An updated list of valid, invalid and synonymous names of Criodriloidea (Criodrilidae) and Lumbricoidea (Annelida : Oligochaeta : Sparganophilidae, Ailoscolecidae, Hormogastridae, Lumbricidae, and Lutodrilidae)
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Summary
The current (up to November, 2008) compilation of about 670 valid species from a total of about 1,130 names of the family Lumbricidae is updated (from Blakemore, 2004, 2005, 2006a,b) and modified from that presented twenty-two years earlier by Easton (1983). With the resources of the Natural History Museum at his disposal, Easton compiled a checklist that was supported by his co-worker Sims (1983) who stated:

“Hopefully it will stimulate constructive discussions and lead to the early production of a widely accepted definitive checklist to attain a greater stability in lumbricid taxonomy than we have known hitherto”.

Easton (1983: 475) had 386 valid names (plus their specific synonyms included in braces), but his listing without redefinition cast some generic diagnoses and taxa into a confused and non-mutually-exclusive state that conflicted with the subsequent publication by Sims & Gerard (1985; - reprinted without changes as a “revision” in 1999), albeit Sims (1983: 473) had earlier accepted that “generic groups recognized are often units of convenience” (see discussion in Blakemore, 2002; 2006).

The current review lists ca. 670 valid names with another 55 or so uncertain names in Lumbricidae (total ca. 725 nominal taxa). A database of Megadrile names compiled by Csuzdi (2003) has about 1,055 Lumbricidae names including synonyms and spp. incertae sedis and this may be taken as approximately the total nominal taxa. Csuzdi & Zicsi (2003: 18) quote about 961 nominal taxa with perhaps 700 valid names shared among 63 genera. An unknown number of Lumbricidae are cited in Reynolds & Cook (1976) but sometimes they mistakenly list synomnic references as new, e.g., “arborea”.

Introduction
Lumbricidae has a Holarctic origin, naturally extending from Vancouver Island, Canada (e.g. Bimastos lawrenceae Fender, 1994) east across boreal lands, Mediterranean and Middle East to oriental Korea and Japan [e.g. Eisenia koreana (Zicsi, 1972), E.
japonica (Michaelsen, 1891) and Helodrilus hachiojii Blakemore, 2007]. Tasmanian Eophilta eti Blakemore, 2008 is an enigma. Background and historical perspective of the systematics of the family up to the 1980's was provided by Sims (1983) and to the mid-1990's by Reynolds (1995: 10) who also presented a partial checklist of some North American lumbricids “in the spirit of Easton (1983)”.

Sims’ former paper recognized the wide contributions made by Bouché (1972), who used chemical extraction to unearth new French species deep-burrowing in soils largely unaffected by Pleistocene ice-sheets, but it also criticized “immoderately subjective” changes and, in some cases, the “lamentable reluctance on the part of a few oligochaeta taxonomists to seek and examine type material or read the original descriptions of species”. Reynolds’ latter paper criticized Bouché (1970, 1972) for use of varietal names (18 out of 70 new names) which are outside of ICZN nomenclature; for an “overwhelming reliance on intuition”; and for a lack of allowance for the nomenclatural “nightmare” of parthenogenetic polymorphism in species complexes - as was emphasized by Gates (e.g. 1972; 1974).

However, the value of Bouché’s (and Jiang-Ping Qiu’s) later work is to clearly show that the shape of the nephridial bladders, key to generic diagnosis under some systems, may vary greatly from segment to segment within the same specimen of some species (e.g. species in Hormogaster and in their genus Zophoscolex) and are therefore rather unreliable characters for genetic diagnosis without considerable risk of fallacy from categorical syllogism. This view is somewhat supported by Csuzdi & Zicsi (2003: 31; figs. 3.15; 6.18.1) although they seem to confuse developmental stages of bilobate or hooked with “ocarina-shaped” bladders i.e., a term to describe bladders that actually look like an ocarina (a musical instrument) in outline.

Over twenty-five years ago, in 1980, Gates had published the last two papers in his revision of the Lumbricidae that he over-optimistically hoped would “enable a solution of the 'systematic chaos' in the European portion of the Lumbricidae”. Yet today there is no consensus on the placement (or validity) even of some of the most commonly encountered lumbricids. For example, in some reports from parts of southern Europe the genus Nicodrilus Bouché, 1972 continues in use with the prior Aporrectodea Örley, 1885 placed in its synonymy and its type-species, A. trapezoides (Dugès, 1828), also listed as a valid member of Nicodrilus, despite most other authors, e.g. Sims (1983: 469), Reynolds (1995: 5), Csuzdi & Zicsi (2003: 73), accepting Nicodrilus as a junior synonym of Aporrectodea. This situation would not be so troublesome except that many Aporrectodea are cosmopolitan species having World distributions corresponding to the courses of human history (see Blakemore, 2002); and giving them different names in different places defies the objectives of ICZN (1999),
causes confusion, and reduces confidence in the quality and competence of taxonomic services.

Recent contributions of Narcis Mršić {1951-1997} were summarized by Novak & Celik (2001): in 33 scientific papers on lumbricids, he described 49 new species, 4 subgenera, 2 genera, and additionally 2 species, 1 subgenus, and 4 genera in co-authorship. In his monograph on the earthworms of Balkans, Mrsic (1991a; 1991b) analysed setal formulas, muscle bundles types, shape and orientation of nephridial bladders, position of male pore, structure and position of calciferous glands, and typhlosoles. Using these morphological characters, he carried out a systematical revision of 231 species in 25 genera of Lumbricidae although several uncertainties remained. It should be remembered, however, that precise setal ratios are not a reliable characteristic for biological taxonomy for reasons discussed in Blakemore (2000; 2002) and Csuzdi & Zicsi (2003: 27).

Qiu & Bouché (1998, but sometimes cited as “2000” when it became widely available) published a list of lumbricids up to 1998 after a study of “more than 300 taxons” (but not necessarily type materials of all or any of these?), claimed as three-fifths of the super-family Lumbricoidea, and they presented 62 genera or sub-genera, 24 of these new propositions, plus approximately 100 new specific or sub-specific names. Their revisions were spread across at least 20 papers / volumes e.g. Qiu & Bouché (1998a; 1998), frequently repeating descriptions of their new taxa that were not sorted into any recognizably consistent pattern and not always in the same order nor with the exactly the same orthography thereby introducing nomenclatural inexactitude. Rather inconveniently, the expectation by Qiu & Bouché’s (1998: 182) that their descriptions be online at “http://ecordre.cnusc.fr: 8030” was unfulfilled, thus much page-flipping is required to cross-check their entries. Moreover, their revisionary studies were again weakened by overuse of sub-specific and unnecessary sub-generic classifications, and possibly flawed from a basis often of their own or earlier workers interpretations mostly of non-type specimens, even where type material is believed still to exist (and be accessible). For instance, Qiu & Bouché (1998a: 192; 1998: 195) studied the type-species Eophila tellinii (Rosa, 1888), but types for this taxon are not listed in Reynolds & Cook (1976) and it was not stated whether one of the “exemplaires” inspected were typified as a neotype, or not. [Incidentally, Omodeo & Rota (2004: 230) for this taxon re-examined only “topotypes” that are unregulated by the ICZN code]. Also, their genus Heraclescolex was poorly defined (Qiu & Bouché, 1998: Table 1) because several of the key characters, such as green colour, used to separate it from the prior genera Allolobophora and/or Eophila were listed as unknown
in the Table 2 of their chosen type-species. Synonyms were not adequately considered: some being listed as still valid taxa while others were omitted, and mostly ignored were the revisions of the Lumbricoidea wider than just southern Europe (e.g. those by Sims, Easton, and Sims & Gerard, and in North America by Gates, and Reynolds & Cook, etc.). Thus the major contribution summarized by Qiu & Bouché (1998) is an impressive body of work, but is largely an unresolved repeat, after nearly 30 years, of many of the ambiguities introduced by Bouché (1972).

By way of an example of the calamity invited by such laxity is Scherotheca (Corsicadrilus) corsicana magna Qiu & Bouché, 1998 that may yet be an invalid name if any other author is found to have cited Bouché's (1972) invalid infrasubspecific “magna” proposition as if it were an available name under ICZN (1999: Arts. 10.2; 45.6 Example), thereby themself/selves assuming authorship. And although the name “magna var. Scherotheca corsicana corsicana Bouché, 1972” is cited “before 1985” by Reynolds & Cook (1976: 132), this again is an infrasubspecific entity outside of taxonomy so perhaps does is not validated (see ICZN, 1999: Arts. 45.6.4.1. and 45.6.4 that allows such infrasubspecific names published before 1961, or “if, before 1985, it was either adopted as the valid name of a species or subspecies or was treated as a senior homonym”, to assume sub-specific rank).

Methods

In the current alphabetically heirarchical list, the valid species names from Easton (1983) are mostly upheld, and, as with Easton (1983: 486) this list concerns all related families such as the Criodrilidae, Hormogastridae, Ailoscolecidae, Lutodrilidae, and Sparganophilidae as well as Lumbricidae, but Easton’s work is expanded and here revised to accept certain of the obligatory changes wrought by subsequent authors, such as Mrsic (1991a;b), Qiu & Bouché (1998a; 1998), Kvavazde (2000), Csuzdi & Zicsi (2003), etc. As there is not complete agreement between these various earlier treatments, when there is a choice, then the most reasonable course – in terms of priority, nomenclatural stability, universality (e.g., ICZN, 1999), and phylogeny – is accepted.

New combinations are noted and other comments are contained within braces in the checklist, which may be also computer searched for keywords. It is intended to update and correct the list periodically, and a hope is eventually to seek funding to expand it to include information on type material and species distributions.

From ICZN (1999: 106-7, 111, 116) definition of some terms used here are: *incertae sedis* – “of uncertain taxonomic position”, usually refering to a tangible species concept rather than a ascribed name.
lapsus short for lapsus calami meaning a slip of the pen, or unintentional misspelling of a name (but not necessarily a printer’s error).

nomen dubium (pl. nomina dubia) – “a name of unknown or doubtful application”.

nomen nudum (pl. nomina nuda) - an invalid name that (after 1930) fails to conform to Article 13 of the Code and is therefore not an available name so may be made available later for the same or for a different concept; in which case it would take authorship and date from that latter act of establishment, not from any earlier publication.

species inquirenda (pl. species inquirendae) - a species (cf. genus) of doubtful identity needing further study (cf. nomen dubium).

When searching please allow that species names will change endings to agree with the Genus gender, thus it may be best to truncate search strings.

Note that sub-generic names, although listed, are considered by this author to be divisive, adding unnecessary complexity and confusion; most can be dispensed with.

Taxonomic Results

Replacement names were given for permanently and objectively invalid junior primary homonyms and a secondary homonym, formed in accordance with ICZN (1999: Arts. 16; 23.9; 31; 53.3; 57.2 Examples; 57.3; 59; 60) to provide a permanent and public record. [Note: In the original paper (Blakemore, 2004: 77) it was stated that the new species names proposed therein would take authorship as “Blakemore, 2003”, since publication was delayed, the authority was actually ‘Blakemore, 2004’].

In previous editions it was formally noted that a replacement name was required for permanently invalid preoccupied genus name Reynoldsia Qiu & Bouché, 1998: 102 (Cs. Csuzdi, 2005 pers. comm.), despite variant spellings of “Reynoldsia” or “Reynoldsea” by Qiu & Bouché (1998: 1, 2). Its name was replaced by anagrammatic Norealidys Blakemore, 2008, although the type was later found to be a synonym.

Previous replacement of preoccupied names were:

Serbiona dofeini josapi Blakemore, 2006: 5 nom. nov. pro Allolobophora dofeini udei Sapkarev, 1991: 54 [non Allolobophora udei Sapkarev, 1972 (= Serbiona joncesapkarevi Blakemore, 2004: 78) nec Allolobophora parva udei Ribaucourt, 1896 (= Bimastos parvus)]. Replacement name was based on abbreviation of author’s name. Efforts were made, unsuccessfully, to contact the original author: Dr Jonce A. Sapkarev, who has now retired from Institute of Biology, Skopje, Macedonia.

Allolobophora oliveirae trigoae Blakemore, 2004: 77 [nom. nov. pro Allolobophora oliveirae limicola Trigo et al. in Trigo, Mascato, Briones & Cosin 1990
as cited by BIOSIS (see references) and in Csuzdi (2003), non *Allobophora limicola* Michaelsen, 1890; albeit the latter is placed in *Aporrectodea* by some authors. Note: under ICZN (1999: 124) CODE OF ETHICS, a new substitute name should not be published for a junior homonym when the author of the latter is alive and they should be informed. Dr. Dolores Trigo, via her colleague Dr. Ana Moreno, agreed to this name change.

*Aporrectodea rosea* leocernosvitovi Blakemore, 2004: 78 [nom. nov. pro *Eisenia rosea balcanica* Cernosvitov, 1942 non *Eisenia veneta balcanica* Cernosvitov, 1937 nec *Eiseniella balcanica* Cernosvitov, 1931 (= *Helodrilus balcanicus balcanicus*)].

*Eiseniella tetraedra* cerni Blakemore, 2004: 78 [nom. nov. pro *Eiseniella tetraedra* var. intermedia Cernosvitov, 1934 (= *Eiseniella tetraedra intermedia*) non *Eiseniella intermedius* Jackson, 1931 (= *Eiseniella tetraedra tetraedra*)].

*Serbiona joncesapkarevi* Blakemore, 2004: 78 [nom. nov. pro *Allobophora udei* Sapkarev, 1972 non *Allobophora parva udei* Ribaucourt, 1896].

*Serbiona robusta* spaseunikaramani Blakemore, 2004: 78 [nom. nov. pro *Allobophora robusta serbica* Karaman, 1983 non *Eophila serbica* Sapkarev, 1976 (= *Serbiona serbica* - a senior secondary homonym). Note: Dr Spasenija Karaman has retired and moved countries but her colleague, Dr Mira Stojanovic Petrovic <mirasp@kg.ac.yu>, accepted this naming on her behalf (pers. comm. 10th March 2004). A name formed from a woman's name may be written as with ending “ae” or “iae” if a noun in the genitive case ICZN (1999: Art. 31.1), but the correct original spelling is preserved under ICZN (1999: Art. 32.3)].


In addition to the new replacement name given above, compared to the original versions (Blakemore, 2004: 2005), this version corrects several small typing errors and other points, mainly on the advice of referees and Dr Cs. Csuzdi; also names invoked by various authors have been applied, in particular changes due to the recent publication by Blakemore (2005-2008), Omodeo & Rota (2004), Csuzdi & Pavliceck (2005) and other divers sources.

Family Criodrilidae is newly added compared to Blakemore (2004, 2005a).
Checklist of valid names of Superfamilies Criodriloidae and Lumbricoidea
(Specific synonyms and those of genera are in braces after the taxon name with occasional Notes; syn. or syns. = synonymy, a "?" mark indicates some uncertainty).

Phylum ANNELIDA de Lamark, 1803
   Subphylum or Superclass CLITELLATA Michaelsen, 1919
      Class Oligochaeta Grube, 1850
         Order Haplotaxida
            Suborder Lumbricina

Superfamily Criodriloidae
   Family CRIODRILIDAE Vejdovsky, 1884
   [Including monotypic BIWADRILIDAE Brinkhurst & Jamieson, 1971 as suggested
   Sims (1980: 115; 1982: 285) who said that the family may be recombined with
   Criodrilidae since it differs only in details of its vascular system - in particular the
   presence of a very weak supra-oesophageal vessel (and possible lack of a sub-neural
   vessel), and presence of male pores and “prostate glands” in 13 in Biwadrilus rather
   than 15 as in Criodrilus. Such variation in male pore position is permissible within the
   Lumbricidae (e.g. Eiseniella). Stated presence of “a paired lateral line”, e.g. Sims
   (1980: 106, 115), appears to be mistaken as the only ‘lateral lines’ are due to blood
   vessels clearly visible through the body wall in the anterior segments in live specimens
   (pers. obs. and see Blakemore, 2006; 2007b).
   Type species: Criodrilus lacuum Hoffmeister, 1845.
   Aquatic or semi-aquatic megadriles.
   Distribution range from Iberian Peninsular to Pacific-coast of Siberia, introduced into
   North and South America (and possibly UK). South American species included in
   Criodrilus by Michaelsen (1900: 468), i.e., C. breymanni, C. buergeri, C. iheringi, were
   transferred by Michaelsen (1918) to Drilocrius Michaelsen, 1917 (Family Almidae), as
   they possessed spermathecae rather than spermatophores. Now genus Biwadrilus is again
   included, its endemic range re-extends to Japan.
   Michaelsen (1918) and Stephenson (1930: 888, 904) thought affinites of
   Criodrilus were descent from Magagascan Kynotus through an original Drilocrius-form
   which probably inhabited Ethiopian Africa, and they also thought Criodrilus was the
   ancestor of the Lumbricidae. In the alternative view, Stephenson (1930: 889, 904, 910)
thought *Criodrilus* a Lumbricid that was modified though having adopted an aquatic life, and that origin of the Lumbricidae needed to be sought elsewhere. For Gates (1972: 50), the closest relationships of Criodrilidae were with the Moniligastridae or Alluroididae, if not also the Haplotaxidae and the Sparganophilidae. Differences in the ovaries, he believed, contraindicated close relationships between the Criodrilidae and the Lumbricidae; but Sims (1980: 114) and Sims & Gerard (1985: 40; 1999: 40) had Criodrilidae with greater affinities with the superfamily Lumbricoidea comprising of Sparganophilidae, Ailoscolecidae, Hormogastridae, Lumbricidae, and Lutodrilidae].

*Biwadrilus* Brinkhurst & Jamieson, 1971: 809 [monotypic for *Criodrilus bathybates* Stephenson, 1917: 96 originally from Lake Biwako, Shiga-ken, Japan].

*B. bathybates* (Stephenson, 1917: 96) [syn. *Criodrilus miyashitai* Nagase & Nomura, 1937: 361; often misspelt “bathybathes” or “batybates”].


Type species: *Criodrilus lacuum* Hoffmeister, 1845.

*C ghaniae* (Qiu & Bouche, 1998). **Comb. nov.** [synonymy of monotypic *Hydrilus ghaniae* Qiu & Bouché, 1998: 18, 198 in *C. lacuum* was by Omodeo, Rota & Baha (2003: 463) and by Omodeo & Rota (2004: 222) although it may merit retention as a species in new combination (Blakemore, 2007b)]


*C. ochridensis* Georgevitch, 1950 (sometimes miscited as “ohridensis” and the author as “Gjorgjevic, 1949”) **sp. inquirenda.**
Superfamily Lumbricoidea
Family SPARGANOPHILIDAE Michaelsen, 1918, 1921, 1928

*Sparganophilus* Benham, 1892.
Type-species: *S. tamesis* Benham, 1892.

*S. langi* Bouché & Qiu, 1998: 179 [note correct authority compared to other taxa in this series by Qiu & Bouché (1998)].
*S. pearsei libertiensis* Reynolds, 1980.
*S. pearsei pearsei* Reynolds, 1975.
*S. sonomae* Eisen, 1896.
*S. smithi* Eisen, 1896.

[Note: Sims, (1980: 108), for reasons he explains in a footnote that is attached here as an Appendix*, put monotypic Komarekionidae in synonymy, but some American
authors, e.g. Reynolds & Cook, (1993), attempt to maintain it].

*Ailoscolex* Bouché, 1969.
Type-species: *Ailoscolex lacteospumosus* Bouché, 1969.

*A. lacteospumosus* Bouché, 1969.


Family LUTODRILIDAE McMahan, 1976

*Lutodrilus* McMahan, 1976


Family HORMOGASTRIDAE Michaelsen, 1900
Type species: *Hormogaster redii* Rosa, 1897.

Type-species: *Hemigastrodrilus monicae* Bouché, 1970: 248 (corrected this next line).


*Hormogaster* Rosa, 1887 [syn. *Hormodrilus* (laps.) Rosa, 1889].

Type-species: *Hormogaster redii* Rosa, 1887

*Ho. arenicola* Qiu & Bouché, 1998.


*Ho. catalaunensis* Qiu & Bouché, 1998.

*Ho. catalaunensis* Qiu & Bouché, 1998.


*Ho. eserana* Qiu & Bouché, 1998.

*Ho. gallica* Rota, 1994 [this date rather than “1993” correct E. Rota (pers. comm.)].

*Ho. huescana* Qiu & Bouché, 1998.

*Ho. ireguana* Qiu & Bouché, 1998 (sic).

*Ho. lleidana* Qiu & Bouché, 1998 (sic).

*Ho. multilamella* Qiu & Bouché, 1998.

*Ho. najaformis* Qiu & Bouché, 1998.

*Ho. oroeli* Alvarez, 1971: 110 [originally described as sub-species “*Hormogaster pretiosoides oroeli*” a lapsus calami for *Ho. pretiosiformis oroeli* according to Alvarez (1977: 27) who, while merely elevating it to species level, mistakenly redescribed it as “*H. oroeli* n. sp.”; the name “pretiosoides” then is a **nomen nudum**; cf. *Ho. elisae* and *Ho. pretiosa arrufati* and see Alvarez (1977) in References below).

*Ho. pretiosiformis* Zicsi, 1970 (sometimes misspelt “praetiosiformis”).


*Ho. pretiosa hispanica* Michaelsen, 1925 (sometimes dated “1935”, elevated to species
level, eg. by Qiu & Bouché, 1998).

**Ho. pretiosa nigra** Bouché, 1970: 247 [originally cited as invalid “var. nov.” variety of “Hormogaster praetiosa” possibly validated by subsequent citation, eg. by Reynolds & Cook (1976: 144); omitted by Qiu & Bouché (1998)].

**Ho. pretiosa pretiosa** Michaelsen, 1899 [originally *Hormogaster praetiosa*, corrected by Michaelsen (1900: 447) and Michaelsen (1917) to *H. pretiosa*, but sometimes still cited as “praetiosa”; Reynolds & Cook (1976: 158) also list it as “preciosa Michaelsen, 1900”; Bouché (1970: 247) has it as “*H. praetiosa typical*”].

**Ho. redii gigantea** Michaelsen, 1917 (sometimes misspelt “gigantes”; overlooked in Qiu & Bouché, 1998).


**Ho. redii redii** Rosa, 1887 [original manuscript name “Lumbricone” by Redi in 1684 cited by Michaelsen (1900: 446)].

**Ho. riojana** Qiu & Bouché, 1998.

**Ho. samnitica lirapora** Bouché, 1970: 247 [valid “subsp. nov.” sometimes misspelt “liropora” or “liropara” and miscited as “Bouché, 1972” in Qiu & Bouché, 1998; two invalid varietal names were also proposed by Bouché (1970: 247, 248): “samnitica lirapora magna” and “samnitica lirapora typica”].

**Ho. samnitica samnitica** Cognetti, 1914: 2 [originally *H. praetiosa samnitica*; (non *Helodrilus oculatus samnitica* (sic) Cognetti, 1914: 3); cited as *H. samnitica typica* by Bouché, 1970: 247; two invalid nomena nuda also cited by Bouché, 1970: 247 as “samnitica cognetti” (sic) and “samnitica corsicana”].

**Ho. sylvestris** Qiu & Bouché, 1998 (non Ribaucourt, 1896).

**Vignysa** Bouché, 1970: 249.

Type-species: **Vignysa popi** Bouché, 1970: 249 (= *Lumbricus teres* Dugès, 1828).

**V. teres** (Dugès, 1828) [syn. *popi* Bouché, 1970 - this synonym from Easton (1983: 486) apparently overlooked by Qiu & Bouché, 1998: 183 who also miscite this as “**Vignysa popi popi** Bouché, 1972”), non *Lumbricus teres* Dalyell, 1853: 140 [= *Lumbriculus variegatus* (Müller, 1774) according to Michaelsen (1900: 58, 516)].

**V. vedovinii** Rota, 1994 [non Bouché, 1972; the date 1994 rather than “1993” is correct
E. Rota (pers. comm.).

Xana Diaz Cosin et al. in Diaz Cosin, Briones & Trigo, 1989
Type-species: Xana omodeoi Diaz Cosin et al. 1989 in Diaz Cosin, Briones & Trigo, 1989.


Family LUMBRICIDAE Rafinesque-Schmaltz, 1815
Subfamilies DIPORODRILINAE Bouché, 1970 [proposed for Diporodrilus consiting of Corsican species (type Diporodrilus pilosus Bouché, 1970) with paired lateral pores rather than dorsal pores - the statement that it is defined by oesophageal gizzard in two segments rather than in one segment as in Lumbricinae by Sims & Gerard (1985; 1999: 46) is mistaken (cf. Csuzdi & Zicsi, 2003: 30); originally as a new family, Diporodrilidae, miscited as “Diporochaetidae” by Reynolds & Cook (1981: 1); reduced to sub-family by Easton (1983: 475), its re-elevation to family status proposed in Qiu & Bouché (1998: 198) is not supported by Csuzdi & Zicsi (2003) nor here], and LUMBRICINAE Rafinesque-Schmaltz, 1815 (see below).
Type species: Lumbricus terrestris.

Diporodrilus Bouché, 1970
Type species: Diporodrilus pilosus Bouché, 1970.


D. omodeoi postheca (sic) Bouché, 1970: 254 (nomen dubium - invalid varietal name


Subfamily LUMBRICINAE Rafinesque-Schmaltz, 1815


*Allolobophora* Eisen, 1874 sensu lato [syn. *Allobophora* Lüken, 1876].

Type species: *Enterion chloroticum* Savigny, 1826 (designation by Omodeo, 1956).

Subgenera: *Gatesona* Qiu & Bouché, 1998a: 181 (type-species: *Allolobophora chaetophora* Bouché, 1972); *Panoniona* Mrsic & Sapkarev, 1988 (type-species: *Allolobophora leoni* Michaeisen, 1891) - *sub-genus inquirenda*: originally a subgenus of *Alpodinaridella* Mrsic & Sapkarev, 1987, *Panoniona* was elevated to genus level by Mrsic (1991: 226), reduced to a sub-genus of *Allolobophora* by Qiu & Bouché (1998: 92), and lately the type species was returned to this latter genus, thus removing this
genus, by Csuzdi & Zicsi (2003: 60) who misspell the name "Pannonionia". Note: Easton (1983) and Csuzdi & Zicsi (2003: 49) had separate "unofficial" genera: *Allolobophora* (s. Perel, 1976), and *Allolobophora* (s. lat.); herein the species are merged alphabetically and secondarily with sub-generic abbreviations.

*A. ariadne* Michaelsen, 1928: 289 [restored from synonymy in *Heliodrilus patriarchalis* (Rosa, 1893) by Zicsi & Michalis (1981: 252) who elevated it to separate specific status in *Allolobophora* from their examination of type material. Note: Reynolds & Cook (1976: 72) erroneously cite this taxon as “*Eophila ariadne* Werner, 1928: 289”].

*A. andreinii* Baldasseroni, 1907 [listed as “*Helodrilus andreinii*” and as a synonym of *Scherotheca targionii* on Fauna Europaea website - March, 2007].

*A. bartolii alpe mare* (Bouché, 1970) [clearly unsatisfactory placement relative to the nominal type species].

*A. (P.) bartolii bartolii* (Bouché, 1970) [nom. nov. pro *icterica forma dicystis* Bartoli, 1963 non Cernovitov, 1942 (= *Aporrectodea icterica dicystis*)].

*A. (P.) bartolii meougensis* Bouché, 1970 [clearly unsatisfactory placement relative to the nominal type species].

*A. brunnecephala* Kvavadze, 1985 (sometimes misspelt "brunnencephala").

*A. burgondiae* Bouché, 1972.


*A. 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 (non Johnston, 1827); *riparius pallescens* Eisen, 1871; *neglecta* Rosa, 1882; *cambrica* Friend, 1892 [= *cambrica* : 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, 199 and Csuzdi & Zicsi, 2003: 51; non *Allolobophora kosovensis* Karaman, 1968 (sic)].

*A. chlorotica eutypica* Qiu & Bouché, 1998 [non *Ei. eutypica* (Michaelsen, 1910) nec. *D.
pantaleonis eutypica Omodeo & Rota, 1989: 185].


A. chlorotica waldensis Ribaucourt, 1896 (chlorotica morgensis Ribaucourt, 1896; nusbauni Ribaucourt, 1896; A. cuginii Rosa, 1905/6 - species inquirenda).

A. cupulifera Tétry, 1937.

A. decui Botea, 1983: 36 [species inquirenda - an unlikely native to Cuba].

A. eurytanica Tzelepe, 1943: 93.

A. festae Rosa, 1892: 1 [species inquirenda – originally “festae” sometimes (illegally?) amended to "festai" as Festa was a man (cf. antipae and pereli); this taxon often misplaced in Helodrilus – see Zicsi (1985: 284), or Prosselodrilus – see Baha & Berra (2001) and Omodeo et al. (2003)].


A. hrabei (Cernosvitov, 1935) [originally Eophila hrabei Cernosvitov, 1935; in Allolobophora according to Easton (1983 476) and Csuzdi & Zicsi (2003: 59) after its return to Eophila in Qiu & Bouché (1998 187); also (erroneously?) claimed in Dendrobaena by Reynolds & Cook (1976: 115); non Eisenia veneta hrabei Cernosvitov, 1934 (= Dendrobaena hrabei)].


A. kintrishiana Kvavadze in Kvavadze, Suladze & Gachava, 1987 [misspelt as "kinsrihiana" by Qiu & Bouché (1998: 199) who list it as incertae sedis].


A. lanzai (Omodeo, 1961).


A. macvensis Sapkarev, 1987. Nomen nudum. [Reynolds & Cook (1992: 17) have it transferred to Aporrectodea, however Cs. Csuzdi pers. comm. (May, 2007) says Sapkarev’s krainensis and macvensis are unpublished therefore both are nomina nuda (see also Csuzdi & Pop, 2007b)].

A. moravica Pizl & Houskova, 1993 [non moravica Proksova, 1954/5 (= D. platyura depressa (Rosa, 1893))].

A. morenoe Diaz, et al., 1985: 131 [authors “Diaz, Calvin and Mato, 1985”, listed thus rather than "Diaz Cosin". Strictly the name formed from a woman's name
should be written as "morenoae" if a noun in the genitive case ICZN (1999: Art. 31.1), but the correct original spelling is preserved under Art. 32.3].

A. negreaei Botea, 1983: 35 [species inquirenda - an unlikely native to Cuba].
A. oliveirae oliveirae Rosa, 1894 (or "oliveirae typica").
A. oliveirae trigoae Blakemore, 2004: 77 [nom. nov. pro Allolobophora oliveirae limicola Trigo et al. in Trigo, Mascato, Iglesias Briones & Diaz Cosin, 1990: 159 as cited by BIOSIS, non Allolobophora limicola Michaelsen, 1890 as also cited by some authors (cf. Aporrectodea limicola); BIOSIS lists both Allolobophora limicola and Aporrectodea limicola. See also Souto (1996)].
A. orghidani Botea, 1983: 43 [species inquirenda - an unlikely native to Cuba].
A. pseudonematogena (Perel, 1967) [tentatively placed in Microeophila by some authors, e.g., Qiu & Bouché (1998: 191)].
A. sarnensis (Pierantoni, 1904/5) [dated “1904” by Easton (1983) and Qiu & Bouché (1998: 199) who also list it as incertae sedis; or “1905” by Reynolds & Cook (1976: 167)].
A. smaragdina Rosa, 1892 [sometimes placed in Aporrectodea].
A. sturanyi dacica (Pop, 1938) [placed by some authors in Scherotheca or Karpatodinariona, this species was returned to Allolobophora in Csuzdi & Zicsi (2003: 53) and made subspecies of A. sturanyi by Csuzdi & Pop (2008)].
A. sturanyi dacidoides (Bouché, 1973).
A. sturanyi sturanyi (Rosa, 1895) [placed by some authors in Eophila or Karpatodinariona, this species was returned to Allolobophora by Csuzdi & Pop (2008)].
A. vardarensis Sapkarev, 1971 [listed as incertae sedis in Mrsic (1990: 55); sometimes misdated as “1991” but publication was definitely in 1971].
A. virei (Cognetti, 1902).
A. zicsii Bouché, 1972 [non Allolobophora zicsi (sic) Sapkarev, 1975 (= A.
orahoracensis Reynolds & Cook, 1976: 148; syn. A. sapkarevi Easton, 1983: 476 unwittingly provided for the same homonymy); nec D. zicsii Karaman, 1973; [name sometimes misspelt "zicsi"].

Type-species Lumbricus eiseni Levinsen, 1884 [this sub-genus, was elevated by Mrsic (1991) to generic status and included two species, L. eiseni and A. parva Eisen, 1874, but Mrsic also thought the genus may be a synonym of the mostly North American genus Bimastos and this is where its two species were placed by Qiu & Bouché (1998:197). Most recently, Csuzdi & Zicsi (2003: 69) have shown that the genus is supported separately from the North American genus Bimastos].

Ad. 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)].

Ad. xylophila (Omodeo & Martinucci, 1987) [misspelt and miscited as "xylophyla Perel" in Qiu & Bouché (1998: 190); misspelt "xilophila" and transferred from Eisenia by Csuzdi & Zicsi (2003: 69)].


Type species: Lumbricus trapezoides Dugès, 1828.
Sub-genus: Creinella Mrsic, 1986 (type-species Creinella predalpina Mrsic, 1986); [sub-generic inquirenda - possibly the subgenus is not tenable].
[Note: Qiu & Bouché (1998a: 196) admit Nicodrilus (and its sub-genus?) may be a sub-genus of Eiseniona, the type-species of which is in Aporrectodea, but overlook Creinella Mrsic, 1986 apart from placing its type-species in Eiseniona, which as we have just noted is already a synonym of Aporrectodea. Koinodrilus appears to be a rather arbitrary separation from Qiu & Bouché's (1998: 196) contentious concept of
Nicodrilus that is itself in synonymy of Aporrectodea according to Sims (1983), Easton (1983), Mrsic (1991), Reynolds (1995) and Csuzdi & Zicsi (2003: 73) and, indeed, the latter authors include Koinodrilus in synonymy. Also unreconciled in Qiu & Bouché (1998a: 197; 1998: 187) is why Allobophora roseus vedovinii (sic) Bouché, 1972 - a replacement name for A. rosea alpina Vedovini, 1967 (non Rosa, 1884; nec Bretscher, 1905), should go into Koinodrilus when this latter species has been syonymized with Ap. handlirschi Rosa, 1897 (e.g. by Easton, 1983: 477) that is type of Eiseniona (i.e., = Aporrectodea). These issues need to be thoroughly resolved, with reference to types, before we can consider restoration of either Eiseniona or Koinodrilus.


Ap. balisa (Bouché, 1972) [cited by Qiu & Bouché, 1998: 266 as "Nicodrilus balisus balisus "].


Ap. calignosa alternisetosa (Bouché, 1972) (?= nocturna) [species inquirenda - cited by Easton (1983: 477) but omitted by Qiu & Bouché, 1998 possibly because this was originally a varietal name outside of ICZN taxonomy, but name possibly validated by citation in Reynolds & Cook (1976: 68) and by Easton (1983)].

Ap. caliginosa caliginosa (Savigny, 1826) [carneum Savigny, 1826 (non Friend, 1911); lividus Templeton, 1836; gordianus Templeton, 1836; purus Dugès, 1837; communis cyanes Hoffmeister, 1845 [non cyanus Savigny, 1826 (= Octolasion cyanum)]; ?helenae Kinberg, 1867: 98; hortensiae Kinberg, 1867: 98; novaehollandiae Kinberg, 1867 (originally “Novae-hollandiae”); communis olivaceus Eisen, 1871; communis pellucidus Eisen, 1871 [non pellucidus Templeton, 1834]; turgida turgida Eisen, 1873: 46 [sometimes date (mis)quoted as “1874”, eg by Gates (1972: 84) and Easton (1983: 479)]; ?turgida tuberculata Eisen, 1874: 43 (cf. Ap. tuberculata); levis Hutton, 1877; australiensis Fletcher, 1886; borellii Cognetti, 1904; similis Friend, 1910; remyi Cernosvitov, 1929 (sometimes miscited as 1931); caliginosa hellenica Tzelepe, 1943; nocturna Evans, 1946 [= A. giardi (cf. A. longa); misspelt "noctunus" in Qiu & Bouché, 1998: 188]; arnoldi Gates, 1952; molita Gates, 1952; Nicodrilus caliginosus caliginosus paratypicus Bouché, 1972 (invalid varietal name); Nicodrilus monticola (sic) Pérez-Onteniente & Rodríguez Babio, 2002: 517; N. carochensis Pérez-Onteniente & Rodríguez Babio, 2002: 520; N. tetramammalis Pérez-Onteniente & Rodríguez Babio, 2002: 521; these last four synonyms from
Csuzdi & Zicsi (2003: 75-76) where *tetramammalis* is miscited as "tetramuralis" and the last three taxa are attributed to "Perez & Rodriguez, 2003" with the reference cited as "PEREZ ONTENIENTE, A. & RODRIGUEZ BABIO, C. (2002), but sometimes cited as just "Onteniente & Babio" or just "Ontenienta" (sic). The Journal of Natural History's website cites names as "A. Pérez Onteniente and C. Rodriguez Babio". The types of these latter in the "Antonio Pérez-Onteniente" collection of the Valencia Natural History Museum [http://www.naturamuseo.org/coles/coles1.htm]. [Notes: some North American authors attempt to retain the name *turgida* Eisen, 1873 in preference to the prior *caliginosa* Savigny, 1826 on the grounds that Savigny's species was inadequately defined, however, its name was validated by the restriction and usage by other authors, e.g. Michaelsen (1900: 482), according to Sims & Gerard (1985; 1999: 44) and Blakemore (2002). The names *tuberculata* and *nocturna* are sometimes retained as separate taxa, but it is also possible that the *nocturna* morph is in the ambit of *Aporrectodea giardi giardi*. And while *A. trapezoides* is sometimes placed as a synonym or subspecies of *caliginosa*, herein it is maintained separately as per Gates (1972a) cited in Reynolds (1995: 5).

*Ap. caliginosa meridionalis* (Bouché, 1972) [*species inquirenda* - cited by Easton (1983: 477 and possibly obtaining authorship from this) but omitted by Qiu & Bouché, 1998 possibly because this was a varietal name; under this taxon Bouché (1972: 335) also proposed an intrasubspecific varietal name "pseudolongus" that is outside of ICZN nomenclature. Misspelt as sub-species "*merionalis* ss. *Nicodrilus caliginosus* Bouché, 1972" (sic) in Reynolds & Cook (1976: 135) who also cf. *Allolobophora turgida f. tuberculata* Eisen, 1874 (sic). Further cited as "*Nicodrilus caliginosus meridionalis* (Bouché, 1992)" (sic) from Algeria in Bouché et al. (2004: 391)].

*Ap. caliginosa obscuricola* (Cernosvitov, 1936).

*Ap. cemernicensis* Mrsic, 1991 (also spelt "cermamicens").

*Ap. cuendeti* (Qiu & Bouché, 1998). [Note: stated to be similar to "nocturna", therefore probably similar to *giardi* and/or *longa*].

*Ap. dubiosa dubiosa* (Örley, 1881) (*blinovi* Cernosvitov, 1938; *dubiosa pontica* Pop, 1938); sometimes misspelt "bubiosa".

*Ap. dubiosa monchicana* Trigo et al., 1990 [authorship sometimes cited as Diaz Cosin et al., 1990].


Ap. giardi voconca (Bouché, 1972) [misspelt "vocone" in Easton (1983)].

Ap. gogna (Bouché, 1972) [cited by Qiu & Bouché, 1998 as "Nicodrilus gognus gognus"].


Ap. icterica icterica (Savigny, 1826) (claparedi Ribau-court, 1896 (corr. claparedei); ictera (lapsus) Michaelsen, 1900: 500; capilla Ribau-court, 1901).  [Note: recently Qiu & Bouché (1998) proposed transfer of icterica to their dubious genus Heraclescolex; name sometimes misspelt "icteria"].

Ap. icterica dicystis (Cernosvitov, 1942) [non Bartoli, 1963 (= Allolobophora bartolii bartolii)].


Ap. jassyensis jassyensis (Michaelsen, 1891) [jassyensis orientalis Michaelsen, 1897 -
possibly not in synonymy as (apart from subsequent citations by Bodenheimer, 1935 and Omodeo, 1956), omitted by Csuzdi & Pavlicek (2005a); *cavaticus* Michaelsen, 1910; name sometimes misspelt "jassiensis".


*Ap. limicola* (Michaelsen, 1890).


*Ap. pannoniella* Mrsic, 1987 (sometimes spelt "pannonilella").


*Ap. (C.) predalpina* Mrsic, 1986 [Note: it is not certain that this subgenus is tenable; Qiu & Bouché (1998: 188) have this type-species in *Eisenionia* which, according to Easton (1983), etc., is in synonymy of *Aporrectodea*].


*Ap. rosea leocernosvitovi* Blakemore, 2004: 78 [nom. nov. pro *Eisenia rosea balcanica* Cernosvitov, 1942: 223 [non *Eisenia veneta balcanica* Cernosvitov, 1937 (= *Dendrobaena* or *Allolobophora balcanica*), nec *Allolobophora balcanica balcanica* Cernosvitov, 1931 (= *Helodrilus balcanicus balcanicus*)].

*Ap. rosea rosea* (Savigny, 1826) [mucosa Eisen, 1874; *aquatilis* Vej dovsky, 1875 [misspelt "aquatlis" by Örley, 1885]; *mediterranea* Örley, 1881; *rosea macedonica* Rosa, 1893 [non *Allolobophora macedonica* Sapkarev, 1971 (=

Ap. rubicunda acidicola (Bouché, 1972) [originally named Nicodrilus (Rhodonicus) rubicundus acidicola (sic)].

Ap. rubicunda rubicunda (Bouché, 1972) [nom. nov. pro Allolobophora rubra Vedovini, 1969 (non Bretscher, 1900)].

Ap. sineporis (Omodeo, 1952) [formerly Allolobophora balcanica sine-poris; overlooked by Reynolds & Cook (1976); transferred to Aporrectodea by Csuzdi & Zicsi (2003: 99)].


Ap. subterrestris (Lainez & Jordana, 1983) [originally in Nicodrilus; authors' names sometimes miscited as "Lainé et Jorand"].

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 Cernovsky, 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].


Type species (monotypic): Octolasion ligrum Bouché, 1969.

Av. ligra (Bouché, 1969).

Bimastos Moore, 1893 (syn: Bimastus: Michaelsen, 1900 invalid emendation).
Type species: Bimastos palustris Moore, 1895 (= Bimastos sp. Moore, 1893).
[Note: Easton (1983) includes Spermophorodrilus Bouché, 1975 in synonymy, but it is maintained separately here, thus leaving Bimastos endemic to North America; cf. H. jordanis and H. syriaca].

B. gieseleri gieseleri (Ude, 1895) (sometimes put in synonymy of B. tumidus).
B. gieseleri hempeli (Smith, 1915) (sometimes put in synonymy of B. tumidus)
B. heimbergeri Smith, 1928.
B. palustris Moore, 1895 (B. sp. Moore, 1893).
B. parvus (Eisen, 1874: 46) [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; nec Sapkarev, 1991 = Allolobophora dofleini josapi Blakemore, 2006); consticta geminata Friend, 1897 (often misspelt "germinata" or "gaminata"); ?longicinctus Smith & Gittins, 1915: 548]. [Note: this taxon recently transferred from Alloloborphidella to Bimastos by Csuzdi & 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].
B. sophiae Mercandal de Barrio et Barrio, 1988: 2 species inquirenda (originally Bimastos beddardi sophiae from Argentina but unlikely to be native, possibly a synonym of B. parvus as is B. beddardi, overlooked by Qiu & Bouché (1998)].
B. tumidus (Eisen, 1874) (ducis Stephenson, 1933).
B. welchi (Smith, 1917).
B. zeteki (Smith & Gittins, 1915) [sometimes misspelt "zeteski" or "zetzki"].

Cataladrius Qiu & Bouché, 1998a:190
Type species: Cataladrius monticola Qiu & Bouché, 1998.

Ca. (La.) multithecus Qiu & Bouché, 1998.
Ca. sardonica catalaunensis (Bouché, 1972) [sometimes elevated to specific status, e.g. Qiu & Bouché (1998: 185)].
Ca. sardonicus sardonica (Cognetti, 1904).

Cernosvitovia Omodeo, 1956 (sensu Zicsi, 1981)
Type species: Allolobophora rebelii Rosa, 1897.

Ce. (Ce.) biserialis (Cernosvitov, 1937) (non Bouché, 1972).
Ce. (Ce.) bulgarica (Cernosvitov, 1934).
Ce. (Ce.) dobrogeana (Pop, 1938).
Ce. (Ce.) rebelii (Rosa, 1897) (name sometimes spelt "rebeli").
Ce. (Ce.) schweigeri (Zicsi, 1973: 226) [originally in Allolobophora (non Bimastos schweigeri Zicsi, 1981: 434)].
Ce. (Zi.) crnicae Karaman, 1987 (name sometimes misspelt “crnice”).

Ce. (Zi.) dudichi Zicsi & Sapkarev, 1982 [misspelt "didichi" in Qiu & Bouché (1998: 198); non oculatus dudichi Pop, 1943].

Ce. (Zi.) getica (Pop, 1947) [syn. paradoxa Mrsic, 1992 (non Cognetti, 1904); silicata Mrsic & Sapkarev, 1987]. [Originally Allolobophora dugesi getica then transferred to Italobalkaniona before its recent return to Cernosvitovia (Zicsiona) by Csuzdi & Pop (2007b) with silicata and paradoxa in synonymy].

Ce. (Zi.) krainensis (Sapkarev, 1987). Nomen nudum. [Originally Eophila opisthocystis krainensis but Reynolds & Cook (1992: 16) suggest publication is “(in print ?)” cf. their acceptance of macvensis; transferred to Italobalkaniona, then to Cernosvitovia and elevated to specific status by Zicsi (1995: 128/9); sometimes misspelt “crainensis”; recently Cs. Csuzdi and V.V. Pop (pers. comm. ISEE8, Sept. 2006) question whether It. knazevensis Sapkarev, 1989 is possibly a synonym], moreover Cs. Csuzdi pers. comm. (May, 2007) says the two taxa krainensis and macvensis were never published, therefore both are nomina nuda (see also Csuzdi & Pop, 2007b).

Ce. (Zi.) opisthocystis (Rosa, 1895) [originally Allolobophora, transferred to Cernosvitovia and elevated to specific status by Zicsi (1995: 127); recently Csuzdi & Pop (2007b; pers. comm. Sept. 2006) suggest crnicae is a synonym].

Type species: Dendrobaena boeckii Eisen, 1873/4 (= D. octaedra).

D. adaiensis (Michaelsen, 1900: 9) [?syn. schmidtii violacea Michaelsen, 1910; this doubtful synonym from Easton (1983: 478) who also included schmidtii Michaelsen, 1907: 90 and its junior synonym montanus Michaelsen, 1910: 68 [non veneta montana Michaelsen, 1901: 30 (= Dendrodriloides grandis montanus)] that, nevertheless, is listed separately here as per Cs. Csuzdi (2003). Due to "Priority", Easton (1983: 478, 486) listed its sub-species as adaiensis surbiensis and adaiensis tellermanica, cf. Omodeo & Rota (1989: 186) who thought D. surbiensis (at least?) deserved species status, although
these two taxa were retained as sub-species of \textit{schmidti} in Csuzdi (2003) who further included \textit{schmidti violacea} Michaelsen, 1910 in synonymy of \textit{D. schmidti schmidti} (Michaelsen, 1907) proper (see below)].

\textit{D. aegea} (Cognetti, 1913).


\textit{D. (A.) alpina alteclitellata} Pop, 1938: 136 [restored from synonym in \textit{D. alpina} by Csuzdi \textit{et al.} (2005: 119) as it is senior available synonym since \textit{Veneta cognettii} Cernosvitov, 1935 is a homonym; incompletely cited as \textit{D. alpina} Pop, 1938 in Reynolds & Cook (1976: 68)].

\textit{D. (A.) alpina diplotritheca} Kvaavadze, 1972 [Note: Easton (1983) overlooked this taxon].

\textit{D. (A.) alpina gralli} Easton, 1983 [nom. nov. pro \textit{Allolobophora rosea lusitana} Graff, 1957: 301 (non \textit{Dendrobaena lusitana} Graff, 1957: 303)].

\textit{D. (A.) alpina mavrovensis} Sapkarev, 1971 (sometimes misspelt "alpina mavronensis").

\textit{D. (A.) alpina orientaloides} Zicsi, 1985 (sometimes elevated to species level).


\textit{D. alvaradoi} Moreno \textit{et al.}, 1982 (authors “Moreno, Benito and Diaz, 1982” sometimes cited as "Moreno, Jesus & Cosin Diaz" and dated "1983").

\textit{D. apora} Qiu & Bouché, 1998 [non \textit{Oc. aporus} Pop, V.V., 1989].

\textit{D. attemsi} (Michaelsen, 1902/3) [originally \textit{Helodrilus (Dendrobaena) atemnsi}].

\textit{D. auriculata} (Rosa, 1897) (\textit{skorikowi} Michaelsen, 1902).

\textit{D. auriculifera} Zicsi, 1969 [non \textit{D. auriculata} (Rosa, 1897)].


\textit{D. balcanica} (Cernosvitov, 1937) [originally \textit{Eisenia veneta balcanica} Cernosvitov, 1937; removed from synonymy of \textit{D. veneta veneta} and elevated to specific rank by Zicsi & Csuzdi (1986: 115): non. \textit{Eisenia rosea balcanica} Cernosvitov, 1942 (= \textit{A. leocernosvitovi} nom. nov.); miscited as "Dendrobaena balcanica


D. bosniaca Mrsic, 1988 (sometimes misdated as "1991").


D. byblica arsianica Kvavadze, 1985 [sometimes misspelt "arsianca"].

D. byblica byblica (Rosa, 1893) [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; thyrenus Baldasseroni, 1907; ganglbaueri daghestanensis Michaelsen, 1907 (sometimes dated as 1910); schelkovnikovi Michaelsen, 1907 [misdated "1900" and cited in Omodeoia by BIOSIS; 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: 440 - sometimes dated as 1979 and attributed as Omodeoia hyrcanica; misspelt "hurcanica" by Reynolds & Cook (1989: 18), and apparently overlooked by Easton (1983); this synonymy mostly from Csuzdi (2003); cf. D. ganglbaueri Rosa, 1894].

D. byblica herethica Kvavadze, 1985 [originally D. schelkovnikovi herethica Kvavadze, 1985: 155-157, sometimes transferred to Omodeoia - a junior synonym of Dendrobaena; the listing in Kvavadze (2000: 77) of both "D. byblica herethica" and "D. heretica" as separate taxa is a typing error and/or a mistake as the correct citation should be "Dendrobaena byblica herethica Kvavadze, 1985" as here, with no braces needed under ICZN (1999: Art.
51.3.2) as taxon remains in the same genus, E. Kvavadze pers. comm., (16.ii.2007); thus "D. heretica" is a lapsus calami and nomen nudum.


D. decipiens (Michaelsen, 1910) [originally Helodrilus (Eisenis) alpinus decipiens, put as sub-species (or synonym) of attemsi by some authors but elevated to species level by Omodeo & Rota (1989: 191)].


D. faucium (sic) Michaelsen, 1910.


D. gallurensis Rota, 1992 [originally D. cognettii gallurensis misspelt "cognetti gallurensis" in Qiu & Bouché (1998: 195); cf. D. cognettii (Michaelsen, 1903) in synonymy of D. pygmaea wherewithin this subspecies may also belong].

D. ganglbaueri Rosa, 1894 [restored from Easton's synonymy in D. byblica by Zicsi (1991: 168); it is not entirely certain what is the fate of its several subspecies, listed herein under D. byblica].


D. hauseri Zicsi, 1973 [misquoted as Bimastos by Easton (1983)].

D. heretica [nomen nudum; as listed in Kvavadze (2000: 77) as a typing error and/or mistake; see D. byblica herethica Kvavadze, 1985].

D. hortensis (Michaelsen, 1890: 15) (hibernica Friend, 1892; veneta tepidaria Friend, 1904; veneta dendroidea Friend, 1909; Allobophora veneta robusta Friend, 1909 [a permanently invalid primary homonym of Allobophora robusta Rosa, 1895 under ICZN (1999) that is not replaced as valid synonyms exist; found to be D. hortensis rather than D. veneta by Cszudi & Zicsi (2003: 119)]; birsteini Malevics, 1947; nicaensis Vedovini, 1971; pseudohortensis Sapkarev, 1976; [these last two synonyms in Cszudi & Zicsi (2003: 119)]. [Note: originally described as Allobophora 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. hrabei* (Cernosvitov, 1934) [originally *Eisenia veneta hrabei* Cernosvitov, 1934; retained in *Eisenia* in Easton (1983: 480) but placed in *Dendrobaena* by Zicsi & Csuzdi (1986: 119) and Qiu & Bouché (1998: 194); non *Eophila hrabei* Cernosvitov, 1935 (= *Allo lobophora hrabei*].


*D. illyrica* (Cognetti, 1906) (*illyricus hintzei* Michael sen, 1906/7; *bohemicus* Cernosvitov, 1931; non *Octodrilus illyricus* Mrsic, 1987).


*D. juliana auriculifera* Zicsi, 1969 [designation by Easton (1983)].

*D. juliana colloquia* Bouché, 1973 [originally subspecies *D. auriculifera colloquia* listed with specific status in Qiu & Bouché (1998: 195); Csuzdi (2003) has it as a synonym of *D. auriculifera*].


*D. kervillei* (Michael sen, 1910) [Michael sen twice described this species: as *Helodrilus* (*Eisenia*) *venetus* var. *kervillei* Michael sen, 1910, 166-167 and as *Eisenia veneta* var. *kervillei* Michael sen, 1926: 352 (non *Dendrobaena semitica* var. *kervillei* Michael sen, 1910: 167; 1926: 353 (= *D. semitica michaelseni* Easton, 1983 that is now in synonymy of *D. semitica* (Rosa, 1893)). Csuzdi & Pavlicek (2002: 110) elevated this taxon to specific status and include in synonymy a reference by Rosa (1893b) to his earlier *A. alpina* Rosa, 1884 [non *A. alpina armeniaca* Rosa, 1893a), although the species *D. alpina* (Rosa, 1884) is separate with no affinity with *D. kervillei* according to Cs. Csuzdi (2003 pers. comm.)].


[D. kozuvensis – see *Allo lobophora kozuvensis*].

*D. kurashvili* Kvavadze, 1971 [misspelt ”kuraschvili” by Perel (1979: 237)].


D. madeirensis Michaelsen, 1891 [retained in Allolobophora by Easton (1983)].

D. mahnerti Zicsi, 1974 [sometimes misspelt "manherti"].

D. mahunkai Csuzdi et al., 2008 in Csuzdi, Pavlicek & Misirlioglu, 2008: 351.

D. (Ca.) malevici Kvavadze, 1985 [(non Eisenia malevici Perel, 1962); originally D. schmidti malevici, this taxon was elevated to specific status and transferred to Caucasodrilus by Kvavadze (2003: 79) - see also D. marinae].

D. mamissonica Kvavadze, 1984 [sometimes misspelt "manissonica"].

D. (Ca.) marinae Kvavadze, 1985 [originally as D. schmidti marinae Kvavadze, 1985, elevated to specific rank in Omodeo & Rota (1989: 186) but erroneously listed as a sub-species of D. adaiensis by Qiu & Bouché (1998: 195); this species is claimed to be type of new sub-genus Caucasodrilus - see also D. malevici].

D. (A.) metallorum (Tétry, 1936) [miscited and misspelt as “mataorum Tertry, 1926” in Kvavadze (2000: 77)].


D. montenegrina Mrsic, 1988 (sic) [syn. mrsici Qiu & Bouché, 1998, non Dendrobaena montenigrina Karaman, 1972 nec Allolobophora kosowensis montenegrina Sapkarev, 1975. Note: Qiu & Bouché (1998: 195) provide the unnecessary replacement name D. mrsici for Mrsic's taxon erroneously believing it to have same spelling as Karaman's taxon; the single letter difference is not listed as acceptable for homonymy by ICZN (1999: Art. 58)].


D. mrazeki (Cernosvitov, 1935).

D. nassonovi Kulagin, 1889 [name misspelt "nasonowii" in Reynolds & Cook (1976); syns. mariupolienis 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 relicta Perel, 1967 (non Southern, 1909); mariupoliensis adjarica Kvavadze, 1973].


D. nivalis Omodeo & Rota, 1989 [miscited as "Omodeo, 1989" in Qiu & Bouché, 1998: 195; possibly has affinities with D. adaiensis (Michaelsen, 1900) or D. boneinensis (Michaelsen, 1910); non Bretscher, 1899].

D. octaedra (Savigny, 1826) (originally Enterion octaedrum, syns. vetaedrus (laps.): Dugès, 1837; octoedra (laps.): Rosa, 1887; 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; octaedra brevisella Bouché, 1972 [(non Sc. dugesi brevisella Bouché, 1972); overlooked by Easton (1983) and Qiu & Bouché (1998) but cited in Reynolds & Cook (1976: 81) and put in synonymy of D. octaedra, e.g, by Csuzdi & Zicsi (2003: 121)].

D. olympica olympica (Cernosvitov, 1938).


D. omodeoi Csuzdi et al., 2008 in Csuzdi, Pavlicek & Misirlioglu, 2008: 352.


D. pantaleonis panteleonis (Chinaglia, 1913) [D. pantaleonis balagnensis Bouché, 1972 this synonym from Omodeo & Rota (1989: 184)].


D. pentheri (Rosa, 1905) (schemachaensis Michaelsen, 1910).


D. pygmaea (Savigny, 1826) [non Dendrobaena arborea pygmaea Friend, 1923: 23 - this
D. ressli Zicsi, 1973 (probably a synonym of D. orientalis Cernosvitov, 1940).

D. rhodopensis (Cernosvitov, 1937).


D. saccharophila Qiu & Bouché, 1998 - species inquirenda [originally described as a sub-species of Stephenson's (1913) lacustris that is in synonymy of D. byblica according to Easton (1983) and Mrsic (1991), thus here elevated to specific status although it may equally be synonymous with D. byblica].

D. samarigera (Rosa, 1893) [nomen inquirenda - originally spelt samarigera but deliberately spelt "samariger" in Michaelsen (1900: 489, 495), non A. smaragdina Rosa, 1892; removed from Bimastos to Dendrobaena by Qiu & Bouché (1998) and by Csudzi & Pavlicek (1999)].


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.) schmidtii* 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 *schmidtii* 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. schmidtii* proper].


*D. surbiensis* (Michaelsen, 1910: 41) [originally *Helodrilus (Dendrobaena) schmidtii surbiensis*, elevated to specific rank in Omodeo & Rota (1989: 186); previously listed as *D. adaiensis surbiensis* (Michaelsen, 1910) by Easton (1983: 478, 486); cf. maintained, as originally, as *D. schmidtii surbiensis* (Michaelsen, 1910) by Csuzdi (2003, and pers. comm.) who believes Omodeo & Rota's (1989: 186) "*D. surbiensis*" is acutally a mistake for *D. schmidtii tellermanica* thereby probably requiring return of *D. surbiensis* to the ambit of *D. schmidtii*].
D. swanetiana Kvavadze, 1992 (sometimes misspelt "swanetianai").


D. velkovrhia Mrsic, 1988 (sometime spelt "velkovrhi" or "velkhrvria").

D. veneta meleica (Tzelepe, 1943) [retained by Easton (1983); listed as "nom. nud." by Qiu & Bouché (1998: 194); placed in synonymy of D. veneta veneta by Csuzdi (2003)].

D. veneta ochridana Sapkarev, 1977 (non Eiseniella ochridana Cernosvitov, 1931).

D. veneta veneta (Rosa, 1886: 674) [misspelt "venata" in Qiu & 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; svetlovia Grieb, 1948]]. [Note: A. veneta balcanica was elevated from synonymy of D. veneta to specific status by Zicsi & Csuzdi (1986: 115)].


Dendrodrilus Omodeo, 1956

Type species: Enterion rubidum Savigny, 1826.

De. rubidus rubidus (Savigny, 1826) [xanthurus Templeton, 1836; puter Hoffmeister, 1845; pieter Udekm, 1865; havaicus Kinberg, 1867 (sometimes misspelt Hypogaeon "havaicum"); victoris Perrier, 1872; arborea Eisen, 1874 - Reynolds & Cook (1976: 71) miscite a reference to this taxon as A. putris arborea by Michaelsen (1890: 49) as a different species; constricta Rosa, 1884; darwini Ribaucourt, 1896; putris subrubicunda var. helvetica Ribaucourt, 1896; magnesa Tzelepe, 1943]. [Omodeo & Rota (2004: 250) suggest reservation of the "name" D. rubidus constrictus "to the forms devoid of spermathecae" even though "forms" are deemed of infrasubspeific rank and are thereby excluded from the taxonomic code of ICZN (1999)].

De. rubidus norvegicus (Eisen, 1874: 48) [non norvegica Bretscher, 1899 (= Ap.
De. rubidus subrubicundus (Eisen, 1874: 51) [?valdiviensis Blanchard, 1849 - given questionable synonymy by Csuzdi & Zicsi (2003: 136) after Michaelsen (1900: 491), but if so this taxon would possibly compete for priority, cf. De. r. rubidus; fraisssei 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. nordenskioeldii according to Michaelsen (1900: 491) although in this latter synonymy he also includes darwini and helvetica under rubidus subrubicundus (cf. De. rubidus rubidus)].

De. rubidus tenuis (Eisen, 1874: 44) 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].

Dendrodriloides Kvavadze, 2000: 345
Type species: Eisenia grandis Michaelsen, 1907.
Notes: Sometimes cited as "Kvavadze, 1999" when paper was submitted. ICZN (1999: Art. 30.1.4.4) states “A compound genus-group name ending in suffix ... - oides ... is to be treated as masculine unless its author, when establishing the name, stated that it had another gender...”. Names of species transferred are changed to agree in masculine gender.

Di. ebneri (Michaelsen, 1914) (formerly Eisenia grandis ebneri).
Di. ganjiensis (Kvavadze, 1985) (formerly Eisenia grandis ganjiensis).
Di. grandis grandis (Michaelsen, 1907) (originally Eisenia grandis; placed in Eophila by Omodeo & Rota (1989), and mooted as Dendrobaena by Csuzdi & Zicsi (2003: 139) who appear to have overlooked Kvavadze's (2000) paper).
Di. grandis montanus (Michaelsen, 1910; 30) [originally Helodrilus (Eisenia) venetus
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. schmidti sub-species?).]

Di. grandis perelae (Kvavadze, 1973) [originally Eisenia grandis perelae later held as synonym of E. grandis, transferred and restored by Kvavadze (2000: 346); Reynolds & Cook (1992: 19) cite a synonym of "Eisenia perelae" as Eisenia perelae polysegmentica Kvavadze, 1979 (non Kvavadze, 1973)].

Di. grandis storkani (Cernosvitov, 1934) [previously as Eisenia grandis storkani but transferred by Kvavadze (2000: 346) after being restored from synonymy in Ap. rosea rosea by Zicsi & Csuzdi (1986: 119) where it was listed with uncertain affinities as ?Eisenia ?Dendrobaena grandis storkani (Cernosvitov, 1934)].

Di. hydrophilicus (Kvavadze, 1979: 143) [originally E. grandis hydrophilica; sometimes dated "1973" e.g. by Kvavadze (2000: 346)].

Di. kattoulasi (Zicsi & Michalis, 1981) [originally in Eisenia, included in Allolobophora by Omodeo & Rota (1989); misspelt "Katoulasi" and attributed to Omodeo (1956) by Kvavadze (2000: 345)].

Di. polysegmenticus (Kvavadze, 1973) [originally subspecies Eophila grandis polysegmentica, and then in synonymy of E. grandis, restored and transferred by Kvavadze (2000: 346) where name misspelt "polysegmentius"; sometimes also miscited as "Dendrodriloides polysegmentica Kvavadze, 1973"; non Eisenia perelae polysegmentica Kvavadze, 1979].

Di. supsaiensis (Kvavadze, 1985) [transferred and upgraded subspp. of E. grandis; misspelled as Di. grandis supsaensis in Reynolds & Cook (1992: 21)].

Di. thamarae (Kvavadze in Kvavadze and Nikolashvili, 1983) [name sometimes miscited as "thanarae" e.g. by Kvavadze (2000: 346)].

Eisenia Malm, 1877 (sensu Perel, 1974) [non Eisenia Vaillant, 1889 n.n. pro Tetragonurus Eisen 1874 (see Eiseniella); nec Eisenia Ashmead, 1904 (Hym.); [syn. Allolobophora (Notogama) Rosa, 1893 (type species Enterion fetidum Savigny, 1826: new designation to remove nomenclatural conflict by Easton, 1983)].
Type species: Enterion fetidum Savigny, 1826.

[Notes: three taxa, Eiseniona carpetana Alvarez, 1970, Eisenia veneta hrabei Cernosvitov, 1934 and Helodrilus longicinctus Smith & Gittins, 1915, were excluded from Eisenia by Perel (1974) but were provisionally retained in Eisenia by Easton (1983) since, at that time, they had not been assigned to other genera. Subsequently, carpetana was placed in Iberoscolex by Qi & Bouché (1998); E. veneta hrabei was decided as Dendrobaena hrabei by Zicsi & Csuzdi (1986: 119); and Easton (1983) apparently rejected, or was unaware of, the synonymy of Helodrilus longicinctus Smith & Gittins, 1915 in Allolobophora parva Eisen, 1874 tentatively advocated by Gates (1972: 85); some authors still retain this latter taxon in Bimastos or Eisenia. This genus name is also applied to brown algae under Botanical nomenclature].

E. altaica Perel, 1968 (originally E. nobilis altaica).
E. atlavinyteae Perel & Graphodatsky, 1984/5 [also misspelt "atlavinytae" and "Graphodastsky"].
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. bashkirica (Malevitch, 1950) [Gates (1972: 69) thought this taxon, overlooked by Easton (1983), would qualify for Aporrectodea].
E. djungarica (Perel, 1969).
E. fetida (Savigny, 1826) (foetida: Michaelsen, 1900 (illegal emendation); semifasciatus Burmeister, 1835; annularis Templeton, 1836; olidus Hoffmeister, 1842; luteus Blanchard, 1849; rubofasciatus Baird, 1873; annulatus Hutton, 1877 [non Perel, 1975 (= L. polyphemus)]; ruber Boeck, 1892 (?nom. nud.); costatus Grube, 1892 (?nom. nud.); fetida fimetoria Örley, 1881 [misspelt "fimetora" by Csuzdi & Zicsi, 2003: 143; non fimetorum Fitzinger, 1833]; nordenskioldi caucasica Michaelsen, 1902; fetida attica Tzelepe, 1943 [misspelt as "athica" by Reynolds & Cook (1976: 73)]; fasciata Backlund, 1948; fetida andrei Bouché, 1972 nom. nov. pro E. fetida var. unicolor André, 1963). [Note1: Eisenia foetida var. unicolor André, 1963: 1 was a varietal name proposed after 1961 and thus regarded as outside of ICZN nomenclature, this invalid name was replaced by Bouché (1972) as fetida andrei however, several synonyms of E. fetida if re-evaluated on types would seem to take priority. E. fetida andrei itself is placed in synonymy by Easton (1983) and Csuzdi & Zicsi (2003: 143) although
it is sometimes given separate specific status, but this is almost arbitrary between authors - see discussion of this in Blakemore (2002; 2006). Recently, Domingues et al. (2005) purported to show “reproductive isolation between E. andrei and E. fetida; they can therefore be considered distinct biological species with different life histories.” However, the starting point, even for this study was Spanish and Brazilian populations that were not differentiated by molecular, electrophoretic nor morphological analysis – presumably only striped or non-striped superficial colouration was used as the determinant. Furthermore, none of the samples in any study thus far are tested against vouchers nor types from the taxonomic type-localites (of primary species or synonyms), and thus the answer to their question remains less than certain. Similarly with the study by Perez-Losada et al. (2005). In another example, Cech et al. (2005: 95) say that a recent molecular analysis of “Eisenia andrei ... is most likely a misidentification error and actually Erseus & Kallersjo (2004) used in their analysis a specimen of Dd. subrubicundus” – but this identity too must be speculation. [Note2: References to taxa variously called “Eisenia foetida f. californica”, “Eisenia foetida forma californica” or “Eisenia fetida californica” etc. appear as unauthored infrasubspecifics or nomen nuda and are thus invalid names].

E. gordejeffi (Michaelsen, 1899).
E. intermedia (Michaelsen, 1901) (kazanensis Michaelsen, 1910; tanaitica Malevics, 1953). [Note: date mistyped as "1910" in Reynolds & Cook (1976: 118)].
E. iverica (Kvavadze, 1973).
E. japonica (Michaelsen, 1891) (japonica gigantica Oishi, 1934; japonica minuta Oishi, 1934).
E. koreana (Zicsi, 1972) [returned to original Eiseniella in Csuzdi (2003), cf. Easton (1983)].
E. kucenkoi Michaelsen, 1902 [dated "1903" by Perel (1979)].
E. lucens (Waga, 1857) (submontanus Vej dovsky, 1875/6; foetida hungarica Örley, 1881; tigrina Rosa, 1896; latens Cognetti, 1902; rosea croatica Szuts, 1909; gavrilovi Cernosvitov, 1942).
E. magnifica (Svetlov, 1957).
after Easton (1983: 480) but originally spelt "nordensiöldi" 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 "nordensiöldii" Eisen (1879: 46); name sometimes misspelt "nordenskioeldii", "nordenskjoldii", "nordensioldi", "nordensiöldii", or "nordenskjöldi" e.g. by Reynolds & Cook (1976: 145), or "nordenskioeldi" e.g. by Easton (1983: 480); misquoted as "Eisen, 1873" in Perel (1997: 69).

*E. nordensioldi* lagodechiensis Michaelsen, 1910 [returned to separate species level, by Ksavadze (1993)].

*E. nordensioldi* manshurica Kobayashi, 1940 misspelt as "nordensioldi f. manshurica" Kobayashi, 1940" by Perel (1997: 22).

*E. nordensioldi pallida* (Malevics, 1956) *species inquirenda*, overlooked by Reynolds & Cook (1976) and Easton (1983), cited in Perel (1979: 75, 267; 1997: 69, 70) as *E. nordensioldi pallida* Malevics, 1956 (non *pallida* Bestscherr, 1900) latterly with restoration of synonym *E. acystis* (Michaelsen, 1903) (sic) - this possibly a mistake as the priority would yield to *E. acystis* that possibly remains a synonym of the nominal subspecies; [originally *Helodrilus acystis* Michaelsen, 1902: 43 (non *Haplotaxis acystis* Michaelsen, 1903: 43)].

*E. nordensioldi* polypapillata Perel, 1969.

*E. olenica* (Pop, 1938) (syn. *colchidica* Perel, 1967); originally in *Eiseniella*.

*E. salairica* Perel, 1968.

*E. sibirica* Perel & Graphodatsky, 1985 [spelt as in Perel (1997: 24), sometimes misspelt "sibircia" and "Graphodastsky"].

*E. spelaea athenica* Cernosvitov, 1938 [misspelt as "spelea" and as "aetenica" e.g. by Qiu & Bouché, 1998:189 and overlooked by Reynolds & Cook (1976), and although cited by Reynolds & Cook (1992: 12), misdated as "1901"].

*E. spelaea spelaea* (Rosa, 1901) (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. 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), but polyploidy is common in parthenogenetic morphs].
E. transcaucasica breviclitelata Kvavadze, 1985 (name sometimes misspelt "breviclitellata").
E. transcaucasica transcaucasica (Perel, 1967).
E. uralensis (Malevics, 1950).

Type species: Enterion tetraedrum Savigny, 1826

Ei. eutypica (Michaelsen, 1910) [maintained separately from Ei. tetraedra].
Ei. ochridana ochridana Cernosvitov, 1931 (ochridana stankovici Cernosvitov, 1931; Allolobophora lacustris Cernosvitov, 1931 [non Helodrilus lacustris Stephenson, 1913 (= D. byblica); lacustris ochridana Cernosvitov, 1931].
Ei. ochridana profunda Cernosvitov, 1931: 97 (originally Eiseniella tetraedra var. ochridana forma profunda; synonym is lacustris naumi Cernosvitov, 1931).
Ei. tetraedra tetraedra (Savigny, 1826) [quadrangularis Risso, 1826; amphisbaena
Dugès, 1828; *agilis* Hoffmeister, 1843; *tetraedrus luteus* Eisen, 1871; *tetraedrus obscurus* Eisen, 1871; *dubius* Michaelsen, 1890; *tetragonurus* Friend, 1892; *flavus* Friend, 1893; *macrurus* Friend, 1893; *tetraedrus novis* Ribaucourt, 1896; *tetraedrus bernensis* Ribaucourt, 1896; *tetraedrus infinitesimalis* Ribaucourt, 1896; *tetraedra hammoniensis* Michaelsen, 1909; *mollis* Friend, 1911; *intermedius* (sic) Jackson, 1931 non Cernosvitov, 1934 (= *E. tetraedra cerni*); *tetraedra popi* Zicsi, 1960; *tetraedra proporandra* Qiu & Bouché, 1998 - placed in synonymy of *Ei. tetraedra* by Csuzdi & Zicsi (2003: 153).

*Ei. tetraedra phorogenesa* Qiu & Bouché, 1998 [Note: possibly a synonym of *hercynius* (= *E. tetraedra pupa*) - placed in synonymy of *Ei. tetraedra* by Csuzdi & Zicsi (2003: 153)].

*Ei. tetraedra pupa* (Eisen, 1874) (*hercynius* Michaelsen, 1890; *tetraedra quadripora* Cernosvitov, 1942). [Either in synonymy of *Ei. tetraedra* by Csuzdi & Zicsi (2003: 153), or (Csuzdi & Zicsi, 2003: 154, 157) maintained with separate subspecific status as *E. tetraedra hercynia*; these authors also say that the only differences of several *tetraedra* morphs are the locations of the male pores, thus possibly just varieties rather than (sub)species].

*Eisenoides* Gates, 1969

Type species: *Allolobophora lönnergi* Michaelsen, 1894 (corr. *lonnbergi*).

[As with *Bimastos*, this is a wholly North American genus].

*Es. carolinensis* (Michaelsen, 1910) (*pearsei* Stephenson, 1933).

*Es. lönnergi* (Michaelsen, 1894: 179). **Emend.** [originally *lönnbergi*, sometimes spelt "loennbergi" but, as the name is of Scandinavian rather than German origin (named for collector Dr Einar Lönnberg), under ICZN (1999: Art: 32.5.2.1) it is corrected to "o" with only the diacritic removed rather than changed to "oe"].

*Eophila* Rosa, 1893 [syn. *Heraclescolex* Qiu & Bouché, 1998: 140 - this genus was poorly differentiated from the prior genera *Allolobophora* Eisen, 1874 and/or *Eophila* but because its type-species, *Allolobophora moebii* Michaelsen, 1895, was accommodated in *Eophila*, it was made “syn. nov.” of *Eophila* by Blakemore (2004: 99). More recent placement of this type-species, *A. moebii* Michaelsen, 1895, in synonymy of
Allolobophora molleri Rosa, 1889 by Trigo et al. (1990) is not accepted here and molleri is retained, at least provisionally, in Eophila along with its subspecies. Both moebii moebii (Michaelsen, 1895) and molleri (Rosa, 1889) were placed in Eophila by Easton (1983: 481), and several new subspecies of these proposed by Qiu & Bouché (1998) were transferred from Heraclescolex to Eophila by Blakemore (2004: 100). Independently, Csuzdi & Zicsi (2003: 102) reversed Qiu & Bouché’s attempted placement of Ap. dubiosa in Heraclescolex and further noted that their genus was not “robust enough” taxonomically.

Type species: Allolobophora tellinii Rosa, 1888.


Note: Omodeo & Rota (2004: 230) claim that Alpodinaridella, Italobalkaniona, Karpatodinariona and Serbiona are new synonyms of Eophila, but they apparently avoided inspection of types (except for “topotypes” that are ungoverned by ICZN, 1999) and they overlooked the sub-genus and the Heraclescolex synonym. Moreover, Omodeo & Rota (2004: 230) overlooked the Dinardella sub-genus of Alpodinaridella as well as Easton’s prior Perelia synonymy. Their conclusions are therefore not wholly acceptable herein, pending further review based on inspection of types and more thorough literature searches. Cf. Csuzdi & Pavlicek (2005a).

Eo. asconensis asconensis (Bretscher, 1900).
Eo. asconensis silvatica (Zicsi, 1976) [Qiu & Bouché (1998a: 192) thought this species was incertae sedis].
Eo. eti Blakemore, 2008.
Eo. kioniona (Qiu & Bouché, 1998: 146) (originally Heraclescolex kionionus).
Eo. moebii moebii (Michaelsen, 1895) species inquirenda [syn. moebii tenerifana Cognetti, 1931; formerly in Allolobophora, A. moebii was placed in synonymy of A. molleri by Trigo et al. (1990: 535) but because the fates of the subspecies were undecided, it is retained in Eophila, at least temporarily, as per Easton (1983)].
Eo. moebii michaelensi (Qiu & Bouché, 1998: 146).
(1999: Arts. 19.3, 24.2.3, 32.2.1, 32.4) the name was formally fixed by Blakemore (2004: 100) as *talaverai* as the authors' state the name is for a Dr Talavera Sosa).

*Eo. molleri abylana* (Qiu & Bouché, 1998: 142) (originally spelt "abylanus").

*Eo. molleri molleri* (Rosa, 1889) [syn. *Allolobophora fernandae* Graft, 1957 by Trigo et al. (1990: 535); cf. *Eo. moebii*].

*Eo. molleri palmensis* (Qiu & Bouché, 1998: 143) [non *Postandrilus palmensis* Qiu & Bouché, 1998].

*Eo. molleri salobrenana* (Qiu & Bouché, 1998) (originally spelt "*Heraclescolex molleri salobrenanus*").

*Eo. molleri sefia* (Qiu & Bouché, 1998: 141) [originally spelt "*Heraclescolex molleri sefia*" (sic); misspelt "sifia" by Bouché et al. (2004: 391)].

*Eo. rifana* (Qiu & Bouché, 1998) [syn. *rifanus rosanus* Qiu & Bouché, 1998 (sic); name originally spelt "*Heraclescolex rifanus rifanus*", non *Helodrilus rifensis* Qiu & Bouché, 1998].

*Eo. postsellis* (Qiu & Bouché, 1998).

*Eo. tellinii* (Rosa, 1888) [name sometimes spelt "tellini"; miscited as "Rosa, 1886" in Easton (1983: 481), or as "Rosa, 1894" in Qiu & Bouché (1998: 187); the correct authority, from Michaelsen (1900: 500), Reynolds & Cook (1976: 178) is *tellinii* Rosa, 1888: 1].


*Eo. (Tr.) cavazzutii pascuorum* Omodeo, 1988.

**Ethnodrilus** Bouché, 1972

Type species: *Ethnodrilus zajonci* Bouché, 1972.

*Et. aveli* Bouché, 1972.

*Et. gatesi* Bouché, 1972.

*Et. lydiae* Bouché, 1972.

*Et. setusmonsanus* Qiu & Bouché, 1998. **Emend.** [variously misspelt from Qiu & Bouché (1998:1) as "setusmontanus" or "setusmonsana" or "setusmonspeessulensis", under ICZN (1999: Arts. 19.3, 24.2.3, 32.2.1, 32.4) the name was formally fixed by Blakemore (2004: 101) as *setusmonsanus*].

*Et. zajonci* Bouché, 1972.
Type-species: *Eumenescolex heideti* Qiu & Bouché, 1998.

**Eu. emiliae** Qiu & Bouché, 1998.
**Eu. gabriellae gabriellae** (Omodeo, 1984) [formerly *Eiseniona gabriellae*].
**Eu. gabriellae gallurae** (Omodeo, 1984) [Qiu & Bouché (1998) overlook this subspecies].
**Eu. heideti** Qiu & Bouché, 1998.
**Eu. pereli** (Bouché, 1972) [formerly *Allolobophora pereli* and quoted as “*Allolobophora* (sensu lato) perelae (correction pro *pereli*) Bouché 1972” by Baha & Berra (2001: 90) and see Omodeo *et al.* (2004) (non Kvavadze, 1973), however the change to “perelae” is possibly illegal, cf. *festae, antipae*].
**Eu. proclitellatus** Pérez- Onteniente & Rodriguez-Babio, 2004 ; 55-61.
**Eu. simplex** (Zicsi, 1981) (formerly *Allolobophora corsicana simplex*).

**Fitzingeria** Zicsi, 1978 [misspelt "Fitzingseria" by Qiu & Bouche (1998: 2)].
Type species: *Enterion platyurum* Fitzinger, 1833.

**F. annectens** (Rosa, 1895) (originally as *Allolobophora ganglbaueri annectens*; in synonymy of *D. byblica* (Rosa, 1893) in Easton (1983: 478); restored following examination of types by Zicsi & Pop (1984: 246), as cited by Qiu & Bouché (1998: 198) and by Csuzdi (2003)).
**F. 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)].
**F. platyura montana** (Cernosvitov, 1932) [non *Ot. montanum* (Wessley, 1905)].
**F. platyura platyura** (Fitzinger, 1833) (terrestris platyurus Örley, 1881; oerleyi Horst, 1887; fitzingeri Beddard, 1895).
**F. viminiiana** Mrsic, 1986.
Type species: *Allolobophora syriaca* Rosa, 1893. This genus characterized by male and female pores in setal *ab* lines rather than *bc* as is all other known lumbricid species.
[Note: Omodeo & Rota (1989: 173) thought that *Helodrilus* (*Bimastus*) *indicus* Michaelsen, 1907 may also belong in the genus perhaps because Stephenson (1923: 506) said it seems to be closely allied to *H. syriaca* (Rosa, 1893). However, this taxon, said to be a synonym of *A. rosea* by Gates (1972: 107), was nevertheless retained in *Dendrobaena* by Easton (1983), by Qiu & Bouché (1998:194), and by Cs. Csuzdi (2003 pers. comm.) who informs me that “I have seen the two type specimens. It seems a distinct species with unknown origin”. It is unlikely to be native to India].


*H. jordanis* (Csuzdi & Pavlicek, 1999). **Comb. nov.** [originally included in *Bimastos*, this transfer suggested by Cs. Csuzdi (2003, pers. comm.)].

*H. kossiwigi* (Omodeo, 1952). [Note: this taxon was put in synonymy of *syriaca* by Easton (1983) but was revived by Omodeo & Rota (1989: 174)].


*H. syriaca* (Rosa, 1893) (syn. *atheca* Cernosvitov, 1940) [formerly as *Bimastos syriacus*].


*Helodrilus* Hoffmeister, 1845 [syns. *Helodrylus* Udekem, 1855 (lapsus pro *Helodrilus*); *Anagaster* Friend, 1921 (type species: *Anagaster fontinalis* Friend, 1921 (= *H. oculatus*))].
Type species: *Helodrilus oculatus* Hoffmeister, 1845.
Sub-genus: *Acystodrilus* Qiu & Bouché, 1998a (type-species *Helodrilus cortezi* Qiu & Bouché, 1998.)
He. balcanicus balcanicus (Cernosvitov, 1931) [syn. Allolobophora macedonica Sapkarev, 1971 - non Allolobophora rosea macedonica Rosa, 1893 (the primary homonym is not replaced as a valid synonym exists as per ICZN (1999: Art. 60) non Eophila macedonica Sapkarev, 1977 (= Italobalkaniona macedonica), nec Dendrobaena macedonica Mrsic, 1991. Note: Easton (1983: 476) appears to retain this taxon in Allolobophora as "A. balcanica balcanica (Cernosvitov, 1942)" but he may have confused it with A. rosea balcanica Cernosvitov, 1942 that he cites on page 477. Qiu & Bouché (1998: 197) list the taxon as "Helodrilus balcanica balcanica (Cernosvitov, 1931)"].

He. balcanicus plavensis (Karaman, 1972).

He. cartlicus Kvavadze, 2000: 82.


He. colchicus Kvavadze, 2000: 82 [possibly synonym of widely distributed and variable He. patriarchalis (Rosa, 1893) - Cs. Csuzdi, pers. com., cf. He. zicsianus].

He. (Ac.) cortezi Qiu & Bouché, 1998.

He. deficiens Zicsi, 1985.


He. duhlinskae Zicsi & Csuzdi 1986.

He. hachiojii Blakemore, 2007.

He. italicus Zicsi, 1985.


He. kratochvili (Cernosvitov, 1937).

He. mozsaryorum (Zicsi, 1974) [sic - meaning "of the Mozsarys", sometimes misspelt "mozsariorum"].

He. (Ac.) musicus Qiu & Bouché, 1998.

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

He. oculatus samriticus Cognetti, 1914: 3 [oculatus dudichi Pop, 1943: 14; (a further possibly synonym is the homonym Allolobophora samnictica Pop, 1943: 14); massiliensis Bartoli, 1962 (regaded as valid by Omodeo & Rota, 2004: 239); non Hormogaster praetiosa samnictica Cognetti, 1914: 2]. [Note: the taxa samnicticus and massiliensis apparently overlooked by Qiu & Bouché (1998)].

He. ospensis Mrsic, 1991.

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

*He. phillipei* Qiu & Bouché, 1998 [sometimes misspelt "philippei"].

*He. (Ac.) putricolus orionensis* (Zicsi, 1977) [name sometimes spelt "orionense" or "orionse"; transferred to *Helodrilus* by Zicsi & Csuzdi (1999: 991)].

*He. (Ac.) putricolus putricolous* (Bouché, 1972).

*He. (Ac.) rifensis* Qiu & Bouché, 1998.

*He. (Ac.) segalensis* (Bouché, 1972).


*He. turquini* Qiu & Bouché, 1998.


*He. zicsianus* Kvavadze, 2000: 83 [possibly synonym of widely distributed and variable *He. patriarchalis* (Rosa, 1893) - Cs. Csuzdi, pers. com., cf. *He. colchicus*].

*Iberoscolex* Qiu & Bouché, 1998a


*I. albolineatus* (Diaz, *et al.*, 1989) [originally in *Eiseniona albolineata* in Diaz, Trigo & Mato, 1989; citation is Diaz rather than "Diaz Cosin" or "Cosin"].


*I. pseudoroseus* (Moreno *et al.*, 1982) [originally *Dendrobaena pseudorosea* (sic), sometimes misspelt "pseudorosea"; authors "Moreno, Jesus et Diaz Cosin, 1982", sometimes cited as “Moreno, Benito and Diaz, 1982” or “1893"].

*Italobalkaniona* Mrsic & Sapkarev, 1988

Type species: *Eophila pyrenaicoides* Sapkarev, 1977.
Note: cf. *Eophila* and *Karpatodinariona*.

*It. demirkapiae* (Karanen, 1969).


*It. macedonica* (Sapkarev, 1977) [originally *Eophila macedonica* Sapkarev, 1977, non *A. rosea macedonica* Rosa, 1893 (= *Aporrectodea rosea*) nec its junior homonym *Allolobophora macedonica* Sapkarev, 1971 (= *H. balcanicus*)].

*It. pyrenaicoides* (Sapkarev, 1977).


*Karpatodinariona* Mrsic & Sapkarev, 1988: 19

Type species: *Allolobophora altimontana* Mrsic, 1982.

Note: Omodeo & Rota (2004: 230) claim *Karpatodinariona* a syn. nov. of *Eophila*.

*K. altimontana* (Mrsic, 1982).

*Kritodrilus* Bouché, 1972

Type species: *Octolasion calarense* Tétry, 1944.
[Note: in the last review, Qiu & Bouché (1998) only retained the type species, whereas Perel (1976; 1979) had added *A. auriculata* Rosa, 1897, and Omodeo & Rota (1989) had advocated adding *osellai, ruffoi, pseudorrosea, and crassa*].

*Kr. calarensis* (Tétry, 1944) [misspelt "calcarensis" in Easton (1983: 482).


Type species: *Lumbricus terrestris* Linnaeus, 1758.

*L. badensis* Michaelsen, 1907.

*L. baicalensis* Michaelsen, 1900 (*duegelii* Bretscher, 1903 - sometimes spelt "duggelii" or "düggelii"; *pusillus* Wessely, 1905).

*L. castaneus* (Savigny, 1826) [*pumilum* Savigny, 1826; *triannularis* Grube, 1851; *minor* Johnston, 1865 (non Pennant, 1766); *josephinae* Kinberg, 1867; *purpureus* Eisen, 1871; *pumilosum* Beddard, 1895 (lapsus); *castaneus morelli* Ribaucourt, 1896; *castaneus perrieri* Ribaucourt, 1896; *rubescens* Bretscher, 1900 (miscited as "brunesce" by Reynolds & Cook, 1976: 82); *castaneus disjunctus* Tétry, 1936; *castaneus pictus* Chandebois, 1957; *castaneus rubelloides* Hidvegi & Jesens, 1990/1 - this latter synonym from Csuzdi & Zicsi (2003: 178) and ION website. Zicsi (1965: 267) under *Lumbricus castaneus* listed a name "*L. castaneus v. corinthius* .. Koralpe don. GANGLEBAUER" in Vienna Museum, but this is inquirenda, possibly a manuscript name outside of nomenclature as I can find no other listing, even though Ganglbauer (1896) described a Coleopteran as "carinhiacus"].

*L. centralis* Bouché, 1972.

*L. festivus* (Savigny, 1826) (*omilurus* Templeton, 1836; *rubescens* Templeton, 1836).

*L. friendi bouchei* Zicsi & Csuzdi, 1999: 988. [A subspecies named on new material found to be the same as that given the invalid varietal name "*L. friendi var. lineatus*" by Bouché (1972: 357) - possibly validated by subsequent citation (e.g. by Reynolds & Cook, 1976: 128 although Qiu & Bouché, 1998 make no mention of this subspecies); herein also determined as a primary homonym of


Microeophila Omodeo, 1956 [originally a sub-genus of Allolobophora elevated by some authors, e.g. by Easton (1983: 482)]. Type species: Eophila marcuzzii Omodeo, 1952.


*M. sotschiensis* (Michaelsen, 1902).

*Murchieona* Gates, 1978
Type species: *Allolobophora minima* Muldal, 1952 (= *Mu. muldali*).

*Mu. minuscula* (Rosa, 1905/6) [icenorum Pickford, 1926; miscited as "icenarum" by Reynolds & Cook (1976: 115); more often dated "1906"].
*Mu. muldali* (Omodeo, 1956) [nom. nov. pro *Allolobophora minima* Muldal, 1952 non *A. minima* Rosa, 1884 (= *Dendrobaena pygmaea*); the fate of *Allolobophora muldali* var. *pickfordi* Bouché, 1972 illegitimate varietal name is unknown. Note: *Mu. muldali* was resurrected from synonymy in *Mu. minuscula* by Zicsi & Csuzdi (1999: 990)].

*N. andaluciana* Qiu & Bouché, 1998: 103 [misspelt "andalousia" Bouché et al., 2004: 386; Csuzdi (pers. comm. and http://earthworm.uw.hu/) lists *Reynoldsia andaluciana* Qiu & Bouché, 1998 as syn. of *Ei. neapolitana* (Orley, 1855)].

*Octodriloides* Zicsi, 1986
Type species: *Octolasium (Octodrilus) kovacevici* Zicsi, 1970
O. aelleni (Zicsi, 1979).  
O. benhami (Bretscher, 1900).  
O. besucheti (Zicsi, 1979).  
O. binderi (Zicsi, 1979).  
O. boninoi (Omodeo, 1962).  
O. eubehemi (Zicsi, 1971).  
O. janetscheki (Zicsi, 1970) (sometimes misspelt "janatscheki").  
O. kamnensis (Baldasseroni, 1919) [originally Octolasium (Octodrilus) kamnense; or O. complanatum kamnensis; sometimes misspelt "camnensis"].  
O. kovacevici (Zicsi, 1970).  
O. omodeoi (Zicsi, 1982) [possibly a variety of Oc. hemiandrus].  
O. phaenohemiandrus (Zicsi, 1971) [possibly a variety of Oc. hemiandrus].  
O. pokloensis Mrsic, 1991 (sometimes misspelt "poklonensis").  
O. pseudokovacevici (Zicsi, 1971) [Originally in Octolasium (sic)].  

Octodrilus Omodeo, 1956 (sensu Zicsi & Sapkarev, 1982) [syn. Octolasion (Purpuraeum) Omodeo, 1952 (type species Allolobophora lissaensis Michaelsen, 1891) - although this subgenus has strict priority, it was suppressed in favour of the nominal subgenus by ICZN (1986) Opinion No. 1403 according to Csuzdi & Zicsi (2003: 191, 206)].

Type species: Lumbricus complanatus Dugès, 1828.
Oc. aporus Pop, V.V., 1989 [non D. apora Qiu & Bouché, 1998].
Oc. argoviensis (Bretschener, 1899) (syn. Octolasium croaticum eutypicum Pop, 1947).
Oc. besucheti Zicsi, 1979 [misspelt "besncheti" in Easton (1983: 483), not to be confused with Oc. bretscheri].
Oc. bihariensis bihariensis Pop, V.V., 1989.
Oc. bihariensis rendzinicola Pop, V.V., 1989.
Oc. bretscheri (Zicsi, 1969) (not to be confused with Oc. besucheti).
Oc. complanatus (Dugès, 1828) [misspelt "Octodrilus camplatanus" by Bouché et al. (2004: 391)].
Oc. compromissus compromissus Zicsi, & Pop, V.V., 1984 (sometimes "1983").
Oc. compromissus minimus Pop, V.V., 1989.
Oc. croaticus (Rosa, 1895) (originally spelt liassaensis croaticum).
Oc. damianii (Cognetti, 1905) [removed from Octochaetiodes e.g. by Omodeo & Rota (2004: 246); possibly a variety of Oc. hemiandrus].
Oc. exacystis exacystis (Rosa, 1896).
Oc. exacystis oresbius Pop, V.V., 1989.
Oc. exacystis meziadensis Pop, V.V., 1989.
Oc. frivaldszkyi (Örley, 1885).
Oc. gradinescui (Pop, 1938: 151) [misidentified as Oc. exacystis by Zicsi (1967) according to Csuzdi & Zicsi (2003: 208)].
Oc. hemiandrus (Cognetti, 1901). [Originally Octolasium hemiandrum; highly variable species; sometimes misspelt "hemiander"].
Oc. illyricus Mrsic, 1987 [non Dendrobaena illyrica (Cognetti, 1906)].
Oc. lissaensioides (Zicsi, 1971) (highly variable, possibly a variety of Oc. lissaensis; name sometimes misspelt "lissaensiodes").
Oc. lissaensis (Michaelsen, 1891).
Oc. maghrebinus trigintus Omodeo & Martinucci, 1987 (originally spelt “triginta”).
Oc. marenzelleri (Michaelsen, 1910)
Oc. mimus (Rosa, 1889) [previously Octolasion mima and sometimes still mis-cited as
"Octodrilus mima" eg. on
http://www.faunaitalia.it/checklist/invertebrates/families/Lumbricidae.html].

Octodrilus mima

Oc. oesophagus Mrsic, 1991 (name sometimes misspelt "oesopgagus").
Oc. ophiomorphus Pop, V.V., 1989.
Oc. ortizi (Alvarez, 1970).
Oc. permagnus Pop, V.V., 1989.
Oc. pseudocomplanatus (Omodeo, 1962) (originally Oc. kamense pseudocomplanatus).
Oc. pseudolissaensis Mrsic, 1991 (non pseudolissaensioides Zicsi, 1994; name sometimes misspelt "pseudolissaensis").
Oc. pseudotranspadanus (Zicsi, 1971).
Oc. slovenicus Karaman, 1972 (originally Octolasium mima slovenica).
Oc. tergestinus (Michaelsen, 1910).
Oc. transpadanooides Zicsi, 1981/2.
Oc. transpadanus (Rosa, 1884) [opimum Savigny, 1826 (part.); transpadana cinerea Rosa, 1886; cyanea recta Ribaucourt, 1896; sulfurica Ribaucourt, 1896; nivalis Bretscher, 1899; transpadanum alpinum Bretscher, 1905; often misspelt "Octodrilus transpandanum"].
Oc. vallorus (Baldasseroni, 1920).

Octolasion Örley, 1885 [syn. Alyattes Kinberg, 1867 (type species: Lumbricus alyattes Kinberg, 1867 (= O. cyaneum) - Sims (1983: 470; 1984) discusses reasons for the non-priority of this synonym); Octolasion Ribaucourt, 1896 (lapsus); Octolasium Michaelsen 1900 (invalid emendation of Octolasion); Octolasion Cognetti, 1905 (lapsus); Octolasion (Incolore) Omodeo, 1952 (type species: Lumbricus terrestris
lacteus Örley, 1881].

Type species: Lumbricus terrestris var. lacteus Örley, 1881 (subsequent designation: Omodeo, 1956; non Omodeo, 1952 - by ICZN Nom. Opinion No. 1403). [Note: Citations of type species as “O. lacteum” Örley, 1885 = Enterion tyrtaeum Savigny, 1836” e.g. by both Gates (1972: 123) and Reynolds (1977), are incorrectly dated but follow the synonymy of Cernosvitov (1931: 203); and whereas Sims (1983: 471) after Bouché (1972) says O. tyrtaeum has two French subspecies: O. tyrtaeum tyrtaeum (Savigny, 1826) and O. t. gracile (Örley, 1885), Easton (1983: 483) lists both O. lacteum (Örley, 1881) and O tyrtaeum (Savigny, 1826) as valid names, with O. gracile (Örley, 1885) a junior synonym of the latter species. It seems the subsequent listing by Qiu & Bouché (1998: 192) of these latter two as sub-species is a mistake for O. lacteum according to Csuzdi & Zicsi (2003: 197) but in this latter publication, O. tyrtaeum is ignored and its characteristics are included in a wide concept of O. lacteum. For more information, see below and see also discussion in Blakemore (2002: 342)].

Ot. 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 re-elevated to specific status rather than sub-specific; Dendrobaena jeanneli Pop, 1948 – this synonym from Csuzdi & Pop, 2007a].

Ot. lacteovicinum Zicsi, 1968 (sometimes misspelt ”lacteovicinus”).

Ot. lacteum lacteum (Örley, 1881: 584) [terrestris rubidus Örley, 1881: 584 (also cited later by Örley, 1885: 21); profuga Rosa, 1884; cyanegra profuga sylvestris Ribaucourt, 1896; himalayana Cernosvitov, 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].


Ot. montanum (Wessely, 1905) [non Ot. montanum Cernosvitov, 1932 (= Fitzingeria platyura montana)].

their concept of *lacteum*; *Allolobophora tyrtaea* Ribaucourt, 1896: 78 [that would be a junior secondary homonym if it were a synonym (cf. *H. antipae*) according to Gates (1972: 128) who also noted that *tyrtaea* may equally well be a synonym of *cyaneum* and further that Cernosvitov (1931) had previously recognized Savigny's *tyrtaea* was the same as Örley's *lactaeum* although Csuzdi & Zicsi (2003: 198, 224) (erroneously?) have *Enterion tyrtaeum* as a *species incertae sedis*, place *gracile* in synonymy of *lactaeum*, and appear to overlook *Allolobophora tyrtaea]. Qiu & Bouché (1998: 192) cite and misspell name as "*tyrtaeum tyrtaeum*".

*Orodrilus* Bouché, 1972
Type species: *Helodrilus (?Dendrobaena, ?Allolobophora) doderoi* Cognetti, 1904, cf. page prior *Or. paradoxus*, if indeed in synonymy.

*Or. doderoi* (Cognetti, 1904: 6) [put in synonymy of *paradoxus* in Csuzdi (2003)].

*Or. gavarnicus* (Cognetti, 1904).

*Or. paradoxus paradoxus* (Cognetti, 1904: 4) (non Mrsic, 1992).

*Or. paradoxus magnei* Bouché, 1972 [misspelt "paradorus magnei" in Qiu & Bouché (1998: 196)].

*Or. septumperforatus* Galar & Diaz Cosin, 1993.


Type species: *Eophila arnoldiana* Perel, 1971.

*P. aharonii* (Stephenson, 1922) [new combination by Csuzdi & Pavlice (2005a: 79)].

P. agatschiensis (Michaelsen, 1910).
P. arnoldiana (Perel, 1971).
P. biokovica (Mrsic, 1986) [new combination from Csuzdi & Pavlicek (2005a)].
P. chlorocepha (Perel, 1977).
P. ferganae (Malevics, 1949) [brunnea Perel, 1971 (this synonym from Csuzdi, 2003)].
P. gestroi (Cognetti, 1905: 114). **Comb. nov., species inquirenda** [formerly Alpodinaridella (Alpodinaridella) gestroi; syns. laurentii Chinaglia, 1910; chinagliae Baldasseroni, 1919 - misquoted as "chinagliae Baldscher, 1919" in Easton (1983: 481) who gives these synonyms but who lists the taxon as Eophila gestroi (Cognetti, 1905) cf. Qiu & Bouché (1998a: 202) who have "gestri Cognetti, 1905" or Qiu & Bouché (1998: 187) "gestroi (Cognetti, 1906)" and "gestrii (Cognetti, 1906)" or Qiu & Bouché (1998: 192) who cite "gestri Cognetti, 1906" and who completely overlook the synonyms above; whereas BIOSIS/ION gives the citation: Helodrilus (Eophila) gestri Cognetti, 1905, but nothing for "gestroi"; non "Helodrilus gestroi Ude, 1905" a nomen nudum or miscitation by Reynolds & Cook (1976: 106). Note: Dr Csaba Csuzdi (2003 pers. comm.) states the correct name is gestroi Cognetti, 1905 - an emendation from Cognetti’s lapsus "gestri", possibly named after his contemporary Prof. Raffaello Gestro of Genoa. Recently it was suggested by Omodeo & Rota (2004: 231) that this taxon, cited as "gestri", be synonymized in Eophila schneideri (Michaelsen, 1900) and although the laurentii synonym was noted, they overlooked the chinagliae synonym and avoided inspection of types thereby leaving residual uncertainty. Because this taxon was type of Alpodinaridella as subsumed in Perelia by Csuzdi & Pavlicek (2005a: 77), it is consequently reallocated herein as a new combination in Perelia; however Csuzdi & Pavlicek (2005a: 78) did not explicitly state they inspected types nor new material of this taxon therefore some slight doubt remains. Cf. A. gestroides].
P. ghilarovi (Malevics, 1949).
P. graciosa (Perel, 1977).
P. hatayica Csuzdi et al., 2008 in Csuzdi, Pavlicek & Misirlioglu, 2008: 357.
P. kaznakovi (Michaelsen, 1910) (asiatica Malevics, 1949).
P. kirgisica (Perel, 1971).

P. longoclitellata (Perel, 1977).


P. media (Perel, 1977).

P. microtheca (Perel, 1977).

P. muganiensis (Michaelsen, 1910) (originally Helodrilus schneideri muganiensis).

P. ophiomorpha (Perel, 1977).

P. persiana (Michaelsen, 1900).

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

P. shamsi Csuzdi & Pavlicek, 2005a: 84.

P. sokolovi (Perel, 1969).

P. stenosoma (Perel, 1977).

P. schneideri (Michaelsen, 1900) (sometimes misdated as "1910") [Omodeo & Rota (2004: 231) have this species in Eophila and put H.(E.) gestri Cognetti, 1905, E. laurentii Chinaglia, 1909 and "Allolobophora gestroi : Zicsi, 1970; 1981" in synonymy but none of the new synonyms were necessarily confirmed by inspection nor, where necessary, by designation of types].

P. taschkentensis (Michaelsen, 1900).

P. tuberosa (Svetlov, 1924) (baschirica Malevics, 1950) [in Eiseniella in Csuzdi (2003)].

P. turcmenicum (Malevics, 1941) [misspelt "turkmenica" by Perel (1979: 83) and Easton (1983: 484) and "turcmencum" by Qiu & Bouché (1998: 191)].

P. umbrophila (Perel, 1977).

Pietromodeona Qiu & Bouché, 1998a: 194 (sic) [named for Pietro Omodeo].

Type species: Helodrilus (Eophila) januae-argenti Cognetti, 1903.

[Note: Qiu & Bouché (1998: 187) only tentatively add other species to the genus].

?Pi. apuliae (Baldasseroni, 1913) [regarded as a synonym of Pi. januae-argenti by Omodeo & Rota (2004: 235)].

Pi. januae-argenti januae-argenti (Cognetti. 1903) [Name misspelt "jaunae-argenti" by Reynolds & Cook (1976: 120) and misformed under ICZN (1999 Art.: 32.5.2) as "januae-argenti" in Qiu & Bouché (1998a: 194; 1998: 187); cf. Easton
(1983: 481) who cites name as here.

**?Pi. jaunaeargentii sarda** (Michaelsen, 1910) [*Helodrilus (Eophila) sardus* Michaelsen, 1910 was regarded as a synonym of *Pi. jaunaeargentii* by Omodeo & Rota (2004: 235)].

**?Pi. osellai** (Zicsi, 1981) [formerly *Allolobophora osellai*, transferred to *Italobalkaniona* by Mrsic (1991); Note: BIOSIS has name as both "osellai" or "osselai"; Qiu & Bouché (1998a: 192) have "oselai Zicsi, 1981", but this taxon listed by Easton (1983: 476) as "osellai Zicsi, 1981"; non *Dendrobaena osellai* Zicsi, 1970].

**Postandrilus** Qiu & Bouché, 1998a: 211.

**Po. lavellei** Qiu & Bouché, 1998.
**Po. palmensis** Qiu & Bouché, 1998.
**Po. sapkarevi** Qiu & Bouché, 1998 [non *Allolobophora sapkarevi* Easton, 1983].
**Po. (Ga.) bertae** (Diaz, et al. in Diaz, Mato & Mascato, 1986) [often cited as Diaz rather than "Diaz Cosin"; sometimes dated "1985"].
**Po. (Me.) majorcanus** Qiu & Bouché, 1998.
**Po. (Me.) medoakus** Qiu & Bouché, 1998.

**Prosellodrilus** Bouché, 1972
Type species: *Prosellodrilus idealis* Bouché, 1972.
new taxon” (type-species not explicit, possibly Prosellodrilus doumandjii Baha & Berra, 2001 or the other species they suggested including “P. (M.) festai” (= Allobolophora festae Rosa, 1892) – however these latter authors seem to have ignored the previously suggested sub-genera, and, moreover all these sub-genera probably require revision and may be unwarranted, cf. Omodeo et al. (2003) who appear to accept this subgenus].

Pr. albus Zicsi & Csuzdi, 1999.
Pr. arericolus Qiu & Bouché, 1998 [emed. nov. of original "arericola" (sic)].
Pr. biserialis Bouché, 1972 (formerly Pr. fragilis biserialis; non Cernosvitov, 1937).
Pr. calcicola Qiu & Bouché, 1998 [emed. nov. of original "calcicola" (sic)].
Pr. dactylotheucus Qiu & Bouché, 1998.
Pr. dipterus Qiu & Bouché, 1998.
Pr. (Mg.?) doumandjii Baha & Berra, 2001.
Pr. elusatus Bouché, 1972 (formerly Pr. fragilis elusatus; sometimes misspelt "elisatus").
Pr. idealis Bouché, 1972.
Pr. jamiesoni Qiu & Bouché, 1998.
Pr. ombrophilus Qiu & Bouché, 1998.
Pr. praticola Bouché, 1972 (sic).
Pr. proporus Qiu & Bouché, 1998.
Pr. psammophilus magnus Qiu & Bouché, 1998.
Pr. (Ke.) amplisetosus amplisetosus Bouché, 1972.
Pr. (Ke.) amplisetosus hexathecosus Bouché, 1972.
Pr. (Ke.) occidentalis Qiu & Bouché, 1998 (non Michaelsen, 1922, nec Graff, 1957).
Pr. (Ke.) ticalus Qiu & Bouché, 1998.
Pr. (Py. alatus Bouché, 1972.
Pr. (Py.) biauriculatus Bouché, 1972.
Pr. (Py.) bidasoana Qiu & Bouché, 1998 (sic).
Pr. (Py.) hyperopterus Qiu & Bouché, 1998.
Pr. (Py.) matoi Qiu & Bouché, 1998.
Pr. (Py.) polythecosus Bouché, 1972 (sometimes misspelt "polytheca").
Pr. (Py.) pyrenaicus aragonicus (Alvarez, 1971).
Pr. (Py.) pyrenaicus haasi (Michaelsen, 1925).
Pr. (Py.) pyrenaicus postandrus Qiu & Bouché, 1998.
Pr. (Py.) pyrenaicus pyrenaicus (Cognetti, 1904).
Pr. (Py.) trigoi Qiu & Bouché, 1998.

Type species: Allolobophora antipae Michaelsen, 1891.

Pt. antipae antipae (Michaelsen, 1891: 16) Emend. (restoration from “antipai”)
(syn. ?tyrtaea Ribaucourt, 1896; riparia Bretscher, 1901 [non Hoffmeister, 1843; restored from synonym in Ap. handlirschi (Rosa, 1897) by Zicsi (1982)]; cuginii helodriloides Chandebois, 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). This taxon previously held in Helodrilus with the highly dubious and athecal tyrtaea Ribaucourt, 1896 synonym after Easton (1983: 482) but Csuzdi & Zicsi (2003: 224) omit this synonym].
Pt. antipae vogesianus (Tétry, 1938) [sometimes (mis)spelt "antipai vogesiana"].
Pt. tuberculatus (Cernosvitov, 1935); [originally Eophila antipae var. tuberculata, this previous secondary junior homonym, from Reynolds & Cook (1976: 183), 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). Non Allolobophora antiqua tuberculata Tzelepe, 1943 (= Spermophorodrilus tzelepei Blakemore, 2004: 78)].
Rhiphaeodrilus Csuzdi & Pavlicek, 2005a: 86
Type species: Allolobophora handlirschi diplotetrateca Perel, 1967.

R. diplotetratecus (Perel, 1967) [extracted from Perelia].

Satchellius Gates, 1975
Type species: Enterion mammale Savigny, 1826.

S. mammalis mammalis (Savigny, 1826) (celtica Rosa, 1886; celtica rosea Friend, 1893); [misspelt "amammalis" and "mammalia" by Ribaucourt, 1896].

Scherotheca Bouché, 1972
Type species: Lumbricus gigas Dugès, 1828.

Sc. (Co.) albomaculata Bouché, 1972 (formerly Sc. corsicana albomaculata) [regarded as a new synonym of Sc. corsicana by Omodeo & Rota (2004: 234)].
Sc. (Co.) corsicana corsicana (Pop, 1947: 4) [formerly Allolobophora dugesi var. corsicana; Omodeo & Rota (2004: 234) thought albomaculata , portonana , and omodeoi were new synonyms].
Sc. (Co.) corsicana magna Qiu & Bouché, 1998 [the subspecies takes authorship from Qiu & Bouché (1998: 126) where it is cited as "subsp. nov." for the invalid infrasubspecific name given by Bouché (1972) now made available under ICZN (1999: Art. 10.2); however, if any previous author has used Bouché's infrasubspecific name as a valid scientific name, then they take authorship
under ICZN (1999: Art. 10.2) and Qiu & Bouché’s new name is itself invalid].
Sc. (Co.) corsicana popi Qiu & Bouché, 1998 [the subspecies takes authorship from Qiu & Bouché (1998: 125) where the invalid infrasubspecific name given by Bouché (1972) is made available under ICZN (1999: Art. 10.2)].

Sc. (Op.) minor minor (Stephenson, 1931) (originally Allolobophora savignyi var. minor; non Johnston, 1865).
Sc. (Op.) occidentalis (Michaelsen, 1922).

Sc. (R.) dollfusi (Tétry, 1939).
Sc. (R.) dugesi dugesi (Rosa, 1895) [syn. Allolobophora gigas : Rosa, 1886 (non Dugès, 1828); cited as "dugesi (Rosa, 1895)" in Michaelsen (1900: 500) as "dugesii Rosa, 1895" in Reynolds & Cook (1976: 96), and as "dugesi dugesi (Rosa, 1886)" in Easton (1983: 484) and by Csuzdi (2003), and either way by Omodeo & Rota (2004: 233)].
Sc. (R.) dugesi provincialis (Vedovini, 1971) [syn. S. dugesi porotheca Bouché, 1972; this synonym from Easton (1983:484) apparently overlooked by Qiu & Bouché (1998) who maintain porotheca but transfer it to Rosanus subgenus, as here].

Sc. (R.) *targionii* (Baldasseroni, 1906) [misspelt "tardionii" in Easton (1983: 481); see also *A. andreinii*].

Sc. (Sc.) *aquitania* Bouché, 1972 (originally Sc. *gigas aquitania*).

Sc. (Sc.) *campoi* Lainez & Jordana, 1983 (names sometimes miscited as "Lainé et Jorand" and misdated "1987").

Sc. (Sc.) *coineau* Bouché, 1972.

Sc. (Sc.) *cyrnea* (Michaelsen, 1926) [apparently overlooked by Qiu & Bouché (1998)].

Sc. (Sc.) *dinoscolex dinoscolex* Bouché, 1972 (formerly Sc. *gigas dinoscolex*).


Sc. (Sc.) *gigas gigas* (Dugès, 1828).


Sc. (Sc.) *gigas mifuga* Bouché, 1972.


Sc. (Sc.) *quipuzcoana oyarzunana* Bouché, 1979: 91 (originally invalid varietal name).

Sc. (Sc.) *hexatheca* (Michaelsen, 1926) [apparently overlooked by Qiu & Bouché (1998)].

Sc. (Sc.) *hispanica* (Ude, 1885).

Sc. (Sc.) *monospessulensis idica* Bouché, 1972.

Sc. (Sc.) *monospessulensis monospessulensis* Bouché, 1972.


Sc. (Sc.) *orbiensis orbiensis* Bouché, 1972 (formerly S. *gigas orbiensis*).

Sc. (Sc.) *rhodana rhodana* Bouché, 1972 (formerly S. *gigas rhodana*).


**Genus Serbiona** Mrsic & Sapkarev, 1988: 24

Type-species: *Allolobophora robusta* Rosa, 1895 [non Friend, 1909].

Note: Originally a sub-genus of *Allolobophora*, it is claimed by Omodeo & Rota (2004: 230) that *Serbiona* is a synonym of *Eophila*; however, this status is deferred here (cf.
Perelia).

**Se. carnelutti** Mrsic, 1990 [name sometimes spelt "carnelutti"].

**Se. dofleini dofleini** (Ude, 1922) [placed in *Eophila* by some authors].


**Se. joncesapkarevi** Blakemore, 2004: 78 [nom. nov. pro *Allolobophora udei* Sapkarev, 1972: 120 (non *Allolobophora parva udei* Ribaucourt, 1896 nec *Allolobophora dofleini udei* Sapkarev, 1991)].

**Se. kosowensis kosowensis** (Karaman, 1968).


**Se. matjasici** Mrsic, 1990 [originally *Allolobophora* (*Serbiona*) *matjasici*].

**Se. mayeri** (Mrsic, 1990) [originally *Allolobophora* (*Serbiona*) *mayeri*].

**Se. mehadiensis boscaiui** (Pop, 1948).

**Se. mehadiensis mehadiensis** (Rosa, 1895) [misspelt "Serbiona mehadiensis mehadiensi" in Qiu & Bouché (1998: 191); Omodeo (1988) had this species in *Eophila*, but it, and all three sub-species, returned to *Allolobophora* in Csuzdi & Zicsi (2003: 64)].

**Se. mehadiensis oreophila** (Pop, 1978).

**Se. mehadiensis voivodinensis** (Sapkarev, 1989) (sometimes spelt “voivodienis” or “voitodienis” or “voidodenis”, and possibly the latter spelling is correct?).

**Se. panonica** (Cognetti, 1906) [formerly *Helodrilus* (*Eophila*) icterica *panonica* Cognetti, 1906; and hopscotched into several other genera too; claimed to be *Se. mehadiensis panonica* by Reynolds & Cook (1992: 19)].

**Se. paratuleskovi** (Sapkarev, 1975).

**Se. robusta robusta** (Rosa, 1895) [non *veneta robusta* Friend, 1909 (= *D. hortensis*)].

**Se. robusta spasenijakaramani** Blakemore, 2004: 78 [nom. nov. pro *Allolobophora robusta serbica* Karaman, 1983: 51, non *Eophila serbica* Sapkarev, 1976/7 (=

Se. serbica (Sapkarev, 1976) [sometimes dated 1977].
Se. speciosa (Mrsic & Sapkarev, 1987) [originally in Eophila; date and author misquoted in Qiu & Bouché (1998: 191) as "(Mrsic et Saparkev, 1988)"].
Se. strumicae (Sapkarev, 1973) (originally Allolobophora doleini strumicae; name sometimes misspelt "sturmicae").
Se. tuleskovi (Cernosvitov, 1934).

Type species: Spermophorodrilus albanianus Bouché, 1975 (= Eophila antiqua Cernosvitov, 1938). Note: in Zicsi & Michalis (1981: 244) and Easton (1983: 477) the original type species was considered a synonym of Allolobophora antiqua michalisi Karaman, 1972 that was at that time placed in the genus Bimastos, therefore the genus Spermophorodrilus was considered a synonym of the North American genus Bimastos by Easton. However, Spermophorodrilus was restored, as it is provisionally retained here, by Omodeo & Rota (1989: 169).


Type species: Eophila atlantica Bouché, 1969.

Z. (Aq.) lopezi (Bouché, 1979).
Z. (Aq.) vasconensis (Bouché, 1979) [spelt thus in Easton (1983: 476); misspelt “vasconensis” in Qiu & Bouché, 1998: 185, and sometimes as “vascoensis”; BIOSIS has no listing for any of these names. Non Eophila asconensis (Bretscher, 1900)].

Z. (Ca.) eurytrichos Qiu & Bouché, 1998 (sic).
Z. (Ca.) opisthoporus Qiu & Bouché, 1998 (sic).

Z. (Eu.) chitae (Diaz et al, in Diaz, Mato & Trigo, 1988) [Diaz listed thus, rather than “Diaz Cosin”].
Z. (Eu.) pulvinus Qiu & Bouché, 1998 (sic).

Z. (Z.) atlanticus (Bouché, 1969) [originally Allolobophora altantica].
Z. (Z.) cyaneus (Briones & Diaz 1993) [originally as Eophila cyanea (non communis cyaneus Hoffmeister, 1845, nec cyaneum Savigny, 1826 (= Octolasion cyaneum)); the name Diaz listed thus, rather than "Diaz Cosin"].
Z. (Z.) graffi (Bouché, 1972).
Z. (Z.) micellus (Bouché, 1972) [originally Allolobophora micella].

Nomina nuda, species incertae sedis and nomina dubiae Lumbricidarum
From Michaelsen (1900: 517-521), Gates (1972), Qiu & Bouché (1998a: 192; 1998: 199), Csuzdi (2003), and various other sources. Note: nomina nuda, and infra-subspecific and varietal names are outside of ICZN nomenclature and may therefore be made available by subsequent authors for the same or different concepts. The validity, status, date and authorship of several of Bouché's (1970; 1972) varietal or "ecological races" names remain uncertain (see ICZN, 1999: Art. 45.6).

Allolobophora muldali var. pickfordi Bouché, 1972 illegitimate varietal name; listed thus in Reynolds & Cook (1976: 155); not found, or overlooked, in Qiu & Bouché (1998); (unofficially?) listed in Csuzdi (2003) as Allolobophora muldadi pickfordi (sic); its position relative to genus Murchieona is unknown.
Aporrectodea jassyensis sotschiensis (Michaelsen, 1910) nomen dubium [mentioned in Kvavadze (1985: 206) and Qiu & Bouché (1998: 187) but probably a lapsus for M. sotschiensis (Michaelseen, 1902)].
Csuzdi (pers. comm.) and Dr Emilio Rota (pers. comm. 5th March, 2004)].

*Eiseniella tetraedra* var. *ochridana* f. *stankovici* Cernosvitov, 1931 (an invalid infrasubspecific name) even if the invalid “*ochridana*” morph is validated.

*Eophila zarandensis* (Cognetti, 1904) (non Pop, 1978).

*Eminia equatorialis* Benham, 1891: 163 (et *Eminodrilus* Benham, 1891: 558; corr. “*aequatorialis*”; *genus dubium*).

*Enterion brevicolle* Fitzinger, 1833: 552 [misspelt “*brevicollis*” in Dugès (1837)] from Austria.

*Enterion cinctum* Fitzinger, 1833 from Austria.

*Enterion fimetorum* Fitzinger, 1833 from Austria.

*Enterion vaporariorum* Fitzinger, 1833 from Austria.

*Helodrilus* (*Eophila*) *alzonai* Cognetti, 1904.


*Hormogaster samnitica cognetti* 1914 (sic) Bouché, 1970: 247. **Nomen nudum or laps.**

*Hormogaster samnitica corsicana* Bouché, 1970: 247. **Nomen nudum or lapsus.**

*Hypogaeon atys* Kinberg, 1867 from Argentina (Buenos Aires).

*Hypogaeon hirtum* Savigny, 1820 from Pennsylvania (Philadelphia).

*Lumbricus api* Kinberg, 1867 from California (San Francisco).

*Lumbricus argentinus* Weyenbergh, 1879 (nomen dubium, misid. of *O. tyrtaeum*).

*Lumbricus armatus* Kinberg, 1867 from Argentina (Buenos Aires).

*Lumbricus blainvilleus* Dugès, 1837 from France.

*Lumbricus brevispinus* Gerstfeldt, 1858 from Siberia (Amur, Irkutsk).

*Lumbricus caeruleus* Risso, 1826 from South France.

*Lumbricus castaneus* Risso, 1826 [non *Enterion castaneus* Savigny, 1826] from South of France.

*Lumbricus citellinus* Risso, 1826 from South France.

*Lumbricus corduvensis* Weyenbergh, 1879 (nomen dubium, misid. of a glossoscolecid)

from Argentina.

*Lumbricus dissidens* Weyenbergh, 1879 (nomen dubium, misid. of *Microscolex dubius*)

from Argentina.

*Lumbricus dubius* Dugès, 1837 [non *dubius* Michaeelsen, 1890] from France.

*Lumbricus giganteus* Risso, 1826 from South France.

*Lumbricus freyeri* Ehrenberg, 1862 in freshwater from Adelsberg.

*Lumbricus isidorus* Dugès, 1837 from France.

*Lumbricus iuloides* Chiaje, 1841 from Naples.
Lumbricus juliformis Baird, 1873.
Lumbricus kani Williams, 1858: 102 (also "kanii" and "kauii" laps.) from England.
Lumbricus kwangtangensis Author? species inquirenda (quoted in a paper by Zhang, F.-X. et al., 1993/4; also as "kwangtungensis"; unlikely to be native to China); also "Lumbricus nativus". Nomen nudum.
Lumbricus leptozonius Hagenbach, 1823 from Switzerland.
Lumbricus matutinus Weyenbergh, 1879 (nomen dubium, misid. of A. trapezoides).
Lumbricus terrestris minor Pennant, 1766: 33 from Britain.
Lumbricus mollis Dugès, 1837 [non mollis Friend, 1911] from France.
Lumbricus opimus Savigny, 1826 species inquirenda from Paris [quoted by Benham (1886)].
Lumbricus pampicola Kinberg, 1867 from Uruguay (Montivideo).
Lumbricus roseus Risso, 1826 [non roseum Savigny, 1826].
Lumbricus tahitianus Kinberg, 1867 (originally “Tahitana”) from Tahiti.
Lumbricus tellus Kinberg, 1867 from Argentina (Buenos Aires).
Lumbricus tyrtoeus Savigny, 1826 [misquoted by Benham (1886) for L. tyraeum].
Lumbricus vetracedrus Savigny, 1826 [?lapse by Benham (1886) for L. vetracedrus Dugès, 1837].
Lumbricus vineti Kinberg, 1867 from Madeira.
Nicodrilus longus longus ambiguus Bouché, 1972 (invalid varietal name).
Nicodrilus longus longus amplisellus Bouché, 1972 (invalid varietal name).
Nicodrilus longus ripicola viridis Bouché, 1972 (invalid varietal name).
Scherotheca dugesi dugesi albinica Bouché, 1972 (invalid varietal name).
Scherotheca gigas rhodana gallissiani Bouché, 1972 (invalid varietal name).
Scherotheca navarrensis Lainez & Jordana, 1983 (name sometimes miscited as "Lainé et Jorand").
Scherotheca (Opothedrilus) savignyi var. hygrophila Bouché, 1972: 302 [invalid varietal name cited by Reynolds & Cook (1976: 115); “savignyi savignyi hygrophila” according to Csuzdi (2003); overlooked or ignored by Qiu & Bouché (1998)].
Scherotheca savignyi savignyi var. oligotheca Bouché, 1972 (invalid varietal name).

List of classical taxa, mostly microdriles, previously in Lumbricus
Lumbricus lineatus Müller, 1774 now accepted as Lumbricillus lineatus (Müller, 1774).
Lumbricus tubifex Müller, 1774 now accepted as Tubifex tubifex (Müller, 1774).
Lumbricus arenarius Müller, 1776 now accepted as Clitellio arenarius (Müller, 1776).
Lumbricus litoralis Grube, 1855 now accepted as Pontodrilus litoralis (Grube, 1855) that is in family Megascolecidae sensu Blakemore (2000) rather than Acanthodrilidae sensu Gates (1959) with redefinitions of these families that differ from those previously. See Blakemore (2007a) for details.
Lumbricus minutus Müller, 1776 now accepted as Lumbricillus minutus (Müller, 1776).
Lumbricus multispinus Grube, 1851 quoted by Benham (1886) as in Enchytraeid genus Echinodrilus Vaillant, 1869.
Lumbricus uliginosus Hutton, 1877 quoted by Benham (1886) was removed to Acanthodrilidae sensu Blakemore, 2000 genus Acanthodrilus (Maoridrilus).

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References
Only the more pertinent and recent references are listed below. For earlier references see the Zoological Record, 1970-2004 and the bibliographies of Bouché (1972), Perel


BIOSIS see: Thomson-Reuter’s BIOSIS Index to Organism Names (nomenclator relaunched on http://www.organismnames.com with search facility here.


Cech, G, Csuzdi, Cs. & Marialigeti, K., (2005). Remarks on the molecular phylogeny of the genus *Dendrobaena* (sensu Pop 1941) based on the investigation of 18S rDNA


Kobayashi, S., (1940). Terrestrial Oligochaeta from Manchoukou. Sci. Rep. Tohoku Imp.Univ. 15: 261-316. [This publication is sometimes dated "1941" and Numbered as "16", I have not seen the original, but I think the former is correct in both cases, as here. Note: Reynolds & Cook (1976) overlook species from this reference].


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*Appendix – Synonymy of Komarekionidae in Ailoscolecidae*

Sims’ (1980: 108) reasons for placing Komarekionidae in synonymy of Ailoscolecidae, as presented by him in a footnote and apparently missed by some North American workers, was stated as:

“The similarities between Ailoscolex Bouche, 1969 and Komarekiona Gates, 1974 have not been recognized previously, possibly because of a printing error in Bouche's monograph (1972). In this work, the diagnosis of the family Ailoscolecidae included the statement "Glande de Morren presente" (p. 197), whereas in the account of the anatomy of A. lacteospumosus there is the conflicting statement "Glande de Morren absente" (p. 199). The absence of calciferous glands however, was previously established in the original descriptions of the family and species (Bouché, 1969: 526, 529 & 530).”

[End of Checklist].