1943: 20.

Dendrobaena byblica: MŔSIĆ 1991: 566. (part.), DHORA 2010: 79., CSUZDI, POP & POP 2011: 14.

Material examined. HNHM/15881 1 ex., Albania, Tropojë district, Prokletije Mts, limestone walls over the N side of Valbonë Pass, N42°24.407' E19°48.732', 1850 m, 06.10.2005., leg. T. Deli, Z. ERŐSS, Z. FEHÉR, D. MURÁNYI; HNHM/15909 1 ex., Albania, Berat district, Tomor Mts, karst spring in the upper valley of Vodicë Stream, N40°43.231' E20°06.863', 1030 m, 26.05.2004., leg. K. BALOGH, Z. BARINA, K. HARMOS, D. MURÁNYI, Cs. NÉMETH, K. ORCI; HNHM/16010 2 ex., Albania, Mat district, Dejë Mts, acidous grassland, beech forest and sidestream of Varoshit Stream along the road to Lurë area, N41°39.824' E20°11.720', 1215 m, 18.05.2010., leg. Z. BARINA, Z. FEHÉR, D. MURÁNYI, D. PIFKÓ, Zs. UJVÁRI; HNHM/16011 1 ex., Albania, Mirditë district, Shent Mts, limestone rocks, beech forest and puddles on the W edge of the great plateau, N41°51.274' E20°07.302', 1365 m, 21.05.2010., leg. Z. FEHÉR, D. MURÁNYI, Zs. UJVÁRI; HNHM/16017 3 ex., Albania, Has district, Pashtrik Mts, limestone rocks and alpine grassland beneath the peak region, N42°12.417' E20°31.709', 1730 m, 22.05.2010., leg. Z. FEHÉR, D. MURÁNYI, Zs. UJVÁRI.

Dendrobaena ganglbaueri (ROSA, 1894)

Allolobophora (*Dendrobaena*) *ganglbaueri* ROSA, 1894: 1.

Dendrobaena byblica: MŔSIĆ 1991: 566. (part.)

Dendrobaena ganglbaueri: ZICSI 1991: 176., CSUZDI, POP & POP 2011: 14.

Material examined. HNHM/15863 1 ex., Albania, Vlorë district, Çikë Mts, pine forest N of Llogara Pass, N40°12.717' E19°34.750', 860 m, 11.05.2006., leg. L. DÁNYI, J. KONTSCHÁN, D.

MURÁNYI; HNHM/15864 1 ex., Albania, Vlorë district, Çikë Mts, pine forest N of Llogara Pass, N40°12.717' E19°34.750', 860 m, 11.05.2006., leg. L. DÁNYI, J. KONTSCHÁN, D. MURÁNYI; HNHM/15866 1 ex., Albania, Dibrë district, Krej-Lurë, 500 m S of the road, damp field around a spring, 1000 m, 27.06.2003., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Remarks. *D. ganglbaueri* has long been in synonymy with the Circum-Mediterranean *D. byblica*. This Illyric species was resurrected by ZICSI (1991) and firstly reported here from Albania.

***Dendrobaena luraensis* sp. n.**

(Figs 2, 3)

Holotype: HNHM/16012, Albania, Dibër district, Lurë area, Fushë Lurë, small bog beneath the lakes, N41°47.595' E20°12.308', 1585 m, 20.05.2010., leg. Z. FEHÉR, D. MURÁNYI, Zs. UJVÁRI.

Paratype: HNHM/16013, locality and date same as that of the holotype.

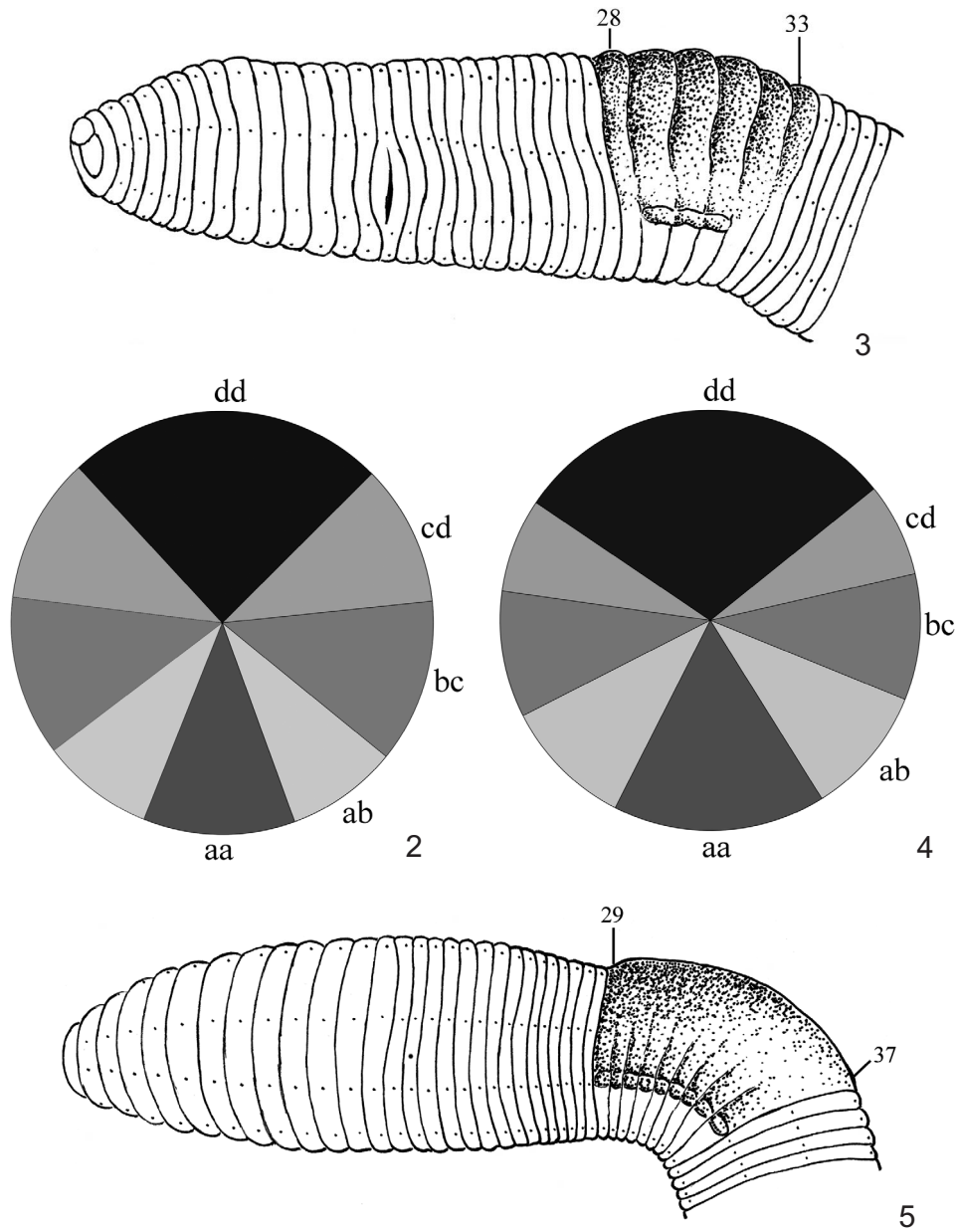
Etymology: The specific epithet refers to the type locality.

Diagnosis. Length 23–24 mm, diameter 2.5–3 mm, setae distant. Pigmentation red-violet. Dorsal pores lacking. Clitellum on 28–33, tubercles 29–31. Male pore on 15, large. Nephridial pores regularly alternate between *b* and above *d*. Three pairs of vesicles in 9, 11, 12; spermathecae 9/10–10/11 in *d*. Calciferous glands with well-developed diverticula in 11, 12. Hearts in segments 7–10, nephridial bladders sausage-shaped.

Description. Holotype: length 24 mm, diameter just after the clitellum 3 mm. Number of segments 104. Paratype: 23 mm long and 2.5 mm wide. Number of segments 102. Colour red-violet, darker anteriorly. Prostomium epilobous. Dorsal pores lacking. Setae distant. Setal formula after the clitellum: aa:ab:bc:cd:dd = 1.33:1:1.42:1.25:2.83 (Fig. 2). Male pore great on 15, between setae *b*–*c*, surrounded by a glandular crescent. Nephridial pores regularly alternate between setal line *b* and above *d*. Clitellum on segments 28–33. Tubercula pubertatis on segments 29–31 (Fig. 3). Spermatophores ventro-lateral, in the intersegmental furrows 20/21, 22/23 and 24/25.

Internal characteristics: All septa membranous. Testes and funnels free, paired in segments 10–11. Seminal vesicles present in 9, 11 and 12. Spermathecae two pairs, clearly stalked in 9/10, 10/11 with external openings in setal line *d*. Calciferous glands with well-developed diverticula in 11, 12. Last pair of lateral hearts in segment 10. Nephridial bladders simple, sausage-shaped. Crop in segments 15–16, and gizzard in segments 17–18. Typhosolis simple, lamelliform. Longitudinal muscle layer of pinnate type.

Remarks. The new species belongs into the *D. attemsi* species group which consists of three species possessing tubercles on 29–31. The differences between these three species and *D. luraensis* sp. n. are summarized in Table 1.



Figs 2–5. 2–3. *Dendrobaena luraensis* sp. n.: 2 = setal ratio, 3 = ventrolateral view of the anterior part of the body. 4–5. *Octodrilus albanicus* sp. n.: 4 = setal ratio, 5 = ventrolateral view of the anterior part of the body

Table 1. Distinguishing characters of the species in the *D. attemsi* group possessing tubercles on 29–31.

	Clitellum	Sperma- thecae	Vesicles	Hearts	Dorsal pores	Colour
<i>D. aegea</i> (COGNETTI, 1913)	26–34	9/10–10/11d	9, 11, 12	7–11	5/6	dark red
<i>D. bosniaca</i> (MRŠIĆ, 1988)	26–33	9/10–10/11d	11, 12	7–10	12/13	slightly reddish
<i>D. luraensis</i> sp. n.	28–33	9/10–10/11d	9, 11, 12	7–10	lacking	dark red
<i>D. rhodopensis</i> (ČERNOSVITOV, 1937)	27–33	9/10–10/11M	9, 11, 12	7–10	lacking	slightly reddish

Dendrobaena pantaleonis pantaleonis (CHINAGLIA, 1913)

Helodrilus (Bimastus) pantaleonis CHINAGLIA, 1913: 5.

Dendrobaena pantaleonis balagnensis BOUCHÉ, 1972: 400.

Dendrobaena pantaleonis balagnensis: ZICSI & MICHALIS 1981: 261.

Dendrobaena pantaleonis pantaleonis: OMODEO & ROTA 1989: 184.

Material examined. HNHM/15989 3 ex., Albania, Delvinë district, Gjerë Mts, Muzinë, Syri i Kaltër, karst springs W of the village, N39°55.286' E20°11.330', 155 m, 13.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Remarks. *D. pantaleonis* has been described from Italy (CHINAGLIA 1913) and later was reported from Corsica (BOUCHÉ 1972, as *D. p. balagnensis*), Greece (ZICSI & MICHALIS 1981, as *D. p. balagnensis*) and Turkey (OMODEO and ROTA 1989). OMODEO and ROTA (1989) revised the type material of CHINAGLIA (1913) and examined a series of specimens from the type locality and concluded that *D. pantaleonis* is a parthenogenetic polyploid showing high morphological variability of the genital system. Therefore the subspecies described by BOUCHÉ (1972) as *D. p. balagnensis* and differed from the nominal subspecies by the lack of spermathecae, should be regarded as a synonym of *D. p. pantaleonis*. This is the first record of this species from Albania.

Dendrobaena veneta veneta (ROSA, 1886)

Allolobophora veneta ROSA, 1886: 674.

Dendrobaena veneta veneta: MRŠIĆ 1991: 613., BLAKEMORE 2008: 637. (for complete synonymy).

Material examined. HNHM/15573 1 ex., Albania, Sarandë district, Çikë Mts, Borsh, Ixur Spring in the village, N40°03.686' E19°51.462', 105 m, 12.03.2008., leg. Sz. CZIGÁNY, D. MURÁNYI; HNHM/15860 1 ex., Albania, Librazhd district, Qukës-Shkumbin, Lumi i Shkumbinit, in/near a side-brook of the river arising from a cave, 390 m, 30.06.2003., leg. Z. ERŐSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15871 3 ex., Albania, Mat district, Shkanderbeu Mts, forest stream E

of Shtamë Pass, along the Burrel–Krujë road, N41°32.346' E19°54.042', 970 m, 08.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15892 3 ex., Albania, Mat district, 3 km N of Qafa e Shtyllës, along the road from Tiranë to Klos, in/near a brook, limestone rocks, natural beech forest, 1500 m, 22.10.2002., leg. Z. ERÓSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15894 4 ex., Albania, Bulqizë district, Lagje Guri, 1.5 km S of Ostreni i Madh, 1000 m, 25.10.2002., leg. Z. ERÓSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI; HNHM/15924 1 ex., Albania, Pogradec district, Lin, by the shore of Liqeni i Ohrit, in/near the lake, limestone rocks, 710 m, 23.10.2002., leg. Z. ERÓSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Dendrodrilus rubidus rubidus (SAVIGNY, 1826)

Enterion rubidum SAVIGNY, 1826: 182.

Dendrodrilus rubidus rubidus: MRŠIĆ 1991: 263., CSUZDI & ZICSI 2003: 132. (for complete synonymy)

Material examined. HNHM/15922 1 ex., Albania, Bulqizë district, 2 km NE of Fushë Studia, along the Librazhd – Peshkopi road, in/near a brook, seminatural deciduous forest, 1200 m, 24.10.2002., leg. Z. ERÓSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Dendrodrilus rubidus subrubicundus (EISEN, 1873)

Allolobophora subrubicunda EISEN, 1873: 51.

Dendrodrilus rubidus subrubicundus: MRŠIĆ 1991: 267., CSUZDI & ZICSI 2003: 136. (for complete synonymy)

Dendrodrilus subrubicundus: DHORA 2010: 79.

Material examined. HNHM/15895 1 ex., Albania, Bulqizë district, Lagje Guri, 1.5 km S of Ostreni i Madh, 1000 m, 25.10.2002., leg. Z. ERÓSS, Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Eisenia fetida (SAVIGNY, 1826)

Enterion fetidum SAVIGNY, 1826: 182.

Eisenia fetida: MRŠIĆ 1991: 497., CSUZDI & ZICSI 2003: 143. (for complete synonymy)

Material examined. HNHM/15865 1 ex., Albania, Volorek, in the park of the springs, 700 m, 02.07.2003., leg. J. KONTSCHÁN.

Eiseniella tetraedra (SAVIGNY, 1826)

Enterion tetraedrum SAVIGNY, 1826: 184.

Eiseniella tetraedra tetraedra: MRŠIĆ 1991: 514.

Eiseniella tetraedra: CSUZDI & ZICSI 2003: 153. (for complete synonymy), DHORA 2010: 79.

Material examined. HNHM/15574 2 ex., Albania, Tepelenë district, Kendrevicë Mts, Progonat, Gurri Stream, its karst spring and its gorge E of the village, N40°12.602' E19°57.724', 950 m, 13.03.2008., leg. SZ. CZIGÁNY, D. MURÁNYI.

Octodrilus complanatus (DUGÈS, 1828)

Lumbricus complanatus DUGÈS, 1828: 289.

Octodrilus complanatus: MŔSIĆ 1991: 398., BLAKEMORE 2008: 709., DHORA 2010: 79.

Material examined. HNHM/15846 1 ex., Albania, Sarandë district, Çikë Mts, Borsh, Ixuor Spring in the village, N40°03.686' E19°51.462', 105 m, 11.05.2006., leg. L. DÁNYI, J. KONTSCHÁN, D. MURÁNYI; HNHM/15986 2 ex., Albania, Delvinë district, Gjerë Mts, Muzinë, Syri i Kaltër, karst springs W of the village, N39°55.286' E20°11.330', 155 m, 13.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Octodrilus croaticus (ROSA, 1895)

Allolobophora lissaensis var. *croatica* ROSA, 1895: 5.

Octodrilus croaticus: MŔSIĆ 1991: 393., ZICSI & MICHALIS 1981: 257., DHORA 2010: 79.

Material examined. HNHM/15845 1 ex., Albania, Vlorë district, Lias, oak forest, grassland and limestone rocks in Canion Gjipesë, S of the village, N40°08.622' E19°40.620', 255 m, 11.05.2006., leg. L. DÁNYI, J. KONTSCHÁN, D. MURÁNYI; HNHM/15908 1 ex., Albania, Berat district, Tomor Mts, Karkanjos, macchia and grassland above the village, N40°41.483' E20°04.144', 570 m, 27.05.2004., leg. K. BALOGH, Z. BARINA, K. HARMOS, D. MURÁNYI, Cs. NÉMETH, K. ORCI; HNHM/15916 1 ex., Albánia, Berat district, Tomor Mts, Bogdan, macchia above the village, N40°41.849' E20°03.135', 380 m, 27.05.2004., leg. K. BALOGH, Z. BARINA, K. HARMOS, D. MURÁNYI, Cs. NÉMETH, K. ORCI; HNHM/15921 1 ex., Albania, Skrapar district, Tomor Mts, Radesh, limestone rocks in the left side of a gorge NE of the village, N40°33.213' E20°16.699', 830 m, 08.08.2004., leg. Z. BARINA, Z. FEHÉR, Cs. NÉMETH, D. PIFKÓ.

Octodrilus transpadanus (ROSA, 1884)

Allolobophora transpadana ROSA, 1884: 45.

Octodrilus transpadanus: MŔSIĆ 1991: 371., BLAKEMORE 2008: 710., DHORA 2010: 79.

Material examined. HNHM/15987 1 ex., Albania, Delvinë district, Gjerë Mts, Muzinë, Syri i Kaltër, karst springs W of the village, N39°55.286' E20°11.330', 155 m, 13.10.2004., leg. Z. FEHÉR, J. KONTSCHÁN, D. MURÁNYI.

Table 2. Distinguishing characters in the *Oc. lissaensis* species group.

	Clitellum	Tubercles	Vesicles	Spermathecae
Oc. albanicus sp. n.	29–37	29–37	9–12	6/7–11/12
<i>Oc. compromissus</i> ZICSI & POP, 1984	29–36	29–37	9–12	5/6–10/11
<i>Oc. kvarnerus</i> MRŠIĆ, 1987	29–36	29–36	9, 10, (11), 12	6/7–11/12
<i>Oc. lissaensis</i> (MICHAELSEN, 1891)	29–36	29–36	9–12	5/6–10/11
<i>Oc. lissaensioides</i> (ZICSI, 1971)	29–36	29–37	9, 11, 12	5/6–10/11
<i>Oc. oesophagus</i> MRŠIĆ, 1991	29–36	29–36	9–12	6/7–11/12

Octodrilus albanicus sp. n.

(Figs 4, 5)

Holotype: HNHM/15847, Albania, Sarandë district, Çikë Mts, Borsh, Ixuor Spring in the vil-
lage, N40°03.686' E19°51.462', 105m, 11.05.2006., leg. L. DÁNYI, J. KONTSCHÁN, D. MURÁNYI.
Paratype: HNHM/16019, locality and date same as that of the holotype.

Etymology: The specific epithet refers to the country of the type locality.

Diagnosis. Length 91–102 mm, diameter 7–7.5 mm, setae distant. Colour grey, at the head slightly red-violet. First dorsal pore in 9/10. Clitellum on 29–37, tubercles on 29–37. Male pore on 15, small. Nephridial pores irregularly alternate between *b* and above *d*. Four pairs of vesicles in 9–12; spermathecae six pairs in 6/7–11/12 open near *c*. Calciferous glands in 10–12 with lateral diverticula in 10. Hearts in segments 6–11, nephridial bladders ocarina-shaped.

Description: Holotype: length 91 mm, diameter 7.5 mm. Number of segments 148. Paratype: 102 mm long and 7 mm wide. Number of segments 142. Colour grey, the head is slightly red-violet on dorsum. Prostomium epilobous. First dorsal pore at the intersegmental furrow 9/10. Setae distantly standing. Setal formula after the clitellum: aa:ab:bc:cd:dd = 2.25:1.38:1.31:1:4.06 (Fig. 4). Male pores on segment 15 between setae *b*–*c*, small. Nephridial pores irregularly alternate between setal line *b*–*d*. Clitellum on segments 29–37. Tubercula pubertatis on segments 29–37 (Fig. 5).

Internal characteristics. Septa 6/7–14/15 slightly thickened. Testes and funnels paired in segments 10–11, covered with perioesophageal testis sacs. Seminal vesicles present in segments 9–12, small in segment 10. Spermathecae six pairs in 6/7–11/12 with external openings near setal line *c*. Calciferous glands in segments 10–12 with lateral diverticula in segment 10. Last pair of hearts in segment 11, with a pair of small extraoesophageal vessel in 12. Nephridial bladders ocarina-shaped. Crop in segments 15–16, and gizzard in segments 17–18. Typhosolis simple, lamelliform. Longitudinal muscle layer is of pinnate type.

Remarks. The new species with six pairs of spermathecae belongs to the *Oc. lissaensis* species group, however differs from the other species in the position of the clitellum and tubercles (Table 2.) and furthermore in the presence of red violet

pigmentation. Other species with six pairs of spermathecae and red-violet pigmentation are *Oc. croaticus* (ROSA, 1895) and *Oc. argoviensis* (BRETSCHER, 1899), but *Oc. albanicus* sp. n. differs from both species by the position of the clitellum (27–34, 28–35 and 29–37, respectively).

*

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