

Phylum **Tardigrada** Doyère, 1840 (3 classes)<sup>1</sup>

Class **Heterotardigrada** Marcus, 1927 (2 orders)

Order **Arthrotardigrada** Marcus, 1927 (8 families)

Family **Archechiniscidae** Binda, 1978 (1 genus, 3 species)

Family **Batillipedidae** Ramazzotti, 1962 (1 genus, 26 species)

Family **Coronarctidae** Renaud-Mornant, 1974 (2 genera, 8 species)

Family **Halechiniscidae** Thulin, 1928 (7 subfamilies, 28 genera, 88 species)

Family **Neoarctidae** de Zio Grimaldi, D'Addabbo Gallo & Morone De Lucia, 1992 (1 genus, 1 species)

Family **Neostygartidae** de Zio Grimaldi, D'Addabbo Gallo & De Lucia Morone, 1987 (1 genus, 1 species)

Family **Renaudarctidae** Kristensen & Higgins, 1984 (1 genus, 1 species)

Family **Stygartidae** Schulz, 1951 (2 subfamilies, 4 genera, 21 species)

Order **Echiniscoidea** Richters, 1926 (4 families)

Family **Echiniscoididae** Kristensen & Hallas, 1980 (2 genera, 11 species)

Family **Carphaniidae** Binda & Kristensen, 1986 (1 genus, 1 species)

Family **Orellidae** Ramazzotti, 1962 (1 genus, 2 species)

Family **Echiniscidae** Thulin, 1928 (12 genera, 281 species)

Class **Mesotardigrada** Rahm, 1937 (1 order)<sup>2</sup>

Order **Thermozodia** Ramazzotti & Maucci, 1983 (1 family)

Family **Thermozodiidae** Rahm, 1937 (1 genus, 1 species)

Class **Eutardigrada** Richters 1926 (2 orders)

Order **Apochela** Schuster, Nelson, Grigarick & Christenberry, 1980 (1 family)

Family **Milnesiidae** Ramazzotti, 1962 (3 genera, 19+1<sup>†</sup> species)<sup>3</sup>

Order **Parachela** Schuster, Nelson Grigarick & Christenberry, 1980 (4 superfamilies, 9 families)

Family **Necopinatidae** Ramazzotti & Maucci, 1983 (1 genus, 1 species)<sup>4</sup>

*incertae sedis* (1 genus: *Apodibius*, 3 species)<sup>4</sup>

Superfamily **Eohypsibioidea** Bertolani & Kristensen, 1987 (1 family)

Family **Eohypsibiidae** Bertolani & Kristensen, 1987 (3 genera, 12 species)

Superfamily **Hypsibioidea** Pilato, 1969 (4 families)

Family **Calohypsibiidae** Pilato, 1969 (5 genera, 19 species)

Family **Hypsibiidae** Pilato, 1969 (3 subfamilies, 11 genera, 148 species)

Family **Microhypsibiidae** Pilato, 1998 (2 genera, 5 species)

Family **Ramazzottiidae** Sands, McInnes, Marley, Goodall-Copestake, Convey & Linse, 2008 (2 genera, 29 species)

Superfamily **Isohypsibioidea** Sands, McInnes, Marley, Goodall-Copestake, Convey & Linse, 2008 (2 families)<sup>5</sup>

Family **Beornidae** Cooper, 1964 (1 genus, 1 species)<sup>6</sup>

Family **Isohypsibiidae** Sands, McInnes, Marley, Goodall-Copestake, Convey & Linse, 2008 (9 genera, 188 species)

Superfamily **Macrobiotoidea** Thulin, 1928 (2 families)

Family **Macrobiotidae** Thulin, 1928 (15 genera, 254 species)

Family **Murrayidae** Guidetti, Gandolfi, Rossi & Bertolani, 2005 (3 genera, 24 species)

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1. **BY** Roberto Guidetti & Roberto Bertolani (for full contact details, see **Author names, addresses and roles** after **Cited references**). The title of this contribution should be cited as “Phylum Tardigrada Doyère, 1840. *In*: Zhang, Z.-Q. (Ed.) Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness”. The classification and diversity estimates follow Guidetti and Bertolani (2005) and Degma and Guidetti (2007), with the necessary updating. The phylum is composed by three classes: Heterotardigrada, with 2 orders, 12 families, 55 genera and 444 species, Eutardigrada, with 2 orders, 4 superfamilies, 10 families, 55 genera and 712 species, Mesotardigrada, with 1 order, 1 family, 1 genera and 1 species.
  2. Some authors do not consider this as a valid taxon (*e.g.*, Nelson 2002; Nelson & McInnes 2002).
  3. *Milnesium svolenskyi* Bertolani & Grimaldi, 2000, fossil species found in Turonian amber (Bertolani & Grimaldi 2000).
  4. The Necopinatidae and *Apodibius* (*incertae sedis*) are not ascribed to any superfamily. Pilato and Binda (2010) include *Apodibius* in Necopinatidae.
  5. Taxon erected by Sands et al. (2008) but more in depth described, together with the family Isohypsibiidae, by Marley et al. (2011)
  6. *Beorn leggi* Cooper, 1964, fossil species found in Upper Cretaceous amber (Cooper 1964).

## Cited references

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## Author names, addresses and roles

ROBERTO GUIDETTI & ROBERTO BERTOLANI, Department of Biology, University of Modena and Reggio Emilia, Via Campi 213/D, 41125, Modena, Italy; e-mail: [roberto.guidetti@unimore.it](mailto:roberto.guidetti@unimore.it)

Both authors contribute to discuss and critically revise the taxonomic bibliography of the phylum.