

## **Checklist of USSR/Russian Federation taxa updated from Perel (1979, 1997)**

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### **Summary**

In this latest review of earthworms of the former Soviet Union (USSR) total 118 species: 112 Lumbricidae and 6 species from 5 other families. This current checklist has 45 species (marked \* and #) restricted to former Soviet USSR territory, the remainder are either cosmopolitans (sensu Blakemore, 2002), or species with (natural?) distributions transcending national boundaries. Approximately fifty-seven taxa (marked \$) are only found in the former USSR beyond boundaries of present day Russian Federation that itself has ca. 63 taxa with only 5 of these (marked #) wholly endemic.

Perel (1997) presented keys and data on the distribution and ecology of 56 earthworm species and 5 subspecies (total 61) belonging to 5 families from the Russian Federation that built on her earlier publication (Perel, 1979) listing 97 species and 4 subspecies (total 101) from the whole of the former USSR that were added to by Kvavadze (1985, 2000a; 2000). These are mainly lumbricids i.e., Family Lumbricidae as recently revised and checklisted by Blakemore (2004, 2005). Discussion is confined to certain comments following species' listings.

### **Methods**

Review of Perel (1979; 1997) uses family classification as per Blakemore (2000) that revised Acanthodrilidae, Octochaetidae, and Megascolecidae, with species names in accordance with Blakemore (2004, 2005) including taxonomic decisions from other sources (e.g. Csuzdi & Zicsi, 2003) as cited in Blakemore (2002; 2004).

### **Systematics results**

Abbreviations: \* = endemic to former USSR according to Perel (1979); \$ = Soviet but not Russian Federation [i.e. (Perel, 1979) - (Perel, 1997) + incidental records]; # = only known from Russian Federation [i.e. (Perel, 1997) - (Perel, 1979) + incidental records]; [X = described by Perel (1979) but probably outside USSR]; ? = some uncertainty of name/status; syn. = synonym. Full synonymies and distributions for cosmopolitan exotics are in Blakemore (2002). The (non-alphabetical) order presented here loosely follows that in Perel (1979; 1997) for ease of cross-reference.

SOVIET SPECIES CHECKLIST:

Family MONILIGASTRIDAE Claus, 1880

\* *Drawida ghilarovi* Gates, 1969

OCNERODRILIDAE Beddard, 1891.

\$ *Ocnerodrilus occidentalis* Eisen, 1878 (syns. ?*Ilyogenia africana* Beddard, 1893; *Ocnerodrilus occidentalis sinensis* Eisen, 1900; *Ocnerodrilus tenellulus* Gates, 1945; ?*Ocnerodrilus occidentalis* var *arizonae* Eisen, 1900).

Family ACANTHODRILIDAE Claus, 1880 *sensu* Blakemore (2000; 2002).

*Microscolex phosphoreus* (Duges, 1837).

Family MEGASCOLECIDAE Rosa, 1891 *sensu* Blakemore (2000; 2002)

\$ *Amyntas corticis* (Kinberg, 1867) [syn. numerous, see Blakemore, 2002; 2003; cited by Perel (1979) as *P. diffringens* (Baird, 1869)].

*Metaphire hilgendorfi* (Michaelsen, 1892) [syns. and new comb. from Blakemore (2003)].

Family CRIODRILIDAE Vejdovsky, 1884

*C. lacuum* Hoffmeister, 1845 [syn. *Hydrilus ghaniae* Qiu & Bouché, 1998: 18, 198 synonymy of this monotypic genus was by Omodeo, Rota & Baha (2003: 6) as listed by Blakemore (2004)].

Family LUMBRICIDAE Claus, 1876

*Heliodrilus oculatus oculatus* Hoffmeister, 1845 (*hermanni* Michaelsen, 1890; *fontinalis* Friend, 1921).

*Helodrilus patriarchalis* (Rosa, 1893) [synonymy of the species *ariadne* Michaelsen, 1928 was not acceptable to Zicsi and Michalis (1981: 252) who elevated it to separate specific status in *Allolobophora*. Omodeo & Rota (2004: 240) thought *patriarchalis* had close relationship with *massiliensis* (= *He. oculatus samniticus*)].

\$ *He. cernosvitovianus* (Zicsi, 1967) [miscited as "cernosvitoviana Zicsi, 1969" in Qiu & Bouché (1998: 196); from Ukraine].

\$ *He. cartlicus* Kvavadze, 2000: 82 from Georgia.

\$ *He. colchicus* Kvavadze, 2000: 82 from Georgia.

\$ *He. zicsianus* Kvavadze, 2000: 83 from Georgia.

?*Proctodrilus tuberculatus* (Cernosvitov, 1935); [originally *Eophila antipae* var. *tuberculata*, this previous secondary junior homonym of *Allolobophora turgida tuberculata* Eisen, 1874 was removed by transfer to *Helodrilus* and more recently to *Proctodrilus* where it is sometimes (mis)spelt "*antipai tuberculatus*"; elevated to specific status by Zicsi (1985; 1991) and Csuzdi & Zicsi (2003: 229) who show its distribution from West Caucasus to France in east and Germany in north, including Ukraine].

?*Pt. antipae antipae* (Michaelsen, 1891: 16) [syn. *tyrtaea* Ribaucourt, 1896; *riparia* Bretscher, 1901 [non Hoffmeister, 1843; restored from synonymy in *Ap. handlirschi* (Rosa, 1897) by Zicsi (1982)]; *cuginii helodriloides* Chandeboid, 1957/8). [Note: Michaelsen (1900: 498), Reynolds & Cook (1976: 71), Easton (1983: 482) and Cherevatov (1994, 2000) use the original spelling *antipae*, but the name often spelt "antipai" eg. Zicsi (1982), Omodeo & Rota (1989: 194; 2004: 240), Qiu & Bouché (1998: 197), and Csuzdi & Zicsi (2003: 224) presumably on the basis that the taxon was named from the modern name of a man in the genitive case (e.g., ICZN, 1999: Art. 31.1.2 Examples). However, ICZN (1999: Art. 31.1.1 Examples) appears to allow the "e" ending, even if based on a man's name, when the name is treated as a latinized noun in the genitive case and this is possibly the intention of Michaelsen (1891) as his original spelling is ostensibly the same in Michaelsen (1900: 498). Csuzdi & Zicsi (2003: 225) show its extensive distribution from France, through central Europe and possibly just into Russia, then south to west of Black Sea].

\$ *Allolobophora brunnecephala* Kvavadze, 1985 (from Armenia)

*Allolobophora chlorotica chlorotica* (Savigny, 1826) (*virescens* Savigny, 1826; *anatomicus* Dugès, 1828; *riparius* Hoffmeister, 1843 (non Bretscher, 1901); *communis luteus* Hoffmeister, 1845; *viridis* Johnston, 1865; *riparius rufescens* Eisen, 1871; *riparius pallescens* Eisen, 1871; *neglecta* Rosa, 1882; *cambrica* Friend, 1892 [= *cambria* : Ribaucourt, 1896 (lapsus)]; *chlorotica curiosa* Ribaucourt, 1896; *hortensis* Bretscher, 1901 [non *hortensis* Michaelsen, 1890], *chlorotica kosovensis* Sapkarev, 1975 [this last synonym from Qiu & Bouché,

1998: 91, and Csuzdi & Zicsi, 2003: 51; non *Allolobophora kosowensis* Karaman, 1968 (*sic*)).

*Allolobophoridella eiseni* (Levinsen, 1884) [syn. *Allolobophora rubra* Bretscher, 1900 (non Vedovini, 1969); *eiseni gracilis* Friend, 1911 (nom. nud.?); *merciensis* Friend, 1911; *oltenicus* Pop, 1938 (non *Eiseniella oltenica* Pop, 1938: 135)].

*Allolobophora* (*Pannoniona* ?) *leoni* (Michaelsen, 1891) [subgenus sometimes (mis)spelt "Pannoniona"].

§ *Allolobophora carpathica* Cognetti, 1927 (syn. *omodeoi* Zajonc, 1963).

§\* *Allolobophora pseudonematogena* (Perel, 1967) [tentatively placed in *Microeophila* by some authors, e.g., Qiu and Bouché (1998: 191)].

*Bimastos parvus* (Eisen, 1874) [*beddardi* Michaelsen, 1894 (non Ribaucourt, 1896) miscited as "*Bimastos beddardi* Michaelsen, 1900" by Qiu & Bouché (1998: 1979); *parva udei* Ribaucourt, 1896 (non Sapkarev, 1972 = *Serbiona joncesapkarevi* Blakemore, 2004: 78); *consticta geminata* Friend, 1897; ?*longicinctus* Smith and Gittins, 1915: 548]. [Note: this taxon recently transferred from *Allolobophoridella* to *Bimastos* by Csuzdi and Zicsi (2003: 69, 71), although sometimes still reported as *Allolobophora parva* or *Eisenia parva* and some authors revoke the probable *beddardi* and possible *longicinctus* synonyms].

§ *Karpatodinariona sturanyi sturanyi* (Rosa, 1895) [sometimes maintained in *Eophila*].

§\* *Perelia taschkentensis* (Michaelsen, 1900).

§ *P. persiana* (Michaelsen, 1900).

§ *P. kaznakovi* (Michaelsen, 1910) (syn. *asiatica* Malevics, 1949).

X [*P. muganiensis* (Michaelsen, 1910) (originally *Helodrilus schneideri muganiensis*)].

X [*P. agatschiensis* (Michaelsen, 1910)].

\* *P. tuberosa* (Svetlov, 1924) (*baschirica* Malevics, 1950) (in *Eiseniella* in Csuzdi, 2003).

§ *P. turkmenicum* (Malevics, 1941) [mispelt "turkmenica" by by Perel (1979: 83) and Easton (1983: 484) and "turcmencum" by Qiu and Bouché (1998: 191)].

§\* *P. ghilarovi* (Malevics, 1949).

§\* *P. ferganae* (Malevics, 1949) [*brunnea* Perel, 1971 (this synonym from Csuzdi, 2003)].

X[*P. polytheca* (Malevics, 1949)]. [Qiu & Bouché (1998a: 192) thought this species was *incertae sedis*].

\* *Rhiphaeodrilus diplotetrathecus* (Perel, 1967) [formerly *Perelia diplotetratheca*, removed to new monotypic genus *Rhiphaeodrilus* Csuzdi & Pavlicek, 2005: 86].

\$\* *P. sokolovi* (Perel, 1969).

\$\* *Perelia arnoldiana* (Perel, 1971). [Type species of *Perelia* Easton, 1983 nom. nov. pro *Allolobophora* (*Svetlovia*) Perel, 1976 non *Svetlovia* Chekanovskaya, 1975 (Tubificidae) nom. preocc.].

\$\* *P. kirgisica* (Perel, 1971).

\$\* *P. albicauda* (Perel, 1977).

\$\* *P. bouchei* (Perel, 1977) [originally *Allolobophora bouchei* Perel, 1977, non *Bimastos antiquus bouchei* Zicsi & Michalis, 1981, nec *Diporodrilus bouchei* Omodeo, 1984, nec *Lumbricus friendi bouchei* Zicsi & Csuzdi, 1999].

\$\* *P. chlorocephala* (Perel, 1977).

\$\* *P. graciosa* (Perel, 1977).

\$\* *P. umbrophila* (Perel, 1977).

\$\* *P. ophiomorpha* (Perel, 1977).

\$\* *P. longoclitellata* (Perel, 1977).

\$\* *P. stenosoma* (Perel, 1977).

\$\* *P. media* (Perel, 1977).

\$\* *P. microtheca* (Perel, 1977).

*Dendrodrilus rubidus tenuis* (Eisen, 1874) *species incertae sedis* [for some reason elevated to specific status in Qiu & Bouché, 1998: 195; listed as a subspecies of *rubidus* by Easton (1983: 480); placed in synonymy of nominal subspecies in Csuzdi & Zicsi (2003: 132); cf. Omodeo & Rota (2004: 250) who suggest reserving the name *D. rubidus tenuis* for some parthenogenetic forms even though "forms" are strictly invalid under ICZN (1999) code].

*Dendrodrilus rubidus subrubicundus* (Eisen, 1874) [syns. ?*valdiviensis* Blanchard, 1849 (included in *D. rubidus subrubicundus* synonymy by Csuzdi and Zicsi, 2003: 136, but if so this taxon would possibly compete for priority); *fraissei* Örley, 1881 - this synonym from Csuzdi & Zicsi (2003: 136); *putris dieppi* Ribaucourt, 1901; ?*arborea pygmaea* Friend, 1923 [non *pygmaeum* Savigny, 1826] - this synonym from Easton (1983: 479) ignored by Csuzdi & Zicsi (2003); *subrubicunda* var. *papillosa* Pop, 1938 [non *Lumbricus papillosus*

Friend, 1893] - this synonym from Csuzdi & Zicsi (2003: 136); *rivulicola* Chandebois, 1958. Note: Michaelsen (1891: 3) misidentified this taxon as *A. nordenskioldii* according to Michaelsen (1900: 491) although in this latter synonymy he also includes *darwini* and *helvetica* under *rubidus subrubicundus* (cf. *rubidus rubidus*).

\$ *Dendrobaena auriculata* (Rosa, 1897) (syn. *skorikowi* Michaelsen, 1902). [Whereas Perel (1979) had added *A. auriculata* Rosa, 1897 to *Kritodrilus*, and Omodeo & Rota (1989) had advocated adding *osellai*, *ruffoi*, *pseudorrosea*, and *crassa*, in the last review, Qiu and Bouché (1998) only retained the *Kritodrilus* type species, *O. calarensis* Tetry, 1944 ].

*Octolasion cyaneum* (Savigny, 1826) [non *communis cyaneus* Hoffmeister, 1845 (= *Aporrectodea caliginosa*); syn. *stagnalis* Hoffmeister, 1845; *alyattes* Kinberg, 1867; *studiosa* Michaelsen, 1890; *kempi* Stephenson, 1922; *cyaneum* var. *armoricum* Bouché, 1972 [overlooked by Qiu & Bouché (1998: 192)] this synonymy by Csuzdi & Zicsi (2003: 193), thus the nominal subspecies elevated to specific status].

*Ot. lacteum lacteum* (Örley, 1881: 584) [syn. *terrestris rubidus* Örley, 1881: 584 (also cited later by Örley, 1885: 21); *profuga* Rosa, 1884; *cyanea profuga sylvestris* Ribaucourt, 1896; *himalayana* Cernovitov, 1937); (cf. the prior *Ot. tyrtaeum* with which it has frequently been confused with in the literature, old and recent); the issue of validity of these taxa is still not fully resolved].

\$ *Octodrilus complanatus* (Duges, 1828).

?\$*Oc. transpadanus* (Rosa, 1884) [syns. *opimum* Savigny, 1826 (part.); *transpadana cinerea* Rosa, 1886; *cyanea recta* Ribaucourt, 1896; *sulfurica* Ribaucourt, 1896; *nivalis* Bretscher, 1899; *transpadanum alpinum* Bretscher, 1905. Distribution shown by Csuzdi & Zicsi (2003: 217) from Corsica to east of Black Sea].

\$ *Oc. lissaensis* (Michaelsen, 1891).

\$ *Oc. grasinescui* (Pop, 1938) [misidentified as *Oc. exacystis* by Zicsi (1967) according to Csuzdi & Zicsi (2003: 208) but shown by them to have distribution in Ukraine].

*Aporrectodea icterica icterica* (Savigny, 1826) (syns. *claparedi* Ribaucourt, 1896 (corr.

- claparedei*); *icterica* (lapsus) Michaelsen, 1900: 500; *capilla* Ribaucourt, 1901). [Note: recently Qiu & Bouché (1998) proposed transfer of *icterica* to the dubious genus *Heraclescolex*].
- Aporrectodea rosea rosea* (Savigny, 1826). [Many synonyms - see Blakemore (2004). Perel (1979: 208 has *kulagini* Malevics, 1949 in synonymy although this is placed under *Ap. rosea bimastoides* (Cognetti, 1901)].
- Ap. longa longa* (Ude, 1885). [Many synonyms - see Blakemore (2004)].
- Ap. caliginosa caliginosa* (Savigny, 1926). [Many synonyms - see Blakemore (2004)].
- Ap. trapezoides* (Dugès, 1828) [*capensis* Kinberg, 1867; *caliginosa beddardi* Ribaucourt, 1896 (non *beddardi* Michaelsen, 1894); *inflata* Michaelsen, 1899; *iowana* Evans, 1948; *mariensis* Stephenson, 1917; *augilensis* Sciacchitano, 1931; *samarigera graeca* Cernovitov, 1938 (non Omodeo, 1955)]. [The taxa *inflata* and *iowana* are added following synonymies of Michaelsen (1900: 483) and Reynolds (1977: 46); in Easton (1983: 477) *trapezoides* is a subspecies of *A. caliginosa*].
- Ap. dubiosa dubiosa* (Örley, 1881) (syns. *blinovi* Cernovitov, 1938; *dubiosa pontica* Pop, 1938); sometimes misspelt "bubiosa".
- \$ *Ap. georgii* (Michaelsen, 1890) (syn. *georgii transylvanica* Pop, 1938).
- Ap. handlirschi handlirschi* (Rosa, 1897) [syns. *rhenani* Bretscher, 1899 (retained but miscited as "*rhenani* Rosa, 1897" in Qiu & Bouché (1998: 188), sometimes also misspelt "rehnani"); *vej dovskyi* Bretscher, 1899 (non Cernovitov, 1935); *aporata* Bretscher, 1901; *Allolobophora roseus vedovinii* Bouché, 1972 (sic) nom. nov. pro *A. rosea alpina* Vedovini, 1967 (non *A. alpina* Rosa, 1884, nec Bretscher, 1905), placed in synonymy of *handlirschi* in Easton (1983: 477)]. [Note: *Ap. handlirschi* was made type species of new genus *Eiseniona* Omodeo, 1956, however the genus was not accepted by Bouché (1972), Zicsi (1981; 1982b), Mrsic (1991), nor Blakemore (2004), although Qiu & Bouché (1998) and Omodeo & Rota (2004: 225) appear to attempt to maintain it, just as they attempt to maintain the *Nicodrillus* synonym of *Aporrectodea*. Csuzdi & Zicsi (2003: 73, 84) accept Easton (1983) and list *handlirschi* in *Aporrectodea*, as herein].
- \$ *Ap. handlirschi mahnerti* (Zicsi, 1973).
- Ap. jassyensis jassyensis* (Michaelsen, 1891) (*jassyensis orientalis* Michaelsen, 1897; *cavaticus* Michaelsen, 1910) [name sometimes misspelt "jassiensis"].
- \$? *Ap. jassyensis sotschiensis* (Michaelsen, 1910) *nomen dubium* [mentioned in Kvavadze (1985: 206) and Qiu & Bouché (1998: 187) but probably a *lapsus*

for *M. sotschiensis* (Michaelsen, 1902)].

*Lumbricus terrestris* Linnaeus, 1758 (syns. *herculeum* Savigny, 1826; *agricola* Hoffmeister, 1842; *infelix* Kinberg, 1867; *americanus* Perrier, 1872; *studeri* Ribaucourt, 1896).

*L. rubellus rubellus* Hoffmeister, 1843 (*campestris* Hutton, 1887; *rubellus curticaudatus* Friend, 1892; *rubellus tatrensis* Nusbaum, 1895 [or *alpina tatrensis?*]; *herculeana* Bretscher, 1899; *ribaucourti* Bretscher, 1901; *relictus* Southern, 1909 (a monstrosity); *rubellus tristani* Pickford, 1932).

*L. castaneus* (Savigny, 1826) [syns. *pumilum* Savigny, 1826; *triannularis* Grube, 1851; *minor* Johnston, 1865; *josephinae* Kinberg, 1867; *purpureus* Eisen, 1871; *pumilosum* Beddard, 1895 (lapsus); *castaneus morelli* Ribaucourt, 1896; *castaneus perrieri* Ribaucourt, 1896; *brunescens* Bretscher, 1900 (miscited as "brunescene" by Reynolds & Cook, 1976: 82); *castaneus disjunctus* Tétry, 1936; *castaneus pictus* Chandeboid, 1957; *castaneus rubelloides* Hidvegi & Josens, 1990 - this latter synonym from Csuzdi & Zicsi (2003: 178)].

§ *L. baicalensis* Michaelsen, 1900 (syns. *duegelii* Bretscher, 1903 - sometimes spelt "duggelii" or "düggeii"; *pusillus* Wessely, 1905. Csuzdi & Zicsi (2003: 176) note that the epithet erroneously refers to the Baikal Sea because of mislabeling of original material, however its distribution is shown by them (2003: 164, fig. 6.34.3) from Austria to Ukraine, outside of RF).

§ *L. polyphemus* (Fitzinger, 1833) [syns. *annulatus* Perel, 1975 [non Hutton, 1877 (= *E. fetida*) this synonym in Csuzdi (2003) after work by Perel; misdated "Fitzinger, 1883" in Qiu & Bouché (1998: 192); from Italy to Ukraine].

§ *Dendrodriloides grandis grandis* (Michaelsen, 1907). [Type species; originally *Eisenia grandis*; placed in *Eophila* by Omodeo & Rota (1989), and mooted as *Dendrobaena* by Csuzdi & Zicsi (2003: 139) who appear to have overlooked *Dendrodriloides* Kvavadze, 2000a].

#+ *Eisenia angusta* Perel, 1994.

#+ *E. atlavinyteae* Perel and Graphodatsky, 1984/5 [also misspelt "atlavinytae" and "Graphodastsky"].

*E. fetida* (Savigny, 1826). [Many synonyms - see Blakemore (2004)].

§ *E. lucens* (Waga, 1857) (syns. *submontanus* Vejdovsky, 1875; *foetida hungarica* Örley,



1881; *tigrina* Rosa, 1896; *latens* Cognetti, 1902; *rosea croatica* Szuts, 1909; *gavrilovi* Cernosvitov, 1942; Perel (1979) cites the *submontana* synonym as valid).

*E. nordenskioldi nordenskioldi* (Eisen, 1879) **Emend.** (Syn. *acystis* Michaelsen, 1902 but cf. *E. n. pallida*). [Cited as "nordenskioldi" by Blakemore (2004: 98) after Easton (1983: 480) but originally spelt "*nordenskiöldi*" according to Michaelsen (1900: 479), and because it is likely named after the famous Finnish explorer then, because the "ö" here is a special letter of the Finnish alphabet and not the German umlaut sign, under the code ICZN (1999: Art: 32.5.2.1) it is corrected with only the diacritic removed rather than changed to "oe". Alternate original spelling "*nordenskiöldii*" Eisen (1879: 46); name sometimes misspelt "*nordenskiöldii*", "*nordenskjöldii*" or "*nordenskiöldii*", or "*nordenskjöldi*" e.g. by Reynolds & Cook (1976: 145), or "*nordenskioldi*" e.g. by Easton (1983: 480); spelt *nordenskioldi* but misquoted as "Eisen, 1873" in Perel (1997: 69)].

\* *E. nordenskioldi lagodechiensis* Michaelsen, 1910 [returned to separate species level, by Kvavadze (1993) and Perel (1997) from subspecies in *E. nordenskioldi*].

# *E. nordenskioldi pallida* Malevics, 1956 **species inquirenda** [cited in Perel (1979: 75, 267; 1997: 69, 70), latterly with restoration of *E. acystis* Michaelsen, 1902, both overlooked by Reynolds & Cook (1976) and Easton (1983); non *Aporrectodea pallida* (Bestscher, 1900)].

#+ *E. tracta* Perel, 1985.

*E. japonica* (Michaelsen, 1891) (syns. *japonica gigantea* Oishi, 1934; *japonica minuta* Oishi, 1934. Distribution and taxonomy discussed in Blakemore, 2003).

\* *E. gordejefi* (Michaelsen, 1899).

\$ *E. spelaea spelaea* (Rosa, 1901) (syns. *triglavensis* Pop, 1943) [misspelt and miscited as "*spalaea*, *Allolobophora* Rosa, 1891" by Reynolds & Cook (1976: 173); the only remarkable difference from *lucens* is lack of recorded bioluminescence; should this be proven then the two taxa merge with *lucens* taking priority. However, Omodeo & Rota (2004: 225) say that *lucens* is a humus dweller, non-aquatic and tetraploid (66-68 chromosomal sets) while *spelaea* is hexaploid (102 chromosomal sets)].

\* *E. intermedia* (Michaelsen, 1901) [non *Eiseniella tetraedra* mut. *intermedia* Cernosvitov, 1934 (= *Ei. tetraedra cerni* Blakemore, 1994); syns. *kazanensis* Michaelsen, 1910; *tanaitica* Malevics, 1953). Note: date misquoted as "1910" in Reynolds & Cook (1976: 118)].

- §\* *E. kucenkoi* Michaelsen, 1902 [dated "1903" by Perel (1979)].
- \* *E. balatonica* (Pop, 1943) (syn. *ukrainae* Malevics, 1950); [miscited as "*balantonica*" by Reynolds & Cook (1976: 72); originally in *Eiseniella* but in *Eisenia* by Zicsi & Csuzdi (2003: 141)].
- \* *E. uralensis* (Malevics, 1950).
- §\* *E. magnifica* (Svetlov, 1957).
- \* *E. malevici* Perel, 1962 (non *D. malevici* Kvavadze, 1985).
- \* *E. transcaucasica transcaucasica* (Perel, 1967).
- \* *E. oltenica* (Pop, 1938) [syn. *Eiseniella colchidica* Perel, 1967; cited as valid by Perel (1979)].
- \* *E. salairica* Perel, 1968.
- #+ *E. sibirica* Perel and Graphodatsky, 1985 [spelt as in Perel (1997: 24), sometimes misspelt "sibirica" and "Graphodastsky"].
- §\* *E. altaica* Perel, 1968 (originally *E. nobilii altaica*).
- §\* *E. djungarica* (Perel, 1969).
- \* *E. iverica* (Kvavadze, 1973).

*Eiseniella tetraedra tetraedra* (Savigny, 1826) [many synonyms - see Blakemore (2004); all four subspecies cited by Perel (1979: 240, but not earlier)].

*Ei. tetraedra pupa* (Eisen, 1874) (*hercynius* Michaelsen, 1890; *tetraedra quadripora* Cernosvitov, 1942). [In synonymy of *Ei. tetraedra* by Csuzdi & Zicsi (2003: 153) who also say that the only differences of several *tetraedra* morphs are the locations of the male pores, thus they could be varieties rather than species].

§ *Ei. tetraedra cerni* Blakemore, 2004: 78 [nom. nov. pro *Eiseniella tetraedra* mut. *intermedia* Cernosvitov, 1934: 17 non *Eiseniella intermedius* Jackson, 1931: 123 (sic) (= *Eiseniella tetraedra tetraedra*). Note: misquoted as "Cernosvitov, 1931" in Qiu & Bouché (1998:196); possibly in synonymy of *Ei. tetraedra* but noted as a subspecies by Csuzdi & Zicsi (2003: 154)].

*Ei. eutypica* (Michaelsen, 1910) [maintained separately from *Ei. tetraedra*].

*Dendrobaena octaedra octaedra* (Savigny, 1826) (syns. *flaviventris* Leuckart, 1849; *boeckii* Eisen, 1873/4; *camerani* Rosa, 1882; *octaedra alpinula* Ribaucourt, 1896; *octaedra liliputiana* Ribaucourt, 1896; *octaedrus casterinensis* Chinaglia, 1911; *octaedra quadrivesiculata* Pop, 1938).

*Dendrobaena alpina alpina* (Rosa, 1884: 28) (syns. *alpina armeniaca* Rosa, 1893: 431 [miscited as "armenica alpina" in Reynolds & Cook (1976: 68)]; *alpina*

*tatrensis* Nusbaum, 1895; *octaedra irregularis* Ribaucourt, 1896; *veneta cognettii* Cernosvitov, 1935 (non Michaelsen, 1903); *alpina alteclitellata* Pop, 1938: 136 [miscited as *D. alpina* Pop, 1938 in Reynolds & Cook (1976: 68)]; *hypogea* Malevics, 1947). [Original name *Allolobophora alpina* Rosa, 1884 (non Vedovini, 1967, nec *Octolasium transpadanum alpinum* Bretscher, 1905)].

*D. veneta veneta* (Rosa, 1886: 674) [mispelt "venata" Qiu and Bouché (1998: 194) and sometimes misdated as "Rosa, 1888"; (syn. *caucasica* Kulagin, 1889; *bogdanowii* Kulagin, 1889; *veneta zebra* Michaelsen, 1902; *veneta succinta* Rosa, 1905; *venetus concolor* Michaelsen, 1909; *veneta picta* Michaelsen, 1910; *veneta tumida* Friend, 1927 (non Eisen, 1874); *austriaca* Michaelsen, 1936; *veneta crassa* Malevics, 1947 [non Michaelsen, 1900]; *veneta minuta* Malevics, 1947; *svetlovi* Grieb, 1948 - overlooked by Reynolds & Cook (1979), sometimes misspelt "svetlovia")]. [Note: *A. veneta balcanica* was elevated from synonymy of *D. veneta* to specific status by Zicsi & Csuzdi (1986: 115)].

*D. hortensis* (Michaelsen, 1890: 15) (syn. *hibernica* Friend, 1892; *veneta tepidaria* Friend, 1904; *veneta dendroidea* Friend, 1909; *Allolobophora veneta robusta* Friend, 1909 [a permanently invalid primary homonym of *Allolobophora robusta* Rosa, 1895 under ICZN (1999) that is not replaced as valid synonyms exist; found to be *D. hortensis* rather than *D. veneta* by Csuzdi & Zicsi (2003: 119)]; *birsteini* Malevics, 1947; *nicaensis* Vedovini, 1971; *pseudohortensis* Sapkarev, 1977; [these last two synonyms in Csuzdi & Zicsi (2003: 119)]. [Note: originally described as *Allolobophora subrubicunda forma hortensis*, although cited as *E veneta* var. *hortensis* in Michaelsen (1900: 477); some authors mistake Michaelsen's publication date as "1889" or as "1907" when he described the unrelated *Notoscolex hortensis*].

§ *D. kelassuriensis* Kvavadze, 1985 (from Georgia).

*D. byblica byblica* (Rosa, 1893) [syn. *ganglbaueri annectens* Rosa, 1895 (restored or just claimed as *Fitzingeria annectens* (Rosa, 1895) by Qiu & Bouché, 1998: 198); *fedtschenkoi* Michaelsen, 1900; *ganglbaueri olympiacus* Michaelsen, 1902; *thyrrenus* Baldasseroni, 1907; *ganglbaueri daghestanensis* Michaelsen, 1907 (sometimes dated as 1910); *schelkovnikovi* Michaelsen, 1907 [misdated "1900" and cited in *Omodeoia* by BIOSYS; retained as a valid species by Kvavadze & Nikilaishvili (1980), also placed as a sub-species of *D. surbiensis* by some authors]; *ganglbaueri meledaensis* Michaelsen, 1908; *schelkovnikovi*

*veliensis* Michaelsen, 1910; *schelkovnikovi bakuensis* Michaelsen, 1910; *fedtschenkoi lenkoranensis* Michaelsen, 1910; *insularis* Chinaglia, 1913; *lacustris* Stephenson, 1913; *ganglbaueri bulgarica* Cernosvitov, 1937; *ganglbaueri cylindrica* Tzelepe, 1943; *ganglbaueri differentis* Tzelepe, 1943; *schelkovnikovi gracea* Omodeo, 1955: 8 [non Cernosvitov, 1938, name not replaced as synonyms exist]; *galloprovincialis* Bartoli, 1962; *hyrcanica* Kvavadze & Nikolashvili, 1980 - sometimes dated as 1979, overlooked by Easton (1983); this synonymy mostly from Csuzdi (2003); cf. *D. ganglbaueri* Rosa, 1894].

§ *D. byblica arsanica* Kvavadze, 1985 (from Georgia).

\* *D. nassonovi* Kulagin, 1889 [name misspelt "nasonowii" in Reynolds & Cook (1976); syns. *mariupoliensis* Wyssotzky, 1898 (misspelt "mariupoliensis" by Easton (1983: 479) and misdated "1893" by Perel (1979: 233; 1997: 80) and erroneously listed as senior synonym); *crassa* Michaelsen, 1900: 10; *mariupoliensis monticolus* Michaelsen, 1910; *mariupoliensis relictata* Perel, 1967 (non Southern, 1909); *mariupoliensis adjarica* Kvavadze, 1973. Note: maintained separately by Perel (1979: 233-234; 1997: 80) as *D. mariupoliensis mariupoliensis* Wyssotzky, 1893 (sic), *D. mariupoliensis* ssp. *relictata*, and *D. mariupoliensis* ssp. *adjarica*].

§ *D. penteri* (Rosa, 1905) (syn. *schemachaensis* Michaelsen, 1910).

\* *D. schmidti schmidti* Michaelsen, 1907 [syn. *Helodrilus (Eophila) montanus* Michaelsen, 1910: 68 [non *Helodrilus (Eisenia) venetus montanus* Michaelsen, 1910: 30 (= *Dendrodriloides grandis montanus*)]; ?syn. *schmidti violacea* Michaelsen, 1910. This synonymy after Cs. Csuzdi (2003, and pers. comm.), cf. *D. adaiensis* Michaelsen, 1900]. [Note: *Helodrilus (D.) schmidti* was listed by Easton (1983: 478; 486) as a junior synonym of *D. adaiensis* (Michaelsen 1900) due to "Priority", but this was apparently rejected by Omodeo & Rota (1989: 185) who suggest that rather than subspecies or 'varieties' the (?ten) component taxa of *schmidti* are true species. Qiu & Bouché (1998: 194-5) variously retain some as subspecies and raise others to species level, but they appear to have overlooked *D. schmidti* proper].

*D. schmidti tellermanica* Perel, 1966 [re-combined as sub-species of *D. adaiensis* by Easton (1983: 478), cf. Csuzdi (2003) who lists it in its original configurations, as here].

§\* *D. faucium* (sic) Michaelsen, 1910.

*D. attemsi* (Michaelsen, 1902/3) [originally *Helodrilus (Dendrobaena) attemsi*. Perel

(1979: 236 has in synonymy *Helodrilus (Eisenis) alpinus decipiens* Michaelsen, 1910 that was held as sub-species (or synonym) of *attemsi* by some authors but elevated by Omodeo & Rota (1989: 191) to *Dendrobaena decipiens*].

\$ *D. orientalis* Cernovsytov, 1940 (?syn. *ressli* Zicsi, 1973).

\$\* *D. kurashvilii* Kvavadze, 1971 [mispelt "kuraschvilii" by Perel (1979: 237, 240)].

\$\* *D. parabyblica* Perel, 1972.

\$ *Dendrodriloides grandis montanus* (Michaelsen, 1910; 30) [originally *Helodrilus (Eisenia) venetus* v. *montanus* Michaelsen, 1910: 30, transfer from *Dendrobaena* with status of subspecies of *Di. grandis* by Kvavadze (2000: 346)]; name misspelt "venetusmontanus" by Easton (1983: 478) yet maintained as *D. montana* (Michaelsen, 1910) by Easton (1983: 479); this taxon apparently overlooked by Reynolds & Cook (1976)]. [Non *Helodrilus (Eophila) montanus* Michaelsen, 1910: 68 (= *D. schmidtii* (Michaelsen, 1907) or possibly a *D. schmidtii* sub-species?)].

\$X *Fitzingeria platyura platyura* (Fitzinger, 1833) (*terrestris platyurus* Örley, 1881; *oerleyi* Horst, 1887; *fitzingeri* Beddard, 1895). Cited as *Dendrobaena platyura platyura* by Perel (1979: 230) and shown by Csuzdi & Zicsi (2003: 160, fig. 6.33.2) from Ukraine outside of RF.

\$X *Fitzingeria platyura depressa* (Rosa, 1893) [*platyura moravica* Proksova, 1955 (non *A. moravica* Pizl, 1994); *platyura panonica* Proksova, 1955; *platyura quadrivesiculata* Qiu & Bouché, 1998: 198 (non Pop, 1938) - this last synonym from Csuzdi & Zicsi (2003: 162) and shown by them (2003: 164, fig. 6.34.3) from Ukraine outside of RF].

\$X *Fitzingeria platyura montana* (Cernovsytov, 1932) [non *Ot. montanum* (Wesley, 1905), nec. *Dendrobaena montana* (Michaelsen, 1910) (= *Dendrodriloides grandis montanus*)]. [Cited as "*Dendrobaena platyura* (Fitz.) f. *montana* (Cern.)" by Perel (1979: 230); distribution shown by Csuzdi & Zicsi (2003: 167, fig. 6.35.3) from Ukraine outside of RF].

[End of ex-USSR checklist].

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[End of Russia/USSR checklist].