



An annotated world catalogue of the millipede order Callipodida (Arthropoda: Diplopoda)*

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*Dedicated to Dr. Richard Hoffman, an eminent millipede specialist, on the occasion of his 80th birthday

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Abstract

The paper presents the first world catalogue of the millipede order Callipodida (Diplopoda: Helminthomorpha). The order is currently known to comprise 3 suborders, 7 families, 35 valid (sub-)genera and 133 (sub-)species. Furthermore, 10 nominal species, whose taxonomic status has not been considered in any publications other than the first descriptions, are listed as *species inquirenda*. The synonymy of *Paracortina wangi* Stoev, 2004 under *Angulifemur unidigitis* Zhang, 1997 is formalized here. Given for each (sub-)species are the original description with author, year, pages and figures; complete chronological list of subsequent faunistic or taxonomic references; type material and, if known, current repository; type locality; species range; and sometimes additional remarks on its status or distribution. The relevant taxonomic and faunistic literature on Diplopoda was consulted to complete the data presented here. The species list is based on a species index card catalogue housed in the Museum National d'Histoire Naturelle in Paris ("Fichier iconographique

Brolemann et successeurs”), with additions from the Zoological Record and various on-line resources. A bibliography containing 286 taxonomic references relevant to the Callipodida is included.

Key words: Myriapoda, Nematophora, catalogue, synonymy, new records, bibliography

Introduction

While we are facing rapidly declining biodiversity and disappearing habitats on a world-wide scale, mega-diverse organism groups remain poorly known and even less studied. Accelerating taxonomic and systematic discovery of our organismal diversity is a declared goal of recent initiatives such as the National Science Foundation’s Planetary Biodiversity Inventory Program, and various Biodiversity conferences (e.g., see Soltis 2005). New technologies, such as digital imaging and on-line electronic data exchange support advances in biodiversity research. However, crucial components of the scientific research infrastructure are still missing and crippling rapid taxonomic discovery and description. Access to the primary literature still requires time-consuming library searches, and reliable road maps for such searches are needed. Taxonomic catalogues, containing all relevant references for each taxon, its status and status change over time form the very foundation of all subsequent taxonomic and ecological research. Attractively, such catalogues can now be served on-line, continually reviewed, improved and updated by the scientific community, making such a tool universally available.

Out of the 16 extant millipede orders hitherto known, only two, Siphonophorida and Glomeridesmida, have been an object of contemporary review at a species level (cf. Jeekel 2001, 2003). Here we present the third millipede species catalogue, focusing on the order Callipodida. Petra Sierwald’s millipede program at Field Museum is completing a global millipede species catalogue, which is destined to be served on-line within the near future.

Order Callipodida

The Callipodida are a moderately diverse millipede order, currently comprising 3 suborders, 7 families, 35 valid (sub-)genera and 133 valid (sub-)species. In addition, 10 nominal species, almost all of them described in the 19th century, have not been considered in the recent taxonomic literature, and their status presently remains uncertain. Two of the suborders, Sinocallipodidea and Callipodidea, are known from only 2 and 6 species respectively; the third suborder, Schizopetalidea, is more diverse and exceeds 120 species currently considered valid.

Callipodidans are helminthomorphous millipedes with an elongated, cylindrical body composed of 40-75 pleurotergites, moderately long legs and antennae, and a telson bearing a pair of spinnerets (Fig. 1). Their body size varies from about 15 to more than 100 mm (Hoffman 1982). Traditionally, the order is placed together with the orders Chordeumatida Pocock, 1894 and Stemmiulida Cook, 1895 in the superorder Nematophora Verhoeff, 1913, although the phylogenetic relationships within the Diplopoda are not resolved yet. Putative apomorphies for Callipodida are the divided hypoproct and anal valves; the extrusable vulvae, and also the specific shape of the male gonopods, which are carried withdrawn deep in a body pouch (Sierwald & Bond 2007).

Members of the order occur in the Northern and Eastern Mediterranean region, central and SE Asia, and central and southern North America (Fig. 2). They are unknown in Africa, South America, Australia and Oceania. The greatest diversity exists in the Balkan Peninsula, Asia Minor and southwestern parts of the USA, although the still unexplored fauna of SE Asia is expected to be even richer (Shear et al. 2003). Most callipodidans inhabit caves or other rocky biotopes such as stony debris and rock crevices. As a whole the group can