



Phylum Onychophora Grube, 1853*

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Extant representatives of Onychophora (velvet worms) have been classified into two major subgroups or families, the Peripatidae and the Peripatopsidae. According to our previous estimate, a total of 179 nominal species and twelve additional infraspecific taxa of Onychophora had been described, including numerous “subspecies”, “variations” and “mutations (Mayer & Oliveira 2011). However, the validity of most of these taxa was uncertain. Since this last estimate, a comprehensive world checklist of Onychophora has been published, along with a revision of the nomenclatural status of names (Oliveira *et al.* 2012a). This study revealed that many previous synonyms and infraspecific taxa might constitute valid species. At the same time, it also has shown that ~10% of the described species of Onychophora show major taxonomical problems and therefore should be regarded as *nomina dubia*, following the provisions of the International Code of Zoological Nomenclature (ICZN 1999).

In addition to extant species of Onychophora, the world checklist includes three unambiguous fossil representatives, the relationship of which to the extant species is uncertain (Grimaldi *et al.* 2002; Oliveira *et al.* 2012a; Poinar 2000). A recent study further revealed that †*Helenodora inopinata* Thompson & Jones, 1980 (see Hou & Bergström 1995 for nomenclatural discussion) from Mazon Creek (Illinois, USA, ~296 million years ago) might be a representative of Onychophora as well, which is indicated by the presence of slime papillae in this species (Haug *et al.* 2012). As with most other fossils, the affinity of †*Helenodora inopinata* to the extant onychophoran taxa remains obscure.

In addition to these findings, six species and a new genus of extant Onychophora have been described in the last two years (Oliveira *et al.* 2012b, 2013; Ruhberg & Daniels 2013). This ongoing progress has necessitated an update of the estimated numbers of described species of Onychophora, which is provided below. In this updated list, we discriminate between valid taxa, *nomina dubia* and fossil taxa (indicated by a †).

Phylum **Onychophora** Grube, 1853 [5 families (3†), 54 genera (4†), 187 valid species (4†), 20 *nomina dubia*]
Family **Peripatidae** Evans, 1901 [12 genera (1†), 76 valid species (1†), 9 *nomina dubia*]
Family **Peripatopsidae** Bouvier, 1905 [39 genera, 108 valid species, 11 *nomina dubia*]
Family †**Succinipatopsidae** Poinar, 2000 [1† genus, 1† valid species]
Family †**Tertiapatidae** Poinar, 2000 [1† genus, 1† valid species]
Family †**Helenodoridae** Poinar, 2000 [1† genus, 1† valid species]

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