UNITED STATES NATIONAL MUSEUM, BULLETIN 212. CHECKLIST OF THE MILLIPEDS OF NORTH AMERICA

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CHECKLIST OF THE MILLIPEDS OF NORTH AMERICA

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Publications of the United States National Museum

The scientific publications of the National Museum include two series known, respectively, as *Proceedings* and *Bulletin*.

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The present work forms No. 212 of the *Bulletin* series.

REMINGTON KELLOGG,
Director, United States National Museum.

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Introduction

So many additions to our knowledge of the millipeds of North America and so many changes in their classification have been made since the issue of Charles H. Bollman's "Catalogue of the Known Myriopods of North America North of Mexico"[1] that an up-to-date checklist has long been a desideratum. The present annotated list has been prepared to meet this need. Bollman's catalogue recognized 114 species under 29 genera (subsequently adding 5 more species). The present list accounts for approximately six times as many, recording some 749 species and subspecies, and 200 genera from the same area.

The work thus far on our milliped fauna has been mainly descriptive, but the time now seems ripe for synthesis and evaluation of the information at hand. It is hoped that this compilation will stimulate and facilitate the work of other students, for much remains to be done, both to fill in the gaps in our knowledge and to clarify the taxonomy, distributions, and ecological relationships of this relatively neglected group of arthropods.

It is not the purpose of a checklist such as this to revise groups or to initiate changes. In general, we record genera, species, and other groups as they have been published, indicating however, those names that we judge to be synonyms and giving in all cases pertinent bibliographic references. For each species we have sought to give the type locality as accurately as possible, the location of the type specimen, and the distribution as far as is presently known. The latter usually can be stated in general terms only, because of the dearth of records (a shortcoming that must be remedied by future workers). Particularly is this true of the western forms, the majority of which are "known from the type locality only." Our statements of distribution are based primarily upon localities for specimens examined by us, and by literature references which we consider reliable.

We cite in our references not only the original description, but also literature giving an illustration or other such information regarded as important, and also the place in which the binomial here adopted was first used. Where synonyms are indicated, the type locality for each form placed in synonymy is given, where possible, following the literature reference.

The several instances of departure from established arrangement are based upon unpublished studies by one or both of the authors and are indicated by footnote commentary.

[1] Published posthumously in his "Myriapoda of North America," U. S. Nat. Mus. Bull. 46, pp. 117–130, 1893.

The area covered by this checklist takes in all of North America north of México, and we include, in addition to native American forms, most of the introduced European and subtropical millipeds, the majority of which have become well established in our region.

In the following essay we have discussed reasons for the adoption of the present system of ordinal names. It might be added at this point that little uniformity between family and order has obtained with respect to group-name endings. In accord with what seems to be general practice in a great many animal groups, we have adopted the ending "-idea" for suborder and "-oidea" for superfamily.

Studies of the phylogeny of diplopods have not yet been made which would permit a "natural" arrangement of the groups. Although our sequence of orders is that used by several workers, it cannot be said to show progressive specialization or any other form of evolutionary pattern. We have adopted the expedient of listing families, genera, and species alphabetically, and this method certainly has its advantages in terms of convenience to the user. We venture the optimistic hope that the next listing of this sort will be able to boast at least a preliminary arrangement of families according to their natural relationships!

Ordinal nomenclature

In the matter of nomenclature of the diplopods, there persists considerable confusion, particularly with reference to the groups above the rank of family, largely because the International Rules of Zoological Nomenclature provide no standard for fixing the validity of names at that level. In this respect few branches of systematic zoology have suffered more vicissitudes. It seems desirable, therefore, to summarize here something of the history of the changes in classification as they have arisen, and of several systems in use by different authors and students of the Diplopoda or to be encountered in the literature.

Linnaeus in 1758 ("Systema Naturae," ed. 10) under his "Insecta Aptera," placed the only two genera of myriapods recognized by him, namely *Julus* and *Scolopendra* (and, curiously enough, referred the forms now called *Polyxenus* to the latter). From the time when, in 1802–1805, Latreille ("Histoire Naturelle . . . des Crustacés et des Insectes") set up his "legion" Myriapoda with its two orders Chilognatha and Syngnatha, and Leach in 1814 elevated the Myriapoda to the rank of a separate class coordinate with Crustacea, Arachnida, and Insecta, there has continued the expansion and development of a system more and more adequately representing the Chilopoda and Diplopoda and their relationships.

With Brandt (1833–1841), Gervais (1837–1847), Newport (1844), Wood (1864–67), and Saussure (1872), the classification was much elaborated. Brandt in 1833 proposed for the Chilognatha three subdivisions based on the degree of coalescence of the visible elements of a segment, naming them Pentazonia, Trizonia, and Monozonia. The first of these has maintained

its position as correct down to the present, although the name has not been in general use.

In 1840 Brandt divided his order Myriapoda into two subdivisions: the Gnathogena—for the Chilopoda and most of the Diplopoda, and the Sugentia—corresponding precisely to the diplopod group now commonly termed the Colobognatha. Gervais in 1837 made but two divisions of the Chilognatha, the Oniscoidea and the Juloidea. In 1847 he replaced the term Chilognatha with the name Diplopoda of Blainville, and dropped his original primary subdivisions, recognizing the following families: Polyxenidae, Glomeridae, Julidae, and Polyzoniidae. The English zoologist Newport (1844, "List of the . . . Myriapoda in . . . British Museum") followed Brandt as to the divisions Pentazonia and Monozonia, but introduced a division Bizonia to embrace the Brandtian Trizonia and Sugentia. C. L. Koch (1847) ignored the primary divisions above the level of family, describing under the Chilognatha numerous new species and genera in the families Polyxenidae, Glomeridae, Sphaeriotheridae, Julidae, Blaniulidae, Chordeumidae, Polydesmidae, and Polyzoniidae.

C. S. Rafinesque, the first American worker to describe our native millipeds, in 1820 named four new genera and species in his "Annals of Nature;" in 1821 Thomas Say noted ten species as occurring in the United States, and scattered accounts of others were added by Brandt, Koch, Gervais, and Saussure; but the real foundation for the study of North American diplopods was laid by Horatio C. Wood in a series of papers appearing from 1861 to 1867, the most important of these being the "Myriopoda of North America" (1865), in which he described the forms known at that time to occur in this country. The total recognized by Wood comprised 18 genera and 92 species, of which 10 genera (including subgenera) and 41 species are diplopods, the remaining are chilopods. In his general arrangement of diplopods, Wood adopted as suborders the Pentazonia and Sugentia set up by Brandt, but introduced as a third suborder the Strongylia, under which he placed the millipeds arranged by Brandt under Trizonia and Monozonia. His classification was as follows:

Order Chilognatha
  Suborder Pentazonia
    Families:
      Glomeridae
      Sphaeriotheridae
  Suborder Strongylia
    Families:
      Polyxenidae
      Polydesmidae
      Julidae
      Lysiopetalidae
  Suborder Sugentia
    Families:
      Polyzoniidae
      Siphonophoridae