

# Introduction

*Wenn sich die Weisen nicht zuweilen verirrteten, so  
m ssten alle Narren versagen.*

. . . .Johann Wolfgang von Goethe

I may freely, without shame, leave some obscurities  
to happier industry, or future information.

. . . .Samuel Johnson

Checklists and catalogues are regarded with disdain by some biologists who consider them mere hackwork, compiled from literature and devoid of phylogenetic insights. Systematists who are actually involved in transferring knowledge about the characteristics, relationships, and distribution of poorly-known organisms from the alpha to gamma level (thus making it accessible to theoreticians) tend to be more generous. There are no references more fundamental than comprehensive summaries of current knowledge, and the efforts of assembling and organizing information from a vast polyglot literature into a compact and manageable form are highly appreciated by subsequent users. A checklist or catalog is often the catalyst that initiates or stimulates active interest in some neglected taxon, and whether one concurs with the details of presentation is immaterial so long as all the facts are available. It is often overlooked that the basic purpose of such compendia is to facilitate their own obsolescence.

An increasing interest in tropical biotas during the past several decades allows a guarded hope that the importance of millipeds in such ecosystems will be recognized and investigated. Although three annotated checklists have been published (West Indies: Chamberlin, 1918; North America: Chamberlin & Hoffman, 1958, and Middle America: Loomis, 1968 respectively), they are now obsolete and inadequate. As the faunas of these regions are now amenable to a revised treatment, this occasion is taken to provide a comprehensive, updated, summary of the diplopod fauna of the entire area north of the South American mainland. Although the lists mentioned provided the baseline resources, the addition of information they did not contain has required consultation of all original references *de novo*.

## Organizational Details

### The area

The names applied to the major geographic areas of the Western Hemisphere have been both highly diverse and highly inconsistent. Sometimes Mexico is included in North America, sometimes in Central America, sometimes Central America has included Mexico, sometimes only the countries from Guatemala to Panama. Some maps extend North American all the way to the border of Colombia. The West Indies have rarely been associated with any parts of the mainland under an inclusive name.

Existing data are simply organized by political units, and will be for a long time. Since the definitions and terminology for the region between the United States and northernmost South America have been arbitrary and apparently very subjective anyhow, I feel no compunction in adopting my own equally arbitrary concepts and categories for the purposes of this list. It must be obvious that political boundaries are in the present state of knowledge more pragmatically useful than anything approaching biogeographic regions (e.g., Nearctic vs. Neotropical, each with its local subdivisions).

The fauna of the West Indies has clearly been derived from land masses to the west and south, and there being no endemic components, there is no reason to award a special status to these islands. My operational categories are defined as follows:

- I. North America: United States and Canada.
- II. Middle America (the terms Mesamerica and Mesamerican are frequently used in the text)
  - 1. Mexico
  - 2. Central America: Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama
  - 3. West Indies
    - A. Greater Antilles: Cuba, Jamaica, Puerto Rico, Hispaniola, Bahamas, Turks and Caicos, Virgin Islands, and Saint Croix (in effect, all islands west of the Anegada Passage)
    - B. Lesser Antilles: all islands south of the Anegada Passage, from Anguilla to Grenada.
- III. South America: all countries south and east of (and including) Colombia, Venezuela, and the continental islands from Aruba to Tobago, which are geographically part of South America even if frequently included in the Lesser Antilles on some maps. In this respect, I depart from the precedent of Pocock (1894), Chamberlin (1918), and Loomis (1934), all of whom included Trinidad and Tobago in their concept of West Indies .

#### Information content

The material presented in the following pages is strictly taxonomic, not bibliographic. No attempt is made to cite all published references to the included taxa. A departure from the formats of the 1958 and 1968 lists is omission of keys to orders and families. For these to be accurate and meaningful, extensive illustration would be required. However, citations to relevant taxonomic sources (keys, revisions, redescriptions, etc.) are included under the pertinent heading level. Full reference to original description, type locality, and location of type specimens for **all** names is provided to enhance accessibility to names currently treated as junior synonyms since the disposition of such names is usually subjective and open to subsequent revision. The user is spared the trouble of having to go back to original sources for "synonym information."

The treatment of taxa at all levels reflects the most recent published concepts, except in a few cases in which the compiler holds a different opinion and explains his position in a short discourse under the relevant category heading.

Entries for the 2,167 species provisionally admitted as valid include the usual reference citation to original description, type locality, and location of holotype (or syntypes), the last shown parenthetically by acronym code (the list is given in the following paragraph). Synonyms are listed chronologically with the same information; for widespread anthropochoric species only those synonyms based upon specimens taken from within the area of coverage.

Known species ranges are given in very general terms, supplemented by reference to any published distribution maps. The absence of a sideheading Range: implies that the taxon is known only from the type locality (**or** very close thereto: numerous localities in a single county or similar unit are usually not specified).

The only fossil taxa recorded are a few of Tertiary or Quaternary age, some of which may be the same as species still existing in or near their type localities.

Citations to journals are spelled out with the standard title abbreviations rather than given simply as a year and page number. This takes up a little more space, but obviates the necessity to refer to a list of the cited papers in a terminal bibliography which I personally consider an unnecessary nuisance. Additional bibliographic information, inserted at the relevant place throughout the text, is preceded by explanatory terms.

A special case is provided by the "Bulletin of the University of Utah" which for many years appeared with a separate category called the "Biological Series", with its own independent volume numbering system. Thus volume 31, no. 11, was simultaneously volume 6, no. 4, of the Biological Series. As I believe that most libraries would catalog this periodical in terms of its primary issuance system, I have disregarded the "Biological Series" subseries and cite all references in terms of the primary volume numbers. This is in contrast to the checklists by Chamberlin & Hoffman (1958) and Loomis (1968), as well as most references to Chamberlin's papers by recent investigators. It is however consistent with the usage of Jeekel's Nomenclator (1971).

Various journals (e.g., the Bulletin of the University of Utah, the *Bolletino* of the Museum of Zoology and Comparative Anatomy of the University of Torino) have appeared as volumes composed of sequential articles, each with its own pagination. In such cases, I have included the relevant article number parenthetically after the volume number, thus 60(8):. When pagination has run continuously throughout the volume, it has seemed unnecessary to cite the article number. Some journals (including the Proceedings of the U. S. National Museum), have alternated both the article and continuous pagination at different times, requiring attention to this point.

The bibliography contains just over 770 entries, and contains only those papers of strictly taxonomic and/or nomenclatorial content except in a few cases in which a treatment of biology, structure, or distribution contains relevant information.

Entries are thought to be complete up to the end of 1998; a few still in press are included.

#### Type localities

Generally, type localities are cited in standard size order, from the locality itself upward through larger political units; this is often a reverse of the original sequence as printed. The type localities of species described in languages other than English are often quoted in the original when this seemed desirable (e.g., when something might be lost in translation). I have tried to locate many places that were not clearly specified in the original description, but not consistently so - some things are left for a later generation to run down. Many place names, especially in Guatemala, are those of small ranches (*fincas*) not shown on most maps. Where possible I have provided distance and direction from the nearest mapped settlement. Cuba has provided a special problem in that the original four provinces have been recently divided into fourteen and I am not sure I have correctly allocated all localities into their new categories.

#### Type specimen depositories

For most North American names, the location (or existence) of the type material has been established. In some instances, material once thought to be lost is discovered through routine curatorial activity. Type material of Middle American taxa is less well-known, and lectotypes have yet to be designated for many of them. This is especially true for material in European collections. So far a detailed list of type holdings in millipeds has been published only for the historically important collection at Berlin (Moritz & Fischer, 1973, 1974, 1975, 1978). This document is beyond praise for its thorough coverage and ease of use, and ironically was produced by a government not celebrated for its affluence. During the time period 1960-1997 I was able to visit the majority of the most significant European milliped collections; frequently a personal visit was the only way to locate the desired material even though it might be maintained in

excellent condition.

It is an accepted liability of most taxonomic work that type material has often been lost or misplaced in the past, or sometimes destroyed during wartime events. Occasionally, an investigator will deposit types in a collection other than the one specified in publication, or under a different name from that published. Sometimes, a preoccupied name will be replaced by a later worker, without the change being noted on the type material records, usually because museums rarely are staffed by anyone knowledgeable in an arcane branch of zoology such as myriapodology. Coping with such problems becomes routine and with the passage of time they are gradually detected and managed in some way. In fact, the element of solving some of the Sphingian riddles that infest milliped taxonomy becomes a source of some intrinsic interest and pleasure of its own, and the ability to turn adversity to advantage is especially useful to anyone following on the trail of such predecessors as Chamberlin and Verhoeff.

Sometimes type material, particularly of taxa named by Chamberlin and Causey, never found its way to the stated depositories as published. For example, only a part of the species named by Chamberlin in his 1947 paper on material belonging to the Academy of Natural Sciences of Philadelphia are present in that institution, and only one or two of those named in his 1914 paper on Costan Rican millipeds. In general, missing types of species named by him between 1912 and 1925 may be located at the Museum of Comparative Zoology. Anything after that date was probably retained in his personal collection, and is possibly now in the U. S. National Museum of Natural History. During the period 1950-1955, Dr. Causey was careful to send types to the collections that she specified in the descriptions; in later years there was frequent default. Both of these authors occasionally changed the name originally assigned to new species, without making the necessary change to the vial label, resulting in type specimens standing under unpublished names. As a rule it is possible to recognize such problems and solve them by matching up names with published type data. Eventually all will be accounted for, but not all missing types can be expected to show up.

The loss of much of the material described by Pocock in the *Biologia Centrali-Americana* is a source of special concern. Pocock left the British Museum in 1903 to become director of the Zoological Society of London's menagerie at Regent's Park, at which new location he wrote most of the parts treating Diplopoda. For whatever reason, only a small part of the types and other material described in the later fascicles was returned to the Museum, e.g., several species of Sphaeriodesmidae. This is not to say that the specimens are lost forever; perhaps they reside (dry) in some neglected packing box in some obscure corner and will someday be discovered through a miracle of serendipity.

Types of the Mesamerican taxa named by DeSaussure are for the most part still present in the Geneva collection, and not in Paris (except as occasional duplicates) as was assumed by Cook (1898, for instance). Some of the species, later considered to have been misidentified and renamed solely on the basis of published information, still retain their original labels and are not indicated as types of the new names.

The enormous personal collection built up by Professor Chamberlin at the University of Utah was transferred in 1972 to the National Museum of Natural History, Washington (USNM), resulting in the presence there of the world's greatest accumulation of milliped types. The vast majority of taxa proposed by him during the years 1925-1962 are represented by type material, since he retained paratypes, whenever possible, from type series belonging to other museums, in addition to that belonging to his personal collection.

Lastly, the types of a large number of North American species described by Dr. R. M. Shelley from 1975 to 1995, were transferred to the National Museum from the North Carolina State Museum of Natural Sciences, the originally stipulated depository (vide Shelley, 1996: 8).

To the extent of my knowledge, the known (or presumed) location of all holo-, neo-, and lectotypes is indicated by an acronym (see following list) following citation to the original

description. Also to the extent known, the sex of the specimen(s) is entered as well. I anticipate that this category of data will be refined and upgraded by future research. A few small collections with only a few types have been indicated by an abbreviated name rather than acronym.

AMNH - American Museum of Natural History, New York  
 ANSP - Academy of Natural Sciences, Philadelphia  
 BMNH - British Museum (Natural History), London [ currently The Natural History Museum ]  
 CAS - California Academy of Sciences, San Francisco  
 FMNH - Field Museum of Natural History, Chicago  
 FSCA - Florida State Collection of Arthropods, Gainesville  
 HNHM - Hungarian Natural History Museum, Budapest  
 INHS - Illinois Natural History Survey, Urbana  
 ISNB - Institute Royal des Sciences Naturelles, Brussels  
 LACM - Natural History Museum of Los Angeles County, California  
 LEAP - Laboratorio de Entomologia Agraria, Portici  
 MNHG - Museum d Histoire Naturelle, Gen ve  
 MNHNCu - Museo Nacional de Historia Natural, La Habana  
 MHNP - Museum National d Histoire Naturelle, Paris  
 MCZ - Museum of Comparative Zoology, Cambridge (USA)  
 NRMS - Naturhistoriska Riksmuseum, Stockholm  
 NMW - Naturhistorisches Museum, Wien  
 PMNH - Peabody Museum of Natural History, Yale University, New Haven  
 SMF - Forschungsinstitut Senckenberg, Frankfurt am Main  
 SMUK - Snow Museum, University of Kansas, Lawrence  
 UCD - University of California at Davis  
 USNM - United States National Museum of Natural History, Washington  
 VMNH - Virginia Museum of Natural History, Martinsville  
 ZMB - Zoologisches Museum der Humboldt-Universit t, Berlin  
 ZMH - Zoologisches Museum, Hamburg  
 ZMUC - Zoologisk Museum, Universitet Kjøbenhavn  
 ZSBS - Zoologisches Sammlung des Bayerisches Staates, M nchen

I have retained some abbreviations out of respect to decades of traditional usage although alternative codons have been proposed to reflect changes in institutional names. Thus I prefer USNM over NMNH and BMNH over TNHM (The Natural History Museum, London).

Abbreviations for cited type specimen categories:

HT - holotype  
 PT - paratype(s)  
 ST - syntype(s)  
 LT - lectotype  
 LPT - lectoparatype(s)

NT - neotype

NPT - neoparatype(s)

#### Abbreviations of political units

Co.: County

Dept.: Departamento

Mun.: Municipio

Prov.: Provincia

Est.: Estado

Par.: Parish

### Acknowledgments

Any synthetic work of this scope and magnitude can hardly be considered the work of a single author: in a sense all of the scientists from whose publications it has been compiled can be regarded

as co-authors. Also the curators of those collections containing relevant type material have contributed in providing access to the specimens, rare literature, and useful historical folklore. In less tangible but still important ways, colleagues have represented an ongoing source of information which has been assimilated over the years and integrated into the eventual product.

I have to acknowledge the invaluable aid rendered by several colleagues in particular: Bruno Cond, Henrik Enghoff, Sergei I. Golovatch, Jean-Paul Maur es, Alessandro Minelli, Monique Nguyen Duy, William A. Shear, and Rowland M. Shelley, who read over parts of the manuscript or provided specific points of information as the work evolved. For help in locating obscure places in Mexico, Cuba, and Costa Rica, I am obligated to Julian Bueno Villegas, Antonio R. Perez-Asso, and Julian Monge-Najera, respectively.

H. F. Loomis, acknowledged doyen of Mesamerican diplopodology and esteemed friend for many decades, provided help even beyond his demise in 1976, by making me heir to his collection and library, as well as a card-index and manuscript update of the 1918 West Indian checklist. The documentation even included an extensive list of the errors that Mr. Loomis had discovered in the 1958 Chamberlin & Hoffman Checklist.

While the general concept of such a checklist had been latent for many years, it was catalyzed into substance by staff members of the Environmental Protection Agency, United States Department of the Interior. Steven Schilling first broached the possibility of funding for the work. Later Barbara Lamborne was my liason with EPA.

Extensive aid in producing the camera-ready copy was provided by Susan C. Kirby and Christine Plaughter, both of Martinsville. Editorial support, advice, counsel, and direct help were provided by Rick L. Boland, formerly editor and colleague at the Virginia Museum of Natural History.

## Historical Summary

The development of milliped classifications has been discussed in some detail in my *Classification of the Diplopoda* (1980), to which the interested reader is referred, and will not be considered here except to the extent that major changes are explained in a Remarks: heading under the taxa concerned. It may be noted that in several orders, really major changes have already occurred since 1980, while others have remained virtually untouched.

In a somewhat different context, a short historical survey of the literature may embody a certain amount of reader interest as well as bibliographic value.

The first complete list of North American millipeds was published in 1865 by the Philadelphian physician, algologist, and student of diverse arthropod taxa, Horatio C. Wood. Forty-one species, dispersed through six genera and five families in a single order, were treated in a careful descriptive monograph notable, among other things, for its woodcut illustrations of both male and female genitalia. Shortly afterward, this information was integrated, with refinements, into a comprehensive monographic treatment of all known New World species by Henri DeSaussure & Alois Humbert (1872), which really qualifies as the baseline work for the entire hemisphere. DeSaussure himself was the first myriapod specialist to collect in tropical America, preceding by several decades the activities of Cook and Loomis in Central America and the West Indies.

Wood's immediate successor in the United States was Charles Harvey Bollman, who commenced a brief but productive scientific career while only 19 years of age and described a considerable number of American taxa prior to his untimely death in 1889. His posthumously published checklist of North American millipeds (1893) accounted for some 119 species, 29 genera, and six families, still included in the single order Diplopoda. Almost contemporaneously, the study of our fauna was taken up by O. F. Cook, at whose hand the classification of Diplopoda experienced an amazing escalation into modernity, although the actual number of North American species described by Cook was relatively modest. Within a decade, however, the description of Nearctic millipeds was commenced in earnest by R. V. Chamberlin, who published hundreds of nominal new species during the following half-century. Cook's protege H. F. Loomis, entered the field around the middle 1920s and also named many new species, genera, and some families, even though his primary interests lay with the millipeds of the West Indies and Middle America.

By 1950, the knowledge of the North American fauna was scattered through so many short, mostly descriptive papers (only Loomis had prepared several comprehensive family revisions), that only the most determined novice could hope to gain some command of the literature. In that year, Professor Chamberlin and I began preparation of a new North American checklist, which continued entirely through the mail until the end of 1955, when the manuscript was submitted to the United States National Museum for publication. After a long journey through the editorial process, this work appeared in September of 1958, accounting for 749 species and subspecies, 200 genera, and 36 families, encompassed in 12 orders. Roughly, these figures reflected virtually a **sevenfold** increase at all levels, from those admitted by Bollman in 1893.

Work on the taxonomy of North American millipeds since about 1950 has reflected the situation on a global basis, namely a shift away from the mindless description of new taxa with an absolute minimum of synthesis, into the revision of genera and small families using modern systematic principles, and the resolution of the numerous nomenclatorial pitfalls that infested the literature. Although the number of investigators entering this area has not been great, the volume of their careful work has in less than 40 years rendered both the 1958 and 1968 checklists totally obsolete (actually some parts were out of date even by the time they were published). A revised version, reflecting the major refinements and improvements made since 1955 has been a real desideratum for a long time.

Although some large families (e.g. Parajulidae, Rhinocricidae, Spirostreptidae) remain to be revised, the taxonomy of our fauna may be said to have progressed well into the beta level of refinement, with the way now prepared for aspiring students to learn both what has been securely established and what lacunae remain to be investigated. The information in the following pages is intended to provide a summary of and means of entry into the current stage of milliped systematics.

It is an interesting historical parallel that, just as descriptive activity with North American millipeds during the first half of this century was largely the domain of two workers only, the burden of post-1950 research has likewise been carried by two scientists. Reference is made to the solid contributions of William A. Shear, specializing on chordeumatidans, and the impressive

monographs written by Rowland M. Shelley, who although partial to polydesmidans copes skillfully with taxa in other orders. Largely through the efforts of these two authorities, the systematics of American diplopods have been upgraded in just a few decades from the complete chaos of 1950 to a level of sophistication enjoyed by animals (such as most vertebrates) which have been investigated for much longer periods of time.

During the same period, of course, lesser contributions were made by several other investigators. The present writer contributed a variety of small generic revisions and a synopsis of the Atopetholidae before ceding the field to his colleagues and turning to tropical species. In a very short time period (1959-1966) William T. Keeton published a number of studies of American millipeds, chiefly xystodesmids and spirobolids, including an impressive, model revision of the family Spirobolidae. Nell B. Causey named a large number of species and genera during the period 1942-1975, but her work rarely transcended the purely descriptive, alpha-level stage. J. S. Buckett and M. R. Gardner commenced a highly promising research program in California during the 1960s and early 1970s which produced some useful revisionary studies; regrettably the initial momentum was not sustained beyond Gardner's impressive revision of the Caseyidae. Finally, both Chamberlin and Loomis continued to contribute short taxonomic papers well into the 1960s, although their primary interest was by then with tropical faunas.

Perhaps the most notable areas of progress in North America since 1958 have been the reduction of dozens of names to synonymy, vast improvement in knowledge of geographic ranges, and a quantum leap in the substance and overall quality of publications treating that milliped fauna. While new students will now find entry into the subject relatively easy, they will also have high standards to meet and uphold.

Knowledge of the Mesamerican fauna, largely initiated by H. DeSaussure in 1860 and fully documented by DeSaussure & Humbert in 1872, experienced a major advance in R. I. Pocock's volume on myriapods in the *Biologia Centrali-Americana* (1903-1910), which referenced all previously-known species as well as the descriptions of many new taxa, always with keys, illustrations, and thoughtful discussions. Pocock, like Cook, was endowed with an innate sense of taxonomic reality, and his work was a model of thorough, insightful investigation. He had earlier (1894) produced a summary of the known millipeds of the West Indies, which was state of the art for its time. Concurrently with the *Biologia*, H. W. Brolemann (1900-1911) described a number of species from Costa Rica and Guatemala.

R. V. Chamberlin, when at the Museum of Comparative Zoology from 1910 to 1925, studied collections from several Neotropical areas, producing in 1918 a survey of the West Indian diplopods and in 1922, a similar treatment of the fauna of Central America. Both of these contributions were chiefly the vehicles for the description of many new taxa, but the author did include reference to all species known for the regions concerned. Regrettably Chamberlin did not provide illustrations with his 1918 paper (which guaranteed instant confusion and uncertainty), and although the novelties of 1922 were documented with good drawings, the way in which these had been oriented did not always provide the information needed by other specialists to recognize the essential characteristics, particularly of the polydesmidan species. In short, the work by Chamberlin introduced far more problems than progress, a pattern which was to persist for many decades to come in dozens of short papers describing a plethora of Mesamerican taxa. Generally, the burden of adequately documenting Chamberlinian names has fallen to his successors, and fortunately, his entire collection, including types, was deposited in the U. S. National Museum of Natural History and is available for study.

Distinctly more positive and useful contributions to Mesamerican millipeds were made by H. F. Loomis, beginning with his noteworthy treatments of the West Indian faunas (1934-1977) and subsequent attention to the species of Mexico, Costa Rica, and Panama. Loomis's work was careful and well-illustrated (although he never adopted the standard mesal aspect for drawing polydesmidan gonopods), and his monographs on the faunas of Hispaniola (1936) and Panama (1964) stand out as oases in a desert of chaotic short descriptive papers. His 1968 checklist of the Mesamerican species is beyond praise for its fundamental reference value, although 30 years



of subsequent work have rendered it obsolete.

A complete survey of the millipeds of El Salvador was published by Otto Kraus in 1954, the many new taxa supported by excellent illustrations. Numerous new species and genera were named by Nell B. Causey during the years 1954-1973 from Mexican collections, chiefly from caves. The present writer also contributed a number of short papers relating to Mesamerican taxa. However, the most substantial publications of recent decades have been the series authored by Professor Shear (1974-1986) on millipeds collected in Central American caves. He has also monographed the entire family Cleidogonidae (1972) in an exemplary way.

## Taxa excluded from the area coverage

As our knowledge of milliped taxonomy becomes increasingly refined, it is inevitable that a number of species (and higher categories) are found to have been erroneously included in previous lists. Most of these alien elements are the result either of misidentifications or mislabeling at some stage of preparation or study. Loss of taxa through synonymy is of course not considered in this context.

1. *Ergethus perditus* Chamberlin, 1949. Originally described from Edinburg, Texas as the sole member of a new family Ergethidae in the order Chordeumatida, this species was found to be actually a member of the Peruvian genus *Porcullosoma* (Paraxosomatidae). (Shear, 1971).

2. *Spirostreptus abstemius* Karsch, 1881, supposedly from Kuba, proves to be mislabeled material referable to a South American genus (*Anethoporus*) not known to occur in the West Indies (Hoffman, 1996).

3. *Pycnotropis latzeli* Attems, 1931, the types of which were labeled Panama, almost certainly is native to Peru or Ecuador.

4. *Rhinocricus haitophilus* Silvestri, 1897, thought to have come from Haiti, is obviously a species of *Salpidobolus* (**new combination!**), rather similar in gonopod characters to *S. repandus* (Attems, 1914), and is thus native to the Indonesian region.

5. *Polydesmus mexicanus* Lucas, 1840. This name appears to have been based upon a platyrhacid, probably of the genus *Barydesmus*, originating somewhere in South America.

6. *Polydesmus bilineatus* Lucas, 1840. The foregoing statement applies equally well to this name.

7. *Semionellus tertius* Chamberlin, 1948. This species, which was transferred into the genus *Aphelidesmus* by Chamberlin & Hoffman, 1958, was said to have come from Kerr Co., Texas. This genus, of course, occurs no further north than Costa Rica, and it seems likely that the type material of *tertius* actually came from Colombia or Ecuador (analogous to the case of *Ergethus perditus*).

8. *Polydesmus (Hormobrachium) racovitzai* Brolemann. This species, endemic to a local area in the Pyrennes Mountains, was recorded from Seattle, Washington, by Causey (1954: 82).

In a recent review of anthropochoric polydesmids in western United States, Shelley (1996) has expressed the opinion that the material (not currently available) is actually misidentified, implying *P. inconstans* which is superficially similar in gonopod structure, or *P. angustus*, both now known from a number of sites in the Pacific Northwest.

9. *Rachis californicus* Daday, 1891, was based on a single male in the Hungarian Natural History Museum labeled California, and for many decades was carried in various lists as a member of the family Rhacodesmidae. Although the specimen apparently no longer exists, the original description and drawing permit identification of the name as referable to the South American chelodesmid genus *Leptherpum* (Hoffman, 1992).

10. *Spirostreptus ventralis* von Porat, 1876. The type material of this species was labeled as from S:t. Thomas which Porat assumed to be the island in the West Indies. This precedent was followed by Pocock (1894) and all subsequent investigators who treated that fauna.

However, Brolemann (1902) saw specimens that he thought were *ventralis* from Brazil, opening the possibility that the types might have been mislabeled or introduced into St. Thomas. The truth was anticipated by Jeekel (1971: 129) who used the Portuguese spelling So Tom in connection with this species. My eventual study of the holotype at Stockholm in 1983 showed that *ventralis* is in fact a Brazilian *Gymnostreptus*, possibly native to the state of Natal (Hoffman, 1997: 72). No spirostreptids have been unimpeachably recorded from the Antillean St. Thomas.

11. *Stemmiulus bioculatus* Gervais, 1847, was recorded from Punta Sabana, near La Palma, Prov. Darien, Panama, by Silvestri, 1895. It seems very unlikely that Silvestri's material was conspecific with the female types of Gervais, from central Colombia.

12. *Chondrodesmus frauenfeldianus* (Humbert & DeSaussure, 1870). Silvestri's records (1895) of this species from several localities in western Darien cannot be taken seriously unless confirmed by actual comparison of his material with the original types.

13. *Oncodesmus granosus* (Gervais & Goudot). Recorded by Silvestri (1895) from Darien, but as noted by Pocock (1909) The specimens from Panama referred by Silvestri to *O. granosus* may belong to a different species.

14. *Crypturodesmus targionii* Silvestri, 1897, was described from Mexico and carried without question in the *Biologia* (Pocock, 1909). Loomis (1968: 18) noted that in the separatum of the 1897 paper which he received from Silvestri, the word Messico in the title had been cancelled and replaced with Brasile. This change is logical in view of the restriction of congeneric species to southern Brazil.

15. *Julus caesar* Karsch, 1881. The occurrence of julids in Puerto Rico has always seemed implausible, but the status of the two attributed to that island by Karsch was never investigated until 1999, when Henrik Enghoff examined the type material (ZMB) and advised me (*in litt.*) that *Julus caesar* is based upon an obviously mislabeled female specimen of *Pachyiulus hungaricus* (Karsch) or a closely related species.

16. *Julus curiosus* Karsch, 1881. Dr. Enghoff was able to establish that this name is based upon a female specimen (ZMB) of a *Cylindroiulus*, either *caeruleocinctus* (Wood) or a closely related species (*in litt.*, February 1999). Thanks to his interest in this problem, two of the last enigmatic names afflicting the Antillean milliped fauna have been removed from consideration.

## Order Polyxenida Lucas

### Family Lophoproctidae Silvestri

Lophoproctidae Silvestri, 1897, Ann. Mus. Civ. Stor. Nat. Genova, 38: 645.

#### Genus **Lophoproctinus** Silvestri

*Lophoproctinus* Silvestri, 1948, Boll. Lab. Ent. agr. Portici, 8: 217. Type species:  
*Lophoproctinus inferus* Silvestri, 1903, by original designation.

**Lophoproctinus diversunguis** Silvestri

*Lophoproctinus diversunguis* Silvestri, 1949, Boll. Lab. Ent. agr. Portici, 9: 3. Types (LEAP) from Orizaba, Veracruz, Mexico.

**Lophoproctinus mexicanus** Silvestri

*Lophoproctinus mexicanus* Silvestri, 1949, Boll. Lab. Ent. agr. Portici, 9: 1. Types (LEAP) from Jalapa (=Xalapa), Veracruz, Mexico.

**Lophoproctinus notandus** Silvestri

*Lophoproctinus notandus* Silvestri, 1949, Boll. Lab. Ent. agr. Portici, 9: 4. Types (LEAP) from San Francisco, Veracruz, Mexico.

Recorded also from Chipinque Mesa at Monterey, Nuevo Leon, Mexico (Loomis, 1966: 515); and probably occurs also in Texas.

**Genus Lophoturus** Brolemann

*Lophoturus* Brolemann, 1931, Archs Zool. exp. g n., 72: 304 (as subgenus of *Lophoproctus*). Type species: *Lophoproctus obscurus* Brolemann, by original designation. \_ Cond & Nguyen Duy-Jacquemin, 1977, Bull. Mus. Nat. Hist. Natur. (3A) 477: 909 (raised to generic rank).

*Alloproctus* Silvestri, 1948, Boll. Lab. Ent. agr. Portici, 8: 217. Type species: *Alloproctus guineensis* Silvestri, 1948, by original designation (preoccupied).

*Alloproctinus* Jeekel, 1963, Ent. Bericht., 23: 156. New name for *Alloproctus* Silvestri, with the same type species. Synonymized by Cond & Nguyen Duy-Jacquemin, 1977.

**Lophoturus aequatus** (Loomis)

*Lophoproctus aequatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 7, fig. 1. HT (USNM) from Petite Riviere de Artibonite, Haiti.

*Lophoturus aequatus*: Cond & Terver, 1965, Stud. Fauna Curaao, 22: 127, figs. 96d-g, 97b, 98d-f, 99b (redescription from \_ topoparatype) ; Cond , 1996, M m. Mus. Nat. Hist. Natur., 169: 133, figs. 4a, b.

Range: Recorded also from Key Largo, Florida, by Cond (1996: 134).

**Lophoturus anisorhabdus** (Cond & Terver)

*Alloproctinus anisorhabdus* Cond & Terver, 1964, Stud. Fauna Suriname, 7: 19, figs. 3, 4. \_ HT (Cond coll.), from Guatemala, without precise locality .

**Lophoturus crassipes** Cond & Terver

*Lophoturus crassipes* Cond & Terver, 1979, Rev. Ecol. Biol. Sol, 16: 145, figs. 6a-f. MALE HT (MNHN) from Pic du Paradis, 420 m., Saint Martin, Lesser Antilles.

**Lophoturus longisetis** (Pocock)

*Polyxenus longisetis* Pocock, 1894, Journ. Linn. Soc. London, 24: 474, fig. 1. ST (BMNH) from Mustique Island, Lesser Antilles.

*Lophoturus longisetis*: Cond & Terver, 1979, Rev. Ecol. Biol. Sol., 16: 137. Designation and description of lectotype.

Range: Recorded also from Jamaica and St. Eustatius.

**Lophoturus longisetis scopiger** Cond & Terver

*Lophoturus longisetis scopiger* Cond & Terver, 1979, Rev. Ecol. Biol. Sol, 16: 143, figs. 5a-c. MALE HT (MNHN) from La D sirade, Guadeloupe, Lesser Antilles.

**Lophoturus madecassus** (Marquet & Cond )

*Alloproctus madecassus* Marquet & Cond , 1950, M m. Inst. Sci. Madagascar (A) 4: 114, figs. 1-6. HT (Cond coll.) from Tul ar, Madagascar.

*Lophoturus madecassus*: Nguyen Duy-Jacquemin & Cond , 1984, Bull. Mus. Nat. Hist. Natur., (4) 4: 722 (record for Tortugas Keys, Florida).

Range: Nearly circumtropical, recorded from Madagascar, Ivory Coast, Jamaica, Florida Keys, and the Tonga Islands, perhaps synanthropically dispersed.

**Lophoturus niveus** (Loomis)

*Lophoproctus niveus* Loomis, 1934, Smiths. Misc. Coll. 89(14): 5, fig. 1 .FEMALE HT (USNM) from Beata island, Haiti .

*Alloproctinus niveus*: Cond & Terver, 1965, Stud. Fauna Cura ao, 22: 124, figs. 96a-c, 97a, 98a-c, 99a (redescription from topoparatype ).

**Lophoturus vicarius** Cond & Terver

*Lophoturus vicarius* Cond & Terver, 1979, Rev. Ecol. Biol. Sol, 16: 147, figs. 7a-c. MALE HT (MNHN) from Maria Galante, Guadeloupe, Lesser Antilles.

**Genus Plesioproctus** Cond

*Plesioproctus* Cond , 1964, Rev. Fran aise Entom., 31: 62. Type species: *Lophoproctus comans* Loomis, 1934, by original designation.

Monotypic, with a circum-Caribbean distribution.

**Plesioproctus comans** (Loomis)

*Lophoproctus comans* Loomis, 1934, Smiths. Misc. Coll., 89(14): 4, pl. 1, fig. 1. FEMALE HT

(USNM) from Maracas Valley, Trinidad .

*Plesioproctus comans*: Cond , 1964, Rev. Fran aise Entom., 31: 62, figs. 1a-d, 2a-f (redescription from holotype). \_ Terver, Terver, & Cond , 1968, Entomol. Meddel, 36: 191, figs. 1-7.

Range: Recorded from Reventazon, Prov.San Jose, Costa Rica, and Mona, St. Andrew Parish, Jamaica, as well as localities in Colombia and Venezuela.

## Family **Polyxenidae** Lucas

*Pollyx nites* Lucas, 1840, Hist. Nat. Crust. Myriap., 518.

*Pollyxenidae* Gervais, 1847, Hist. Nat. Insectes Apt., 4: 47.

## Genus **Polyxenus** Latreille

*Polyxenus* Latreille, 1802/1803 (the original form *Pollyxenus* has been construed as an incorrect original spelling by Opinion 905, 1970, of the ICZN). Type species: *Scolopendra lagura* Linnaeus, by monotypy. \_ Cond , 1996, M m. Mus. natn. Hist. nat. 169: 127 (review of North American species).

About 10 nominal species, some of them species dubia, in the Northern Hemisphere, four occurring in North America.

### **Polyxenus fasciculatus** (Say)

*Polyxenus fasciculatus* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 108. (neotype: MNHN) Southern States (Say); restricted by Cond (1996: 128) to St. Simon's Island, Glynn Co., Georgia.

*Polyxenus fasciculatus* variety *pallidus* Ryder, 1878, American Natur., 12: 558.

Range: As defined by Nguyen Duy-Jacquemine (1976: 114) and Cond (1996: 130), this species is known to occur-chiefly in the Coastal Plain - from Maryland to Texas, north to Illinois; also recorded from Bermuda and the Canary Islands.

### **Polyxenus lagurus** (Linnaeus)

*Scolopendra lagura* Linnaeus, 1758, Syst. Natur., ed. 10, p. 637. Sweden; no type known to exist.

*Pollyxenus lagurus*: Latreille, 1804, Hist. Natur. Crust. Insect., p. 82.

*Polyxenus lagurus*: Latzel, 1884, Myr. ster.-Ungarn. Monarch., 2: 74, pl. 3, figs. 22-34, pl. 4, figs. 35-39. \_ Cond , 1996, M m. Mus. natn. Hist. nat., 169: 130.

Range: Widespread in western Europe, also in North America, where recorded from Massachusetts, New Jersey, New York, Michigan, Illinois, Montana, Washington, Colorado, and Arizona. Cond (1996: 130) suggests the possibility of a native Holarctic distribution rather than anthropochoric transatlantic dispersal.

**Polyxenus pugetensis** Kincaid

*Polyxenus pugetensis* Kincaid, 1898, Ent. News, 9: 192. "Western Washington" (Kincaid).  
 Cond, 1996, M m. Mus. Nat. Hist. Natur., 169:130, fig. 2 (redescription from a "cotype"  
 Cond coll.) from the University of Washington campus in Seattle, King Co.,  
 Washington).

Range: Cond (1996: 130) recorded material from the Olympic Peninsula, Mason Co.,  
 Wash-ington, and from Benton County, Oregon. ?British Columbia

**Polyxenus anacapensis** Pierce

*Polyxenus anacapensis* Pierce, 1940, Bull. Southern California Acad. Sci., 39: 164, figs. 3, 6, 9,  
 15- 18. Types (LACM) from Middle Anacapa Island, Santa Barbara Co., California.\_  
 Conde, 1996, M m. Mus. Nat. Hist. Natur., 169: 132, fig. 3a-b (redescription from  
 paratype).

Genus **Macroxenodes** Silvestri

*Macroxenodes* Silvestri, 1948: Boll. Lab. Ent. Agr. Portici, 8: 216. Type species: *Polyxenus  
 meinerti* Silvestri, 1898, by original designation.

Four widely dispersed species, Brazil to Baja California.

**Macroxenodes bartschi** (Chamberlin)

*Polyxenus bartschi* Chamberlin, 1922, Ent. News, 33:165. one of the Tortugas, Florida ,  
 construed by Chamberlin & Hoffman (1958: 10) to be Tortugas Key, Monroe Co., Florida.  
 Original type (?MCZ) apparently lost.

*Macroxenodes bartschi*: Nguyen Duy-Jacquemin & Cond , 1984: Bull. Mus. Nat. Hist. Natur.,  
 (4) 6: 722, figs. 1-17 (redescribed from neotype taken on Upper Snipe Key, Monroe Co.,  
 Florida).

**Macroxenodes poecilus** (Chamberlin),

*Polyxenus poecilus* Chamberlin, 1923: Bull. California Acad, Sci.,12: 400, figs. 25-29. MALE  
 HT (CAS) from Puerto Bellandra, Isla Santa Inez Sur, Baja California (state  
 undetermined), M xico.

*Macroxenodes poecilus*: Cond & Nguyen Duy-Jacquemin, 1987, Rev. Ecol. Biol. Sol, 24: 103,  
 figs. 14-19 (redescription of holotype).

## POLYXENIDAE OF UNCERTAIN STATUS AND POSITION

**Barroxenus panamanus** Chamberlin, 1940, Bull. Univ. Utah, 30(9): 3. HT (USNM) from  
 Barro Colorado Island, Canal Zone, Panama.

**Polyxenus tuberculatus** Pierce, 1940, Bull. Southern California Acad. Sci., 39: 166. Type material (?LACM) from Sabinal, Uvalde Co., Texas.

**Polyxenus fasciculatus** variety **victoriensis** Pierce, 1940, Bull. Southern California Acad. Sci., 39: 163. Type material (?LACM) from Victoria, Victoria Co., Texas. Treated as a subspecies by Chamberlin & Hoffman, 1958: 10, who would be considered as the authors of the taxon *victoriensis* (ICZN Rec. 50c, 1985). Redescription should precede formal alterations of the name.

## Order Glomerida Leach

### Family Glomeridae Leach

Glomerides [sic!] Leach, 1815, Trans. Linnean Soc. London, 11: 376.

Glomeridia Brandt, 1833, Bull. Soc. Imp. Nat. Moscow, 6: 194.

Glomeridae Newport, 1844, Ann. & Mag. Nat. Hist., 13: 93.

Glomerididae Cook, 1896, Brandtia, p. 45.

Onomerididae Cook, 1896, Brandtia, p. 45.

### Genus **Glomeroides** Chamberlin

*Glomeroides* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 60. Type species: *Glomeroides centralis* Chamberlin, by original designation.

*Sonoromeris* Silvestri, 1929, Boll. Lab. zool. Portici, 22: 199 (as subgenus of *Apiomeris*). Type species: *A. (S.) prima* Silvestri, by original designation. Synonymized with *Glomeroides* by Shear (1986).

16 species, Mexico and Guatemala; one, California.

### **Glomeroides additus** Causey

*Glomeroides additus* Causey, 1973, Bull. Assn. Mexican Cave Stud. 5: 107, figs. 1, 2. MALE HT (USNM) from Cueva de Ungurria, 20 km WSW Tezonapa, Veracruz, Mexico.

**Glomeroides boneti** (Chamberlin)

*Glomeris boneti* (Chamberlin) 1943, Bull. Univ. Utah, 34(7): 69, fig. 171. MALE HT (USNM) from Parque Nacional de Zempoala, Morelos, Mexico.

*Glomeroides boneti*: Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 65.

**Glomeroides caecus** Causey

*Glomeroides caecus* Causey, 1964, Proc. Louisiana Acad. Sci., 27: 65, figs. 1-5. HT (MCZ?) from S tano de Huitzmolotitla, northeast of Xilitla, San Luis Potos , Mexico.

**Glomeroides centralis** Chamberlin

*Glomeroides centralis* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 60, pl. 24, figs. 5-8, pl. 25, figs. 1-4. MALEFEMALE syntypes (USNM) from Finca Treceaguas, five km southeast of Senah , Dept. Alta Verapaz, Guatemala.

**Glomeroides chiapensis** Shear

*Glomeroides chiapensis* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 70. MALE HT (AMNH) from Yochib, Chiapas, Mexico.

**Glomeroides comitan** Shear

*Glomeroides comitan* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 67, figs. 4, 11. MALE HT (AMNH) from Cueva de las Florecillas, San Francisco, Comit n, Chiapas, Mexico.

**Glomeroides cooki** Shear

*Glomeroides cooki* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 70, figs. 7, 12. MALE HT (AMNH) from Hoyas de Santa Mari , Mexico , the location of which has not been established but which is probably in Chiapas.

**Glomeroides grubbsi** Shear

*Glomeroides grubbsi* Shear, 1982, Assoc. Mexican Cave Stud. Bull. 8: 147, figs. 6-9. MALE HT (AMNH) from Cueva de Tasalolpan, five km SW Cuetzalan, Puebla, Mexico. Recorded from two other caves in Puebla.

**Glomeroides maculatus** Shear

*Glomeroides maculatus* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 69, figs. 3, 13. MALE HT (USNM) from Purula [=Purulh ], Dept. Baja Verapaz, Guatemala.

**Glomeroides orator** Shear

*Glomeroides orator* Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 71, figs. 6, 10. MALE HT (USNM) from ?Gobules Pass, Guatemala. The label with the type material is



partly illegible and the name here given is one possibility noted by Shear, although no such place name can be located in Guatemala. Until another sample of material collected by Cook with a more legible rendition is found, we remain ignorant of the actual type locality.

**Glomeroides patei** Shear

*Glomeroides patei* Shear, 1982, Assoc. Mexican Cave Stud. Bull. 8: 147, figs. 1-5. MALE HT (AMNH) from S tano de las Calenturas, Yerbabuena, Tamaulipas, Mexico. Recorded from six other caves in Tamaulipas and Nuevo Leon by Shear (1986).

**Glomeroides pecki** Shear

*Glomeroides pecki* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 71, fig. 15. MALE HT (AMNH) from 32 miles S of Valle Nacional, Oaxaca, Mexico.

**Glomeroides pellucidus** Shear

*Glomeroides pellucidus* Shear, 1973, Acc. Naz. Lincei, 171: 248, figs. 5-8. MALE HT (MCZ) from Cueva del Ojo de Agua Grande, Paraje Nueva, Cordoba, Veracruz, Mexico.

**Glomeroides primus** (Silvestri)

*Apiomeris (Sonoromeris) prima* Silvestri, 1929, Boll. Lab. Zool. Portici, 22: 200, figs. I: 1-12, II: 1-5 \_ FEMALE ST (LEAP) from Mill Valley, Marin Co., California.

*Glomeroides primus*: Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 71. Record for Monterey Co., California.

**Glomeroides promiscus** Causey

*Glomeroides promiscus* Causey, 1964, Proc. Louisiana Acad. Sci., 27: 65, figs. 6-8. MALE HT (MCZ) from S tano de G mez Far as, Tamaulipas, Mexico.

**Glomeroides sabinus** Shear

*Glomeroides sabinus* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 67. MALE HT (AMNH) from Cueva del Sab n, Rancho El Sab n, Ocozocoautla, Chiapas, Mexico.

**Glomeroides seamay** Shear

*Glomeroides seamay* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 65, fig. 8. FEMALE HT (USNM) from Seamay, three km south of Senah , Dept. Alta Verapaz, Guatemala.

Genus **Onomeris** Cook

*Onomeris* Cook, 1896, Brandtia, 10: 43. Type species: *O. underwoodi* Cook, by original designation.

Two, possibly three, species are named, there are others undescribed; southeastern United States.

**Onomeris australora** Hoffman

*Onomeris australora* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 13, figs. 1, 2. MALE HT (USNM) from Reed Creek Falls, Glade Mountain, near Satolah, Rabun Co., Georgia.

Range: Western North Carolina, northern Georgia.

**Onomeris underwoodi** Cook

*Onomeris underwoodi* Cook, 1896, Brandtia 10: 43. MALE FEMALE ST (USNM) from Auburn, Lee Co., Alabama.

Range: Southeastern United States, from South Carolina to Mississippi, north to Kentucky.

Genus **Trichomeris** Loomis

*Trichomeris* Loomis, 1943, Bull. Mus. Comp. Zool. 92: 374. Type species: *T. sinuata* Loomis, by original designation.

This monotypic genus is probably not separable from *Onomeris*.

**Trichomeris sinuata** Loomis

*Trichomeris sinuata* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 374, figs. 1a-f. MALE HT (MCZ) from Monte Sano State Park, six miles southeast of Huntsville, Madison Co., Alabama.

## Order Glomeridesmida Latzel

### Family Glomeridesmidae Latzel

Glomeridesmidae Latzel, 1884, Myr. ster.-Ung. Monar. 2: 124.

Zephroniodesmidae Cook, 1895, Ann. New York Acad. Sci. 9: 5.

Genus **Glomeridesmus** Gervais

*Glomeridesmus* Gervais, 1844, Ann. Soc. ent. France, (2) 2: xxvii. Type species: *G. porcellus* Gervais & Goudot, by monotypy.

About 25 species, West Indies; Ecuador north to southern Mexico; southern India, Sri Lanka,

Sumatra, Java, New Guinea, New Ireland.

**Glomeridesmus adjuntas** Chamberlin

*Glomeridesmus adjuntas* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 147. ?HT (USNM) from Adjuntas, Puerto Rico.

**Glomeridesmus albiceps** Loomis

*Glomeridesmus albiceps* Loomis, 1975, Florida Entom., 58:168, figs. 1, 2. MALE HT (FSCA) from Mount Diablo, St. Ann Parish, Jamaica.

Range: Also recorded from Trelawney and St. Thomas parishes, Jamaica.

**Glomeridesmus angulosus** Loomis

*Glomeridesmus angulosus* Loomis, 1948, Journ. Washington Acad. Sci., 38: 185, figs. 1, 2. MALE HT (USNM) from Moneague, St. Ann Parish, Jamaica.

**Glomeridesmus barricolens** Chamberlin

*Glomeridesmus barricolens* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 4. HT /?ST (USNM) from Barro Colorado Island, Canal Zone, Panam .

**Glomeridesmus bicolor** Loomis

*Glomeridesmus bicolor* Loomis, 1964, Fieldiana: Zool., 47: 11, fig. 1. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panam .

**Glomeridesmus centralis** Chamberlin

*Glomeridesmus centralis* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 61, pl. 25, figs. 5, 6. FEMALE HT (USNM) from Finca Actel, above La Tinta, Dept. Alta Verapaz, Guatemala.

**Glomeridesmus circularis** Loomis

*Glomeridesmus circularis* Loomis, 1964, Fieldiana: Zool., 47: 12, figs. 1B-F. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqui, Panam .

Range: Also recorded from Almirante, Prov. Bocas del Toro, Panam .

**Glomeridesmus concolor** Chamberlin

*Glomeridesmus concolor* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 172. HT (MCZ) from Jacmel, Haiti.

**Glomeridesmus grenadanus** Chamberlin

*Glomeridesmus grenadanus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 171. FEMALE HT (MCZ) from Grand tang, Grenada.

**Glomeridesmus jenkinsi** Loomis

*Glomeridesmus jenkinsi* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 10, fig. 2a-c. MALE HT (MCZ) from LeBorgne, Haiti.

**Glomeridesmus latus** Loomis

*Glomeridesmus latus* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 78, figs. 1a-c. MALE HT (USNM) from Cerro Campana, Prov. Panama, Panam .

**Glomeridesmus marmoreus** Pocock

*Glomeridesmus marmoreus* Pocock, 1894, Journ. Linnean Soc. London, 24: 476, pl. 37, figs. 2-a-m. ST (BMNH) from St. Vincent (several localities, it is not known whether a holotype was designated).

**Glomeridesmus parvior** Chamberlin

*Glomeridesmus parvior* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 4. HT/?ST (USNM) from Barro Colorado Island, Canal Zone, Panama.

**Glomeridesmus pectinatus** Loomis

*Glomeridesmus pectinatus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 18, fig. 1. MALE HT (MCZ) from El Yunque, 7 km west of Fajardo, Puerto Rico.

**Glomeridesmus riveroi** Chamberlin

*Glomeridesmus riveroi* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 147. HT/?ST (USNM) from Toro Negro, north of Villalba, Puerto Rico.

**Glomeridesmus rotundatus** Loomis

*Glomeridesmus rotundatus* Loomis, 1964, Fieldiana: Zool., 47: 13, figs. 1G-H. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Glomeridesmus sbordoni** Shear

*Glomeridesmus sbordoni* Shear, 1973, Accad. Naz. Lincei, Prob. Att. Sci. Cult. 171: 246, figs. 1-4. HT (MCZ) from Grutas de Cocona at Teapa, Tabasco, Mexico.

## Order Stemmiulida Pocock

### Family Stemmiulidae Pocock

Stemmiulidae Pocock, 1894, Journ. Linnean Soc. London, 24: 477. \_ Silvestri, 1916, Boll. Lab. zool. Portici, 10: 287 et seq. (revision of family).

Four genera, northern South America, Central America, West Indies, tropical Africa, India,

Sri Lanka, New Guinea.

### Genus **Prostemmiulus** Silvestri

*Prostemmiulus* Silvestri, 1916, Boll. Lab. zool. Portici, 10: 313. Type species: *P. mexicanus* Silvestri, by original designation.

About 42 species, West Indies, Central America south of Vera Cruz; northern South America.

#### **Prostemmiulus abditus** Loomis

*Prostemmiulus abditus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 18, figs. 5a-c. MALE HT (USNM) from Morne Pilboreau, above Ennery, Haiti.

#### **Prostemmiulus affinis** Loomis

*Prostemmiulus affinis* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 28, figs. 11a-b. MALE HT (USNM) from site between Petit Goave and Leogoane, Haiti.

#### **Prostemmiulus alveatus** Loomis

*Prostemmiulus alveatus* Loomis, 1937, Bull. Mus. Comp. Zool., 80: 216, figs. 3, 4. MALE HT (MCZ) from Soledad, Prov. Cienfuegos, Cuba.

#### **Prostemmiulus annulatus** Loomis

*Prostemmiulus annulatus* Loomis, 1964, Fieldiana: Zool., 47: 106, figs. 11A-D. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panam .

#### **Prostemmiulus atypus** Chamberlin

*Prostemmiulus atypus* Chamberlin, 1952, Great Basin Nat., 12: 15. FEMALE HT (FMNH) from Escobas, opposite Point Barrios, Guatemala. Presumably Puerto Barrios, Dept. Izabal, is intended.

#### **Prostemmiulus baliolus** Loomis

*Prostemmiulus baliolus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 430, figs 2a-b. MALE HT (MCZ) from site at 3000-4000 ft. in mountains above Imias, Prov. Guantanamo, Cuba.

#### **Prostemmiulus cincinnatus** Loomis

*Prostemmiulus cincinnatus* Loomis, 1964, Fieldiana: Zool., 47: 108, figs. 11E-F. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panam .

#### **Prostemmiulus clarus** Chamberlin

*Prostemmiulus clarus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 176. HT (MCZ) from Jacmel, Haiti.

*Prostemmiulus clarus*: Loomis, 1936, Bull. Mus. Comp. Zool. 80: 17, fig. 4. Illustration of gonopod.

#### **Prostemmiulus clavipes** Loomis

*Prostemmiulus clavipes* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 26, fig. 10. MALE HT (USNM) from vicinity of Trouin, Haiti.

**Prostemmiulus cognatus** Loomis

*Prostemmiulus cognatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 25, figs. 9a-b. MALE HT (USNM) from vicinity of Trouin, Haiti.

**Prostemmiulus compressus** (Karsch)

*Stemmiulus compressus* Karsch, 1881, Zeitschr. Naturw., 54: 11. FEMALE HT (ZMB) from Porto Rico without further indication.

*Stemmiulus compressus*: Pocock, 1894, Journ. Linn. Soc. London, 24: 478. Name only.

Not *Diopsiulus compressus* Silvestri, 1908, Bull. American Mus. Nat. Hist., 24: 566, fig. II, 1-8. The differences in size and segment number make it almost certain that Silvestri's material was not conspecific with the holotype. Only examination of the cyphopods of the latter can associate the name *compressus* with any particular species of this genus on Puerto Rico. The same constraint applies to the usages by Chamberlin in 1922, 1950, and 1952.

**Prostemmiulus cooki** Chamberlin

*Prostemmiulus cooki* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 11, pl. 5, figs. 5-12. MALE HT (USNM) from Joyabaj, Dept. Quiche, Guatemala.

**Prostemmiulus cubae** Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 176. MALE HT (MCZ) from Guantanamo, Prov. Guantanamo, Cuba.

**Prostemmiulus gracilipes** Loomis

*Prostemmiulus gracilipes* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 26, figs. 6a-d. MALE HT (MCZ) from rain forest at 6000 ft., near Valle Nuevo, Republica Dominicana.

**Prostemmiulus grandis** Loomis

*Prostemmiulus grandis* Loomis, 1972, Florida Entom., 55: 202, figs. 26-29. MALE HT (USNM) from Cairo, Prov. Limón, Costa Rica.

**Prostemmiulus heatwolei** Velez

*Prostemmiulus heatwolei* Velez, 1967, Caribbean Journ. Sci., 7: 32, figs. 18, 19. MALE HT (USNM) from Km 6.2 on Hy. 186, Rio Grande, Puerto Rico.

**Prostemmiulus interruptus** Loomis

*Prostemmiulus interruptus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 24, figs. 8a-b. MALE HT (MCZ) from La Vestite, 6000-7000 ft., La Selle Range, Haiti.

**Prostemmiulus iuloides** Loomis

*Prostemmiulus iuloides* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 22, figs. 4a-b. MALE HT (MCZ) from Pico del Yaque, 8000-10,000 ft., Loma Rucilla, Cordillera Central, Republica Dominicana.

**Prostemmiulus leucus** (Chamberlin)

*Stemmiulus leucus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 33. FEMALE HT (USNM) from Atoyac, Veracruz, Mexico.

*Prostemmiulus leucus*: Loomis, 1966, Bull. U. S. Nat. Mus., 266: 71.

**Prostemmiulus lombardiae** Chamberlin

*Prostemmiulus lombardiae* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 10, pl. 5, figs. 1-4. MALE HT (USNM) from Lombardia, Honduras.

**Prostemmiulus loomisi** Mauri s

*Prostemmiulus loomisi* Mauri s, 1979, Bull. Mus. Nat. Hist. Nat., 4(A) 1: 631, figs. 14-22. MALE HT (FMNH) from Finca La Selva, Prov. Heredia, Costa Rica.

**Prostemmiulus mexicanus** Silvestri

*Prostemmiulus mexicanus* Silvestri, Boll. Lab. Zool. Portici, 10: 323, fig. 32, 1-12. HT (?ST) (LEAP) from La Buena Ventura, Santa Rosa, Veracruz, Mexico.

**Prostemmiulus modicus modicus** Silvestri, **stat. nov.**

*Prostemmiulus modicus* Silvestri, 1916, Boll. Lab. Zool. Portici, 10: 324, figs. 33, 1-14. HT/ST (LEAP) from Jalapa, Veracruz, Mexico.

**Prostemmiulus modicus cordovanus** Silvestri, **stat. nov.**

*Prostemmiulus modicus* var. *cordovana* Silvestri, 1916, Boll. Lab. Zool. Portici, 10: 326, fig. 33, 15-18. HT/ST (LEAP), from Cordoba, Veracruz, Mexico.

**Prostemmiulus nesides** Chamberlin

*Prostemmiulus nesides* Chamberlin, 1922, Proc. U. S. Nat. Mus. 61(10): 2 pl. 1, figs. 1-3. FEMALE HT (MCZ) from Bibijagua, Isla de Pinos [now Isla de Juventud], Cuba.

**Prostemmiulus obscurus** Chamberlin

*Prostemmiulus obscurus* Chamberlin, 1952, Great Basin Nat., 12: 16. FEMALE HT (FMNH) from Kenscoff, 4500 ft., Haiti.

**Prostemmiulus oculus** Loomis

*Prostemmiulus oculus* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 109, figs. 6c-e. HT (USNM) from El Valle, Prov. Coclé, Panam .

**Prostemmiulus picadoi** Silvestri

*Prostemmiulus picadoi* Silvestri, 1916, Boll. Lab. Zool. Portici, 10: 327, figs. 35, 1-4.  
FEMALE HT/ST (LEAP) from La Estrella (82.55W, 9.45N), Prov. Limón, Costa Rica.

**Prostemmiulus quadristriatus** Loomis

*Prostemmiulus quadristriatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 22, figs. 7a-c. MALE HT (USNM) from Morne Pilboreau, above Ennery, Haiti.

**Prostemmiulus quintarius** Loomis

*Prostemmiulus quintarius* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 21, figs. 3a-c. MALE HT (MCZ) from Maricao Forest at 2500 ft., Puerto Rico.

**Prostemmiulus relictus** Chamberlin

*Prostemmiulus relictus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 9, pl. 4, figs. 3-12. HT (USNM) from La Ceiba, Dept. Atlantida, Honduras.

**Prostemmiulus robustus** Chamberlin

*Prostemmiulus robustus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62(5): 177. HT (MCZ) from Belona, Prov. Oriente, Cuba.

**Prostemmiulus scaurus** Loomis

*Prostemmiulus scaurus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 24, figs. 5a-d. MALE HT (MCZ) from Valle Nuevo, 7000 ft., southeast of Constanza, Republica Dominicana.

**Prostemmiulus setosus** Loomis

*Prostemmiulus setosus* Loomis, 1941, Bull. Mus. Comp. Zool. 88: 31. FEMALE HT (MCZ) from Valle Nuevo, 7000 ft., southeast of Constanza, Republica Dominicana.

**Prostemmiulus strigatus** Loomis

*Prostemmiulus strigatus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 432, figs. 3a-b. MALE HT (MCZ) from Sierra de Cobre, Prov. Oriente, Cuba.

**Prostemmiulus subulatus** Loomis

*Prostemmiulus subulatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 20, figs. 6a-b. MALE HT (MCZ) from Morne Brigand near Bayeux, Haiti.

**Prostemmiulus sulcatus** Loomis

*Prostemmiulus sulcatus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 30, figs. 8a-b. MALE HT (MCZ) from Monte Quita Espuela, 1000-3000 ft., Republica Dominicana.

**Prostemmiulus sulfurariae** Mauris, **stat. nov.**



*Prostemmiulus wheeleri sulfurariae* Mauri s, 1980, Bull. Mus. Nat. Hist. Natur., A(4) 2: 1083, figs. 31-38. HT (MNHN) from Matuoba, Basse-Terre, Guadeloupe.

Although unquestionably a close relative of *wheeleri*, this taxon is certainly genetically isolated by open sea, and until nominate *wheeleri* from Culebra has been redescribed (Silvestri's illustrations of the genitalia are distinctly schematic!) for a precise comparison, full specific status seems justified for *sulfurariae*.

**Prostemmiulus tenebrosus** Loomis

*Prostemmiulus tenebrosus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 429, figs. 1a-b. FEMALE HT (MCZ) from Pico Turquino, 5000 ft., Prov. Granma-Santiago de Cuba, Cuba.

**Prostemmiulus teres** Loomis

*Prostemmiulus teres* Loomis, 1964, Fieldiana: Zoology, 47: 109, figs. 11 G-K. MALE HT (FMNH) from west of Finca Palo Santo, near Nueva California, Prov. Chiriqui, Panam .

**Prostemmiulus tridigitatus** Loomis

*Prostemmiulus tridigitatus* Loomis, 1941, Bull. Mus. Comp. Zool. 88: 28, figs. 7a-b. MALE HT (MCZ) from Monte Quita Espuela, 1000-3000 ft., Republica Dominicana.

Range: Also reported by Loomis (op. cit.) from Monte Diego de Ocampo, Cordillera Setentrional, Republica Dominicana.

**Prostemmiulus tristani** Silvestri

*Prostemmiulus tristani* Silvestri, 1916, Boll. Lab. Zool. Portici, 10: 326, figs. 34, 1-14. HT/ST? (LEAP) from La Estrella (82.55W, 9.45N), Prov. Lim n, Costa Rica.

**Prostemmiulus vallis** Loomis

*Prostemmiulus vallis* Loomis, 1964, Fieldiana: Zool., 47: 109, figs. 11, L-N. MALE HT (FMNH) from trail to Las Minas, 2400 ft., El Valle, Prov. Cocle, Panam .

**Prostemmiulus venustus** Loomis

*Prostemmiulus venustus* Loomis, Bull. Mus. Comp. Zool., 80: 16. FEMALE HT (MCZ) from Morne Pilboreau near Bayeux, Haiti.

**Prostemmiulus wheeleri** (Silvestri)

*Diopsiulus wheeleri* Silvestri, 1908, Bull. American Mus. Nat. Hist., 24: 508, figs. III, 1-8. HT/ST? (AMNH) from Isla de Culebra, Puerto Rico.

*Prostemmiulus wheeleri*: Silvestri, 1916, Boll. Lab. Zool. Portici, 10: 345.

Range: Puerto Rico, Virgin Islands.

**Prostemmiulus xenops** Loomis

*Prostemmiulus heterops* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 29, figs. 12a-b. MALE HT (USNM) from Petionville, Haiti. Preoccupied by *Prostemmiulus heterops* Chamberlin, 1923 .

*Prostemmiulus xenops* Loomis, 1950, Journ. Washington Acad. Sci., 40: 164.

**Genus Scoliogmus** Loomis

*Scoliogmus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 33. Type species: *S. teres* Loomis, by original designation and monotypy.

One species, Puerto Rico.

**Scoliogmus teres** Loomis, 1941, Bull. Mus. Comp. Zool., 88: 33, figs. 9a-j. MALE HT (MCZ) from Maricao Forest, Puerto Rico.

**Genus Stemmiulus** Gervais

*Stemmiulus* Gervais, 1844, in: Gervais & Goudot, Ann. Soc. ent. France (2)2: xxviii. Type species: *Iulus bioculatus* Gervais & Goudot, 1844, by monotypy.

*Stemmatoius* Cook, 1895, Amer. Nat., 29: 1111. Invalid substitute name for *Stemmiulus* Gervais. \_ Carl, 1914, Mem. Soc. neuch tel. Sci. nat., 5: 830.

*Stemmiulus*: Silvestri, 1916, Boll. Lab. Zool. Portici, 10: 314 (synopsis).

About 25 species, Panama to Ecuador and Brazil.

**Stemmiulus canalis** Chamberlin

*Stemmiulus canalis* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 14. HT (USNM) from Barro Colorado Island, Canal Zone, Panam .

**Stemmiulus marginandus** Loomis

*Stemmiulus marginandus* Loomis, 1964, Fieldiana: Zool., 47: 111, figs. 11, O-R. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panam .

**Stemmiulus parallelus** Loomis

*Stemmiulus parallelus* Loomis, 1964, Fieldiana: Zool., 47: 111, figs. 11, S-U. MALE HT (FMNH) from west of Finca Palo Santo, near Nuevo California, Prov. Chiriqui, Panam .

**Stemmiulus unicus** Loomis

*Stemmiulus unicus* Loomis, 1972, Florida Entom., 55: 203, figs. 30-33. MALE HT (USNM)  
from Cairo, Prov. Limón, Costa Rica.

## Order Polyzoniida Gervais

### Family Hirudisomatidae Silvestri

Hirudisomini Silvestri, 1896, Ann. Mus. Civ. Stor. Nat. Genova, 36: 155.

Hirudisomatidae Verhoeff, 1937, Ann. South African Mus., 32: 127.

Hirudisomatidae Hoffman, 1980, Classification of the Diplopoda, p. 73. — Shelley, 1996, Brimleyana, 23: 103 et seq. (revision of Nearctic fauna).

Heterozonini Verhoeff, 1901, Arch. Naturgesch. 67: 253.

Eight nominal genera, Eurasia, Japan, North America, Mexico.

### Genus *Mexiconium* Shelley

*Mexiconium* Shelley, 1996, Brimleyana, 23: 134. Type species: *Mexiconium absidatum* Shelley, by original designation.

One species, Veracruz.

### *Mexiconium absidatum* Shelley

*Mexiconium absidatum* Shelley, 1996, Brimleyana, 23: 135, figs. 4, 31-38. MALE HT (VMNH)  
from north side of Cofre de Perote, 13.3 mi (21.8 km) S La Vigas, Tembladera,  
Veracruz, Mexico.

### Genus *Octoglena* Wood

*Octoglena* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 186. Type species: *Octoglena bivirgata* Wood, by monotypy. — Shelley, 1996, Brimleyana, 23: 108 (revision of genus).

*Hypozoneum* Cook, 1904, Harriman Alaska Exped., 8: 62. Type species: *H. anurum* Cook, by monotypy. Synonymized by Shelley, 1996.

*Euzonium* Chamberlin 1950, Chicago Acad. Sci. Nat. Hist. Misc. 68: 1. Type species: *E. crucis* Chamberlin, by original designation). Synonymized by Shelley, 1996.

Four species, British Columbia to California; one, southern Appalachians (I am not convinced that the latter is congeneric with the West Coast taxa).

**Octoglena anura** (Cook)

*Hypozoneum anurum* (Cook) 1904: Harriman Alaska Exped., 8: 63, pl. 5, figs 1a-d. HT (formerly USNM, now lost) from Seattle, King Co., Washington.

*Octoglena anura*: Shelley, 1996, *Brimleyana*, 23: 119, figs. 12-15. Neotypes (FSCA) from Saltwater State Park, 18 mi (29 km) S of Seattle, Washington.

Range: British Columbia to central western Oregon (Shelley 1996, map 28).

**Octoglena bivirgata** Wood

*Octoglena bivirgata* Wood, 1864, *Proc. Acad. Nat. Sci. Philadelphia*, 16: 186. Type material presumed lost from ANSP, TL erroneously suggested to be mountains of Georgia by Wood.

*Euzonium crucis* Chamberlin, 1950, *Chicago Acad. Sci. Nat. Hist. Misc.*, 68: 1. HT (?sex) (?USNM) from Felton, Santa Cruz Co., California. Synonymized by Shelley, 1996.

*Hypozoneum arnaudi* Chamberlin, 1954, *Proc. Biol. Soc. Washington*, 67: 233. FEMALE HT (USNM) from Felton, Santa Cruz Co., California. Synonymized by Shelley, 1996.

Range: Curry Co., Oregon south to Santa Cruz Co., California (Shelley 1996, map 28).

There is a real possibility that the missing holotype of *Euzonium crucis* is the holotype of *Hypozoneum arnaudi*, as the result of a Chamberlinian amnesticism.

**Octoglena gracilipes** (Loomis)

*Polyzoneum gracilipes* Loomis, 1971, *Florida Entom.*, 54: 157, figs. 18-23. MALE HT (USNM) from Cloudland Canyon State Park, Dade Co., Georgia.

*Octoglena gracilipes*: Shelley, 1996, *Brimleyana*, 23: 129, figs. 22-27.

Range: Northern Alabama and Georgia, western South and North Carolina, eastern Tennessee (map, Shelley, 1996, fig. 29).

**Octoglena prolata** Shelley

*Octoglena prolata* Shelley, 1996, *Brimleyana*, 23: 125, figs. 16-18. MALE HT (USNM) from Canyonville, Douglas Co., Oregon.

Range: Douglas, Jackson, and Josephine counties, southwestern Oregon (Shelley, 1996, map 28).

**Octoglena sierra** Shelley

*Octoglena sierra* Shelley, 1996, *Brimleyana*, 23: 127, figs. 19-21. MALE HT (VMNH) from 4 mi W Newcastle, Placer Co., California.

Range: foothills of the Sierra Nevada, Placer Co., California (Shelley, 1996, map 28).

## Family Polyzoniidae Newport

Polyzonidae Newport, 1844, Proc. Linnean Soc. London, 1: 195.

Polyzoniidae Cook, 1895, Ann. New York Acad. Sci., 9:5. \_ Verhoeff, 1937, Ann. South African Mus., 32: 127 (first use of family exclusive of Hirudisomatidae). \_ Shelley, 1998, Arthropoda Selecta, 6: 6 et seq. (revision of family).

Two subfamilies, Eurasia, North America.

### Subfamily Buzoniinae Shelley

Buzoniinae Shelley, 1998, Arthropoda Selecta, 6: 7.

Two tribes, three genera, western North America.

### Tribe Buzoniini Shelley

Buzoniini Shelley, 1998, Arthropoda Selecta, 6: 7.

#### Genus **Buzonium** Cook & Loomis

*Buzonium* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 13. Type species: *B. crassipes* Cook & Loomis, by original designation.

*Pizonium* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 2. Type species: *P. crescentis*

Chamberlin, by original designation. Synonymized by Shelley, 1998.

One species, California and Oregon.

#### **Buzonium crassipes** Cook & Loomis

*Buzonium crassipes* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 14, figs. 2a-d. MALE HT (USNM) from Seneca, Plumas Co., California.

*Pizonium crescentis* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 2. HT (USNM) from 15 miles east of Crescent City, Del Norte Co., California. Synonymized by Shelley, 1998.

Range: Coast ranges and Sierra Nevada, southwestern Oregon south to level of San Francisco, California (map, Shelley, 1998, fig. 26)

### Tribe Bdellozoniini Shelley

*Bdellozoniini* Shelley, 1998, *Arthropoda Selecta*, 6: 9.

Two genera, western United States.

### Genus **Bdellozonium** Cook & Loomis

*Bdellozonium* Cook & Loomis, 1928, *Proc. U. S. Nat. Mus.*, 72(18): 15. Type species: *B. cerviculatum* Cook & Loomis, by original designation. \_ Shelley, 1998, *Arthropoda Selecta*, 6: 9.

*Calzonium* Chamberlin, 1954, *Proc. Biol. Soc. Washington*, 67: 232. Type species: *C. quicki* Chamberlin, by original designation. Synonymized by Shelley, 1998.

Two species, Oregon, California.

#### **Bdellozonium cerviculatum** Cook & Loomis

*Bdellozonium cerviculatum* Cook & Loomis, 1928, *Proc. U. S. Nat. Mus.*, 72(18): 16, figs. 3a-b, pl. 2. MALE HT (USNM) from Belden, Plumas Co., California. \_ Shelley, 1998, *Arthropoda Selecta*, 6: 9, figs. 8-9, 11-13, 15-18.

*Bdellozonium sequoium* Chamberlin, 1941, *Bull. Univ. Utah*, 31(12): 5. FEMALE HT (USNM) from [12 miles northeast of?] Hammond, Tulare Co., California. Synonymized by Shelley, 1998.

*Bdellozonium rothi* Chamberlin, 1950, *Chicago Acad. Sci. Nat. Hist. Misc.*, 68: 2. MALE FEMALE ?ST (USNM) from 14 miles west of Grant's Pass, Josephine Co., Oregon. Synonymized by Shelley, 1998.

Range: Southwestern Oregon south to Mariposa and Monterey counties, California (map, Shelley, 1998, fig. 26).

#### **Bdellozonium quicki** (Chamberlin)

*Calzonium quicki* Chamberlin, 1954, *Proc. Biol. Soc. Washington*, 67: 232. FEMALE HT (USNM) from Chowchilla Mountain, 0.75 miles north of Signal Peak, Mariposa Co., California.

*Bdellozonium quicki*: Shelley, 1998, *Arthropoda Selecta*, 6: 12, figs. 10, 14.

### Genus **Stenozonium** Shelley

*Stenozonium* Shelley, 1998, *Arthropoda Selecta*, 6: 12. Type species: *S. exile* Shelley, by original designation.

Two species, Oregon, northern California.

#### **Stenozonium benedictae** Shelley

*Stenozonium benedictae* Shelley, 1998, *Arthropoda Selecta*, 6: 13, figs. 21c, 25. MALE HT

(USNM) from a site beside Hy. 242, 16 miles southwest of McKenzie Pass, Lane Co., Oregon.

Range: Benton, Lane, Lincoln, and Linn counties, central western Oregon (map, Shelley, 1998, fig. 26).

### **Stenozonium exile** Shelley

*Stenozonium exile* Shelley, 1998, Arthropoda Selecta, 6: 12, figs. 19-21a-b, 22-24. MALE HT (VMNH) from Arcata Community Forest, Humboldt Co., California.

Range: Several localities in Humboldt Co., California.

## Subfamily Polyzoniinae Newport

Polyzoniinae Bollman, 1893, Bull. U. S. Nat. Mus., 46: 154 (first use at subfamily level). \_ Shelley, 1998, Arthropoda Selecta, 6: 15.

Two tribes, three genera: eastern North America, Eurasia.

### Tribe Petaserpetini Shelley

Petaserpetini Shelley, 1998, Arthropoda Selecta, 6: 15.

One genus, eastern North America.

### Genus **Petaserpes** Cope

*Petaserpes* Cope, 1870, Trans. American Entom. Soc., 3: 65. Type species: *P. rosalbus* Cope, by monotypy. \_ Shelley, 1998, Arthropoda Selecta, 6: 16.

*Hexaglena* McNeill, 1887, Proc. U. S. Nat. Mus., 10: 328. Type species: *H. cryptocephala* McNeill, by monotypy. Synonymized by Shelley, 1998.

Six species, eastern North America.

This genus has been almost without exception considered a synonym of *Polyzonium* by American authors, prior to Shelley's discovery of generic level differences from that West Palearctic taxon.

### **Petaserpes bikermani** (Causey)

*Polyzonium bikermani* Causey, 1951, Proc. Biol. Soc. Washington, 64: 138, fig. 1. MALE LT (FSCA) from Devil's Den State Park, Washington Co., Arkansas.

*Petaserpes bikermani*: Shelley, 1998, Arthropoda Selecta, 6: 21, figs. 33-35.

The holotype of this name was apparently not received at the published depository (ANSP); a lectotype (?neotype) was selected by Shelley from the paratype series at FSCA.

**Petaserpes cryptocephalus** (McNeill)

*Hexaglena cryptocephala* McNeill, 1887, Proc. U. S. Nat. Mus., 10: 328. 4\_, 3FEMALE ST (USNM) from Bloomington Township, Monroe County, Indiana. One of the males was designated lectotype, the remaining specimens as lectoparatypes by Shelley (1998).

*Polyzonium divaricatum* Loomis, 1971, Florida Entom., 54: 157, figs. 14-17. MALE HT (USNM) from . . . mixed woods NW of Higgins Lake, Roscommon Co., Michigan. Synonymized by Shelley, 1998.

*Petaserpes cryptocephalus*: Shelley, 1998, Arthropoda Selecta, 8: 18, figs. 30-32.

Range: Northeastern North America, from southern Quebec, Michigan, and Vermont south through the Appalachians to western North Carolina (map, Shelley, 1998, fig. 47).

Specimens of this species have been recorded under the names *Polyzonium bivirgatum* and *P. rosalbum* by numerous authors (detailed by Shelley, 1998: 18), chiefly during the long period when the genus was considered to be monotypic in North America.

**Petaserpes lateralis** (Shelley)

*Polyzonium laterale* Shelley, 1976, Proc. Biol. Soc. Washington, 88 : 377, figs. 5-8. MALE HT (VMNH) from Linville Gorge, Burke Co., North Carolina.

*Petaserpes lateralis*: Shelley, 1998, Arthropoda Selecta, 8: 22, figs. 43-45.

Range: Southern Blue Ridge province in western North Carolina and adjacent eastern Tennessee (map, Shelley, 1998, fig. 48).

**Petaserpes mutabilis** (Causey)

*Polyzonium mutabile* Causey, 1951, Proc. Biol. Soc. Washington, 64: 139, fig. 2. MALE HT (INHS) from Winthrop Harbor, Lake Co., Illinois. Incorrectly synonymized with *cryptocephalus* by Chamberlin & Hoffman, 1958.

*Polyzonium borealis* [sic!] Loomis, 1971, Florida Entom., 54: 156, figs. 11-13. MALE HT (USNM) labeled north shore of Lake Superior without further locality, deduced by Shelley (1998) to be in Algoma Co., Ontario. Synonymized by Shelley, 1998.

*Polyzonium quadricauda* [sic!] Loomis, 1971, Florida Entom., 54: 159, figs. 27-29. MALE HT (USNM) from Stony Brook State Park, Steuben Co., New York. Synonymized by Shelley, 1998.

*Petaserpes mutabilis*: Shelley, 1998, Arthropoda Selecta, 8: 21, figs. 36-39.

Range: Northern peninsula of Michigan south through Wisconsin to central Illinois; also disjunct populations noted for western New York, southeastern Michigan, and southern Ontario (map, Shelley, 1998, fig. 47).

**Petaserpes rosalbum** Cope

*Petaserpes rosalbum* Cope, 1879, Trans. American Entom. Soc., 3: 65. 18 ST (ANSP) from . . . the western slopes of the Cumberlands, in the northern part of East Tennessee.



AMALE was selected as lectotype, the remaining specimens as lectoparatypes, by Shelley, 1998.

*Petaserpes rosalbus*: Shelley, 1998, Arthropod Selecta, 8: 18, figs. 27-29.

Range: Southeastern United States, from eastern Tennessee through Alabama and South Carolina to central-western Georgia (map, Shelley, 1998, fig. 47). Disjunct localities in Kentucky and Virginia may reflect inadequate collecting efforts in the intervening areas.

Chiefly in the combination *Polyzonium rosalbum* this name was indiscriminately applied to several other species of *Petaserpes* (details in Shelley, 1998). As that author pointed out, Loomis (1971: 161) unjustifiably designated as neotype a specimen later discovered to be actually *P. cryptocephalus* instead of searching for Cope's original material in the likely depositories.

#### ***Petaserpes strictus* (Shelley)**

*Polyzonium strictum* Shelley, 1976, Proc. Biol. Soc. Washington, 88: 375, figs. 1-4. MALE HT (USNM) from site along county road 1730, 4.4 miles northeast of McGrady, Wilkes Co., North Carolina.

*Petaserpes strictus*: Shelley, 1998, Arthropoda Selecta, 8: 22, figs. 40-42.

Range: Piedmont and Blue Ridge provinces in Virginia and North Carolina, extending into the Coastal Plain in the latter state (map, Shelley, 1998, fig. 47).

## Family Siphonotidae Cook

Siphonotidae Cook, 1895, Ann. New York Acad. Sci., 9: 2. \_ Hoffman, 1977, Deutsch. Entom. Zeitschr., NF 24: 429 (classification).

Eleven generic names are referable here, many of them perhaps superfluous, with species in all tropical regions (anthropochorism is apparently responsible for many distributional patterns). The family is not native to North or Middle America.

### Genus **Rhinotus** Cook

*Rhinotus* Cook, 1896, Brandtia (11): 50. Type species: *Siphonotus africanus* Cook, 1896, by monotypy. \_ Hoffman, 1977, Deutsch. Entom. Zeitschr., NF 24: 430.

*Siphonotus* (nec Brandt, 1837) Pocock, 1894, Journ. Linnean Soc. London, 24: 479, *et auct. seq.*

*Siphonoconus* (nec Attems, 1930) Causey, 1965, Proc. Louisiana Acad. Sci., 28: 52.

Number of species uncertain, possibly only one, Neotropical region, West Africa, East Indies. The several species named from Panama are listed below with the expectation that they may prove to be only synonyms of *purpureus*.

Junior generic synonyms based on extralimital taxa are omitted, see Hoffman, 1980.

**Rhinotus angulifer** (Chamberlin), new combination!

*Siphonotus angulifer* Chamberlin 1940, Bull. Univ. Utah, 30(9): 16. HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

**Rhinotus centralis** (Chamberlin), new combination!

*Siphonotus centralis* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 16. HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

**Rhinotus panamanus** (Loomis), new combination!

*Siphonotus panamanus* Loomis, 1964, Fieldiana: Zoology, 47: 122, figs. 12, I-K. MALE HT (FMNH) from Chilibrillo Cave, near Chilibre, Prov. Panama, Panama.

Recorded also (Loomis, 1964) from Barro Colorado Island. Although Loomis distinguished the three species recorded from that site by peripheral characters, I am not confident that a revision of this genus will ratify his findings.

**Rhinotus purpureus** (Pocock)

*Siphonotus purpureus* Pocock, 1894, Journ. Linnean Soc. London, 24: 479, pl. 37, fig. 5. FEMALE ST (BMNH) from St. Vincent, Lesser Antilles. \_ Loomis, 1934, Smithsonian Misc. Coll., 89(14): 9.

?*Siphonotus africanus* Cook, 1896, American Natur., 30: 842, pl. 18, figs. 1-15. ST (USNM) from Freetown, Sierra Leon.

*Siphonotus miamiensis* Causey, 1953, Florida Entom., 36: 71, figs. 1, 2. MALE HT (INHS) from Miami, Dade Co., Florida. Synonymized by Causey, 1965.

*Siphonoconus purpureus*: Causey, 1965, Proc. Louisiana Acad. Sci., 28: 53, fig. 1.

Range: Not known with certainty. In tropical America recorded from Surinam, Venezuela, Trinidad, Tobago, St. Vincent, Guadeloupe, Martinique, Dominica, Hispaniola, Jamaica, southern Florida, Louisiana, Belize, Costa Rica, and Panama, generally from areas of human development. Very similar, if not identical, species are known from West Africa, Madagascar, Mauritius, and the East Indies; many are basonyms of superfluous generic names.

## Order Spirobolida Bollman

Several species of this order **appear** to have been described in the wrong order, as members of *Spirostreptus* (Humbert & DeSaussure, 1870: 175-177) and have been so cited by a number of subsequent authors. Obviously in the 1870 publication, the generic heading for *Spirobolus* was omitted immediately following the entry for *Spirostreptus teres*, presumably during typesetting. As indicated by the usage by Humbert & Desaussure in 1872 (:173-177), the original generic combination for the species *laticaudatus*, *nattereri*, *macrourus*, *acutus*, *paraensis*, *crassicornis*, *woodi*, *ignobilis*, and *californicus* should be considered as *Spirobolus*. This name is also present on the original type labels of specimens in the Naturhistorisches Museum, Wien.

## Family Spirobolidae Bollman

Spirobolinae Bollman, 1893, Bull. U. S. Nat. Mus., 46: 156.

Spirobolidae (in part) Cook, 1895, Ann. New York Acad. Sci., 9: 7.

Spirobolidae Brolemann, 1913, Bull. Soc. ent. France, p. 476; 1914, Ann. Soc. ent. France, 83: 29. \_ Keeton, 1960, Mem. American Entom. Soc., 17: 28 (revision).

Five genera, southern Canada to Guatemala; China.

### Subfamily Spirobolinae Bollman

Spirobolinae Keeton, 1960, Mem. American Entom. Soc., 17: 31.

### Genus *Aztecolus* Chamberlin

*Aztecolus* Chamberlin, 1943, Bull. Univ. Utah, 8(3): 28. Type species: *Aztecolus nigrrior* Chamberlin, 1943, by original designation and monotypy. \_Keeton, 1960, Mem. Amer. Entom. Soc., 17: 335 (revision).

Three species, northern Mexico: Nuevo Le n, Tamaulipas, Zacatecas.

Removed from genus: *Aztecolus collaris* Chamberlin 1953 (see *Hiltonius*).

#### *Aztecolus nigrrior* Chamberlin

*Spirobolus nigrrior* Chamberlin, Ent. News, 52: 253. FEMALE HT (USNM) from Horsetail Falls, near Villa Santiago, Nuevo Le n, M xico.

*Aztecolus nigrrior*: Chamberlin, 1943, Bull. Univ. Utah, 8(3): 28, figs. 28, 29. Keeton, 1960, Mem. American Ent. Soc. 17: 35, figs. 3, 105-09, 119-21.

Range: Central Mexico (Nuevo Le n and Zacatecas).

#### *Aztecolus pablillo* Chamberlin

*Aztecolus pablillo* Chamberlin, Proc. Acad. Nat. Sci. Philadelphia, 99: 47, figs. 48, 49. MALE HT (ANSP) from Pablillo, Nuevo Le n, Mexico.

Range: Central eastern Mexico (Nuevo Le n, Tamaulipas).

#### *Aztecolus productus* Loomis

*Aztecolus productus* Loomis, 1968, Journ. Kansas Ent. Soc., 41: 391, figs. 13-14. MALE HT (USNM) from 10 miles (16 km) east of San Roberto on Hy. 60, Nuevo Le n, Mexico.

### Genus *Chicobolus* Chamberlin

*Chicobolus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 46. Type species:

*Chicobolus pilsbryi* Chamberlin, by original designation and monotypy. \_ Keeton, 1960, Mem. American Entom. Soc., 17: 39 (revision).

*Incobolus* Chamberlin, 1955, Bull. Univ. Utah, 11(5): 7. Type species: *Incobolus thaumastus* Chamberlin, by original designation and monotypy. Synonymized by Keeton, 1960.

One species, southeastern United States.

**Chicobolus spinigerus** (Wood)

*Spirobolus spinigerus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 15. Type material unknown, presumed lost, from Florida and South Carolina. TL restricted by Causey (1955) to Everglades National Park, Florida (but no neotype was designated).

*Spirobolus bahamiensis* Bollman, 1893, Bull. U. S. Nat. Mus. 46: 190. Type material; presumed lost, supposedly from San Salvador, Bahamas. Synonymized by Keeton (1960: 40).

*Spirobolus paludis* Chamberlin, 1918, Ann. Ent. Soc. America, 11: 374. MALE HT (MCZ) from Mixon's Hammock, Okefenokee Swamp, Charlton Co., Georgia. Synonymized by Loomis (1943: 398).

*Chicobolus pilsbryi* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 46, figs. 46, 47. FEMALE HT (ANSP) from Boca Chica Key, Monroe Co., Florida. Synonymized by Keeton (1960: 40).

*Incobolus thaumastus* Chamberlin, 1955, Bull. Univ. Utah, 11(5): 9, figs. 1-4. Type material (AMNH?, perhaps lost), labeled only Peru. Considered to be possibly from Peru, Hillsborough Co., Florida, by Keeton (1960: 42). Synonymized by Keeton (1960: 40).

*Chicobolus jucundus* Causey, 1955, Journ. Kansas Ent. Soc., 28: 77. MALE HT (?FSCA) from Pensacola, Escambia Co., Florida. Synonymized by Keeton (1960: 40).

*Chicobolus spinigerus*. Causey, 1955, Journ. Kansas Ent., Soc., 28: 76. First use of combination.

*Chicobolus spinigerus*: Keeton, 1960, Mem. American Ent. Soc., 17: 40-50, figs. 2, 12, 19, 57-63, 78-81, 94-95, 122-126. Synonymy, description, variation, distribution.

Range: Entire Florida Peninsula, northeast to Charleston, South Carolina, and southernmost Alabama.

### Genus **Narceus** Rafinesque

*Narceus* Rafinesque, 1820, Annals of Nature, 1: 8. Type species: *Narceus tinctorius* Rafinesque, by monotypy. \_ Hoffman & Crabill, 1953, Florida Entom. 36: 80 (reinstatement). \_ Keeton, 1960, Mem. Amer. Ent. Soc., 17: 62 (revision).

*Rhexenor* Rafinesque, 1820, Annals of Nature, 1: 8. Type species: *Rhexenor annularis* Rafinesque, by monotypy. Synonymized by Hoffman & Crabill (1953: 81).

*Spirobolus* of authors, not Brandt, 1833.

*Arctobolus* Cook, 1904, Harriman Alaska Exped., 8: 64. Type species: *Arctobolus onondaga*

Cook, by original designation and monotypy.

Three species, eastern North America (Quebec to Florida, Nebraska to eastern Texas).

Data presented by Shelley & Filka (1980: 18) suggest conspecificity of the nominal species *Narceus americanus* and *annularis*; the situation requires a careful reassessment.

***Narceus americanus*** (Palisot de Beauvois)

*Julus americanus* Palisot de Beauvois, 1817, Insectes recueillis en Afrique et en Am\_rique. 9: pl. IV, fig. 3. Selected as valid name by Hoffman (1951: 15). Type material unknown, probably lost. Etats-Unis d'Am\_rique, restricted to Charleston County, South Carolina, by Keeton (1960), although without lectotype designation.

*Julus americanae borealis* Palisot de Beauvois, 1817, *ibid.*, 9: 155 (not binomial).

*Narceus tinctorius* Rafinesque, 1820, Annals of Nature, 1: 8. Type material unknown, description possibly based solely on a drawing. ...in the woods of Kentucky, restricted to Natural Bridge, Powell Co., Kentucky by Causey (1955: 71). Synonymy with *americanus* implied by Hoffman (1953), formalized by Keeton (1960).

*Julus palmiger* Gervais, 1847, in: Walckenaer & Gervais, Hist. nat. Insectes apt\_res, 4: 190. FEMALE HT (MNHN, *vidi!*) from Guyane fran aise, obviously mislabeled. **New Synonymy!**

*Julus atratus* Girard, 1853, in: Marcy, Exploration of Red River of Louisiana, p. 244. Type material unknown, Prairie Mer Rouge, Morehouse Parish, Louisiana. Synonymized by Causey (1955).

*Julus crassus* Motschulsky, 1857, Etudes Entomologiques, anne 1856, p. 4. Type material unknown. Les rives du lac Pontchartrain, Louisiana. Synonymized by Keeton (1955). Junior primary homonym of *Julus crassus* Linnaeus, 1758.

S[*pirobolus*][*sic!*] *woodi* Humbert & DeSaussure, 1870, Rev. Mag. Zool., (2)22: 177. MALE HT (NMW), from America-borealis, Saint-Louis, Synonymized with *tinctorius* by Causey (1955: 71); with *americanus* by Keeton (1960).

*Spirobolus pensacolae* Bollman, 1887, Ann. New York Acad. Sci., 4: 29. FEMALE HT (USNM) from Pensacola, Escambia Co., Florida. Synonymized by Keeton (1960).

*Spirobolus oklahomae* Chamberlin, 1931, Ent. News, 42: 98, fig. 1. MALE HT (USNM) from Murray County, Oklahoma. Synonymized by Keeton (1960).

*Arctobolus dolleyi* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 398, fig. 13. MALE HT (MCZ) from Feemster's Lake, near Tupelo, Lee Co., Mississippi. Synonymized by Keeton (1960).

*Spirobolus ramstadtii* Chamberlin, 1943, Bull. Univ. Utah, 8(2): 7, figs. 12-16. MALE HT (USNM) from Punta Gorda, Charlotte Co., Florida. Synonymized by Keeton (1960).

*Spirobolus melanior* Chamberlin, 1943, Bull. Univ. Utah, 8(2): 9. FEMALE HT (USNM) from Steven F. Austin State Park, 5 miles east of Sealy, Austin Co., Texas. Synonymized by Keeton (1960).

*Narceus americanus*: Keeton, 1960, Mem. American Ent. Soc., 17: 86, figs. 17, 30-31, 44-51, 69-74, 84-85, 89-91. Revision: synonymy, variation, distribution.

Range: Southeastern and central United States, Virginia to Illinois, south to Florida and eastern Texas (Keeton, 1960, Map 2).

***Narceus annularis* (Rafinesque)**

*Rhexenor annularis* Rafinesque, 1820, Annals of Nature, 1: 8. Type material unknown, probably none preserved. ...the highland hills of New York; arbitrarily restricted by Chamberlin & Hoffman (1958: 166) to vicinity of Catskill, Greene County, New York, a locality mentioned elsewhere in Rafinesque's 1820 paper.

*Julus marginatus* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 105. Type material unknown, probably none existant. Philadelphia, Pennsylvania, designated type locality by Causey (1955: 73). Synonymized with *annularis* by Keeton (1960).

*Spiroboldus agilis* Cope, 1869, Trans. American Philos. Soc., 11: 181. Type material unknown. Giles County, Virginia. Synonymized by Keeton (1960).

*S.[piroboldus] [sic!] ignobilis* Humbert & DeSaussure, 1870, Rev. Mag. Zool. (2)22: 177. MALE HT (NMW) from America borealis, arbitrarily restricted to Greene County, New York, by Keeton (1960), but no neotype designated .

*Arctobolus onondaga* Cook, 1904, Harriman Alaska Exped., 4: 64. MALE HT (USNM) from Kirkville, Onondaga Co., New York. Synonymized by Hoffman & Crabill (1953).

*Spiroboldus orophilus* Chamberlin, 1943, Bull. Univ. Utah, 8(2): 8, figs. 17-21. MALE HT (USNM), from Gatlinburg, Great Smoky Mountains National Park, Sevier Co. Tennessee. Synonymized by Keeton (1960).

*Spiroboldus scotti* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 148, figs. 12-14. MALE HT (USNM) labeled Houston, Harris Co., Texas; locality incorrect, material certainly originated in the Appalachian region, possibly Houston Co., Tennessee. Synonymized by Keeton (1960).

*Narceus annularis*: Keeton, 1960, Mem. American Ent. Soc., 17: 66-86, figs. 1, 7, 10, 16, 20, 22-29, 35-43, 64-68, 82-83, 86-88, 192-193, Map 1. Revision, synonymy, variation, distribution.

*Narceus americanus annularis*: Shelley, 1988, Canadian Journ. Zool., 66: 1642.

Range: Northeastern North America: Quebec and Wisconsin south to Tennessee and Missouri (Keeton, 1960, Map 1).

***Narceus gordanus* (Chamberlin)**

*Spiroboldus gordanus* Chamberlin, 1943, Bull. Univ. Utah, 8(2): 5, figs. 6-11. MALE HT (USNM?) from Punta Gorda, Charlotte County, Florida.

*Arctobolus keysi* Loomis, 1944, *Psyche*, 51: 169, fig. 2. MALE HT (MCZ) from Lantana, Palm Beach Co., Florida. Synonymized by Keeton (1960).

*Narceus gordanus*: Keeton, 1960, *Mem. American Ent. Soc.* 17: 94, figs. 14-15, 32-34, 52-56, 75-77, 92-93. Description, synonymy, variation.

Range: Peninsular Florida, with an apparently disjunct record for Charleston, South Carolina that requires verification.

## Subfamily Tylobolinae Keeton

Tylobolinae Keeton, 1960, *Mem. American Ent. Soc.*, 17: 96.

### Genus **Hiltonius** Chamberlin

*Hiltonius* Chamberlin, 1918, *Proc. Biol. Soc. Washington*, 31: 166. Type species: *H. pulchrus* Chamberlin, by original designation and monotypy. \_ Keeton, 1960, *Mem. American Ent. Soc.*, 17: 97 (revision).

Eight nominal species, southern California and Arizona south to Oaxaca, apparently disjunct in Guatemala.

Removed from genus: *Hiltonius thebanus* Chamberlin [see *Onychelus* (Atopetholidae)].

#### **Hiltonius australis** (Grinnell)

*Spirobolus australis* Grinnell, 1908, *Univ. Calif. Publ. Paleont.*, 5: 210, pl. 15, figs. 13, 14. ST (Univ. Calif. Berkeley) from asphalt beds at Rosemary [Rancho La Brea tar pits] (Pleistocene-Recent), Los Angeles Co., California.

*Hiltonius? australis*: Hoffman, 1969, in: *Treatise on Invertebrate Paleontology*, Part R, p. R587.

This name is almost certainly a senior synonym of either *H. pulchrus* or of *Tylobolus claremontus*, the only large spiroboloids currently known to occur in Los Angeles Co., placement in *Hiltonius* is therefore somewhat arbitrary pending comparison of material.

#### **Hiltonius carpinus carpinus** Chamberlin

*Hiltonius carpinus* Chamberlin, 1943, *Bull. Univ. Utah*, 34 (7): 21, figs. 34-36. MALE HT (USNM) from 2 miles south of Limon, Tamaulipas, Mexico.

*Hiltonius crassus* Chamberlin, 1943, *Bull. Univ. Utah*, 34 (7): 21, fig. 37. MALE HT (USNM) from Ixtapan del Oro, Mexico. Synonymized by Keeton, 1960.

*Hiltonius tepoztlanus* Chamberlin, 1943, *Bull. Univ. Utah*, 34 (7): 21. MS name inadvertently validated by Chamberlin, objective synonym of *H. carpinus*, with same type specimen. Synonymized by Keeton, 1960.

*Hiltonius carpinus carpinus*: Keeton, 1960, *Mem. American Ent. Soc.*, 17: 106, figs. 171-177, 200, 204, 211-213.

Range: Sierra Madre Oriental, Tamaulipas to Mexico.

**Hiltonius carpinus vulcan** (Chamberlin)

*Aztecocolus vulcan* Chamberlin, 1952, Amer. Midl. Nat., 50: 148, figs. 25, 26. MALE HT (USNM) from Volc n Tajumulco, Dept. San Marcos, Guatemala. Synonymized by Keeton, 1960.

*Hiltonius carpinus vulcan*: Keeton, 1960, Mem. American Ent. Soc., 17: 107.

Range: Known only from the type locality. In view of the wide geographic separation of this population from the main part of the range on the Mexican Plateau, perhaps specific status is more appropriate for this taxon even though Keeton could detect only minor differences.

**Hiltonius erythrotypus** (Chamberlin)

*Hiltonius erythrotypus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 22. FEMALE HT (lost), from Santa Rosa, Distrito Federal, Mexico.

Considered by Keeton to be a possible junior synonym of *mexicanus* (DeSaussure).

**Hiltonius flavocinctus** Loomis

*Hiltonius flavocinctus* Loomis, 1968, Journ. Kansas Ent. Soc., 41: 392, figs. 15-18. MALE HT (USNM) from 10 miles/16 km east of San Roberto on Rt. 60, Nuevo Leon, Mexico.

**Hiltonius fossulifer** (Pocock)

*Spirobolus fossulifer* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 78, pl. 7, fig. 2. MALE HT (lost from BMNH) from Omilteme, Guerrero, Mexico.

*Hiltonius fossulifer*: Keeton, 1960, Mem. American Ent. Soc., 17: 102.

Considered by Keeton to be a possible senior synonym of *carpinus* Chamberlin.

**Hiltonius hebes** (Bollman)

*Spirobolus hebes* Bollman, 1887, Ann. New York Acad. Sci., 4: 31. Location of types, if extant, unknown. (?USNM), from San Diego, California.

*Tylobolus hebes*: Cook, 1904, Harriman Alaska Exped., 8: 66.

*Hiltonius balboanus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 10. fig. 11. MALE HT (USNM) from Balboa Park, San Diego, California. Synonymized by Loomis & Hoffman, 1948.

*Hiltonius hebes*: Loomis & Hoffman, 1948, Proc. Biol. Soc. Washington, 61: 51.

Range: San Diego County, California, and adjacent areas of Baja California Norte, Mexico.

**Hiltonius mexicanus** (DeSaussure)

*Julus mexicanus* DeSaussure, 1859, Linnaea Ent., 13: 332. MALE ST (MHNG) from "La Mexique", later (1860: 366) amplified by specific mention of Cuernavaca, Cuatala, and



the hacienda d'Atlihuayan near Yautepec. TL incorrectly restricted by Keeton (1960: 101) to Tancitaro, Michoacan.

*Spirobolus mexicanus*: DeSaussure & Humbert, 1872, Mission scientifique au Mexique, Myriapodes, p. 177.

*Spirobolus mexicanus*: Carl, 1919, Rev. suisse zool., 27: 402, figs. 40-42. Drawings of gonopods from "typeMALE".

*Eurelus tancitarus* Chamberlin, 1941, Ent. News, 52: 255, figs. 5-7. MALE HT (USNM) from Tancitaro, Michoacan, Mexico. Synonymized by Keeton (1960).

*Hiltonius federalis* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 22, fig. 38. Imm.MALE HT (USNM) from Salazar, 3000 m., Distrito Federal, Mexico. Synonymized by Keeton (1960).

*Hiltonius michoacanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 23, figs. 39-41. MALE HT (USNM) from 10 miles north of Zamora, Michoacan, Mexico. Synonymized by Keeton (1960).

*Hiltonius veracruzanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 24, figs. 42, 43. MALE HT lost, from 18 miles west of Perote, Veracruz, Mexico. Synonymized by Keeton (1960).

*Hiltonius mexicanus*: Keeton, 1960, Mem. American Ent. Soc., 17: 100, figs. 166-170, 199, 202-203, 209-210.

Range: Michoacan, Morelos, Distrito Federal, and west-central Veracruz, Mexico.

Keeton's designation of a site in Michoacan was somewhat arbitrary, and did not involve selection of a lectotype from what may have been an extensive series of syntypes at Gen ve.

The specimen labeled "type" examined by Keeton is presumably the same as treated by Carl in 1919, but there is no evidence that other specimens may have been involved, some of them perhaps with specific locality data. Aside from Gen ve, for instance, there are syntypes of *mexicanus* in the Berlin Zoological Museum, donated by DeSaussure. Until this point has been researched, perhaps it is best to set aside the Keeton's restricted type locality.

#### **Hiltonius mimus** Chamberlin

*Hiltonius mimus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 9, figs. 8, 9. MALE LT (USNM) from Mountain Springs, San Diego Co., California.

*Hiltonius pius* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 7. FEMALE HT (USNM) from Mountain Springs, San Diego Co., California. Synonymized by Keeton (1960).

*Hiltonius congregans* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 9, fig. 10. Location of MALE HT uncertain, 3 imm.MALE PTs (USNM) from Mountain Springs, San Diego Co., California. Synonymized by Keeton (1960), who felt that these three synonymous names were based on individuals of one species from a single sample.

#### **Hiltonius pulchrus** Chamberlin

*Hiltonius pulchrus* Chamberlin, 1918, Proc. Biol. Soc. Washington, 31: 166. MALE HT (MCZ) from Claremont, Los Angeles Co., California.

*Hiltonius conservatus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 53, figs. 61-63. MALE HT (ANSP) from Fort Tejon, Kern Co., California [possibly in error]. Synonymized by Keeton (1960).

*Hiltonius palmaris* Loomis, 1953, Journ. Washington Acad. Sci., 43: 418, figs. 6-9. MALE HT (USNM) from Palm Springs, Riverside Co., California. Synonymized by Keeton (1960).

*Hiltonius pulchrus*: Keeton, 1960, Mem. American Ent. Soc., 17: 109, figs. 11, 178-183, 197, 206, 216.

Range: Southern California

### **Hiltonius reptans** (von Porat)

*Spirobolus reptans* von Porat, 1888, Ann. Soc. ent. Belgique, 32: 250. Two FEMALE ST (ISNB), from Guanajuato, Mexico (E. Dug s leg.).

*Spirobolus callipus* Bollman, 1893, Bull. U. S. Nat. Mus. 46: 191. MALE FEMALE ST (formerly USNM, apparently lost), from Guanajuato, Mexico (E. Dug s leg.). Synonymized by Hoffman, 1998.

*Hiltonius callipus*: Keeton, 1960, Mem. American Ent. Soc., 17: 114. \_ Loomis, 1968, Bull. U. S. Nat. Mus., 266: 92.

*Hiltonius reptans*: Hoffman, 1998, Myriapodologica 5: 64.

### **Genus Tylobolus** Cook

*Tylobolus* Cook, 1904, Harriman Alaska Exped., 8: 65. Type species: *T. deses* Cook, by original designation. \_ Keeton, 1960, Mem. American Ent. Soc. 17: 114 (revision). \_ Keeton, 1966, Trans. American Ent. Soc., 92: 17.

*Californibolus* Verhoeff, 1944, Bull. Southern California Acad. Sci., 43: 55. Type species: *C. michelbacheri* Verhoeff, by monotypy. Synonymized by Keeton (1960).

*Auxobolus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 163. Type species: *A. ergus* Chamberlin, by original designation. Synonymized by Keeton (1960).

Six nominal species, one with a subspecies; Baja California to the Columbia River, west of the Sierra Nevada, southern Utah.

### **Tylobolus castaneus** Chamberlin

*Tylobolus castaneus* Chamberlin, 1918, Proc. Biol. Soc. Washington, 31: 166. Imm. MALE HT (USNM) from Brookdale, Santa Cruz Co., California.

*Tylobolus discipulus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 165, figs. 3, 4. MALE HT (USNM) from Ione, Amador Co., California. Synonymized by Keeton, 1960.

*Tylobolus friantus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 165, figs. 8, 9. MALE HT (USNM) from Friant, Fresno Co., California. Synonymized by Keeton, 1960.

*Tylobolus castaneus*: Keeton, 1960, Mem. American Ent. Soc., 17: 126, figs. 13, 18, 242-252.  
 \_ Keeton, 1966, Trans. American Ent. Soc., 92: 19, fig. 2.

South and east of San Francisco Bay; western slopes of the Sierra Nevada range, south to Sequoia National Park (Keeton, 1966, Fig. 2).

***Tylobolus claremontus* Chamberlin**

*Tylobolus claremontus* Chamberlin, 1918, Proc. Biol. Soc. Washington, 31: 165. MALE HT (MCZ) from Claremont, Los Angeles Co., California.

*Tylobolus stebbinsi* Chamberlin, 1944, Proc. Biol. Soc. Washington, 57: 113, figs. 4, 5. MALE HT (USNM) from Meadow Canyon (Santa Monica Mountains), Los Angeles Co., California. Synonymized by Keeton (1960).

*Auxobolus simulatus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 165, figs. 12, 13. MALE HT (USNM) from Riverside, Riverside Co., California. Synonymized by Keeton (1960).

*Tylobolus claremontus*: Keeton, 1960, Mem. American Ent. Soc., 17: 121, figs. 6, 21, 224-227.  
 \_ Keeton, 1966, Trans. American Ent. Soc., 92: 17, fig. 2.

Extreme northwestern Baja California Norte, north chiefly along the coast as far as the Santa Monica Mountains, Los Angeles Co., California (Keeton, 1966, fig. 2).

***Tylobolus deses deses* Cook**

*Tylobolus deses* Cook, 1904, Harriman Alaska Exped., 8: 65, pl. 4, figs. 3a-h. MALE ST (USNM) from "California". \_ Keeton, 1960, Mem. American Ent. Soc., 17: 126. \_ Keeton, 1966, Trans. American Ent. Soc., 92: 18, fig. 1.

*Tylobolus* sp.: Keeton, 1960, Mem. American Ent. Soc., 17: 133, fig. 223 (FEMALE FEMALE only).

*Tylobolus deses deses*: Buckett & Gardner, 1966, Proc. Biol. Soc. Washington, 79: 43, figs. 1-9.

Coastal ranges of central California, Sonoma to Santa Cruz counties (Keeton, 1966, fig. 1).

Buckett & Gardner (1966: 43) identify Stanford University, at Palo Alto, San Mateo Co., California, as the probable type locality of this taxon.

***Tylobolus deses magnificus* Buckett & Gardner**

*Tylobolus deses magnificus* Buckett & Gardner, 1966, Proc. Biol. Soc. Washington, 79: 45. MALE HT (UCD) from 2 mi. west of Cordelia, Solano Co., California.

Eastern side of San Francisco Bay, south to Merced Co., California (Keeton, 1966, fig. 1).

***Tylobolus loomisi* Keeton**

*Tylobolus ergus* [nec Chamberlin, 1949] Keeton, 1960, Mem. American Ent. Soc., 17: 123, figs. 228-233.

*Tylobolus loomisi* Keeton, 1966, Trans. American Entom. Soc., 92: 20, fig. 2. MALE HT (USNM) from south of Fort Tejon, Kern Co., California.

Range: Kern and Santa Barbara counties, California (Keeton, 1966, fig. 2).

**Tylobolus monachus** (Chamberlin)

*Auxobolus monachus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 165, figs. 10, 11. MALE HT (USNM) from Hastings Reservation, Monterey Co., California.

*Tylobolus monachus*: Keeton, 1960, Mem. American Ent. Soc., 17: 124, figs. 234-237.

Range: Monterey and Fresno counties, California (Keeton, 1966, fig. 1).

**Tylobolus uncigerus** (Wood)

*Spirobolus uncigerus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 15. HT presumed lost, from "California"; restricted by Keeton (1960: 130) to Solano Co., California.

*Spirobolus californicus* Humbert & DeSaussure, 1870, Rev. & Mag. Zool. (2) 22: 177. HT (NMW) from "California"; restricted by Keeton (1960: 130) to Solano Co., California, without investigation of possible provenance of type. Synonymized by Keeton (1960).

*Tylobolus uncigerus*: Cook, 1904, Harriman Alaska Exped., 8: 67.

*Californibolus michelbacheri* Verhoeff, 1944, Bull. Southern California Acad. Sci., 43: 56, figs. 1-3. MALE HT (ZSM) from Fort Seward, Humboldt Co., California. Synonymized by Keeton (1960).

*Californibolus oregonus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 166, figs. 14, 15. Imm. MALE HT (USNM) from Springfield, Lane Co., Oregon. Synonymized by Keeton (1960).

*Californibolus pontis* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 166, figs. 18, 19. MALE HT (USNM) from Bridgeville, Humboldt Co., California. Synonymized by Keeton (1960).

*Californibolus rectus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 166, figs. 16, 17. MALE HT (USNM) from Solano Co., California. Synonymized by Keeton (1960).

*Californibolus uncigerus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 162.

*Tylobolus uncigerus* Keeton, 1960, Mem. American Ent. Soc., 17: 128, figs. 194-195, 253-261.  
\_ Keeton, 1966, Trans. American Ent. Soc., 92: 23, fig. 1.

Range: Southwestern Washington (Klickitat Co.), south to Mariposa and Santa Cruz counties, California (Keeton, 1966, fig. 1).

**Tylobolus utahensis** Chamberlin

*Tylobolus utahensis* Chamberlin, 1925, Pan-Pacific Ent., 2: 60. MALE HT (USNM) from Zion National Park, Utah. \_ Keeton, 1960, Mem. American Ent. Soc., 17: 131, figs. 262-

264. \_ Shelley & Bauer, 1997, Great Basin Natur., 57: 232, figs. 2-5.

Range: Inyo Co., California east to extreme southwestern Utah (Kane Co.) (Shelley & Bauer, 1997, fig. 6)

#### SPECIES NAMES OF QUESTIONABLE STATUS

##### **Tylobolus fredricksoni** (Causey)

*Californibolus fredricksoni* Causey, 1955, Journ. Kansas Entom. Soc., 28: 78, figs. 1, 4, 5. MALE HT (SMUK), labeled "Douglas County, Kansas".

*Tylobolus fredricksoni*: Keeton, 1960, Mem. American Entom. Soc., 17: 132, figs. 265-268. \_ Shelley & Bauer, 1997, Great Basin Natur., 57: 235.

The biogeographic implausibility of an endemic species of *Tylobolus* in Kansas, and the fact that no material has been collected from an unimpeachable locality, suggests that the types of *fredricksoni* may have been simply a mislabeled sample of some Californian species. Keeton (1960: 132) felt that the holotype (in bad condition) was immature, and this is likewise suggested by the appearance of the posterior gonopod in the figures given by both Causey and Keeton, a view not shared by Shelley & Bauer (1997: 236).

##### **Tylobolus viduus** Chamberlin

*Tylobolus viduus* Chamberlin, 1940, Pomona Coll. Journ. Ent. & Zool., 32: 82. FEMALE HT apparently lost (but see below), from Hastings Reservation, Monterey Co., California.

The missing type specimen was collected at the same time and same place by the same collector as the type of *Tylobolus monachus*, strong circumstantial evidence that both names are based on the same species. Moreover, the likelihood also exists that the "missing" type of *viduus* is actually the type of *monachus*. An identical parallel occurs in the case of *Euzonium crucis* and *Hypozoneum arnaudi* (q.v. sub *Octoglena bivirgata*).

## Family Floridobolidae Keeton

Floridobolidae Keeton, 1959, Bull. Brooklyn Ent. Soc., 54: 1.

One genus, southeastern United States.

### Genus **Floridobolus** Causey

*Floridobolus* Causey, 1957, Proc. Biol. Soc. Washington, 70: 205. Type species: *Floridobolus penneri* Causey, by original designation. \_ Keeton, 1959, Bull. Brooklyn Ent. Soc., 54: 2.

One species, endemic in central Florida.

#### **Floridobolus penneri** Causey

*Floridobolus penneri* Causey, 1957, Proc. Biol. Soc. Washington, 70: 206, figs. 1-3. MALE HT

(AMNH) from 10 miles west of the Archbold Biological Station on U.S. Hy. 70, Highlands Co., Florida.

*Floridobolus penneri*: Keeton, 1959, Bull. Brooklyn Ent. Soc., 54: 2, figs. 1-12, 14-16.

Range: Known so far only from the central Florida ridge in the general vicinity of Lake Placid.

## Family Messicobolidae Loomis

Messicobolidae Loomis, 1968, Bull. U. S. Nat. Mus. 266: 81.

There seems little doubt that the species included by Loomis under this name represent a distinctive family-group with close affinities to the Spirobolidae (and perhaps Floridobolidae).

Most of the species remain known only from the type series, and some of them from females only, and until a conscientious revision has been undertaken, nothing meaningful can be said about the status of any of the names. For the present, the best option seems to be an uncritical listing of all relevant names without judgement about their status or validity.

### Genus **Messicobolus** Brolemann

*Messicobolus* Brolemann, 1913, Bull. Soc. Ent. France for 1913: 477. Type species: *Spirobolus godmani* Pocock, 1909, by original designation. \_ Loomis, 1968, Bull. U. S. Nat. Mus., 266: 82.

*Oxobolus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 30. Type species: *Oxobolus virilis* Chamberlin, 1922, by original designation. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 84. Synonymized by Hoffman, 1998.

It is remarkable how many of these large animals are known from a single locality (and single specimen) only.

Species removed from *Messicobolus* (where placed by Loomis): *Spirobolus reptans* von Porat (see *Hiltonius*), *Spirobolus platyops* Pocock (see Spirobolida of uncertain identity).

#### **Messicobolus amulensis** (Pocock)

*Spirobolus amulensis* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 79. FEMALE HT (location unknown, perhaps lost), from Amula, Edo Guerrero, Mexico.

*Messicobolus amulensis*: Loomis, 1968, Bull. U. S. Nat. Mus., 266: 83.

#### **Messicobolus cinctus** (Chamberlin), new combination

*Oxobolus cinctus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 32, pl. 13, figs. 4-7. MALE HT (USNM) from Trece Aguas (5 km southeast Senah ), Dep. Alta Verapaz. \_ Loomis, 1968, Bull. U. S. Nat. Mus., 266: 84.

#### **Messicobolus collaris** (Chamberlin)

*Aztecobolus collaris* Chamberlin, 1953, American Midl. Nat., 50: 148. FEMALE HT (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

*Messicobolus collaris*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 82.

**Messicobolus cratus** Chamberlin, new combination

*Oxobolus cratus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 33, pl. 13, fig. 8. FEMALE HT (USNM) from road to Los Pinales, Guatemala (neither Mr. Loomis nor I could identify this locality). \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 84.

**Messicobolus distinctus** (Kraus), new combination

*Oxobolus distinctus* Kraus, 1954, Senckenb. Biol., 35: 333, figs. 72-74. MALE HT (SMF) from the Metapan Mountains at Monte Cristo, Dept. Santa Ana, El Salvador. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266:84.

**Messicobolus eximius** (von Porat)

*Spirobolus eximius* von Porat, 1888, Ann. Soc. Ent. Belgique, 32: 248. MALE HT (ISNB), from Guatemala without further details.

*Messicobolus eximius*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 82. \_ Golovatch, 1997, Bull. Inst. Sci. Natur. Belgique, Entom., 67: 105, figs. 44-50 (figures drawn from lectotype).

Loomis justified allocation of this species to *Messicobolus* by its association with *M. mystecus* by Carl in 1919. Actually Carl never referred to *eximius*; I believe that Loomis intended von Porat's comment (1888: 249) about similarity of these two species.

**Messicobolus godmani** (Pocock)

*Spirobolus godmani* Pocock, 1908, in: Biol. Centr.-Amer., Diplopoda, p. 78, figs. 1a-d. Location of syntypes unknown, probably lost, from Omilteme, Guerrero, Mexico.

*Messicobolus godmani*: Brolemann, 1913, Bull. Soc. ent. France for 1913: 477. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 82.

**Messicobolus hoogstraali** Chamberlin

*Messicobolus hoogstralli* (sic!) Chamberlin, 1941, Ent. News, 52: 254, figs. 10-13. MALE HT (USNM) from Ojo de Aguas, Sabinas Hidalgo, Nuevo Leon, Mexico.

*Messicobolus hoogstraali*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 82.

**Messicobolus hoplomerus** (Pocock)

*Spirobolus hoplomerus* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 76, pl. 7, fig. 5. Location of FEMALE holotype unknown, probably lost. Costa Cuca Guatemala (on the Pacific slope, but not located by me).

?*Messicobolus hoplomerus*: Carl, 1918, Rev. suisse Zool., 26: 460, figs. 46-48 (the correctness of the identification is not beyond question).

**Messicobolus magnificus** (Causey), new combination

*Oxobolus magnificus* Causey, 1954, Proc. Biol. Soc. Washington, 67: 61, figs. 12-15. MALE HT (INHS) from three miles northwest of Rancho Monserrate, Chiapas, Mexico. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 84.

**Messicobolus monticola** (Pocock)

*Spirobolus monticola* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 80. FEMALE HT (location unknown, perhaps lost), from Omilteme, Guerrero, Mexico.

*Messicobolus monticola*: Loomis, 1968, Bull. U. S. Nat. Mus., 266: 82.

**Messicobolus mundus** (Chamberlin), new combination

*Oxobolus mundus* Chamberlin, 1953, Proc. Biol. Soc. Washington, 66: 69. MALE HT (?FMNH) from San Pedro Sula, Honduras. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 84

**Messicobolus mystecus** (DeSaussure)

*Julus mystecus* DeSaussure, 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 569, pl. 5, fig. 36. MALE FEMALE HT (MHNG) from Oaxaca (probably the city), Mexico.

*Spirobolus mystecus*: DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., 6(2): 177. \_ Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 81.

*Messicobolus mystecus*: Carl, 1919, Rev. Suisse Zool., 27: 386, figs. 13-15.

**Messicobolus pictus** (Chamberlin), new combination

*Messicobolus pictus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 33, pl. 13, fig. 9. FEMALE HT (USNM) from Coban, Dept. Alta Verapaz., Guatemala.

**Messicobolus pilsbryi** Chamberlin

*Messicobolus pilsbryi* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, v. 99, p. 53, figs. 64, 65. MALE HT (ANSP) from Pablillo, Nuevo Leon, Mexico.

**Messicobolus raii** Chamberlin

*Messicobolus raii* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 12. MALE HT (USNM) from Tamozunchale, San Luis Potosi, Mexico.

**Messicobolus santanus** (Chamberlin), new combination

*Oxobolus santanus* Chamberlin, 1953, Proc. Biol. Soc. Washington, 66: 69. FEMALE HT (USNM) from head of Rio Santa Ana, San Pedro Sula, Honduras.

**Messicobolus semiserratus** Loomis

*Messicobolus semiserratus* Loomis, 1966, Journ. Kansas Ent. Soc., 39: 522, figs. 7-9. MALE HT (USNM) from Horsetail Falls, Nuevo Leon, Mexico.

**Messicobolus stollii** (Pocock)



*Spirobolus stollii* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 77, pl. 7, figs. 3a-e. MALE/FEMALE syntypes (formerly BMNH, perhaps lost) from Pachuta [Department unknown], Guatemala.

*Messicobolus stollii*: Carl, 1918, Rev. Suisse Zool., 26: 461.

**Messicobolus tardus** (Causey), new combination

*Oxobolus tardus* Causey, 1954, Proc. Biol. Soc. Washington, 67: 61, figs. 16-18. MALE HT (INHS) from 17 miles southwest of Simojovel, Chiapas, Mexico.

**Messicobolus tepanecus** (DeSaussure)

*Julus tepanecus* DeSaussure, 1859, Linnaea Entom., 13: 332. \_ 1860, Mem. Soc. Phys. Hist. Nat. Gen ve, 15: 568 (sic, =368), figs. 35-35o. FEMALE HT (MHNG) from Les r gions chaudes du Mexique. \_ Cordova. , Vera Cruz, Mexico.

*Messicobolus tepanecus*: Carl, 1919, Rev. Suisse Zool., 27: 386.

Carl (op. cit.) did not use the above combination *per se*, but in the statement ...*Julus mystecus* (\_ et FEMALE) et *I. tepanecus* (FEMALE) . . .appartiennent. . . .au genre *Messicobolus* Br l. . . . He concluded from a comparison of female type specimens that the two names were probably synonyms. The substantial distance between the type localities, however, justifies their separation until this group has been carefully revised.

**Messicobolus totonacus** Chamberlin

*Messicobolus totonacus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 25, figs. 44-46. MALE HT (USNM) from Cumbres, Vera Cruz, Mexico.

**Messicobolus tzendalus** (DeSaussure)

*Julus tzendalus* DeSaussure, 1860, Mem. Soc. Phys. Hist. Nat. Gen ve, 15(2): 570 [sic, = 370], fig. 37-37o. FEMALE HT (?MHNG), from Les r gions temp r es du Mexique. \_ Oaxaca.

*Messicobolus tzendalus*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 83.

The failure by Carl to mention this name in either of his papers on messicobolids (1918, 1919) raises the suspicion that the female type specimen may have been lost or misplaced prior to his appointment as curator at the Geneva museum.

**Messicobolus virilis** (Chamberlin), new combination.

*Oxobolus virilis* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 31, pl. 12, figs. 11, 12; pl. 13, figs. 1-3. MALE HT (USNM) from Samoc near Coban, Dep. Alta Verapaz, Guatemala.

**Messicobolus zonatus** Carl

*Messicobolus zonatus* Carl, 1918, Rev. Suisse Zool., 26: 462, figs. 49-51. MALE HT (MHNG) from Guatemala without further locality.

### Genus **Petenobolus** Loomis

*Petenobolus* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 508. Type species: *P. antiquorum* Loomis, by original designation.

Two species, restricted to the Peten region of Guatemala.

#### **Petenobolus antiquorum** Loomis

*Petenobolus antiquorum* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 508, figs. 19, 20. MALE HT (USNM), from Uaxactun, Dept. Peten, Guatemala.

#### **Petenobolus mayanus** Loomis

*Petenobolus mayanus* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 509, figs. 21-24. MALE HT (USNM) from Uaxactun, Dept. Peten, Guatemala.

## Family Allopocockiidae Keeton

The status of a number of small Mesamerican spiroboloids is highly unsettled and their resolution will be contingent upon far more detailed studies of gonopod structure than have been so far undertaken. I had commenced the examination of some Guatemalan species many decades ago, but presented my information to Professor Keeton upon his expressing interest in *Allopocockia* and related taxa. These notes and drawings were not recovered following his untimely demise, and rather than attempt any kind of superficial synthesis solely from inadequate literature sources believe it best to present existing knowledge objectively for the benefit of a future investigator. It is clear that several generic taxa can be distinguished, however.

### Genus **Anelus** Cook

*Anelus* Cook, 1911, Proc. U. S. Nat. Mus. 40: 160. Type species, *A. reduncus* Cook, by original designation. \_ Shelley & Hoffman, 1995, Myriapodologica 3: 109 (synopsis).

A monotypic genus endemic to Tamaulipas, Mexico, and adjacent states.

#### **Anelus richardsoni** (Pocock)

*Spirobolellus richardsoni* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 87, pl. 7, figs. 7a-e. MALE and FEMALE syntypes apparently lost, not in BMNH, from Tampico, Tamaulipas, Mexico.

*Anelus richardsoni*: Cook, 1911, Proc. U. S. Nat. Mus. 40: 163. \_ Shelley & Hoffman, 1995, Myriapodologica 3: 109, figs. 1-7 (structure), fig. 8 (map).

*Anelus reduncus* Cook, 1911, Proc. U. S. Nat. Mus. 40: 162. MALE and FEMALE syntypes (formerly USNM, apparently lost) from Brownsville, Cameron Co., Texas. Synonymized by Shelley & Hoffman, 1995.

*Anelus emarginatus* Loomis, 1968, Journ. Kansas Entom. Soc., 41: 390, figs. 11, 12. FEMALE HT (USNM) from monument along Hy. 60 between Iturbide and Linares, Nuevo Leon, Mexico. Synonymized by Shelley & Hoffman, 1995.

Range: Willacy County, Texas, south to Tampico, Tamaulipas, inland as far as central Nuevo Leon, Mexico (map, Shelley & Hoffman, 1995, fig. 8).

### Genus **Allopocockia** Brolemann

*Allopocockia* Brolemann, 1913. Bull. Soc. ent. France, p. 478. \_ 1914, Ann. Soc. Ent. France, 83: 84. Type species: *Spirobolellus tylopus* Pocock, by original designation.

*Allopocockia* Keeton, 1960, Proc. Biol. Soc. Washington, 73: 133 (as type genus of family).

Two nominal species, endemic in Guatemala and El Salvador.

Kraus (1954: 336) provides a key to four Mesamerican species of *Allopocockia* in a much broader sense than adopted here.

#### **Allopocockia rotundata** Kraus

*Allopocockia rotundata* Kraus, 1954, Senckenberg. biol., 35: 336, figs. 75-78. MALE HT (SMF) from Monte Cristo in the Metapan mountains, Dept. Santa Ana, El Salvador.

*Chelogonobolus rotundatus*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 78.

Loomis's generic allocation may be correct, but cannot be verified until the posterior gonopods of this species have been examined.

#### **Allopocockia tylopus** (Pocock)

*Spirobolellus tylopus* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 88, pl. 7, figs. 8a-d. MALE and FEMALE types, formerly BMNH, now apparently lost, from Tecpan [? Dept. Chimaltenango], Guatemala.

*Allopocockia tylopus*: Brolemann, 1913, Bull. Soc. Ent. France, p. 478. \_ Keeton, 1960, Proc. Biol. Soc. Washington, 73: 133.

### Genus **Arolus** Chamberlin

*Arolus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 35. Type species: *A. purulanus* Chamberlin, by original designation.

A so-far monotypic genus endemic in Guatemala.

#### **Arolus purulanus** Chamberlin

*Arolus purulanus* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 35, pl. 13, figs. 10, 11; pl. 14, figs. 1-7. MALE HT (USNM) from Purula [= Purulh ], Dept. Baja Verapaz, Guatemala.

*Allopocockia purulana*: Kraus, 1954, Senckenb. biol. 35: 336. \_ Loomis, 1968, Bull. U. S. Nat. Mus., 266: 78.

### Genus **Chelogonobolus** Carl

*Chelogonobolus* Carl, 1919, Rev. Suisse Zool., 27: 399. Type species: *Spirobolus nahuus* DeSaussure & Humbert, by original designation. \_ Keeton, 1960, Proc. Biol. Soc. Washington, 73: 133.

Two species referred here, the type from Guatemala and another (with considerable doubt), from ?Puebla, Mexico.

#### **Chelogonobolus atriculus** (Pocock)

*Spirobolellus atriculus* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 88, pl. 7, figs. 9a-c. Status of types unknown, presumed lost (not in BMNH), from Volc n de Agua, Dept. Sacatepequez, Guatemala.

*Allopocockia atriculus*: Kraus, 1954, Senckenb. biol. 35: 336.

*Chelogonobolus atriculus*: Keeton, 1960, Proc. Biol. Soc. Washington, 73: 137. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 78.

#### **Chelogonobolus nahuus** (Humbert & DeSaussure)

*Spirobolus nahuus* Humbert & DeSaussure, 1869, Rev. Mag. Zool. (2) 21: 154 \_ DeSaussure & Humbert, 1872, Mission scient. Mexique, Zool., (6)2: 86, pl. 4, fig. 21. Syntypes (fragments of several MALE\_) (MHNG) from le Mexique; Sierra de Moyoapan (Cordill re orientale).

*Spirobolellus nahuus*: Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 88.

*Chelogonobolus nahuus*: Carl, 1919, Rev. Suisse Zool., 27: 401, figs. 32-39. \_ Keeton, 1960, Proc. Biol. Soc. Washington, 73: 134, figs. 1-7.

Loomis' generic allocation may be correct, but cannot be verified until the posterior gonopods of this species have been examined.

### Genus **Schmidtolus** Chamberlin

*Schmidtolus* Chamberlin, 1953, American Midl. Nat. 50: 149. Type species: *S. chichivacus* Chamberlin, by original designation.

Two nominal species, endemic in Guatemala.

#### **Schmidtolus chichivacus** Chamberlin

*Schmidtolus chichivacus* Chamberlin, 1953, American Midl. Nat. 50: 149, figs. 27-29. Type specimens (FMNH) from Santa Elena and Chichivac, near Tecpan, Dept. Chimaltenango, Guatemala.

The selection of Chichivac as type locality by Loomis (1968: 78) should be confirmed by designation of a lectotype from the two type series (or holotype, which was not specified in the original description).

**Schmidtolus parvior** Chamberlin

*Schmidtolus parvior* Chamberlin, 1953, American Midl. Nat. 50: 150, figs. 30, 31. MALE and FEMALE syntypes (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

## Family Typhlobolellidae Hoffman

Typhlobolellidae Hoffman, 1980, Classification of the Diplopoda, p. 78 (*nomen translatum ex* subfamily Typhlobolellinae Hoffman, 1969, Proc. Biol. Soc. Washington, 82: 178.

### Genus **Ergene** Chamberlin

*Ergene* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 4. Type species: *Ergene setosus* Chamberlin, by original designation (as genus of Cambalopsidae). \_ Hoffman, 1973, Fieldiana Zoology, 62:30.

A monotypic genus endemic in Tamaulipas and San Luis Potosi, Mexico.

**Ergene setosa** Chamberlin

*Ergene setosus* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 5, figs. 3, 4. MALE HT (USNM) from 19 miles south of Ciudad Victoria, Tamaulipas, Mexico, on Hy. 1. \_ Causey, 1971, Proc. Biol. Soc. Washington, 34: 271.

*Ergene setosa*: Hoffman, 1973, Fieldiana: Zool., 62: 30, figs. 1-4.

It is difficult to believe that the species illustrated under this name by Causey (1973, figs. 6,7) is actually *Ergene setosa*.

### Genus **Morelene** Chamberlin

*Morelene* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 10. Type species: *M. mundus* [sic!] Chamberlin, by original designation.

A monotypic genus endemic in Morelos, Mexico.

**Morelene munda** Chamberlin

*Morelene mundus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 11, figs. 2, 3. MALE HT (USNM) from Oaxtepec, Morelos, Mexico.

### Genus **Reddellobus** Causey

*Reddellobus* Causey, 1973, Internat. Journ. Speleol. 6: 333. Type species: *R. troglobius* Causey, by original designation.

A monotypic genus endemic in Puebla, Mexico.

**Reddellobus troglobius** Causey

*Reddellobus troglobius* Causey, 1973, Internat. Journ. Speleol. 6: 334, figs. 1-5. MALE HT (USNM?) from Grutas de Jonotla, 7 km SW of Cuetzalan, Puebla, Mexico. \_ Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 77.

Range: Known only from numerous sites, mostly caves, around Cuetzalan, Puebla (Shear, 1986: 77).

**Genus Typhlobolellus** Hoffman

*Typhlobolellus* Hoffman, 1969, Proc. Biol. Soc. Washington, 82: 178. Type species: *T. whiteheadi* Hoffman, by original designation.

Two species, endemic in central lowland Veracruz, Mexico.

**Typhlobolellus fortinus** Shear

*Typhlobolellus fortinus* Shear, 1974, Quad. Accad. Naz. Lincei, Probl. Att. Sci. Cult., 171(2): 251, figs. 14-19. MALE HT (MCZ) from Fortin de las Flores, Veracruz, Mexico.

**Typhlobolellus whiteheadi** Hoffman

*Typhlobolellus whiteheadi* Hoffman, 1969, Proc. Biol. Soc. Washington, 69: 178, figs. 1-8. MALE HT (USNM) from 0.8 miles west of Sontecomapan (ca. 11 miles north of Catemaco), Veracruz, Mexico.

**Family Atopetholidae** Chamberlin

Atopetholidae Chamberlin, 1918, Proc. Biol. Soc. Washington, 31: 00. \_ Hoffman & Orcutt, 1960, Proc. U.S. Nat. Mus., 111: 00 (revision).

Although this family was surveyed only few decades ago, it is again in urgent need of a thorough revision, as the previous treatment was based on far too little material and relied far too much on peripheral characters for definition of genera. Several years after its publication, I was able to study a number of diverse species and perceived some necessary changes which were embodied without comment in the 1980 Classification. Many of these changes have been documented and discussed in a recent paper (Hoffman, 1998), which does not reduce the need for a revisionary treatment. It is entirely possible that even the four subfamilies here recognized will be altered or abolished, and without doubt many genera will be abandoned.

**Subfamily Atopetholinae** Chamberlin

Atopetholinae Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 132 (*nomen translatum ex* family Atopetholidae Chamberlin, 1918).

### Genus **Atopetholus** Chamberlin

*Atopetholus* Chamberlin, 1918, Proc. Biol. Soc. Washington, 37: 167. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 133. Type species: *A. californicus* Chamberlin, by original designation.

?*Hesperolus* Chamberlin, 1918, Proc. Biol. Soc. Washington, 37: 170. Type species: *H. wheeleri* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

*Onychelus* (nec sensu Cook, 1911) Verhoeff, 1938, Zool. Anz., 122: 274.

*Orthichelus* Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 7. Type species: *Onychelus phanus* Chamberlin, 1941. Synonymized by Hoffman & Orcutt, 1960.

About eight species, southern California, southern Nevada.

#### **Atopetholus angelus** Chamberlin

*Atopetholus angelus* Chamberlin, 1920, Proc. Biol. Soc. Washington, 39: 101. MALE HT (MCZ) from Edendale suburb, Los Angeles, Los Angeles Co., California.

*Atopetholus angelus*: Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 135, fig. 7a-d (redescription and gonopod illustrations from paratype).

#### **Atopetholus barbaranus** Chamberlin

*Atopetholus barbaranus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 168. MALE HT (USNM) from Orcutt, Santa Barbara Co., California.

#### **Atopetholus californicus** Chamberlin

*Atopetholus californicus* Chamberlin, 1918, Proc. Biol. Soc. Washington, 37: 168; 1940, Pomona Coll. Journ. Ent. & Zool., 32: 82, fig. F. MALE HT (MCZ) from Claremont, Los Angeles \_ San Bernardino counties, California. \_ Hoffman, 1998, Myriapodologica, 5: 66, figs. 1-3 (redescription of holotype).

#### **Atopetholus carmelitus** Chamberlin

*Atopetholus carmelitus* Chamberlin, 1940, Pomona Coll. Journ. Ent. & Zool., 32: 81, figs. C-E; 1941, Bull. Univ. Utah, 31(11): 30, figs. 3, 4. MALE HT (USNM) from Hastings Reservation, Monterey Co., California.

#### **Atopetholus fraternus** Chamberlin

*Atopetholus fraternus* Chamberlin, 1918, Proc. Biol. Soc. Washington, 37: 169. MALE HT (MCZ) from Friant, Fresno Co., California.

#### **Atopetholus michelbacheri** (Verhoeff)

*Onychelus michelbacheri* Verhoeff, 1938, Zool. Anz., 122: 276, figs. 1-3. MALE FEMALE STs (ZSBS) from Walker s Pass [ca. 6 mi NW of Freeman Jct], Kern Co., California.

*Onychelus phanus* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 6, figs. 6, 7. MALE HT (USNM) from 6 miles west of Freeman, Kern Co., California. Synonymized by Hoffman & Orcutt, 1960.

*Orthichelus phanus*: Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 8.

*Atopetholus michelbacheri*: Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 138.

*Orthichelus michelbacheri*: Chamberlin, 1962, Proc. Biol. Soc. Washington, 75: 45.

Range: Aside from the type locality, the species has been recorded from vicinity of Mercury, northwest of Las Vegas, Nevada.

Chamberlin (1962) did not explain his decision to maintain *Orthichelus* as a valid monotypic genus, and the status of *michelbacheri* thus requires further clarification.

#### **Atopetholus pearcei** Chamberlin

*Atopetholus pearcei* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 6, fig. 3. MALE HT (USNM) from Oildale, Kern Co., California.

#### **Genus Tidolus** Chamberlin

*Tidolus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 169. Type species: *Atopetholus parvus* Chamberlin, 1918, by original designation. \_ Hoffman, 1998, Myriapodologica, 5: 72 (description of type species, revalidation of generic status).

Monotypic, southern California.

**Tidolus parvus** Chamberlin, 1918, Proc. Biol. Soc. Washington, 37: 168. MALE HT (MCZ) from Claremont, Los Angeles-San Bernardino Cos., California. \_ Hoffman, 1998, Myriapodologica, 5: 72, figs. 15-18.

Range: Aside from the type locality, the species is known from Topanga Canyon near Santa Monica, California.

#### **Genus Watichelus** Chamberlin

*Watichelus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 169. \_ Loomis, 1949, Journ. Washington Acad. Sci., 39: 241. Type species: *Onychelus smithi* Chamberlin, 1947, by original designation.

Six species, southern California, northern Baja California.

#### **Watichelus cooki** Loomis

*Watichelus cooki* Loomis, 1949, Journ. Washington Acad. Sci., 39: 243, figs. 5, 6. MALE HT (USNM) from Descanso, Baja California Norte, Mexico.



**Watichelus edentatus** Loomis

*Watichelus edentatus* Loomis, 1949, Journ. Washington Acad. Sci., 39: 241, figs. 1, 2. MALE HT (USNM) from between San Diego and El Centro, San Diego Co., California.

**Watichelus emarginatus** Loomis

*Watichelus emarginatus* Loomis, 1949, Journ. Washington Acad. Sci., 39: 243, figs. 7, 8. MALE HT (USNM) from eight miles south of Tiajuana, Baja California Norte, Mexico.

**Watichelus parallelus** Loomis

*Watichelus parallelus* Loomis, 1949, Journ. Washington Acad. Sci., 39: figs. 9, 10. MALE HT (USNM) from Chula Vista, San Diego Co., California.

**Watichelus robustus** Loomis

*Watichelus robustus* Loomis, 1949, Journ. Washington Acad. Sci., 39: 241, figs. 3, 4. MALE HT (USNM) from Chula Vista, San Diego Co., California.

**Watichelus smithi** (Chamberlin)

*Onychelus smithi* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 49, figs. 52, 53. MALE HT (ANSP) from Murray Canyon, three miles north of Palm Springs, Riverside Co., California.

*Watichelus smithi*: Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 109.

## ATOPETHOLINAE OF UNCERTAIN GENERIC POSITION

**Atopetholus paroicus** Chamberlin, 1941, Bull. Univ. Utah, 31(12): 7, fig. 5. MALE HT (USNM) from Mountain Spring, San Diego Co., California.

**Hesperolus wheeleri** Chamberlin, 1918, Proc. Biol. Soc. Washington, 31: 169. Immature MALE HT (MCZ) from the Santa Ynez Mountains, Santa Barbara Co., California. \_ Hoffman, 1998, Myriapodologica, 5: 66, figs. 4-6.

[Type species of **Hesperolus** Chamberlin, 1918, Proc. Biol. Soc. Washington, 31: 169.]

## Subfamily Eurelinae Hoffman &amp; Orcutt

Eurelinae Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 117.

Genus **Centrelus** Cook

*Centrelus* Cook, 1911, Proc. U. S. Nat. Mus., 40: 154. Type species: *C. falcatus* Cook, by monotypy and original designation. \_ Hoffman, 1998, Myriapodologica, 5: 68.

*Saussurobolus* Carl, 1919, Rev. suisse zool., 27: 289. Type species: *Julus nietanus* DeSaussure, 1860, by original designation. Synonymized by Hoffman, 1980.

Eight species, Mexico.

**Centreleus boreus** (Loomis)

*Saussurobolus boreus* Loomis, 1966, Journ. Kansas Ent. Soc., 39: 521, figs. 10-12 MALE HT (USNM) from Huasteca Canyon, near Monterrey, Nuevo Le n, Mexico.

*Centreleus boreus*: Hoffman, 1998, Myriapodologica, 5: 68.

**Centreleus falcatus** Cook

*Centreleus falcatus* Cook, 1911, Proc. U. S. Nat. Mus. 40: 155. MALE HT (formerly USNM, apparently lost), from Guanajuato, Mexico.

**Centreleus heteropygus** (DeSaussure & Humbert)

*Spirobolus heteropygus* DeSaussure & Humbert, 1869, Rev. & Mag. Zool., p. 154; Miss. Sci. Mex. Centr. Amer., Zool., 6(2): 90, pl. IV, fig. 22. MALE\_ST (?MHNG) from Cuernavaca, Morelos, Mexico.

*Cyclothyrophorus heteropygus*: Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 85. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 80.

*Centreleus heteropygus*: Hoffman, 1998, Myriapodologica, 5: 68.

**Centreleus neglectus** (Carl)

*Spirobolus nietanus* (*in part*): DeSaussure & Humbert, 1872, Miss. Sci. Mex. Amer. Centr. Zool., 6(2): 89.

*Saussurobolus neglectus* Carl, 1919, Rev. suisse Zool., 27: 391, figs. 17-22. ST (MHNG) from Cuernavaca, Morelos, Mexico.

*Centreleus neglectus*: Hoffman, 1998, Myriapodologica, 5: 68.

**Centreleus nietanus** (DeSaussure)

*Julus nietanus* DeSaussure, 1860, M m. Soc. Phys. Gen ve, 15: 565 [=365!], pl. 5, figs. 33a-d. MALEFEMALESts (MHNG) from Cuernavaca, Morelos, Mexico.

*Cyclothyrophorus nietanus*: Pocock, 1908, Biol. Centr.-Amer., Diplopoda, 84.

*Saussurobolus nietanus*: Carl, 1919, Rev. suisse Zool., 27: 390, fig. 16.

**Centreleus nigrescens** (Chamberlin)

*Onychelus nigrescens* Chamberlin, 1923, Proc. California Acad. Sci., (4) 12: 407, figs. 44-47. MALE HT (CAS) from Coronados Island, Golfo de Mexico, northeast of Loreto, Baja California Sur, Mexico.

*Atopetholus nigrescens*: Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 139.

*Centreleus nigrescens*: Hoffman, 1998, Myriapodologica, 5: 68.

**Centreleus spinosus** (Loomis)

*Saussurobolus spinosus* Loomis, 1968, Journ. Kansas Ent. Soc., 41: 388, figs. 7-10. MALE HT (USNM) from Lopez Mateos monument on Highway 60, east of Iturbide, Nuevo Le n., Mexico.

*Centreleus spinosus*: Hoffman, 1998, Myriapodologica, 5: 68.

**Centreleus vulvanus** (Karsch)

*Spirobolus vulvanus* Karsch, 1881, Zeitschr. ges. Naturwiss. (3) 6: 55. MALELT, MALELPT, FEMALELPT (ZMB 882), from Puebla [probably the city], Mexico.

*Cyclothyrophorus vulvanus*: Pocock, 1908, Biol. Centr.-Amer. Diplopoda, 86.

*Cyclothyrophorus valvanus* [*sic*]: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 80.

*Centreleus vulvanus*: Hoffman, 1998, Myriapodologica 5: 68, figs. 7-10 (from lectotype).

**Centreleus zacatecus** (Chamberlin)

*Arinulus zacatecus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 51, figs. 59, 60. MALE HT (ANSP9974) from Sierra Temperoso del Oro, Est. Zacatecas, Mexico.

*Saussurobolus zacatecus*: Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 147.

*Centreleus zacatecus*: Hoffman, 1998, Myriapodologica, 5: 68.

**Genus Comanchelus** Hoffman & Orcutt

*Comanchelus* Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 128. Type species: *C. hubrichti* Hoffman & Orcutt, by original designation. \_ Loomis, 1968, Proc. Biol. Soc. Washington, 81: 503.

Four species, Texas, Chihuahua.

**Comanchelus camporum** Loomis

*Comanchelus camporum* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 503, figs. 9-11. MALE HT (USNM) from 24 miles east of Llano, Llano Co., Texas.

**Comanchelus chihuanus** (Chamberlin)

*Toltecolus chihuanus* Chamberlin, 1947, Proc. Biol. Soc. Washington 60: 10, figs. 5-7. FEMALE HT (USNM) from Ciudad Chihuahua, Chihuahua, Mexico.

*Comanchelus chihuanus*: Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 128.

**Comanchelus hubrichti** Hoffman & Orcutt

*Comanchelus hubrichti* Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 129, figs. 3, 6a-d.

MALE HT (USNM) from 3.3 miles northeast of Pandale, Val Verde Co., Texas.

Range: Central Texas (Map: Hoffman & Orcutt 1960, fig. 3).

**Comanchelus lobatus** Loomis

*Comanchelus lobatus* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 504, figs. 12-14. MALE HT (USNM) from San Antonio, Bexar Co., Texas.

Genus **Eurelus** Chamberlin

*Eurelus* Cook, 1911, Proc. U. S. Nat. Mus. 40: 161. Type species: *E. soleatus* Cook, by original designation. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 118.

Removed from genus: *Eurelus tancitares* Chamberlin, 1941 (see *Hiltonius mexicanus*, p.43).

One species, southern Texas.

**Eurelus soleatus** Cook

*Eurelus soleatus* Cook, 1911, Proc. U. S. Nat. Mus., 40: 153. MALE HT (USNM, lost), from Falfurrias, Brooks Co., Texas. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 119, figs. 1a-c, 3, 4a-f.

*Eurelus proximus* Chamberlin & Mulaik, 1941, Journ. New York Ent. Soc., 49: 62. MALE HT (USNM?) from Edinburg, Hidalgo Co., Texas.

*Toltecolus parvunguis* Hoffman, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 46: 1, figs. A, B. MALE HT (USNM) from Frio Co., Texas.

Range: Coastal Plain of Texas, between the Colorado River and Rio Grande (map: Hoffman & Orcutt, 1960, fig. 3).

Genus **Mannobolus** Loomis

*Mannobolus* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 505. Type species: *M. peninsularis* Loomis, by original designation.

One species, Baja California, Mexico.

**Mannobolus peninsularis** Loomis

*Mannobolus peninsularis* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 507, figs. 15-18. MALE HT (USNM) from Comondú, Baja California Sur, Mexico.

Genus **Toltecolus** Chamberlin

*Toltecolus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 27. Type species: *T. garcianus* Chamberlin, by original designation.

*Centrellus* (in part, not sensu Cook 1911): Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111:

124.

Two species, Texas; Nuevo Le n.

**Toltecolus fluvialis** (Loomis)

*Centrelus fluvialis* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 501, figs. 6-8. MALE HT (USNM) from Comstock, Val Verde Co., Texas.

*Toltecolus fluvialis*: Hoffman, 1998, Myriapodologica, 5: 74 (not indicated as new combination).

**Toltecolus kerrensis** (Chamberlin & Mulaik)

*Eurelus kerrensis* Chamberlin & Mulaik, 1941, Journ. New York Ent. Soc., 49: 61. MALE HT (USNM) from Raven Ranch, Kerr Co., Texas.

*Toltecolus garcianus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 27, figs. 30-33. MALE HT (USNM) from Garcia, Nuevo Le n, Mexico. Synonymized by Hoffman & Orcutt, 1960.

*Centrelus kerrensis*: Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 124, figs. 3, 5a-c.

*Toltecolus kerrensis*: Hoffman, 1998, Myriapodologica, 5: 74 (not indicated as new combination).

Range: Central and western Texas, Nuevo Le n (map: Hoffman & Orcutt, 1960, fig. 3).

**Genus Uvaldia** Loomis

*Uvaldia* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 499. Type species: *U. intersecta* Loomis, by original designation.

One species, Texas.

**Uvaldia intersecta** Loomis

*Uvaldia intersecta* Loomis, 1968, Proc. Biol. Soc. Washington, 81: 500, figs. 1-5. MALE HT(USNM) from Uvalde, Uvalde Co., Texas.

**Subfamily Onychelinae** Hoffman & Orcutt

Onychelinae Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 142 [the name Onychelidae Verhoeff, 1938, was based on a species in a different subfamily, and is a synonym of Atopetholinae].

### Genus **Onychelus** Cook

*Onychelus* Cook, 1904, Harriman Alaska Exped., 8: 68. Type species: *O. obustus* Cook, by original designation. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 142. \_ Shelley, 1998, Myriapodologica, 5: 112.

*Gosichelus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 168. Type species: *Onychelus medolus* Chamberlin, 1941, by original designation. Synonymized by Hoffman & Orcutt, 1960.

One species, California and adjacent Arizona.

#### **Onychelus obustus** Cook

*Onychelus obustus* Cook, 1904, Harriman Alaska Exped., 8: 68. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 142, fig. 8a-b. MALE HT (USNM) from the Colorado Desert, Riverside Co., California. \_ Shelley, 1998, Myriapodologica, 5: 113, figs. 1-5.

*Onychelus medolus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 13, figs. 17, 18. MALE HT (USNM) from Olberg, Pinal Co., Arizona. Synonymized by Shelley, 1998.

*Hiltonius thebanus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 8, fig. 7. FEMALE HT (USNM) from Theba (10 miles west of Gila Bend on US 80), Maricopa Co., Arizona. Synonymized by Shelley, 1998.

*Onychelus jaegeri* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 50, figs. 54, 55. MALE HT (ANSP) from Indio Mudhills, ten miles northeast of Palm Springs, Riverside Co., California.

*Onychelus thebanus*: Shelley & Bauer, 1997, Great Basin Natur., 57: 231.

Keeton (op. cit., p. 113, footnote) treated this species from a female specimen considered by him to be conspecific with the female holotype, which, apparently, he did not examine. Having seen the holotype, Shelley & Bauer (1997: 231) considered it to represent a species in the atropetholid genus *Onychelus*, later referred by Shelley to *O. obustus*.

### Subfamily Arinolinae Hoffman & Orcutt

Arinolinae Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 147 (synopsis).

#### Genus **Arinolus** Chamberlin

*Arinolus* Chamberlin, 1940, Pomona College Journ. Ent. And Zool., 32: 81. Type species: *A. torynophor* Chamberlin, by original designation. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 149.

Ten nominal species, Arizona and adjacent southern parts of Nevada and California.

#### **Arinolus apachellus** Chamberlin

*Arinolus apachellus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 10, figs. 12-14. MALE HT (USNM) from Covered Wells (=Quijotoa), Pima Co., Arizona. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 154, figs. 10a-e.

Range: Southwestern Arizona, south of the Gila River.

**Arinolus chiricahuanus** Chamberlin

*Arinolus chiricahuanus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 50, figs. 56-58. MALE HT (ANSP) from White Tail Canyon, Chiricahua Mountains, Cochise Co., Arizona.

**Arinolus citrinus** Hoffman & Orcutt

*Arinolus citrinus* Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus. 111: 155, figs. 11a-d. MALE HT (USNM) from Bear Canyon, Mount Lemmon, Pima Co., Arizona.

**Arinolus dentatus** (Cook)

*Onychelus dentatus* Cook, 1911, Proc. U. S. Nat. Mus. 40: 158. FEMALE HT (formerly USNM, now lost), from Fort Huachuca, Cochise Co., Arizona.

*Onychelus suturatus* Cook, 1911, Proc. U. S. Nat. Mus. 40: 159. FEMALE HT (formerly USNM, now lost), from Fort Huachuca, Cochise Co., Arizona. Synonymized by Loomis (1950).

*Arinolus dentatus*: Loomis, 1950, Journ. Washington Acad. Sci. 40: 164.

**Arinolus hospes** (Cook)

*Onychelus hospes* Cook, 1911, Proc. U. S. Nat. Mus. 40: 157. Imm. FEMALE HT (formerly USNM, now lost), from Tucson, Pima Co., Arizona.

*Arinolus hospes*: Loomis, 1950, Journ. Washington Acad. Sci. 40: 164.

**Arinolus hopinus** Chamberlin

*Arinolus hopinus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 12, fig. 16. MALE HT (USNM), from 16 miles east of Tucson, Pima Co., Arizona.

Synonymized with *A. hospes* by Loomis (1950), perhaps correctly.

**Arinolus latus** Loomis

*Arinolus latus* Loomis, 1953, Journ. Washington Acad. Sci. 43: 418, figs. 10-12. MALE HT (USNM) from Antelope Valley, between Lancaster and Palmdale, Los Angeles Co., California.

**Arinolus nevadae** Chamberlin

*Arinolus nevadae* Chamberlin, 1962, Proc. Biol. Soc. Washington, 75: 54, figs. 1-3. MALE HT

(USNM) from the Nevada Test Area , northwest of Las Vegas, Nye Co., Nevada.

**Arinolus nogalanus** Chamberlin

*Arinolus nogalanus* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 11, fig. 15. MALE HT (USNM) from Nogales, Santa Cruz Co., Arizona.

**Arinolus pimus** Chamberlin

*Arinolus pimus* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 12. FEMALE HT (USNM) from Litchfield Park, Maricopa Co., Arizona.

**Arinolus sequens** Chamberlin

*Arinolus sequens* Chamberlin, 1962, Proc. Biol. Soc. Washington, 62: 53, figs. 4, 5. MALE HT (USNM) from the Nevada Test Area , northwest of Las Vegas, Nye Co., Nevada.

**Arinolus torynophor** Chamberlin

*Arinolus torynophor* Chamberlin, 1940, Pomona College Journ. Ent. and Zool., 32: 81, figs. A-C. HT(USNM) from Fish Creek, 10 miles east of Tortilla Flat, Maricopa Co., Arizona.  
\_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 152, figs. 10a, b.

**Genus Piedolus** Chamberlin

*Piedolus* Chamberlin, 1930, Pan-Pacific Ent., 6: 117. Type species: *P. utus* Chamberlin, by original designation.

One species, southwestern Utah.

**Piedolus utus** Chamberlin

*Piedolus utus* Chamberlin, 1930, Pan-Pacific Ent., 6: 118, 2 unnumbered figures. MALE HT (USNM) from St. George, Washington Co., Utah.

Range: Recorded also from Panamint Springs, Inyo Co., California (Shelley & Bauer, 1997).

**Genus Scobinomus** Loomis

*Scobinomus* Loomis, 1953, Journ. Washington Acad. Sci., 43: 420. Type species: *S. serratus* Loomis, by original designation.

One species, northernmost Baja California.

**Scobinomus serratus** Loomis



*Scobinomus serratus* Loomis, 1953, Journ. Washington Acad. Sci. 43: 420, figs. 13-17. MALE HT (USNM) from 14 miles north of Ensenada, Est. Baja California Norte, Mexico. \_ Hoffman & Orcutt, 1960, Proc. U. S. Nat. Mus., 111: 162, figs. 12a-c.

Range: Vicinity of Ensenada, Baja California Norte.

### Genus **Tarascolus** Chamberlin

*Tarascolus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 25. Type species: *T. bolivari* Chamberlin, by original designation.\_ Loomis, 1976, Florida Entom., 59: 290, discussion and key to species.

Three species, southern Mexico.

#### **Tarascolus bolivari** Chamberlin

*Tarascolus bolivari* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 26, figs. 46-50. MALE HT (USNM) from Zitacuaro, Michoacan, Mexico.

#### **Tarascolus clarus** Chamberlin

*Tarascolus clarus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 26, fig. 51. MALE HT (USNM) from Santa Rosa, Distrito Federal, Mexico.

#### **Tarascolus reflexus** Loomis

*Tarascolus reflexus* Loomis, 1976, Florida Entom., 59: 291, figs. 7, 8. MALE HT (FSCA) from 21 km northeast of Mexico City (La Marquesa), Mexico, Mexico.

### ATOPETHOLIDAE OF UNCERTAIN SUBFAMILY POSITION

### Genus **Cyclothyrophorus** Pocock

*Cyclothyrophorus* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 83. Type species: *C. salvini* Pocock, by original designation.

One species, central western Mexico.

**Cyclothyrophorus salvini** Pocock, 1908, Biol. Centr.- Amer. Diplopoda, p. 83, pl. VII, figs. 6a-d. MALE HT (formerly BMNH, apparently lost), from Amula, Guerrero, Mexico. \_ Hoffman, 1998, Myriapodologica, 5: 70, figs. 11-14.

Range: Aside from the type locality, known also from 19 mi. northeast of Colima, Colima, Mexico.

### Family Spirobolellidae Brolemann

Spirobolellidae Brolemann, 1913, Bull. Soc. Ent. France for 1913: 477; 1914, Ann. Soc. Ent. France, 83: 30.

### Genus *Spirobolellus* Pocock

*Spirobolellus* Pocock, 1894, in: Weber, Zool. Ergebn. Reise Niederl. Ost-Ind. 3: 398. Type species: *S. chrysodirus* Pocock, by original designation.

*Microspirobolus* Silvestri, 1898, An. Mus. Nac. Buenos Aires 6: 75. Type species: *M. pulchellus* Silvestri, by monotypy.

*Spirobolinus* Silvestri, 1898, Boll. Mus. Zool. Anat. Comp. Torino 13(324): 8. Type species: *S. luciae* Silvestri, 1898, by subsequent designation of Hoffman, 1955.

*Barrobolus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 41. Type species: *B. grammicus* Chamberlin, by original designation.

*Aporobolus* Loomis, 1934, Smithsonian Misc. Colls 89(14): 23. Type species: *A. crusoii* Loomis, by original designation.

About 80 nominal species, East Indies, Micronesia, New Caledonia, eastern Australia, Panama, northern South America, Greater Antilles (except Jamaica, a remarkable exception!).

Inclusion of *Microspirobolus* within *Spirobolellus* (proposed in my 1969 paper on *Typhlobolellus* and continued in the Classification [1980: 78]) has been done with considerable diffidence inasmuch as the gonopod characters of both *Spirobolellus chrysodirus* and *Microspirobolus pulchellus* are still unknown. However, since with very few exceptions the numerous species adequately described in *Spirobolellus* from the East Indies and Oceania cannot be readily separated from the numerous Neotropical species named in *Microspirobolus*, the assumption is made that the two type species will fall into the same category.

The foregoing list of generic synonyms includes only those names which have been based upon New World species.

#### ***Spirobolellus baracoa* P rez-Asso**

*Spirobolellus baracoa* P rez-Asso, 1998, Caribbean Journ. Sci., 34: 76, figs. 5A-C, 8 I, 9. MALE HT (MNHNCu) from Yunque de Baracoa, Prov. Guantamo, Cuba.

Range: Several localities in Prov. Guantamo, Cuba (map, P rez-Asso, 1998, fig. 9)

#### ***Spirobolellus belonanus* (Chamberlin), new combination!**

*Microspirobolus belonanus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 207. MALE HT (MCZ) from Belona, Oriente Prov., Cuba; 1922, Proc. U. S. Nat. Mus., 61(10): pl. 4, figs. 3, 4.

*Microspirobolus conspicillatus* Loomis, Bull. Mus. Comp. Zool. 82: 454, fig. 14a-c. MALE HT (MCZ) from seacoast below Pico Turquino, Prov. Santiago de Cuba, Cuba. Synonymized by P rez-Asso, 1998.

*Microspirobolus undosus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 452, figs. 13a-c. MALE HT (MCZ) from Pico del Turquino, near summit, Prov. Santiago de Cuba, Cuba.

Synonymized by Perez-Asso, 1998.

*Microspirobolus mucronatus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 456, figs. 15a-b. MALE HT (MCZ) from Sierra del Cobre, 3000-3800 ft., Oriente Prov., Cuba. Synonymized by Perez-Asso, 1998.

Range: Provs. Santiago de Cuba and Guantanamo, Cuba (map, Perez-Asso, 1998, fig. 9).

**Spirobolellus concinnus** (Loomis), new combination!

*Microspirobolus concinnus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 45, fig. 19a-c. MALE HT (USNM) from Morne Brigand, near Bayeux, Haiti.

**Spirobolellus dorsetti** (Loomis), new combination!

*Microspirobolus dorsetti* Loomis, 1934, Smithsonian Misc. Colls., 89(14): 22, fig. 11a-b. MALE HT (USNM) from near Roadtown, Tortola.

**Spirobolellus eremus** (Chamberlin)

*Microspirobolus eremus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 12, pl. 4, figs. 7-10. MALE HT (MCZ) from Soledad, Habana Prov., Cuba.

*Spirobolellus eremus*: Perez-Asso, 1998, Caribbean Journ. Sci., 34: 68, figs. 1A-C, 8A, 9.

Range: Central Cuba (map, Perez-Asso, 1998, fig. 9)

**Spirobolellus erythrotermus** (Loomis), new combination!

*Microspirobolus erythrotermus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 43, fig. 18a-b. MALE HT (USNM) from Le Brande, Haiti.

**Spirobolellus escambray** Perez-Asso

*Spirobolellus escambray* Perez-Asso, 1998, Caribbean Journ. Sci., 34: 78, figs. 6A-C, 8D-E, 9. MALE HT (MNHNCu) from Mayar, Sierra del Escambray, Prov. Cienfuegos, Cuba.

Range: Central Cuba, Prov. Cienfuegos (map, Perez-Asso, 1998, fig. 9).

**Spirobolellus esulcatus** (Loomis), new combination!

*Microspirobolus esulcatus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 41, fig. 17a-d. MALE HT (USNM) from Morne Brigand, near Bayeux, Haiti.

**Spirobolellus fontis** (Chamberlin), new combination!

*Microspirobolus fontis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 208. MALE HT (MCZ) from San Diego de los Baños, Pinar del Rio Prov., Cuba; 1922, Proc. U. S. Nat. Mus., 61(10): pl. 4, figs. 1, 2.

**Spirobolellus furcianus** (Loomis), new combination!

*Microspirobolus furcianus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 48, fig. 20a-b. MALE HT (MCZ) from Mt. Noir, 6100 ft., near Furcy, Haiti.

**Spirobolellus grammicus** (Chamberlin), new combination!

*Barrobolus grammicus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 41. MALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama.

*Microspirobolus grammicus*: Loomis, 1964, Fieldiana Zoology, 47: 115, fig. 12A-B.

**Spirobolellus instratus** (Loomis), new combination!

*Microspirobolus instratus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 47, fig. 16a-c. MALE HT (MCZ) from Monte Quita Espuela, 1000-3000 ft., Republica Dominicana.

**Spirobolellus insularis** (Silvestri), new combination!

*Microspirobolus insularis* Silvestri, 1908, Bull. American Mus. Nat. Hist., 24: 572, figs. VII, 1-2. ?ST (AMNH) from Utuado, Puerto Rico. \_ Loomis, 1941, Bull. Mus. Comp. Zool., 88: 42. \_ Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 150.

**Spirobolellus lineatus** (Chamberlin), new combination!

*Microspirobolus lineatus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 209. MALE HT (MCZ) from Diquini, Haiti; 1922, Proc. U. S. Nat. Mus., 61(10): pl. 4, figs. 5, 6 (gonopods illustrated).

Range: Recorded by Loomis (1936: 47) also from Kenscoff and Carrefour, Haiti.

**Spirobolellus marmoratus** (Silvestri), new combination!

*Microspirobolus marmoratus* Silvestri, 1909, Bull. American Mus. Nat. Hist., 24: 572, figs. VI, 1-6. ?ST (AMNH) from Utuado, Puerto Rico.

Range: Recorded from Maricao Forest (Loomis, 1941: 42) and Villalba (Chamberlin, 1950: 151), Puerto Rico.

**Spirobolellus mediolus** (Chamberlin), new combination!

*Microspirobolus mediolus* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 151, figs. 4, 5. MALE HT (USNM) from Maricao Insular Forest, north of San Germ n, Puerto Rico.

**Spirobolellus mimus** (Chamberlin)

*Microspirobolus mimus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 12, pl. 5, figs. 4-6. MALE HT (USNM) from San Diego de los Ba os, Pinar del Rio Prov., Cuba. \_ Loomis, 1938, Bull. Mus. Comp. Zool., 82:452, figs. 12-a-c.

*Spirobolellus mimus*: P rez-Asso, 1998, Caribbean Journ. Sci., 34: 74, figs. 4A-C, 8B-C, 9.

Range: Western Cuba, Prov. Pinar del Rio (map, P rez-Asso, 1998, fig. 9).

**Spirobolellus pinarensis** P rez-Asso

*Spirobolellus pinarensis* P rez-Asso, 1998, Caribbean Journ. Sci., 34: 80, figs. 7A-C, 8J-K, 9. MALE HT (MNHNCu) from Mil Cumbres, Prov. Pinar del Rio, Cuba.

Range: Type locality only (map, P rez-Asso, 1998, fig. 9).

**Spirobolellus pullus** (Loomis), new combination!

*Microspirobolus pullus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 46, figs. 15a-d. MALE HT (MCZ) from Monte Quita Espuela, 1000-3000 ft., Republica Dominicana.

**Spirobolellus richmondi** (Chamberlin), new combination!

*Microspirobolus richmondi* Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 13; pl. 5, figs. 1-3. MALE HT (USNM) from El Yunque, ca. 7 km west of Fajardo, Puerto Rico.

**Spirobolellus sigillatus** (Loomis), new combination!

*Microspirobolus sigillatus* Loomis, 1934, Smithsonian Misc. Colls., 89(14): 20, figs. 10a-b. MALE HT(USNM) from Morne Pilboreau, above Ennery, Haiti.

Range: Also recorded from Monte Diego de Campo, Cordillera Setentrional, Republica Dominicana.

**Spirobolellus signatus** (Loomis), new combination!

*Microspirobolus signatus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 42, figs. 13a-c. MALE HT (MCZ) from Monte Diego de Campo, 3000-4000 ft., Cordillera Setentrional, Republica Dominicana.

**Spirobolellus tenuipes** (Loomis), new combination!

*Microspirobolus tenuipes* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 44, figs. 14a-b. MALE HT (MCZ) from Loma Rucilla and mountains northward, 5000-8000 ft., Cordillera Setentrional, Republica Dominicana.

**Spirobolellus toronus** (Chamberlin), new combination!

*Microspirobolus toronus* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 151, figs. 6, 7. MALE HT (USNM) from Toro Negro, north of Villalba, Puerto Rico.

**Spirobolellus trifasciatus** (Loomis), new combination!

*Microspirobolus trifasciatus* Loomis, 1964, Fieldiana: Zool., 47: 115, figs. 12C-D. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

## Family Rhinocricidae Brolemann

Rhinocricidae Brolemann, 1913, Bull. Soc. Entom. France for 1913: 477. \_ Hoffman, 1980, Classification of the Diplopoda, p. 78.

This family is perhaps the most clearly defined of the order, and the one for which the generic level classification is least known. Many generic names have been proposed on the basis of trivial peripheral characters, and some based on gonopod characters may only reflect random homoplastic reduction trends. The situation has been discussed in my 1980 summary, and again in connection with *Thyroproctus* in 1998. After much vacillation, I decided the best option for this account is a subjective combination of registering genera which appear to be well-founded, plus impartially listing other existing generic names pending comprehensive study of the entire family. The result is satisfactory only as an entrance into the literature as it includes genera based on gonopod characters as well as others which require a special category of species of uncertain generic position - many of these obviously merit generic status. The indulgence of the user is again solicited.

30 nominal genera, Middle and South America, Indopacific region.

Several species have been attributed to North American localities. These records are patently erroneous, and one name has been associated with an older synonym based on a Mexican species (see *Eurhinocricus fissus* below). The other names have been carried under *Anadenobolus* in the following pages since they may be valid species based on mislabeled material from somewhere in Middle America.

### Genus *Alcimobolus* Loomis

*Alcimobolus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 56. Type species: *A. angustipes* Loomis, by original designation.

One species, Hispaniola.

Synonymized with *Cubocricus* by Chamberlin (1947).

#### ***Alcimobolus domingensis*** (DeSaussure & Humbert)

*Julus haitensis* (*nec* Gervais, 1847) DeSaussure, 1860, M m. Soc. Phys. Hist. Nat. Genève, 15: 363.

*Spirobolus domingensis* DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 176. 2-ST (?MHNG) labeled only St-Domingue.

*Rhinocricus domingensis*: Pocock, 1894, Journ. Linnean Soc. London, 24: 495.

[Not *Nesobolus domingensis*: Loomis, 1936, Bull. Mus. Comp. Zool. 80: 61.]

*Alcimobolus angustipes* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 57, figs. 23a, b. MALE HT (MCZ) from San Lorenzo, Samana Bay, Republica Dominicana. Synonymized by Mauri s & Hoffman, 1998.

*Alcimobolus domingensis*: Mauri s & Hoffman, 1998, Myriapodologica, 5: 99, figs.3, 4.

Range: Recorded from numerous localities in the Dominican Republic by Loomis (1941).

### Genus *Anadenobolus* Silvestri

*Anadenobolus* Silvestri, 1897, Ann. Mus. Civ. Stor. Nat. Genova, 38: 651. Type species: *Spirobolus politus* Porat, 1888, by original designation. \_ Mauri s, 1980, Bull. Mus. Natn. Hist. Nat. Paris,(4) 2 (A4):1088.

*Cubobolus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 206. Type species: *C. beliganus* Chamberlin, by original designation. Synonymized by Loomis, 1938

*Orthocricus* Velez, 1963, Caribbean Journ. Sci., 3: 209. Type species: *Julus arboreus* DeSaussure, by original designation. **New synonymy!**

About 60 nominal species, congeneric with the type species or otherwise closely related, throughout Middle and South America.

Although the holotype of *S. politus* (from Antigua) is a female, Mauri s (1980) made the reasonable assumption that the species is the same as the dominant rhinocricid on the adjacent island of Guadeloupe and thus brought *Anadenobolus* back into the mainstream of rhinocricid taxonomy as the third oldest available generic name. This action associated *Anadenobolus* with a posterior gonopod of characteristic form and wide distribution throughout the Neotropical region. As Mauri s demonstrated in Guadeloupe material, there is some variation in gonopod structure even on a small island, and almost certainly some (?many) of the species named from the Lesser Antilles by Chamberlin in 1918 will prove to be synonyms of a few much earlier names. At least one species (*monilicornis* Porat) is known to be widespread by commerce throughout the West Indies, and doubtless several related species may likewise be anthropochoric, gathering synonyms as they were found on different islands and described as new chiefly on geographic grounds. The status of nominal species described from such minute islands as Union and Carriacou requires special attention as it seems improbable that they would generate endemic species.

Although neither of us examined the male holotype of *Cubobolus beliganus*, I think that Loomis was correct to consider that genus superfluous. The major distinctions advanced by Chamberlin (although not emphasized by him) were the occurrence of four antennal sensory cones and the absence of scobinae, both now considered to be character-states of only specific value. The verbal description of gonopod structure offers nothing different from the form typical of most species of *Anadenobolus*.

*Orthocricus* was justifiably proposed to accommodate some of the West Indian species left orphaned by my 1960 restriction of *Rhinocricus* to a few Cuban forms. I believe that the type species *arboreus* is congeneric with *Anadenobolus politus*, however.

A number of species known from Cuba and Hispaniola have distinctive gonopod structure and amply merit generic status. A start has been made in this direction by Per z-Asso (1998) for the Cuban fauna; his initiative must now be extended to that of the adjacent island. I have gone so far as to refer them to the limbo of Rhinocricidae of uncertain status at the end of this section. Further, the most superficial examination of published drawings suggests that at least

two, perhaps three, distinct generic taxa from Mexico and Central America are combined here under *Anadenobolus*. A number of species described from females are also included under this generic name for no better reason than their geographic origin. All these anomalies must be sorted out by some future student of the family.

**Anadenobolus anguinus** (Pocock), new combination

*Rhinocricus anguinus* Pocock, 1894, Journ. Linnean Soc. London., 24: 502. MALE HT (BMNH) from St. Lucia, without further locality.

**Anadenobolus angusticollis** (Karsch), new combination

*Spirobolus (Rhinocricus) angusticollis* Karsch, 1881, Zeitschr. Ges. Naturw. (3) 6: 70. FEMALE FEMALE ST (ZMB) from Puebla (probably the city), Mexico.

**Anadenobolus aposematus** (Pocock), new combination

*Rhinocricus aposematus* Pocock, 1907, Biol. Centr.-Amer., Diplopoda, p. 63, pl. VI, figs. 4a-e. FEMALE HT (BMNH) from Santa Clara, Prov. Santa Clara, Costa Rica.

**Anadenobolus approximans** (Hoffman), new combination

*Rhinocricus simulans* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 39, figs. 33-35. MALE HT (ANSP) from Nicaragua, without further locality. Preoccupied by *Rhinocricus simulans* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 22.

*Rhinocricus approximans* Hoffman, 1950, Proc. Biol. Soc. Washington, 63: 69 (25 May). Replacement name for *R. simulans* Chamberlin, 1947.

*Rhinocricus simulatus* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 6 (12 October). Replacement name for *R. simulans* Chamberlin, 1947.

**Anadenobolus arboreus arboreus** (DeSaussure), new combination

*Julus arboreus* DeSaussure, 1859, Linnaea Entom., 13: 331; 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 365, pl. IV, figs. 28a-e. MALE FEMALE ST (MNHG, ZMB) from Les Antilles. . . 1 le de St-Thomas .

*Rhinocricus arboreus*: Pocock, 1894, Journ. Linnean Soc. London, 24: 493, pl. 38, fig. 4.

*Orthocricus arboreus arboreus*: V lez, 1963, Caribbean Journ. Sci., 3: 209.

*Rhinocricus (Rhinocricus) gisl ni* Verhoeff, 1941, Lunds Univ. rsskr. [N.F., 2] 36(17): 9, figs. 14-16. MALE ?HT (ZSBS) from St. Thomas, U. S. Virgin Islands. **New Synonymy!**

Range: U. S. Virgin Islands: St. Thomas, St. John; British Virgin Islands: Tortola; Puerto Rico: southern and eastern; St. Croix; Culebra. ?Antigua (Pocock; requires verification).

**Anadenobolus arboreus gundlachi** (Karsch), new combination

*Spirobolus arboreus* variety *gundlachi* Karsch, 1881, Zeitschr. Ges. Naturw., 54: 9. MALE FEMALE ST (ZMB) labeled only Portorico [Karsch quoted Aracibo and



Vega Baja from a letter written by Dr. J. Gundlach, the collector].

*Rhinocricus arboreus gundlachi*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 197.

Range: North central Puerto Rico: Arecibo, Vega Baja, Manati, El Yunque, Pueblo Viejo.

**Anadenobolus arboreus krugi** (Karsch), new combination

*Spirobolus arboreus* variety *Krugii* Karsch, 1881, Zeitschr. Ges. Naturwiss., 54: 9. MALE FEMALE ST (ZMB) labeled only Portorico [Karsch mentioned Mayaguez for this form].

*Rhinocricus arboreus krugii*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 197.

Range: Western end of Puerto Rico.

The status of this and the preceding taxon as subspecies in the modern, allopatric, sense remains to be established.

**Anadenobolus atoyacus** Pocock, new combination

*Rhinocricus atoyacus* Pocock, 1907, Biol. Centr.-Amer. Diplopoda, p. 65, pl. VI, figs. 8a-c. MALE HT (BMNH) from Atoyac, Vera Cruz, Mexico.

**Anadenobolus aurocinctus** (Pocock), new combination.

*Rhinocricus aurocinctus*°Pocock, 1907, Biol. Centr.-Amer., Diplopoda, p. 62, pl. VI, figs. 1a-h. MALE HT (BMNH) from Milpas, Durango, Mexico.

**Anadenobolus aztecus** (DeSaussure), new combination

*Julus aztecus* DeSaussure, 1859, Linnaea Entom., 13: 331; 1860, M m. Soc. Phy. Hist. Nat. Geneve, 15: 338, figs. 29a-d. MALE FEMALE ST (MHNG) from les partes chaudes du Mexique, Vera Cruz, Cordova, Orizaba, etc.

*Rhinocricus aztecus*: Pocock, 1907, Biol. Centr.-Amer., Diplop. p. 68.

**Anadenobolus brevicollis** (Voges)

*Spirobolus brevicollis* Voges, 1878, Zeitschr. Wiss. Zool., 31: 191. FEMALE ST (originally in the University of G ttingen, present status unknown), from Misatlan, Mexico, presumably a variant spelling for Mazatlan, Guerrero.

*Rhinocricus brevicollis*: Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 69.

**Anadenobolus bruesi** (Chamberlin), new combination

*Rhinocricus bruesi* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 203. F? HT (MCZ) labeled only Jamaica without further information.

**Anadenobolus chamberlini** (Schubart), new combination

*Rhinocricus centralis* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 21, pl. 10, figs. 4-6.

MALE HT (USNM) from Costa Rica without further locality. Preoccupied by *Rhinocricus centralis* Carl, 1912, Rev. suisse Zool., 20: 176.

*Rhinocricus chamberlini*: Schubart, 1951, An. Acad. Brasileira Cienc., 23: 273.

**Anadenobolus chazaliei** (Brolemann), new combination

*Rhinocricus chazaliei* Brolemann, 1900, M m. Soc. zool. France, 13: 93, pl. 6, figs. 8-13.  
MALE HT (MNHP) from Martinique without further indication.

**Anadenobolus chichen** (Chamberlin), new combination

*Rhinocricus chichen* Chamberlin, 1953, American Midl. Nat., 50: 145, figs. 13, 14. MALE HT (FMNH) from Chichen Itza, Yucatan, Mexico.

**Anadenobolus chichimecus** (DeSaussure), new combination

*Julus chichimecus* DeSaussure, 1859, Linnaea Entom., 13: 331; 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 362, fig. 32. MALE FEMALE ST (MHNG) from les terres chaudes du Mexique without further specification, but doubtless from Veracruz (see *A. aztecus* citation).

*Rhinocricus chichimecus*: Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 69.

**Anadenobolus chitarianus** (Chamberlin), new combination

*Rhinocricus chitarianus* Chamberlin, 1933, Pan-Pacific Entom., 9: 23, Pl. II, fig. 9, pl. I II, fig. 1.  
MALE HT (USNM) from Chitaria, Prov. Cartago, Costa Rica.

**Anadenobolus cinchonanus** (Chamberlin), new combination

*Cubobolus cinchonanus* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(9): 10, pl. 3, figs. 10, 11.  
MALE HT (MCZ) from Cinchona, Jamaica (presumably Cinchona Plantation, Blue Mountains, St. Andrew Parish).

**Anadenobolus consociatus** (Pocock), new combination

*Rhinocricus consociatus* Pocock, 1894, Journ. Linnean Soc. London, 26: 500, pl. 38, fig. 7.  
MALE HT (BMNH) from Union island (between Grenada and St. Vincent), Windward Islands, Lesser Antilles. \_ Loomis, 1934, Smithsonian Misc. Coll., 89(14): 18.

*Rhinocricus consociatus ecaudatus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 18. MALE HT (USNM) from Grand Anse, Grenada, Lesser Antilles.

**Anadenobolus consutus** (Loomis), new combination

*Cubobolus consutus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 54, fig. 22a,b. FEMALE HT (USNM) from Le Brande, Haiti.

**Anadenobolus costaricensis** (Brolemann), new combination

*Rhinocricus costaricensis* Brolemann, 1905, Ann. Soc. Entom. France, 75: 375, figs. 26-28. ST (MHNP) from Cariblanco, Prov. Alajuela, Costa Rica.

**Anadenobolus curtior** (Chamberlin), new combination

*Rhinocricus curtior* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 194. ST (MCZ) from Grand Riviere (near Jacmel), Haiti. \_ Loomis, 1936, Bull. Mus. Comp. Zool., 80: 64, fig. 26.

Range: Haitian localities are cited by Loomis (1936).

**Anadenobolus dugesi** (Bollman), new combination

*Spirobolus (Rhinocricus) dugesi* Bollman, 1893, Bull. U. S. Nat. Mus. 46: 194. MALE HT (formerly USNM, status unknown), from Guanajuato (probably the city rather than state), Mexico.

*Rhinocricus dugesi*: Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 71.

**Anadenobolus edenus** (Chamberlin), new combination

*Rhinocricus edenus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 39, figs. 29-32. MALE HT (ANSP) from Eden, ca. 115 km northwest of Prinzapolca, Dept. Zelaya, Nicaragua.

**Anadenobolus excisus** (Karsch), new combination

*Spirobolus (Rhinocricus) excisus* Karsch, 1881, Zeitschr. ges. Naturw., 54: 73. FEMALE HT (ZMB) labeled only Jamaica .

*Rhinocricus excisus*: Pocock, 1894, Journ. Linnean Soc. London, 26: 491.

Range: St. Thomas and Portland parishes, Jamaica.

**Anadenobolus ferrugineus** (Daday), new combination

*Spirobolus ferrugineus* Daday, 1889, Term sz. f zetek, 12: 130. HT (originally HNHM), ?destroyed), labeled only Panama , where never subsequently collected (perhaps mislabeled).

*Rhinocricus ferrugineus*: Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 70.

**Anadenobolus gracilipes** (Karsch), new combination

*Spirobolus (Rhinocricus) gracilipes* Karsch, 1881, Zeitschr. ges. Naturwiss. , 54: 71. 2MALE ST (ZMB) labeled only Cuba .

**Anadenobolus grammostictus** (Pocock), new combination

*Rhinocricus grammostictus* Pocock, 1894, Journ. Linnean Soc. London, 24: 501. ST (BMNH) from St. Lucia, Lesser Antilles. \_ Loomis, 1934, Smithsonian Misc. Coll., 89(14): 18, fig. 8.

**Anadenobolus grenadensis** (Pocock), new combination

*Rhinocricus grenadensis* Pocock, 1894, Journ. Linnean Soc. London., 24: 498, pl. 38, fig. 11.

MALE HT (BMNH) from Grenada, Lesser Antilles.

**Anadenobolus hegedusi** (Daday), new combination

*Spirobolus Hegedusii* Daday, 1889, Term sz. F zetek, 12: 130. 2 ST (HNHM) from Panama without further indication, and possibly mislabeled. Korsós (1983) designated one of the two original specimens as lectotype, the other as lectoparatype.

*Rhinocricus hagedussii* [sic!] Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 70.

Pocock's curious rendition of the species name was followed by both Chamberlin (1922) and Loomis (1968).

**Anadenobolus heteroscopus** (Chamberlin), new combination

*Rhinocricus heteroscopus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 194. MALE HT (MCZ) from Liguanea Plain (Kingston), St. Andrew Par., Jamaica.

**Anadenobolus holomelanus** (Pocock), new combination

*Rhinocricus holomelanus* Pocock, 1894, Journ. Linnean Soc. London, 24: 492. HT (BMNH) labeled only Jamaica.

Range: Central and western parishes of Jamaica. This taxon is almost certainly a subspecies of *R. excisus*, to which Chamberlin's records (1918) for Port Antonio and Bath refer.

**Anadenobolus ixtapanus** (Chamberlin), new combination

*Rhinocricus ixtapanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 18, fig. 23. FEMALE HT (USNM) from Ixtapan del Oro, Mexico, Mexico.

**Anadenobolus juxtus** (Chamberlin), new combination

*Rhinocricus juxtus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 200. ?\_ HT (MCZ) from Grand Etang, Grenada, Lesser Antilles.

The localities cited for the paratypes (Arima, Verdant Vale, St. Georges) are in Trinidad and not Grenada. It is not known whether this is due to a clerical error, or whether this species was actually collected on the two islands; if the latter, the status of *consociatus* relative to *monilicornis* should be re-examined.

**Anadenobolus lamprus** (Chamberlin), new combination

*Rhinocricus lamprus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 19. FEMALE HT (USNM) from Xelitla [recte Xilitla], San Luis Potosí, Mexico.

**Anadenobolus laticollis** (Loomis), new combination

*Rhinocricus laticollis* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 17, fig. 7. MALE HT (USNM) from a site between Fort-de-France and St. Pierre, Martinique.

**Anadenobolus leptopus** (Pocock), new combination

*Rhinocricus leptopus* Pocock, 1894, Journ. Linnean Soc. London, 24: 503. MALE HT (BMNH)

from St. Lucia, Lesser Antilles.

**Anadenobolus leucostigma leucostigma** (Pocock)

*Rhinocricus leucostigma* Pocock, 1894, Journ. Linnean Soc. London, 24: 500, pl. 38, fig. 8. MALE HT (BMNH) from Dominica without further locality. \_ Hoffman, 1960, Proc. U. S. Nat. Mus., 111: 38.

*Anadenobolus leucostigma leucostigma* (by implication): Mauris, 1980, Bull. Mus.natn. Hist. nat., Paris, (4)2: (A4): 1093.

**Anadenobolus leucostigma martiniquensis** (Chamberlin)

*Rhinocricus martiniquensis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 199. MALE HT (MCZ) from Mont Rouge, Martinique. \_ Loomis, 1934, Smithsonian Misc. Coll. 89(14): 16, fig. 6.

*Anadenobolus leucostigma martinicensis* [sic!] Mauries, 1980, Bull. Mus. natn. Hist. nat. Paris, (4) 2 (A4): 1092, figs. 49-51.

Range: Martinique, Guadeloupe (where on Basse Terre only).

**Anadenobolus liparius** (Chamberlin), new combination

*Rhinocricus liparius* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 190. MALE HT (MCZ) from Mont Rouge, Martinique.

**Anadenobolus macropus** (Pocock), new combination

*Rhinocricus macropus* Pocock, 1894, Journ. Linnean Soc. London, 24: 493, pl. 38, fig. 3. MALE HT (BMNH) from St. Vincent, Lesser Antilles.

**Anadenobolus malkini** (Chamberlin), new combination

*Rhinocricus malkini* Chamberlin, 1956, Ent. News, 57: 157, figs. 1, 2. MALE HT (USNM) from Musawas, Rio Waspuc, Dept. Colon or Zelaya, Nicaragua.

**Anadenobolus marci** (Pocock), new combination

*Rhinocricus marci* Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 66, pl. VI, fig. 11. FEMALE HT (BMNH) from San Marcos (not located to department), Nicaragua.

**Anadenobolus mayanus** (Chamberlin), new combination

*Rhinocricus mayanus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 43, figs. 40, 41. MALE HT (ANSP) from Yucatan without further locality.

**Anadenobolus mediator** (Chamberlin), new combination

*Rhinocricus mediator* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 66. MALE HT (MCZ) from Furcy, Haiti. \_ Loomis, 1936, Bull. Mus. Comp. Zool., 80: 66, fig. 27.

**Anadenobolus mertensi** (Kraus), new combination

*Rhinocricus mertensi* Kraus, 1954, Senckenb. Biol., 35: 334, figs. 79-82. MALE HT (SMF) from

Straße nach Sonsonate , Dept. Sonsonate, El Salvador.

**Anadenobolus modestior** (Silvestri), new combination

*Rhinocricus modestior* Silvestri, 1905, Bull. American Mus. Nat. Hist., 24: 570, fig. V, 1-3. MALE HT (AMNH) from Coamo Springs, Puerto Rico.

The Haitian records of *R. modestior* cited by Loomis (1941: 190) are the result of a *lapsus calami*, actually *mediator* was the species intended (MS notes by Loomis).

**Anadenobolus monilicornis** (von Porat)

*Spirobolus monilicornis* von Porat, 1876, Bih. Svensk. Vet.-Akad. Handling.4(7): 31. MALE HT (NRMS) from Brasilien , presumably mislabeled.

*Spirobolus Heilprini* Bollman, 1889, Proc. Acad. Nat. Sci. Philadelphia, 99: 127. ST (cited as ANSP, present status unknown), from the Bermuda Islands, without specific indication. Synonymized by Pocock, 1894.

*Rhinocricus monilicornis*: Pocock, 1894, Journ. Linnean Soc. London, 24: 599.

Range: Widely distributed in the Caribbean region, doubtless anthropochoric; known from Bermuda, Jamaica, Martinique, Hispaniola, Barbados, Guadeloupe, as well as the northern coast of South America (e.g., the Guianas, Trinidad, Tobago).

**Anadenobolus morelus** (Chamberlin)

*Rhinocricus morelus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 20, figs. 24, 25. MALE HT (USNM) from Chapultepec , Cuernavaca, Morelos, Mexico.

**Anadenobolus motulensis** (Chamberlin), new combination

*Rhinocricus motulensis* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 173, figs. 19-24. MALE HT (USNM) from San Bulha cenote at Motul, Yucatan, Mexico.

**Anadenobolus newtonianus** (Chamberlin), new combination

*Rhinocricus newtonianus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 187. MALE HT (MCZ) from Newton, St. Andrew Par., Jamaica.

**Anadenobolus nicaraguanus** (Chamberlin), new combination

*Rhinocricus nicaraguanus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 20, pl. 9, figs. 9-12. FEMALE HT (MCZ) from Chontales Camoapa, Nicaragua , presumably referring to the town of Camoapa in Dept. Boaco, adjacent to Dept. Chontales.

**Anadenobolus nodosicollis** (Brolemann), new combination

*Rhinocricus nodosicollis* Brolemann, 1905, Ann. Soc. entom. France, 74: 372, text figs. VIII-IX, pl. 10, figs. 23-25. MALE HT (MHNP) from Cariblanco, Prov. Alajuela, Costa Rica.

**Anadenobolus obesus** (Brolemann), new combination

*Rhinocricus obesus* Brolemann, 1900, M m. Soc. Zool. France, 13: 107, pl. 10, figs. 26-28. MALE HT (MHNP) from Guatemala without further locality.

**Anadenobolus ocraceus** (Brolemann)

*Rhinocricus ocraceus* Brolemann, 1900, Mem. Soc. Zool. France, 13: 124, figs. 115-119. ST (MHNP) from Bas Obispo, near Gamboa, Canal Zone, Panama.

*Rhinocricus insulatus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 39. MALE? HT (MCZ) from Barro Colorado Island, Canal Zone, Panama. Synonymized by Loomis, 1968.

*Eurhinocricus insulatus*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 34.

*Rhinocricus williamsi* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 15. MALE? HT (USNM) from Barro Colorado Island, Canal Zone, Panama. Synonymized with *insulatus* by Loomis, 1961; with *ocraceus* by Loomis, 1964.

*Eurhinocricus williamsi*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 35.

Range: Central Panama (Canal Zone and Prov. Panama).

**Anadenobolus olivaceus** (Newport), new combination

*Spirobolus olivaceus* Newport, 1844, Ann. & Mag. Nat. Hist., 13: 268. FEMALE HT (BMNH) from Oaxaca, Mexico.

*Rhinocricus olivaceus*: Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 66, pl. VI, fig. 10.

**Anadenobolus pedrocola** (Chamberlin), new combination

*Rhinocricus pedrocola* Chamberlin, 1947, Proc. Acad. Nat. Nat. Philadelphia, 99: 41, figs. 38, 39. MALE HT (ANSP) from Pedro Miguel, Canal Zone, Panama.

**Anadenobolus plesius** (Chamberlin), new combination

*Rhinocricus plesius* Chamberlin, 1914, Trans. American Entom. Soc., 40: 187, fig. 2. MALE HT (missing from ANSP) from Rio Oro valley near Cach , Prov. Cartago, Costa Rica.

**Anadenobolus politus** (von Porat)

*Spirobolus politus* von Porat, 1888, Ann. Soc. Entom. Belgique, 32: 243. FEMALE HT (ISNB) labeled only Antigua.

*Anadenobolus politus*: Silvestri, 1897, Ann. Mus. Civ. Stor. Nat. Genova, 38: 651. \_ Mauri s, 1980, Bull. Mus. Natn. Hist. Nat. Paris, (4) 2 (A,4): 1088, figs. 39-48.

*Rhinocricus politus*: Pocock, 1894, Journ. Linnean Soc. London, 24: 488. \_ Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 200.

*Rhinocricus guadeloupensis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 190. FEMALE HT (MCZ) from Soufr ere, Guadeloupe. Synonymized by Mauri s, 1980.

*Rhinocricus limatulus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 14, figs. 5a,b. MALE HT

(USNM) from St. Claude, above Basse Terre, Guadeloupe. Synonymized by Mauris, 1980.

Range: Antigua and Guadeloupe, where widespread and abundant.

**Anadenobolus potosianus** (Chamberlin), new combination

*Rhinocricus potosianus* Chamberlin, 1941, Ent. News, 52: 252, fig. 9. FEMALE HT (USNM) from Valles, seven miles south of El Banito, San Luis Potos , Mexico. \_ Chamberlin, 1943, Bull. Univ. Utah, 34(7): 20, figs. 26, 27.

Range: known from localities along Federal Highway 85 between Ciudad Victoria, Tamaulipas, and Tamazunchale, San Luis Potos .

**Anadenobolus putealis** (Loomis), new combination

*Rhinocricus putealis* Loomis, 1971 ( 1969") An. Inst. Biol. Univ. Mexico, Zool., 1: 52, figs. 9-13. MALE HT (USNM) from Estaci n Biol gica Los Tuxtlas, San Andreas Tuxtla, Veracruz, Mexico.

**Anadenobolus ramagei** (Pocock), new combination

*Rhinocricus Ramagei* Pocock, 1894, Journ. Linnean Soc. London, 24: 489. FEMALE HT (BMNH) from Sr. Lucia, Lesser Antilles.

*Cubobolus ramagei*: Loomis, 1934, Smithsonian Misc. Coll. 89(14): 19, fig. 9.

**Anadenobolus rarior** (Chamberlin), new combination

*Rhinocricus rarior* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 187. FEMALE HT (MCZ) from Grand Riviere, Haiti (near Jacmel, according to Loomis, 19936).

**Anadenobolus rixi** (Pocock), new combination

*Rhinocricus rixi* Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 64, pl. VI, figs. 6a-e. MALE HT (BMNH) from Chontales copper mine (presumably in Dept. Chontales), Nicaragua.

**Anadenobolus rogersi** (Pocock), new combination

*Rhinocricus rogersi* Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 61, pl. V, figs. 12a-b. MALE HT (BMNH) from Costa Rica , without further indication.

**Anadenobolus salleanus** (Pocock), new combination

*Rhinocricus salleanus* Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 64, pl. VI, fig. 7. FEMALE HT (BMNH) from Cordoba, Veracruz, Mexico.

**Anadenobolus scobinatus** (Pocock), new combination

*Rhinocricus scobinatus* Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 65, pl. VI, figs. 9a-e. MALE HT (BMNH) from Retalhuleu, Dept. Retalhuleu, Guatemala.

**Anadenobolus simulans** (Chamberlin), new combination

*Rhinocricus simulans* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 22, pl. 10, figs. 7-10. MALE HT (USNM) from Costa Rica without further locality.



**Anadenobolus smithi** (Pocock), new combination

*Rhinocricus smithi* Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 62, pl. VI, figs. 3a-f. MALE ST (BMNH) from Omilteme and Amoqueleca, Guerrero, Mexico.

**Anadenobolus socius** (Chamberlin), new combination

*Rhinocricus socius* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 196. MALE HT (MCZ) from Grand Etang, Grenada, Lesser Antilles.

**Anadenobolus stollii** (Pocock), new combination

*Rhinocricus stollii* Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 62, pl. VI, fig. 2. FEMALE HT (BMNH) from Chohuitz, near San Mateo Ixtal n, Dept. Huehuetenango, Guatemala.

**Anadenobolus tejerianus** (Chamberlin), new combination

*Rhinocricus tejerianus* Chamberlin, 1953, American Midl. Natur., 50: 147, figs. 19, 20. MALE HT (FMNH) from Tejeria, Veracruz, Mexico.

**Anadenobolus toltecus** (DeSaussure), new combination

*Julus toltecus* DeSaussure, 1859, Linnea Entom., 13: 331; 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 554, fig. 27. ?ST (MNHG) from Cordova, Veracruz, Mexico.

*Rhinocricus toltecus*: Pocock, 1907, Biol. Centr.-Amer., Diplop., p. 68.

**Anadenobolus totonacus** (DeSaussure), new combination

*Julus totonacus* DeSaussure, 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 561, fig. 31. ?ST (MHNG) from Orizaba, Veracruz, Mexico.

**Anadenobolus translocatus** (Loomis)

*Rhinocricus translocatus* Loomis, 1975, Florida Entom., 58: 182, figs. 20-22. MALE HT (FSCA) from Portland Gap, St. Thomas Parish, Jamaica.

**Anadenobolus vincenti** (Pocock), new combination

*Rhinocricus vincenti* Pocock, 1894, Journ. Linnean Soc. London, 24: 503, pl. 38, fig. 10. MALE HT (BMNH) from St. Vincent, Lesser Antilles.

**Anadenobolus zapotecus** (DeSaussure), new combination

*Julus zapotecus* DeSaussure, 1860, Mem. Soc. Phys. Hist. Nat. Gen ve, 15: 559, fig. 30. ?ST (MHNG), no locality is specified but Veracruz, Cordoba, and Orizaba are implied.

Genus **Auracricus** P rez-Asso

*Auracricus* P rez-Asso, 1998, Caribbean Journ. Sci., 34: 85. Type species: *Rhinocricus clypeatus* Loomis, 1938, by original designation.

One species, Cuba.

**Auracricus clypeatus** (Loomis)

*Rhinocricus clypeatus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 440, fig. 7. MALE HT (MCZ) from Cueva del Aura on Pico Turquino, Prov. Santiago de Cuba, Cuba.

*Nesobolus clypeatus*: Hoffman, 1998, Myriapodologica, 5: 104.

*Auracricus clypeatus*: Prez-Asso, 1998, Caribbean Journ. Sci., 34: 85, figs. 1A-C, 4, 5A.

Range: Vicinity of type locality, Sierra Maestra, Cuba.

### Genus **Eurhinocricus** Brolemann

*Rhinocricus (Eurhinocricus)* Brolemann, 1903, Ann. Soc. Entom. France, 72: 131. Type species: *R. (E.) biolleyi* Brolemann, by monotypy. \_ Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 73.

*Eurhinocricus* Verhoeff, 1937, Zool. Anz., 118: 90. \_ Schubart, 1951, An. Acad. Brasileira Cienc., 23: 227 (in a quite different perception from that of Brolemann). \_ Hoffman, 1953, Proc. Biol. Soc. Washington, 66: 181 (revival on the basis of the originally stipulated gonopod characters).

22 nominal species, Central America, Jamaica. The proliferation and diversity of the genus on Jamaica, only recently evident, is noteworthy. This is one of the few milliped genera that reflects a prior land connection between Jamaica and Central America, and occurs nowhere else in the Antilles.

Removed from genus: *Rhinocricus insulatus* Chamberlin, 1925, and *R. williamsi* Chamberlin, 1940, both placed in *Eurhinocricus* by Hoffman (1955) [see *Anadenobolus ocraceus* (Brolemann)]; *Eurhinocricus incursor* Chamberlin, 1953 [see *Dibothrocricus maltzani* (Pocock)].

#### **Eurhinocricus aequaliramus** Loomis

*Eurhinocricus aequaliramus* Loomis, 1975, Florida Entom., 58:177, figs. 9-10 . MALE HT (FSCA) from Hardwar Gap, St. Andrew Par., Jamaica.

#### **Eurhinocricus barrios** Chamberlin

*Eurhinocricus barrios* Chamberlin, 1953, American Midl. Nat. 50: 138, figs. 11, 12. MALE HT (?FMNH) from Escobas, opposite Point (? = Puerto) Barrios, Dep. Izabal, Guatemala.

#### **Eurhinocricus biolleyi** (Brolemann)

*Rhinocricus (Eurhinocricus) biolleyi* Brolemann, 1903, Ann. Soc. Ent. France, 72: 132, pl. 1, figs. 1-6. ST (MNHN) from Cocos Island, Costa Rica.

*Rhinocricus wheeleri* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 21, pl. 10, figs. 1-3. MALE HT (USNM) from Port Limon, Prov. Limon, Costa Rica. Synonymized by Hoffman, 1955.

*Rhinocricus pygmoides* Chamberlin, 1933, Pan-Pacific Entom., 9: 22, figs. 6-8. MALE HT

(USNM) from Parismina, Prov. Limón, Costa Rica. Synonymized by Loomis, 1972.

*Rhinocricus cocos* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 38: figs. 27, 28. MALE HT (ANSP) from Chatham Bay, Cocos Island, Costa Rica. Synonymized by Hoffman, 1953.

*Eurhinocricus biolleyi*: Hoffman, 1953, Proc. Biol. Soc. Washington, 66: 182; 1955, Proc. Biol. Soc. Washington, 68: 33. — Loomis, 1964, Fieldiana: Zool., 47: 112.

Range: Apparently widely distributed in Costa Rica and Panama as far east as the Canal Zone.

***Eurhinocricus bisinuatus* Loomis**

*Eurhinocricus bisinuatus* Loomis, 1975, Florida Entom., 58: 178, figs. 11-13. MALE HT (FSCA) from Hardwar Gap, St. Andrew Par., Jamaica.

***Eurhinocricus chichivacus* Chamberlin**

*Eurhinocricus chichivacus* Chamberlin, 1953, American Midl. Nat., 50: 139, figs. 1, 2. MALE HT (FMNH) from Chichivac, near Tecpan [25 km northwest of Chimaltenango], Dept. Chimaltenango, Guatemala.

***Eurhinocricus cingendus* (Loomis)**

*Rhinocricus cingendus* Loomis, 1937, Bull. Mus. Comp. Zool., 80: 218, figs. 5, 6. MALE HT (MCZ) from Main Ridge, Blue Mts., 5000-7000 feet elevation, ?Portland-St. Thomas parishes, Jamaica.

*Eurhinocricus cingendus*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 33.

The elevations mentioned with the type material suggest that the collection was possibly made on the trail from Cinchona to Blue Mountain Peak, which is shared by the two parishes mentioned above. The record for Hardwar Gap (Hoffman, 1995) is no longer reliable, probably based upon another species.

***Eurhinocricus cockerelli* (Pocock)**

*Rhinocricus cockerellii* Pocock, 1894, Journ. Linnean Soc. London, 24: 505. Type ?FEMALE (BMNH) from Mandeville, Manchester Par., Jamaica.

*Eurhinocricus cockerelli*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 33.

Range: Central and eastern parishes of Jamaica, at lower elevations.

***Eurhinocricus cooki* Loomis**

*Eurhinocricus cooki* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 110, figs. 6g, h. MALE HT (USNM) from Piña area, and Barro Colorado Island, Canal Zone, Panama.

***Eurhinocricus eutypus* Chamberlin**

*Eurhinocricus eutypus* Chamberlin, 1953, American Midl. Nat., 50: 139, figs. 21, 22. MALE HT (FMNH) from Volcán Tajumulco, Dept. San Marcos, Guatemala.

**Eurhinocricus fissus** Verhoeff

*Eurhinocricus fissus* Verhoeff, 1937, Zool. Anz., 118: 97, figs. 1-5. MALEFEMALE ST (ZSBS) from ...in der Sierra de la Victoria, bei Laguna, ferner bei Todos Santos und Miraflores , southernmost Baja California Sur, Mexico. A lectotype designation is required.

*Rhinocricus tidius* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 37, figs. 23, 24. FEMALE HT (ANSP) labeled Fort Tejon, California . **New synonymy!**

*Eurhinocricus tidus* [sic!]: Hoffman, 1953, Proc. Biol. Soc. Washington, 66: 183. \_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 152.

The type material of *tidius* was either curatorially mislabeled or possibly dispatched from Fort Tejon instead of its collection site in Baja California. Comparison of the drawings published by Verhoeff and Chamberlin leaves no doubt whatever that the two names are strict synonyms.

**Eurhinocricus gossei** (Pocock)

*Rhinocricus gossei* Pocock, 1894, Journ. Linnean Soc. London, 24: 490, pl. 38, fig. 2. MALEFEMALE ST (BMNH) from Jamaica without further locality.

*Eurhinocricus gossei*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 34.

Placement of this species in *Eurhinocricus* was arbitrary and requires confirmation.

**Eurhinocricus granulatus** Loomis

*Eurhinocricus granulatus* Loomis, 1975, Florida Entom., 58: 178, figs. 14-15. MALE HT (FSCA) from Hardwar Gap, St. Andrew Par., Jamaica.

**Eurhinocricus heteroscopus** Chamberlin

*Eurhinocricus heteroscopus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 194. MALE HT (MCZ) from the Liguanea Plain , now encompassed by the eastern part of Kingston, St. Andrew Par., Jamaica.

**Eurhinocricus mandevillei** (Pocock)

*Rhinocricus mandevillei* Pocock, 1894, Journ. Linnean Soc. London, 24: 489. MALE ST (BMNH) from Mandeville, Manchester Par., Jamaica.

*Eurhinocricus mandevillei*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 34.

**Eurhinocricus omiltemae** (Pocock)

*Rhinocricus omiltemae* Pocock, 1908, Biol. Centr.-Amer., Diplopoda, p. 67, pl. 6, figs. 12a-c. MALE ?HT (BMNH) from Omilteme (or Omiltemi), Guerrero, Mexico.

*Eurhinocricus omiltemae*: Hoffman, 1953, Proc. Biol. Soc. Washington, 66: 182.

**Eurhinocricus parvior** (Chamberlin)

*Rhinocricus parvior* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 191. ?\_ HT (MCZ) from the Liguanea Plain [now part of Kingston, St. Andrew Par.], Jamaica.

*Eurhinocricus parvior*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 34.

**Eurhinocricus parvissimus** Hoffman

*Eurhinocricus parvissimus* Hoffman, 1953, Proc. Biol. Soc. Washington, 66: 182, figs. 1-4. MALE HT (USNM) from Finca Guatemoc, Volc n Tacana above Cacahuatan, Chiapas, Mexico.

**Eurhinocricus sabulosus** (Pocock)

*Rhinocricus sabulosus* Pocock, 1894, Journ. Linnean Soc. London, 24: 504, pl. 38, fig. 12. MALE FEMALE ST (BMNH) from Mandeville, Manchester Par., Jamaica.

*Eurhinocricus sabulosus*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 35.

**Eurhinocricus solitarius** (Pocock)

*Rhinocricus solitarius* Pocock, 1894, Journ. Linnean Soc. London, 24: 496, pl. 38, fig. 6. MALE HT (BMNH) from Jamaica without further locality.

*Eurhinocricus solitarius*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 35.

**Eurhinocricus storkani** Verhoeff

*Eurhinocricus storkani* Verhoeff, 1937, Zool. Anz., 118: 98, fig. 6. MALE HT (ZSBS) from Manzanillo, Colima, Mexico.

**Eurhinocricus townsendi townsendi** (Pocock)

*Rhinocricus townsendi* Pocock, 1894, Journ. Linnean Soc. London, 24: 505. ?FEMALE HT (BMNH) from Jamaica without further locality.

*Eurhinocricus townsendi*: Hoffman, 1955, Proc. Biol. Soc. Washington, 68: 35.

Range: Westmoreland, St. Ann, St. Mary, and Portland parishes, Jamaica (Hoffman, 1955).

**Eurhinocricus townsendi marginandus** Loomis

*Eurhinocricus townsendi marginandus* Loomis, 1975, Florida Entom., 58: 179, figs. 16-17. MALE HT (FSCA) from Whitfield Hall, St. Thomas Par., Jamaica.

**Eurhinocricus valvatus** Loomis

*Eurhinocricus valvatus* Loomis, 1975, Florida Entom., 58: 181, figs. 18-19. MALE HT (FSCA) from Blue Mountain Peak, St. Thomas Par., Jamaica.

**Genus Fomentocricus** P rez-Asso

*Fomentocricus* P rez-Asso, 1998, Caribbean Journ. Sci., 34: 88. Type species: *F. benignoi* P rez-Asso, by monotypy.

One species, Cuba.

**Fomentocricus benignoi** P rez-Asso

*Fomentocricus benignoi* P rez-Asso, 1998, Caribbean Journ. Sci., 34: 88, figs. 3A-C, 4, 5C-D. MALE HT (MNHNCu) from J quima, Fomento, Prov. Sancti Spir tus, Cuba.

Range: Two localities in Prov. Sancti Spir tus, Cuba.

Genus **Haitobolus** Mauri s & Hoffman

*Haitobolus*°Mauri s & Hoffman, 1998, Myriapodologica, 5: 98. Type species: *Julus haitensis* Gervais, 1847, by original designation.

Two species, Haiti.

**Haitobolus haitensis** (Gervais)

*Julus haitensis* Gervais, 1847, in: Walckenaer & Gervais, Hist. Nat. Insectes Apteres, 4: 191. MALE HT (MNHP) labeled Haiti without further locality.

*Rhinocricus haitensis*: Pocock, 1894, Journ. Linnean Soc. London, 24: 494.

*Cubocricus haitensis*: Loomis, 1936, Bull. Mus. Comp. Zool., 80: 56.

*Rhinocricus latespargor* Loomis, 1941, Journ. Washington Acad. Sci., 31: 190, figs. 8, 9. MALE HT (USNM) from a site between Camp Perrin and Rivi re Glace, Haiti. Synonymized by Mauri s & Hoffman, 1998.

*Haitobolus haitensis*: Mauri s & Hoffman, 1998, Myriapodologica, 5: 98, figs. 1, 2.

Range: So far known only from the type locality of *latespargor*, on the southern peninsula of Haiti.

**Haitobolus lethifer** (Loomis)

*Rhinocricus lethifer* Loomis, . 1936, Bull. Mus. Comp. Zool., 80: 67, figs. 28a-d. MALE HT (USNM) from a site between Petit Goave and Miragoane, Haiti.

*Haitobolus lethifer*: Mauri s & Hoffman, 1998, Myriapodologica, 5: 99.

Genus **Jobocricus** P rez-Asso

*Jobocricus* P rez-Asso, 1998, Caribbean Journ. Sci., 34: 85. Type species: *J. centralis* P rez-Asso, by monotypy.

*Dibothrocricus* Hoffman, 1998, Myriapodologica, 5:105. Type species: *Rhinocricus maltzani* Pocock, 1894, by original designation. **New synonymy!**

Two species: Cuba, Haiti.

**Jobocricus centralis** P rez-Asso

*Jobocricus centralis* P rez-Asso, 1998, Caribbean Journ. Sci., 34: 88, figs. 2A-C, 4, 5B. MALE HT (MNHNCu) from Protected Area Jobo Rosado, Yaguajay, Prov. Sancti Spiritus, Cuba.

Range: Central Cuba (provs. Sancti Spiritus and Camagüey).

**Jobocricus maltzani** (Pocock), new combination!

*Rhinocricus maltzani* Pocock, 1894, Journ. Linnean Soc. London, 24: 495, pl. 38, figs. 5-5b. FEMALE ST (BMNH) from Cape Haiti in St. Domingo, presumably Cap-Haïtien, on the north coast of Haiti.

*Nesobolus maltzani*: Loomis, 1934, Smithsonian Misc. Coll., 89(14): 19; 1936, Bull. Mus. Comp. Zool., 80: 61.

*Eurhinocricus incurator* Chamberlin, 1953, American Midl. Natur., 50: 139. FEMALE HT (FMNH) from Cape Haitien, Haiti. Synonymized by Hoffman, 1998.

*Dibothrocricus maltzani*: Hoffman, 1998, Myriapodologica, 5: 108, figs. 1-4.

Range: Generally distributed throughout Haiti.

**Genus Leiocricus** Loomis

*Leiocricus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 50. Type species: *L. diversipes* Loomis, by original designation.

One species, Hispaniola.

**Leiocricus diversipes** Loomis

*Leiocricus diversipes* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 51, figs. 21a-c. MALE HT (USNM) from Morne Pilboreau, between Ennery and Plaisance, Haiti.

**Genus Nesobolus** Chamberlin

*Nesobolus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 203. Type species: *N. toroanus* Chamberlin, by original designation. \_ P rez-Asso, 1996, Insecta Mundi, 10: 1 (revision of Cuban species). \_ Hoffman, 1998, Myriapodologica, 5: 103.

Eight species, Cuba, Haiti.

Species removed from the genus: *Spirobolus domingensis* DeSaussure & Humbert, 1982 [see *Alcimobolus*]; *Rhinocricus maltzani* Pocock, 1894 [see *Jobocricus*].

**Nesobolus cuba** P rez-Asso

*Nesobolus cuba* P rez-Asso, 1996, Insecta Mundi, 10: 4, figs. 4A-C, 5, 6D. MALE HT (MNHNCu) from Pico Cuba, Sierra Maestra, Prov. Santiago de Cuba, Cuba.

**Nesobolus etymophallus** (Loomis)

*Rhinocricus etymophallus* Loomis, Bull. Mus. Comp. Zool., 82: 436, figs. 5a-c. MALE HT (MCZ) from Rio Frio in the Boniato Range, Prov. Oriente, Cuba.

*Nesobolus etymophallus*: Hoffman, 1998, Myriapodologica, 5: 104.

In the original description of this species, Loomis stated that the sternum of the anterior gonopods is similar to that found in *Nesobolus*, but the form of the anterior lobes and inner gonopods of *etymophallus* is different. I fail to follow this assertion, as the anterior gonopod as drawn by Loomis is virtually identical with that of *N. toroanus* Chamberlin (illustrated by Perez-Asso, 1996), and the posterior gonopod, while not identical with any of the four taxa treated by that author, nonetheless strongly suggests congeneric relationship with them.

**Nesobolus gonolepis** (Loomis)

*Rhinocricus gonolepis* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 438, figs. 6a-c. MALE HT (MCZ) from mountains north of Imias, Prov. Oriente, Cuba.

*Nesobolus gonolepis*: Hoffman, 1998, Myriapodologica, 5: 104.

**Nesobolus loomisi** Hoffman

?*Julus indus* Palisot de Beauvois, 1817, Insectes. . . d Afrique et d Amerique, livr. 9, p. 154, pl. 6, fig. 2. Misidentification of specimens from Santo Domingo as *Julus indus* Linnaeus, 1758, Systema Naturae, ed. 10, p. 639.

?*Spirostreptus indus*: Pocock, 1894, Journ. Linnean Soc. London, 24: 506.

?*Orthoporus indus*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 184.

*Nesobolus indus*: Loomis, 1936, Bull. Mus. Comp. Zool., 80: 59, fig. 24a-b.

*Nesobolus loomisi*: Hoffman, 1998, Myriapodologica, 5: 105.

Range: Generally distributed in southern Haiti

In the absence of type material, Loomis's allocation of the name *indus* to *Nesobolus*, although arbitrary, has the advantage of giving the name at least provisional identity. Pocock thought the original description depicted a spirostreptid; Loomis (with specimens for comparison) opted for a rhinocricid. A third opinion would be desirable. In any event, it is clear that Palisot's name, whether a junior primary homonym of *Julus indus* L. or simply an erroneous identification of it, cannot be used for the species treated by Loomis in 1936.

**Nesobolus piedra** Perez-Asso

*Nesobolus piedra* Perez-Asso, 1996, Insecta Mundi, 10: 4, figs. 3A-C, 5, 6E-F. MALE HT (MNHNCu) from La Isabelica, Gran Piedra, Prov. Santiago de Cuba, Cuba

**?Nesobolus ramulus** (Loomis)

*Rhinocricus ramulus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 76, figd. 33a-b. MALE HT



(MCZ) from Roche Croix on Morne La Hotte, Haiti.

?*Nesobolus ramulus*: Hoffman, 1998, Myriapodologica, 5: 106.

**Nesobolus similis** P rez-Asso

*Nesobolus similis* P rez-Asso, 1996, Insecta Mundi, 10: 3, figs. 2A-C, 5, 6B-C. MALE HT (MNHNCu) from La Ermita, Yunque de Baracoa, Prov. Guantamo, Cuba.

Range: Yunque de Baracoa, between the Toa and Jaguan rivers, Prov. Guantamo, Cuba (map, P rez-Asso, 1996, fig. 5).

**Nesobolus toroanus** Chamberlin

*Nesobolus toroanus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 204. MALE HT (MCZ) from Guantanamo, Cuba, presumably the U. S. Naval base. \_ P rez-Asso, 1996, Insecta Mundi, 10: 1, figs. 1A-C, 5, 6A (distribution, variation, synonymy).

*Nesobolus yaterus* Chamberlin, 1922, Proc. U. S. Nat. Mus. 61(10): 4, pl. 2, figs. 5-10. MALE HT (USNM) from Yateras, Guantamo, Cuba. Synonymized by P rez-Asso, 1996.

*Nesobolus libanonus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 4, pl. 2, fig. 11, pl. 3, figs. 1-5. MALE HT (USNM) from Monte Liban, Prov. Guantamo, Cuba. Synonymized by P rez-Asso, 1996.

Genus **Oxygyge** Silvestri

*Oxygyge* Silvestri, 1896, Boll. Mus. Zool. Anat. Comp. Univ. Torino, 11(254): 4. Type species: *O. varicolor* Silvestri, by monotypy.

Eight nominal species, Guatemala to Panama (but unknown so far in Costa Rica!).

**Oxygyge benedicta** Chamberlin

*Oxygyge benedictus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 40. MALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama. \_ Loomis, 1961, Proc. U. S. Nat. Mus., 113: 111, figs. 6i-j.

**Oxygyge confusa** Chamberlin

*Oxygyge confusa* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 28, pl. 12, figs. 1, 2. MALE HT (USNM) from Cacao. Guatemala, presumably a settlement ca. 25 km southeast of Puerto Barrios, Dept. Izabal.

**Oxygyge curticauda** Chamberlin

*Oxygyge curticaudus* Chamberlin, 1953, American Midl. Nat., 50: 143, figs. 7,8. MALE HT (FMNH) from Bobos River, Dept. Izabal, Guatemala.

**Oxygyge equalis** Chamberlin

*Oxygyge equalis* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 29, pl. 12, figs. 7-10. MALE HT (USNM) from Finca Trece Aguas [also Treceaguas], five km southeast of Senah,

Dept. Alta Verapaz, Guatemala.

**Oxygyge ferruginipes** Chamberlin

*Oxygyge ferruginipes* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 27, pl. 11, figs. 8-12. MALE HT (USNM) from Cacao, Guatemala, thought by Loomis to be ca 25 km southeast of Puerto Barrios, Dept. Izabal.

**Oxygyge isolata** Chamberlin

*Oxygyge isolatus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 40. MALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama.

**Oxygyge socia** Chamberlin

*Oxygyge socia* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 28, pl. 12, figs. 3-6. MALE HT (USNM) from Cacao, Guatemala, presumably the settlement ca. 25 km southeast of Puerto Barrios, Dept. Izabal.

**Oxygyge varicolor** Silvestri

*Oxygyge varicolor* Silvestri, 1896, Boll. Mus. Zool. Anat. Comp. Univ. Torino, 11(254): 4. MALE HT (ZMUT) from Punta Sabana, near Lago de Pita, Prov. Darien, Panama.

**Genus Oxygygides** Chamberlin

*Oxygygides* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 26. Type species: *O. mesites* Chamberlin, by original designation.

Two species, Guatemala.

Another highly artificial taxon.

**Oxygygides lapidicinus** Chamberlin

*Oxygygides lapidicina* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 26, pl. 11, figs. 3-7. MALE HT (USNM) from Candalaria Rocks at Seamay, near Senah, Dept. Alta Verapaz, Guatemala.

**Oxygygides mesites** Chamberlin

*Oxygygides mesites* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 25, pl. 10, figs. 11, 12; pl. 11, figs. 1, 2. MALE HT (USNM) from Cacao, Guatemala, considered by Loomis to be a place ca. 25 km southeast of Puerto Barrios, Dept. Izabal.

**Genus Rhinocricus** Karsch

*Spirobolus (Rhinocricus)* Karsch, 1881, Zeitschr. Ges. Naturw., 54: 68. Type species: *R. (S.) parvus* Karsch, by subsequent designation of Pocock, 1894.

*Rhinocricus*: Pocock, 1894, Journ. Linnean Soc. London, 24: 485. \_ Hoffman, 1960, Proc. Biol. Soc. Washington, 73: 8 (definition of genus).

*Cubocricus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 5. Type species: *C. suprenans* Chamberlin, by original designation. Synonymized by Hoffman, 1960.

Three (?four) species, Cuba, one, Puerto Rico.

Removed from the genus: virtually all Middle American species described in or referred to *Rhinocricus* are relocated provisionally in *Anadenobolus*.

**Rhinocricus barbouri** Chamberlin

*Rhinocricus barbouri* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 198. FEMALE HT (MCZ) from Sierra de Caballos, Isla de Pinos [now Isla de la Juventud], Cuba.

In the absence of males, this little-known species is tentatively referred to *Rhinocricus* in the strict sense because of its overall similarity to *R. duvernoyi*, noted by Chamberlin.

**Rhinocricus duvernoyi** Karsch

*Spirobolus (Rhinocricus) duvernoyi* Karsch, 1881, Zeitschr. Ges. Naturw., 54: 77. FEMALE HT (ZMB) labeled only Cuba without further locality.

*Rhinocricus duvernoyi*: Pocock, 1894, Journ. Linnean Soc. London, 24: 496. \_ Hoffman, 1960, Proc. Biol. Soc. Washington, 73: 12.

Range: Prov. Pinar del Rio, Cuba (a record for Guant namo perhaps refers to *suprenans*).

**Rhinocricus maximus maximus** (Loomis)

*Cubocricus maximus*°Loomis, 1933, Bull. Mus. Comp. Zool., 75: 358, figs. 5, 6. MALE HT (MCZ) from Central Jaronu, Prov. Camaguey, Cuba.

*Rhinocricus maximus maximus*: Hoffman, 1960, Proc. Biol. Soc. Washington, 73: 13.

Range: Central provinces of Cuba.

**Rhinocricus maximus bartschi** (Loomis)

*Cubocricus maximus bartschi* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 451. MALE HT (USNM) from Sierra de Casas, Isla de Pinos, Cuba.

*Rhinocricus maximus bartschi*: Hoffman, 1960, Proc. Biol. Soc. Washington, 73: 13.

**Rhinocricus parvus** Karsch

*Spirobolus (Rhinocricus) parvus* Karsch, 1881, Zeitschr. Ges. Naturw. 54: 68. MALE FEMALE ST (ZMB) from Portorico without further locality, although Vega Baja is – implied in the original description.

*Rhinocricus parvus*: Pocock, 1894, Journ. Linnean Soc. London, 24: 485. \_ Loomis, 1941, Bull.

Mus. Comp. Zool., 88: 38, fig. 11. \_ Hoffman, 1960, Proc. Biol. Soc. Washington, 73: 9, figs. 1-4.

Range: central Puerto Rico, apparently both northern and southern sides.

### **Rhinocricus suprenans** Chamberlin

*Rhinocricus suprenans* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 193. MALE HT (MCZ) from Baracoa, Prov. Guantanamo, Cuba.

*Cubocricus suprenans*: Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(10): pl. 2, figs. 6-9.

Range: Apparently endemic to easternmost Cuba.

## Genus **Thyroproctus** Pocock

*Thyroproctus* Pocock, 1894, Journ. Linnean Soc. London, 24: 506. Type species: *T. townsendi* Pocock, by original designation. \_ Hoffman, 1998, Myriapodologica, 5: 57 (synopsis).

Two species, Jamaica.

### **Thyroproctus cinchonianus** Chamberlin

*Thyroproctus cinchonianus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 205. MALE HT (MCZ) from Cinchona Plantation, St. Andrew Par., Jamaica. \_ Hoffman, 1998, Myriapodologica, 5: 60.

Range: Eastern parishes of Jamaica, in the Blue Mountains.

### **Thyroproctus townsendi** Pocock

*Thyroproctus Townsendi* Pocock, 1894, Journ. Linnean Soc. London, 24: 506, pl. 37, figs. 6a-c. MALE HT (BMNH) from Jamaica without further locality. \_ Hoffman, 1998, Myriapodologica, 5: 58, figs. 1-4.

Range: Easternmost Jamaica: Portland and St. Thomas parishes.

## Genus **Yucatobolus** Chamberlin

*Yucatobolus* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 173. Type species: *Y. spukilensis* Chamberlin, by original designation.

One species: Yucatan.

### **Yucatobolus spukilensis** Chamberlin

*Yucatobolus spukilensis* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 173, figs. 25-28. FEMALE HT (USNM) from Spukil Cave, Calcehtok, Yucatan, Mexico.

## Genus **Zipyge** Chamberlin

*Zipyge* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 40. Type species: *Oxygyge ferruginipes* Chamberlin, 1922, by original designation.

One species: Guatemala.

One of the least-defensible of any names included in this text.

***Zipyge ferruginipes* (Chamberlin)**

*Oxygyge ferruginipes* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 27, pl. 11, figs. 8-12. MALE HT (USNM) from Cacao, Guatemala, probably the settlement ca. 25 km southeast of Puerto Barrios, Dep. Izabal.

*Zipyge ferruginipes*: Chamberlin, Proc. Biol. Soc. Washington, 38: 40.

RHINOCRICIDAE OF UNRESOLVED STATUS OR TAXONOMIC POSITION

Albolatus Group

***Rhinocricus albolatus*** Loomis, 1936, Bull. Mus. Comp. Zool., 80: 71, figs. 29a-b. MALE HT (USNM) from Kenscoff, Haiti.

***Rhinocricus cinctus*** Loomis, 1936, Bull. Mus. Comp. Zool., 80: 73, figs. 30a-b. MALE HT (MCZ) from Morne La Hotte, Haiti.

***Rhinocricus furcianus*** Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 192. MALE HT (MCZ) from Furcy, Haiti. Loomis, 1936, Bull. Mus. Comp. Zool., 80: 74, figs. 31a-c.

***Rhinocricus nigrescens*** Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 195. MALE HT (MCZ) from Furcy, Haiti. Loomis, 1936, Bull. Mus. Comp. Zool., 80: 75, figs. 32a-b.

The singular form of the posterior gonopod shared by these four species justifies separate generic status for them.

Hispaniolus Group

***Rhinocricus hispaniolus*** Loomis, 1941, Bull. Mus. Comp. Zool., 88: 40, figs. 12a-d. MALE HT (MCZ) from Jarabacoa, Republica Dominicana.

The disjunct species, apparently widespread in the Dominican Republic, clearly requires separate generic status.

Scobinellus Group

***Rhinocricus scobinellus*** Loomis, 1936, Bull. Mus. Comp. Zool., 80: 63, figs. 25a,b. MALE HT (MCZ) from Morne La Hotte, Haiti.

Ramulus Group

**Rhinocricus ramulus** Loomis, 1936, Bull. Mus. Comp. Zool., 80: 76, figs. 33a, b. MALE HT (MCZ) from Roche Croix, 5000 ft., Morne La Hotte, Haiti.

Perplicatus Group

**Rhinocricus perplicatus** Loomis, 1938, Bull. Mus. Comp. Zool., 82: 444, figs. 9a-c. 0 HT (MCZ) from Cueva del Aura, Pico Turquino, Prov. Santiago de Cuba, Cuba.

**Rhinocricus sinuosus** Loomis, 1938, Bull. Mus. Comp. Zool., 82: 446, figs. 10a-c. 0 HT (MCZ) from mountains north of Imias, Prov. Guantanamo, Cuba.

Pertenuis Group

**Rhinocricus pertenuis** Loomis, 1938, Bull. Mus. Comp. Zool., 82: 448, figs. 11a-e. 0 HT (MCZ) from Pico Turquino, +5000 ft. elevation, Prov. Santiago de Cuba, Cuba.

Sagittatus Group

**Rhinocricus sagittatus** Loomis, 1938, Bull. Mus. Comp. Zool., 82: 442, fig. 8a-c. 0 HT (MCZ) from Buenos Aires, 2500-3500 ft. elevation, MontanaTrinidad, Prov. Villa Clara, Cuba.

Ungrouped species

**Rhinocricus thomsonianus** Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 198. FEMALE HT (MCZ) labeled only St. Thomas, Hassler Exped. .

Could the locality for this large, never recollected, species be correct?

## Family Pseudospirobolellidae Brolemann

Pseudospirobolellidae Brolemann, 1913, Bull. Soc. ent. France, p. 476; 1914, Ann. Soc. ent. France, 83: 30.

One genus, endemic in southeast Asia.

### Genus **Pseudospirobolellus** Carl

*Pseudospirobolellus* Carl, 1912, Rev. suisse Zool., 20: 168. Type species: *Spirobolus bulbiferus* Attems, 1903, by monotypy. \_ Hoffman, 1981, Steenstrupia, 7: 187.

*Azygobolus* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 25. Type species: *A. tumidus* Loomis, by original designation. Synonymized by Loomis, 1950.

[Additional generic names, based on material from Java and several Pacific islands, are not documented as being extralimital. My 1981 review of the genus cites all generic synonyms as well as those based on the type species].

One pantropical (except Africa) species, another localized in Thailand.

**Pseudospirobolellus avernus** (Butler)

*Spirostreptus avernus* Butler, 1876, Ann. & Mag. Nat. Hist., (4) 17: 445. MALE LT (BMNH) from Rodrigues Island, Indian Ocean.

*Azygobolus tumidus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 27, text figs. 13a-f, pl. 2, figs. 1, 2. MALE HT (USNM) from Marigot, St. Martins, Lesser Antilles. Synonymy implied by Loomis, 1950, formalized by Hoffman, 1960.

[Eight additional junior synonyms have been based on material from the Indopacific region].

Range: Presumed native to southeast Asia, now widespread in the East and West Indies (Guadeloupe, Dominica, Haiti) as well as islands in the Pacific and Indian oceans.

## Family Trigoniulidae Attems

Trigoniulidae Attems, 1909, in Sj stedt, Wiss. Ergeb. Schwed. Zool. Exped. Kilimandjaro, 3(19): 25. \_ Brolemann, 1914, Ann. Soc. entom. France, 83: 30.

Trigoniulinae Hoffman, 1980, Classification of the Diplopoda, p. 80.

About 20 nominal genera, southeast Asia, Australia.

Vacillation about the heirarchic standing of this taxon will doubtless continue until the necessary revisionary work (vis-a-vis the pachybolines) has been accomplished. The present return to the original family status is probably an oversimplification.

The group is represented in the New World only by two species, native to southeast Asia, which have been widely distributed throughout the tropics through agricultural commerce and other human venues. The known ranges of these animals have been fully documented and mapped by Shelley (1999, in press), to which source reference should be made for details.

## Genus *Leptogoniulus* Silvestri

*Leptogoniulus* Silvestri, 1897, Ann. Mus. civ. Stor. nat. Genova, 38: 651. Type species: *Trigoniulus acolastus* Silvestri, by original designation.

*Spirostrophus* DeSaussure & Zehntner, 1902, in Grandidier, Hist. Phys. Nat. Polit. Madagascar, 27(53): 150. Type species: *Spirobolus naresii* Pocock, 1893, by subsequent designation of Carl, 1912. Synonymized by Hoffman, 1980.

*Glosselus* Cook, 1911, Proc. U. S. Nat. Mus., 40: 163. Type species: *G. musarum* Cook, by original designation. Synonymized with *Spirostrophus* by Chamberlin, 1922, with *Leptogoniulus* by Hoffman, 1980.

*Cairibolus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 209. Type species: *C. antonianus* Chamberlin, by original designation. Synonymized with *Spirostrophus* by Chamberlin, 1922, with *Leptogoniulus* by Hoffman, 1980.

*Trucobolus* Chamberlin, 1947, Ent. News, 58: 41. Type species: *T. townesi* Chamberlin, by original designation. Synonymized with *Spirostrophus* by Loomis & Hoffman, 1948,

with *Leptogoniulus* by Hoffman, 1980.

*Litobolus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 47. Type species: *L. hanevavus* Chamberlin, by original designation. Synonymized with *Spirostrophus* by Loomis & Hoffman, 1948, with *Leptogoniulus* by Hoffman, 1980.

An uncertain number of East Indian species are referred to this genus, some doubtless synonymous; one is widespread throughout the tropics (except of Africa).

***Leptogoniulus sorornus* (Butler)**

*Spirostreptus sorornus* Butler, 1876, Ann. & Mag. Nat. Hist., (4) 17: 257. ST (BMNH) from Rodriguez Island.

*Spirobolus Naresi* Pocock, 1893, Ann. & Mag. Nat. Hist. (6) 11: 252, pl. 16, fig. 4-4b. ST (BMNH) from Mah , Seychelles Islands.

*Trigoniulus naresi*: Pocock, 1897, Ann. & Mag. Nat. Hist. (6) 15: 93.

*Spirostrophus naresi*: Attems, 1910, in Voeltzkow, Reise in Ostafrika, 3: 99.

*Glosselus musarum* Cook, 1911, Proc. U. S. Nat. Mus., 40: 165. MALE HT (USNM) from La Colombiana, Prov. Lim n, Costa Rica.

*Glosselus naresii*: Cook, 1911, Proc. U. S. Nat. Mus. 40: 166.

*Cairibolus antonianus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 210. HT (MCZ) from Port Antonio, St. Andrew Parish, Jamaica. Synonymy implied by Chamberlin, 1922, formalized by Loomis & Hoffman, 1948.

*Trigoniulus frater* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 211. HT (MCZ) from near Richmond Bay, Tobago. Synonymy implied by Chamberlin, 1922.

*Trigoniulus garmani* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 212. HT (MCZ) from Mont Rouge, Martinique. Synonymy implied by Chamberlin, 1922.

*Trigoniulus remotus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 213. HT (MCZ) from Swan Island [Caribbean Sea, east of Honduras]. Synonymy implied by Chamberlin, 1922, formalized by Loomis & Hoffman, 1948.

*Leptogoniulus sorornus*: Shelley, 1999, Journ. Nat. Hist., 33 (in press).

Range: Widely distributed by commerce through the tropics (except Africa); in our area known from Costa Rica, Grand Bahama, Barbadoes, Grand Cayman, Cuba, Dominica, Republica Dominicana, Grenada, Guadeloupe, Jamaica, Martinique, Puerto Rico, St. Martin, and Swan Islands (map, Shelley, 1999).

Genus ***Trigoniulus*** Pocock



*Trigoniulus* Pocock, 1894, Journ. Linnean Soc. London, 24: 484. Type species: *Spirobolus G esi* Porat, 1876, by original designation.

An indefinite number of species mostly native to the East Indies. One has become almost pantropical through transport of agricultural/horticultural materials.

### ***Trigoniulus corallinus* (Gervais)**

*Iulus corallinus* Gervais, 1847, in Walckenaer & Gervais, Hist. nat. Insectes Aptères, 4: 171. ST (MHNP) from de la France and de Bourbon (May, 1847).

*Spirobolus sanguineus* Koch, 1847, System der Myriapoden, 202: 3. Location of type material unknown, from Bintang island, Indonesia (date of publication unknown).

*Spirobolus lumbricinus* Gerstaecker, 1873, in: Van der Decken's Reisen in Ostafrika, Zool., 3: 516. ST (ZMB) from Sansibar without further localization. Synonymized by Shelley, 1999.

*Spirobolus G esi* Porat, 1876, Bihang Svensk. Vet.- Akad. Handl., 4(7): 136. ST (NRS) from St. Bartholomew. Synonymized by Shelley, 1999.

*Spirobolus dominicae* Pocock, 1888, Ann. Mag. Nat. Hist., (6) 2: 481, pl. 16, fig. 7. MALE HT (BMNH) from Dominica, Lesser Antilles. Synonymized by Shelley, 1999.

*Spirobolus sanctae-luciae* Bollman, 1888, Proc. U. S. Nat. Mus., 11: 214. HT (?USNM) from Santa Lucia, Lesser Antilles. Synonymized by Shelley, 1999.

*Spirobolus (Trigoniulus) goesi*: DeSaussure & Humbert, 1902, in Grandidier (ed.), Hist. Phys. Nat. Pol. Madagascar, Myriapodes, p. 130.

*Trigoniulus lumbricinus*: Attems, 1914, Arch. Naturg. 80 (A4): 343.

Range: Widespread through commerce through the tropics. Known from Dominica, St. Lucia, Martinique, Haiti, Guadeloupe, Puerto Rico, Jamaica, Costa Rica (map, Shelley, 1999, in press)

## Spirobolida of uncertain family position

### ***Spirobolus platyops* Pocock**

*Spirobolus platyops* Pocock, 1908, in Biol. Centr.-Amer., Diplopoda, p. 76. FEMALE HT (?BMNH) from Mescala [? = Mexcala, Guerrero], Mexico.

*Messicobolus platyops*: Loomis, 1968, Bull. U. S. Nat. Mus., 266: 83.

Reference of this singular species to *Messicobolus* could only have been highly arbitrary.

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# Order Spirostreptida

## Suborder Cambalidea

### Family Cambalidae Bollman

Cambalinae Bollman, 1893, Bull. U. S. Nat. Mus. 46: 156.

Cambalidae Cook, 1895, Ann. New York Acad. Sci., 9: 6. \_ Loomis, 1938, Proc. U. S. Nat. Mus., 86: 31 monograph of North American species).

Nannolenidae Cook, 1895, Ann. New York Acad. Sci., 9: 6.

Leioderidae Schubart, 1946, Rev. Brasileira Biol., 6: 404.

Although substantial progress has been made since 1958 as regards the cambalid fauna of eastern United States, the Californian taxa have remained enigmatic. It seems unlikely that eleven valid monotypic genera occur there, but until male topotypes of virtually all of the named species have been obtained, very little can be settled. Some of the earliest generic names were based on females, and not all from precise localities. The only option available to me is to list everything essentially as published, with the reservation that I anticipate extensive synonymy as a result of future revisions.

### Genus **Alakene** Chamberlin

*Alakene* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 3. Type species: *A. simplex* Chamberlin, by original designation.

One species, California.

### **Alakene simplex** Chamberlin

*Alakene simplex* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 4, fig. 2. MALE HT (USNM) from five miles northeast of Lemoncove, Tulare Co., California.

### Genus **Buwatia** Chamberlin

*Buwatia* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 159. Type species: *B. monterea* Chamberlin, by original designation.

One species, California.

### **Buwatia monterea** Chamberlin

*Buwatia monterea* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 159, pl. 10, fig. 7.  
FEMALE HT (MCZ) from Pacific Grove, Monterey Co., California.

### Genus **Cambala** Gray

*Cambala* Gray, 1832, in Griffith: The Animal Kingdom Arranged in Conformity with its Organization by the Baron Cuvier, 15 (Class Insecta 2): 784, pl. 135. Type species, *C. lactaria* Gray, by monotypy. \_ Loomis, 1938, Proc. U. S. Nat. Mus., 86: 37. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 551.

*Eclytus* Chamberlin, 1952, Ent. News, 63: 10. Type species: *E. speobius*°Chamberlin, by original designation. Preoccupied by *Eclytus* Holmgren, 1855.

*Eclomus*°Chamberlin, 1952, Ent. News, 63: 71. New name for *Eclytus* Chamberlin, with the same type species. Synonymized by Causey, 1964.

*Troglocambala* Hoffman, 1956, Mus. Pap. Geol. Surv. Alabama, 35: 9. Type species: *T. loomisi*°Hoffman, by original designation. Synonymy implied by Causey, 1964; confirmed by Shelley, 1979.

Seven species, eastern and southeast United States, also Colorado, Washington, Oregon, and extreme northeastern Mexico.

The curious designation of the Insecta volumes of The Animal Kingdom... as a subset under a different title (The Class Insecta arranged by the Baron Cuvier) and volume numbering, accounts for the difference in citation from that used by Jeekel (1971: 108)

### **Cambala annulata** (Say)

*Julus annulatus* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 103. Type material not known to exist, from Southern States without further information. Possibly the specimens were taken by Say in 1818 during an excursion along the Atlantic coast between Charleston, S. C., and St. Augustine, Florida. Designation of a neotype is a future desideratum.

?*Cambala lactaria* Gray, 1832, in The Animal Kingdom. . . as arranged by Baron Cuvier, 15 (Insecta 2): 784, pl. 135, figs. 2, 2a-c. HT (BMNH) labeled only N. America ..

*Cambala annulata*: Cope, 1869, Proc. American Philos. Soc., 11: 181. \_ Hoffman, 1958, Journ. Washington Acad. Sci., 48: 91. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 556, figs. 5, 11.

*Cambala cristula* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 39, fig. 12a-c. MALE HT (USNM) from Etowah, Monroe Co., Tennessee. Synonymized by Hoffman, 1958.

Range: Eastern United States, from southwestern Pennsylvania and central Virginia south to Florida (map, Shelley, 1979, fig. 11).

Pending confirmation by study of the British Museum specimen labeled *lactarius* it is assumed to be this species rather than, e. g, *C. minor*.

### **Cambala hubrichti** Hoffman

*Cambala annulata* [nec Say, 1821] Loomis, 1938, Proc. U. S. Nat. Mus., 86: 37, fig. 11.

*Cambala hubrichti*: Hoffman, 1958, Journ. Washington Acad. Sci., 48: 93. MALE HT (USNM) from bluff along Doe River, one mile northwest of Hampton, Carter Co., Tennessee. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 562, figs. 6, 11.

Range: Southern Blue Ridge province, from southwestern Virginia to northern Georgia and western South Carolina (map, Hoffman, 1958, fig. 1).

### **Cambala minor** Bollman

*Cambala annulata minor* Bollman, 1888, Proc. U. S. Nat. Mus., 11: 404. MALE & FEMALE FT (USNM), from Bloomington, Monroe Co., Indiana. A male lectotype designated by Shelley, 1979.

*Cambala minor*°Loomis, 1938, Proc. U. S. Nat. Mus. 86: 40. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 558, figs. 1-4, 7, 12.

*Cambala arkansana* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 3, figs. 2, 3. MALE HT (USNM) from one mile north of Pocahontas, Randolph Co., Arkansas. Synonymized by Shelley, 1979.

*Cambala cara* Causey, 1953, American Midl. Nat., 50: 156, figs. 13, 14. MALE HT (AMNH) from Cave Springs, Benton Co., Arkansas. Synonymized by Shelley, 1979.

Range: Extreme western Virginia to eastern Oklahoma, south through Kentucky and Tennessee to Louisiana (map, Shelley, 1979, fig. 12). The species is notably trogliphilic.

### **Cambala ochra** Chamberlin

*Cambala ochra* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 3, fig. 1. MALE HT (USNM) from Darlington, St. Helena Par., Louisiana \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 563, figs. 8, 12, 13.

*Cambala saltillona* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 3, figs. 1, 2. MALE HT (FMNH) from Saltillo, Stephens Co., Texas. Synonymized by Shelley, 1979.

*Troglocambala loomisi* Hoffman, 1956, Mus. Pap. Geol. Surv. Alabama, 39: 10, figs. 9-11. MALE HT (Alabama Mus. Nat. Hist.), from Turk s Cave at Brooklyn, Conecuh Co., Alabama.

Range: Southern Indiana southward to western Florida and eastern Texas (map, Shelley, 1979, fig. 12).

### **Cambala speobia** Chamberlin

*Eclytus speobius* Chamberlin, 1953, Ent. News, 63: 10. ? Imm. HT (USNM) from Wyatt Cave at Sutton, Edwards Co., Texas (located in Sutton Co., by Chamberlin).

*Eclomus speobius* Chamberlin, 1953, Ent. News, 63: 71.

*Cambala caeca* Loomis, 1953, Journ. Washington Acad. Sci., 43: 417, figs. 1-3. MALE HT (USNM) from Wyatt Cave, Edwards Co., Texas. Synonymized by Causey, 1964.

*Cambala captiosa* Causey, 1959, Proc. Biol. Soc. Washington, 72: 69, figs. 1-3. MALE HT (AMNH) from Beck's Ranch Cave, six miles west of Round Rock, Williamson Co., Texas. Synonymized by Causey, 1964.

*Cambala reddelli reddelli* Causey, 1964, Internat. Journ. Speleol., 1: 239, figs. 1-4. MALE HT (AMNH) from Border Cave, Culbertson Co., Texas. Synonymized by Shelley, 1979.

*Cambala reddelli inornatus* Causey, 1964, Internat. Journ. Speleol., 1: , fig. 5. MALE HT (AMNH) from Wheeler Cave, two miles north of Shamrock, Wheeler Co., Texas. Synonymized by Shelley, 1979.

Range: Central Texas, New Mexico, southeastern Colorado, and northern Coahuila, from both epigean and subterranean sites.

**Cambala texana** Loomis

*Cambala texana* Loomis, 1938, Proc. U. S. Nat. Mus. 86: 40, fig. 13. MALE HT (USNM) from Nacogdoches, Nacogdoches Co., Texas. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 564, figs. 10, 13.

**Cambala washingtonensis** Causey

*Cambala washingtonensis* Causey, 1954, Ann. Entom. Soc. America, 47: 85, fig. 9. MALE HT (AMNH) from Wilma, Whitman Co., Washington. \_ Shelley, 1981, Ent. News, 92: 75, fig. 2.

Range: Type locality and Douglas Co., Oregon.

**Genus Doilene** Chamberlin

*Doilene* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 6. Type species: *D. carmela* Chamberlin, by original designation.

One species, California.

**Doilene carmela** Chamberlin

*Doilene carmela* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 6. MALE HT (USNM) from Hastings Reservation, Monterey Co., California.

**Genus Endere** Loomis

*Endere* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 57. Type species: *E. disora* Loomis, by original designation.

One species, California.

**Endere disora** Loomis

*Endere disora* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 59, fig. 18a-f. MALE HT (USNM) from Sunnyside Mine, near Seneca, Plumas Co., California.



### Genus **Leiodere** Loomis

*Leiodere* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 60. Type species: *L. torreyana* Loomis, by original designation.

Four species, California.

#### **Leiodere angelorum** Chamberlin

*Leiodere angelorum* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 5, fig. 2. MALE HT (FMNH) from Los Angeles California.

Demonstrating the identity of this name once again becomes the responsibility of some future worker; whether it is even a *Leiodere* cannot be assumed from the published description.

#### **Leiodere dasyura** Loomis

*Leiodere dasyura* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 64, fig. 21a-d, pl. 2, fig. 2. MALE HT (USNM) from Tajiguas, Santa Barbara Co., California.

#### **Leiodere nana** Loomis

*Leiodere nana* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 62, fig. 20a-f. MALE HT (USNM) from a site between Vallejo and Cordelia, Solano Co., California.

#### **Leiodere torreyana** Loomis

*Leiodere torreyana* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 61, figs. 19a-c. MALE HT (USNM) from Torrey Pines at La Jolla, San Diego Co., California.

### Genus **Mexicambala** Causey

*Mexicambala* Causey, 1964, Internat. Journ. Speleol. 1: 244. Type species: *M. russelli* Causey, by original designation; 1971, Proc. Biol. Soc. Washington, 84: 271.

Three species, confined to caves in Tamaulipas, San Luis Potos , and Oaxaca.

#### **Mexicambala fishi** Causey

*Mexicambala fishi* Causey, 1971, Proc. Biol. Soc. Washington, 84: 280, figs. 1e, 2d, 4. MALE HT (USNM) from Cueva Arriba de Rio Iglesia, four miles east of Huautla (18.20N, 96.45W), Oaxaca.

Range: Recorded from numerous caves in the vicinity of Huautla de Jimenez, Oaxaca.

#### **Mexicambala inopis** Causey

*Mexicambala inopis* Causey, 1971, Proc. Biol. Soc. Washington, 84: 276, figs. 1b. MALE HT (USNM) from S tano de la Joya de Salas, about six miles west of Rancho del Cielo, Gomez Farias region, Tamaulipas.

*Mexicambala blandus* Causey, 1971, Proc. Biol. Soc. Washington, 84: 276, figs. 1c, 2b, 3. MALE HT (USNM) from Harrison s Sinkhole at Rancho del Cielo, five km northwest of Gomez Farias, Tamaulipas. Synonymized by Shear, 1986.

Range: Caves in the Sierra de Guatemala, southern Tamaulipas.

**Mexicambala russelli** Causey

*Mexicambala russelli* Causey, 1964, Internat. Journ. Speleol. 1: 244, figs. 7-13. MALE HT (AMNH) from Cueva de la Parra, five km north of Xilitla, San Luis Potos .

Range: Caves in Sierra Madre Oriental in eastern San Luis Potos .

**Genus Nannolene** Bollman

*Nannolene*°Bollman, 1887, Ann. New York Acad. Sci., 21: 82. Type species: *Iulus burkei* Bollman, by original designation. \_ Loomis, 1938, Proc. U. S. Nat. Mus., 86: 42.

Nine nominal species, California, Washington, Oregon. Numerous species described under this generic name from Hawai i appear to be congeneric with those known from southern California.

There being no reason to assume that the species illustrated by Chamberlin (1922) as *N. burkei* is conspecific or even congeneric with the types of that species, the identity of *Nannolene* remains in doubt until male topotypes have been studied. The following list obviously has little more than reference value as a guide to the literature.

**Nannolene burkei** (Bollman)

*Iulus burkei* Bollman, 1887, American Natur., 21: 82. FEMALE ST (?USNM) from Ukiah, Mendocino Co., California.

*Nannolene burkei*: Bollman, 1887, Entom. Americana, 2: 225.

**Nannolene catalina** Chamberlin

*Nannolene catalina* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 5. MALE HT (?USNM) from Hamilton Canyon, Santa Catalina Island, Los Angeles Co., California.

The distinctive form of the male gonopods will be illustrated in another place. This intention was apparently never realized.

**Nannolene cincta** Chamberlin

*Nannolene cincta* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 4, fig. 1. MALE HT (USNM) from Arlington, Snohomish Co., Washington.

Range: Also reported by Chamberlin from Guernsey Creek, California, which I have so far not been able to locate.

**Nannolene corticolens** Chamberlin

*Nannolene corticolens* Chamberlin, 1951, Great Basin Natur., 11: 31, fig. 3. MALE HT (USNM) from Marsch Creek Springs, near Concord, Contra Costa Co., California.

**Nannolene dorothea** Chamberlin

*Nannolene dorothea* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 4, fig. 3. MALE ?HT (or ST) (USNM) from one of four localities in California: Kernville, Squaw Valley, Isabella, and Hammond. The origin of the holotype - if one was designated - was not stated, and the subsequent selection of Kernville by Chamberlin & Hoffman (1958) was not based on direct knowledge of the case.

**Nannolene keiferi** Chamberlin

*Nannolene keiferi* Chamberlin, 1943, Ent. News, 54: 88. HT (USNM) from Sacramento, California.

**Nannolene minor** Loomis

*Nannolene minor* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 44, fig. 14a-b. MALE HT (USNM) from near Bakersfield, Kern Co., California.

**Nannolene personifer** Chamberlin

*Nannolene personifer* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 5, figs. 4, 5. MALE HT (USNM) from nine miles north of Placerville, El Dorado Co., California.

**Nannolene violacea** Loomis

*Nannolene violacea* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 46, fig. 15, pl. 2, fig. 3. MALE HT (USNM) from south of Atascadero, San Luis Obispo Co., California.

Range: Known also from the vicinity of Tejon Pass, Kern Co., California; Loomis's record for Medford, Oregon, was based on immature males certainly not referable to this species.

**Genus Odachurus** Loomis

*Odachurus* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 54. Type species: *O. petasatus* Loomis, by original designation.

One species, California.

**Odachurus petasatus** Loomis

*Odachurus petasatus* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 55, fig. 17a-b. FEMALE HT (USNM) from Torrey Pines, La Jolla, San Diego Co., California.

**Genus Paiteya** Chamberlin

*Paiteya* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 258. Type species: *P. errans* Chamberlin, by original designation.

One species, California.

**Paiteya errans** Chamberlin

*Paiteya errans* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 258, pl. 43, figs .4-7.  
FEMALE HT lost, labeled only Southern California.

Genus **Pharodere** Loomis

*Pharodere* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 51. Type species: *P. radiata* Loomis, by original designation.

One species, California

**Pharodere radiata** Loomis

*Pharodere radiata* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 53, fig. 16a-c. MALE HT (USNM) from Torrey Pines, La Jolla, San Diego Co., California.

Genus **Platydere** Loomis

*Platydere* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 48. Type species: *P. caeca* Loomis, by original designation.

One species, California.

**Platydere caeca** Loomis

*Platydere caeca* Loomis, 1938, Proc. U. S. Nat. Mus., 86: 50. MALE HT (USNM) from Tajiguas, Santa Barbara Co., California.

Genus **Tigolene** Chamberlin

*Tigolene* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 6. Type species: *T. clementinus* Chamberlin, by original designation.

One species, California.

**Tigolene clementinus** Chamberlin

*Tigolene clementinus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 6, fig. 2. MALE HT (USNM) from San Clemente Island, Los Angeles Co., California.

The posterior gonopod of this species, as illustrated by Chamberlin in lateral (**not** anterior!) aspect, is remarkably similar to the form characteristic of the genus *Cambala*.

Genus **Titsona** Chamberlin

*Titsona* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 160. Type species: *T. sima* Chamberlin, by original designation.

One species, California, possibly another, Nevada..

**Titsona sima** Chamberlin

*Titsona sima* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 160, pl. 10, figs. 4-6. Type material lost, from Oroville, Butte Co., California. \_ Loomis, 1943, Bull. Mus. Comp. Zool., 92: 393, figs. 10a-b.

Range: Recorded from Yolo and Butte counties, California.

**Titsona tida** Chamberlin

*Titsona tida* Chamberlin, 1962, Proc. Biol. Soc. Washington, 75: 54, fig. 6. MALE HT (USNM) from vicinity of Mercury, Nye Co., Nevada.

There is no way to deduce from the description what taxon this species represents.

### Genus **Tridere** Cook & Loomis

*Tridere* Cook & Loomis, in: Loomis, 1938, Proc. U. S. Nat. Mus. 86: 33. Type species: *T. chelopa* Cook & Loomis, by original designation.

**Tridere chelopa** Cook & Loomis

*Tridere chelopa* Cook & Loomis, in: Loomis, 1938, Proc. U. S. Nat. Mus. 86: 36, fig. 10a-g; pl. 2, figs. 6, 7. MALE HT (USNM) from a site . . .beside the road [presumably US Hy. 80] from San Diego to El Centro, Calif., about two miles above Mountain Springs. . .

Judged from the printed account of the type locality, it must be located in the extreme southwestern corner of Imperial County, rather than San Diego County as deduced by Chamberlin & Hoffman, 1958.

### CAMBALIDEA OF UNCERTAIN FAMILY POSITION

#### Genus **Jarmilka** Shear

*Jarmilka* Shear, 1973, Bull. Assoc. Mexican Cave Stud., 5: 43. Type species: *J. alba* Shear, by original designation.

One species, Belize.

**Jarmilka alba** Shear

*Jarmilka alba* Shear, 1973, Bull. Assoc. Mexican Cave Stud., 5: 44, figs. 1-3. MALE HT (MCZ)

from Mountain Cow Cave [ca. 89.0W, 16.50N), Belize.

## Suborder Epinannolenoidea Chamberlin

### Family Choctellidae Chamberlin & Hoffman

Choctellidae Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 7.

One genus, southeastern United States.

#### Genus **Choctella** Chamberlin

*Choctella* Chamberlin, 1918, Psyche, 25: 25. \_ Loomis, 1943, Bull. Mus. Comp. Zool., 92: 371.

Two species, southeastern United States.

#### **Choctella cumminsi** Chamberlin

*Choctella cumminsi* Chamberlin, 1918, Psyche, 25: 25. MALE HT (MCZ) from Glendale Hills, Davidson Co., Tennessee. \_ Loomis, 1943, Bull. Mus. Comp. Zool., 92: 371, fig. 9 a, b. \_ Hoffman, 1965, Proc. Biol. Soc. Washington, 78: 55, fig. 4.

Range: Cumberland Plateau in central Tennessee and northern Alabama.

#### **Choctella hubrichti** Hoffman

*Choctella hubrichti* Hoffman, 1965, Proc. Biol. Soc. Washington, 78: 55, figs. 1-3. MALE HT (USNM) from Roebuck Plaza, between Trussville and Birmingham, Jefferson Co., Alabama.

## Family Pseudonannolenidae Silvestri

Pseudonannolenidae Silvestri, 1895, Ann. Mus. Civ. Stor. Nat. Genova, 34: 774. \_ Mauris, 1987, Bull. Mus. nat. Hist. natur., Paris, (4) 9 (A): 170, 196 (elevated to ordinal rank).

Epinannolenidae Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 2.

Two (?three) genera, Argentina to Costa Rica and Cuba.

#### Genus **Cambalomma** Loomis

*Cambalomma* Loomis, 1941, Journ. Washington Acad. Sci., 31: 00. Type species: *C. laevis* Loomis, by original designation.

One species: Haiti.

**Cambalomma laevis** Loomis

*Cambalomma laevis* Loomis, 1941, Journ. Washington Acad. Sci., 31: 189, figs. 1-7. MALE HT (USNM) from Jeremie, Haiti.

Genus **Epinannolene** Brolemann

*Epinannolene* Brolemann, 1903, Ann. Soc. Ent. France, 72: 135. Type species: *E. pittieri* Brolemann, by monotypy.

About 30 species, Costa Rica to Peru and Brasil, also widespread in the West Indies (except Jamaica).

**Epinannolene affinis** Loomis

*Epinannolene affinis* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 114, fig. 7d. MALE HT (USNM) from Pi a area, Canal Zone, Panama.

**Epinannolene bicornis** Brolemann

*Epinannolene bicornis* Brolemann, 1905, Ann. Soc. Entom. France, 74: 356, fig. 16. MALE HT (MHNP) from Cariblanco, Prov. Alajuela, Costa Rica.

Range: Recorded from several localities in Prov. Chiriqu , Panama (Loomis, 1964).

**Epinannolene biseriatus** Loomis

*Epinannolene biseriatus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 434, fig. 4. MALE HT (MCZ) from south side of Pico Turquino, Prov. Santiago de Cuba, Cuba.

**Epinannolene caeca** Loomis

*Epinannolene caeca* Loomis, 1964, Fieldiana: Zool., 47: 120, figs. 12F-H. MALE HT (FMNH) from Barro Colorado Island, Canal Zone, Panama.

**Epinannolene convexus** Loomis

*Epinannolene convexus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 32, fig. 13. MALE HT (USNM) from Morne La Hotte, 3000-7800 ft., Haiti.

**Epinannolene cubensis** (Bollman)

*Nannolene cubensis* Bollman, 1888, Proc. U. S. Nat. Mus., 11: 335. FEMALE HT (?USNM) from Cuba, supposedly from the vicinity of Havana.

*Epinannolene cubensis*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 179.

**Epinannolene curta** Loomis

*Epinannolene curta* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 36, fig. 10a,b. MALE HT (MCZ) from El Yunque, Dept. Humaco, Puerto Rico.

**Epinannolene dominicana** (Pocock)

*Spirostreptus (Nodopyge) dominicanus* Pocock, 1888, Ann. & Mag. Nat. Hist., (6) 2: 478. MALE HT (BMNH) from Dominica, Lesser Antilles.

*Epinannolene dominicana*: Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 179. \_ Hoffman, 1960, Proc. U. S. Nat. Mus., 111: 36, fig. 1.

**Epinannolene grenadae** Chamberlin

*Epinannolene grenadae* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 181. HT (MCZ) from Grand tang, Grenada.

**Epinannolene haitiensis** Chamberlin

*Epinannolene haitiensis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 179. HT (MCZ) from Grand Rivi re, Haiti.

**Epinannolene ornata** Chamberlin

*Epinannolene ornata* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 180. HT (MCZ) from Petionville, Haiti.

Range: Additional Haitian localities cited by Loomis (1936).

**Epinannolene pittieri** Brolemann

*Epinannolene pittieri* Brolemann, 1903, Ann. Soc. Entom. France, 72: 136, figs. 3-7. MALE HT (MHNP) from Cocos Island, Costa Rica.

Range: This taxon seems not to have been recorded from any mainland site, although reported from Guadeloupe and perhaps occurs elsewhere under one or more undetected junior synonym. That the known occurrences are the result of synanthropy seems very likely.

The status of *pittieri* and a number of closely related forms dispersed through the Antilles has been discussed by Maur es (1980, 1987), who felt that populations on Guadeloupe and elsewhere are recognizably distinct at the subspecies level. Having no experience with the systematics of this genus, I defer the expression of value judgements for some future revisionary work and record the taxa as proposed.

**Epinannolene pittieri barbadensis** Mauri s

*Epinannolene pittieri barbadensis* Mauri s, 1987, Bull. Mus. nat. Hist. natur., Paris, (4) 9 (A): 185, figs. 33-34. MALE HT (ZMUC) from cave at Spring Head, Barbados, Lesser Antilles.

**Epinannolene pittieri bermudensis** Mauri s



*Epinannolene pittieri bermudensis* Mauris, 1987, Bull. Mus. nat. Hist. natur., Paris, (4) 9 (A): 187, figs. 35-37. MALE HT (BMNH) from Hamilton, Bermuda.

**Epinannolene pittieri guadeloupensis** Mauris

*Epinannolene pittieri guadeloupensis* Mauris, 1980, Bull. Mus. nat. Hist. natur., Paris, (4) 2 (A): 1098, figs. 55, 56. MALE HT (MNHP) from Trace Victor Hugo, c t Matouba, Basse-Terre, Guadeloupe.

Perhaps specifically distinct from nominate *pittieri*?

**Epinannolene pittieri mariagalandae** Mauris

*Epinannolene pittieri mariagalandae* Mauris, 1980, Bull. Mus. nat. Hist. natur., (4) 2 (A): 1096, figs. 57, 58. MALE HT (MNHP) from grotte du Trou- -Diable at Maria-Galante, Basse-Terre, Guadeloupe.

Range: Also recorded (Mauris, 1987) from St. Thomas, where almost certainly a synanthropic species.

**Epinannolene plana** Loomis

*Epinannolene plana* Loomis, 1961, Proc. U. S. Nat. Mus. 113: 116, fig. 7h. MALE HT (USNM) from El Valle, Prov. Cocle, Panama.

**Epinannolene robusta** Loomis

*Epinannolene robusta* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 115, fig.s. 7e-g. MALE HT (USNM) from Cerro Campana, Prov. Panama, Panama.

**Epinannolene sulcata** Loomis

*Epinannolene sulcata* Loomis, 1964, Fieldiana:Zoology, 47: 120, fig. 12E. MALE HT (FMNH) from Finca Palo Santo, near Nueva California, Prov. Chiriqui, Panama.

**Epinannolene virgata** Loomis

*Epinannolene virgata* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 34, fig. 14. MALE HT (USNM) from vicinity of Trouin, Haiti.

## Suborder Spirostreptidea Brandt

Spirostreptidea (as suborder) Attems, 1909, Zool. Anz., 34: 159; 1914, Zoologica (Stuttgart) 25 (65,66): 45 et seq.

### Family Spirostreptidae Brandt

Spirostreptidea Brandt, 1833, Bull. Soc. imp. Nat. Moscow, 6: 203 (corresponding to modern ordinal concept).

Spirostreptidae Attems, 1909, Zool. Anz., 34: 159 (first use of name in present context); 1914, Zoologica (Stuttgart) 25 (65,66): 45 et seq. \_ Krabbe, 1982, Abhandl. Naturw. Ver. Hamburg, NF 24: 1 et seq.

About 100 nominal genera, Oklahoma and Arizona south to Argentina; Africa and Madagascar; eastern Mediterranean region; Seychelles.

This family, which after the Chelodesmidae is the most diverse and speciose milliped group in the Neotropical region, is only marginally represented in the West Indies. Krabbe (1982: 353-355) listed only eight species, of which one (*abstemius*) has been shown to be a mislabeled Venezuelan species, and two (*grenadae* and *antillanus*) withdrawn into *O. cavicollis* as probably introduced populations of that Venezuelan species. One (*indus*) is now known to be an endemic Haitian rhinocricid, and one (*triquetrus*) although known only from females, projects the subtle aura of an alien immigrant. The three survivors are *O. sculpturatus* on Puerto Rico and *O. haitiensis* and *O. caelatus* on Hispaniola. That these might also prove to be introduced mainland species is hardly less probable than the status of relictual fragments of earlier, more generous representation of the family in the Antilles.

The great generic diversity of spirostreptids in South America never transgressed the Panama portal. Only the genus *Orthoporus* extended north of the isthmus, but it has - apparently in fairly recent times - speciated rather conspicuously throughout Central America and into southwestern United States where a few xerobiotic colonizers are widespread and abundant. An endemic Mesamerican genus (*Mayastreptus*) seems likely to be a localized derivative group from an orthoporid ancestor.

The classification of this family has been seriously complicated by the Chamberlinian practice of basing new names upon female specimens, with diagnostic characters derived primarily from ornamentation of the collum. Since this procedure assumed a specificity (and taxonomic importance) that does not exist, a counter tendency to discount such illusory species has evolved in recent decades. Abetted by the discovery that the gonopods - of at least some species - are subject to appreciable variation, one result of this more skeptical approach has been wholesale escalation of long synonymies. This in itself is not undesirable, so long as the possibility is considered that specific characters may be more convincingly expressed in peripheral character systems than in gonopods in rapidly (and recently) evolving milliped taxa.

Entry into the large, complex, and often arcane world of spirostreptids has been rendered easy and relatively painless, thanks to Dr. Elke Krabbe's praiseworthy, synopsis of the entire family (1982). Complete literature references are given for nearly all species, as well as information on types and type localities. Access to this source is essentially mandatory for anyone contemplating systematic research on Spirostreptidae.

Removed from checklist area: *Gymnostreptus*, non sensu Brolemann, 1902, per *G. pacificus* and *G. vagans* Chamberlin, 1922 [see *Mayastreptus*, *infra*].

### Genus *Isoporostreptus* Silvestri

*Isoporostreptus* Silvestri, 1898, An. Mus. Nac. Buenos Aires, 6: 73. Type species: *I. villicola* Silvestri, by monotypy. \_ Hoffman, 1953, Lloydia, 16: 150 (synopsis of genus).

Seven species, Panama, Colombia, Ecuador.

#### *Isoporostreptus pittieri* Hoffman

*Isoporostreptus pittieri* Hoffman, 1953, Lloydia, 16: 151, figs. 6, 7. MALE HT (USNM) from

Los Siguas, Prov. Chiriqu , Panama.

Verification of the location of Los Siguas is desirable; one of the more eastern provinces seems more biogeographically plausible for this genus than Chiriqu .

### Genus **Mayastreptus** Hoffman

*Mayastreptus* Hoffman, 1998, Myriapodologica, 5: 121. Type species: *Gymnostreptus vagans* Chamberlin, 1922, by original designation.

Three species: Central America (Guatemala, Costa Rica, El Salvador).

#### **Mayastreptus confragosus** (Karsch)

*Spirostreptus (Nodopyge) confragosus* Karsch, 1881, Zeitschr. ges. Naturwiss., 54: 44.  
FEMALE HT (ZMB) from Costa Rica without further locality.

*Spirostreptus (Scaphiostreptus) confragosus*: Brolemann, 1905, Ann. Soc. Ent. France, 74: 367,  
text fig. VII, pl. 9, fig. 20, pl. 10, fig. 21.

*Orthoporus confragosus*: Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 101. \_ Loomis, 1968,  
Bull. U. S. Nat. Mus., 266: 99.

*Gymnostreptus pacificus* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 14, pl. 7, figs. 2-4.  
MALE HT (USNM) from Santo Domingo de San Mateo, Prov. San Jos , Costa Rica.

*Epistreptus (Microtrullius) pacificus*: Attems, 1950, Ann. Naturh. Mus. Wien, 57: 218.

*Mayastreptus confragosus*: Hoffman, 1998, Myriapodologica, 5: 121.

Range: Costa Rica.

#### **Mayastreptus laetus** (Chamberlin)

*Gymnostreptus laetus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 13, pl. 6, figs. 7-9. MALE  
HT (USNM) from Joyabaj, Prov. Quiche, Guatemala.

*Mayastreptus laetus*: Hoffman, 1998, Myriapodologica, 5: 122.

#### **Mayastreptus vagans** (Chamberlin)

*Gymnostreptus vagans* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 13, pl. 6, fig. 10, pl. 7,  
fig. 1. MALE HT (USNM) from Candalaria Rocks, Scamay Estuary Guatemala.  
According to Shear (1977: 341) Scamay is a misinterpretation of Seamay , one of  
three towns near Senah , Dept. Alta Verapaz. The relevance of estuary to such an  
inland locality is not clear, perhaps it is a misperception of another word on a hand-  
written label.

*Epistreptus (Microtrullius) vagans*: Attems, 1950, Ann. Naturh. Mus. Wien, 57: 218.

*Epistreptus (Microtrullius) pacificus* + *vagans*: Kraus, 1954, Senckenb. biol., 35: 340.

*Mayastreptus vagans*: Hoffman, 1998, Myriapodologica, 5: 122, figs. 1-3, 5, 6.

Range: Dept. Alta Verapaz, Guatemala; general in El Salvador.

### Genus **Orthoporus** Silvestri

*Orthoporus* Silvestri, 1897, Boll. Mus. Zool. Anat.comp. Torino, 12(283): 7. Type species: *O. diaporoides* Silvestri, by monotypy. \_ Krabbe, 1982, Abhandl. Naturwiss. Ver. Hamburg, NF 24: 347.

*Diaporus* Silvestri, 1897, Boll. Mus. Zool. Anat. comp. Torino, 12(283): 8. Type species: *Alloporus americanus* Silvestri, 1895, by original designation. Synonymized by Pocock, 1909.

*Scaphiostreptus* Brolemann, 1902, Rev. Mus. Paulista, 5: 150. Type species, *S. fuscipes* Porat, 1888, by subsequent designation of Pocock, 1909. Synonymized by Pocock, 1909.

*Gymnostreptus (Trinidadius)* Verhoeff, 1941, Arch. Naturg. NF 10: 297. Type species: *G.(T.) klagesi* Verhoeff, by monotypy. The type species occurs in the Lesser Antilles.

About 80 nominal species, Argentina and Brazil north to Arizona and Oklahoma.

The remarkable proliferation of names based on members of this genus has in recent years been severely curtailed by the investigations on the taxa of northern Mexico and southwestern United States by Causey (1975) and Loomis (1966), whose conclusions I have adopted *in toto*.

Until similar synthesis has been performed for the more southern parts of our area, I have no option but to list all names as proposed, with the realization that many of them will be found invalid.

Removed from the genus: *Spirostreptus confragosus* Brolemann, 1905 [see *Mayastreptus, supra*].

#### **Orthoporus absconsus** Chamberlin

*Orthoporus absconsus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 15, pl. 7, figs. 5-8. MALE HT (USNM) from Santo Domingo de San Mateo, Prov. San Jos, Costa Rica. \_ Loomis, 1968, Bull. U. S. Nat. Mus., 266: 97.

*Scaphiostreptus (Scaphiostreptus) absconsus*: Attems, 1950, Ann. Naturh. Mus. Wien, 57: 231. \_ Kraus, 1954, Senckenb. biol., 35: 340.

Range: Vicinity of San Jose, Costa Rica north to El Salvador and northern coast of Honduras (San Pedro Sula).

#### **Orthoporus acanthethus** Chamberlin

*Orthoporus acanthethus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 57, figs. 70, 71. MALE HT (ANSP) from Piedras Negras, Dept. Pet n, Guatemala.

#### **Orthoporus ampussis** (Karsch)

*Spirostreptus (Nodopyge) ampussis* Karsch, 1881, Zeitschr. ges. Naturw. 54: 43. MALE HT (ZMB) from Puebla, Mexico.

*Orthoporus ampussis*: Pocock, 1909, Biol. Centr.-Amer., Diplopod., p. 102.

#### **Orthoporus asper** (Attems)

*Scaphiostreptus asper* Attems, 1950, Ann. Naturh. Mus. Wien, 57: 234, figs. 57-59. MALE HT (NMW) labeled only Mexico (possibly from Tampico, in the opinion of Causey, 1975).

*Orthoporus asper*: Loomis, 1968, Bull. U. S. Nat. Mus. 226: 98.

This species is manifestly very similar to *O. texicolens* in gonopod structure, but apparently differs in smaller size and much lower segment count.

**Orthoporus bisulcatus** Chamberlin

*Orthoporus bisulcatus* Chamberlin, 1952, Great Basin Natur., 12: 21. FEMALE HT (FMNH) from Tejeria, Veracruz, Mexico.

**Orthoporus bobos** Chamberlin

*Orthoporus bobos* Chamberlin, 1952, Great Basin Nat., 12: 23. FEMALE HT (FMNH) from Rio Bobos, Dept. Izabal, Guatemala.

**Orthoporus boreus** Chamberlin

*Orthoporus boreus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 55, fig. 69. FEMALE HT (ANSP) ostensibly from the Snake River Desert at Taber, Bingham Co., Idaho. This locality is totally implausible and obviously the result of mislabeling. The species may not even be native to the area covered in this list.

**Orthoporus canalis** Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 38. FEMALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama.

Range: Reported by Loomis from several places near the type locality.

**Orthoporus capucinus** (Attems)

*Scaphiostreptus capucinus* Attems, 1950, Ann. Naturh. Mus. Wien, 57: 234, fig. 54-56. MALE HT (NMW) from Mexico without closer locality.

**Orthoporus caelatus** Loomis

*Orthoporus caelatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 38, figs. 16a, b. MALE HT (USNM) from a site between Port Margo and Limbe, Haiti.

**Orthoporus cavicollis** (Karsch)

*Spirostreptus (Nodopyge) cavicollis* Karsch, 1881, Zeitschr. ges. Naturwiss., 54: 33. MALE LT (ZMB) from Puerto Cabello, Venezuela.

*Spirostreptus antillanus* Pocock, 1894, Journ. Linnean Soc. London, 24: 483, pl. 38, fig. 1. MALE LT (BMNH) from St. Thomas. Synonymized by Hoffman, 1996.

*Orthoporus grenadae* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 183. MALE HT (MCZ) from Richmond Hill, Grenada. Synonymized with *antillanus* by Krabbe & Enghoff; 1985, with *cavicollis* by Hoffman, 1996.

*Orthoporus antillanus*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 182. \_ Krabbe &

Enghoff, 1985, Ent. Scandinavica, 15: 333, figs. 1-8.

*Gymnostreptus (Trinidadius) klagesi* Verhoeff, 1941, Arch. Naturg., NF 10: 297, figs. 4, 5. MALE HT (ZSBS) from Ceparo, Trinidad. Synonymized by Hoffman, 1996.

*Orthoporus cavicollis*: Hoffman, 1996, Mitt. Zool. Mus. Berlin, 72: 332, figs. 6-9. Designation and figures of lectotype.

Range: Probably native to the coastal region of Venezuela; reported from several of the Lesser Antilles (Grenada, Carriacou, Barbados) where quite possibly introduced and now naturalized. Pocock's early record for St. Thomas unquestionably represents a case of mislabeling.

**Orthoporus chihuanus** Chamberlin

*Orthoporus chihuanus* Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 11, fig. 0. FEMALE HT (USNM) from Ciudad Chihuahua, Chihuahua, Mexico.

Suspected by both Causey and Loomis to be another junior synonym of *O. ornatus*.

**Orthoporus chiriquensis** Pocock

*Orthoporus chiriquensis* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 97, pl. VIII, fig. 2. MALE HT (BMNH) from Volc n de Chiriqui, Prov. Chiriqui, Panama.

**Orthoporus cienegonus** Chamberlin

*Orthoporus cienegonus* Chamberlin, 1952, Great Basin Natur., 12: 23. MALE HT (USNM) from Cieneg de Flores, Nuevo Le n, Mexico.

**Orthoporus cobanus** Chamberlin

*Orthoporus cobanus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 16, pl. 8, figs. 5-7. MALE HT (USNM) from Coban-Tache , Dept. Alta Verapaz, Guatemala.

Recorded in the original description from several localities in the southern part of Alta Verapaz. I have not located Tache and presume it to be a plantation somewhere close to Cob n. Loomis (1968: 98) gives the spelling as Cach , which I have also failed to locate.

**Orthoporus comminutus** (Attems)

*Scaphiostreptus comminutus* Attems, 1950, Ann. Naturh. Mus. Wien, 57: 239, figs. 70, 71. MALE HT (NMW) from Mexico without further locality.

*Orthoporus comminutus*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 99.

**Orthoporus conifer** (Attems)

*Scaphiostreptus (Diaporus) conifer* Attems, 1950, Ann. Naturh. Mus. Wien, 57: 243, figs. 77-79. MALE HT (NMW) from Pons, Costa Rica (corrected by Loomis, 1974, to Volc n Poas, 20 km north of Alajuela, Prov. Alajuela).

*Orthoporus conifer*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 99.

The illustrations given by Attems for this species suggest a somewhat atypical element in the fauna of Central America and the type requires re-examination as a possibly mislabeled specimen of some extra-limital species.

**Orthoporus cordovanus** Pocock

*Orthoporus cordovanus* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 98, pl. VIII, fig. 3. MALE HT (BMNH) from Cordova, Mexico, presumably Cordoba, Veracruz.

**Orthoporus discriminans** Chamberlin

*Orthoporus discriminans* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 16, pl. 8, figs. 1-4. MALE HT (USNM) from Pancajch, Alta Verapaz, Guatemala.

**Orthoporus dybasi** (Chamberlin)

*Scaphiostreptus dybasi* Chamberlin, 1952, Great Basin Natur., 12: 28, fig. 16. MALE HT (FMNH) from El Fortín de las Flores, Veracruz, Mexico.

*Orthoporus dybasi*: Causey, 1964, Proc. Biol. Soc. Washington, 77: 175.

**Orthoporus esperanzae** Chamberlin

*Orthoporus esperanzae* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 13, fig. 5. FEMALE HT (USNM) from Esperanza, Guanajuato, Mexico.

**Orthoporus euthus** Chamberlin

*Orthoporus euthus* Chamberlin, 1952, Great Basin Natur., 12: 25, fig. 12. MALE HT (FMNH) from Tiquisate, Dept. Esquintla, Guatemala.

**Orthoporus extensus** Loomis

*Orthoporus extensus* Loomis, 1966, Ann. Entom. Soc. America, 59: 27, figs. 56, 57. MALE HT (SMUK) from a site on Highway 185, 16 miles north of Matias Romero, Oaxaca, Mexico.

**Orthoporus festae** (Silvestri)

*Plusioporus Festae* Silvestri, 1896, Boll. Mus. Torino, 11(254): 3. MALE HT (Mus. Zool. Anat. comp. Torino) from Punta Sabana, Prov. Darien, Panama.

*Orthoporus festae*: Pocock, 1909, Biol. Centr.-Amer. Diplop., p.102. \_ Loomis, 1961, Proc. U. S. Nat. Mus., 113: 114, fig. 7e.

*Diaporus culebrae* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 18, pl. 8, figs. 8-9, pl. 9, fig. 1. MALE HT (USNM) from Canal Zone, Panama. Synonymized by Loomis, 1961.

*Diaporus barroensis* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 39. FEMALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama. Synonymized by Loomis, 1961.

Range: Loomis (1961) cites several localities in the Canal Zone, also Boquete, Juan Das, and Taboga Island, Panama.

**Orthoporus flavior** Chamberlin & Mulaik

*Orthoporus flavior* Chamberlin & Mulaik, 1941, Journ. New York Entom. Soc., 49: 63. Imm.MALE HT (USNM) from four miles east of Dryden, Terrell Co., Texas. \_ Loomis, 1963, Journ. Kansas Entom. Soc., 36: 123, figs. 8-10. \_ Causey, 1975, Occ. Pap. Mus. Texas Tech Univ., 35: 7, figs. 3a, b.

*Orthoporus pontis* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 53, fig. 66. F HT (ANSP) from High Bridge, Pecos River, Val Verde Co., Texas. Synonymized with *punctilliger* (= *ornatus*) by Loomis, 1963; with *flavior* by Causey, 1975.

Range: Trans-Pecos Texas (Terrell, Crockett, and Val Verde cos.) south to vicinity of Monterey, Nuevo Leon, Mexico (map, Causey, 1975, fig. 1)..

**Orthoporus fraternus** (DeSaussure)

*Julus fraternus* DeSaussure, 1860, M m. Soc. Phys. Hist. nat. Gen ve, 15: 374, pl. 6, fig. 40. FEMALE HT (MHNG) from Yautepec, Morelos, Mexico.

*Orthoporus fraternus*: Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 101.

*Orthoporus amulensis* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 98, pl. VIII, fig. 5. MALE HT (BMNH) from Amula, Guerrero, Mexico. Synonymized by Causey, 1964.

*Orthoporus morelus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 16, figs. 16, 17. FEMALE HT (USNM) from Tepoztlan, Morelos, Mexico. Synonymized by Causey, 1964.

Range: South-central Mexico: Morelos, Oaxaca, Veracruz, Puebla.

**Orthoporus gracilior** Chamberlin

*Orthoporus gracilior* Chamberlin, 1952, Great Basin Natur., 12: 25, fig. 13. MALE HT (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

**Orthoporus guerreronus** (Chamberlin)

*Gymnostreptus guerreronus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 8, figs. 1, 2. MALE HT (?USNM) from Cueva de Jutxlahuaca at Colotlipa, Guerrero, Mexico.

*Orthoporus guerreronus*: Chamberlin, 1943, Bull. Univ. Utah, 34(7): 13.

Chamberlin (1942: 3) stated that the types of species described in that paper were returned to the Escuela Nacional de Ciencias Naturales, Mexico City, but he often forgot such commitments and the actual deposition requires confirmation, starting at USNM.

**Orthoporus haitiensis** Chamberlin

*Orthoporus haitiensis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 183. MALE HT (MCZ) from St. Marc, Haiti. \_ Loomis, 1936, Bull. Mus. Comp. Zool., 80: 36, fig. 15.



Range: Known from three adjacent sites in Haiti.

**Orthoporus hoctunicolens** Chamberlin

*Orthoporus hoctunicolens* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 170, fig. 18. FEMALE HT (USNM) from Hoctun Cave, Hoctun, Yucatan, Mexico.

**Orthoporus kiemi** Loomis

*Orthoporus kiemi* Loomis, 1962, Proc. Biol. Soc. Washington, 75:48, figs. 1-3. MALE HT (USNM) from cave on Hacienda San Bernardo, five miles from San Bernardo on the railroad between Merida and Maxcanu, Yucatan, Mexico.

**Orthoporus leius** Chamberlin

*Orthoporus leius* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 14, fig. 7. FEMALE HT (USNM) from Esperanza, Guanajuato, Mexico.

**Orthoporus leonicus** Chamberlin

*Orthoporus leonicus* Chamberlin, 1941, Ent. News, 52: 252., fig. 8. FEMALE HT (USNM) from Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, Mexico.

Range: Reported also from Garcia, Nuevo Leon., and Xilitla, San Luis Potos .

Considered by Loomis (1963) to be probably a synonym of *O. ornatus*.

**Orthoporus luchilicolens** Chamberlin

*Orthoporus luchilicolens* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 169, figs. 14, 15. FEMALE HT (USNM) from Luchil Cave at Tixcacal, Yucatan.

**Orthoporus margarites** Chamberlin

*Orthoporus margarites* Chamberlin, 1946, Pan-Pacific Entom., 22: 146. HT (USNM) from Isla San Jos , Archipiélago de las Perlas, Prov. Panama, Panama.

**Orthoporus mimus** Chamberlin

*Orthoporus mimus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 15, figs. 13, 14. MALE HT (USNM) from 19 miles north of El Limón, Tamaulipas, Mexico.

*Orthoporus linares* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 15, figs. 8, 9. MALE HT (USNM) from Linares, Nuevo Leon, Mexico. Synonymized by Causey, 1975.

*Orthoporus lenonus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 14, figs. 11, 12. MALE HT (USNM) from Two miles north of Lenon, Tamaulipas, Mexico. Synonymized by Causey, 1975.

Range: A small area in southern Tamaulipas, eastern San Luis Potos , eastern Nuevo Leon (map, Causey, 1975, fig. 1).

Loomis (1966) considered *mimus*, *linares*, and *lenonus* to be synonyms of *O. ornatus*.

**Orthoporus montezumae** (DeSaussure)

*Julus montezumae* DeSaussure, 1859, Linnaea Entom., 13: 329; 1860, M m. Soc. Phys. Hist. nat. Gen ve, 15: 374, pl. VI, fig. 39. ST (MHNG) from Orizaba, Veracruz, Mexico.

*Orthoporus montezumae*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 99.

Examination of male type material in the Geneva museum will surely result in another consolidation of more recently published names based on spirostreptids from Veracruz and or Puebla.

**Orthoporus mundus** Chamberlin

*Orthoporus mundus* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 60. FEMALE HT (USNM) from Apatzingan, La Majada, Michoacan, Mexico.

**Orthoporus nesiotetes** Chamberlin

*Orthoporus nesiotetes* Chamberlin, 1923, Proc. California Acad. Sci., 12: 405, fig. 39,40. MALE HT (CAS) from Tiburon Island, Sonora, Mexico.

This name has quite reasonably suspected by both Loomis (1963) and Causey (1975) to be a junior synonym of *O. ornatus*.

**Orthoporus nodosus** Loomis

*Orthoporus nodosus* Loomis, 1974, Florida Entom., 57: 185, fig. 28. MALE HT (FSCA) from Finca Las Cruces at San Vito, Prov. Puntarenas, Costa Rica.

**Orthoporus omalopyge** (Brolemann)

*Spirostreptus (Scaphiostreptus) omalopyge* Brolemann, 1905, Ann. Soc. ent. France, '74: 365, fig. 19. ST (MHNP) from three localities in Costa Rica; La Palma was specified by Loomis (1968) but this should be validated by designation of a lectotype from that place, identified for me by Prof. Monge-Najera as just south of Cariblanco on Hy. 9, Prov. Alajuela.

Range: Recorded from La Palma (84.10 W, 10.10 N), Carillo, Cache (?Cachi), and El Gallito, Costa Rica.

**Orthoporus ornatus** (Girard)

*Julus ornatus* Girard, 1853, in Marcy, Exploration of the Red River of Louisiana in 1852, Appendix F, p. 274. Type material not known to exist, from Prairiedog Town River ; type locality restricted by Causey (1954) to Palo Duro State Park, Randall Co., Texas. MALE neotype (USNM).

*Spirostreptus montezumae* (nec DeSaussure) Bollman, 1888, Proc. U. S. Nat. Mus., 11: 343.

*Spiroبولus miles* Chamberlin, 1918, Pomona College Journ. Ent. Zool., 10: 11. FEMALE HT (MCZ) from Fort Grant, Graham Co., Arizona (the published locality Ft. Boutelle was a *lapsus calami*, repeating the name of the collector). **New Synonymy!**

*Orthoporus punctilliger* Chamberlin, 1923, Proc. California Acad. Sci., 12: 405, fig. 41. MALE

HT (CAS), from San Pedro Bay, Sonora, Mexico. Synonymized by Causey, 1964.

*Orthoporus wichitanus* Chamberlin, 1931, Ent. News, 42: 99, pl. 2, fig. 2. MALE HT (USNM) from Elk Mountain, Wichita Reserve, Comanche Co., Oklahoma. Synonymized by Causey, 1964.

*Orthoporus entomacis* Chamberlin & Mulaik, 1941, Journ. New York Entom. Soc., 49: 63. FEMALE HT (USNM) from Duncan, Greenlee Co., Arizona. **New Synonymy!**

*Orthoporus vallicolens* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 149, fig. 15. FEMALE HT (USNM) from Fort Hancock, Hudspeth Co., Texas. Synonymized by Causey, 1964.

*Orthoporus torreonus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 14, fig. 18. FEMALE HT (USNM) from 20 miles southwest of Torreon, Coahuila, Mexico. Synonymized by Loomis, 1966.

*Orthoporus producens* Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 11, fig. 8. FEMALE HT (USNM) from Benson, Cochise Co., Arizona. Synonymized by Loomis, 1963.

*Scaphiostreptus caperanus* Attems, 1950, Ann. Naturh. Mus. Wien, 57: 241. MALE HT (NMW) supposedly from Honolulu. Synonymized by Hoffman, 1997.

*Orthoporus crotonus* Chamberlin, 1952, Great Basin Natur., 12: 24. FEMALE HT (FMNH) from Croton Springs, Brewster Co., Texas. Synonymized by Loomis, 1963.

*Orthoporus arizonicus* Loomis, 1953, Journ. Washington Acad. Sci., 43: 418, figs. 4, 5. FEMALE HT (USNM) from Patagonia, Santa Cruz Co., Arizona. Synonymized by Causey, 1964.

*Orthoporus ornatus*: Causey, 1954, Tulane Stud. Zool., 2: 67, fig. 10; 1975, Occ. Pap. Mus. Texas Tech Univ., 35: 6, figs. 2a-b.

Range: Arizona, New Mexico, western half of Texas, south and east through Mexico to northern San Luis Potos (map, Causey, 1975, fig. 1).

### **Orthoporus palmensis** (Brolemann)

*Spirostreptus (Scaphiostreptus) typopopyge palmensis* Brolemann, 1905, Ann. Soc. entom. France, 74: 363, text fig. VI, pl. 9, fig. 18. MALE HT (MHNP) from La Palma, Prov. Guanacaste, Costa Rica.

*Orthoporus palmensis*: Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 96.

### **Orthoporus paxillicauda** Loomis

*Orthoporus paxillicauda* Loomis, 1962, Proc. Biol. Soc. Washington, 75: 50, figs. 4-6. FEMALE HT (USNM) from Zapotilla, Dept. Izabal, Guatemala.

### **Orthoporus reimoseri** (Attems), new status!

*Scaphiostreptus rugiceps reimoseri* Attems, 1950, Ann. Naturh. Mus. Wien, 57: 241, figs. 74, 75. MALE HT (NMW) from Bebedero, 10 km southwest of Ca as, Prov. Guanacaste,

Costa Rica.

**Orthoporus rodriguezi** (Brolemann)

*Spirostreptus rodriguezi* Brolemann, 1900, M m. Soc. zool. France, 13: 104, figs. 47, 58. MALE HT (MHNP) from Guatemala, without further locality.

*Orthoporus rodriguezi*: Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 103.

**Orthoporus rugiceps** (Attems)

*Scaphiostreptus rugiceps* Attems, 1950, Ann. Naturh. Mus. Wien, 57: 240, figs. 72, 73. MALE HT (NMW) from Mexico without further locality.

**Orthoporus salvadoricus** (Kraus)

*Scaphiostreptus (Scaphiostreptus) salvadoricus*: Kraus, 1954, Senckenb. biol. 35: 337, figs. 83. MALE HT (SMF) from La R bida, Dept. San Salvador, El Salvador.

*Orthoporus salvadoricus*: Loomis, 1968, Bull. U. S. Nat. Mus., 226: 103.

Range: Recorded by Kraus (1954) from five departments in El Salvador.

**Orthoporus sanctus** Chamberlin

*Orthoporus sanctus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 55, fig. 68. FEMALE HT (ANSP), labeled St. Augustine, Florida.

The ostensible type locality is of course totally implausible, unless the specimen was found there in bananas or other plant material from the tropics. In the absence of male specimens, even the generic assignment is open to question.

**Orthoporus sculpturatus** (Karsch)

*Spirostreptus (Nodopyge) sculpturatus* Karsch, 1881, Zeitschr. ges. Naturwiss., 54: 39. ST (ZMB) from Porto Rico without further locality.

*Spirostreptus (Nodopyge) sculpturatus* var. *albulus* Karsch, 1881, Zeitschr. ges. Naturwiss. 54: 40. MALE HT (ZMB) from Porto Rico .

*Spirostreptus sculpturatus*: Pocock, 1894, Journ. Linnean Soc. London, 24: 482.

*Orthoporus sculpturatus* Silvestri, 1908, Bull. American Mus. Nat. Hist., 24: 573, figs. VIII, 1-5.

Attention is here directed to the striking similarity in gonopod structure between *sculpturatus* as drawn by Silvestri (1908: fig. VIII) and the Central American *O. rugifer* Attems (1950: fig. 73). I do not imply synonymy of these names, but suggest that a comparison of specimens might prove to be instructive.

**Orthoporus solicolens** Chamberlin

*Orthoporus solicolens* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 170, figs. 16, 17. FEMALE HT (USNM) from Hoctun Cave, Yucatan, Mexico.

**Orthoporus striatulus** Pocock

*Orthoporus striatulus* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 99, pl. VIII, fig. 1. MALE HT (BMNH) from Tuxtla, Mexico, correctly identified as Tuxtla Gutierrez, Chiapas by Causey, 1964.

*Orthoporus chiapasus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 12, fig. 4. FEMALE HT (USNM) from Huixtla, Chiapas, Mexico. Synonymy implied by Causey, 1964, endorsed here.

Range: Numerous localities in Chiapas and Oaxaca (Causey, 1964).

**Orthoporus teapensis** Pocock

*Orthoporus teapensis* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 97, pl. VIII, fig. 4. MALE HT (BMNH) from Teapa, Tabasco, Mexico.

Range: Causey (1964) gives numerous localities in Oaxaca and Chiapas

**Orthoporus tehuacanus** Chamberlin

*Orthoporus tehuacanus* Chamberlin, 1952, Great Basin Natur., 12: 26. FEMALE HT (FMNH) from Tehuacan, Puebla, Mexico.

**Orthoporus texicolens** Chamberlin

*Orthoporus texicolens* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 207. MALE HT (USNM) from Edinburg, Hidalgo Co., Texas. \_ Causey, 1975, Occ. Pap. Mus. Texas Tech Univ., 35: 8, figs. 4, 5.

*Orthoporus victorianus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 18, figs. 20-23. MALE HT (USNM) from three miles south of Victoria, Tamaulipas, Mexico. Synonymized by Causey, 1964.

Range: Gulf Coastal Plain, from Bexar and San Patricio counties, Texas, to vicinity of El Mante, Tamaulipas (map, Causey, 1975, fig. 1).

**Orthoporus tizamensis** Chamberlin

*Orthoporus tizamensis* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 168, figs. 11-13. FEMALE HT (USNM) from Muruztum Cave at Tizamin, Yucatan, Mexico.

**Orthoporus torreonus** Chamberlin

*Orthoporus torreonus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 16, fig. 18. FEMALE HT (USNM) from 20 miles southwest of Torreon, Coahuila, Mexico.

Range: Several localities west and southwest of Torreon.

**Orthoporus triquetrus** Loomis

*Orthoporus triquetrus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 37. FEMALE HT (MCZ) from San Lorenzo, Samana Bay, Republica Dominicana.

Is this name possibly based upon an established population of some South American

spirostreptid?

**Orthoporus trisulcatus** (Daday)

*Spirostreptus trisulcatus* Daday, 1889, Term szetr. F z., 12: 127. FEMALE HT (HNHM) from Panama, without further locality.

One of the very few Mesamerican species omitted from the *Biologia Centrali-Americana*..

**Orthoporus vialis** Loomis

*Orthoporus vialis* Loomis, 1974, Florida Entom., 57: 185, fig. 29. MALE HT (FSCA) from along Inter-American Highway, on south slope of Cerro de la Muerte at 5000 ft., Prov. San Jos , Costa Rica.

**Orthoporus zizicolens** (Chamberlin)

*Gymnostreptus zizicolens* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 451: 168, fgis. 6-10. MALE HT (USNM) from Ziz Cave at Oxkutzcab, Yucatan, Mexico.

### SPIROSTREPTIDAE OF UNCERTAIN STATUS

**Inlus** [*sic* = **Iulus**] **multiannulatus** McNeill, 1887, Proc. U. S. Nat. Mus., 10: 331. Type specimen, of unknown sex, not known to exist, published type locality extremely dubious.

The brief original description clearly portrays a large spirostreptoid, but provides very little detail upon which to hazard a guess about its identity. McNeill stated that The specimen which furnished this description was found by the children of Mr. Justus M. T. Myers, near Fort Madison, Iowa. That no other spirostreptids have ever been found north of Oklahoma essentially rules out *Orthoporus ornatus* - the nearest known native species - as does the coloration. Assuming the quoted sentence to be accurate, one can only surmise that the milliped must have come to southeastern Iowa adventitiously, perhaps through some agricultural product or ornamental plants. Lacking the type specimen, the identity of this name can probably never be ascertained.

## Order Julida

The classification of this large and diverse taxon has undergone extensive revision during the past two decades, particularly through the initiative of Henrik Enghoff, whose many innovations have been accepted mostly *in toto* in the following pages as state of the art knowledge . This does not imply complete personal agreement, since many of the higher categories which Dr. Enghoff has defined are based on characters having what I would regard as minor systematic importance. Nonetheless, the groups are cladistically monophyletic, and the question about their relative ranking can be settled some day by a consensus. In the following account, superfamilies are understood to be *sensu* Enghoff, 1991 except for Paeromopodoidea, later expanded by the addition of the Aprosphylosomatidae.

As I pointed out in 1980, the traditional distinction between the groups lately considered as orders Julida and Spirostreptida has become increasingly blurred, and the gnathochilarial configuration of julids should probably be assigned a more subordinate role in view of the near

structural identity in the gonopods of nemasomatid julids and cambalid spirostreptids, generalized members of their respective taxa.

One logical option might be to combine both groups at the level of suborders under a comprehensive Julida, in effect a return to the system proposed by Cook in 1895. Since the concepts *Oncophora* and *Arthrophora* of Verhoeff have been abandoned, as subordinal taxa, in favor of a number of superfamilies, the suborder category is currently vacant anyhow.

## Superfamily Nemasomatoidea

### Family Nemasomatidae Bollman

Nemasominae Bollman, 1893, Bull. U. S. Nat. Mus. 46: 156.

Isobatidae Cook, 1895, Ann. New York Acad. Sci., 9: 6.

Nemasomatini Hoffman, 1980, Classification of the Diplopoda, p. 106 (in part).

Nemasomatidae Enghoff, 1985, Entom. Scandinavica, 16: 29 (revision); 1991, Zeitschr. Zool. Syst. Evolut. Forsch., 29: 260 (relationships).

Seven genera, Palearctic and Nearctic regions.

### Genus *Orinisobates* Lohmander

*Orinisobates* Lohmander, 1932, Ark. Zool., 25 A (6): 59 (as subgenus of *Isobates*). Type species: *Isobates (Orinisobates) kasakstanus* Lohmander, by monotypy. \_ Hoffman, 1966, Radford Review, 20: 166. \_ Enghoff, 1985, Entom. Scandinavica, 29: 43 (revision).

*Heterisobates* Verhoeff, 1933, Ark. Zool., 26A (10): 37. Type species: *H. gracilis* Verhoeff, by monotypy. Synonymized by Verhoeff, 1937.

*Tiviulus* Chamberlin, 1941, Bull. Univ. Utah, 31 (11): 17. Type species: *T. expressus* Chamberlin, by original designation. Synonymized by Hoffman, 1966.

*Mimolene* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 3. Type species: *M. oregona* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

*Utoiulus* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 145. Type species: *Nemasoma uta* Chamberlin, 1912. Synonymized by Hoffman, 1966.

Eight species: Nearctic region (three species) and eastern Palearctic (five).

#### ***Orinisobates expressus*** (Chamberlin)

*Tiviulus expressus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 17, figs. 27, 28. MALE HT (USNM) from Arlington, Snohomish Co., Washington. \_ Hoffman, 1964, Trans. American Entom. Soc., 89: 177, figs. 1, 2, 5, 6, 9, 10, 11, 14, 20.

*Mimolene oregona* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 3, fig. 1. MALE HT (USNM)

from Washington County, Oregon, without closer locality. Placed in *Orinisobates* by Hoffman, 1980, synonymized with *expressus* by Enghoff, 1985.

*Nemasoma leechi* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 10, fig. 20. MALE HT (Prov. Mus. Victoria) from Trinity Valley, ca. four miles north of Lumby, British Columbia. Synonymized by Hoffman, 1964.

*Mimolene sectile* Loomis & Schmitt, 1971, Northwest Sci., 45: 119, figs. 7, 8. MALE HT (USNM) from north side Middle Thompson Lake, Lincoln Co., Montana. Synonymized by Enghoff, 1985.

*Orinisobates expressus*: Hoffman, 1966, Radford Review, 20: 178. \_ Enghoff, 1985, Entom. Scandinavica, 16: 60, figs. 67, 76-79.

Range: Northern California to British Columbia, northern Idaho and Montana, westernmost Alberta (map, Enghoff, 1985, fig. 67).

***Orinisobates nigrrior*** (Chamberlin)

*Nemasoma nigrrius* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 9, fig. 22. MALE HT apparently lost (not at FMNH), MALE topoparatype (USNM), from Gatlinburg, Sevier Co., Tennessee.

*Orinisobates nigrrius* [sic!]: Hoffman, 1966, Radford Review, 20: 178, figs. 3, 4.

*Orinisobates nigrrior*: Enghoff, 1985, Entom. Scandinavica, 16: 56, figs. 1, 34, 37-42, 64-67.

Range: Southern Appalachians, also western Florida and southern Illinois (map, Enghoff, 1985, fig. 67).

***Orinisobates utus*** (Chamberlin)

*Nemasoma uta* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 162. Original types lost, from Mill Creek Canyon, Salt Lake Co., Utah.

*Tiviulus utus*: Hoffman, 1964, Trans. American Entom. Soc., 89: 177, figs. 3, 8, 13, 20.

*Orinisobates utus*: Hoffman, 1966, Radford Review, 20: 178. \_ Enghoff, 1985, Entom. Scandinavica, 16: 57, figs. 67-75.

Range: Idaho and adjoining parts of Utah, Wyoming, and Washington (map, Enghoff, 1985, fig. 67).

**Genus *Thalassisobates* Verhoeff**

*Thalassisobates* (as subgenus of *Isobates*) Verhoeff, 1908, Zool. Anz., 32: 488. Type species: *Isobates (Thalassisobates) adriaticus* Verhoeff, by subsequent designation of Jeekel, 1971).

*Halisobates* Verhoeff, 1913, Zool. Anz., 43: 151. Type species: *Isobates adriaticus* Verhoeff, 1908, by monotypy.

*Thalassisobates* Verhoeff, 1911, Zool. Anz., 38: 540. \_ Enghoff, 1985, Entom. Scandinavica,



16: 37.

One species: Western Europe, along the seacoasts; also east coast of North America (?introduced).

**Thalassisobates littoralis** (Silvestri)

*Isobates littoralis* Silvestri, 1903, in: Berlese, Acari, Myriapoda et Scorpiones. . .in Italia reperta, fasc. XCIX, 9, figs. 1-10. Location of type material unknown, from Portici, Campania, Italia.

*Thalassisobates littoralis*: Enghoff, 1985, Entom. Scandinavica, 16: 37, figs. 19, 23; 1987, Entom. Month. Mag.123: 205-06.

Range: Coastal parts of western Europe, from England and Sweden to north Africa and Yugoslavia; also recorded from Massachusetts and Virginia (Enghoff, 1987).

The material labeled Massachusetts in the Verhoeff Collection (ZSBS) probably originated with Charles H. Blake (Cambridge, Massachusetts), who sent material of isopods and diplopods to Verhoeff in the early 1930s. Enghoff's 1987 record was based on specimens taken at Chincoteague Island, Accomack Co., Virginia. At present it is conjectural whether *littoralis* occurs in North America as an endemic or an anthropochoric species.

## Family Telsonemasomatidae Enghoff

Telsonemasomatidae Enghoff, 1991, Zeitschr. Zool. Syst. Evolut.-forsch. 29: 259.

One genus, northwestern United States.

### Genus **Telsonemasoma** Enghoff

*Telsonemasoma* Enghoff, 1979, Steenstrupia, 5: 149. Type species: *T. microps* Enghoff, by original designation.

One species: Oregon.

**Telsonemasoma microps** Enghoff

*Telsonemasoma microps* Enghoff, 1979, Steenstrupia, 5: 149, figs. 1-13. MALE HT (ZMUC) from Missouri Bend Recreation Area, Benton Co., Oregon.

Range: Known only from two localities in Benton Co., Oregon.

## Family Chelojulidae Enghoff

Chelojulidae Enghoff, 1991, Zeitschr. Zool. Syst. Evolut. Forsch. 29: 259.

One genus, northwestern United States.

### Genus **Chelojulus** Enghoff

*Chelojulus* Enghoff, 1982, Myriapodologica, 1: 70. Type species: *C. sculpturatus* Enghoff, by original designation.

One species, Idaho.

#### **Chelojulus sculpturatus** Enghoff

*Chelojulus sculpturatus* Enghoff, 1982, Myriapodologica, 1: 70, figs. 1-17. MALE HT (FSCA) from French Mountain road, five miles north of Pierce, Clearwater Co., Idaho.

Range: Clearwater, Latah, and Idaho counties, Idaho.

## Superfamily Blaniuloidea C. L. Koch

Blaniuloidea + Zosteractoidea Mauries, 1970,

### Family Zosteractinidae Loomis

Zosteractiidae Loomis, 1943, Bull. Mus. Comp. Zool., 92: 393.

Zosteractininae +Ameractini Hoffman, 1980, Classification of the Diplopoda, p.107.

Zosteractinidae Enghoff, 1982, Entom. Scandinavica, 13: 405 (revision).

Two genera, eastern North America.

### Genus **Ameractis** Causey

*Ameractis* Causey, 1959, Journ. Tennessee Acad. Sci., 34: 232. Type species: *Ameractis satis* Causey, by original designation. \_ Enghoff, 1982, Entom. Scandinavica, 13: 407.

Two species: eastern United States.

#### **Ameractis chirogona** Enghoff

*Ameractis chirogona* Enghoff, 1982, Entom. Scandinavica, 13: 407, figs. 3, 9, 12, 13, 19, 22-24. MALE HT (MCZ) from 4.6 miles south of Gatlinburg, Sevier Co., Tennessee.

#### **Ameractis satis** Causey

*Ameractis satis* Causey, 1959, Journ. Tennessee Acad. Sci., 34: 232, figs. 3-5. MALE HT (AMNH) from Indian Cave, White Co., Tennessee. \_ Hoffman, 1964, Trans. American Entom. Soc., 89: 181, figs. 15-19. \_ Enghoff, 1982, Entom. Scandinavica, 12: 412, figs. 2, 4-8, 13, 20-22, 25, 26.

Range: Caves in the Cumberland Plateau, Tennessee and Alabama, also southern Appalachians in western North Carolina (map, Enghoff, 1982, fig. 13) and southwestern

Virginia..

### Genus **Zosteractis** Loomis

*Zosteractis* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 395. Type species: *Z. interminata* Loomis, by original designation. \_ Enghoff, 1982, Entom. Scandinavica, 12: 405.

One species, central United States.

#### **Zosteractis interminata** Loomis

*Zosteractis interminata* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 395, figs. 11a-i. MALE HT (MCZ) from South Rankin Cave, four miles east of Eureka, St. Louis Co., Missouri. \_ Enghoff, 1982, Entom. Scandinavica, 12: 405, figs. 1, 10, 11, 13-18.

Range: Caves along the Mississippi River in eastern Missouri and western Illinois (map, Enghoff, 1982, fig. 13).

## Family Okeanobatidae Verhoeff

Okeanobatinae Verhoeff, 1942, Zool. Anz., 137: 208.

Okeanobatini Hoffman, 1980, Classification of the Diplopoda, p. 107.

Okeanobatidae Enghoff, 1985, Entom. Scandinavica, 16: 64.

Two (?one) genera, eastern United States, Japan.

### Genus **Okeanobates** Verhoeff

*Okeanobates* Verhoeff, 1939, Zool. Anz., 127: 280. Type species: *O. serratus* Verhoeff, by monotypy. \_ Enghoff, 1979, Steenstrupia, 5: 162.

Two species: Japan; eastern United States.

#### **Okeanobates americanus** Enghoff

*Okeanobates americanus* Enghoff, 1979, Steenstrupia, 5: 162, figs. 1-9. FEMALE HT (USNM) from U.S. Hy. 25-70, nine miles north of Hot Springs, Madison Co., North Carolina.

Range: Appalachian region from Quebec to Great Smoky Mountains, North Carolina-Tennessee.

## Family Blaniulidae C. L. Koch

Blaniuliden C. L. Koch, 1847, Syst. der Myriapoden, in Krit. Rev. Insectenf. Deutschlands,

Blaniulidae Cook, 1895, Ann. New York Acad. Sci., 9: 5 \_ Brolemann, 1923, Arch. Zool. exp. gen. 61: 99. \_ Mauries, 1970, Ann. Sp l ol., 25: 716. \_ Enghoff, 1991, Zeitschr. zool. Syst.

Evol.-forsch. 29: 259.

Four subfamilies and twenty genera, dominantly Palearctic, some genera represented anthropo-choristically in the New World, one genus presumed endemic in southeastern North America.

### Subfamily Blaniulinae C. L. Koch

Mauries, 1970, Ann. Sp. 101., 25: 716. \_ Enghoff, 1984, Senckenb. biol. 64: 396.

Twelve genera, two of which are represented in the New World by an introduced species.

#### Genus **Archiboreoiulus** Brolemann

*Archiboreoiulus* Brolemann, 1921, Arch. Zool. exp. r. g. n., 60, Notes & Revue, 1: 9. Type species: *A. sollaudi* Brolemann, by original designation.

Two species, endemic to the western Palearctic region, one of them introduced into North America.

#### **Archiboreoiulus pallidus** (Brade-Birks)

*Proteroiulus pallidus* Brade-Birks, 1920, Ann. & Mag. Nat. Hist. (9) 6: 364, fig. 1. Type material (?BMNH) from Wye, Kent, Great Britain.

*Archiboreoiulus pallidus*: Brolemann, 1923, Arch. Zool. exp. r. g. n. 61: 328. \_ Shelley, 1988, Canadian Journ. Zool., 66: 1645.

Range: Western Europe, southern Russia. Introduced into North America (e.g., Ontario, Canada, North Dakota, USA).

#### Genus **Blaniulus** Gervais

*Blaniulus* Gervais, 1836, L. Institut, (1) 4: 435. Type species: *Julus guttulatus* Fabricius, by monotypy.

*Typhloblaniulus* Verhoeff, 1897, Verh. Naturh. Ver. Preuss. Rheinland, 53: 211. Type species: *Julus guttulatus* Bosc (= Fabricius), by subsequent monotypy (Verhoeff, 1898).

*Plusioiulus* (as subgenus of *Blaniulus*) Silvestri, 1903, in Berlese: Acari, Myriapoda et Scorpiones hucusque in Italia reperta, 99, 5. Type species: *B. (P.): eulophus* Silvestri, by original designation.

Ten species, endemic to the western Palearctic, one nearly cosmopolitan as anthropochore.

#### **Blaniulus guttulatus** (Fabricius)

*Julus guttulatus* Fabricius, 1798, Supplementum Entomologiae Systematicae, p. 289. Type material not known to exist, type locality France.

*Blaniulus guttulatus*: Gervais, 1836, L. Institut, (1): 4: 435. \_ Brolemann, 1923, Arch. Zool.

Exp r. G n. 61: 300, figs. 284-309.

Range: Western Europe. Introduced with plant material into many parts of the world, including urbanized and cultivated areas in North America where established and nearly ubiquitous.

### Genus **Proteroiulus** Silvestri

*Proteroiulus* Silvestri, 1897, Ann. Mus. Civ. Stor. Nat. Genova, 38: 650. Type species: *Blaniulus fuscus* Am Stein, 1857). \_ Brolemann, 1923, Arch. Zool. G n. Exp r., 61: 340.

Three species in western Europe, one of them introduced into North America.

#### **Proteroiulus fuscus** (Am Stein)

*Blaniulus fuscus* Am Stein, 1857, Jahresb. Naturf. Ges. Graub ndens, n.s. 2: 139.

*Proteroiulus fuscus*: Silvestri, 1897, Ann. Mus. Civ. Stor. Nat. Genova, 38: 650. \_ Jawlowski, 1939, Frag. Faun. Zool. Mus. Polonici, 4: 152. \_ Palm n, 1952, Ann. Soc. Zool. Vanamo, 15(1): 17, fig. 21.

Range: Widespread in western Europe, known in North America from Newfoundland, Nova Scotia, and many urban localities in eastern United States.

### Subfamily Choneiulinae Brolemann

Choneiulini Brolemann, 1921, Arch. Zool. Exp r. G n., 60 (Notes & Revue): 4.

Choneiulinae Mauri s, 1970, Ann. Sp l ol., 25: 717. \_ Enghoff, 1984, Senckenberg. biol., 64: 395.

Four genera, western Europe, one represented by an anthropochoric species in North America.

### Genus **Choneiulus** Brolemann

*Choneiulus* Brolemann, 1921, Arch. Zool. Exp r. G n. 60 (Notes & Revue): 4. Type species: *Blaniulus palmatus* N mec, 1895, by subsequent designation of Brolemann, 1923. \_ Enghoff, 1984, Steenstrupia, 10: 194 (revision).

Four species: Western Europe, Tunisia, Canary Islands; one introduced by commerce into North America.

#### **Choneiulus palmatus** (N mec)

*Blaniulus palmatus* N mec, 1895, Sitzungsber. K. B hm. Ges. Wien, 1895 (38): 5, figs. 7-11. Location of type material unknown, from Czechoslovakia ( B hmien ).

*Choneiulus palmatus*: Brolemann, 1921, Arch. Zool. Exp r. G n. 60 (Notes & Revue): 4. \_ Enghoff, 1984, Steenstrupia, 10: 198, figs. 1-3, 15, 17-18.

Range: Western Europe (extensively synanthropic and original area uncertain); introduced and established in North America from Nova Scotia to Washington and California, unknown south of Pennsylvania.

### Subfamily Nopoiulinae Verhoeff

Nopoiulini Verhoeff, 1911, Zool. Anz., 38: 538.

Bilselibatinae Verhoeff, 1940, Rev. Fac. Sci. Univ. Istanbul, [B] 5: 2.

Nopoiulinae Mauri s, 1970, Ann. Sp 1 ol. 25: 711. \_ Enghoff, 1984, Senckenb. biol., 64: 396 (revision).

Four genera, two in eastern Europe and northwestern Asia (one with a widely dispersed synanthropic species); one in eastern North America.

### Genus **Nopoiulus** Menge

*Nopoiulus* Menge, 1851, Neueste Schrift. Naturf. Ges. Danzig, (4) 4: 7. Type species: *N. punctulatus* Menge, 1851, by monotypy. \_ Enghoff & Shelley, 1979, Entom. Scandinavica 10: 65 (revision).

11 species, dispersed among three subgenera, Europe, southwestern Asia. One species of the nominate subgenus synanthropically introduced elsewhere, including North America.

#### **Nopoiulus (Nopoiulus) kochii** (Gervais)

*Julus pulchellus* C. L. Koch, 1838, Crustaceen, Myriapoden, und Arachniden Deutschlands, 22: pl. 13. Type material not known to exist, probably from Regensburg, Bayern, Germany. Preoccupied by *Julus pulchellus* Leach, 1815.

*Blaniulus venustus* Meinert, 1868, Naturhst. Tidsskr. (3) 5: 20. ST (ZMUC) from sixl localities in Denmark (Enghoff & Shelley, 1979, designated a FEMALE lectotype but did not mention its locality).

*Julus Kochii* Gervais, 1847, in: Walckenaer & Gervais, Hist. Nat. Insectes Apt., 4: 145.

*Nopoiulus (Nopoiulus) kochii*: Enghoff, 1984, Senckenb. biol., 64: 408, figs. 2-23.

Range: Europe, Asia Minor; northeastern North America (Nova Scotia south to Virginia); Washington state; Peru; Chile; Juan Fernandez Islands; New Zealand.

### Genus **Virgoiulus** Enghoff

*Virgoiulus* Enghoff, 1984, Senckenb. biol. 64: 399. Type species: *Julus minutus* Brandt, 1841, by original designation.

One species, eastern North America.

#### **Virgoiulus minutus**°(Brandt)

*Julus pusillus* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 105 (preoccupied by *Julus pusillus* Leach, 1815). FEMALE HT (BMNH) from eastern shore of Virginia

*Julus minutus* Brandt, 1841, Bull. Sci. Acad. Imp. St. Petersburg, 8: 104 (new name for *J. minutus* Say, 1821).

*Julus Sayi* Newport, 1844, Ann. Mag. Nat. Hist., 13: 268 (new name for *Julus pusillus* Say, 1821). Objective junior synonym of *Julus minutus* Brandt.

*Julus lineatus* McNeill, 1887, Proc. U. S. Nat. Mus., 10: 324. Type material apparently lost, from Pensacola, Escambia Co., Florida. Synonymized by Bollman, 1893.

*Nopoiulus minutus*: Chamberlin, 1922, Proc. Biol. Soc. Washington, 35: 9. \_ Enghoff & Shelley, 1979, Entom. Scandinavica, 10: 66, figs. 2, 5-12

*Virgoiulus minutus*: Enghoff, 1984, Senckenb. biol., 64: 399, figs. 1, 2.

Range: Eastern United States, from Pennsylvania and Missouri south to Florida and Louisiana.

## Superfamily Paeromopodoidea Cook

Paeromopodoidea Mauries, 1970, Ann. Sp 1 ol., 25: 117.

### Family Aprosphylosomatidae Hoffman

Aprosphylosomatinae Hoffman, 1961, Proc. Entom. Soc. Washington, 63: 58 (as subfamily in the Nemasomatidae).

Aprosphylosomatidae Shelley, 1994, Entom. Scandinavica, 25: 181.

### Genus *Aprosphylosoma* Hoffman

*Aprosphylosoma* Hoffman, 1961, Proc. Entom. Soc. Washington, 63: 59. Type species: *A. darceneae* Hoffman, by original designation. \_ Enghoff, 1981, Zeitschr. Zool. Syst. Evol. Forsch., 19: 314.

One species: Oregon.

#### ***Aprosphylosoma darceneae* Hoffman**

*Aprosphylosoma darceneae* Hoffman, 1961, Proc. Entom. Soc. Washington, 63:60, figs. 1-9. MALE HT (USNM) from Oregon Caves National Monument, Josephine Co., Oregon.

## Family Paeromopodidae Cook

Paeromopidae Cook, 1895, Ann. New York Acad. Sci., 9: 6.

Paeromopodidae Cook, 1896, Brandtia, 2: 6. \_ Jeekel, 1971, Monogr. Nederlandse Entom. Ver.,

5: 171. \_ Shelley, 1994, Entom. Scandinavica, 25: 181 (revision).  
 Californiulidae Verhoeff, 1938, Zool. Anz., 122: 114. Synonymized by Chamberlin, 1949.

Two genera, western United States (Montana and Washington, south to California).

### Genus **Californiulus** Verhoeff

*Californiulus* Verhoeff, 1938 (May), Zool. Anz., 122: 114. Type species: *C. dorsovittatus* Verhoeff, by monotypy. \_ Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 4. \_ Shelley, 1994, Entom. Scandinavica, 25: 193 (revision).

*Klansolus* Chamberlin, 1938 (December), Proc. Biol. Soc. Washington, 51: 205. Type species: *K. euphanus* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

*Aigon* Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 2. Type species: *A. rodocki* Chamberlin, 1949, by original designation. Synonymized by Hoffman, 1980.

*Atopolus* Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 3. Type species, *Paeromopus chamberlini* Brolemann, by original designation. Synonymized by Hoffman, 1980.

Six species, western United States.

#### **Californiulus blechrostriatus** Shelley & Bauer

*Californiulus blechrostriatus* Shelley & Bauer, 1997, Ent. News, 108: 10, figs. 12-15. MALE HT (CAS) from an unspecified site in Saline Valley, Death Valley National Park, Inyo Co., California.

#### **Californiulus chamberlini** (Brolemann)

*Paeromopus chamberlini* Brolemann, 1922, Ann. Entom. Soc. America, 15: 289, figs. 6-9, 53-57. Location of type material unknown, perhaps lost, from Mount Shasta, Siskiyou Co., California.

*Atopolus chamberlini*: Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 3.

*Klansolus zantus* Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 5. MALE HT (USNM) from 12 miles east of Cave Junction, Josephine Co., Oregon. Synonymized by Shelley, 1994.

*Californiulus chamberlini*: Shelley, 1994, Entom. Scandinavica, 25: 195, figs. 9-11, 36-38.

Range: Three localities known, in Josephine Co., Oregon, and Shasta and Siskiyou cos., California (map, Shelley, 1994, fig. 51).

#### **Californiulus dorsovittatus** Verhoeff

*Californiulus dorsovittatus* Verhoeff, 1938, Zool. Anz., 122: 118, figs. 1-7; 1944, Bull. So. California Acad. Sci., 43: 62, figs. 4-13. MALE and FEMALE ST (ZSBS), from Mount Harkness, one mile south of Juniper Lake, Plumas Co., California. \_ Shelley, 1994, Entom. Scandinavica, 25: 197, figs. 12-14, 39-41.

Range: Northern California (Siskiyou, Shasta, Lassen, Tehama, and Plumas cos.) (map,



Shelley & Bauer, 1997, fig. 16).

Chamberlin's error (1949) in placing Mount Harkness at Berkeley, California, was discerned and corrected by Shelley (1994: 197). Verhoeff had mentioned Berkeley only as the residence of A. E. Michelbacher, collector of the type material.

**Californiulus euphanus** (Chamberlin)

*Klansolus euphanus* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 205. FEMALE HT (USNM) from Boyer, Tillamook Co., Oregon.

*Californiulus euphanus*: Shelley, 1994, Entom. Scandinavica, 25: 200, figs. 45-47.

Range: Western Washington (except Olympic Peninsula), northwest Oregon; also a small disjunct population in extreme southeastern Washington (maps, Shelley, 1994, Figs. 52, 54).

**Californiulus parvior** (Chamberlin)

*Klansolus parvior* Chamberlin, 1940, Pomona Coll. Journ. Entom. Zool., 32: 83. FEMALE HT (USNM) from Flathead Lake, Flathead and Lake cos., Montana.

*Aigon parvior* Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 3.

*Klansolus socius* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 16, figs. 19-23. MALE HT (not at USNM, lost?) from eight miles west of Wallowa, Wallowa Co., Oregon. Synonymized by Shelley, 1994.

*Aigon rodocki* Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 2, figs. 1, 2. MALE HT (USNM) from Sweetwater, Nez Perce Co., Idaho. Synonymized by Shelley, 1994.

*Californiulus parvior*: Shelley, 1994, Entom. Scandinavica, 25: 201, figs. 3-5, 48-50.

Range: Western Montana, northern Idaho, northeastern Oregon (map, Shelley, 1994, fig. 51).

**Californiulus yosemitensis** Chamberlin

*Californiulus yosemitensis* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 17, figs. 24-26. MALE HT (USNM) from Aspen Valley in Yosemite National Park, Tuolumne Co., California. – Shelley, 1994, Entom. Scandinavica, 25: 199, figs. 15-17, 42-44.

*Klansolus mononus* Chamberlin, 1954, Proc. Biol. Soc. Washington, 67: 231. MALE HT (AMNH) from Leevinning [= Lee Vining], Mono Co., California. Synonymized by Shelley, 1994.

*Klansolus obscurans* Chamberlin, 1954, Proc. Biol. Soc. Washington, 67: 231. MALE HT (USNM) from Big Bar Mountain, southwest of Coyote Gap, Butte Co., California. Synonymized by Shelley, 1994.

Range: Sierra Nevada mountains from extreme southern Oregon south to Kern Co., California (map, Shelley & Bauer, 1997, fig. 16).

## Genus **Paeromopus** Karsch

*Paeromopus* Karsch, 1881, Zeitschr. Ges. Naturwiss. 54: 12. Type species: *P. lysiopetalinus* Karsch, by original designation. \_ Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 5. \_ Loomis, 1972, Florida Entom., 55: 260. \_ Shelley, 1994, Entom. Scandinavica, 25: 182 (revision). \_ Shelley & Bauer, 1997, Ent. News, 108: 2.

*Paeromopellus* Verhoeff, 1938, Zool. Anz., 122: 124. Type species: *P. sphinx* Verhoeff (= *Paeromopus lysiopetalinus* Karsch), by monotypy. Synonymized by Chamberlin, 1949.

Five species, California.

### **Paeromopus angusticeps angusticeps** (Wood)

*Spiroبولus angusticeps* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 16. Original FEMALE type lost, MALE NT (USNM) from Oakland, Alameda Co., California, designated by Shelley 1994.

*Paeromopus lysiopetalinus* Karsch, 1881, Zeitschr. Ges. Naturwiss., 54: 12. MALE HT (ZMB) from California, without further data. \_ Chamberlin, 1910, Ann. Entom. Soc. America, 3: 257, pl. 42, figs. 3-5, pl. 43, figs. 1-3. Synonymized by Shelley, 1994.

*Paeromopellus sphinx* Verhoeff, 1938, Zool. Anz., 122: 125, figs. 8-9. Junior objective synonym based on the holotype of *P. lysiopetalinus*.

*Paeromopus pistus* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 7, figs. 8. 9. MALE HT (USNM) from Stanford, Palo Alto Co., California. Synonymized by Shelley, 1994.

*Paeromopus angusticeps*: Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 6. \_ Shelley, 1994, Entom. Scandinavica, 25: 184, figs. 2, 18-26.

*Paeromopus angusticeps angusticeps*: Shelley & Bauer, 1997, Ent. News, 108: 2, figs. 1, 2.

Range: The San Francisco and Monterey Bay areas of coastal California (map, Shelley, 1994, fig. 35).

### **Paeromopus angusticeps buttensis** Chamberlin

*Paeromopus buttensis* Chamberlin, 1954, Proc. Biol. Soc. Washington, 67: 232. MALE HT (USNM) from Big Bar Mountain east of Pulga, Butte Co., California. \_ Shelley, 1994, Entom. Scandinavica, 25: 190, figs. 6-8, 33, 34.

*Paeromopus ocellatus* Loomis, 1972, Florida Entom., 55: 260, figs. 1-5. MALE HT (USNM) from a site between Vallejo and Cordelia, Solano Co., California. \_ Shelley, 1994, Entom. Scandinavica, 25: 187, figs. 27-28. Synonymized by Shelley & Bauer, 1997.

*Paeromopus angusticeps buttensis*: Shelley & Bauer, 1997, Ent. News, 108: 3, figs. 7, 8.

Range: California, from Trinity County south and east through the Coast and Sierra Nevada ranges to Sonoma and Tuolumne cos. (map, Shelley & Bauer, 1997, fig. 11).

**Paeromopus cavicolens** Chamberlin

*Paeromopus cavicolens* Chamberlin, 1949, Chicago Acad. Sci. Nat. Hist. Misc., 52: 6, figs. 3, 4. MALE HT (USNM) from Windeler Cavern, about eight miles north of Columbia, Tuolumne Co., California. \_ Shelley, 1994, Entom. Scandinavica, 25: 189, figs. 31, 32.

**Paeromopus eldoradus** Chamberlin

*Paeromopus eldoradus* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 7, figs. 10, 11. MALE HT (USNM) from Coloma, El Dorado Co., California. \_ Shelley, 1994, Entom. Scandinavica, 25: 188, figs. 29, 30.

**Paeromopus paniculus** Shelley & Bauer

*Paeromopus paniculus*° Shelley & Bauer, 1997, Ent. News, 108: 6, figs. 9-10. MALE HT (UCD) from 14.1 miles east of Briceburg, Mariposa Co., California.

Range: Sierra Nevada mountains, three localities in Mariposa Co., California.

## Family Parajulidae Bollman

Parajulinae Bollman, 1893, Bull. U. S. Nat. Mus. 46: 156.

Paraiulidae [sic!] Cook, 1895, Ann. New York Acad. Sci., 9: 6. \_ Pocock, 1903, Diplopoda, in Biol. Centr.-Amer., p. 53. \_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 129. \_ Causey, 1974, Symp. Zool. Soc. London, 32: 23 (classification).

Uroblaniulinae Attems, 1909, Ark. Zool., 5 (3): 45.

Ptyoiulinae Causey, 1974, Symp. Zool. Soc. London, 32: 32.

28 genera, eastern Asia, most of North America, and southward as far as Guatemala.

Dr. Causey's revision of this family, in preparation over several decades, was never completed for publication, and this large, diverse, and very interesting group will have to be restudied *de novo*. So far, only a few short contributions to knowledge of parajulids have appeared since 1974, and the present listing largely follows the sequence of my 1980 account (itself qualified as highly provisional) at the generic level. Species listings for North America are essentially those of the 1958 Checklist except in some cases in which generic assignments (chiefly by Dr. Chamberlin) can scarcely be justified from the inadequate original accounts of gonopod structure. My limited experience with this family suggests that a number of the generic names proposed by both Chamberlin and Causey will eventually be found to be superfluous.

Classification of the Central American parajulids is especially unsatisfactory. The discovery by Maur es (1972) that the gonopods in the type genus lack a prostatic groove, otherwise typical for the family, excludes *Parajulus* from the Paraiulini as defined by Causey in 1974. Perhaps some of the Mexican species can be referred to *Pheniulus*, some to *Mexicoiulus*, others to new genera. Lacking the opportunity and time to investigate this problem, I have had to list most of the described species in the category of Species of Uncertain Generic Position.

Genus **Aliulus** Causey

*Aliulus* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 45. Type species: *A. carrollus* Causey, by original designation.

Three species: Arkansas and Oklahoma; Illinois to Pennsylvania.

**Aliulus caddoensis** Causey

*Aliulus caddoensis* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 46, figs. 5, 6. MALE HT (ANSP) from an unspecified locality in Caddo Co., Oklahoma.

Range: Southeastern Oklahoma and northwestern Arkansas: Dallas, Sebastian, Polk, Howard, and Pike cos.

**Aliulus carrollus** Causey

*Aliulus carrollus* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 45, figs. 1-4. MALE HT (ANSP) from Blue Spring, Carroll Co., Arkansas.

Range: Northwest Arkansas: Benton, Carroll, Searcy, and Washington cos.

**Aliulus rugosus** (Bollman)

*Parajulus rugosus* Bollman, 1887, Entom. Americana, 3: 81. MALE HT (?USNM) from Monongahela City, Washington Co., Pennsylvania.

*Aliulus rugosus* Causey, 1952, Proc. Arkansas Acad. Sci., 5: 22, fig. 5.

Range: Central United States: Illinois to Pennsylvania.

Genus **Aniulus** Chamberlin

*Aniulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 3. Type species: *A. adelphus* Chamberlin, by original designation. \_ Loomis, 1976, Florida Entom., 59: 289 (key to the nine species known from Texas).

20 species, United States from New York to Georgia, and west to Utah and Arizona.

**Aniulus acuminatus** Loomis

*Aniulus acuminatus* Loomis, 1976, Florida Entom., 59: 290, figs. 4-6. MALE HT (FSCA) from five miles ESE of Marble Falls, Burnet Co., Texas.

**Aniulus adelphus** Chamberlin

*Aniulus adelphus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 3, figs. 1-3. MALE HT (USNM) from a site southwest of Boerne, Kendall Co., Texas.

**Aniulus annectans** (Chamberlin), new combination.

*Parajulus annectans* Chamberlin, 1921, Canadian Entom., 53: 233, figs. 1.1, 1.2. MALE HT

(MCZ) from Knox County, Tennessee.

*Oriulus annectans* Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 139.

I have not seen type material, and this generic placement is based upon Chamberlin's original association of the species with his *P. nigrans*, which was referred to *Aniulus* by Causey, 1964.

**Aniulus austinensis** Chamberlin

*Aniulus austinensis* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 4, figs. 4, 5. MALE HT (USNM) from Austin, Travis Co., Texas.

**Aniulus bollmani** Causey

*Parajulus* (or *Paraiulus*) *impressus*: authors prior to 1952 (misidentification of *Julus impressus* Say, 1821).

*Aniulus bollmani* Causey, 1952, Proc. Arkansas Acad. Sci., 5: 19, figs. 7, 8. MALE HT (AMNH) from Winslow, Stephenson Co., Illinois.

Range: Western Pennsylvania to Wisconsin and North Dakota.

**Aniulus brazonus** Chamberlin

*Aniulus brazonus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 4, figs. 6, 7. MALE HT (USNM) from an unspecified site in Brazos Co., Texas.

**Aniulus craterus** Chamberlin

*Aniulus craterus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 5, figs. 9, 10. MALE HT (USNM) from Raven Ranch, ca. 12 miles south of Kerrville, Kerr Co., Texas.

**Aniulus dorophor** Chamberlin

*Aniulus dorophor* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 5, figs. 11-13. MALE HT (USNM) from a site south of Three Rivers, Live Oak Co., Texas.

**Aniulus fili** Loomis

*Aniulus fili* Loomis, 1975, Florida Entom., 58: 219, figs. 6-8. MALE HT (FSCA) from a site two miles southwest of Comfort, Kendall Co., Texas.

**Aniulus fluviatilis** Chamberlin

*Aniulus fluviatilis* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 6, figs. 14, 15. MALE HT (USNM) from an unspecified locality in Brazos Co., Texas.

**Aniulus garius** (Chamberlin), new combination

*Parajulus garius* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 167, pl. 12, figs. 6-8. Type material lost, from Tolland, Gilpin Co., Colorado.

Topotypic females (VMNH), presumably of this species, agree so closely in cyphopod structure with material identified by N. B. Causey as *A. bollmani* as to suggest conspecificity, the

only evident difference being the distinctly larger 2nd legs (shown clearly in Chamberlin's fig. 8). However, until male topotypes of *garius* are available it is preferable to retain specific status for both names.

**Aniulus hopius** Chamberlin

*Aniulus hopius* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 19, figs. 30, 31. MALE HT (USNM) from Greaterville, Pima Co., Arizona.

**Aniulus nigrans** (Chamberlin)

*Parajulus nigrans* Chamberlin, 1918, Psyche, 25: 27. MALE HT (MCZ) from near Nashville, Davidson Co., Tennessee.

*Aniulus nigrans* Causey, 1959, Journ. Tennessee Acad. Sci., 34: 231.

Range: Central Tennessee (Davidson and Smith cos.)

**Aniulus oreines** Chamberlin

*Aniulus oreines* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 6, figs. 19, 20. MALE HT (USNM) from two miles west of Glenwood, Garfield Co., Colorado.

Range: Recorded also from Salt Lake Co., Utah; unpublished record for the Santa Catalina Mountains northeast of Tucson, Arizona (VMNH).

This species was transferred to *Ethojulus* by Loomis (1959), an action I believe to be incorrect. I do not know how it differs from *A. paiutus*.

**Aniulus orientalis** Causey

*Aniulus orientalis* Causey, 1952, Proc. Arkansas Acad. Sci., 5: 20, figs. 1-4. MALE HT (AMNH), of uncertain provenance, . . . probably near Durham, North Carolina which seems correct in light of recent collections..

Range: Central North Carolina, north and west through the Appalachians as far as southern West Virginia.

**Aniulus orthodoxus** Chamberlin

*Aniulus orthodoxus* Chamberlin, 1946, Proc. Biol. Soc. Washington, 59: 32, figs. 3, 4. MALE HT (USNM) from Reelfoot Lake, Obion Co., Tennessee.

**Aniulus paiutus** (Chamberlin)

*Parajulus paiutus* Chamberlin, 1925, Pan-Pacific Entom., 2: 60. MALE HT (USNM) from Parowan, Iron Co. Utah.

*Aniulus paiutus*: Causey, 1967, Michigan Entom., 1: 127.

Range: Disjunct populations in Arizona, New Mexico, Colorado, and Utah.

Perhaps a senior synonym of *A. oreines*.

**Aniulus paludicolens** Causey

*Aniulus paludicolens* Causey, 1967, Michigan Entom., 1: 127, figs. 1-6. MALE HT (USNM) from Dollar Tamarack Swamp, E. S. George Reserve, Livingston Co., Michigan.

Range: Boggy areas, northern Illinois to southern Ontario.

**Aniulus prosoicus** Chamberlin

*Aniulus prosoicus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 7, figs. 16-18. MALE HT (USNM) from Edinburg, Hidalgo Co., Texas.

The form of the posterior gonopod in this species strongly suggests that typical of the genus *Ethojulus*.

**Aniulus vestigialis** Loomis

*Aniulus vestigialis* Loomis, 1959, Journ. Washington Acad. Sci., 49: 163, figs. 15-18. MALE HT (USNM) from Landa Park, New Braunfels, Comal Co., Texas.

### Genus **Apacheiulus** Loomis

*Apacheiulus* Loomis, 1968, Florida Entom., 51: 159. Type species: *A. pinalensis* Loomis, by original designation.

Two species: Arizona, Texas..

**Apacheiulus guadelupensis** Loomis

*Apacheiulus guadelupensis* Loomis, 1975, Florida Entom., 58: 217, figs. 1-4. MALE HT (FSCA) from Bush Mountain in the Guadalupe Mountains, Hudspeth Co., Texas.

**Apacheiulus pinalensis** Loomis

*Apacheiulus pinalensis* Loomis, 1968, Florida Entom., 51: 160, figs. 1-5. MALE HT (USNM) from the Pinal Mountains, between Miami and Superior, probably in Pinal Co., Arizona.

### Genus **Arvechambus** Causey

*Arvechambus* Causey, 1963, Proc. Louisiana Acad. Sci., 26: 66. Type species: *A. hummi* Causey, by original designation.

Three species, northern Florida and southeastern Georgia.

**Arvechambus australis** Causey

*Arvechambus australis* Causey, 1963, Proc. Louisiana Acad. Sci., 26: 71, figs. 4-6. MALE HT (USNM) from Gainesville, Alachua Co., Florida.

**Arvechambus hummi** Causey

*Arvechambus hummi* Causey, 1963, Proc. Louisiana Acad. Sci., 26: 69, figs. 1-3, 9. MALE HT (USNM) from Tallahassee, Leon Co., Florida.

Range: Northwest Florida, between Baker County and the Apalachicola River.

**Arvechambus weemsi** Causey

*Arvechambus weemsi* Causey, 1963, Proc. Louisiana Acad. Sci., 26: 71, figs. 7, 8. MALE HT (USNM) from Waycross, Ware Co., Georgia.

Genus **Bollmaniulus** Verhoeff

*Bollmaniulus* Verhoeff, 1926, Zool. Anz., 68: 65. Type species: *Iulus furcifer* Harger, 1872, by monotypy.

*Taijulus* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 205. Type species: *Paraiulus tiganus* Chamberlin, 1910, by original designation. Synonymized by Hoffman, 1980.

*Taiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 18, and in other papers by this author and N. B. Causey.

*Caliulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 15. Type species: *C. pachysomus* Chamberlin, by original designation. Synonymized by Chamberlin & Hoffman, 1958.

13 species, western United States, British Columbia.

In designating the type species of *Bollmaniulus*, Verhoeff (1926: 65) stated fr *furcifer* (Harger) Br l. as his concept of *furcifer* was based on Brolemann's account of a species so identified in his 1902 paper. The gonopods of a male syntype of *furcifer* have been illustrated by Shelley (1993, figs. 1-3) and fortunately appear to be conspecific with those drawn by Brolemann.

The presence of a small acicular projection on the posterior gonopod, at the juncture of the two distal branches, scarcely seems adequate to justify a genus *Taijulus*. The apically expanded and lobed primary branch seen in such species as *olympus* and *hewetti* seems a more plausible basis for generic status, which if recognized would require proposal of a new name.

**Bollmaniulus catalinae** (Chamberlin)

*Caliulus catalinae* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 17, figs. 57, 58. MALE HT (USNM) from Catalina Island [presumably Santa Catalina], Los Angeles Co., California.

*Bollmaniulus catalinae*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 132.

**Bollmaniulus concolor** (Chamberlin)

*Caliulus concolor* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 18, figs. 56a, 59. MALE HT (USNM) from Redlands, San Bernardino Co., California.

**Bollmaniulus furcifer** (Harger)

*Iulus furcifer* Harger, 1872, American Journ. Sci. Arts, 4: 119, fig. 7. MALE & FEMALE STs (YPM) from the vicinity of Canyon City, Grant Co., Oregon.



*Parajulus furcifer* Bollman, 1887, Ann. New York Acad. Sci., 4: 44.

*Paraiulus furcifer* Brolemann, 1895, Ann. Soc. Entom. France, 65: 69, figs. 21-23.

*Bollmaniulus furcifer* Verhoeff, 1926, Zool. Anz., 122: 65. \_ Shelley, 1993, Brimleyana, 18: 7, figs. 1-3 (gonopods of type material; identification of type locality).

*Taijulus furcifer* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 205.

*Caliulus furcifer* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 15.

Range: Aside from the type locality, uncertain pending revision of the genus but probably widespread in northwestern United States.

**Bollmaniulus hewitti** (Chamberlin), new combination!

*Parajulus hewitti* Chamberlin, 1919, Canadian Entom., 51: 119, fig. 21. MALE HT (MCZ) from Agassiz, British Columbia.

*Codiulus hewitti* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 20, figs. 67-69.

*Tuniulus hewitti* Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 146.

Range: Aside the type locality, recorded from Mount Ranier National Park, Washington.

**Bollmaniulus montanae** (Chamberlin), new combination

*Caliulus montanae* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 16, fig. 63. MALE HT (USNM) from Nimrod, Flathead Co., Montana.

This species was inexplicably omitted from the 1958 Checklist .

**Bollmaniulus olympus** (Causey), new combination

*Taiulus olympus* Causey, 1953, American Midl. Nat., 50: 154, figs. 8-10. MALE HT (AMNH) from Olympic Hot Springs [county not located, presumably on the Olympic Peninsula], Washington.

**Bollmaniulus pachysomus** (Chamberlin)

*Caliulus pachysomus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 15, fig. 56. MALE HT (USNM) from Yosemite National Park , probably that part lying within Mariposa Co., California.

*Bollmaniulus pachysomus* Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 133.

**Bollmaniulus pearcei** (Chamberlin)

*Caliulus pearcei* Chamberlin, 1943, Bull. Univ. Utah, 34(6 ): 12, fig. 39. MALE HT (USNM) from South Fork of Bishop Creek, Inyo Co., California.

**Bollmaniulus pugetensis** Chamberlin

*Caliulus pugetensis* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 16, figs. 61, 62. MALE HT

(USNM) from Puget Sound, Washington, without closer locality.

**Bollmaniulus rhodogeus** Chamberlin

*Caliulus rhodogeus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 17, fig. 60. MALE HT (USNM) from Redlands, San Bernardino Co., California.

**Bollmaniulus signifer** (Chamberlin)

*Caliulus signifer* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 19, fig. 32. MALE HT (USNM) from Pinehurst, Jackson Co., Oregon.

*Bollmaniulus signifer*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 134.

**Bollmaniulus spenceri** (Chamberlin)

*Caliulus spenceri* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 10, figs. 22, 23. MALE HT (USNM) from Kamloops (50.40N, 120.20W), British Columbia.

**Bollmaniulus tiganus** (Chamberlin)

*Paraiulus tiganus* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 254, pl. 40, figs. 6-8, pl. 41, figs. 1-4. Type material not known to exist, from Canyons of the Wahsatch Mountains, Salt Lake Co., Utah.

*Taijulus tiganus* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 205.

*Bollmaniulus tiganus* Hoffman, 1980, Classification of the Diplopoda, p. 108 (de facto new combination by merger of *Taijulus* into *Bollmaniulus*).

Range: Extent uncertain, but including northern Utah and adjacent parts of Idaho and Wyoming.

**Genus Codiulus** Chamberlin

*Codiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 19. Type species: *C. oulogon* Chamberlin, by original designation.

Two nominal species, southern California.

In its original presentation, this genus contained four species, referable to three distinct genera. In the following year, Dr. Chamberlin extracted *C. milpetanus* and *C. oregonensis* into the new genus *Tuniulus*, but wrongly retained the quite different *C. hewitti*, along with the other two mentioned.

The long, proximally reflexed telopodites of the posterior gonopods probably justify generic rank. But it is difficult to believe, from published information, that *C. etirus* is specifically different from *oulogon*.

**Codiulus etirus** Chamberlin

*Codiulus etirus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 18, fig. 29. MALE HT (USNM) from Cardiff [presumably Cardiff-by-the-Sea], San Diego Co., California.

**Codiulus oulogon** Chamberlin

*Codiulus oulogon* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 19, fig. 66. MALE HT (USNM) from Box Springs Grade, Riverside Co., California.

The settlement Box Springs was just southeast of Riverside, and has now probably been absorbed into the suburbs of that city.

**Genus Ethojulus** Chamberlin

*Ethojulus* Chamberlin, 1918, Canadian Entom., 50: 361. Type species: *E. amphelictus* Chamberlin, by original designation.

*Illius* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 47. Type species: *I. illinoensis* Causey, by original designation. Synonymized by Chamberlin & Hoffman, 1958.

Four (?) species, lower Mississippi Valley, eastern Texas.

Removed from genus: *Ethojulus bufonius* Chamberlin, 1938 (see *Gyniulus*).

**Ethojulus amphelictus** Chamberlin

*Ethojulus amphelictus* Chamberlin, 1918, Canadian Entom., 50: 361. MALE HT (?MCZ) from Covington, St. Tammany Parish, Louisiana.

*Ethoiulus amphelictus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 10, figs. 30, 31.

Range: type locality and Greene Co., Mississippi.

**Ethojulus illinoensis** (Causey)

*Illius illinoensis* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 47, figs. 13-17. MALE HT (ANSP) from McCann's Spring at LaRue, Union Co., Illinois.

Range: Southern Illinois, northwestern Arkansas.

**Ethojulus ligifer** (Chamberlin)

*Parajulus ligifer* Chamberlin, 1919, Proc. Biol. Soc. Washington, 32: 119. MALE HT (MCZ) from Victoria, Victoria Co., Texas.

*Ethoiulus geniculatus* Causey, 1952, Texas Journ. Sci., 4: 201, figs. 8-10. MALE HT (AMNH) from Fort Bend Co., Texas. Synonymized by Chamberlin & Hoffman, 1958.

Range: Several counties in southcentral Texas.

**Ethojulus robustior** (Chamberlin)

*Parajulus robustior* Chamberlin, 1918, Ann. Entom. Soc. America, 11: 373. MALE HT (MCZ) from Creston, Natchitoches Parish, Louisiana.

*Ethoiulus robustior* Causey, 1953, American Midl. Nat., 50: 152.

*Ethoiulus unilictus* Causey, 1953, American Midl. Nat., 50: 152, figs. 1-4. MALE HT (AMNH)

from Ruston, Lincoln Parish, Louisiana. Synonymized by Chamberlin & Hoffman, 1958.

Range: Northwestern Louisiana.

### Genus **Georgiulus** Hoffman

*Georgiulus* Hoffman, 1992, *Jeffersoniana*, 1: 9. Type species: *G. paynei* Hoffman, by original designation.

Two species, southeastern United States (map, Hoffman, 1992, fig. 22).

#### **Georgiulus hubrichti** Hoffman

*Georgiulus hubrichti* Hoffman, 1992, *Jeffersoniana*, 1: 14, figs. 12-14. MALE HT (VMNH) from roadside four miles north of Evans, Columbia Co., Georgia.

#### **Georgiulus paynei** Hoffman

*Georgiulus paynei* Hoffman, 1992, *Jeffersoniana*, 1: 9, figs. 1-11. MALE HT (VMNH) from Tifton, Tift Co., Georgia.

Range: Southwestern Georgia (Tift, Thomas, Houston cos.).

### Genus **Gosiulus** Chamberlin

*Gosiulus* Chamberlin, 1940, *Bull. Univ. Utah*, 30(11): 10. Type species: *G. conformatus* Chamberlin, by original designation.

*Ziniulus* Chamberlin, 1940, *Bull. Univ. Utah*, 30(11): 13. Type species: *Z. aethes* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

Five species, Texas.

#### **Gosiulus aethes** (Chamberlin)

*Ziniulus aethes* Chamberlin, 1940, *Bull. Univ. Utah*, 30(11): 13, figs. 48-50. MALE HT (USNM) from Austin, Travis Co., Texas.

Range: Reported from Burnet Co., Texas by Loomis (1976).

#### **Gosiulus ambiguus** (Loomis), new combination

*Ziniulus ambiguus* Loomis, 1959, *Journ. Washington Acad. Sci.*, 49: 163, figs. 20-23. MALE HT (USNM) from Beauregard Road, ca. five miles south-southwest of Boerne, Kendall Co., Texas.

#### **Gosiulus conformatus** Chamberlin

*Gosiulus conformatus* Chamberlin, 1940, *Bull. Univ. Utah*, 30(11): 10, figs. 32-35. MALE HT (USNM) from south of Three Rivers, Live Oak Co., Texas. \_ Loomis, 1968, *Florida Entom.*, 51: 160, figs. 6, 7.

Range: Recorded from Live Oak, McCulloch, Bexar, and Jim Wells counties, Texas.

**Gosiulus medicolens** (Chamberlin)

*Ziniulus medicolens* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 13, figs. 51, 52. MALE HT (USNM) from Raven Ranch, Kerr Co., Texas.

**Gosiulus nati** (Loomis), new combination

*Ziniulus nati* Loomis, 1963, Journ. Kansas Entom. Soc., 36: 122, figs. 20-23. MALE HT (USNM) from 1.7 miles north of Artesia Wells, LaSalle Co., Texas.

Loomis (unpubl. MS notes) considered this species to be a junior synonym of *G. conformatus*. I defer formalizing such a change pending revisionary studies which may support at least subspecific status for *nati*, although I agree with Loomis's recognition of close similarity in the gonopods of the two forms.

### Genus **Gyniulus** Loomis

*Gyniulus* Loomis, 1963, Florida Entom., 46: 193. Type species: *G. myakkensis* Loomis, by original designation.

Four species, peninsular Florida.

**Gyniulus bufonius** (Chamberlin), new combination

*Ethojulus bufonius* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 206. MALE HT (USNM) from Gainesville, Alachua Co., Florida.

**Gyniulus domesticus** Loomis

*Gyniulus domesticus* Loomis, 1968, Florida Entom., 51: 162, figs. 8-11. MALE HT (USNM) from residence at 5355 SW 92nd St., Miami, Dade Co., Florida.

**Gyniulus lacustrinus** Loomis

*Gyniulus lacustrinus* Loomis, 1968, Florida Entom., 51: 162, figs. 12-15. MALE HT (USNM) from site near Belle Glade, Palm Beach Co., Florida.

**Gyniulus myakkensis** Loomis

*Gyniulus myakkensis* Loomis, 1963, Florida Entom., 46: 193, figs. 1-5. MALE HT (USNM) from Myakka River State Park, Sarasota Co., Florida.

### Genus **Hakiulus** Chamberlin

*Hakiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 10. Type species: *H. amophor* Chamberlin, by original designation.

Ten poorly-defined species were listed by Chamberlin & Hoffman, 1958, from a generic range encompassing much of central United States from Pennsylvania to New Mexico.

Removed from genus: *Parajulus neomexicanus* Chamberlin, 1903 (see Parajulidae of Uncertain Generic Position or Validity)

**Hakiulus amophor** Chamberlin

*Hakiulus amophor* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 10, figs. 36-39. MALE HT (USNM) from Turtle Creek, Kerr Co., Texas.

**Hakiulus cyaneus** (Chamberlin)

*Ethoiulus cyaneus* Chamberlin, 1920, Proc. Biol. Soc. Washington, 33: 41. MALE HT (MCZ) from Bay City, Matagorda Co., Texas.

*Hakiulus cyaneus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 136.

**Hakiulus diversifrons** (Wood)

*Iulus* sp. innom. Wood, 1865, Trans. American Philos. Soc., 13: 197, fig. 30.

*Iulus diversifrons* Wood, 1867, Proc. Acad. Nat. Sci. Philadelphia, 19: 43. Type material not known to exist, with only the indication South Illinois, rare in Western States, but very plenty in Texas. Causey (1953: 153) considered the description to have been based on a single male from Illinois. Apparently she did not designate a neotype to stabilize the identity of the name, nor was this done by Chamberlin & Hoffman (1958: 136) when specifying Southern Illinois to be the type locality.

*Parajulus castaneus* Bollman, 1887, Entom. Americana, 2: 226. MALE HT (USNM) from Fort Snelling [not located; now included in Minneapolis?], Minnesota. Synonymized by Bollman, 1893.

*Parajulus diversifrons*: Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 128, fig. 20.

*Hakiulus diversifrons*: Chamberlin, 1940, Bull. Univ. Utah, 30(11): 10.

*Hakiulus parallelus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 12, figs. 41-43. MALE HT (USNM) from Cleveland Co., Oklahoma. Synonymized by Causey, 1953.

Range: Recorded from Ohio west to Minnesota and Colorado, south to Texas; some of the southern localities might be based on other members of the genus.

**Hakiulus minori** Causey

*Hakiulus minori* Causey, 1952, Texas Journ. Sci., 4: 200, figs. 1-3. MALE HT (AMNH) from Lufkin, Angelina Co., Texas.

Range: Angelina and Polk counties, eastern Texas.

**Hakiulus occidentalis** Loomis

*Hakiulus occidentalis* Loomis, 1975, Florida Entom., 58: 219, figs. 9-11. MALE HT (FSCA) from the Guadeloupe Mountains in Hudspeth Co., Texas.

I do not see how this entity is to be distinguished from *H. zakiwanus* Chamberlin, at least in terms of gonopod structure.

**Hakiulus orthodox** Chamberlin

*Hakiulus orthodox* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 11, figs. 40. MALE HT (USNM) from College Station, Brazos Co., Texas.

**Hakiulus texanus** (Chamberlin)

*Parajulus texanus* Chamberlin, 1916, Psyche, 23: 35. MALE HT (MCZ) from Victoria, Victoria Co., Texas.

*Hakiulus texanus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 137.

This species is retained in *Hakiulus* solely in deference to Dr. Chamberlin's interpretation of the original description in 1955. I personally cannot see *Hakiulus* in the vague printed account of gonopod characters. Clearly, the type material must be restudied.

**Hakiulus texensis** Causey

*Hakiulus texensis* Causey, 1952, Texas Journ. Sci., 4: 201, figs. 6, 7. MALE HT (AMNH) from Kilgore, Gregg Co., Texas.

This taxon can scarcely be anything other than a subspecies of *diversifrons*.

**Hakiulus victorianus** (Chamberlin)

*Parajulus victorianus* Chamberlin, 1916, Psyche, 23: 33. MALE HT (MCZ) from Victoria, Victoria Co., Texas.

*Hakiulus victorianus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 137.

The generic assignation of this species requires confirmation.

**Hakiulus zakiwanus** (Chamberlin)

*Paraiulus zakiwanus* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 253, pl. 39, figs. 6, 7, pl. 40, figs. 1-5. Type material unknown, presumed lost, from the Sacramento Mountains, Otero Co., New Mexico.

*Hakiulus zakiwanus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 137.

**Genus Litiulus** Chamberlin

*Litiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 19. Type species: *Parajulus alaskanus* Cook, 1904, by original designation.

One species, Northwestern North America.

This genus was synonymized with *Karteroiulus* (Attems, 1909) by Hoffman (1980). While it is true that the respective type species are extremely close, perhaps it is desirable to maintain the younger name as provisionally valid pending a revision of the family (or that part of it).

**Litiulus alaskanus** (Cook)

*Parajulus alaskanus* Cook, 1904, Harriman Alaska Exped., 8: 70, pl. 5, figs. 4a-k. MALE HT (USNM) from Metlakatla, Alaska.

*Litiulus alaskanus*: Chamberlin, 1940, Bull. Univ. Utah, 30(11): 19.

Range: Southern coast of Alaska, south at least as far as Philomath, Oregon (VMNH).

### Genus **Mexicoiulus** Verhoeff

*Mexicoiulus* Verhoeff, 1926, Zool. Anz., 68: 66. Type species: *M. dampfi* Verhoeff, by monotypy.

One species, Mexico (Distrito Federal).

Incorrectly synonymized with *Parajulus* by Loomis, 1968, and Hoffman, 1980.

#### **Mexicoiulus dampfi** Verhoeff

*Mexicoiulus dampfi* Verhoeff, 1926, Zool. Anz., 68: 67, figs. 4-11. MALE HT (ZSBS) from Desierto de los Leones, Distrito Federal, Mexico.

### Genus **Mulaikiulus** Chamberlin

*Mulaikiulus* Chamberlin, 1941, Bull. Univ. Utah, 30(12): 8. Type species: *M. stanleius* Chamberlin, by original designation.

One species, California.

#### **Mulaikiulus stanleius** Chamberlin

*Mulaikiulus stanleius* Chamberlin, 1941, Bull. Univ. Utah, 30(12): 8, figs. 12, 13. MALE HT (USNM) from 12 miles north of Hammond, Tulare Co., California.

### Genus **Okliulus** Causey

*Okliulus* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 46. Type species: *O. carpenteri* Causey, by original designation.

Three species, Oklahoma, Louisiana, Arkansas.

#### **Okliulus beveli** Causey

*Okliulus beveli* Causey, 1953, American Midl. Nat., 50: 152, figs. 5-7. MALE HT (AMNH) from Junction City, Union Co., Arkansas.

#### **Okliulus carpenteri** Causey

*Okliulus carpenteri* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 9-12. MALE HT (ANSP) from



Wilburton, Latimer Co., Oklahoma.

**Okiulus foliatus** Loomis

*Okiulus foliatus*°Loomis, 1968, Florida Entom., 51: 164, figs. 16-18. MALE HT (USNM) from Bossier Parish, Louisiana, without further locality.

Genus **Oriulus** Chamberlin

*Oriulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 7. Type species: *O. medianus* Chamberlin, by original designation.

Eight names have been based on specimens apparently referable to this category, the majority from upland, interior, regions of the United States.

On a smaller scale, this nominal genus embodies all of the taxonomic difficulties that afflict the Parajulidae collectively. The distinction from *Aniulus* is not definitive, and most of the existing names are probably at best of subspecific rank. The type locality for *O. notus* is apparently a composite of two places.

**Oriulus delus** Chamberlin

*Oriulus delus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 8, figs. 28, 29. MALE HT (USNM) from Plattsburg, Clinton Co., New York.

**Oriulus eutypus** Chamberlin

*Oriulus eutypus*°Chamberlin, 1940, Bull. Univ. Utah, 30(11): 8, figs. 23, 24. MALE HT (USNM) from Minneapolis, Minnesota.

**Oriulus georgicolens** Chamberlin

*Oriulus georgicolens* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 9. MALE HT (USNM) from Barring-ton, McIntosh Co., Georgia.

**Oriulus grandiceps** Loomis

*Oriulus grandiceps* Loomis, 1968, Florida Entom., 51: 165, figs. 19-23. MALE HT (USNM) from Ellis County, Kansas, without closer locality..

Range: Reported also from Finney Co., Kansas.

**Oriulus grayi** Causey

*Oriulus grayi*°Causey, 1950, Proc. Arkansas Acad. Sci., 3: 50, figs. 37-42. MALE HT (ANSP) from DeVal s Bluff, Prairie Co., Arkansas.

**Oriulus medianus** Chamberlin

*Oriulus medianus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 7, figs. 21, 22. MALE HT (USNM) from Yellowstone National Park, Wyoming.

Range: Recorded from the Rocky Mountains from Montana to New Mexico, also from Iowa and Nebraska.

It is not clear how this species is to be distinguished from *O. venustus*.

### **Oriulus notus** Chamberlin

*Oriulus notus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 8, figs. 25-27. MALE HT (USNM) from South Carolina: Gallatin River near Taylor's Fork. There is no Gallatin River in South Carolina, but one does occur in Montana just west of Bozeman. There is a small settlement called Taylors in South Carolina, at which Chamberlin collected in 1910. Perhaps he somehow confused these two places while writing labels. I am inclined to consider the Montana site as more likely correct.

### **Oriulus venustus** (Wood)

*Iulus venustus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 10; 1865, Trans. American Philos. Soc., 13: 197, figs. 27, 28. Type material not known to exist, from Illinois without further locality.

*Parajulus venustus*: Bollman, 1889, Proc. U. S. Nat. Mus., 11: 344. \_ Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 128, fig. 22.

*Oriulus venustus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 140.

Range: Northern United States, recorded by various authors from New York to Montana and Utah.

A type locality (West Frankfort, Franklin Co., Illinois) was suggested by Causey (in Chamberlin & Hoffman, 1958). As no neotype designation has yet been made and publicized, this localization - although entirely reasonable - can only be considered as provisional (ICZN Art.75: f).

## **Genus Parajulus** Humbert & DeSaussure

*Parajulus* Humbert & DeSaussure, 1869, Rev. Mag. Zool., (2) 21: 155. Type species: *P. olmecus* Humbert & DeSaussure, by monotypy. \_ DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 93 (extended description!). \_ Maur es, 1972, Rev. suisse Zool., 79: 159.

Being unable to allocate generically the Mexican species placed in *Parajulus* from existing literature accounts (and many are not congeneric with *P. olmecus*), I have no choice than to place all but the type species in the category of Species of Uncertain Generic Position.

### **Parajulus olmecus** Humbert & DeSaussure

*Parajulus olmecus* Humbert & DeSaussure, 1869, Rev. Mag. Zool., (2) 21: 155. MALE and FEMALE STs (MHNG), from Moyoapan, near Fortin de las Flores, Veracruz, Mexico. MALE lectotype designated by Maur es, 1972.

### Genus **Pheniulus** Chamberlin

*Pheniulus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 29. Type species: *P. phenotypus* Chamberlin, by original designation.

Two species: Mexico.

#### **Pheniulus mimeticus** Chamberlin

*Pheniulus mimeticus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 30, figs. 62, 63. MALE HT (USNM) from Ixtapan del Oro, Distrito Federal, Mexico.

#### **Pheniulus phenotypus** Chamberlin

*Pheniulus phenotypus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 30, figs. 59-61. MALE HT (USNM) from Oaxtepec, Morelos, Mexico.

### Genus **Pseudojulus** Bollman

*Pseudojulus* (as subgenus of *Parajulus*) Bollman, 1887, Entom. Americana, 2: 227. Type species: *Parajulus (Pseudojulus) obtectus* Bollman, by subsequent designation of Bollman, 1887, Ann. New York Acad. Sci. 4: 38.

*Pseudojulus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 141. \_ Hoffman, 1992, Jeffersoniana, 1: 14 (description).

One species, southeastern United States (Florida),

#### **Pseudojulus obtectus** (Bollman)

*Parajulus (Pseudojulus) obtectus* Bollman, 1887, Entom. Americana, 2: 227. Type material lost (formerly USNM), from Bloomington, Indiana, and Pensacola, Florida; restricted to Pensacola, Escambia Co., Florida by Chamberlin & Hoffman, 1958, although no neotype designation was made.

*Pseudojulus obtectus*: Hoffman, 1992, Jeffersoniana, 1: 16, figs. 15-21.

Range: Western Florida (Escambia and Santa Rosa cos.) (map, Hoffman, 1992, fig. 22).

### Genus **Ptyoiulus** Cook

*Ptyoiulus* Cook, 1895, Ann. New York Acad. Sci., 9: 6. Type species: *Julus (Julus) pensylvanicus* Brandt, 1841, by original designation.

Three nominal species are recognized, eastern North America.

Removed from genus: *Paraiulus ectenes* Bollman, 1888 (see Parajulidae of Uncertain Generic Position or Validity).

**Ptyoiulus coveanus** Chamberlin

*Ptyoiulus coveanus* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 10, figs. 24, 25. MALE HT (FMNH) from Greenbrier Cove, Great Smoky Mountains National Park, Sevier Co., Tennessee.

Range: Reported also from North Carolina, Tennessee, and Illinois by Causey (1952), under the name *ectenes* Bollman.

**Ptyoiulus georgiensis** Chamberlin

*Ptyoiulus georgiensis* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 12, figs. 26, 27. MALE HT (USNM) from a site northwest of Clayton, Rabun Co., Georgia.

Range: Reported also from Alabama (Causey, 1952).

**Ptyoiulus impressus** (Say)

*Julus impressus* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 102. Type material not known to exist, type locality not stated, generally assumed to be the vicinity of Philadelphia, Pennsylvania.

*Julus pennsylvanicus* [sic!] Brandt, 1841, Bull. scient. Acad. imp. Sci. St. Petersburg, 8: 102. MALE FEMALE STs (ZMB) from Pennsylvania without further locality. Synonymized by Chamberlin & Hoffman, 1958.

*Julus pennsylvanicus*: Wood, 1865, Trans. American Philos. Soc., 13: 201, fig. 34. This emended spelling of specific name accepted by all subsequent authors.

*Julus piloscutis* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 11. ST (ANSP) from Sesquehanna Co., Pennsylvania. Synonymized by Bollman, 1887.

*Julus montanus* Cope, 1869, Proc. American Philos. Soc., 11: 181. Type material not known to exist, from Montgomery Co., Virginia. Synonymized by Bollman, 1893.

*Ptyoiulus pennsylvanicus*: Cook, 1895, Ann. New York Acad. Sci. 9: 6. \_ Chamberlin, 1940, Bull. Univ. Utah, 30(11): 15, figs. 71-73.

Range: Unknown, prior to revision of the genus, but certainly widespread in eastern United States.

Identification of Say's name *impressus* with the well-known *pennsylvanicus* was at the initiative of Prof. Chamberlin in 1955. Despite many personal reservations about the possibility of making such a connection from Say's very equivocal description, I have never been able to convince myself that he was wrong in so doing and reluctantly maintain *impressus* as possibly the correct name. Designation of a neotype from Philadelphia is needed to stabilize this nomenclature.

**Genus Saiulus** Chamberlin

*Saiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 12. Type species: *S. setifer* Chamberlin, by original designation.

One species, northwestern North America.

The validity of this taxon *vis- -vis Uroblaniulus* remains to be examined.

**Saiulus setifer** Chamberlin

*Saiulus setifer* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 12, figs. 44-47. MALE HT (USNM) from Washington state: Puget Sound without further locality.

Range: Periphery of Puget Sound in Washington and British Columbia.

Genus **Simiulus** Chamberlin

*Simiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 20. Type species: *Parajulus arius* Chamberlin, 1918, by original designation.

One species, California.

**Simiulus arius** (Chamberlin)

*Parajulus arius* Chamberlin, 1918, Pomona Coll. Journ. Ent. & Zool., 10: 10. MALE HT (?USNM) from Stanford, Santa Clara Co., California.

*Simiulus arius*: Chamberlin, 1940, Bull. Univ. Utah, 30(11): 20, fig. 65.

Genus **Sophiulus** Chamberlin

*Sophiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 18. Type species: *Paraiulus tivius* Chamberlin, by original designation.

Two species, California.

**Sophiulus lomondus** Chamberlin

*Sophiulus lomondus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 20, figs. 33, 34. MALE HT (USNM) from Ben Lomond, Santa Cruz Co., California.

**Sophiulus tivius** (Chamberlin)

*Paraiulus tivius* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 163, pl. 11, figs. 1-7. MALE HT (?MCZ) from Mill Valley, Marin Co., California.

*Sophiulus tivius*: Chamberlin, Bull. Univ. Utah, 30(11): 18, fig. 64.

Range: Periphery of San Francisco Bay, California.

Genus **Spathiulus** Chamberlin

*Spathiulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 14. Type species: *S. leptus* Chamberlin,

by original designation.

Four species, central California.

**Spathiulus elegantulus** Causey

*Spathiulus elegantulus* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 47, figs. 18-21. MALE HT (INHS) from Happy Isle, Yosemite National Park, Mariposa Co., California.

**Spathiulus leptus** Chamberlin

*Spathiulus leptus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 14, figs. 53-55. MALE HT (USNM) from Yosemite Park, California, probably that segment in Mariposa County.

**Spathiulus tribolus** Chamberlin

*Spathiulus tribolus* Chamberlin, 1941, Bull. Univ. Utah, 30(12): 8, figs. 14, 16. MALE HT (USNM) from Sequoia National Park, 12 miles north of Hammond, Tulare Co., California.

**Spathiulus tuolumnus** Chamberlin

*Spathiulus tuolumnus* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 4, fig. 1. MALE HT (USNM) from Pinecrest, Tuolumne Co., California.

Genus **Teniulus** Chamberlin

*Teniulus* Chamberlin, 1951, Great Basin Natur., 11: 21. Type species: *T. parvior* Chamberlin, by original designation.

Two species, eastern Tennessee (Great Smoky Mountains).

The status of this taxon as a genus different from *Uroblaniulus* seems extremely tenuous.

**Teniulus parvior** Chamberlin

*Teniulus parvior* Chamberlin, 1951, Great Basin Nat., 11: 23, figs. 10-12. MALE HT (USNM) from Gatlinburg, Sevier Co., Tennessee.

**Teniulus setosior** Chamberlin

*Teniulus setosior* Chamberlin, 1951, Great Basin Natur., 11: 21, figs. 6-9. MALE HT (USNM) from Gatlinburg, Sevier Co., Tennessee.

Genus **Thriniulus** Chamberlin

*Thriniulus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 21. Type species: *Paraiulus leucocliis* Chamberlin, 1922, by original designation.

One species: Guatemala. Affirmation of the status of *Thriniulus schachtii* Chamberlin,

1952, remains to be accomplished.

**Thriniulus leucoclius** (Chamberlin)

*Paraiulus leucoclius* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 19, pl. 9, figs. 2-8. MALE HT (USNM) from Actel, Dept. Alta Verapaz, Guatemala.

Genus **Tuniulus** Chamberlin

*Tuniulus* Chamberlin, 1940, Bull. Univ. Utah, 31(11): 18. Type species: *Codiulus milpetanus* (*sic*) Chamberlin, 1940, by original designation.

Two (one?) species, California, ?Oregon.

Removed from genus: *Paraiulus hewitti* Chamberlin (see *Bollmaniulus*).

**Tuniulus milpitanus** (Chamberlin)

*Codiulus milpetanus* Chamberlin, 1940, Bull. Univ. Utah, 30(11): 20, fig. 70. MALE HT (USNM) from Milpitas (erroneously spelled Milpetas by Chamberlin), Santa Clara Co., California.

*Tuniulus milpetanus*: Chamberlin, 1941, Bull. Univ. Utah, 31(11): 18.

*Tuniulus milpitanus*: Buckett, 1964, Annot. List Diplopoda California, p. 6.

**Tuniulus oregonensis** (Wood)

*Julus oregonensis* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 11; 1865, Trans. American Philos. Soc., 13: 199, fig. 31. Location of type material unknown, probably lost, from Oregon without further data. Accuracy of the locality should not be assumed, in view of the striking similarity of the gonopods of these two nominal species.

Genus **Uroblaniulus** Attems

*Uroblaniulus* Attems, 1901, Mitt. Naturh. Mus. Hamburg, 18: 113. Type species: *U. megalodus* Attems, by monotypy.

*Shoshoniulus* Chamberlin, 1951, Great Basin Natur., 11: 23. Type species: *Saiulus atlantus* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

Eleven species, many of uncertain validity, Quebec, Ontario, and Wisconsin south to Georgia and Alabama.

The composition of this genus is in disarray: many of the species names are surely junior synonyms, and it seems likely that the poorly-defined names *Saiulus*, *Shoshoniulus*, and *Teniulus* will have to be merged into *Uroblaniulus*. Only a complete revision can possibly bring order to the chaos and for the present my only recourse is to list most of the existing names without prejudice. Shelley (1988) has proposed to bring the names *immaculatus* Wood and *dux* Chamberlin into the synonymy of *canadensis*, and being based largely on data from type material, his conclusions are accepted here. The names based by Koch in 1847 cannot be referred with confidence to any of the newer species, and are provisionally listed in the category

of parajulids of uncertain status although the generic position is unquestionable. They may have been based on the species here listed under the name *jerseyi* Causey.

**Uroblaniulus atlantus** (Chamberlin), new combination.

*Saiulus atlantus* Chamberlin, 1946, Ent. News, 57: 149, figs. 1-5. MALE HT (USNM) from Atlanta (?Fulton Co.), Georgia.

*Shoshoniulus atlantus*: Chamberlin, 1951, Great Basin Natur., 11: 23.

**Uroblaniulus canadensis** (Newport)

*Julus canadensis* Newport, 1844, Ann. & Mag. Nat. Hist., 13: 268. FEMALE HT (BMNH) from Albany River, Hudson s Bay , Ontario. Verity of the stated locality cannot be assumed.

*Julus immaculatus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 0: 12; 1865, Trans. American Philos. Soc., 13: 200, fig. 33. 3\_, 2FEMALE ST (ANSP) from Catskill Mountains, New York without further locality. MALE LT designated by Causey, 1950 (erroneously called holotype ).

*Parajulus immaculatus* Bollman, 1887, Ann. New York Acad. Sci., 4: 44. \_ Brolemann, 1922, Ann. Ent. Soc. America, 15: 292, figs. 28-34.

*Parajulus canadensis*: Bollman, 1893, Bull. U. S. Nat. Mus. 46: 150.

?*Uroblaniulus megalodus* Attems, 1902, Mitt. Zool. Mus. Hamburg, 18: 114, figs. 1-5. Imm.MALE HT (ZMH) from Vermont without further locality. Synonymized by Chamberlin & Hoffman, 1958.

*Paraiulus dux* Chamberlin, 1914, Canadian Entom., 46: 304. MALE HT apparently lost (not at MCZ) from Douglas Lake, Cheboygan Co., Michigan. \_ Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 126, fig. 18. Synonymized by Shelley, 1988, from topotypes.

*Saiulus immaculatus*: Causey, 1950, Proc. Arkansas Acad. Sci., 3: 49, figs. 31-36.

*Uroblaniulus immaculatus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 148.

*Uroblaniulus canadensis*: Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 6.\_ Shelley, 1988, Canadian Journ. Zool., 66: 1648, figs. 18-20.

Range: Northeastern North America: Quebec and Maine to Michigan and southwestern Ontario, southern limits unknown..

The genitalia of the female holotype have been studied, and conform exactly to those of the lectoparatype female of *immaculatus* illustrated by Causey (1950), and other specimens from northeastern United States.

**Uroblaniulus caroliniensis** Causey

*Uroblaniulus caroliniensis* [sic!] Causey, 1953, American Midl. Nat., 50: 154, figs. 11, 12. Location of MALE HT unknown (not at AMNH) from Raleigh, Wake Co., North Carolina.\_ Shelley, 1978, Journ. Nat. Hist., 12: 49, figs. 10, 11.



**Uroblaniulus dixinus** Chamberlin

*Uroblaniulus dixinus* Chamberlin, 1951, Great Basin Nat., 11: 21, figs. 4, 5. MALE HT (USNM) from Gatlinburg, Sevier Co., Tennessee.

**Uroblaniulus exul** Chamberlin

*Uroblaniulus exul* Chamberlin, 1951, Great Basin Natur., 11: 19, figs. 1-3. MALE HT (USNM) from Gatlinburg, Sevier Co., Tennessee.

**Uroblaniulus fumans** (Chamberlin)

*Saiulus fumans* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 10, fig. 23. MALE HT (FMNH) from Gatlinburg, Sevier Co., Tennessee.

*Uroblaniulus fumans*: Chamberlin, 1951, Great Basin Natur., 11: 19.

**Uroblaniulus idahoanus** (Chamberlin), new combination.

*Uroblaniulus idahoanus* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 5, fig. 2. MALE HT (USNM) from Pierce, Clearwater Co., Idaho.

*Shoshoniulus idahoanus*: Chamberlin, 1951, Great Basin Natur., 11: 23.

**Uroblaniulus jerseyi** (Causey)

*Saiulus jerseyi* [*sic!*] Causey, 1950. Proc. Arkansas Acad. Sci., 3: 48, figs. 27-30. MALE HT (ANSP) from Rockaway, Morris Co., New Jersey.

This name is incorrectly formed unless it is understood to be a patronym for the Duke of Jersey (or someone else named Jersey) rather than alluding to the state in which the type locality is located in which case *jerseyensis* would be the correct spelling.

Range: Unknown, possibly south to Virginia.

**Uroblaniulus montanus** (Hoffman)

*Saiulus montanus* Hoffman, 1949, Proc. Biol. Soc. Washington, 62: 81, figs. 5, 6. MALE HT (USNM) from Mount Rogers, Grayson Co., Virginia.

*Uroblaniulus montanus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 148.

Range: Appalachian Mountains in southwestern Virginia. This form is almost certainly a southern subspecies of *U. canadensis*, if distinguishable at all.

**Uroblaniulus sandersoni** (Causey)

*Saiulus sandersoni* Causey, 1950, Proc. Arkansas Acad. Sci., 3: 48, figs. 22-26. MALE HT (INHS) from La Rue, Union Co., Illinois.

**Uroblaniulus stolidus** Causey

*Uroblaniulus stolidus* Causey, 1953, Proc. Arkansas Acad. Sci., 5: 22, figs. 6-9. MALE HT (AMNH) from Peninsular State Park, Door Co., Wisconsin.

Range: Known also from Kalkaska Co., Michigan (VMNH) and southwestern Ontario (Shelley, 1988).

PARAJULIDAE OF UNCERTAIN GENERIC POSITION OR VALIDITY

(Original spellings preserved; sequence alphabetical by species name)

**Paraiulus amulensis** Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 55, pl. V, figs. 9-9d. MALE/FEMALE ST (BMNH) from Amula, Guerrero, Mexico.

**Paraiulus aztecus** Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 56, pl. V, figs. 10-10b. MALE/FEMALE ST (BMNH) from Omilteme, Guerrero, Mexico.

**Julus caesius** Wood, 1867, Proc. Acad. Nat. Sci. Philadelphia, 19: 43. Type material presumed lost, from Texas without closer locality. This name could be referred to any of four or five Texan genera.

**Spirostreptus clavipes** Koch, 1847, Syst. Myriap., in: Panzer, Krit. Rev. Insectenf. Deutschl., 3: 107; 1863, Die Myriapoden, 2: 103, pl. 115, fig. 226. Location of MALE HT unknown (possibly BMNH), from Pennsylvania without further locality.

**Parajulus cockerelli** Miner, 1926, American Mus. Nov., 219: 3, figs. 1-5. MALE HT (AMNH) from shale of Miocene age at Florissant, Colorado. If Miner's reconstruction (Fig. 5) is correct, the exposed male genitalia suggest a genus similar to *Bollmaniulus* or perhaps *Ptyoiulus*.

**Parajulus ectenes** Bollman, 1888 (1887"), Proc. U. S. Nat. Mus., 10: 617. MALE ST lost, FEMALE ST (USNM) from Chapel Hill, Orange Co., North Carolina. Bollman's perceptions of gonopod structure were so extremely generalized that when he wrote that the genitalia of *ectenes* were entirely different from those of *pennsylvanicus* (= *impressus*), we may assume generic level differences with complete confidence (unless, of course, he had an immature male before him). The extant female, personally examined, does not appear to be a species of *Ptyoiulus*.

**Iulus ellipticus** Bollman, 1887, American Natur., 21: 82. 2 FEMALE ST (formerly USNM, present status unknown) from Fort Snelling [not located], Minnesota. Synonymized with *Hakiulus diversifrons* by Chamberlin & Hoffman, 1958, but perhaps in error. In a posthumously published paper (1893) Bollman recorded both species from Winona, Minnesota, at the same time he synonymized *castaneus* under *diversifrons*. If *ellipticus* IS a distinct species, to what genus might it belong? Bollman never alluded to gonopod structure, even though he characterized the species as very common at Winona, and doubtless had adult males.

**Julus filicornis** DeSaussure, 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 377, pl. 5, fig. 38-38d. Imm. MALE HT (?MHNG) from Vera Cruz, Mexico, presumably the city by that name.

**Julus florissantellus** Cockerell, 1907, Bull. American Mus. Nat. Hist., 23: 000. Type material (AMNH) from Miocene shales at Florissant, Colorado. Is this possibly a senior synonym of *P. cockerelli* Miner?

**Paraiulus gyratus** Loomis, 1971 (1969"), An. Inst. Biol. Univ. Nac. Mexico, ser. zool., 1: 51, figs. 2-5. MALE HT (USNM) from Pedregal San Angel, Distrito Federal, Mexico.

**Paraiulus lateralis** Loomis, 1971 (1969"), An. Inst. Biol. Univ. Nac. Mexico, ser. zool. 1: 51, figs. 6-8. FEMALE HT (USNM) from six km from Bochil, Chiapas, Mexico.

**Parajulus neomexicanus** Chamberlin, 1903, Preoc. Acad. Nat. Sci. Philadelphia, 55: 38. Location of type material unknown, probably lost, from Beulah, San Miguel Co., New Mexico. Referred to *Hakiulus* by Chamberlin (1940: 11), but the published description of the gonopods is totally inadequate for deduction of a generic position.

**Spirostreptus nutans** Koch, 1847, Syst. Myriap., in: Panzer, Krit. Rev. Insectenf. Deutschl., 3: 104; 1863, Die Myriapoden, 1: 14, pl. 7, fig. 14. Location of FEMALE HT unknown (possibly BMNH), from Nord-amerika without further locality. This is almost certainly the female of *S. clavipes* Koch.

**Paraiulus oregonensis** Attems, 1903, Zool. Jahrb, Abt. Syst., 18: 91. FEMALE HT (NMW) labeled only Fahrt nach Portland (journey to Portland, from where? Seattle?), presumed to be Portland, Oregon. Probably not congeneric with *Julus oregonensis* Wood, more likely to be a species of *Bollmaniulus*. Omitted from the 1958 Checklist.

**Parajulus perditus** Chamberlin, 1920, Canadian Entom., 52: 167. FEMALE ST (MCZ) from Waterton Lake, British Columbia.

**Paraiulus pueblanus** Chamberlin, 1943, Bull. Univ. Utah, 34(7): 30, figs. 52. MALE HT (USNM) from Rio Frio, Puebla, Mexico.

**Paraiulus phlobius** Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 60, figs. 12, 13. MALE HT (USNM) from Cerro Tancitaro, Michoacan, Mexico.

**Julus rasilis** Karsch, 1881, Zeitschr. Ges. Naturwiss. (3) 6: 17. MALE FEMALE ST (ZMB) from Puebla, Mexico, without further specification, probably the city rather than the state by that name..

**Paraiulus rosanus** Chamberlin, 1943, Bull. Univ. Utah, 34(7): 31, figs. 53-55. MALE HT (USNM) from Santa Rosa, Distrito Federal, Mexico.

**Paraiulus furcifer** var. **sinampus** Chamberlin, 1910, Ann. Entom. Soc. America, 3: 256, pl. 41, figs. 5-8, pl. 42, figs. 1, 2. Imm. MALE HT (lost) from Portland, Oregon. Were genuine new species known from adult males in such dire short supply as to warrant naming an immature specimen of even uncertain generic position?

**Thriniulus schachtli** Chamberlin, 1941, Bull. Univ. Utah, 31(1): 20, figs. 35, 36. MALE HT (USNM) from Tancitaro, Michoacan, Mexico. Correctness of the generic assignment cannot be assumed.

**Paraiulus schmidtii** Chamberlin, 1952, Great Basin Natur., 12: 18, figs. 20, 21. MALE HT (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

**Paraiulus stylifer** Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 57, text fig. 2, pl. V, figs.

11, 11a.MALEFEMALE ST (BMNH) from Guatemala, without further locality.

**Julus tarascus** DeSaussure, 1860, M m. Soc. Phys. Nat. Hist. Gen ve, 15: 378, fig. 52. FEMALE HT (MHNG?) from Angaugueo district, Michoacan, Mexico.

**Paraiulus timpus** Chamberlin, 1912, Ann. Entom. Soc. America, 5: 165, pl. 11, figs. 8, 9. MALEFEMALEF ST lost, from Las Valles, New Mexico, a locality so far unknown to me. This name was omitted from the 1958 Checklist.

**Parajulus varius** Bollman, 1887, Ann. New York Acad. Sci., 4: 38. ST (?USNM) from San Diego, Ukiah, and Rosario Mission, California. San Diego was suggested as a restricted type locality by Chamberlin & Hoffman, 1958: 150, without however designation of a lectotype.

**Paraiulus zempoalus** Chamberlin, 1943, Bull. Univ. Utah, 34(7): 31, figs. 56-58. MALE HT (USNM) from Parque Nacional de Zempoala, Morelos, Mexico.

**Parajulus zonatus** Bollman, 1887, Proc. U. S. Nat. Mus., 10: 618. MALE ST (originally USNM, present status unknown) from Chehalis, Lewis Co., Washington. Bollman's statement that the gonopods differ very remarkably from those of *P. furcifer*. . . exclude this species from *Bollmaniulus* and pose the question of what genus might be represented (unless, of course, Bollman's male was immature)..

## Family Julidae Leach

Julides Leach, 1814, in Brewster (ed.): Edinburgh Encyclopaedia, 7: 387 (name only, taxon equivalent to modern Julida+Spirobolida+Spirostreptida+Chordeumatida).

Iulidae Cook, 1895, Ann. New York Acad. Sci., 9: 6 (first use of the name in its current sense, i.e., exclusive of nemasomatids and blaniulids). \_ Julidae Silvestri, 1895, Ann. Mus. Civ. Stor. Nat. Genova, 36:175.

Julidae Attems, 1926, Handb. Zool., 4: 186. \_ Hoffman, 1980, Classification of the Diplopoda, p. 109.

Up to and including Bollman, 1893, the term Julidae(Iuliden, Julides), was used to include all species now referred to the order Julida, or frequently, all juliform diplopods. Even in 1894, Verhoeff's concept of the family included blaniulids. The two independently compiled classifications by Cook and Silvestri are the earliest known to me, in which the family takes on its current definition. Attems arrangement of 1926 remains the framework upon which current revisionary work is based (although his tribes have been given subfamily rank).

Ten species of this Old World family have been reported from localities in North America, whence introduced in soil, produce, plants, or ballast. Some (e.g., *Ophiulus pilosus*) have become very successfully naturalized in eastern United States, to the extent of largely displacing the native fauna in New York and New England. Others have been found only once or twice, and their present status remains to be examined. Since almost any European julid has the potential of being introduced, appeal must be made to the standard European references (Schubart, 1934; Blower, 1985, Demange, 1981) in making identifications of julids picked up particularly in port cities and adjacent cultivated regions.

In the following entries for these immigrant millipeds, only the more significant papers relating to name changes are mentioned, enough to clarify the often confusing and contradictory previous references. No attempt is made to include all of the synonymous names that have been proposed in the European literature.

It is felt that no useful end would be served by the inclusion of subgeneric names, most of which are both equivocal in concept and inconstant in previous application. Distinction of the genera themselves is by no means a satisfactory *fait accompli*.

### Genus **Brachyiulus** Berlese

*Campodes* Koch, 1847, Syst. Myr., in: Krit. Rev. Insectenf. Deutschlands, 51: 126. Type species: *Campodes flavicornis* Koch, by subsequent designation of Bollman, 1893.

*Brachyiulus* Berlese, 1884, Acari, Myriapoda, Scorpiones. . Italia, 12: 1-6. Type species: *Julus stuxbergi* Fanzago, 1875, by subsequent designation of Berlese, 1886, through its inclusion in the synonymy of *Julus pusillus* Leach (not one of the originally included species). (ICZN, 69, a (v), 1985).

*Julus (Anoploiulus)* Verhoeff, 1894, Verh. Zool.-bot. Gesell. Wien, 44: 151. Type species: *Julus pusillus* Leach, 1815, by subsequent designation of Pocock, 1895.

*Brachyiulus (Microbrachyiulus)* Verhoeff, 1897, Zool. Anz., 20: 114. Type species: *Julus pusillus* Leach, 1815, by monotypy.

About seven species, mostly native to the Mediterranean region, several widespread in western Europe and introduced elsewhere.

The identity of Koch's genus *Campodes*, which he had mistaken to be a chordeumatoid (in which he was followed by C. H. Bollman, 1893) was unequivocally established by Cook & Collins (1895: 30). These authors correctly considered Koch's two species *flavicornis* and *fuscicornis* to be synonymous, and in turn probably the same as *Julus virgatus* Wood (1864) which they believed to be a close relative of *J. pusillus*. The priority of *Campodes* over *Brachyiulus* was tacitly overlooked by European investigators; perhaps they had not seen the paper of Cook & Collins. It is amazing that Verhoeff (1905) who identified many of the species figured by Koch in 1863, passed over *Campodes* in silence despite the obvious brachyiuline traits of its two nominal species. In reminding of this situation in 1980, I did not observe the valid claims of *Campodes* to be reinstated, believing that one or more European workers might petition the International Commission to rescue *Brachyiulus* by placing it on the Official List of Names in Zoology. To date, no one has taken this step, and *Brachyiulus* survives on by default.

The recent discovery by Dr. Rowland Shelley of *Brachyiulus lusitanus* at several sites in North Carolina raises some unpleasant problems related to the status of names based on American material of this genus and heretofore consigned to *pusillus* because that was the only *Brachyiulus* recognized for this continent. It is entirely possible that some of the names listed provisionally under *pusillus*, below, may have been based on *lusitanus* instead, but the lack of genuine type material may preclude a conclusive solution.

#### **Brachyiulus lusitanus** Verhoeff

*Brachyiulus (Microbrachyiulus) pusillus lusitanus* Verhoeff, 1898, Arch. Naturgesch., 64: 153, pl. 6, fig. 28. MALE HT (ZMB) from vicinity of Coimbra, Portugal.

*Microbrachyiulus lusitanus*: Verhoeff, 1910, Nova Acta, Abh. Kaiserl. Leop.-Carol. Deutschen Akad. Naturf., 42: 228.

*Microbrachyiulus calcivagus* Verhoeff, 1910, Nova Acta, Abh. Kaiserl. Leop.-Carol. Deutschen Akad. Naturf., 42: 225, pl. 2, fig. 34. Type material not entirely traced, MALE ST (ZMB), from Castellamare, Sorrento, Campania, Italy. Synonymized by Strasser, 1969.

*Brachyiulus pusillus*: Shelley, 1978, Journ. Nat. Hist., 12: 46, fig. 5.

Range: Mediterranean region, Italy to Portugal, also recorded from the Caucasus region, Madeira, the Azores, and the Canary Islands, doubtless an anthropochoric distribution. In North America, known from two localities in the Piedmont region of North Carolina and one in California, and is probably widespread elsewhere. All existing material labeled *pusillus* in American museums must be re-examined, and published records held in suspicion.

### **Brachyiulus pusillus** (Leach)

*Julus pusillus* Leach, 1815, Trans. Linnean Soc. London, 11: 379. Type material (BMNH) from London and Edinburg, presumably no type locality has been established by a lectotype designation.

?*Julus exiguus* Brandt, 1841, Bull. Scient. Acad. Imp. Sci.. St. Petersburg, 8: 100. MALE FEMALE ST (ZMB) from Pennsylvania without further locality. Synonymized with *J. pusillus* by Chamberlin, 1921.

?*Campodes flavicornis* C. L. Koch, 1847, in Krit. Rev. Insectenf. Deutschlands, 51: 126; 1863, Die Myriapoden, 2: 17, pl. 68, fig. 140. Types not known to exist, from Pennsylvania.

?*Campodes fuscicornis* C. L. Koch, 1847, in Krit. Rev. Insectenf. Deutschlands, 51: 126; 1863, Die Myriapoden, 2: 16, pl. 68, fig. 139. Types not known to exist, from Pennsylvania. Synonymized with *C. flavicornis* by Bollman, 1893.

?*Julus virgatus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 14; 1865, Trans. American Philos. Soc., 13: 205. Location of types, if extant, unknown, from Philadelphia, Pennsylvania, and Washington, D. C. Synonymy with *Campodes flavicornis* implied by Cook & Collins, 1895; synonymized with *J. pusillus* by Chamberlin, 1921.

*Brachyiulus (Microbrachyiulus) littoralis* Verhoeff, 1898, Arch. Naturg., 64: 154, fig. 29. ST (ZMB) from localities in Germany, Austria, and Dalmatia, no lectotype yet designated. Synonymized with *pusillus* by Bagnall, 1918.

*Brachyiulus littoralis*: Schubart, 1934, Tierwelt Deutschlands, 28: 276, fig. 431, and many other Continental writers post-Verhoeff 1898.

*Brachyiulus pusillus*: Schubart, 1966, South African Animal Life, 12: 21, fig. 11.

Range : Widespread in western Europe from Scandinavia and Scotland to Albania and Italy, also introduced into Easter Island, St. Helena, the Azores, Madeira, the Canary Islands, Argentina, and South Africa; probably widespread in much of North America but records compromised by possibility of confusion with *B. lusitanus*.

Various authors, including Chamberlin & Hoffman, 1958, included *Julus stuxbergi* Fanzago, 1875, in the synonymy of *pusillus*; this name is currently being recognized as valid for a different species of the genus in the Mediterranean region.

### Genus *Cylindroiulus* Verhoeff

*Cylindroiulus* (as subgenus of *Iulus*) Verhoeff, 1894, Verh. Zool. Bot. Gesellsch. Wien, 44: 155.  
Type species: *Iulus luridus* variety *meinerti* Verhoeff, 1891, by monotypy.

*Diploiulus* (as subgenus of *Julus*) Berlese, 1886, Boll. Soc. Entom. Italia, 18: 202. Type species: *Julus rufifrons* C. L. Koch, 1847 [sensu Berlese, 1886], invalid typification: *rufifrons* not included in the original composition of this taxon (Berlese, 1883, Acari, Myriapoda, Scorpiones.....Italia reperta, VIII: 1). \_ Chamberlin, 1921, Proc. Biol. Soc. Washington, 34: 81.\_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 119.

*Cylindroiulus* (as genus) Verhoeff, 1899, Arch. Naturg., 65: 213. \_ Attems, 1927, Arch. Naturg., (A) 92: 175 (synopsis; key to nine subgenera; keys to species of most subgenera; *Julus luridus* C. L. Koch erroneously designated as type species).

*Neottiulus* Loomis, 1972, Florida Entom., 55: 149. Type species: *N. striatus* Loomis, by original designation. Synonymized with *Allajulus* by Hoffman, 1980.

*Cylindroiulus* (as subgenus of *Allajulus*, with three species only): Hoffman, 1980, Classification of the Diplopoda, p. 110.

*Cylindroiulus* (restored to generic rank): Read, 1990, Entom. Scandinavica, 21: 106.

An undetermined number of species in the Palearctic Region; several widely dispersed through commerce in plants and soil.

The name of this taxon has undergone an interesting progression of changes, as briefly outlined above. *Diploiulus* was consistently used by American workers following the precedent of Chamberlin (1921), who did not realize that the original proposal of that name in 1883 did **not** include *Julus rufifrons*, a point also overlooked by Berlese himself three years later (1886). Jeekel (1970: 157) correctly selected *Julus dalmaticus* Koch, 1847, one of the two original species, and thus removed *Diploiulus* from any further consideration in this context.

The sole absolute criterion advanced by Read (op. cit.) to justify generic status for *Cylindroiulus* is the absence of setae on the metazona. In view of the considerable diversity of gonopod structure within the taxon so defined, the view might be taken that the lack of setae is a loss-character homoplasy that could recur several times independently, instead of being an synapomorphy for all such species.

#### ***Cylindroiulus britannicus* (Verhoeff)**

*Iulus britannicus* Verhoeff, 1891, Berliner Entom. Zeitschr., 36: 147, figs. 41, 42. Location of type material unknown, probably lost, from S denland without further locality.

*Cylindroiulus britannicus*: Schubart, 1934, Tierwelt Deutschlands, 28: 228, fig. 361. \_ Palm n, 1952, Ann.Zool. Soc. Vanamo, 15(1): 20. \_ Blower, 1953, Ann. Mag. Nat. Hist. (12) 6: 307.

*Diploiulus luscus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 120.

Range: Western Europe, from Scotland to the Azores; introduced into Brazil, southern India, New Zealand, South Africa, Newfoundland and possibly elsewhere (some records for *C. latestriatus* may have been based on this very similar species).

As first noted by Schubart (1926) the type series of *luscus* is a mixture of the two species better known under the names *latestriatus* (Curtis) and *britannicus* (Verhoeff). Dr. R. V.

Chamberlin, who wrote the entries for Julidae in the 1958 Checklist, believed that the name *luscus* - having priority - should be associated with the specimens identifiable as *britannicus*, which name would thus become a junior subjective synonym of *luscus*. As he did not consult the Meinert types and designate a lectotype to secure his intention, his action was not nomenclatorially binding. The status of *luscus* was finally fixed by Korsós & Enghoff (1990) who selected a male identifiable as *latestriatus* as lectotype. Rule *Britannicus!*

**Cylindroiulus caeruleocinctus** (Wood)

*Julus caeruleocinctus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 14. Type material lost, from Pennsylvania, probably in or near Philadelphia..

*Julus teutonicus* Pocock, 1900, Ann. Mag. Nat. Hist., (7) 6: 206. ST (BMNH) from Sevenoaks, Kent, England.

*Diploiuulus londinensis*: Chamberlin, 1921, Proc. Biol. Soc. Washington, 34: 82.

*Cylindroiulus caeruleocinctus*: Mauris, 1964, Bull. Soc. Hist. Natur. Toulouse, 99: 444.

Range: Northern Europe, introduced into and now widespread in North America.

The tangled skein involving the status of the names *caeruleocinctus*, *teutonicus*, *londinensis*, and *finitimus* was clarified by Blower (1958: 63) and Mauris (1964: 444).

**Cylindroiulus latestriatus** (Curtis)

*Julus latestriatus* Curtis, 1845, Journ. Roy. Agr. Soc. England, 5: 229. Five ST (BMNH) from Nantwich, Cheshire, England; MALE LT designated by Brade-Birks, 1922.

*Julus hortensis* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 14; 1865, Trans. American Philos. Soc., 13: 205. Type material unknown, probably lost, from Philadelphia, Pennsylvania. Synonymized with *londinensis* Leach by Chamberlin, 1921; with *latestriatus* by Chamberlin & Hoffman, 1958.

*Julus luscus* Meinert, 1868, Natur. Tidsskr. 5: 9. MALE FEMALE ST (ZMUC) from Denmark. Synonymized with *latestriatus* by Korsós & Enghoff (1990), through their selection of a lectotype conspecific with the type of that name.

*Julus Oweni* Bollman, 1887, Entom. Americana, 2: 228. Type material (?USNM) from New Harmony, Posey Co., Indiana. Synonymized with *latestriatus* by Blower, 1953; previously with *luscus* Meinert, by Chamberlin, 1921.

*Julus (Allaiulus) frisius* Verhoeff, 1891, Berliner Entom. Zeitschr., 36: 133, figs. 17-21. Type material unknown, probably lost, from Norderney Island, Oldenburg, Germany.

*Cylindroiulus frisius*: Verhoeff, 1899, Arch. Naturg., 65: 203.

*Julus hesperus* Chamberlin, 1914, Canadian Entom., 46: 314, fig. X. MALE HT (MCZ) from Los Angeles, California. Synonymized with *luscus* Meinert (= *latestriatus*) by Chamberlin, 1921.

*Cylindroiulus frisius oceanicus* Verhoeff, 1920, in: Skottsberg, The natural history of Juan Fernandez and Easter Island, 3: 406, pl. 13, fig. 1. ST (?ZSBS) from Juan Fernandez Island, Chile. Synonymized with *frisius* by Schubart, 1934.



*Cylindroiulus latestriatus* Brade-Birks, 1928, Ann. Mag. Nat. Hist., (10) 1: 397. \_ Blower, 1953, Ann. Mag. Nat. Hist., (12) 6: 306.

*Cylindroiulus (Aneulobiulus) frisius*: Schubart, 1934, Tierwelt Deutschlands, 28: 226, figs. 359, 360.

*Diploiulus hortensis*: Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 35.

*Diploiulus latistriatus latistriatus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 119.

*Neottiulus striatus* Loomis, 1972, Florida Entom., 55: 149. MALE HT (USNM) from Bellingham, Whatcom Co., Washington. Synonymized by Hoffman, 1980.

Range: Western Europe, where partly synanthropic; southern Scandinavia; not recorded south of the Alps; introduced by commerce into North America where now acclimatized in urban areas from New England to California and Washington; Azores, Madeira, Canary Islands; South Africa; South India; Juan Fernandez; New Zealand. Apparently not a successful colonizer in equatorial countries.

The spelling *latistriatus* in the original description (and repeated by Chamberlin & Hoffman, 1958, inter alia) has been shown to be a typographical error.

### **Cylindroiulus punctatus** (Leach)

*Julus punctatus* Leach, 1815, Trans. Linnean Soc. London, 11: 379. Type material (?BMNH) from England, without further locality.

*Julus silvarum* Meinert, 1868, Naturh. Tidsskr., (3) 15: 13. Type material (ZMUC) from several localities in Denmark. Apparently a lectotype has not been designated and type locality thus not fixed.

*Cylindroiulus punctatus*: Brade-Birks, 1919, Bull. Soc. Zool. France, 44: 65.

*Cylindroiulus silvarum*: Schubart, 1934, Tierwelt Deutschlands, 28: 221, figs. 351, 352. \_ Jawlowski, 1939, Frag. Faun. Mus. Zool. Polonici, 4: 156.

Range: Western Europe; introduced into Newfoundland.

### **Cylindroiulus truncorum** (Silvestri)

*Diploiulus truncorum* Silvestri, 1896, Natur. Siciliano, n.s., 1: 160, pl. 7, figs. 11-13. ST (LEAP; Budapest, ?elsewhere), from Ain-Draham (west of Beja), Tunisia.

*Julus (Anoploiulus) africanus* Brolemann, 1897, Ann. Sci. Nat., (8) 4: 271, figs. 39-41. MALE FEMALE ST (?MHNP) from four places in Algeria, none specified as type locality. Synonymized by Attems, 1927.

*Cylindroiulus truncorum*: Attems, 1908, in: Voyage zoologique en Khroumirie (Tunisie) par Henri Gadeau de Kerville: 112, figs. 10-12. \_ Schubart, 1934, Tierwelt Deutschlands, 28: 222, figs. 353-355. \_ Korsós & Enghoff, 1990, Entom. Scandinavica, 21: 347, figs. 1, 5-8, 21, 30, 31 (revision of the *truncorum*-group of *Cylindroiulus*).

*Diploiuulus africanus*: Chamberlin, 1923, Proc. Biol. Soc. Washington, 36: 191.

Range: North Africa (Tunisia, Algeria); synanthropic in western Europe, Madeira, the Canary Islands, and at scattered localities in North America, Brazil, and South Africa.

**Cylindroiulus vulnerarius** (Berlese)

*Mesoiulus vulnerarius* Berlese, 1888, Acari, Myriapoda, Scorpiones. . . Italia, 48: pl. 1, fig.s. 1-7.  
Location of type material unknown, from vicinity of Florence (Firenze), Italy.

*Cylindroiulus vulnerarius*: Verhoeff, 1912, Zool. Anz., 40: 221, fig. 1. \_ Schubart, 1934, Tierwelt Deutschlands, 28: 203, fig. 327.\_ Shelley & Whitney, 1994, Entom. Month. Mag., 130: 189.

Range: Apparently native in north-central Italy, occurring synanthropically in northern Europe, in gardens and hothouses; introduced into Vancouver, British Columbia and possibly established there (Shelley & Whitney, 1994).

**Genus *Julus* Linnaeus**

*Julus* Linnaeus, 1758, Syst. Natur. (10th ed.): 639. Type species: *J. terrestris* Linnaeus, 1758, by subsequent designation of Latreille, 1810.

About five species, northern Europe, one introduced into North America.

***Julus scandinavus* Latzel**

*Iulus (Ommatoiulus) scandinavus* Latzel, 1884, Myr. Austr.-ungarn. Monarch., 2: 322, figs. 130-132. ?ST (NMW) from several localities in Austria including Kirchdorf and Wien (V. Stagl, in litt.), lectotypification is required to establish a type locality.

*Iulus scandinavus*: Schubart, 1934, Tierwelt Deutschlands, 28: 235, figs. 373-378.

*Julus scandinavus*: Jeekel, 1973, Entom. Bericht., 33: 101.

Range: Western Europe, from France through southern Scandinavia, southward to Hungary; no records south of the Alps. Introduced into North America where found at Boston, Massachusetts, by Jeekel (1973). It is not known if this colony has persisted.

**Genus *Ophiulus* Berlese**

*Julus (Ophiulus)* Berlese, 1884, Acari, Myriapoda, scorpiones.....Italia, 12, 1-6. Type species: *Julus terrestris* sensu Koch 1863 non Linnaeus, 1758, sensu Berlese 1884 (= *Julus fallax* Meinert = *Julus pilosus* Newport).

*Julus (Ophiulus)* Berlese, 1886, Boll. Soc. Entom. Italiano, 18: 189.

*Ophiulus*: Attems, 1927, Arch. Naturg., 92 (A): 138 (synopsis of genus, key to 15 species and subspecies).

About 18 nominal taxa, dominantly in the Appennine peninsula, one species with marked dispersal capabilities.

I have not attempted to document all of the numerous variant spellings, synonyms, and combinations involved in the literature treating the following species; the early history is summarized by Schubart, 1934.

### **Ophiulus pilosus** (Newport)

*Julus pilosus* Newport, 1843, Ann. Mag. Nat. Hist., 11: 316. Type material (?BMNH) from Hampstead, now a district in west London, England. \_ Pocock, 1893, Ann. Mag. Nat. Hist., (6) 11: 249.

*Julus canaliculatus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 12; 1865, Trans. American Philos. Soc., 13: 201. Types not known to exist, from Chester Co., Pennsylvania.

*Julus laqueatus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 13; 1865, Trans. American Philos. Soc., 13: 202. Types not known to exist, from Chester Co., Pennsylvania.

*Julus fallax* Meinert, 1868, Naturh. Tidsskr. (3) 5: 15. ST (ZMUC) from Kobenhavn, Denmark.

*Julus (Leptoiulus) fallax*: Verhoeff, 1898, Arch. Naturg. 64: 132.

*Ophiulus longabo* (non sensu Koch) Chamberlin, 1921, Proc. Biol. Soc. Washington, 34: 83.

*Ophiulus pilosus*: Chamberlin, 1922, Proc. Biol. Soc. Washington, 35: 9, and subsequent references by American authors.

Range: Probably native to northern Italy, now sporadically widespread in western Europe; abundant and naturalized in much of northeastern United States and adjacent Canada.

Chamberlin (1921) felt that several species of julids named by C. L. Koch were junior synonyms of *pilosus*. Verhoeff (1905), who tried to identify the millipeds illustrated in Koch's 1863 iconography, felt that *Julus longabo* might have been based on either *Leptoiulus alemannicus* or *Julus ligulifer*, and that *J. ferreus* and *serpentinus* could not be recognized with any confidence. Considering Verhoeff's acknowledged authority on central European millipeds, I have not followed Chamberlin's initiative.

## Julida of uncertain identity

Two names based upon Pleistocene fossils from California caves are entered here solely because of their original generic assignment (by someone who knew little about Diplopoda). It is not certain that either are actually members of this order. As the type material is still extant, perhaps its examination could lead to a more confident placement, although interpreting milliped fossils is usually an exercise in futility. Presumably these remains are those of species still occurring in the region, and in any event their names constitute nomenclatorial realities to be disposed in some way other than benign neglect.

**Julus occidentalis** Grinnell, 1908, Univ. California Publ. Geology, 5: 209, figs. 9-11. Type material (Univ. California at Berkeley) from Samwel Cave, 15 miles up the McCloud

River from Baird, Shasta Co., California. The dimensions cited by Grinnell (width 6 mm, perhaps of a flattened segment) suggest the possibility of a large parajulid or, equally likely, a spiroboloid.

**Julus cavicola** Grinnell, 1908, Univ. California Publ. Geology, 5: 210, figs. 1, 5, 10, 12. Type material (Univ. California at Berkeley) from Potter Creek Cave near Baird, Shasta Co., California.

## Order Siphoniulida

### Family Siphoniulidae Pocock

Siphoniulidae Pocock, 1894, in Weber, Zool. Ergeb. Reise Niederl. Ost-Ind., 3: 340.

#### Genus **Siphoniulus** Pocock

*Siphoniulus* Pocock, 1894, in Weber, Zool. Ergeb. Reise Niederl. Ost-Ind., 3: 340. Type species, *S. albus* Pocock, by original designation.

Two species, Sumatra, Guatemala.

**Siphoniulus neotropicus** Hoffman

*Siphoniulus neotropicus* Hoffman, 1979, Rev. suisse Zool., 86: 536, figs. 1-6. F HT (MHNG) from Tikal, Dept. Peten, Guatemala.

## Order Platydesmida DeSaussure

### Family Platydesmidae DeSaussure

Platydesmii DeSaussure, 1860, M m. Soc. Phys. Hist. nat. Gen ve, 15: 34 (as a tribe within the family Polydesmides).

Platydesmidae Cook, 1895, Ann. New York Acad. Sci., 9: 5.

Two genera, Mexico to Panama.

### Genus **Desmethus** Chamberlin

*Desmethus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 6. Type species: *D. setifer* Chamberlin, by original designation.

Two species: Panama to Guatemala.

#### **Desmethus chiriquensis** Loomis

*Desmethus chiriquensis* Loomis, 1964, Fieldiana: Zool., 47:126, figs. 13G-I. FEMALE HT (FMNH) from Cerro Punta, Prov. Chiriqu, Panama.

Range: Also recorded from Cerro de la Muerte, Provs. San Jos -Cartago, Costa Rica (Loomis, 1974).

#### **Desmethus setifer** Chamberlin

*Desmethus setifer* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 6, pl. 1, figs. 3-8. MALE HT (USNM) from San Rafael, Guatemala (Dept. Guatemala or Dept. Jalapa: Loomis, MS, was unable to decide which of these two San Rafaels was the correct locality).

### Genus **Platydesmus** Lucas

*Platydesmus* Lucas, 1843, Revue zool. Soc. cuvierienne, 6: 58; 1843, Ann. Soc. entom. France, (2) 1: 51. Type species: *P. polydesmoides* Lucas, by monotypy. \_ Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 42.

*Piestodesmus* Lucas, 1849, Rev. & Mag. Zool., (2) 1: 598. Type species: *P. Moreletii* Lucas, by monotypy. Synonymized by DeSaussure & Humbert, 1872.

*Rhaphonotum* Loomis, 1968, Bull. U. S. Nat. Mus., 226: 108. Type species: *R. tuberculatum* Attems, 1951, by original designation. Synonymized by Hoffman, 1980.

28 species, northern Mexico (Nuevo Leon) to Panama.

#### **Platydesmus analis** Pocock

*Platydesmus analis* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 46, pl. IV, figs. 3, 3a-g. ST (BMNH) from Guatemala, without further locality (Pocock suspected the capital city might have been intended, rather than the country).

#### **Platydesmus bitumulus** Loomis

*Platydesmus bitumulus* Loomis, 1972, Florida Entom., 55: 204, figs. 34-37. FEMALE HT (USNM) from Parismina, between Cairo and Guapiles, Prov. Limon, Costa Rica.

#### **Platydesmus calus** Chamberlin

*Platydesmus calus* Chamberlin, 1952, Great Basin Nat., 12: 30. HT (FMNH); Chamberlin cited

material from Penuela and El Fortin de las Flores, Vera Cruz, Mexico, without stating from which the holotype derived.

**Platydesmus cerrobis** Chamberlin

*Platydesmus cerrobis* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 57, fig. 1. MALE HT (USNM) from Cerro Tancitaro, Michoacan.

**Platydesmus corozoi** Chamberlin

*Platydesmus corozoi* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 10, fig. 1. HT/ST? (USNM) from Rio Frio, Distrito Federal, Mexico.

Chamberlin listed material from Rio Frio and Desierto de los Leones, D. F., and Rio Frio in Puebla. It is not known to me whether he selected a holotype from either of these three localities; the point should be investigated and a lectotype designated if necessary.

**Platydesmus crucis** Chamberlin

*Platydesmus crucis* Chamberlin, 1952, Great Basin Natur., 12: 31, fig. 1. HT/ST? (FMNH) from Las Vigas, Vera Cruz, Mexico.

**Platydesmus excisus** Chamberlin

*Platydesmus excisus* Chamberlin, 1952, Great Basin Natur., 12: 31, fig. 2. HT (FMNH) from Sierra Santa Elena, Dept. ?Quiche/Alta Verapaz, Guatemala.

**Platydesmus guatemalae** Brolemann

*Platydesmus guatemalae* Brolemann, 1900, M m. Soc. Zool. France, 13: 112, figs. 78-82. HT/ST? (MNHP) from Guatemala, without further locality.

**Platydesmus hirudo** Pocock

*Platydesmus hirudo* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 46, pl. IV, figs. 2, 2a-e, pl. V, fig. 1. HT/ST? (BMNH) from Omilteme (Omiltemi), Guerrero, Mexico.

**Platydesmus interruptus** Chamberlin

*Platydesmus interruptus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 5, pl. 1, figs. 1, 2. HT/ST? (USNM) from San Juan Pueblo and La Ceiba, Honduras. I do not know if Chamberlin specified a holotype from one of the localities.

**Platydesmus lankesteri** Brolemann

*Platydesmus Lankesteri* Brolemann, 1905, Ann. Soc. entom. France, 74: 354, text figs. IV, V, pl. 9, fig. 15. MALE/FEMALE ST (MNHP) from El Reventado, Prov. ?Guanacaste, Costa Rica.

Range: Recorded from several localities in El Salvador (Kraus, 1954). The lack of records for Guatemala and Nicaragua is therefore curious.

**Platydesmus lineatus** Pocock

*Platydesmus lineatus* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 46, pl. IV, figs. 5, 5a-g. HT/ST? (BMNH) from Volc n de Orizaba, Vera Cruz-Puebla, Mexico.

**Platydesmus marmoreus** Pocock

*Platydesmus marmoreus* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 46, pl. IV, figs. 3-3g. HT?ST (BMNH) from Chalhuitz, near San Mateo Ixtaln, Dept. Huehuetanango, Guatemala.

Range: Recorded from two departments in El Salvador by Kraus (1954).

**Platydesmus melleus** Loomis

*Platydesmus melleus* Loomis, 1968, Journ. Kansas Entom. Soc., 41: 393. MALE HT (USNM) from Chipinque Mesa at Monterey, Nuevo Leon, Mexico.

Range: Also recorded from Horsetail Falls, ca. 35 km southeast of the type locality.

**Platydesmus mesomelas** Pocock

*Platydesmus mesomelas* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 46, pl. V, fig. 2. MALEFEMALE ST (BMNH) from Omilteme (Omiltemi), Guerrero, Mexico.

**Platydesmus mexicanus** Humbert & DeSaussure

*Platydesmus mexicanus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 0: 156; DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 103, pl. 2, figs. 5, 5a-e. ST (?MNHG) from le Mexique; Cordill re orientale; Sierra de Agua. Selection of a lectotype seems mandated.

**Platydesmus moreleti** (Lucas)

*Piestodesmus Moreleti* Lucas. 1849, Rev. & Mag. Zool., (2) 1: 599, pl. 17, figs. 1-1d. F HT (MHNP?) from Tabasco, Mexico.

*Platydesmus Moreleti*: DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 102.

**Platydesmus nicaraguae** Chamberlin

*Platydesmus nicaraguae* Chamberlin, 1956, Ent. News, 67: 158. HT (USNM) from Musawas, Waspuc River, ?Dept. Zelaya, Nicaragua.

**Platydesmus nicaraguanus** Chamberlin

*Platydesmus nicaraguanus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 37. HT/ST? (MCZ) from Nicaragua, without further locality.

**Platydesmus perditus** Chamberlin

*Platydesmus perditus* Chamberlin, 1952, Great Basin Natur., 12: 33, fig. 3. HT/ST? (FMNH) from Guatemala without further data.

**Platydesmus perpictus** Pocock

*Platydesmus perpictus* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 47, pl. 5, figs. 1-1f. ST (BMNH) from Senah and Chalhuitz, Guatemala; it is not known if Pocock selected a holotype from either of these places. If not, a lectotype designation will fix the type locality.

**Platydesmus polydesmoides** Lucas

*Platydesmus polydesmoides* Lucas, 1843, Rev. zool. Soc. cuvier. 6: 58; Ann. Soc. entom. France, (2) 1: 52, pl. 3, figs. 1-8. HT/ST? (?MNHP) from Guatemala, without further locality.

**Platydesmus reimoseri** (Attems), new combination

*Rhaphonotum reimoseri* Attems, 1951, M m. Mus. Nat. Hist. Natur., NS (A), 3: 201, figs. 13-22. HT/ST? (NMW) from Costa Rica, without further locality.

**Platydesmus simplex** Chamberlin, new status

*Platydesmus interruptus simplex* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 5. HT/ST? (USNM) from La Ceiba, Dept. Atlantida, Honduras.

**Platydesmus subovatus** Loomis

*Platydesmus subovatus* Loomis, 1964, Fieldiana: Zool., 47: 127, figs. 13J-L. FEMALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Platydesmus taureus** Loomis

*Platydesmus taureus* Loomis, 1964, Fieldiana: Zoology, 47: 128, figs. 13M-N. FEMALE HT (FMNH) from Negra Creek, at Almirante, Prov. Bocas del Toro, Panama.

**Platydesmus triangulifer** Pocock

*Platydesmus triangulifer* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 45, pl. IV, figs. 4-4c. HT/ST? (BMNH) from Volc n de Acatenango =Volc n de Fuego?, Dept. Chimaltenango, Guatemala.

Range: Recorded also from Escobas, Dept. Izabal, Guatemala, perhaps misidentified.

**Platydesmus tuberculatus** (Attems), new combination

*Rhaphonotum tuberculatum* Attems, 1951, M m. Mus. Nat. Hist. nat., NS, (A), 3: 198, figs. 1-12. HT/ST? (NMW) from Hamburg Farm, west of Lim n, Prov. Lim n, Costa Rica.

## Family Andrognathidae Cope

Andrognathidae Cope, 1869, Proc. American Philos. Soc., 11: 182. \_ Gardner, 1975, Mem.



Pacific Coast Entom. Soc., 5: 1 et seq. (revision of Nearctic fauna). \_ Hoffman, 1980, Classification of the Diplopoda, p. 118 (list of genera).

Five genera, North America; three, Europe; four, eastern Asia.

Owing to the unsatisfactory condition of the existing classification, I prefer to omit subfamily categories and merely list the genera alphabetically. Gardner's careful monograph (1975) should be consulted for detailed descriptions, literature references, and distributional data.

### Genus **Andrognathus** Cope

*Andrognathus* Cope, 1869, Proc. American Philos. Soc., 11: 182. Type species: *A. corticarius* Cope, by monotypy. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 15.

One species, southeastern United States.

#### **Andrognathus corticarius** Cope

*Andrognathus corticarius* Cope, 1869, Proc. American Philos. Soc., 11: 182. Type material not known to exist, from Montgomery Co., Virginia (probably at Yellow Sulphur Springs, near Ellett). \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc. 5: 15, figs. 1, 5-7.

Range: southeastern United States, from central North Carolina and southwest Virginia to Alabama and western Florida.

### Genus **Brachycybe** Wood

*Brachycybe* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia [16] : 187. Type species: *B. Lecontii* Wood, by monotypy. \_ Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 22. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 19.

Six species, North America; one, Japan.

#### **Brachycybe californica** (Karsch), new combination

*Platydesmus californicus* Karsch, 1880, Mitt. M nchner Entom. Ver., 4: 144. HT (ZMB) labeled only California.

The existence of Karsch's holotype was unknown to Gardner; he therefore followed the precedent of Cook & Loomis (1928) in arbitrarily considering it to be a junior synonym of *B. rosea* Murray. I believe that this species must be regarded as valid until the type can be examined; it may prove to be the same as *producta*.

The name was *californicus* was previously synonymized with *lecontii* by Bollman (1893).

#### **Brachycybe lecontii** Wood

*Brachycybe Lecontii* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, [16]: 187. ST (USNM) from Georgia, without further locality.

*Platydesmus lecontei*: Bollman, 1888, Entom. Americana, 4: 1.

*Brachycybe lecontei*: Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 24.

*Brachycybe lecontii*: Gardner, 1975, Mem. Pacific Coast Ent. Soc., 5: 32, figs. 1, 2, 27-30.

Range: Southeastern United States, from Virginia to Illinois and Kansas, south to Louisiana and southern Alabama (map, Gardner, 1975, fig. 2).

**Brachycybe petasata** Loomis

*Brachycybe petasata* Loomis, 1936, Proc. U. S. Nat. Mus., 83: 365, figs. 32d,e. MALE HT (USNM) from Cherokee National Forest, Tennessee. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 37, figs. 1, 3, 35-38.

Range: Southern Appalachians, in adjacent parts of North Carolina, Georgia, Alabama, and Tennessee, possibly also in Virginia and Kentucky (map, Gardner, 1975, fig. 3).

**Brachycybe picta** Gardner

*Brachycybe picta* Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 26, figs. 1, 4, 18-21. FEMALE HT (UCD) from one mile north of Mendocino, Mendocino Co., California.

Range: Known also from Paradise Valley, Marin Co., California. Both known localities are immediately adjacent to the Pacific coast.

**Brachycybe producta** Loomis

*Brachycybe producta* Loomis, 1936, Proc. U. S. Nat. Mus. 83: 367, figs. 32h, i. MALE HT (USNM) from an unknown locality, thought to have been in Baja California Norte, Mexico. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 22, figs. 1, 4, 14-17.

*Brachycybe tuolumna* Chamberlin, 1953, Proc. Biol. Soc. Washington, 66: 70. FEMALE HT (USNM) from Windeler Cavern, Tuolumne Co., California. Synonymized by Gardner, 1975.

Range: California: Sierra Nevada range from Mariposa Co. north to Shasta Co., Coast Range from San Francisco Bay north to Lake Co. (map, Gardner, 1975, fig. 4).

**Brachycybe rosea** Murray

*Brachycybe rosea* Murray, 1877, Economic Entomology (Science handbook, South Kensington Museum, London), p. 21. Existence of type material unknown, from California, without further locality. \_ Cook & Loomis, 1928, Proc. U. S. Nat. Mus. 72(18): 24. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 28, figs. 1, 4, 22-25.

*Brachycybe potterinus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 4. MALE HT (USNM) from Potter Creek, near Potters Cave, California; misplaced in Mendocino Co. in the 1958 Checklist. . This locality is actually at Lake Shasta, Shasta Co., as explained by Gardner, 1975: 32. Synonymized by Gardner, 1975.

Range: Sierra Nevada range in northern California, recorded from El Dorado, Nevada, Plumas, and Shasta counties.

The original material described by Murray (as well as the other millipeds he named in 1877)

was part of the public exhibition displays in the Bethel Green museum, London. There is no record that any of it was ever transferred to the Natural History Museum, and all must be considered as lost through inadvertency or deliberate discard. Under the circumstances, the arbitrary association of the name *rosea* with a Californian species by Cook & Loomis, 1928, and by Gardner, 1975, is probably the most reasonable disposition of the name. I do not, however, follow these authors in combining Karsch's *P. californicus* as a junior synonym until the extant type specimen at Berlin is restudied.

### Genus **Gosodesmus** Chamberlin

*Gosodesmus* Chamberlin, 1922, Pomona College Journ. Entom. Zool., 14: 9. Type species: *G. claremontus* Chamberlin, by original designation. \_ Buckett & Gardner, 1969, Journ. New York Entom. Soc., 77: 40.

*Eucybe* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 3. Type species: *E. clarus* Chamberlin, by original designation. Synonymized by Buckett & Gardner, 1969.

*Stenocybe* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 3. Type species: *S. waipea* Chamberlin, by original designation. Synonymized by Gardner, 1975.

Monotypic, California.

#### **Gosodesmus claremontus** Chamberlin

*Gosodesmus claremontus* Chamberlin, 1922, Pomona College Journ. Entom. Zool., 14: 9, 3 figs. HT (MCZ) from Claremont, Los Angeles Co., California. \_ Buckett & Gardner, 1969, Journ. New York Entom. Soc., 77: 40. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 39, figs. 1, 39-42.

*Eucybe clarus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 3. HT (USNM) from Hastings Reservation, Monterey Co., California. Synonymized by Buckett & Gardner, 1969.

*Eucybe longior* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 4. HT (USNM) from 12 miles east of Lemoncove, Tulare Co., California. Synonymized by Buckett & Gardner, 1969.

*Eucybe auctus* Chamberlin, 1954, Proc. Biol. Soc. Washington, 67: 233. MALE HT (USNM) from Chowchilla Mountain, northeast of Signal Peak, Mariposa Co., California. Synonymized by Buckett & Gardner, 1969.

*Stenocybe waipea* Chamberlin, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 68: 3. HT (USNM) from Squaw Creek, Placer Co., California. Synonymized by Gardner, 1975.

Range: Most of the mountainous areas of California, except the desert southeastern counties (map, Buckett & Gardner, 1969, fig. 2).

Entries for *Stenocybe*, *S. waipea*, and *Eucybe auctus* were inexplicably omitted from the 1958 Checklist .

### Genus **Ischnocybe** Cook & Loomis

*Ischnocybe* Cook & Loomis, 1928, Proc. U. S. Nat. Mus. 72(18): 21. Type species: *I. plicata* Cook & Loomis, by original designation.

Monotypic, California, Oregon, Idaho.

**Ischnocybe plicata** Cook & Loomis

*Ischnocybe plicata* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 22, fig. 6. HT (USNM) from 21 miles up North Fork Feather River from Belden, Plumas Co., California. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 44, figs. 1, 43-46.

Genus **Mitocybe** Cook & Loomis

*Mitocybe* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 18. Type species: *M. auriportae* Cook & Loomis, by original designation.

Monotypic, California.

**Mitocybe auriportae** Cook & Loomis

*Mitocybe auriportae* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 20, figs. 5a, b. HT (USNM) from Mount Tamalpais, Marin Co., California. \_ Gardner, 1975, Mem. Pacific Coast Entom. Soc., 5: 18, figs. 1, 8-11.

## Order Siphonophorida

### Family Siphonophoridae Newport August 2, 1999

Siphonophoridae Newport, 1844, Proc. Linnean Soc. London, 1: 195. \_ Hoffman, 1980, Classification of the Diplopoda, p. 116. - Shelley, 1996, Journ. Nat. Hist., 30: 1805 (New World species listed).

Californizoniinae Verhoeff, 1941, Zool. Anz., 134: 220. Synonymized by Hoffman, 1980.

Number of genera unknown. Southwestern United States to Argentina; West Indies; southeast Asia; East Indies; Australia.

The definition of genera in this family, never satisfactory from the beginning, was greatly complicated by Verhoeff's proposal of many new, mostly monotypic, generic names based mostly on published accounts only, and by the addition ten years later of several more such names by Graf Attems (1951). Verhoeff's treatment was criticized in considerable detail by Carl (1944), in a paper apparently unknown to Attems who belaboured Verhoeff's work with independent but equal diligence. Regrettably the revision by Attems, obviously written very late in his career under difficult conditions, was just as bad in its own way.

Traditionally the species of tropical America have been divided between the genera *Siphonophora* and *Siphonocybe*, depending on presence or absence of noticeable metazonal paranota. This dichotomy has generally been informally acknowledged as artificial but maintained for lack of a better arrangement. The nominal genera set up by Verhoeff were based mostly on

trivial gonopodal characters noted in published drawings by Carl and Chamberlin; Carl himself exposed some of the inevitable fallacies in this approach.

Many genera proposed by both Verhoeff and Attems were based on the number of visible podomeres in the male gonopods, some thus united species from remote parts of the world. This seems to me a prime case of reductional homoplasy, which should guide the work of future revisers.

These taxa were awarded provisional generic status by Shelley (1997). On the one hand this keeps them conspicuous for later revision, on the other it carries a sort of endorsement by fiat. I prefer a more Napoleonic position and synonymize nearly all of them under *Siphonophora* as guilty until proven innocent. I admit to a degree of inconsistent partiality in retaining *Siphonocybe* and *Siphonacme* as valid; their age imparts degree of security in possible future synonymizations.

### Genus **Siphonacme** Cook & Loomis

*Siphonacme* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72: 7. Type species, *S. lyttoni* Cook & Loomis, by original designation. \_ Shelley, 1996, Myriapodologica, 4: 25.

*Californizonium* Verhoeff, 1941, Zool. Anz., 115: 217. Type species: *Siphonophora pseustes* Chamberlin, 1923, by monotypy. Synonymized by Shelley, 1996.

Two species: Arizona and Sonora (map, Shelley, 1996, fig. 14).

#### **Siphonacme lyttoni** Cook & Loomis

*Siphonacme lyttoni* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72: 8, figs. 1a-c, pl. 2, three unnumbered figures on right. MALE HT (USNM) from a site between Superior and Miami, two km north of the Gila/Pinal county line, Arizona. \_ Shelley, 1996, Myriapodologica, 4: 27, figs. 4-6.

#### **Siphonacme pseustes** (Chamberlin)

*Siphonophora pseustes* Chamberlin, 1923, Proc. California Acad. Sci., (4) 12: 400, figs. 30-33. MALE HT (CAS) from San Pedro Bay, ca. 35 km northwest of Guaymas, Sonora, Mexico.

*Siphonacme pseustes*: Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 10. \_ Shelley, 1996, Myriapodologica, 4: 27, fig. 7.

*Californizonium pseustes*: Verhoeff, 1941, Zool. Anz., 115: 217.

### Genus **Siphonocybe** Pocock

*Siphonocybe* Pocock, 1903, Biol. Centr. Amer., Diplopoda, p. 50. Type species: *Siphonorhinus hartii* Pocock, 1894, by original designation. \_ Loomis, 1975, Florida Entom., 58: 183 (key to five species).

Five species, West Indies (Haiti, Jamaica), Panama, northern South America.

#### **Siphonocybe alba** Loomis

*Siphonocybe alba* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 13, figs. 3a-c. MALE HT (USNM) from a site near Trouin, Haiti.

Range: Also recorded from a site between Leogane and Petit Goave, Haiti.

**Siphonocybe crassirostrata** Loomis

*Siphonocybe crassirostrata* Loomis, 1975, Florida Entom., 58: 183, figs. 23, 24. MALE HT (FSCA) from Mount Diablo, south of Moneague, St. Ann Par., Jamaica.

Range: Recorded from one mile south of Claremont, St. Ann Par., Jamaica.

**Siphonocybe laticollis** Loomis

*Siphonocybe laticollis* Loomis, 1964, Fieldiana: Zool. 47: 123, figs. 12, L-N. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

Range: Recorded from Cerro Punta, Prov. Chiriqui, Panama.

**Siphonocybe pilosa** Loomis

*Siphonocybe pilosa* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 118, figs. 7 i-m. MALE HT (USNM) from Fort Sherman, Canal Zone, Panama.

**Genus Siphonophora** Brandt

*Siphonophora* Brandt, 1837, Bull. Scientif. Acad. Imp. Sci. St. Petersburg, 1: 179. Type species: *S. portoricensis* Brandt, by monotypy. \_ Shelley, 1996, Journ. Nat. Hist., 30: 1799 (catalog New World species).

*Guatemalium* Verhoeff, 1941, Zool. Anz., 134: 217. Type species: *Siphonophora barberi* Chamberlin, 1922, by original designation. \_ Shelley, 1996, Journ. Nat. Hist., 30: 1811.

*Yukatanium* Verhoeff, 1941, Zool. Anz., 134: 217. Type species: *Siphonophora sabachana* Chamberlin, 1938, by original designation. \_ Shelley, 1996, Journ. Nat. Hist., 30: 1811.

*Linozonium* Attems, 1951, M m. Mus. Nat. Hist. Natur., (A) 3: 225. Type species: *Siphonophora mexicana* DeSaussure & Humbert, 1872, by original designation.

About 70 nominal species, New and Old World tropics (except Africa), a few extending into temperate parts of the United States and Argentina.

Loomis (1970) provided a key to the West Indian species of this genus.

**Siphonophora albiceps** Loomis

*Siphonophora albiceps* Loomis, 1970, Florida Entom., 53: 134, figs. 4, 5. MALE HT (USNM) from Cinnamon Bay Trail, St. John, U. S. Virgin Islands.

**Siphonophora alveata** Loomis

*Siphonophora alveata* Loomis, 1972, Florida Entom., 55: 205, figs. 38, 39. MALE HT (USNM)

from Cairo, Prov. Limón, Costa Rica.

**Siphonophora aviceps** Loomis

*Siphonophora aviceps* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 119, figs. 8c-f. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

Range: Recorded from localities in Panama and Chiriqui provs., in addition to the Canal Zone.

**Siphonophora barberi** Chamberlin

*Siphonophora barberi* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 7, pl. 2, figs. 1-5. MALE HT (USNM) from Jocalo, Departamento not located, Guatemala.

*Guatemalium barberi*: Verhoeff, 1941, Zool. Anz., 134: 217. \_ Shelley, 1996, Journ. Nat. Hist., 30: 1811.

**Siphonophora brevicornis** Pocock

*Siphonophora brevicornis* Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 50, pl. V, figs. 5, 5a. ST (BMNH) from Volcán de Agua, Dept. Sacatepequez, Guatemala.

**Siphonophora coclensis** Loomis

*Siphonophora coclensis* Loomis, 1964, Fieldiana: Zool. 47: 124, figs 12 O-P. MALE HT (FMNH) from trail to Las Minas, El Valle, Prov. Coclé, Panama.

**Siphonophora compacta** Loomis

*Siphonophora compacta* Loomis, 1975, Florida Entom., 58: 184, figs. 25, 26. MALE HT (FSCA) from Mount Diablo, south of Moneague, St. Ann Par., Jamaica.

**Siphonophora conicornis** Chamberlin

*Siphonophora conicornis* Chamberlin, 1952, Great Basin Natur., 12: 34. F HT (FMNH) from Escobas, Dep. Izabal, Guatemala.

**Siphonophora cornuta** Pocock

*Siphonophora cornuta* Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 50, pl. V, figs. 4, 4a. ST (BMNH) from Volcán de Acatenango, Dept. ?Chimaltenango, Guatemala.

**Siphonophora costaricae** Chamberlin

*Siphonophora costaricae* Chamberlin, 1914, Trans. American Entom. Soc., 40: 186. FEMALE HT (ANSP?) From Juan Vinas, Prov. Cartago, Costa Rica.

*Siphonophora valerii* Chamberlin, 1933, Pan-Pacific Entom., 9: 24, figs. 2-4. FEMALE HT (USNM) from Pavas, Prov. Cartago, Costa Rica. Synonymized by Loomis, 1972.

**Siphonophora cubana** Karsch

*Siphonophora cubana* Karsch, 1880, Mitt. Münchner Entom. Verein, 4: 144. 4 ST (ZMB) labeled only Cuba.

**Siphonophora fallens** Chamberlin

*Siphonophora fallens* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 8, pl. 3, figs. 1-4. MALE HT (USNM) from a site between Joyabaj and [Santa Cruz de] Quich, Dept. Quich, Guatemala.

*Siphonophora fallens annecta* Chamberlin, 1952, Great Basin Natur., 12: 34. FEMALE HT (FMNH) from Volcan Tajumulco, Dept. San Marcos, Guatemala.

**Siphonophora filiformis** Mauris

*Siphonophora filiformis* Mauris, 1980, Bull. Mus. nat. Hist. natur., (4), Zool., 2: 1103. MALE HT (MNHP) from Saint-Claude, Basse-Terre, Guadeloupe.

**Siphonophora globiceps** Pocock

*Siphonophora globiceps* Pocock, 1903, Biol. Centr.-Amer., Diplop., p. 41, pl. 5, figs. 6-6a. HT (BMNH) from Purulh, Dept. Baja Verapaz, Guatemala.

Range: Also reported from Chichivac, Dept. Chimaltenango, Guatemala.

**Siphonophora gracilior** Chamberlin

*Siphonophora gracilior* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 173. HT (MCZ) from Petionville, Haiti.

**Siphonophora hoffmani** Santiago-Blay & Poinar

*Siphonophora hoffmani* Santiago-Blay & Poinar, 1992, Ann. Entom. Soc. America, 85: 367, figs. 18-20. MALE HT (Poinar Colln., Univ. Calif. Berkeley), from amber of Upper Eocene age believed to have been mined in the Cordillera Septentrional, Republica Dominicana.

**Siphonophora limitare** Loomis

*Siphonophora limitare* Loomis, 1936, Proc. U. S. Nat. Mus., 83: 362, figs. 32a, b. MALE HT (USNM) from Brownsville, Cameron Co., Texas.

Range: Recorded from Cameron and Kendall counties, Texas (map, Shelley, 1997, fig. 14).

**Siphonophora manni** Chamberlin

*Siphonophora manni* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 173. HT (MCZ) from Grande Riviere, Haiti.

**Siphonophora montana** Loomis

*Siphonophora montana* Loomis, 1964, Fieldiana: Zool., 47:125, figs. 13A-D. MALE HT (FMNH) from Cerro Punta, Prov. Chiriqu, Panama.



**Siphonophora panamensis** Loomis

*Siphonophora panamensis* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 121, figs. 8g-j. MALE HT (USNM) from Pi a, Canal Zone, Panama.

Range: Recorded from several localities in the Canal Zone and Panama and Cocle provs.

**Siphonophora parvula** Loomis

*Siphonophora parvula* Loomis, 1964, Fieldiana: Zool., 47: 125, figs. 13E-F. MALE HT (FMNH) from Barca area at Finca Lerida near Boquete, Prov. Chiriqui, Panama.

**Siphonophora platops** Loomis

*Siphonophora platops* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 19, figs. 2a-c. MALE HT (MCZ) from rain forest near Valle Nuevo, 6,000 ft., Cordillera Central, Republica Dominicana.

**Siphonophora portoricensis** Brandt

*Siphonophora portoricensis* Brandt, 1837, Bull. scientif. Acad. Imp. sci. St.-Petersbourg, 5: 179. 2 ST (ZMB) from Porto Rico without further data. \_ Shelley, 1996, Journ. Nat. Hist., 30: 1800, figs. 1-12 (description and figures of male lectotype).

Range: Known from several localities in north, central, and eastern Puerto Rico (map, Shelley, 1996).

**Siphonophora progressor** Chamberlin

*Siphonophora progressor* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 9, pl. 3, figs. 5-7, pl. 4, figs. 1, 2. HT (USNM) from Progreso, Prov. Yoro, Honduras.

**Siphonophora proxima** Chamberlin

*Siphonophora proxima* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 173. HT (MCZ) from an unspecified locality in Haiti.

**Siphonophora robusta** Chamberlin

*Siphonophora robusta* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 174. HT (MCZ) from Liguanea Plain (now a part of Kingston), St. Andrew Par., Jamaica.

**Siphonophora rosacea** Loomis

*Siphonophora rosacea* Loomis, 1972, Florida Entom., 55: 206, figs. 41, 42. MALE HT (USNM) from Cairo, Prov. Lim n, Costa Rica.

**Siphonophora sabachana** Chamberlin

*Siphonophora sabachana* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 166, figs. 1-5. MALE HT (USNM) from Sabacha Cave, Tekax, Yucatan, Mexico.

**Siphonophora senaria** Loomis

*Siphonophora senaria* Loomis, 1937, Bull. Mus. Comp. Zool., 80: 217, figs. 1, 2. 0 HT (MCZ) from Soledad, Prov. Cienfuegos, Cuba.

**Siphonophora telana** Chamberlin

*Siphonophora telana* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 7, pl. 2, figs. 6-8. F HT (USNM) from Tela, Prov. Atlantida, Honduras.

**Siphonophora tenuicornis** Pocock

*Siphonophora tenuicornis* Pocock, 1894, Journ. Linnean Soc. London, 24: 479, fig. 4. HT (BMNH) from St. Vincent, Lesser Antilles.

**Siphonophora texascolens** Chamberlin & Mulaik

*Siphonophora texascolens* Chamberlin & Mulaik, 1941, Journ. New York Entom. Soc., 49: 64. MALE HT (USNM) from Raven Ranch [ca. 12 miles south of Kerrville], Kerr Co., Texas. \_ Shelley, 1996, Myriapodologica, 4: 30, figs. 11-13.

**Siphonophora trifini** Kraus

*Siphonophora trifini* Kraus, 1954, Senckenb. biol. 35: 343, figs. 91-97. MALE HT (SMF) from rainforest, Monte Cristo, 2200 m., Metapan Mountains, Dept. Santa Ana, El Salvador.

**Siphonophora velezi** Santiago-Blay & Poinar

*Siphonophora velezi* Santiago-Blay & Poinar, 1992, Ann. Entom. Soc. America, 85: 368, fig. 21. MALE HT (Poinar Colln, Univ. Calif. Berkeley) from amber of Upper Eocene age, believed to have been mined in the Cordillera Septentrional, Republica Dominicana.

**Siphonophora vera** Chamberlin

*Siphonophora vera* Chamberlin, 1952, Great Basin Natur., 12: 34. ST (FMNH) from La Vigas, Veracruz, Mexico.

## Family Siphonorhinidae Cook

Siphonorhinidae Cook, 1895, Ann. New York Acad. Sci., 9: 2. \_ Hoffman, 1980, Classification of the Diplopoda, p. 116.

Indiozoninae Verhoeff, 1941, Zool. Anz., 134: 220.

Teratognathidae Attems, 1951, M m. Mus. nat. Hist. natur., Paris, (n.s. A), 3: 210.

Five nominal genera, four confined to the Indoaustralian region, one in California.

## Genus **Illacme** Cook & Loomis

*Illacme* Cook & Loomis, 1928, Proc. U. S. Nat. Mus., 72(18): 10. Type species: *I. plenipes*

Cook & Loomis, by original designation.

One species, California.

**Illacme plenipes** Cook & Loomis

*Illacme plenipes* Cook & Loomis, 1928, Proc. U. S. Nat. Mus. 72(18): 12. HT (USNM) from a site between Salinas and San Juan Bautista, San Benito Co., California.

## Order Callipodida Bollman

Investigations of this order by Dr. R. M. Shelley (1979, 1984, 1989, 1996) have brought our knowledge of the Nearctic fauna up to a very satisfactory level, although some additional new Mexican taxa may be expected. It is therefore a matter of considerable regret that no efforts have been made, since my last expression of the same regret in 1980, to integrate the suprageneric taxa now established for North America, southern Europe, and southeast Asia. It must be emphasized, e. g., that inclusion of the several Nearctic subfamilies within the European Schizopetalidae is almost certainly indefensible, and was at best a stopgap measure even when proposed in 1980.

### Family Abacionidae Shelley, new status

Abacioninae Shelley, 1979, Proc. Biol. Soc. Washington, 92: 535. \_ Hoffman, 1980, Classification of the Diplopoda, p. 122.

#### Tribe Abacionini Shelley

Abacionini Shelley, 1979, Proc. Biol. Soc. Washington, 92: 535.

Two genera, eastern United States.

#### Genus **Abacion** Rafinesque

*Abacion* Rafinesque, 1820, Annals of Nature, 1st Annual Number for 1820, p. 9. Type species: *A. tessellatum* Rafinesque, by monotypy. \_ Hoffman & Crabill, 1953, Florida Entom., 36: 81. \_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 108. \_ Shelley, 1984, Canadian Journ. Zool., 62: 981 (revision).

*Spirostrephon* Brandt, 1841, Bull. Sci. Acad. Sci. Saint-Petersbourg, 8: 105. Type species: *Julus lactarius* Say, 1821, by monotypy. \_ Loomis, 1937, Proc. U. S. Nat. Mus., 84: 105. Synonymized by Hoffman & Crabill, 1953.

*Reasia* Gray, 1843, The Cyclopaedia of Anatomy and Physiology, 3: 546. Type species: *Reasia spinosa* Sager, 1856, by subsequent monotypy. Synonymized by Chamberlin & Hoffman, 1958.

*Platops* Newport, 1844, Ann. Mag. Nat. Hist., 13: 267. Type species: *P. rugulosa* Newport, by subsequent designation of Cook, 1895. Synonymized with *Spirostrephon* by Cook, 1895.

Four species, United States east of the 100th Meridian; northern Mexico.

### **Abacion lactarium** (Say)

*Julus lactarius* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 104. Type material, from an unspecified locality, not known to be extant. Chamberlin & Hoffman (1958: 109) suggested Philadelphia, Pennsylvania, as restricted type locality, but without designating a neotype.

*Spirostrephon lactarium*: Brandt, 1841. Bull. Sci. Acad. Sci. Saint-Petersbourg, 8: 105. \_ Loomis, 1937, Proc. U. S. Nat. Mus., 84: 108, figs. 16, 1-m.

*Platops lineata* Newport, 1844, Ann. & Mag. Nat. Hist., 13: 267. HT (BMNH) from North America .

*Abacion lactarium*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 109. \_ Shelley, 1984, Canadian Journ. Zool., 62: 983, figs. 4-6..

Range: New Jersey to central Florida, west and north to Ohio and Indiana (map, Shelley, 1984, fig. 12), with an apparent hiatus in the range between Virginia and northern Florida. Although the species is statewide in Florida, there are no Coastal Plain records for the northern population.

### **Abacion magnum** (Loomis)

*Spirostrephon magnum* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 388, figs. 8 a-b. MALE HT (MCZ) from Monte Sano State Park, Madison Co., Alabama.

*Spirostrephon highlandense* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 17, figs. 5, 6. MALE HT (USNM) from Highlands, Macon Co., North Carolina. Synonymized by Shelley, 1984..

*Abacion magnum*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 110. \_ Shelley, 1984, Canadian Journ. Zool., 62: 984, figs. 7-9.

Range: Appalachian mountain system and adjacent lowlands: central Alabama to central western New York; Piedmont of North and South Carolina, and Coastal Plain of the latter (map, Shelley, 1984, fig. 12).

### **Abacion tessellatum** Rafinesque

*Abacion tessellatum* Rafinesque, 1820, Annals of Nature, p. 9. Type material not extant, from

...the knobby hills of Estill county in Kentucky, under stones... \_ Hoffman & Crabill, 1953, Florida Entom., 36: 81. \_ Shelley, 1984, Canadian Journ. Zool., 62: 982, figs. 1-3.

*Platops rugulosa* Newport, 1844, Ann. & Mag. Nat. Hist., 13: 267. MALE HT (BMNH) from an unspecified locality. Synonymized with *tesselatum* by Chamberlin & Hoffman, 1958.

*Reasia spinosa* Sager, 1856, Proc. Acad. Nat. Sci. Philadelphia, p. 100. Type material not known to exist, from an unspecified locality, vicinity of Detroit, Michigan suggested as type locality by Chamberlin & Hoffman, 1958.

*Lysiopetalum eudasym* McNeill, 1887, Proc. U. S. Nat. Mus., 10: 330. HT (USNM) from Bloomington, Monroe Co., Indiana. Synonymized with *tesselatum* by Chamberlin & Hoffman, 1958.

*Spirostrephon creolum* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 9, figs. 24, 25. MALE HT (USNM) from Covington, St. Tammany Par., Louisiana. Synonymized by Shelley, 1984.

*Abacion tessellatum creolum*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 110.

Range: Southcentral United States, western Pennsylvania to Michigan, Wisconsin, Kansas, southward to the Florida panhandle and Louisiana, also central Appalachians eastward to Virginia (Map, Shelley, 1984, fig. 12).

#### **Abacion texensis** (Loomis)

*Spirostrephon texensis* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 109, fig. 16n. MALE HT (USNM) from Pierce, Wharton Co., Texas.

*Spirostrephon jonesi* Chamberlin, 1942, Canadian Entom., 74: 17, fig. 1. MALE HT (USNM) from Ames, Story Co., Iowa. Synonymized by Chamberlin & Hoffman, 1958.

*Tynomma messicanum* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 33. FEMALE HT (USNM) from Chipinque [Mesa], Monterey, Nuevo Leon, Mexico. Synonymized by Loomis, 1968.

*Abacion texense*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 110. \_ Shelley, 1984, Canadian Journ. Zool., 62:

Range: Great Plains from Minnesota and eastern Nebraska south to northern Nuevo Leon, eastward as far as southern Mississippi, doubtless also in Alabama and Tennessee (map, Shelley, 1984, fig. 12).

### **Genus Tetracion Hoffman**

*Tetracion* Hoffman, 1956, Alabama Geol. Surv., Mus. Pap. 35: 5. Type species: *T. jonesi* Hoffman, by original designation.

Three species, caves in Tennessee, Alabama, Georgia.

**Tetracion antraeum** Hoffman

*Tetracion jonesi antraeum* Hoffman, 1956, Alabama Geol. Surv. Mus. Pap. 35: 8, figs. 6-8. 0 HT (Alabama Geol. Surv.) from Barclay Cave, Madison Co., Alabama.

*Tetracion antraeum*: Shelley, 1996, Entom. Scandinavica, 27: 63.

Range: Caves in Jackson and Madison cos., Alabama.

**Tetracion jonesi** Hoffman

*Tetracion jonesi jonesi* Hoffman, 1956, Alabama Geol. Surv. Mus. Pap. 35: 6, figs. 1-5. 0 HT (Geol. Surv. Alabama) from Bat Cave, near Grant, Marshall Co., Alabama.

*Tetracion jonesi* Shelley, 1996, Entom. Scandinavica, 27: 63.

Range: Caves in Jackson and Marshall counties, Alabama.

**Tetracion tennesseensis** Causey

*Tetracion tennesseensis* Causey, 1959, Journ. Tennessee Acad. Sci., 34: 236, fig. 6. MALE HT (AMNH) from Cumberland Caverns, Warren Co., Tennessee.

Range: Caves in Warren and Grundy cos., Tennessee.

**Tribe Delophonini** Shelley

Tribe Delophonini Shelley, 1979, Proc. Biol. Soc. Washington, 92: 535.

One genus, southeastern United States.

**Genus Delophon** Chamberlin

*Delophon* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 13.. Type species: *D. georgianum* Chamberlin, by original designation. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 535 (revision).

Four species, southeastern United States.

**Delophon georgianum** Chamberlin

*Delophon georgianum* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 13, figs. 28-30. MALE HT (USNM) from Gainesville, Hall Co., Georgia. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 537, figs. 1-3.

*Delophon carolinum* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 18, fig. 5. MALE HT (USNM) from Highlands, Macon Co., North Carolina. Synonymized by Shelley, 1979.

Range: Southern Blue Ridge in northeastern Georgia, western North Carolina, and eastern Tennessee, an isolated population in the western Piedmont in North Carolina (map, Shelley, 1979, fig. 10).

**Delophon holti** Shelley

*Delophon holti* Shelley, 1979, Proc. Biol. Soc. Washington, 92: 544, figs. 7-9. MALE HT (VMNH) from a sinkhole about one mile southeast of Russelville, Hamblin Co., Tennessee.

Range: This localized species remains known only from the type collection, but almost surely occurs in similar habitats in eastern Tennessee and adjacent southwest Virginia.

**Delophon mississippiantum** Shelley

*Delophon mississippiantum* Shelley, 1983, Ent. News, 94: 11, figs. 1-3. MALE HT (USNM) from deciduous woods one mile southeast of Ecu, Pontotoc Co., Mississippi.

**Delophon serrulatum** Causey

*Delophon serrulatum* Causey, 1954, Tulane Stud. Zool. 2: 64, figs. 1-3. MALE HT (AMNH) from vicinity of Loxley, Baldwin Co., Alabama. \_ Shelley, 1979, Proc. Biol. Soc. Washington, 92: 543, figs. 4-6.

Range: Northcentral Tennessee (Fentress Co.) and northwest Georgia south through Alabama to vicinity of Mobile Bay (map, Shelley, 1979, fig. 10). This species almost surely occurs in southern Kentucky, northeast Mississippi, and the Florida panhandle..

## Family Schizopetalidae Verhoeff

Schizopetalinae Verhoeff, 1909, Sitzungb. Ges. naturf. Freunde Berlin for 1909: 213.

Schizopetalidae: Hoffman & Lohmander, 1964., Mitt. Zool. Mus. Inst. Hamburg, 62: 112, 123.

Four subfamilies, two of them occurring in western North America.

### Subfamily Tynommatinae Hoffman

Tynommatinae Hoffman, 1980, Classification of the Diplopoda, p. 120, 122. \_ Shelley, 1996, Entom. Scandinavica, 27: 25 et seq. (Revision).

Three tribes, southwestern United States, Mexico.

### Tribe Colactidini Hoffman

Colactidini Hoffman, 1980, Classification of the Diplopoda, p.121. \_ Shelley, 1996, Entom. Scandinavica, 27: 30.

Three genera, California to New Mexico, south through western Mexico to southern Sinaloa.

### Genus **Colactis** Loomis

*Colactis* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 120. Type species: *C. saxetana* Loomis, by original designation.

Four species, southern Utah and Nevada to Sinaloa and Baja California Norte.

***Colactis protenta*** Loomis

*Colactis protenta* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 126, figs. 16g-i, pl. 3, fig. 3. MALE HT (USNM) from a site along Hy. 1, 15 miles north of Ensenada, Baja California Norte, Mexico. \_ Shelley, 1996, Entom. Scandinavica, 27: 32, figs. 5-8.

Range: Northern half of Baja California Norte and adjacent part of San Diego Co., California (maps, Shelley, 1996, figs. 22, 76).

***Colactis quadrata*** Loomis

*Colactis quadrata* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 128, figs. 16e, f, pl. 3, fig. 5. MALE HT (USNM) from Cave Creek Canyon, Chiracahua Mountains, Cochise Co., Arizona. \_ Shelley, 1996, Entom. Scandinavica, 27: 34, figs. 9-14.

Range: Extreme southeastern Arizona and adjacent northernmost Sonora (map, Shelley, 1996, fig. 22).

***Colactis tiburona*** (Chamberlin)

*Lysiopetalum tiburonum* Chamberlin, 1923, Proc. California Acad. Sci., (4) 12: 402, figs. 34-35. MALE HT (CAS) from an Indian village on the southern end of Tibur n Island, Sonora, Mexico.

*Colactis tiburona*: Loomis, 1937, Proc. U. S. Nat. Mus. 84: 128.

*Colactis sideralis* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 125, figs. 16 j,k, pl. 4, figs. 1, 2. MALE HT (USNM) from Estrella Mountains, without closer locality, Maricopa Co., Arizona. Synonymized by Shelley, 1996.

*Colactis loomisi* Hoffman, 1954, American Mus. Nov., 1673: 121, figs. 1-5. MALE HT (AMNH) from Providencia, Durango, Mexico. Synonymized by Shelley, 1996.

*Colactis yuma* Chamberlin, 1958, Ent. News, 69:121, fig. 1. MALE HT (USNM) from Laguna Dam, ca. ten miles north of Yuma, Yuma Co., Arizona. Synonymized by Shelley, 1996.

Range: Southwestern Arizona and adjacent California to Durango (map, Shelley, 1996, fig. 22).

***Colactis utorum*** (Chamberlin)

*Spirostrephon utorum* Chamberlin, 1925, Pan-Pacific Entom., 2: 61. MALE HT (USNM) from the Green River, Emery Co., Utah.

*Colactis utorum*: Loomis, 1937, Proc. U. S. Nat. Mus., 84: 130. \_ Shelley, 1996, Entom. Scandinavica, 27: 36, figs. 15-16.



*Colactis saxetana* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 122, figs. 16a, b; pl. 3, fig. 2. MALE HT (USNM) from the north slope of Picacho Mountain, Pinal Co., Arizona. Synonymized by Shelley, 1996.

*Colactis baboquivari* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 123, figs. 16 c, d; pl. 3, fig. 4. MALE HT (USNM) from Baboquivari Canyon, southwest of Tucson, in Pima Co., Arizona. Synonymized by Shelley, 1996.

Range: East central Utah to south central Arizona, southern Nevada, southeastern California (map, Shelley, 1996, fig. 22).

### Genus **Colactoides** Shelley

*Colactoides* Shelley, 1997, Myriapodologica, 5: 36. Type species: *C. grandis* Shelley, by original designation.

#### **Colactoides grandis** Shelley

*Colactoides grandis* Shelley, 1997, Myriapodologica, 5: 37, figs. 1-4. MALE HT (CAS) from a site along the Rio Urique, ca. 8 km southwest of Tejaban, Chihuahua, Mexico.

### Genus **Heptium** Loomis

*Heptium* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 130. Type species: *H. carinellum* Loomis, by original designation. \_ Shelley, 1996, Entom. Scandinavica, 27: 37.

Two species, extreme southern California (San Bernardino, Riverside, Imperial counties).

#### **Heptium carinellum** Loomis

*Heptium carinellum* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 132, figs. 18f-j, pl. 4, figs. 3,4. MALE HT (USNM) from two miles east of Indian Head on the Indio-El Centro road, Imperial Co., California. Shelley (1996: 37) discussed the location of this enigmatic site. \_ Shelley, 1996, Entom. Scandinavica, 27: 37, figs. 17-19.

*Heptium canum* Chamberlin, 1941, Bull. Univ. Utah, 36(11): 22, figs. 42-44. MALE HT (USNM) from Coyote Wells (now called Ocotillo), Imperial Co., California. Synonymized by Shelley, 1996.

Range: Riverside and Imperial counties, California (map, Shelley, 1996, fig. 22).

#### **Heptium scamillatum** Loomis

*Heptium scamillatum* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 134, figs. 18a-e, pl. 4, figs. 5, 6. MALE HT (USNM) from a site along Hy. 74 between Perris and Elsinore, Riverside Co., California. \_ Shelley, 1996, Entom. Scandinavica, 27: 38, figs. 20-21.

Range: Riverside and San Bernardino counties, California (map, Shelley, 1996, fig. 22).

### Tribe Diactidini Shelley

Diactidini Shelley, 1996, Entom. Scandinavica, 27: 40.

Three genera, extreme southern California.

### Genus **Caliactis** Shelley

*Caliactis* Shelley, 1996, Entom. Scandinavica, 27: 47. Type species: *C. bistolata* Shelley, by original designation.

One species, southern California.

#### **Caliactis bistolata** Shelley

*Caliactis bistolata* Shelley, 1996, Entom. Scandinavica, 27: 49, figs. 60-63. MALE HT (LACM) at Mission Viejo, Orange Co., California.

### Genus **Diactis** Loomis

*Diactis* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 110. Type species: *D. soleata* Loomis, by original designation. \_ Shelley, 1996, Entom. Scandinavica, 27: 40.

*Etiron* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 21. Type species: *E. paroicum* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

Eight very localized species, southwesternmost California.

Shelley (1996) distinguished three species groups, not followed here to maintain alphabetical consistency.

Removed from genus: *Etiron pearcei* Chamberlin, 1941, see *Tynomma mutans* (Chamberlin).

#### **Diactis amniscela** Shelley

*Diactis amniscela* Shelly, 1996, Entom. Scandinavica, 27: 46, figs. 52-55. MALE HT (LACM) from Banning, Riverside Co., California.

#### **Diactis cupola** Shelley

*Diactis cupola* Shelley, 1996, Entom. Scandinavica, 27: 43, figs. 36-38. MALE HT (USNM) from a site three miles north of Santa Monica, Los Angeles Co., California.

Range: Santa Monica Mountains, southern California.

#### **Diactis frondifera** Loomis

*Diactis frondifera* Loomis, 1937, Proc. U. S. Nat. Mus. 84: 116, fig. 17f. MALE HT (USNM) from Torrey Pines near La Jolla, San Diego Co., California. \_ Shelley, 1996, Entom. Scandinavica, 27: 45, figs. 44-48.

Range: Coastal region in San Diego and Los Angeles counties, California (map, Shelley, 1996, fig. 64).

**Diactis jacinto** Shelley

*Diactis jacinto* Shelley, 1996, Entom. Scandinavica, 27: 46, figs. 49-51. MALE HT (USNM) from a site along Hy. 243 in the San Jacinto Mountains, south of Banning, Riverside Co., California.

**Diactis procera** Shelley

*Diactis procera* Shelley, 1996, Entom. Scandinavica, 27: 41, figs. 28-31. MALE HT (LACM) from Silverado Canyon, ca. 11 miles north of Mission Viejo, Orange Co., California.

**Diactis soleata** Loomis

*Diactis soleata* Loomis, 1937, Proc. U. S. Nat. Mus. 84: 113, figs. 17b-e, pl. 3, fig. 1. MALE HT (USNM) from along Temescal Road, ca. 10.2 miles south of Corona, Riverside Co., California. \_ Shelley, 1996, Entom. Scandinavica, 27: 41, figs. 23-27.

Range: Three localities in Riverside and Los Angeles counties, California (map, Shelley, 1996, fig. 64).

**Diactis strumella** Shelley

*Diactis strumella* Shelley, 1996, Entom. Scandinavica, 27: 43, figs. 32-35. MALE HT (USNM) from Laguna Beach, Orange Co., California.

**Diactis triangula** Loomis

*Diactis triangula* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 114, fig. 17e. MALE HT (USNM) from Cottonwood Creek, ca. 46 miles east of San Diego, California (but the beginning reference point is unknown), on the road between San Diego and El Centro.

*Etiaron paroicum* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 21, figs. 37-41. MALE HT (USNM) from Mountain Spring, Riverside Co., California, more localized by Shelley (1996) as probably between Laguna Jct. and Live Oak Spgs., ca. 13.6 mi. (25.0 km) ESE Alpine... . Synonymized by Shelley, 1996.

Range: Apparently a somewhat inland north-south belt from San Bernardino Co., California to northernmost Baja California Norte (map, Shelley, 1996, fig. 64).

### Genus **Florea** Shelley

*Florea* Shelley, 1996, Entom. Scandinavica, 27: 46. Type species: *F. sinuata* Shelley, by original designation.

Monobasic, southwesternmost California.

**Florea sinuata** Shelley

*Florea sinuata* Shelley, 1996, Entom. Scandinavica, 27: 46, figs. 56-59. MALE HT (USNM)

from an unspecified site in the Trabuco Ranger District, Cleveland National Forest, Orange Co., California.

### Tribe Tynommatini Shelley

Tynommatini Shelley, 1996, Entom. Scandinavica, 27: 49 (*nomen translatum*, ex Tynommatinae Hoffman, 1980).

Two genera, coastal central California, southwestern Utah.

### Genus *Idrionaria* Shelley

*Idrionaria* Shelley, 1996, Entom. Scandinavica, 27: 54. Type species: *I. dineh* Shelley, by original designation.

One species, Utah.

#### ***Idrionaria dineh* Shelley**

*Idrionaria dineh* Shelley, 1996, Entom. Scandinavica, 27: 54, figs. 72-74. MALE HT (USNM) from Pintura, Washington Co., Utah.

Range: Two localities in Washington Co., Utah.

### Genus *Tynomma* Loomis

*Tynomma* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 117. Type species: *T. sedecimum* Loomis, by original designation. \_ Shelley, 1996, Entom. Scandinavica, 27: 50 (revision).

Three species, central western California, immediately north and south of San Francisco Bay.

#### ***Tynomma magnum* Buckett & Gardner**

*Tynomma magnum* Buckett & Gardner, 1969, Pan-Pacific Entom, 45: 207, figs. 2, 4, 7, 10. MALE HT (UCD) from a site seven miles east of Monterey, Monterey Co., California. \_ Shelley, 1996, Entom. Scandinavica, 27: 52, figs. 68-70.

Range: Numerous localities in northern Monterey Co., California (map, Shelley, 1996, fig. 71).

#### ***Tynomma mutans* (Chamberlin)**

*Lysiopetalum mutans* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 233, pl. 30, figs. 1-10, pl. 31, figs. 1, 2. FEMALE ST (USNM) from Stanford, Santa Clara Co., California.

*Tynomma mutans*: Loomis, 1937, Proc. U. S. Nat. Mus., 84: 120. \_ Shelley, 1996, Entom. Scandinavica, 27: 51, figs. 65-67.

*Tynomma sedecimum* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 118, figs. 17j-1, pl. 3, fig. 3. MALE HT (USNM) from a site between Vallejo and Cordelia, Solano Co., California. Synonymized by Shelley, 1996.

*Tynomma consangineum* Loomis, 1937, Proc. U. S. Nat. Mus., 84: 119, figs. 17g-i. MALE HT

(USNM) from the Santa Cruz Mountains between Santa Cruz and Holy City, Santa Cruz Co., California. Synonymized by Shelley, 1996.

*Etiron pearcei* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 22. FEMALE HT (USNM) from Castro Valley, Alameda Co., California. Synonymized by Shelley, 1996.

Range: central California coastal region from Sonoma Co. south to northern San Benito Co. (map, Shelley, 1996, fig. 71).

### **Tynomma schlingeri** Gardner

*Tynomma schlingeri* Gardner, 1973, Pac-Pacific Entom., 49: 270, figs. 1, 2. MALE HT (?UCD) from Del Puerto Canyon, 1200 ft., Frank Raines Park, Stanislaus Co., California.

*Tynomma gardneri* Shelley, 1996, Entom. Scandinavica, 27: 54, figs. 82-84. MALE HT (UCD) from the same locality (and apparently the same type specimens) as the preceding species. **New synonymy!**

Range: Known from several localities in Santa Clara and Stanislaus counties, California (map, Shelley, 1996, fig. 71).

Although Gardner (1973) stated that the type series of one male and four females would be deposited in the California Academy collection, apparently he forgot to do so and left them, unmarked as types, in the UCD collection where they were subsequently discovered and recognized as new by Dr. Shelley.

## CALLIPODIDA OF UNCERTAIN FAMILY POSITION

### Tribe Texophonini Shelley

Texophonini Shelley, 1989, Southwestern Natur., 34: 382; 1996, Entom. Scandinavica, 27: 330, 61.

Following the arrangement in my 1980 classification, Shelley originally placed this monobasic tribe in the subfamily Acanthopetalinae but later (1996) relocated it in the Tynommatinae as a sister-group of the Colactidini. Despite the evidence he adduced to support this change, I am not fully convinced that the final resting place of this small group has been identified although I concur that tribal status is merited.

### Genus **Texophon** Chamberlin

*Texophon* Chamberlin, 1946, Ent. News, 57: 98. Type species: *T. nessium* Chamberlin, by original designation. \_ Shelley, 1989, Southwestern Natur., 34: 383.

Two species, southern Texas.

### **Texophon nessium** Chamberlin

*Texophon nessius* [sic!] Chamberlin, 1946, Ent. News, 57: 98, figs. 1, 2. MALE HT (USNM) from a site near Laguna Madre, 23 miles southeast of Harlingen, Cameron Co., Texas.

*Texophon nessium*: Shelley, 1989, Southwestern Natur., 34: 385, fig. 2, A-C.

Range: Known from two localities in Cameron Co., Texas.

**Texophon aransas** Shelley

*Texophon aransas* Shelley, 1989, Southwestern Natur., 34: 387, figs 3, A-D. MALE HT (FSCA) from the Welder Wildlife Refuge, seven miles north of Sinton, San Patricio Co., Texas.

## Order Chordeumatida Koch

The internal classification of this large and complex order has been greatly improved during the past several decades by many revisionary studies of individual families or smaller taxa, chiefly at the hands of Golovatch, Mauri s, and Shear. So far, however, no new organization of families has emerged, and to maintain consistency with the 1980 Classification I here follow the arrangement in that reference as a default measure.

Curiously, there has been no third opinion published on the ambiguous status of the family Striariidae, which I continue within the limits of a separate suborder Striariidea because of the structure of the gonapophysis of the 2nd pair of legs in males, a conspicuous membranous tube extending from the posterior side of the coxae.

A subordinal taxon named Conotelsonia was proposed by Attems (1959: 346) to include the single family Urochordeumidae [sic]. I agree with Dr. Shear (1972: 260) that Attems was misled by Silvestri s drawing of the 2nd pair of male legs in *Urochordeuma* (1913, fig. II, 2), which is incorrect in that the structure labeled P (penis) must be the coxa instead (in order for that leg to have the correct number of podomeres).

## Suborder Striariidea Cook

### Family Striariidae Bollman

Striariidae Cook, 1895, Ann. New York Acad. Sci.: 9: 4 (nomen translatum ex Striariinae Bollman, 1893). \_ Cook, 1899, Proc. U. S. Nat. Mus., 21: 670. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 257.

Three nominal genera, Appalachian region, west coast of United States.

### Genus **Speostriaria** Causey

*Speostriaria* Causey, 1960, Proc. Biol. Soc. Washington, 73: 25. Type species: *Striaria shastae* Causey, 1958, by original designation. Synonymy with *Striaria* implied by Shear, 1972.

One species, California.

**Speostriaria shastae** (Causey)

*Striaria shastae* Causey, 1958, Proc. Biol. Soc. Washington, 71: 182. FEMALE HT (AMNH) from Samwel Cave, Shasta Co., California.

*Speostriaria shastae*: Causey, 1960, Proc. Biol. Soc. Washington, 73: 26, figs. 1-5.

**Genus Striaria** Bollman

*Striaria* Bollman, 1888, Ann. New York Acad. Sci., 4: 108. Type species: *S. granulosa* Bollman, by original designation (gen. et sp. nov.). \_ Cook, 1899, Proc. U. S. Nat. Mus., 21: 671. \_ Loomis, 1936, Journ. Washington Acad. Sci., 26: 409 (key to then-known species).

*Amplaria* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 9. Type species: *A. eutypa* Chamberlin, by original designation. Synonymized with *Striaria* by Hoffman, 1980.

Five nominal species, eastern United States; six, California.

**Striaria antica** Causey

*Striaria antica* Causey, 1952, Proc. Biol. Soc. Washington, 65: 112, figs. 1-3. MALE HT (INHS) from Turkey Run State Park, Montgomery Co., Indiana.

**Striaria californica** Cook

*Striaria californica* Cook, 1899, Proc. U. S. Nat. Mus., 21: 675, pl. 53, fig. 2a. FEMALE HT (USNM) from California, probably near Sausalito [Marin County]. \_ Loomis, 1936, Journ. Washington Acad. Sci., 26: 409, fig. 1E-F.

Range: Recorded from several localities peripheral to San Francisco Bay.

**Striaria carmela** Chamberlin

*Striaria carmela* Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 9, figs. 1, 2. MALE HT (USNM) from the Hastings Reservation, Monterey Co., California.

**Striaria causeyae** Chamberlin

*Striaria causeyae* Chamberlin, 1940, Canadian Entom., 72: 58. MALE HT (?USNM) from the Duke Forest, probably the unit in Durham Co., North Carolina. \_ Shelley, 1978, Journ. Nat. Hist., 12: 51.

*Amplaria causeyae*: Chamberlin & Hoffman, Bull. U. S. Nat. Mus. 212: 115.

Range: Recorded from eight counties in the Piedmont region of North Carolina by Shelley (1978).

**Striaria columbiana** Cook

*Striaria columbiana* Cook, 1899, Proc. U. S. Nat. Mus., 21: 674, pl. 53, fig. 3a, pl. 54, figs. 1a-m. MALE HT (USNM) from Washington, D.C. (several localities mentioned,

but none specified as type locality).

Range: District of Columbia, adjacent Maryland, northern Virginia.

**Striaria eldora** Chamberlin

*Striaria eldora* Chamberlin, 1953, Ent. News, 64: 95. MALE HT (?USNM) from Crystal Cosumnes Cave, Eldorado Co., California.

**Striaria eutypa** (Chamberlin)

*Amplaria eutypa* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 9. FEMALE ST (?USNM) from nine miles north of Placerville, Eldorado Co., California.

**Striaria granulosa** Bollman

*Striaria granulosa* Bollman, 1888, Ann. New York Acad. Sci., 10: 108. STs (?USNM) from Beaver Creek, Jefferson Co., Tennessee. \_ Cook, 1899, Proc. U. S. Nat. Mus., 21: 670, pl. 53, figs. 1-a-f.

Range: Not currently defined, but doubtless general in the southern Appalachians of eastern Tennessee and western North Carolina.

**Striaria nana** Loomis

*Striaria nana* Loomis, 1936, Journ. Washington Acad. Sci., 26: 407, figs. 1a-c. MALE HT (USNM) from Altamont Pass, above Niles, Alameda Co., California.

Range: Reported also (female only) from Santa Cruz Co., California (Loomis, 1936).

**Striaria nazinta** Chamberlin

*Striaria nazinta* Chamberlin, 1910, Ann. Ent. Soc. America, 3: 242, p. 35, figs. 2-6. Types (location unknown) from Portland, Multnomah Co., Oregon.

*Amplaria nazinta*: Chamberlin, 1941, Bull. Univ. Utah, 31(12): 9.

**Striaria zygoleuca** Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 16, fig. 4. MALE HT (USNM) from Highlands, Macon Co., North Carolina.

Range: Southern Appalachians in western North Carolina and eastern Tennessee.

It is highly probable that this name is a junior synonym of *S. granulosa*.

### Genus **Vaferia** Causey

*Vaferia* Causey, 1958, Proc. Biol. Soc. Washington, 71: 179. Type species: *Striaria imberbis* Loomis, by original designation.

One species, California.

**Vaferia imberbis** (Loomis)



*Striaria imberbis* Loomis, 1936, Journ. Washington Acad. Sci., 26: 408, fig. 1d. FEMALE HT (USNM) from south of Atascadero, San Luis Obispo Co., California.

## Suborder Chordeumatidea Koch

### Superfamily Cleidogonoidea Cook

Cleidogonoidea Shear, 1972, Bull. Mus. Comp. Zool., 144: 274. Nomen translatum ex family Cleidogonidae Cook, 1896. \_ Hoffman, 1980, Classification of the Diplopoda, p. 130.

#### Family **Cleidogonidae** Cook

Cleidogonidae Cook, 1896, Brandtia, 2: 8. \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 156 (revision). \_ Hoffman, 1980, Classification of the Diplopoda, p. 130.

Mexiceumidae Verhoeff, 1926, Zool. Anz., 68: 110.

Pseudocleididae Attems, 1926, in: Kukenthal & Krumbach, Handbuch der Zoologie, 4: 170 (in part).

Bactropidae Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc. 71: 6. Synonymized by Shear, 1972.

Dybsiidae Loomis, 1964, Fieldiana Zool., 47: 100. Synonymized by Shear, 1972.

Bactropodellidae Jeekel, 1969, Entom. Bericht. 29: 88. New name for Bactropidae. Synonymized by Shear, 1972.

Six genera, eastern United States (Connecticut, Illinois) to Panama.

#### Genus **Cabraca** Shear

*Cabraca* Shear, 1982, Myriapodologica, 1: 65. Type species: *C. unigon* Shear, by original designation.

One species, Mexico (Tamaulipas).

#### **Cabraca unigon** Shear

*Cabraca unigon* Shear, 1982, Myriapodologica, 1: 65, figs. 1-6. ♀ HT (AMNH) from Ejido, Yerbabuena, Tamaulipas, Mexico.

#### Genus **Cleidogona** Cook

*Cryptotrichus* Packard, 1883, Proc. American Philos. Soc., 21: 189 (preoccupied). Type species: *Spirostrephon caesioannulatus* Wood, 1865, by original designation.

*Cleidogona* Cook, 1895, in: Cook & Collins, Ann. New York Acad. Sci., 9:3. Type species: *Spirostrephon caesioannulata* Wood, 1865, by direct substitution [the designation of *Cleidogona major* by Cook & Collins is invalid]. \_ Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 41. \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 195 (revision).

*Mexiceuma* Verhoeff, 1926, Zool. Anz., 68: 112. Type species: *M. maculata* Verhoeff, by monotypy. Synonymized by Shear, 1972.

*Rhabdarona* Chamberlin & Mulaik, 1941, Journ. New York Ent. Soc., 49: 60. Type species: *R. bacillipus* Chamberlin & Mulaik, by original designation. Synonymized by Shear, 1972.

*Cavota* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 8. Type species: *C. crucis* Chamberlin, by original designation. Synonymized by Shear, 1972.

*Hirsutogona* Kraus, 1954. Senckenberg. Biol. 35: 329. Type species: *H. minutissima* Kraus, by original designation. Synonymized by Shear, 1972.

*Mecistopus* Loomis, 1959, Journ. Washington Acad. Sci., 49: 162. Type species: *M. varicornis* Loomis, by original designation. Synonymized by Shear, 1972.

*Akacandra* Loomis, Fieldiana Zool., 47: 99. Type species: *A. austriana* Loomis, by original designation. Synonymized by Shear, 1972.

*Costaricia* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 226. Type species: *C. curvipes* Loomis, by original designation. Synonymized by Shear, 1972.

83 species, Connecticut to Panama (Shear, 1972, maps 10, 11). So far unrecorded from eastern Texas.

The great number of Mesamerican species now referred to *Cleidogona* (as well as many more still undescribed forms from throughout the range), and the wide range of variability expressed in the gonopods, suggests that recognition of some species-groups as genera may be deemed desirable in the future.

Shear (1972) organized most members of this genus into discrete subgeneric groups. My decision to follow an alphabetic arrangement (for consistency of format and user convenience and to accommodate the species not seen by Shear and not placed by him in any group) in no way impugns the validity of that author's arrangement.

#### ***Cleidogona accretis* Shear**

*Cleidogona accretis* Shear, 1972, Bull. Mus. Comp. Zool. 144: 239, figs. 394-396. MALE HT (MCZ) from 2 miles south of Increase, near Little Creek, Lauderdale Co., Mississippi.

#### ***Cleidogona alata* Causey**

*Cleidogona alata* Causey, 1961, Florida Entom., 44: 38, figs. 5-7. MALE HT (AMNH), from 1 mile south of Ila, Macon Co., Georgia. \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 233, figs. 349-351.

**Cleidogona arco** Shear

*Cleidogona arco* Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 73, figs. 23, 24. MALE HT (AMNH) from S tano del Arco, Cotlaixco, Zongolica, Veracruz, Mexico.

**Cleidogona arkansana** Causey

*Cleidogona arkansana* Causey, 1954, Tulane Stud. Zool., 2: 66, figs. 6-9. MALE HT not present at AMNH, the published repository, possibly lost, from four miles east of Princeton, Dallas Co., Arkansas.

**Cleidogona atoyaca** Chamberlin

*Cleidogona atoyaca* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 34, figs. 66-68. MALE HT (USNM) from Atoyac, Vera Cruz, Mexico. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 221, figs. 281-283.

Range: Type locality and El Fortin de las Flores, Veracruz, Mexico.

**Cleidogona atropos** Shear

*Cleidogona atropos* Shear, 1972, Bull. Mus. Comp. Zool., 144: 230, figs. 328-331. MALE HT (MCZ) from one mile south of Mummerlyn Swamp, Burke Co., Georgia.

**Cleidogona australis** Loomis

*Cleidogona australis* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 226, figs. 159, 163. MALE HT (not located at USNM, the published repository, possibly lost), from Highlands Hammock State Park, Sebring, Highlands Co., Florida

**Cleidogona austrina** (Loomis)

*Akakandra austrina* Loomis, 1964, Fieldiana Zool., 47: 99, figs. 9N-Q. MALE HT (FMNH, lacking gonopods) from Cerro Punta, Prov. Chiriqui, Panama.

*Cleidogona austrina*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 158.

**Cleidogona bacillipus** (Chamberlin & Mulaik)

*Rhabdarona bacillipus* Chamberlin & Mulaik, 1941, Journ. New York Ent. Soc., 49: 60. MALE HT (USNM), from Raven Ranch, Kerr Co., Texas.

*Mecistopus varicornis* Loomis, 1959, Journ. Washington Acad. Sci., 49: 162, figs. 10-14. MALE HT (USNM) from Hwy 16 between Kerrville and Medina, Kerr-Bandera Cos., Texas. Synonymized by Shear, 1972.

*Cleidogona bacillipus*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 216, figs. 244-247.

Range: Four counties in southern Texas, single localities in Nuevo Leon and Coahuila, Mexico.

**Cleidogona baroqua** Shear

*Cleidogona baroqua* Shear, 1972, Bull. Mus. Comp. Zool., 144: 209, figs. 197-200. MALE HT (MCZ) from S tano de San August n, Huautla de Jim nez, Oaxaca, Mexico.

Range: Numerous caves near Huautla de Jim nez, Oaxaca.

**Cleidogona bifurca** Loomis

*Cleidogona bifurca* Loomis, 1974, Florida Entom., 57: 184, figs. 23, 24. MALE HT (FSCA) from Dulce Nombre, near Cartago, Prov. Cartago, Costa Rica.

**Cleidogona camazotz** Shear

*Cleidogona camazotz* Shear, 1972, Bull. Mus. Comp. Zool., 144: 215, figs. 236-238. MALE HT (MCZ) from Hwy. 200, 3 miles west of state border, Guerrero.

Range: Recorded also from 22.2 miles south of San Pedro Juchatengo, near Pinotepa Nacional, Oaxaca, Mexico.

**Cleidogona caroliniana** Causey

*Cleidogona caroliniana* Causey, 1957, Journ. Kansas Ent. Soc., 30: 115, figs. 4, 5. MALE HT (AMNH) from Fayetteville, Cumberland Co., North Carolina.

**Cleidogona caesioannulata** (Wood)

*Spirostrephon caesioannulatus* Wood, 1865, Trans. American Philos. Soc. 13: 194. MALE HT (USNM) from Western Pennsylvania [probably vicinity of Pittsburgh].

*Cleidogona caesioannulata*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 43, figs. 138, 139, 145-148, 150. - Shear, 1972, Bull. Mus. Comp. Zool. 144: 236, figs. 378-384.

*Cleidogona exaspera*: Williams & Hefner, 1928, Bull. Ohio Biol. Surv. 18: 117 [new name for *Cleidogona caesioannulata* as described by Cook & Collins]. MALE HT (USNM) from Delaware Co., Ohio. Synonymized by Shear, 1972.

Range: Southeastern Pennsylvania and southern Ohio south to Virginia Beach, Va., and Durham and Mount Mitchell, N.C. (Shear, 1972, map 12).

**Cleidogona ceibana** Chamberlin

*Cleidogona ceibana* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 11, pl. 6, figs. 1-6. MALE HT (USNM) from La Ceiba, Prov. Atlantida, Honduras. - Shear, 1972, Bull. Mus. Comp. Zool. 144: 208, figs. 188, 189.

?*Hirsutogona ceibana*: Kraus, 1954, Senckenberg. Biol. 35: 329.

**Cleidogona celerita** Williams & Hefner

*Cleidogona celerita*: Williams & Hefner, 1928, Bull. Ohio Biol. Surv. 18: 117, fig. 14c. MALE HT (USNM) from Ohio without further data. - Shear, 1972, Bull. Mus. Comp. Zool., 144: 236, figs. 374-377.

*Cleidogona inflata* Causey, 1951, Journ. Washington Acad. Sci. 41: 90, figs. 14-19. MALE HT (INHS) from Starved Rock State Park, Putnam Co., Illinois. Synonymized by Shear, 1972.

Range: Ohio west to Lake, Putnam, and Champaign cos., Illinois.

***Cleidogona chac* Shear**

*Cleidogona chac* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 72, figs. 21, 22. MALE HT (AMNH) from 25-30 km from Huautla de Jim nez on the trail to Cerro Rab n, Oaxaca, Mexico.

***Cleidogona chacmool* Shear**

*Cleidogona chacmool* Shear, 1972, Bull. Mus. Comp. Zool., 144: 211, figs. 213-216. MALE HT (MCZ) from 60.6 miles south of Valle Nacional, Oaxaca, Mexico.

***Cleidogona chiapas* Shear**

*Cleidogona chiapas* Shear, 1982, Texas Mem. Mus. Bull. 28: 151, figs. 21-25. MALE HT (AMNH) from Cueva II de la Canada, La Quinta, San Cristobal de las Casas, Chiapas, Mexico.

***Cleidogona chontala* Shear**

*Cleidogona chontala* Shear, 1972, Bull. Mus. Comp. Zool., 144: 210, figs. 205-208. MALE HT (MCZ) from 27.5 miles south of Valle Nacional, Oaxaca, Mexico.

***Cleidogona coatlicue* Shear**

*Cleidogona coatlicue* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 75, figs. 31-33. MALE HT (AMNH) from Pozo del Arrecife, 800 m northeast of Ranch Nuevo, Tamaulipas, Mexico.

***Cleidogona conotyloides* Shear**

*Cleidogona conotyloides* Shear, 1972, Bull. Mus. Comp. Zool., 144: 219, figs. 269-274. MALE HT (MCZ) from 8.6 miles east of San Cristobal de las Casas, 8500-9000 ft., Chiapas, Mexico.

***Cleidogona crucis* (Chamberlin)**

*Cavota crucis* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 8, figs. 3-7. Location of MALE HT unknown (?USNM) from Cueva de Atoyac, Veracruz, Mexico.

Range: Several caves in central Veracruz.

***Cleidogona crystallina* Shear**

*Cleidogona crystallina* Shear, 1972, Bull. Mus. Comp. Zool., 144: 212, figs. 217-220. MALE HT (MCZ) from Cueva Chica de la Perra, six miles northwest of Gomez Farias,

Tamaulipas, Mexico.

**Cleidogona curvipes** (Loomis)

*Costaricia curvipes* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 227, figs. 1-13. MALE HT (?USNM, possibly lost), from Cairo, Prov. Limón, Costa Rica.

*Cleidogona curvipes*: Shear, 1972, Bull. Mus. Comp. Zool. 144: 158.

**Cleidogona cyclipes** Loomis

*Cleidogona cyclipes* Loomis, 1969, Florida Entom., 52: 247, figs. 2-4. MALE HT (USNM) from Alexander City, Tallapoosa Co., Alabama.

**Cleidogona decurva** Shear

*Cleidogona decurva* Shear, 1972, Bull. Mus. Comp. Zool., 144: 221, figs. 278-280. MALE HT (MCZ) from Sumidero de Camino, ten miles northwest of Comitán, Chiapas, Mexico.

**Cleidogona eulalia** Shear

*Cleidogona eulalia* Shear, 1982, Texas Mem. Mus. Bull. 28: 149, figs. 10-14. MALE HT (AMNH) from Cueva de los Resadores, south of Eulalia, Dept. Huehuetenango, Guatemala.

**Cleidogona felipiana** Shear

*Cleidogona felipiana* Shear, 1974, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171: 254, figs. 9-13. MALE HT (MCZ) from Cueva del Rayo de San Felipe, San Cristóbal de las Casas, Chiapas, Mexico.

**Cleidogona fidelitor** Shear

*Cleidogona fidelitor* Shear, 1972, Bull. Mus. Comp. Zool., 144: 232, figs. 341-343. MALE HT (MCZ) from Mount Torry Furnace wayside, ca. 7 miles south of Lyndhurst on Va. Rte. 664, Augusta Co., Virginia..

Range: Known also from Peaks of Otter, Bedford Co., Virginia.

The name of the type locality was inadvertently misspelled Tory on the field label and not corrected before it had misled Dr. Shear into his choice of a species name.

**Cleidogona forceps** Cook & Collins

*Cleidogona forceps* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 49, figs. 159, 163. MALE HT (lost, not in USNM), from an unknown locality.

**Cleidogona forficula** Shear

*Cleidogona forficula* Shear, 1972, Bull. Mus. Comp. Zool., 144: 208, figs. 190-192. MALE HT (MCZ) from San Cristóbal de las Casas, Chiapas, Mexico.

**Cleidogona fustis** Cook & Collins

*Cleidogona fustis* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 49, figs. 151-153. MALE

HT (?USNM), probably lost), labeled only Indiana.

*Cleidogona caesioannulata* (not of Wood, 1865): Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 116.

Range: Indiana to southwestern Virginia (Shear, 1972, map 12).

***Cleidogona georgia* Shear**

*Cleidogona georgia* Shear, 1972, Bull. Mus. Comp. Zool., 144: 233, figs. 352-358. MALE HT (MCZ) from 4.2 miles southeast of Cochran, Bleckley Co., Georgia.

***Cleidogona grenada* Shear**

*Cleidogona grenada* Shear, 1972, Bull. Mus. Comp. Zool., 144: 234, figs. 362-367, 369. MALE HT (MCZ) from 3.4 miles east of Grenada, Grenada Co., Mississippi.

Range: Recorded also from Mobile, Alabama.

***Cleidogona gucumatz* Shear**

*Cleidogona gucumatz* Shear, 1972, Bull. Mus. Comp. Zool., 144: 210, figs. 201-204. MALE HT (MCZ) from 1.5 miles north of El Punto on road to Ixtl'n de Juarez, Oaxaca, Mexico.

***Cleidogona godmani* Pocock**

*Cleidogona godmani* Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 52, pl. 5, figs. 8a-c. MALE HT (BMNH) from Omilteme (north of Zimpango), Guerrero, Mexico.

***Cleidogona hadena* Causey**

*Cleidogona hadena* Causey, 1961, Florida Entom., 44: 38, figs. 3, 4. MALE HT (AMNH), from Juniper Springs, Marion Co., Florida. - Shear, 1972, Bull. Mus. Comp. Zool., 144: 231, figs. 335-337.

***Cleidogona hauatla* Shear**

*Cleidogona hauatla* Shear, 1972, Bull. Mus. Comp. Zool. 144: 217, figs. 253-256. MALE HT (MCZ) from 20 miles west of Hauatla, Oaxaca, Mexico.

***Cleidogona hoffmani* Shear**

*Cleidogona hoffmani* Shear, 1972, Bull. Mus. Comp. Zool., 144: 229, figs. 320-327. MALE HT (MCZ) from Roan Mountain below Carver's Gap, Mitchell Co., North Carolina.

Range: Roan Mountain, Tenn.-NC., north to vicinity of Bluefield, West Virginia (Shear, 1972, map 13).

***Cleidogona hunapu* Shear**

*Cleidogona hunapu* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171: 236, figs. 1-8. MALE HT (AMNH) from Cueva del Burro, Lago de Malpaso, Rio Encajonada, Chiapas, Mexico.

**Cleidogona inexpectata** Hoffman

*Cleidogona inexpectata* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 22, figs. 23-25.  
MALE HT (USNM) from Chimneys Camp Ground, Great Smoky Mountains National Park, Sevier Co., Tennessee.

Range: Also recorded from two localities on Signal Mountain, Tennessee (Shear, 1972, Map 13).

**Cleidogona jamesoni** Shear

*Cleidogona jamesoni* Shear, 1982, Texas Mem. Mus. Bull. 28: 153, figs. 26-29. MALE HT (AMNH) from Cueva del Volcancillo, 5 km southeast of Las Vigas, Veracruz, Mexico.

**Cleidogona jocassee** Hoffman

*Cleidogona jocassee* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 19, figs. 215-218.  
MALE HT (USNM) from Jocassee, Oconee Co., South Carolina.

Range: Numerous localities in western North Carolina, western South Carolina, and northern Georgia (Shear, 1972, map 13).

**Cleidogona lachesis** Shear

*Cleidogona lachesis* Shear, 1972, Bull. Mus. Comp. Zool., 144: 228, figs. 307-309. MALE HT (MCZ) from Linville Falls, Avery Co., North Carolina.

Range: Avery County, N. C., north to Mount Rogers, Grayson Co., Virginia.

**Cleidogona laminata** Cook & Collins

*Cleidogona laminata* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 48, figs. 164-171.  
MALE HT (USNM) from uncertain locality, possibly Arkansas. — Shear, 1972, Bull. Mus. Comp. Zool., 144: 238, figs. 385-387 (restriction of type locality to six miles east of Imboden, Lawrence Co., Arkansas).

*Cleidogona aspera* Causey, 1951, Journ. Washington Acad. Sci., 41: 78, figs. 1-4. MALE HT (lost during postal shipment) from six miles east of Imboden, Lawrence Co., Arkansas. Synonymized by Shear, 1972.

Range: Recorded from Clay, Dallas, Lawrence, and Randolph cos., Arkansas, and Jackson Par., Louisiana.

**Cleidogona laquinta** Shear

*Cleidogona laquinta* Shear, 1972, Bull. Mus. Comp. Zool., 144: 219, figs. 266-268. MALE HT (MCZ) from three miles east of San Cristobal de las Casas, on road to La Quinta, Chiapas, Mexico.



**Cleidogona maculata** (Verhoeff)

*Mexiceuma maculata* Veroeff, 1926, Zool. Anz., 68: 112, figs. 12-15. MALE HT (ZSM) from Desierto de los Leones, near Mexico City, Distrito Federal, Mexico.

*Cleidogona leona* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 34, figs. 69-72. MALE HT (USNM) from Desierto de los Leones, Distrito Federal, Mexico. Synonymized by Shear, 1972.

*Cleidogona propria* Causey, 1957, Journ. Kansas Ent. Soc., 30: 119, figs. 13-14. MALE HT (AMNH) from Puerto las Peras, Hy. 15", Michoacan, Mexico. Synonymized by Shear, 1972.

*Cleidogona maculata*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 213, figs. 226-228.

Range: Several localities in the Distrito Federal and Michoacan, Mexico.

**Cleidogona major** Cook & Collins

*Cleidogona major* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 47, figs. 110-137. MALE HT (USNM) from Washington, D.C. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 224, figs. 294-296.

Range: District of Columbia south and west to eastern Kentucky and western North Carolina (Shear, 1972, map 12); subsequently recorded from six counties in the Piedmont of North Carolina (Shelley 1978).. A male from Connecticut (now lost) appears to have been this species.

**Cleidogona mandeli** Chamberlin

*Cleidogona mandeli* Chamberlin, 1952, Great Basin Nat., 12: 13, figs. 4-7. Location of MALE HT unknown, perhaps lost (said to be FMNH), from Volc n Tajumulco, Dep. San Marcos, Guatemala.

**Cleidogona margarita** Hoffman

*Cleidogona margarita* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 21, figs. 19-22. MALE HT (USNM) from Chimneys Camp Ground, Great Smoky Mountains National Park, Sevier Co., Tennessee. \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 228, figs. 310-315.

Range: Great Smoky Mountains northeast through the Unaka Mountains to Watauga Co., N.C. (Shear, 1972, map 13).

**Cleidogona mayaptec** Shear

*Cleidogona mayaptec* Shear, 1972. Bull. Mus. Comp. Zool., 144: 215, figs. 239-241. MALE HT (MCZ) from one mile south of Rio Blanco, Quer tero, Mexico.

**Cleidogona medialis** Shelley

*Cleidogona medialis* Shelley, 1976, Florida Entom., 59: 325, figs. 1-7. MALE HT (USNM) from Blowing Rock, Watauga Co., North Carolina.

Range: Also known from Henry Co., Virginia, and Gaston and Davidson cos., North

Carolina..

**Cleidogona mexicana** (Humbert & DeSaussure)

*Craspedosoma mexicanum* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., (2): 21: 153.  
FEMALE HT(MHNG) labeled Le Mexique: Cordill re orientale . The locality doubtless refers to a site between Cordoba, Veracruz, and Cuernavaca, Morelos. \_  
DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., 6(2): 59, pl. I, figs. 15a-d.

*Cleidogona mexicana*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 52, figs. 105-109.  
\_ Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 53.\_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 207, fig. 187.

**Cleidogona minima** Causey

*Cleidogona minima* Causey, 1951, Journ. Washington Acad. Sci., 41: 80, figs. 10-13. MALE  
HT (formerly ANSP, lost in postal delivery), from Tuscaloosa, Tuscaloosa Co., Alabama.

**Cleidogona minutissima** (Kraus)

*Hirsutogona minutissima* Kraus, 1954, Senckenberg. Biol. 35: 332, figs. 66-71. MALE HT  
(SMF) from Laguna de las Ranas, Dept. Sonosante, El Salvador.

*Cleidogona minutissima*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 222, figs. 284-285.

**Cleidogona mirabilis** (Kraus)

*Hirsutogona mirabilis* Kraus, 1954, Senckenberg. Biol., 35: 329, figs. 62-65. MALE HT (SMF)  
from Monte Cristo, Metapan Mountains, Dept. Santa Ana, El Salvador.

**Cleidogona mississippiana** Chamberlin

*Cleidogona mississippiana* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 3, figs. 4-6. MALE HT  
(USNM) from eight miles east of Vicksburg, Warren Co., Mississippi. \_ Shear, 1972,  
Bull. Mus. Comp. Zool., 144: 235, fig. 368.

Range: Forest, Rankin, and Warren cos., in southern Mississippi.

**Cleidogona mixteca** Shear

*Cleidogona mixteca* Shear, 1972, Bull. Mus. Comp. Zool., 144: 211, figs. 209-212. MALE HT  
(MCZ) from 54.1 miles south of Valle Nacional, 8300 ft., Oaxaca.

**Cleidogona moderata** Causey

*Cleidogona moderata* Causey, 1957, Journ. Kansas Entom. Soc., 30: 115, figs. 6, 7. Location  
of MALE HT unknown, not at AMNH, from 18 miles south of Tamazunchale, San Luis  
Potos , Mexico.

**Cleidogona nantahala** Shear

*Cleidogona nantahala* Shear, 1972, Bull. Mus. Comp. Zool., 144: 227, figs. 301-306. MALE

HT (MCZ) from Mount Pisgah, 5000 ft., Haywood Co., North Carolina.

Range: Western North Carolina: Haywood, Macon, Swain, Transylvania cos. (Shear, 1972, map 13).

**Cleidogona nueva nueva** Chamberlin, new status

*Cleidogona nueva* Chamberlin, 1941, Ent. News, 52: 251, figs. 1,2. MALE HT (USNM) from Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, Mexico.

Until the status of the following entry has been determined, the nominate taxon should be given parallel rank.

**Cleidogona nueva michoacana** Chamberlin

*Cleidogona nueva variety michoacana* Chamberlin, 1941, Ent. News, 52: 252, figs. 3, 4. MALE HT (?USNM) from Tanc taro, Michoacan, Mexico.

This name, proposed as of varietal status, was treated by Shear (1972: 159) as a supposed subspecies of uncertain status. Although Chamberlin stated that the gonopods were very similar to those of the nominate *nueva*, the difference in type localities suggests that *michoacana* be listed as a possibly distinct form pending examination of new topotypic material.

**Cleidogona pecki** Shear

*Cleidogona pecki* Shear, 1972, Bull. Mus. Comp. Zool., 144: 213, figs. 221-225. MALE HT (MCZ) from Cueva de la Mina, six miles northwest of Gomez Farias, Tamaulipas.

**Cleidogona pochteca** Shear

*Cleidogona pochteca* Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 73, figs. 25-27. MALE HT (AMNH) from S tano de la Torre, four km southeast of Ranch Nuevo firetower, Tamaulipas.

**Cleidogona punctifer** Chamberlin

*Cleidogona punctifer* Chamberlin, 1952, Great Basin Nat., 12: 13. FEMALE HT (FMNH), from Chichivac, near Tecpan, Dept. Chimaltenango, Guatemala.

**Cleidogona rafaella** Chamberlin

*Cleidogona rafaella* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 35, figs. 73-75. MALE HT (USNM) from San Rafael, D. F. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 218, figs. 260-262.

Shear could locate no San Rafael in the Distrito Federal, and suggested that San Rafael in Edo Mexico is possibly the correct type locality.

**Cleidogona revilla** Shear

*Cleidogona revilla* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 75, figs. 28-30. MALE HT (AMNH) from three km southeast of Revilla, Tamaulipas, Mexico.

**Cleidogona saripa** Causey

*Cleidogona saripa* Causey, 1961, Florida Entom., 44: 36, figs. 1, 2. MALE HT (?lost, not at AMNH), from the Savannah River Plant, Aiken Co., South Carolina.

***Cleidogona scandens* Hoffman**

*Cleidogona scandens* Hoffman, 1975, Pan-Pacific Entom., 51: 33, figs. 1-7. MALE HT (CAS) from 17 km southeast of San Cristobal de las Casas, Chiapas, Mexico.

***Cleidogona secreta* Causey**

*Cleidogona secreta* Causey, 1957, Journ. Kansas Ent. Soc., 30: 119, fig. 16. FEMALE HT (lost?, not at AMNH) from Ciudad Oaxaca, Oaxaca, Mexico.

***Cleidogona sayana* (Bollman)**

*Julus punctatus*°Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 102. Type material not known to exist, from unspecified locality (considered by Chamberlin & Hoffman, 1958: 124, to be probably the vicinity of Philadelphia). Preoccupied by *Julus punctatus* Leach, 1815.

*Julus stigmatosus* Brandt, 1840, Bull. sci. Acad. Imp. Sci. St.-Petersbourg, 8: 103. Replacement name for *Julus punctatus* Say; preoccupied by *Julus stigmatosus* Eichwald, 1830.

[**Not** *Nemasoma stigmatosum*: Bollman, 1888, Proc. U. S. Nat. Mus., 11: 405!]

*Nemasoma sayanum* Bollman, 1893, Bull. U. S. Nat. Mus., 46: 145. Replacement name for *Julus punctatus* Say (and *J. stigmatosus* Brandt). \_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 124.

*Cleidogona sayana*: Hoffman, 1999, Myriapodologica, 6: 24.

I have shown (op. cit.) that Say's description of his *punctatus* is precise and could have been derived only from a specimen of *Cleidogona*. If Philadelphia is arbitrarily but plausibly accepted as a type locality, this name is quite possibly a senior synonym of *C. major* (Cook & Collins, 1895). However, a formal association of these two names should be preceded by a search for topotypic material, from which a neotype can be selected to stabilize the identity of the name.

***Cleidogona steno* Shear**

*Cleidogona steno* Shear, 1972, Bull. Mus. Comp. Zool., 144: 232, figs. 344-348. MALE HT (MCZ) from Burnt Mountain, Pickens Co., Georgia.

***Cleidogona stolli* Pocock**

*Cleidogona stolli* Pocock, 1903, Biol. Centr.-Amer., Diplopoda, p. 52, pl. 5, figs. 7a-e. MALE HT (BMNH) from Volc n de Agua, Dept. Sacatepequez, Guatemala. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 220, figs. 275-277.

***Cleidogona sublettei* Causey**

*Cleidogona sublettei* Causey, 1954, Tulane Stud. Zool., 2: 66, figs. 4, 5. MALE HT (?lost, not at AMNH). \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 235, figs. 370-373.

**Cleidogona tajumulco** Chamberlin

*Cleidogona tajumulco* Chamberlin, 1952, Great Basin Nat., 12: 15. FEMALE HT (FMNH?) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

**Cleidogona tallapoosa** Shear

*Cleidogona tallapoosa* Shear, 1972, Bull. Mus. Comp. Zool., 144: 231, figs. 332-334. MALE HT (MCZ) from four miles south of Perryville, Tallapoosa Co., Alabama.

Range: Also recorded from Cherokee Co., North Carolina, by Shelley (1976)

**Cleidogona tequila** Shear

*Cleidogona tequila* Shear, 1972, Bull. Mus. Comp. Zool., 144: 217, figs. 249-252. MALE HT (MCZ) from Tequila (18.44 N, 97.04 W), Veracruz, Mexico.

**Cleidogona tizoc** Shear

*Cleidogona tizoc* Shear, 1972, Bull. Mus. Comp. Zool., 144: 214, figs. 229-231. MALE HT (MCZ) from Delina, Pinal de Amoles, Quer taro, Mexico.

**Cleidogona totonaca** Shear

*Cleidogona totonaca* Shear, 1972, Bull. Mus. Comp. Zool., 144: 218, figs. 257-259. MALE HT (MCZ) from 17.8 miles east of Landa de Matamoros, Quer taro, Mexico.

Range: Also recorded from S tano de las Calenduras at Yerbabuena, Tamaulipas, and S tano del Gobernador near Pinal de Amoles, Quer tero, Mexico.

**Cleidogona treacyae** Shear, 1982, Texas Mem. Mus. Bull. 28: 151, figs. 15-17. MALE HT (AMNH) from Cueva de los Viet Cong, Xilitla Plateau, San Luis Potos .

**Cleidogona unita** Causey

*Cleidogona unita* Causey, 1951, Journ. Washington Acad. Sci., 41: 78, figs. 5-9. MALE HT (INHS) from Giant City State Park, Union Co., Illinois. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 238, figs. 388-392.

Range: Recorded from Union, Jackson, Pope cos., southern Illinois, and Edmonson Co., Kentucky.

**Cleidogona wrayi** Causey

*Cleidogona wrayi* Causey, 1957, Journ. Kansas Ent. Soc., 30: 114, figs. 1-3. MALE HT (AMNH) from Acre, Beaufort Co., North Carolina. \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 234, figs. 359-361.

**Cleidogona xolotl** Shear

*Cleidogona xolotl* Shear, 1972, Bull. Mus. Comp. Zool., 144: 215, figs. 242, 243. MALE HT (MCZ) from 23.8 miles northeast of Jacala, 5100 ft., Hidalgo, Mexico.

**Cleidogona yerbabuena** Shear

*Cleidogona yerbabuena* Shear, 1982, Texas Mem. Mus. Bull. 28: 151, figs. 18-20. MALE HT (AMNH) from S tano de las Calenturas, Yerbabuena, Tamaulipas, Mexico..

**Cleidogona zapoteca** Shear

*Cleidogona zapoteca* Shear, 1972, Bull. Mus. Comp. Zool., 144: 219, figs. 263-265. MALE HT (MCZ) from San Pedro Juchatengo near Pinotepa National Park, Oaxaca.

**Cleidogona zempoala** Chamberlin

*Cleidogona zempoala* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 35, figs. 64, 65. MALE HT (?USNM, lost?) from Parque Nacional de Zempoala, Morelos, Mexico.

**Cleidogona zimapaniensis** Causey

*Cleidogona zimapaniensis* Causey, 1957, Journ. Kansas Ent. Soc., 30: 117, figs. 9-12. MALE HT (AMNH) from 14 miles north of Zimapan, Hidalgo, Mexico. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 214, figs. 232-235.

Genus **Dybasia** Loomis

*Dybasia* Loomis, 1964, Fieldiana: Zool., 47: 100. Type species. *D. humerosa* Loomis, by original designation.

*Ogkomus* Loomis, 1964, Fieldiana: Zool., 47: 102. Type species, *O. divergens* Loomis, by original designation. Synonymized by Shear, 1972.

*Solemia* Loomis, 1964, Fieldiana: Zool., 47: 104. Type species: *S. chiriquia* Loomis, by original designation. Synonymized by Shear, 1972.

Four species. Western Panama (Shear, 1972, map 14) and adjacent Costa Rica.

**Dybasia chiriquia** (Loomis)

*Solemia chiriquia* Loomis, 1964, Fieldiana: Zool., 47: 105, figs. 10M-P. MALE HT (FMNH) from Finca Lerida. Near Boquete, Prov. Chiriqu , Panama.

*Dybasia chiriquia*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 246, figs. 422-424.

**Dybasia divergens** (Loomis)

*Ogkomus divergens* Loomis, 1964, Fieldiana: Zool., 47: 102, figs. 10J-L. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

*Dybasia divergens*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 245, figs. 419-421.

**Dybasia humerosa** Loomis

*Dybasia humerosa* Loomis, 1964, Fieldiana: Zool., 47: 101, figs. 10A-I. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqu , Panama.

**Dybasia interamericana** Loomis

*Dybasia interamericana* Loomis, 1975, Florida Entom. 57: 184, figs. 25, 26. MALE HT (FSCA) from south side of Cerro de la Muerte, on the Interamerican Highway, Prov. San Jose, Costa Rica.

Genus **Pseudotremia** Cope

*Pseudotremia* Cope, 1869, Proc. American Philos. Soc., 11: 179. Type species: *P. cavernarum* Cope, by monotypy. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 162 (revision).

*Dearolfia* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 177. Type species: *D. lusciosa* Loomis, by original designation. Synonymized by Shear, 1972.

37 species, central eastern United States (Shear, 1972, map 5).

**Pseudotremia acheron** Shear

*Pseudotremia acheron* Shear, 1972, Bull. Mus. Comp. Zool., 144: 176, figs. 49-52. MALE HT (MCZ) from Higgenbotham Cave, eight miles south of McMinnville, Warren Co., Tennessee

Range: Also recorded from McElroy Cave near Boone Cave P. O., Van Buren Co., Tennessee.

**Pseudotremia aeacus** Shear

*Pseudotremia aeacus* Shear, 1972, Bull. Mus. Comp. Zool., 144: 178, figs. 66-69. MALE HT (MCZ) from Hurricane Cave near Rising Fawn, Dade Co., Georgia.

**Pseudotremia alecto** Shear

*Pseudotremia alecto* Shear, 1972, Bull. Mus. Comp. Zool. 144: 186, figs. 122-124. MALE HT (MCZ) from Coleman s Pond at Griffith [ca. five miles east of Clifton Forge on the CSX railroad], Alleghany Co., Virginia.

**Pseudotremia armesi** Shear

*Pseudotremia armesi* Shear, 1972, Bull. Mus. Comp. Zool., 144: 185, figs. 118-121. MALE HT (MCZ) from Neely Farm Cave near Athens, Mercer Co., West Virginia.

**Pseudotremia amphiorax** Shear

*Pseudotremia amphiorax* Shear, 1972, Bull. Mus. Comp. Zool., 144: 172, figs. 13-16. MALE HT (MCZ) from Sig Shacklett s Cave, three miles north of Big Spring, Meade Co., Indiana.

**Pseudotremia carterensis** Packard

*Pseudotremia cavernarum carterensis* Packard, 1883, Proc. American Philos. Soc., 21: 186. ST

(MCZ) from Bat Cave, Carter s Cave, Zwingel s Cave, and X Cave, Carter Co., Kentucky.

*Pseudotremia carterensis*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 40, figs. 8-10. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 188, figs. 141-144.

*Pseudotremia sodalis* Loomis, 1939, Bull. Mus. Comp. Zool. 86: 173, figs. 4a-d. MALE HT (MCZ) from Bat Cave, Carter Co., Kentucky. Synonymized by Shear, 1972.

Range: Known only from Carter Co., Kentucky. The record for Wyandotte Cave, Indiana by Cook & Collins (1895) is presumed to be based on mislabeled material.

### ***Pseudotremia cavernarum* Cope**

*Pseudotremia cavernarum* Cope, 1869, Proc. American Philos. Soc., 11: 179. Type material unknown, probably not extant, from Erhardt s Cave, at Ellett, Montgomery Co., Virginia. \_ Hoffman, 1958, Proc. Biol. Soc. Washington, 71: 113, figs. 1, 2. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 191, figs. 157-160..

Range: Known only from several caves in the Ellett Valley, east of Blacksburg, Virginia. The type locality itself has been destroyed by quarrying operations.

### ***Pseudotremia cercops* Shear**

*Pseudotremia cercops* Shear, 1972, Bull. Mus. Comp. Zool., 144: 180, figs. 81-84. MALE HT (MCZ) from Jim Cave, 3.5 miles east of Dowelltown, DeKalb Co., Tennessee.

### ***Pseudotremia cocytus* Shear**

*Pseudotremia cocytus* Shear, 1972, Bull. Mus. Comp. Zool., 144: 183, figs. 98-100. MALE HT (MCZ) from 1.4 miles east of Dossett, Anderson Co., Tennessee.

Range: Recorded from several caves in Anderson Co., Tennessee.

### ***Pseudotremia conservata* Hoffman & Lewis**

*Pseudotremia conservata* Hoffman & Lewis, 1997, Myriapodologica, 4: 108, figs. 1-6. MALE HT (VMNH) from Seven Springs Cave, 0.7 miles NNW of Elizabeth, Harrison Co., Indiana.

### ***Pseudotremia deprehendor* Shear**

*Pseudotremia deprehendor* Shear, 1972, Bull. Mus. Comp. Zool. 144: 189, figs. 145-147. MALE HT (MCZ) from Feather s Cave, 4 miles east of Clinton, Anderson Co., Tennessee.

### ***Pseudotremia eburnea* Loomis**

*Pseudotremia eburnea* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 174, figs. 5a-c. MALE HT (MCZ) from Cricket Cave at Rising Fawn, Dade Co., Georgia. \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 177, figs. 63-65.

Range: Caves in northwestern Georgia (Dade Co.) and adjacent Tennessee (Marion Co.)

### ***Pseudotremia fracta fracta* Chamberlin**

*Pseudotremia fracta fracta* Chamberlin, 1951, Great Basin Natur., 11: 25. FEMALE HT (USNM) from



Gatlinburg, Sevier Co., Tennessee.

*Pseudotremia cottus* Shear, 1972, Bull. Mus. Comp. Zool., 144: 183, figs. 101-109. MALE HT (MCZ) from The Sinks, Cades Cove, Blount Co., Tennessee.

*Pseudotremia fracta fracta* Hoffman, 1981, Brimleyana 5: 138, figs. 1, 5.

Range: Several localities in the Great Smoky Mountains, Blount and Sevier cos., Tennessee (Hoffman, 1981, fig. 9).

***Pseudotremia fracta ingens* Hoffman**

*Pseudotremia fracta ingens* Hoffman, 1981, Brimleyana 5: 141, figs. 3, 5. MALE HT (VMNH) from New Mammoth Cave, ca. 11 miles NW of LaFollette, Campbell Co., Tennessee.

***Pseudotremia fracta nantahala* Hoffman**

*Pseudotremia fracta nantahala* Hoffman, 1981, Brimleyana 5: 143, figs. 4, 8. MALE HT (USNM) from Blowing Springs Cave near Nantahala, Swain Co., North Carolina.

***Pseudotremia fracta paynei* Hoffman**

*Pseudotremia fracta paynei* Hoffman, 1981, Brimleyana 5: 139, figs. 2, 6. MALE HT (VMNH) from Norris Quarry Cave no. 1, one mile north of Andersonville, Anderson Co., Tennessee.

***Pseudotremia fulgida* Loomis**

*Pseudotremia fulgida* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 378, figs. 3a-d. MALE HT (MCZ) from Higgenbotham Cave, 1.5 miles NW of Frankfort, Greenbrier Co., West Virginia. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 188, figs. 135-140.

Range: Recorded from several caves in Greenbrier Co., West Virginia.

***Pseudotremia hansonii* Chamberlin**

*Pseudotremia hansonii* Chamberlin, 1951, Great Basin Nat., 11: 25. MALE HT (USNM) from Pineville, Bell Co., Kentucky.

***Pseudotremia hobbsi* Hoffman**

*Pseudotremia hobbsi* Hoffman, 1950, Journ. Washington Acad. Sci., 40: 90, figs. 5, 6. MALE HT (USNM) from Chestnut Ridge Cave, ca. 2 miles north of Clifton Forge, Alleghany Co., Virginia. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 191, figs. 1-5, 161-167.

Range: Numerous caves and surface sites in Alleghany, Botetourt, Craig, and Montgomery cos., Virginia, and Greenbrier and Monroe cos., West Virginia (Shear, 1972, map 8).

***Pseudotremia indianae* Hoffman**

*Pseudotremia cavernarum*: Cook & Collins, 1895, Ann. New York Acad. Sci. 9: 36, figs. 2-7. Misidentification.

*Pseudotremia indianae* Hoffman, 1958, Proc. Biol. Soc. Washington, 71: 114 (July). New name for *Pseudotremia cavernarum* sensu Cook & Collins, 1895, nec Cope, 1869. Type material (formerly USNM, now lost), from Wyandotte Cave, Crawford Co., Indiana. \_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 95 (September). \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 172, figs. 17-24. \_ Hoffman & Lewis, 1997, Myriapodologica, 4: 112.

Range: Caves in the Blue River basin, southern Indiana (Hoffman & Lewis, 1997, fig. 7).

***Pseudotremia lethe* Shear**

*Pseudotremia lethe* Shear, 1972, Bull. Mus. Comp. Zool., 144: 179, figs. 78-80. MALE HT (MCZ) from Carter Cave, 3.3 miles SW of Flynn s Lick, Jackson Co., Tennessee.

***Pseudotremia lictor* Shear**

*Pseudotremia lictor* Shear, 1972, Bull. Mus. Comp. Zool. 144: 181, figs. 85-88. MALE HT (MCZ) from Avant Cave, 2 miles east of Dowelltown, DeKalb Co., Tennessee.

***Pseudotremia lusciosa* (Loomis)**

*Dearolfia lusciosa* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 178, figs. 7a-f. MALE HT (MCZ) from Seneca Caverns, 3 miles NE of Riverton, Pendleton Co., West Virginia.

*Pseudotremia lusciosa*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 187, figs. 125-127..

***Pseudotremia merops* Shear**

*Pseudotremia merops* Shear, 1972, Bul. Mus. Comp. Zool., 144: 175, figs. 31-35. MALE HT (MCZ) from one mile NE of Breeding, Adair Co., Kentucky.

***Pseudotremia minos* Shear**

*Pseudotremia minos* Shear, 1972, Bull. Mus. Comp. Zool., 144: 182, figs. 93-97. MALE HT (MCZ) from Russell Cave, Jackson Co., Alabama.

***Pseudotremia momus* Shear**

*Pseudotremia momus* Shear, 1972, Bull. Mus. Comp. Zool., 144: 185, figs. 114-117. MALE HT (MCZ) from Spence Cave, between Saltville and Chatham, Smyth Co., Virginia.

Range: Also recorded from crest of Big Walker Mountain, 4 miles south of Ceres, Bland Co., Virginia.

***Pseudotremia nefanda* Shear**

*Pseudotremia nefanda* Shear, 1972, Bull. Mus. Comp. Zool., 144: 171, figs. 8-12. MALE HT

(MCZ) from Indian Cave, 0.7 miles west of Charlestown, Clark Co., Indiana. \_ Hoffman & Lewis, 1997, *Myriapodologica*, 4: 112.

Range: Caves in Clark Co., Indiana (Hoffman & Lewis, 1997, fig. 7).

**Pseudotremia nodosa** Loomis

*Pseudotremia nodosa* Loomis, 1939, *Bull. Mus. Comp. Zool.*, 86: 175, figs. 6a-d. MALE HT (MCZ) from English Cave, 0.9 miles south of Hamilton School on the Powell River, Claiborne Co., Tennessee. \_ Shear, 1972, 178, figs. 70-73.

Range: Known from many caves in Claiborne and Hancock cos., Tennessee, and Lee Co., Virginia.

**Pseudotremia nyx** Shear

*Pseudotremia nyx* Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 179, figs. 74-77. MALE HT (MCZ) from Cathedral Caverns, 3.5 miles north of Grant, Marshall Co., Alabama.

**Pseudotremia princeps** Loomis

*Pseudotremia princeps* Loomis, 1939, *Bull. Mus. Comp. Zool.*, 86: 168, figs. 1a-c. MALE HT (MCZ) from Eagle Cave, West Virginia an unverifiable and doubtless incorrect locality. \_ Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 190, figs. 148-151.

Range: Recorded from several caves in Pendleton Co., West Virginia.

**Pseudotremia rhadamanthus** Shear

*Pseudotremia rhadamanthus* Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 176, figs. 53-57. MALE HT (MCZ) from Terrill Cave, five miles NE of Guntersville, Marshall Co., Alabama.

Range: Also recorded from Monteagle Saltpeter Cave, Marion Co., Tennessee.

**Pseudotremia scrutorum** Shear

*Pseudotremia scrutorum* Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 181, figs. 89-92. MALE HT (MCZ) from 1.7 miles north-northeast of Winfield, Scott Co., Tennessee.

**Pseudotremia simulans** Loomis

*Pseudotremia simulans* Loomis, 1939, *Bull. Mus. Comp. Zool.* 86: 170, figs. 2a-b. MALE HT (MCZ) from Simmons Cave, near Cave P. O., Pendleton Co., West Virginia. \_ Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 187, figs. 128-134.

**Pseudotremia soco** Shear

*Pseudotremia soco* Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 177, figs. 58-62. MALE HT (MCZ) from Soco Gap Falls, Jackson Co., North Carolina.

Range: Also known from the north side of Mount Mitchell, NC Rt. 197, Buncombe Co.,

North Carolina.

**Pseudotremia spira** Shear

*Pseudotremia spira* Shear, 1972, Bull. Mus. Comp. Zool., 144: 175, figs. 44-48. MALE HT (MCZ) from Wind Cave, five miles southeast of Somerset, Pulaski Co., Kentucky.

**Pseudotremia stupefactor** Shear

*Pseudotremia stupefactor* Shear, 1972, Bull. Mus. Comp. Zool. 144: 174, figs. 27-30. MALE HT (MCZ) from cedar woods at Camp Nelson, Jessamine Co., Kentucky.

**Pseudotremia sublevis** Loomis

*Pseudotremia sublevis* Loomis, 1944, Psyche, 51: 167, figs. 1A-C. MALE HT (MCZ) from Tony's [=Tawney's] Cave, 1.5 miles northwest of Newport on Va. Rte. 604, Giles Co., Virginia. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 192, figs. 168-172.

Range: Caves and surface sites in Giles and Montgomery cos., Virginia.

Incorrectly synonymized with *P. cavernarum* by Chamberlin & Hoffman, 1958.

**Pseudotremia tsuga** Shear

*Pseudotremia tsuga* Shear, 1972, Bull. Mus. Comp. Zool., 144: 190, figs. 152-156. MALE HT (MCZ) from Cranberry Glades Natural Area, west of Mill Point, Pocahontas Co., West Virginia.

Range: Two surface sites in Pocahontas Co., West Virginia..

**Pseudotremia tuberculata** Loomis

*Pseudotremia tuberculata* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 171, figs. 3a-b. MALE HT (MCZ) from Cassell Farm Cave, Burkes Garden, Tazewell Co., Virginia. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 184, figs. 110-113.

**Pseudotremia unca** Shear

*Pseudotremia unca* Shear, 1972, Bull. Mus. Comp. Zool. 144: 175, figs. 36-43. MALE HT (MCZ) from Great Saltpetre Cave, 4.6 miles north of Livingston, Rockcastle Co., Kentucky.

**Pseudotremia valga** Loomis

*Pseudotremia valga* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 377, figs. 2a-c. MALE HT (MCZ) from King Solomon's Cave (a.k.a. Cudjo's Cave, Cumberland Gap, Lee Co., Virginia). \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 173, figs. 24-26.

**Genus *Solaenogona* Hoffman**

*Solaenogona* Hoffman, 1950, Journ. Washington Acad. Sci., 40: 91. Type species: *S. guatemalana* Hoffman, by original designation. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 193.

Two species, Guatemala and Chiapas, Mexico.

**Solaenogona chiapas** Shear

*Solaenogona chiapas* Shear, 1972, Bull. Mus. Comp. Zool., 144: 195, figs. 177-180. MALE HT (MCZ) from 33.7 miles north of Huixtla, Chiapas, Mexico.

**Solaenogona guatemalana** Hoffman

*Solaenogona guatemalana* Hoffman, 1950, Journ. Washington Acad. Sci., 40: 91, figs. 1-4. MALE HT (USNM) from site between Santa Cruz del Quich and Totonicapán, Dept. Chimaltenango, Guatemala. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 194, figs. 173-176.

### Genus **Tiganogona** Chamberlin

*Bactropus* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 53. Type species: *B. conifer* Cook & Collins, by monotypy. Preoccupied by *Bactropus* Barrande, 1872.

*Tiganogona* Chamberlin, 1928, Ent. News, 39: 154. Type species: *T. brownae* Chamberlin, by original designation. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 240.

*Ofcookogona* Causey, 1951, Proc. Biol. Soc. Washington, 64: 120. Type species: *O. stewartae* Causey, by original designation. Synonymized by Shear, 1972..

*Ozarkogona* Causey, 1951, Journ. Washington Acad. Sci., 41: 82. Type species: *O. glebosa* Causey, by original designation. Synonymized by Shear, 1972.

*Bactropodellus* Jeekel, 1969, Ent. Bericht. 29: 88. Replacement name for *Bactropus* Cook & Collins. Synonymized by Shear, 1972.

Eight species, Central United States (Shear, 1972, map 10).

**Tiganogona alia** (Causey)

*Ofcookogona alia* Causey, 1951, Proc. Biol. Soc. Washington, 64: 121, figs. 14-16. MALE HT (formerly ANSP, lost in postal transit), from Junction City, Union Co., Arkansas.

*Tiganogona alia*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 242, figs. 410, 411.

Range: Also recorded from Washington Co., Arkansas, and Lincoln Par., Louisiana.

**Tiganogona brownae** Chamberlin

*Tiganogona brownae* Chamberlin, 1928, Ent. News, 39: 154. MALE HT (USNM) from St. Charles, St. Louis Co., Missouri. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 241, figs. 401-405.

**Tiganogona conifer** (Cook & Collins)

*Bactropus conifer* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 54, figs. 172-176. Type material (not located), from Bloomington, Monroe Co., Indiana.

*Bactropodellus conifer*: Jeekel, 1969, Ent. Bericht. 29: 88.

*Tiganogona conifer*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 158.

**Tiganogona glebosa** (Causey)

*Ozarkogona glebosa* Causey, 1951, Journ. Washington Acad. Sci. 41: 82, figs. 20, 21. MALE HT (formerly ANSP, lost in postal transit), from Fayetteville, Washington Co., Arkansas.

*Tiganogona glebosa*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 242, figs. 412-414.

**Tiganogona ladymani** (Causey)

*Ozarkogona ladymani* Causey, 1952, Proc. Biol. Soc. Washington, 65: 114, figs. 8, 9. MALE HT (not at AMNH, location unknown), from Rector, Clay Co., Arkansas.

*Tiganogona ladymani*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 158.

**Tiganogona levis** (Causey)

*Ozarkogona levis* Causey, 1959, Journ. Kansas Ent. Soc., 32: 143, figs. 1, 3. MALE HT (not at AMNH, location unknown), from Richmond Creek, Greene Co., Indiana.

*Tiganogona levis*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 158 (considered by Shear as probably a synonym of *T. conifer* Cook & Collins).

**Tiganogona moesta** (Causey)

*Tiganogona moesta* Causey, 1951, Journ. Washington Acad. Sci., 41: 82, figs. 22, 23. MALE HT (not at ANSP, lost in postal transit), from Blue Spring, Carroll Co., Arkansas.

Range: Also recorded from Washington Co., Arkansas.

**Tiganogona steuartae** (Causey)

*Ofcookogona steuartae* Causey, 1951, Proc. Biol. Soc. Washington, 64: 121, figs. 13. MALE HT (formerly ANSP, lost in postal transit), from Greenwood, Sebastian Co., Arkansas.

## Family Trichopetalidae Verhoeff

Trichopetalinae Verhoeff, 1914, Zool. Anz., 43: 347.

Trichopetalidae Verhoeff, 1932, Zool. Jahrb. Abt. Syst. 62: 485. - Hoffman, 1961, Trans. American Ent. Soc., 87: 262 - Shear, 1972, Bull. Mus. Comp. Zool. 144: 274 (synopsis).

Four genera, Transcontinental North America: northeastern United States and adjacent Canadian provinces; Cordilleran ranges of western United States and Mexico (Shear, 1972, map

18).

### Genus **Mexiterpes** Causey

*Mexiterpes* Causey, 1963, *Psyche*, 70: 235. Type species: *M. sabinus* Causey, by original designation. \_ Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 280.

*Poterpes* Causey, 1969, *Proc. Louisiana Acad. Sci.*, 32: 46. Type species: *P. egeo* Causey, by original designation. Synonymized by Shear, 1974.

Seven species, northeastern Mexico (Tamaulipas to Guerrero) in caves.

Apparently Causey contrived this generic name as a derivative of *Scoterpes* (Cope, 1872), which is a compound of the two Greek words *skotos* + *herpes* (literally, crawler in the dark). However, the t in *Mexiterpes* is miscarried from *skotos* and should not have been united with *herpes* (or its combining form lacking the initial h). *Mexiherpes* would have been more nearly correctly formed.

#### **Mexiterpes calenturas** Shear

*Mexiterpes calenturas* Shear, 1982, *Bull. Texas Mem. Mus.*, 28: 153, figs. 30-33. MALE HT (AMNH) from S tano de las Calenturas, Entrada del Blazer Section, at Yerbabuena, Tamaulipas, Mexico.

Range: Recorded from a number of caves in Tamaulipas.

#### **Mexiterpes egeo** (Causey)

*Poterpes egeo* Causey, 1969, *Proc. Louisiana Acad. Sci.*, 32: 46, figs. 5, 7-10. MALE HT (MCZ) from Cueva de el Puente, 13 miles south of San Francisco, San Luis Potos , Mexico.

*Mexiterpes egeo*: Shear, 1974, *Acc. Naz. Lincei, Prob. Att. Sci. Cult.* 171: 256.

#### **Mexiterpes fishi** (Causey)

*Poterpes fishi* Causey, 1969, *Proc. Louisiana Acad. Sci.*, 32: 47, figs. 6, 11-16. MALE HT (MCZ) from Cueva de la Luz, 20 miles west of Aquismon, San Luis Potos , Mexico.

*Mexiterpes fishi*: Shear, 1974, *Acc. Naz. Lincei, Prob. Att. Sci. Cult.* 171: 255 (combination implied by generic synonymy); 1982, *Bull. Texas Mem. Mus.* 28: 153 (record for Quer taro).

#### **Mexiterpes metallicus** Shear

*Mexiterpes metallicus* Shear, 1972, *Bull. Mus. Comp. Zool.* 144: 281, figs. 532-538. MALE HT (MCZ) from roadside iron mine, 1.2 miles east of Pinal de Amoles, Quer taro, Mexico.

Range: Recorded from several caves in Quer taro, Mexico.

#### **Mexiterpes nogal** Shear

*Mexiterpes nogal* Shear, 1982, *Bull. Texas Mem. Mus.*, 28: 153, figs. 34-38. MALE HT

(AMNH) from S tano de Nogal, Quer taro, Mexico.

**Mexiterpes sabinus** Causey

*Mexiterpes sabinus* Causey, 1963, Psyche, 70: 235, figs. 1-3. MALE HT (MCZ) from S tano del Arroyo, eight miles north of Valles, San Luis Potos , Mexico.

**Mexiterpes sangregario** Shear

*Mexiterpes sangregario* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 72, figs. 19, 20. MALE HT (AMNH) from Resumidero de la Joya San Gregario, Guerrero, Mexico.

Genus **Scoterpes** Cope

*Scoterpes* Cope, 1872, American Natur., 6: 414. Type species: *S. copei* Packard, by original designation. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 279.

Four species, Central United States, in caves (Georgia, Tennessee, Alabama, Kentucky, Illinois, Missouri).

**Scoterpes austrinus** Loomis.

*Scoterpes austrinus* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 386, fig. 6. MALE HT (MCZ) from Manitou Cave, one mile south of Fort Payne, DeKalb Co., Alabama.\_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 279, figs. 518-520.

*Scoterpes austrinus nudus* Chamberlin, 1943, Ent. News, 57: 152. MALE HT (?USNM) from Saltpeter Cave, four miles south of Kingston, Bartow Co., Georgia. New synonymy!

Shear s examination of typical *austrinus* from a cave in Floyd Co., Georgia, adjacent to Bartow Co., makes it almost certain that the name *nudus* is invalid.

**Scoterpes copei** (Packard)

*Spirostrephon (Pseudotremia) copei* Packard, 1881, American Natur., 5: 748. MALE HT (MCZ) from Poynter s Cave, Mammoth Cave system, Edmondson Co., Kentucky.

*Scoterpes copei*: Cope, 1872, American Natur., 6: 414. \_ Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 55, figs. 12, 13. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 279, figs. 516, 517.

**Scoterpes dendropus** Loomis

*Scoterpes dendropus* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 181, figs. 9a-c. MALE HT (MCZ) from Marvel Cave, Stone Co., Missouri.

Range: Caves in Missouri.

**Scoterpes ventus** Shear

*Scoterpes ventus* Shear, 1972, Bull. Mus. Comp. Zool., 144: 279, figs. 521-526. MALE HT (MCZ) rom Blowing Cave, Sequatchie, Marion Co., Tennessee.



### Genus **Trichopetalum** Harger

*Trichopetalum* Harger, 1872, American Journ. Arts & Sci., 4: 117. Type species: *T. lunatum* Harger, by subsequent designation of Cook & Collins, 1895. \_ Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 62. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 277 (synopsis).

*Zygonopus* Ryder, 1881, Proc. U. S. Nat. Mus., 3: 527. Type species: *Z. whitei* Ryder, by monotypy. Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 59. \_ Causey, 1960, Journ. New York Ent. Soc., 67: 70. Synonymized by Shear, 1972.

*Tynopus* Chamberlin, 1940, Canadian Entom., 72: 57. Type species: *T. dux* Chamberlin, by original designation. Synonymized by Shear, 1972.

*Flagellopetalum* Causey, 1951, Proc. Biol. Soc. Washington, 64: 119. Type species: *F. stannardi* Causey, by original designation. Synonymized by Shear, 1972.

13 species, eastern North America south as far as Alabama.

#### **Trichopetalum appropinquo** (Causey)

*Flagellopetalum appropinquo* Causey, 1969, Proc. Louisiana Acad. Sci., 32: 44, figs. 1-4. MALE HT (MCZ) from Rhoessville Caves, Washington Co., Maryland.

*Trichopetalum appropinquo*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 277. New combination implicit by generic synonymy.

#### **Trichopetalum cornutum** Cook & Collins

*Trichopetalum cornutum* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 66, figs. 46-49. MALE HT (?USNM) from Bloomington, Monroe Co., Indiana. \_ Causey, 1967, Proc. Biol. Soc. Washington, 80: 119. \_ Shear, 1972, Bull. Mus. Comp. Zool. 144: 288, figs. 511-513.

Range: Michigan and Indiana, southeastward to western North Carolina.

#### **Trichopetalum dux** (Chamberlin)

*Tynopus dux* Chamberlin, 1940, Canadian Entom., 72: 57. MALE HT (USNM) from Duke Forest, Durham Co., North Carolina.

*Trichopetalum dux*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 278, figs. 502-504.

#### **Trichopetalum krekeleri** (Causey)

*Zygonopus krekeleri* Causey, 1960, Journ. New York Ent. Soc., 68: 79, figs. 10, 11. MALE HT (?AMNH) from Alpena Cave no. 1, Alpena, Randolph Co., West Virginia.

*Trichopetalum krekeleri*: Shear, 1972, Bull. Mus. Comp. Zool. 144: 277. New combination implicit by generic synonymy.

Range: Caves in Randolph and Tucker cos., West Virginia.

**Trichopetalum lunatum** Harger

*Trichopetalum lunatum* Harger, 1872, American Journ. Arts & Sci., 4: 118. OF ST (PMNH) from New Haven, New Haven Co., Connecticut. \_ Cook & Collins, 1895, Ann. New York Acad. Sci. 9: 63, figs. 52-54. \_ Palmen, 1952, Ann. Soc. Zool. Vanamo 15: 8, figs. 10-19. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 277, figs. 497-499. \_ Shelley, 1993, Brimleyana 18: 4.

*Trichopetalum album* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 64, figs. 22-29. Location of types in USNM not verified, from Syracuse, Onandaga Co., New York. Synonymized by Causey, 1969.

Range: Newfoundland to Wisconsin, south to Virginia and West Virginia.

**Trichopetalum montis** Chamberlin

*Trichopetalum montis* Chamberlin, 1951, Great Basin Natur., 11: 24, figs. 13, 214. MALE HT (USNM) from Gatlinburg, Sevier Co., Tennessee.

**Trichopetalum packardi** (Causey)

*Zygonopus packardi* Causey, 1960, Journ. New York Acad. Sci., 68: 77, figs. 8, 9. MALE HT (?AMNH) from Patton s Cave, Monroe Co., West Virginia..

*Trichopetalum packardi*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 278, figs. 514, 515.

Range: Caves in Bland, Botetourt, Giles and Montgomery cos., Virginia, and Greenbrier, Mercer, and Monroe cos., West Virginia (Causey, 1960, fig. 1).

**Trichopetalum quadratum** (Loomis)

*Flagellopetalum quadratum* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 229, figs. 17-19. MALE HT (location unknown, not in USNM), from Glendale, Prince Georges Co., Maryland.

*Trichopetalum quadratum*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 277. New combination implicit by generic synonymy.

**Trichopetalum stannardi** (Causey)

*Flagellopetalum stannardi* Causey, 1951, Proc. Biol. Soc. Washington, 64: 120, figs. 9-12. MALE HT (location unknown, not in INHS), from Rocky Branch, Clark Co., Illinois.

*Trichopetalum stannardi*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 277. New combination implicit by generic synonymy.

**Trichopetalum subterraneum** Causey

*Trichopetalum subterraneum* Causey, 1967, Proc. Biol. Soc. Washington, 80: 120, figs. 2-5. MALE HT (USNM), from Slacks (Bryants) Cave, 15 miles NE of Lexington in Scott Co., Kentucky.

**Trichopetalum syntheticum** Shear

*Trichopetalum syntheticum* Shear. 1972, Bull. Mus. Comp. Zool. 144: 278, figs. 505-510.

MALE HT (MCZ) from Crossings Cave, 1.5 miles north of Paint Rock, Jackson Co., Alabama.

**Trichopetalum unicum** Cook & Collins

*Trichopetalum unicum* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 66, fig. 51. MALE HT (?USNM), from Bloomington, Monroe Co., Indiana. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 277, figs. 500, 501.

Range : Indiana and Kentucky, west to Missouri and Oklahoma.

**Trichopetalum weyeriensis** (Causey)

*Zygonopus weyeriensis* Causey, 1960, Journ. New York Ent. Soc., 68: 75, figs. 4-7. MALE HT (?AMNH) from Grand Caverns (*olim* Weyer s Cave), Grottoes, Rockingham Co., Virginia.

*Trichopetalum weyeriensis*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 277. New combination implicit by generic synonymy.

Range: Caves in Augusta and Bath cos., Virginia, and Greenbrier and Pendleton cos., West Virginia (Causey, 1960, fig. 1).

**Trichopetalum whitei** (Ryder)

*Zygonopus whitei* Ryder, 1881, Proc. U. S. Nat. Mus., 3: 527, figs. 1-3. Location of type material unverified, from Luray Caverns, Page Co., Virginia. \_ Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 60, figs. 14-21. \_ Causey, 1960, Journ. New York Ent. Soc., 68: 73, figs. 2, 3.

*Trichopetalum whitei*: Shear, 1972, Bull. Mus. Comp. Zool., 144: 277. New combination implicit by generic synonymy.

Range: Caves in Page and Shenandoah cos., Virginia, and Pendleton Co., West Virginia (Causey, 1960, fig. 1).

Genus **Trigenotyla** Causey

*Trigenotyla* Causey, 1951, Proc. Biol. Soc. Washington, 64: 118. Type species: *T. parca* Causey, by original designation.

One species, Arkansas.

**Trigenotyla parca** Causey

*Trigenotyla parca* Causey, 1951, Proc. Biol. Soc. Washington, 64: 118, figs. 1-5. MALE HT (?INHS) from Blue Spring, Carroll Co., Arkansas. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 280, figs. 527, 528.

Range: Caves and surface sites in Carroll and Washington cos., Arkansas.

## Superfamily Heterochordeumatoidea Pocock

### Family Conotylidae Cook

Conotylidae Cook, 1896, *Brandtia*, 2: 8. \_ Verhoeff, 1932, *Zool. Jahrb. Abt. Syst.*, 62: 500. \_ Shear, 1971, *Bull. Mus. Comp. Zool.* 141: 58 (revision); 1972, *Bull. Mus. Comp. Zool.*, 144: 268 (update); 1976, *American Mus. Nov.* 2600: 4, 5 (update, key to genera).

Eight genera, North America; one, Japan.

### Subfamily Austrotylinae Shear

Austrotylinae Shear, 1976, *American Mus. Nov.*, 2600: 19.

Three genera, northcentral and western North America.

### Genus *Achemenides* Shear

*Achemenides* Shear, 1971, *Bull. Mus. Comp. Zool.*, 141: 84. Type species: *Conotyla pectinata* Causey, by original designation.

One species, Illinois, Iowa, Wisconsin.

#### *Achemenides pectinatus* (Causey)

*Conotyla pectinata* Causey, 1952, *Proc. Biol. Soc. Washington*, 65: 112, figs. 4, 5. MALE HT (INHS) from Smith Park Cave, Mt. Carroll, Carroll Co., Illinois.

*Achemenides pectinatus*: Shear, 1971, *Bull. Mus. Comp. Zool.*, 141: 84, figs. 10, 54-58.

Range: Caves and mines in the driftless region of Illinois, Iowa, and Wisconsin (Shear, 1971, map 3).

### Genus *Austrotyla* Causey

*Austrotyla* Causey, 1961, *Proc. Biol. Soc. Washington*, 74: 260 (8 December). Type species: *Conotyla specus* Loomis, by original designation. \_ Shear, 1971, *Bull. Mus. Comp. Zool.*, 141: 89 (revision).

*Sonorotyla* Hoffman, 1961, *Trans. American Entom. Soc.*, 87: 269 (20 December). Type species: *Conotyla montivaga* Loomis, by original designation. Synonymized by Loomis & Schmitt, 1971.

Six species, Rocky Mountain system from Alberta to Chihuahua; also upper Mississippi River valley (Shear, 1971, map 1).

**Austrotyla borealis** Shear

*Austrotyla borealis* Shear, 1971, Bull. Mus. Comp. Zool., 141: 92, figs. 71-73. MALE HT (MCZ) from Jasper National Park, 5300 ft., Alberta, Canada.

**Austrotyla chihuahua** Shear

*Austrotyla chihuahua* Shear, 1971, Bull. Mus. Comp. Zool. 141: 94, figs. 77-79. MALE HT (MCZ) from Rio Urique, 84 km south of Creel, Chihuahua, Mexico.

**Austrotyla coloradensis** (Chamberlin)

*Conotyla coloradensis* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 237, pl. 32, figs. 7-9, pl. 33, figs. 1-3. Type material lost, from Colorado ; MALE NT (MCZ) from Allen s Park, Boulder Co., Colorado.

*Austrotyla coloradensis*: Causey, 1961, Proc. Biol. Soc. Washington, 74: 254, figs. 2-4 (designation of neotype). \_ Shear, 1971, Bull. Mus. Comp. Zool., 141: 92, figs. 74-76. Range: Widespread in Colorado, doubtless occurs in adjacent states (Shear, 1971, map 4).

**Austrotyla montani** Loomis & Schmitt

*Austrotyla montani* Loomis & Schmitt, 1971, Northwest Sci., 45: 122, fig. 12. MALE HT (USNM) from jct. Clark Fork and Deep Creek, Missoula Co., Montana. \_ Shear, 1976, American Mus. Nov., 2600: 19, fig. 40.

**Austrotyla montivaga** (Loomis)

*Conotyla montivaga* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 383, figs. 4a-d. MALE HT (MCZ) from Santa Rita Mountains at 7500 ft., Pima Co., Arizona.

*Austrotyla specus montivaga*: Causey, 1961, Proc. Biol. Soc. Washington, 74: 264.

*Sonoratyla montivaga*: Hoffman, 1961, Trans. American Entom. Soc., 87: 268, figs. 10, 11.

*Austrotyla montivaga*: Shear, 1971, Bull. Mus. Comp. Zool. 141: 91, figs. 68-70.

Range: Santa Rita and Santa Catalina mountains, southeastern Arizona.

**Austrotyla specus** (Loomis)

*Conotyla specus* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 184, figs. 11a-c. MALE HT (MCZ) from Rice s Cave, three miles NE of Goldman, Jefferson Co., Missouri.

*Austrotyla specus specus*: Causey, 1961, Proc. Biol. Soc. Washington, 74: 260, figs. 5-10.

*Austrotyla specus*: Shear, 1971, Bull. Mus. Comp. Zool., 141: 89, figs. 65-67.

Range: Southern Illinois and adjacent Missouri, north to southern Wisconsin (Shear, 1971, map 3).

**Genus *Corypus* Loomis & Schmitt**

*Corypus* Loomis & Schmitt, 1971, Northwest Sci., 45: 123. Type species: *C. cochlearis* Loomis

& Schmitt, by original designation. \_ Shear, 1976, American Mus. Nov., 2600: 19.

Two species, Idaho, Montana.

**Corypus cochlearis** Loomis & Schmitt

*Corypus cochlearis* Loomis & Schmitt, 1971, Northwest Sci., 45: 123, figs. 16-18. MALE HT (USNM) from Finnegan Creek, two miles west of Noxon, Sanders Co., Montana. \_ Shear, 1976, American Mus. Nov., 2600: 19, figs. 41, 42.

**Corypus kavanaughi** Shelley

*Corypus kavanaughi* Shelley, 1997, Myriapodologica, 4: 123, figs. 2-8. MALE HT (CAS) from along Isabella Creek in the Clearwater Mountains, Clearwater National Forest, ca. 0.2 mi north of the North Fork Clearwater River and 18 mi NE Headquarters, Clearwater County, Idaho.

## Subfamily Conotylinae Cook

Conotylinae Verhoeff, 1914, Zool. Anz., 43: 347 (nomen translatum ex Conotylidae Cook, 1896) \_ Shear, 1976, American Mus. Nov., 2600: 5.

Five genera, Appalachian and Cordilleran regions of North America.

### Genus **Bollmanella** Chamberlin

*Bollmanella* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 12. Type species: *B. oregona* Chamberlin, by original designation. \_ Shear, 1974, Psyche, 81: 135 (revision).

Eight species, southern coastal Oregon north to the Columbia River in Mason Co., Washington.

**Bollmanella bella** Shear

*Bollmanella bella* Shear, 1974, Psyche, 81: 144, figs. 13, 14. MALE HT (MCZ) from 11 miles east/four miles west of Alleghany, Douglas-Coos cos., Oregon.

**Bollmanella bifurcata** Shear

*Bollmanella bifurcata* Shear, 1974, Psyche, 81: 143, figs. 11, 12. MALE HT (MCZ) from Hurricane Creek, two miles west of Joseph, Wallowa Co., Oregon.

**Bollmanella camassia** Shear

*Bollmanella camassia* Shear, 1974, Psyche, 81: 145, figs. 15-17. MALE HT (MCZ) from two miles NE of Camas Valley on Rte. 42, Douglas Co., Oregon.

**Bollmanella complicata** Shear

*Bollmanella complicata* Shear, 1974, Psyche, 81: 146, figs. 18-20. MALE HT (MCZ) from one mile west of Bayshore (four miles north of Shelton), Mason Co., Washington.

**Bollmanella laminata** Shear

*Bollmanella laminata* Shear, 1974, Psyche, 81: 141, figs. 5-7. MALE HT (MCZ) from 0.3 miles west of railroad overpass on Oregon Rt. 26, three miles east of Timber, Washington Co., Oregon.

**Bollmanella oregona** Chamberlin

*Bollmanella oregona* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 12. MALE HT (USNM) from Oregon: Douglas County: John Day Creek [interpreted by Shear (1974) to be Days Creek, in Douglas County]. \_ Shear, 1974, Psyche, 81: 136, figs. 1, 2.

Range: Recorded from numerous localities in Josephine, Douglas, and Jackson cos., Oregon.

**Bollmanella reducta** Shear

*Bollmanella reducta* Shear, 1974, Psyche, 81: 139, figs. 3, 4. MALE HT (MCZ) from two miles north/six miles east of Ashland, Jackson Co., Oregon.

**Bollmanella unca** Shear

*Bollmanella unca* Shear, 1974, Psyche, 81: 141, figs. 8-10. MALE HT (MCZ) from 4.5 miles east of Wells Creek Ranger Station, Douglas Co., Oregon.

Genus **Brunsonia** Loomis & Schmitt

*Brunsonia* Loomis & Schmitt, 1971, Northwest Sci., 45: 122. Type species: *B. complexipes* Loomis & Schmitt, by original designation.

Two species: Alberta, Canada, and Montana.

Shear (1976) considered this taxon to be a junior synonym of *Conotyla*.

**Brunsonia albertana** (Chamberlin)

*Conotyla albertana* Chamberlin, 1920, Canadian Entom., 52: 167, fig. 17. MALE HT (MCZ) from Bow River, Alberta, restricted by Shear (1971: 82) to vicinity of Lake Louise, Banff National Park, Alberta, Canada. \_ Shear, 1971, Bull. Mus. Comp. Zool. 141: 82, figs. 51-53.

*Brunsonia complexipes* Loomis & Schmitt, 1971, Northwest Sci., 45: 123, figs. 13-15. MALE HT (USNM) from Range: Rocky Mountains, from Jasper National Park, Alberta, south to western Montana.

**Brunsonia atrolineata** (Bollman), new combination

*Craspedosoma atrolineata* Bollman, 1893, Bull. U. S. Nat. Mus. 46: 35. MALE HT (USNM) from Glacier, British Columbia [suggested by Shear (1971) to be the post office by that name in the present Glacier National Park].

*Conotyla atrolineata*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 75, figs. 95-100. \_

Shear, 1971, Bull. Mus. Comp. Zool. 141: 80, figs. 6, 46-50.

Range: Several localities in the Mt. Robson and Yoho National Parks, eastern British Columbia.

### Genus **Conotyla** Cook & Collins

*Conotyla* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 70. Type species: *C. fischeri* Cook & Collins, by original designation. \_ Hoffman, 1961, Trans. American Entom. Soc., 87: 265. \_ Shear, 1971, Bull. Mus. Comp. Zool. 141: 64 (revision).

*Proconotyla* Verhoeff, 1932, Zool. Jahrb. Abt. Syst., 62: 501. Type species: *P. blakei* Verhoeff, by monotypy. Synonymized by Shear, 1971.

12 species, eastern North America

#### **Conotyla aeto** Shear

*Conotyla aeto* Shear, 1971, Bull. Mus. Comp. Zool., 141: 76, figs. 37, 38. MALE HT (MCZ) from Clinch Mountain, Burkes Garden, Tazewell Co., Virginia.

#### **Conotyla blakei** (Verhoeff)

*Proconotyla blakei* Verhoeff, 1932, Zool. Jahrb. Abt. Syst. 62: 501, figs. 33-37. MALE HT (ZSM) from Mount Adams, Essex Co., New York.

*Conotyla vaga* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 182, fig. 10. MALE HT (MCZ) from South Temple Cave, Berks Co., Pennsylvania. Synonymized by Shear, 1971.

*Conotyla blakei*: Shear, 1971, Bull. Mus. Comp. Zool. 141: 67, figs. 12-18.

Range: Northern Appalachians from Gasp Peninsula, Quebec to Maryland (Shear, 1971, map 2, and Shelley, 1996: 276).

#### **Conotyla bollmani** (McNeill)

*Trichopetalum bollmani* McNeill, 1887, Proc. U. S. Nat. Mus. 10: 330. Status of type material unknown (?USNM) from Mayfields Cave, Bloomington, Monroe Co., Indiana.

*Scotherpes wyandotte* Bollman, 1889, Proc. U. S. Nat. Mus., 11: 405. Status of type material unknown (?USNM) from near Wyandotte Cave, Crawford Co., Indiana. Synonymized by Shear, 1971.

*Conotyla bollmani*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 76, figs. 79-94. \_ Shear, 1971, Bull. Mus. Comp. Zool., 141: 69, figs. 19, 20.

*Conotyla wyandotte*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 78, fig. 101.

Range: Caves and surface sites in Crawford, Jennings, Lawrence, Monroe, Orange, and Washington cos., Indiana (Hoffman & Lewis, 1997, fig. 7).

#### **Conotyla celeno** Shear



*Conotyla celeno* Shear, 1971, Bull. Mus. Comp. Zool., 141: 80, figs. 43-45. MALE HT (MCZ) from fire tower site on Iron Mountain above Comer's Rock, Grayson Co., Virginia.

**Conotyla elpenor** Shear

*Conotyla elpenor* Shear, 1971, Bull. Mus. Comp. Zool. 141: 73, figs. 28, 29. MALE HT (MCZ) from nine miles west of Pine Ridge, Powell Co., Kentucky.

**Conotyla fischeri** Cook & Collins

*Conotyla fischeri* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 71, figs. 55-78. No type series extant. Type locality restricted to (without designation of neotype) by Chamberlin & Hoffman (1958). \_ Shear, 1971, Bull. Mus. Comp. Zool., 141: 72, figs. 3, 24, 25.

Range: central New York, east to the Adirondacks (Shear, 1971, map 2).

**Conotyla melinda** Hoffman

*Conotyla melinda* Hoffman, 1971, Trans. American Entom. Soc., 87: 266, figs. 4-6. MALE HT (USNM) from crest of Brush Mountain, one mile west of Blacksburg, Montgomery Co., Virginia. \_ Shear, 1971, Bull. Mus. Comp. Zool., 141: 77, figs. 1, 2, 39, 40.

Range: Craig, Giles, Montgomery, and Patrick cos., Virginia (Shear, 1971, map 5).

**Conotyla ocypetes** Shear

*Conotyla ocypetes* Shear, 1971, Bull. Mus. Comp. Zool., 141: 76, figs. 35, 36. MALE HT (MCZ) from Sugar Grove, Fairfield Co., Ohio.

**Conotyla personata** Shear

*Conotyla personata* Shear, 1971, Bull. Mus. Comp. Zool., 141: 73, figs. 26, 27. MALE HT (MCZ) from Funk's Hollow at Wooster, Wooster Co., Ohio.

**Conotyla smilax** Shear

*Conotyla smilax* Shear, 1971, Bull. Mus. Comp. Zool., 141: 75, figs. 30, 31. MALE HT (MCZ) from Kate's Mountain, White Sulphur Springs, Greenbrier Co., West Virginia.

**Conotyla venetia** Hoffman

*Conotyla venetia* Hoffman, 1961, Trans. American Entom. Soc., 87: 267, figs. 1-3. MALE HT (USNM) from three miles north of Clifton Forge, Alleghany Co., Virginia. \_ Shear, 1971, Bull. Mus. Comp. Zool., 141: 75, figs. 32-34.

Range: Two surface sites in Alleghany Co., Virginia (Shear, 1971, map 2).

**Conotyla vista** Shear

*Conotyla vista* Shear, 1971, Bull. Mus. Comp. Zool., 141: 79, figs. 41, 42. MALE HT (MCZ) from Grandview State Park, 13 miles NE of Beckeley, Raleigh Co., West Virginia.

### Genus **Plumatyla** Shear

*Plumatyla* Shear, 1972, Bull. Mus. Comp. Zool. 144: 94. Type species: *Conotyla humerosa* Loomis, by original designation.

One species, northern California.

#### **Plumatyla humerosa** (Loomis)

*Conotyla humerosa* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 384, figs. 5a-d. MALE HT (USNM) from Sunnyside Mine, three miles SW of Seneca, Plumas Co., California.

*Plumatyla humerosa*: Shear, 1971, Bull. Mus. Comp. Zool. 141: 95, figs. 80, 81.

Range: Siskiyou and Plumas cos., California.

### Genus **Taiyutyla** Chamberlin

*Taiyutyla* Chamberlin, 1952, Chicago Acad. Sci. Nat. Hist. Misc., 113: 1. Type species: *T. corvallis* Chamberlin, by original designation. \_ Hoffman, 1961, Trans. American Entom. Soc. 87: 270. \_ Shear, 1976, American Mus. Nov., 2600: 6 (revision).

Fourteen species, northern California and western Oregon, apparently disjunct in western Montana.

#### **Taiyutyla benedictae** Shear

*Taiyutyla benedictae* Shear, 1976, American Mus. Nov., 2600: 7, figs. 3-5. MALE HT (AMNH) from Rt. 242, 17 miles NE of McKenzie Bridge, Lane Co., Oregon.

#### **Taiyutyla clarki** Shear

*Taiyutyla clarki* Shear, 1976, American Mus. Nov., 2600: 14, figs. 26-28. MALE HT (AMNH) from Boulder Flat Campground, three miles east/ 10 miles south, of Steamboat, Douglas Co., Oregon.

#### **Taiyutyla clatsop** Shear

*Taiyutyla clatsop* Shear, 1976, American Mus. Nov., 2600: 6, figs. 1, 2. MALE HT (AMNH) from five miles north/seven miles west, of Elsie, Clatsop Co., Oregon.

#### **Taiyutyla corvallis** Chamberlin

*Taiyutyla corvallis* Chamberlin, 1952, Chicago Acad. Sci. Nat. Hist. Misc., 113: 1, figs. 1, 2. Location of male holotype unknown, from Corvallis, Linn Co., Oregon. \_ Hoffman, 1961, Trans. American Entom. Soc., 87: 270, figs. 8, 9. \_ Shear, 1971, Bull. Mus. Comp. Zool., 141: 87, figs. 8, 59, 60.

#### **Taiyutyla curvata** Loomis & Schmitt

*Taiyutyla curvata* Loomis & Schmitt, 1971, Northwest Sci., 45: 125, figs. 19-21. MALE HT (USNM) from Leigh Lake campground, Lincoln Co., Montana.

#### **Taiyutyla extorris** (Shear)

*Conotyla extorris* Shear, 1971, Bull. Mus. Comp. Zool., 141: 70, figs. 22, 23. MALE HT (MCZ) from one mile south of Grass Valley, Nevada Co., California.

*Taiyutyla extorris*: Shear, 1976, American Mus. Nov., 2600: 6.

**Taiyutyla francisca** Shear

*Taiyutyla francisca* Shear, 1971, Bull. Mus. Comp. Zool., 141: 79, figs. 61, 62. MALE HT (MCZ) from one mile SE of Inverness, Marin Co., California.

**Taiyutyla glomerata** (Harger)

*Trichopetalum glomeratum* Harger, 1872, American Journ. Sci. & Arts, 4: 118, pl. 11, fig. 5. FEMALE HT (PMNH) from valley of the John Day River, Oregon...., restricted by Shelley (1993) to the vicinity of Canyon City, Grant Co., Oregon.

*Conotyla glomerata*: Cook & Collins, 1895, Ann. New York Acad. Sci. 9: 78.

*Taiyutyla glomerata*: Shelley, 1993, Brimleyana, 18: 5 (redescription of female holotype, identification of type locality).

**Taiyutyla lewisi** Shear

*Taiyutyla lewisi* Shear, 1976, American Mus. Nov., 2600: 13, figs. 23-25. MALE HT (AMNH) from five miles north of Elmira, jct. Demming and Territorial roads, Lane Co., Oregon.

Range: Northwestern Oregon (Lane, Benton, Columbia cos.) and adjacent Washington (Mason Co.).

**Taiyutyla millicoma** Shear

*Taiyutyla millicoma* Shear, 1976, American Mus. Nov., 2600: 11, figs. 16-18. MALE HT (AMNH) from 14 miles east/two miles south of Alleghany, Coos Co., Oregon.

Range: Numerous localities in Coos and Douglas cos., Oregon.

**Taiyutyla napa** Shear

*Taiyutyla napa* Shear, 1971, Bull. Mus. Comp. Zool. 141: 88, figs. 63, 64. MALE HT (MCZ) from Mount St. Helena, Napa Co., California.

**Taiyutyla prefemorata** Shear

*Taiyutyla prefemorata* Shear, 1976, American Mus. Nov., 2600: 11, figs. 14, 15. MALE HT (AMNH) from Canyonville County Park, two miles east of Canyonville, Rte. 227, Douglas Co., Oregon.

Range: Lane and Douglas cos., Oregon.

**Taiyutyla simplex** Shear

*Taiyutyla simplex* Shear, 1976, American Mus. Nov., 2600: 7, figs. 6-8. MALE HT (AMNH) from 3.2 miles NE of Scottsburg, Douglas Co., Oregon.

Range: Coos, Curry, and Douglas cos., Oregon.

**Taiyutyla trifurca** Shear

*Taiyutyla trifurca* Shear, 1976, American Mus. Nov. 2600: 9, figs. 9-11. MALE HT (AMNH) from two miles north/seven miles east, of the McKenzie Bridge, Rt. 126, Douglas Co., Oregon.

Range: Douglas, Lane, and Clackamas cos., Oregon.

**Taiyutyla variata** Shear

*Taiyutyla variata* Shear, 1976, American Mus. Nov., 2600: 13, figs. 19-22. MALE HT (AMNH) from the Upper Applegate River, 3.5 miles south of Ruch, Jackson Co., Oregon.

### Subfamily Idagoninae Buckett & Gardner

Nomen translatum Hoffman, 1980, ex Idagonidae Buckett & Gardner. 1967, Michigan Entom., 1: 117.

Shear (1976), however, considers *Idagona* to be referable to the subfamily Austrotylinae.

#### Genus **Idagona** Buckett & Gardner

*Idagona* Buckett & Gardner, 1967, Michigan Entom., 1: 120. Type species: *I. westcotti* Buckett & Gardner, by original designation.

One species, Idaho.

**Idagona westcotti** Buckett & Gardner

*Idagona westcotti* Buckett & Gardner, 1967, Michigan Entom. 1: 120, figs. 1-8. MALE HT (UCD) from Crystal Falls Cave, 20 miles NE of Dubois, Clark Co., Idaho.

### Subfamily Lophominae Loomis & Schmitt

Lophominae Loomis & Schmitt, 1971, Northwest Sci., 45: 125. \_ Shear, 1976, American Mus. Nov., 2600: 17.

One genus, Washington and Montana.

#### Genus **Lophomus** Loomis & Schmitt

*Lophomus* Loomis & Schmitt, 1971, Northwest Sci., 45: 125. Type species: *L. laxus* Loomis & Schmitt, by original designation. \_ Shear, 1976, American Mus. Nov., 2600: 17.

*Troglotyla* Causey, 1972, Proc. Louisiana Acad. Sci., 35: 27. Type species: *T. skamania* Causey, by original designation. Synonymized by Shear, 1976.

Two species, Washington, Montana.

**Lophomus laxus** Loomis & Schmitt

*Lophomus laxus* Loomis & Schmitt, 19712, Northwest Sci., 45: 125, figs. 22-25. MALE HT (USNM) from Patee Canyon, Missoula Co., Montana. \_ Shear, 1976, American Mus. Nov., 2600: 17, figs. 36, 37, 39.

**Lophomus skamania** (Causey)

*Troglotyla skamania* Causey, 1972, Proc. Louisiana Acad. Sci., 35: 27, figs. 1-4. MALE HT (USNM) from Dead Horse Cave, one mile northwest of Trout Lake, Skamania Co., Washington.

*Lophomus skamania* : Shear, 1976, American Mus. Nov., 2600: 17, figs. 34, 35, 38.

### Subfamily Macromastinae Loomis & Schmitt

Macromastidae Loomis & Schmitt, 1971, Northwest Sci., 45: 126.

Macromastinae: Shear, 1976, American Mus. Nov. 2600: 14. \_ Hoffman, 1980, Classification of the Diplopoda, p. 129.

One genus, north central Idaho..

### Genus **Macromastus** Loomis & Schmitt

*Macromastus* Loomis & Schmitt, 1971, Northwest Sci., 45: 126. Type species: *M. marginandus* Loomis & Schmitt, by original designation.

Two species, western Idaho, Oregon.

**Macromastus marginandus** Loomis & Schmitt

*Macromastus marginandus* Loomis & Schmitt, 1971, Northwest Sci., 45: 126, figs. 26-29. MALE HT (USNM) from 17 miles east of Lowell on State Hy. 9 [? 12], Idaho Co., Idaho. \_ Shear, 1976, American Mus. Nov., 2600: 16, figs. 29-32.

**Macromastus umpqua** Shear

*Macromastus umpqua* Shear, 1982, Myriapodologica, 1: 98, figs. 8-11. MALE HT (CAS) from Clearwater No. 1 Lava Tube, North Umpqua, Douglas Co., Oregon.

### CONOTYLIDAE OF UNCERTAIN TAXONOMIC STATUS

The following four generic categories were founded upon female or immature male type material, and are currently of uncertain validity. Anyone able to study adult males from the type localities cited for each will be able to substantially clarify our knowledge of conotylids in the northern Rocky Mountain system.

**Cookella leibergi** (Cook & Collins)

*Conotyia leibergeri* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 77, figs. 102-104. FEMALE HT (formerly USNM, possibly lost), from Lake Pend d Oreille, Kootenai Co., Idaho.

*Cookella leibergeri*: Chamberlin, 1941, Bull. Univ. Utah, 31(12): 13 (as type species of the new genus *Cookella*).

Shear (1976: 21) did not suggest a generic identity for this species, pending collection of male topotypes.

### **Zygotyla phana** Chamberlin

*Zygotyla phana* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 7, fig. 14. MALE HT (location unknown) from Blue River, British Columbia. \_ Shear, 1976, American Mus. Nov. 2600: 21.

Shear (1976: 21) deduced that although the holotype of *phana* was immature (as well as being lost), circumstantially the name is a junior synonym of *Brunsonia atrolineata*, ...the only conotyloid to appear in several large collections from British Columbia.

### **Endopus parvipes** Loomis & Schmitt

*Endopus parvipes* Loomis & Schmitt, 1971, Northwest Sci., 45: 128, fig. 32. Imm.MALE HT (USNM) from east of Hell Roaring pass at 6800 ft., Rainbow Lake, Lake Co., Montana. Designated type species of the new genus *Endopus*. \_ Shear, 1976, American Mus. Nov., 2600: 21.

Shear (1976: 21) suspected that the name *parvipes* is a junior synonym of *Brunsonia complexipes* Loomis & Schmitt [= *Brunsonia albertana* (Chamberlin)]; if correct, *Endopus* becomes a junior synonym of *Brunsonia* (of present usage) or of *Conotyia* (following Shear, 1976: 5).

### **Orthogmus oculatus** Loomis & Schmitt

*Orthogmus oculatus* Loomis & Schmitt, 1971, Northwest Sci., 45: 130, figs. 33-36. Imm.MALE HT (USNM) from Finnigan Creek, two miles west of Noxon, Sanders Co., Montana.

Shear (1976: 21) examined the holotype of *oculatus*, but did not advance any ideas about its taxonomic status. Loomis (1971: 129, footnote) agreed that the holotype was immature, but defended its status ...as a readily identifiable member of a valid new genus of the order Chordeumida.

## Family Adritylidae Shear

Adritylidae Shear, 1971, Bull. Mus. Comp. Zool., 141: 57. \_ Hoffman, 1980, Classification of the Diplopoda, p. 128.

One genus, northern Rocky Mountains.

### Genus **Adrityla** Causey

*Adrityla* Causey, 1961, *Psyche*, 68: 131. Type species: *Conotyla deseretae* Chamberlin, 1910 by monotypy but in fact by original designation; 1972, *Proc. Louisiana Acad. Sci.* 35: 29 (key to species).

Three species, northern Rocky Mountains (Utah, Montana, Wyoming).

***Adrityla brevis* Causey**

*Adrityla brevis* Causey, 1972, *Proc. Louisiana Acad. Sci.* 35: 30, figs. 5-7. MALE HT (USNM) from top of Medicine Mountain, 9956 ft., Big Horn Co., Wyoming.

***Adrityla cucullata* Loomis & Schmitt**

*Adrityla cucullata* Loomis & Schmitt, 1971, *Northwest Sci.*, 45: 112, figs. 9-11. MALE HT (USNM) from Miller Creek, 10 miles from highway, Missoula Co., Montana.

***Adrityla deseretae* (Chamberlin)**

*Conotyla deseretae* Chamberlin, 1910, *Ann. Entom. Soc. America*, 3: 235, pl. 31, figs. 3-8, pl. 32, figs. 1-7. Type material lost, from Wahsatch Mountains, Utah. \_ Chamberlin & Hoffman, 1958, *Bull. U. S. Nat. Mus.*, 212: 98.

*Adrityla deseretae*: Causey, 1961, *Psyche*, 68: 131, figs. 1-4. \_ Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 273, figs. 494-496.

Range: Utah, Salt Lake, and Toole cos., Utah.

## Superfamily Craspedosomatoidea Brolemann

### Family Craspedosomatidae Gray

Craspedosomadae [*sic!*] Gray, 1843, in R. B. Todd (ed.) *The Cyclopaedia of Anatomy and Physiology*, 3: 546.

Craspedosomatidae Cook, 1895, *Ann. New York Acad. Sci.*, 9:3 \_ Hoffman, 1980, *Classification of the Diplopoda*, p. 133.

### Genus ***Craspedosoma*** Leach

*Craspedosoma* Leach, 1814, *Brewster's Edinburgh Encyclopaedia*, 7: 407. Type species: *C. Raulinsii* Leach, by subsequent designation of Cook & Collins, 1895.

About 10 species, western Europe.

**Craspedosoma raulinsi** Leach

*Craspedosoma raulinsi* Leach, 1814, Edinburgh Encyclopaedia, 7: 407; 1815, Trans. Linnean Soc. London, 11: 380. \_ Shelley, 1990, Entom. Month. Mag. 126: 117.

*Craspedosoma simile* Verhoeff, 1891, Berliner Entom. Zeitschr., 36: 128, figs. 8, 9. \_ Schubart, 1934, Tierwelt Deutschlands, 28: 141, fig. 244.

Range: Europe, from the British Islands to southern Scandanavia, Austria, northern Italy. In North America, recently discovered, and apparently established, in Gatineau Park near Hull, Quebec (Shelley, 1990).

The name of this species has been almost universally spelled *rawlinsii* .

## Superfamily Brannerioidea Cook

Brannerioidea Shear, 1972, Bull. Mus. Comp. Zool., 144: 263. Nomen translatum ex Branneriidae Cook, 1896. \_ Hoffman, 1980, Classification of the Diplopoda, p. 135.

### Family Apterouridae Loomis

Apterouridae Loomis, 1966, Proc. Biol. Soc. Washington, 79: 223. \_ Shear, 1977, Proc. Biol. Soc. Washington, 89: 689.

One genus, California.

#### Genus **Apterourus** Loomis

*Apterourus* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 223. Type species: *A. horizontalis* Loomis, by original designation.

One species, southern California.

#### **Apterourus horizontalis** Loomis

*Apterourus horizontalis* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 223, figs. 1-4. MALE HT (USNM) from Cajon Pass, seven miles west of Cajon on Big Pine Road, 22 miles north of Riverside, San Bernardino Co., California.

### Family Branneriidae Cook

Branneriidae Cook, 1896, Brandtia, 2: 8. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 266.

One genus, southeastern United States.

#### Genus **Branneria** Bollman



*Branneria* Bollman, 1893, Bull. U. S. Nat. Mus. 46: 158. Type species: *Craspedosoma carinatum* Bollman, 1887, by original designation.

One species: southeastern United States.

### **Branneria carinata** (Bollman)

*Craspedosoma carinatum* Bollman, 1888, Ann. New York Acad. Sci., 10: 108. Type material apparently lost, from Beaver Creek, Jefferson Co., Tennessee.

*Branneria carinata* (by implication): Bollman, 1893, Bull. U. S. Nat. Mus., 46: 158. \_ Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 33, fig. 1. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 266, figs. 473-78 (description, localities).

Range: North Carolina to northern Florida, west to Mississippi.

## Family Tingupidae Loomis

Tingupidae Loomis, 1966, Proc. Biol. Soc. Washington, 79: 227. \_ Shear, 1981, American Mus. Nov., 2715: 5 (revision). \_ Shear & Hubbard, 1988, Myriapodologica, 5: 86 (discussion, key to genera).

Three genera, transcontinental United States (Shear, 1981, map 1).

### Genus **Blancosoma** Shear & Hubbard

*Blancosoma* Shear & Hubbard, 1998, Myriapodologica, 5: 88. Type species: *B. scaturgo* Shear & Hubbard, by original designation.

One species, Colorado.

### **Blancosoma scaturgo** Shear & Hubbard

*Blancosoma scaturgo* Shear & Hubbard, 1998, Myriapodologica, 5: 88, figs. 1-6. MALE HT (VMNH) from Spring Cave, 0.75 miles west of South Fork Campground, Rio Blanco Co., Colorado.

### Genus **Buotus** Chamberlin

*Buotus* Chamberlin, 1940, Canadian Entom., 72: 58. Type species: *T. carolinus* Chamberlin, by original designation. \_ Shear, 1981, American Mus. Nov., 2715: 18.

One species, central Appalachian region.

### **Buotus carolinus** Chamberlin

*Buotus carolinus* Chamberlin, 1940, Canadian Entom., 72: 58. MALE HT (USNM) from Duke Forest, Durham Co., North Carolina. \_ Shear, 1981, American Mus. Nov., 2715: 18, figs. 30-33. \_ Shear & Hubbard, 1998, Myriapodologica, 5: 92, figs. 7, 8.

Range: Central North Carolina, north and west to Pendleton Co., West Virginia.

The Duke Forest consists of a number of isolated tracts in several counties; the type locality is presumably in that unit closest to the Duke University campus, on the west side of Durham, N. C.

### Genus **Tingupa** Chamberlin

*Tingupa* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 328. Type species: *T. utahensis* Chamberlin, by original designation. \_ Shear, 1981, American Mus. Nov., 2715: 6 (revision).

Ten species, central and western North America (Shear, 1981, map 1).

#### **Tingupa arizonica** Loomis

*Tingupa arizonica* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 228, figs. 14-16. MALE HT (USNM) from Mount Lemmon, Santa Catalina Mountains, Pima Co., Arizona. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 265, figs. 465-468.

Range: Mountains of extreme southeastern Arizona (Pima, Cochise, Graham cos.).

#### **Tingupa auricula** Shear

*Tingupa auricula* Shear, 1981, American Mus. Nov., 2715: 13, figs. 17-20. MALE HT (AMNH) from four miles southeast of Olney, Clatsop Co., Oregon.

Range: Western Oregon (Clatsop, Coos, Douglas, Lincoln cos.)

#### **Tingupa benedictae** Shear

*Tingupa benedictae* Shear, 1981, American Mus. Nov., 2715: 8, figs. 1-8. MALE HT (AMNH) from 4.5 miles west of Wells Creek Ranger Station [not located to county], Oregon.

Range: Western Oregon (Clatsop, Columbia, Curry, Douglas, Lincoln, Tillamook cos.)

#### **Tingupa causeyae** Shear

*Tingupa causeyae* Shear, 1981, American Mus. Nov., 2715: 12, figs. 14-16. MALE HT (AMNH) from Turnbow Lane, 4.5 miles NW of Cheshire, Lane Co., Oregon.

Range: Western Oregon (Benton, Coos, Douglas cos.)

#### **Tingupa clatskanie** Shear

*Tingupa clatskanie* Shear, 1981, American Mus. Nov., 2715: 10, figs. 9-11. MALE HT (AMNH) from three miles SW of Clatskanie, Columbia Co., Oregon.

#### **Tingupa eldorado** Shear

*Tingupa eldorado* Shear, 1981, American Mus. Nov., 2715: 16, figs. 27-29. MALE HT

(AMNH) from Riverton, Eldorado Co., California.

**Tingupa pallida** Loomis

*Tingupa pallida* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 185, figs. 12a-c. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 265, figs. 469-472.

Range: Caves in southeastern Missouri and adjacent parts of Illinois and Arkansas.

**Tingupa sinuosa** Shear

*Tingupa sinuosa* Shear, 1981, American Mus. Nov., 2715: 14, figs. 21-24. MALE HT (AMNH) from one mile east of Oakridge, Lane Co., Oregon.

Range: Western Oregon (Curry, Douglas, Lane cos.)

**Tingupa tillamook** Shear

*Tingupa tillamook* Shear, 1981, American Mus. Nov., 2715: 11, figs. 12, 13. MALE HT (AMNH) from four miles SE of Blaine, Tillamook Co., Oregon.

### Family Rhiscosomididae Silvestri

Rhiscosomididae Silvestri, 1909, Rend. Accad. Lincei, 18: 232; 1913, Boll. Lab. Zool. Portici, 7: 307. \_ Shear, 1973, Psyche, 80: 190 (revision).

One genus, northwestern North America (California, Oregon).

### Genus **Rhiscosomides** Silvestri

*Rhiscosomides* Silvestri, 1909, Rend. Accad. Lincei, 18: 232. Type species: *R. mineri* Silvestri, by monotypy.

Seven species, California and Oregon (Shear, 1973, map 1).

**Rhiscosomides acovescor** Shear

*Rhiscosomides acovescor* Shear, 1972, Bull. Mus. Comp. Zool., 144: 262, figs. 541-458. MALE HT (MCZ) from S. P. Taylor State Park, Marin Co., California.

**Rhiscosomides benedictae** Shear

*Rhiscosomides benedictae* Shear, 1973, Psyche, 80: 200, figs. 10-14. MALE HT (MCZ) from Marine Biological Institute at Charleston, Coos Co., Oregon.

Range: Western Oregon (Lincoln, Coos, Benton, Douglas cos.)

**Rhiscosomides josephi** Chamberlin

*Rhiscosomides josephi* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 16. FEMALE HT (USNM)

from John Day Creek . Douglas Co., Oregon, corrected by Shear (1973: 196) to Day Creek at town with same name, Douglas Co., Oregon. \_ Shear, 1973, *Psyche*, 80: 196, figs. 4-9.

Range: Western Oregon (Coos, Curry, Douglas cos.)

**Rhiscosomides malcomi** Shear

*Rhiscosomides malcomi* Shear, 1973, *Psyche*, 80: 200, figs. 15, 16. MALE HT (MCZ) from 5 miles west/13 miles north of Brookings, Curry Co., Oregon.

**Rhiscosomides mineri** Silvestri

*Rhiscosomides mineri* Silvestri, 1909, *Rend. Accad. Lincei*, 18: 232. MALE HT (?LEAP) from Lebanon, Linn Co., Oregon. Silvestri, 1913, *Boll. Lab. Zool. Portici*, 7: 308, figs. 4-7. \_ Shear, 1973, *Psyche*, 80: 194, figs. 1-3.

Range: Western Oregon (Linn, Tillamook, Washington, Yamhill cos.).

**Rhiscosomides montereum** (Chamberlin)

*Tingupa monterea* Chamberlin, 1910, *Ann. Entom. Soc. America*, 3: 240, figs. 3-5. Status of type material unknown, presumed lost, from Pacific Grove, Monterey Co., California.

*Rhiscosomides monterea*: Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 262.

*Rhiscosomides montereum*: Shear, 1973, *Psyche*, 80: 194.

**Rhiscosomides trinitarium** Shear

*Rhiscosomides trinitarium* Shear, 1973, *Psyche*, 80: 203, fig. 18. MALE HT (CAS) from Butter Creek, 12 miles southeast of Hyampom, Trinity Co., California.

## Family Caseyidae Verhoeff

Caseyidae Verhoeff, 1909, *Zool. Anz.*, 34: 507. \_ Shear, 1972, *Bull. Mus. Comp. Zool.*, 144: 258. \_ Gardner & Shelley, 1989, *Pan-Pacific Entom.*, 65: 177 (revision).

Underwoodiidae Verhoeff, 1909, *Zool. Anz.*, 34: 568. Synonymized by Causey, 1963.

Six genera, northeastern and western North America (Gardner & Shelley, 1989, fig. 219); eastern Russia.

The sequence of genera in Gardner & Shelley's monograph follows their order of appearance in the key to genera and was not represented as phylogenetic. In keeping with the format adopted for this list, I arrange the generic sequence alphabetically.

## Genus *Caseya* Cook & Collins

*Caseya* Cook & Collins, 1895, *Ann. New York Acad. Sci.*, 9: 84. Type species: *C. heteropus* Cook & Collins, by original designation. \_ Gardner & Shelley, 1989, *Pan-Pacific Entom.*, 65: 223.

*Placerna* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 10. Type species: *P. dorada* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

*Zantona* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 11. Type species: *Z. douglasia* Chamberlin, by original designation. Synonymized by Gardner & Shelley, 1989.

21 species, southern California to the Olympic Peninsula, Washington (Gardner & Shelley, 1989, figs. 223-224).

**Caseya benedictae** Gardner & Shelley

*Caseya benedictae* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 246, figs. 147, 148. MALE HT (AMNH) from Charleston Woods near the Marine Biological Institute, Coos Co., Oregon.

**Caseya borealis** Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 231, figs. 119, 125, 186. MALE HT (AMNH) from four miles north of Shelton, Mason Co., Washington.

Range: Recorded from several localities in Mason and Thurston cos., Washington.

**Caseya bryophila** Gardner & Shelley

*Caseya bryophila* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 233, figs. 120, 126-128, 185. MALE HT (AMNH) from 15 miles SW of Ruch, Jackson Co., Oregon.

Range: Recorded from several localities in Jackson and Josephine cos., Oregon.

**Caseya bucketti** Gardner & Shelley

*Caseya bucketti* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 231, figs. 156, 157, 206). MALE HT (UCD) from 22 miles west of Red Bluff, Tehama Co., California.

Range: Tehama and Shasta cos., California.

**Caseya coxalis** Loomis

*Caseya coxalis* Loomis, 1966, Proc. Biol. Soc. Washington, 79: 225, figs. 5-7. MALE HT (USNM) from Davenport, Santa Cruz Co., California.

Range: Recorded from Santa Cruz and San Mateo cos., California.

**Caseya dorada** (Chamberlin)

*Placerna dorada* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 10, figs. 19-21. MALE HT (USNM) from nine miles north of Placerville, Eldorado Co., California.

*Caseya dorada*: Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 234, figs. 134, 139-142, 195.

Range: San Joaquin Valley and Sierra Nevada mountains, California (map, Gardner & Shelley, 1989, fig. 224).

**Caseya douglasia** (Chamberlin)

*Zantona douglasia* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 11, figs. 22-24. MALE HT

(USNM) from John Day Creek [*sic*, = Days Creek], Douglas Co., Oregon.

*Caseya douglasia*: Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 229, figs. 118, 123, 124, 184.

Range: Douglas, Jackson, and Curry cos., southwestern Oregon (map, Gardner & Shelley, 1989, fig. 223).

**Caseya dendrogona** Gardner & Shelley

*Caseya dendrogona* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 244, figs. 149-151, 187, 188. MALE HT (AMNH) from five miles east of McKenzie Bridge on Hy.242, Lane Co., Oregon.

Range: southwestern Oregon, recorded from Coos, Curry, Douglas, and Lane cos. (map, Gardner & Shelley, 1989, fig. 223).

**Caseya guttata** Gardner & Shelley

*Caseya guttata* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 257, figs. 162, 163. MALE HT (UCD) from four miles east of Sunny Brae, Humboldt Co., California.

Range: Humboldt Co., California, north to Curry Co., Oregon.

**Caseya heteropa heteropa** Cook & Collins

*Caseya heteropus* [*sic*!] Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 85, figs. 209-219. FEMALE ST (USNM) from unknown locality in (possibly Marin Co.] California. — Shear, 1972, Bull. Mus. Comp. Zool., 144: 260, figs. 431-433, 444.

*Caseya dynotypa* Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 9. FEMALE HT (USNM) from Hastings reservation, Monterey Co., California. Synonymized by Gardner & Shelley, 1989.

*Caseya heteropa heteropa*: Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 260, figs. 1, 168-172, 202.

Range: Coastal central California (map, Gardner & Shelley, 1989, fig. 224).

**Caseya heteropa disjuncta** Gardner & Shelley

*Caseya heteropa disjuncta* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 262, figs. 111-117, 173-176, 201, 204. MALE HT (UCD) from three miles west of Forestville, Sonoma Co., California.

Range: North of San Francisco Bay in Mendocino, Napa, Solano, Sonoma, and Yolo cos., California (map, Gardner & Shelley, 1989, fig. 224)..

**Caseya heteropa montana** Gardner & Shelley

*Caseya heteropa montana* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 264, figs. 179-183, 205. MALE HT (UCD) from six miles south of El Dorado, El Dorado Co., California.

Range: Western slope of the Sierra Nevada in Butte, Colusa, Calaveras, El Dorado, Mariposa,

and Tuolumne cos., California (map, Gardner & Shelley, 1989, fig. 224).

**Caseya heteropa oraria** Gardner & Shelley

*Caseya heteropa oraria* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 263, figs. 177, 178, 203. MALE HT (UCD) from along Little Caspar Lake Road, five miles NE of Mendocino, Mendocino Co., California.

Range: Coastal northern California (Humboldt and Mendocino counties).

**Caseya longiloba** Gardner & Shelley

*Caseya longiloba* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 247, figs. 164, 165, 207. MALE HT (UCD) from 1.5 miles SW of Douglas City, Trinity Co., California.

**Caseya megasoma** Gardner & Shelley

*Caseya megasoma* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 252, figs. 160, 161, 209. MALE HT (AMNH) from Oregon Hy. 34 at Benton-Lincoln co. line, Oregon.

Range: Benton, Lincoln, and Tillamook cos., Oregon.

**Caseya occidentalis** Gardner & Shelley

*Caseya occidentalis* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 236, figs. 135, 144, 194. MALE HT (UCD) from Del Puerto Canyon, 12 miles west of Patterson, Stanislaus Co., California.

**Caseya paradoxa** Gardner & Shelley

*Caseya paradoxa* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 252, figs. 166, 167, 208. MALE HT (UCD) from two miles east of Briceburg, Mariposa Co., California.

**Caseya prionota** Gardner & Shelley

*Caseya prionota* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 238, figs. 138, 146, 197. MALE HT (UCD) from 14 miles east of Briceburg, Mariposa Co., California.

Range: Fresno, Madera, and Mariposa cos., California.

**Caseya sequoia** Chamberlin

*Caseya sequoia* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 10, figs. 17, 18. FEMALE HT (USNM) from Sequoia National Park, 12 miles northeast of Hammond, Tulare Co., California. \_ Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 239, figs. 137, 145, 196.

**Caseya shastensis** Gardner & Shelley

*Caseya shastensis* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 242, figs. 121, 129-131, 191. MALE HT (UCD) from 18 miles west of Redding, Shasta Co., California.

**Caseya similis** Causey

*Caseya similis* Causey, 1952, Proc. Biol. Soc. Washington, 65: 113, figs. 6, 7. MALE HT (USNM) from Clear Creek at Tehachapi Pass, Kern Co., California. \_ Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 266, figs. 212-214.

**Caseya subtilis** Gardner & Shelley

*Caseya subtilis* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 243, figs. 152-155, 192. MALE HT (UCD) from 7.7 miles SW of Cottage Grove, Douglas Co., Oregon.

Range: Douglas and Lane cos., Oregon.

**Caseya taliae** Gardner & Shelley

*Caseya taliae* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 240, figs. 136, 143, 193. MALE HT (UCD) from ten miles NE of Auberry, Fresno Co., California.

Range: Fresno and Madera cos., California.

**Caseya westcotti** Gardner & Shelley

*Caseya westcotti* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 249, figs. 158, 159, 210, 211. MALE HT (AMNH) from Millicoma Tree Farm, 14 miles east/ two miles south of Allegany, Coos Co., Oregon.

Range: West central Oregon (Coos, Douglas, Jackson, Lane, Lincoln cos.) (map, Gardner & Shelley, 1989, fig. 223).

**Genus Metopiona** Gardner & Shelley

*Metopiona* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 222. Type species: *M. sheari* Gardner & Shelley, by original designation.

One species, Oregon.

**Metopiona sheari** Gardner & Shelley

*Metopiona sheari* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 223, figs. 96-99. MALE HT (AMNH) from Bishop Road, two miles north of Helvetia, Washington Co., Oregon.

**Genus Ochrogramma** Gardner & Shelley

*Ochrogramma* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 194. Type species: *O. formosula* Gardner & Shelley, by original designation.

Four species, northern California, southwestern Oregon.

**Ochrogramma bentona** (Chamberlin)

*Caseya bentona* Chamberlin, 1952, Chicago Acad. Sci. Nat. Hist. Misc. 113: 2, figs. 3-6. MALE



HT (USNM) from Mary's Peak, Benton Co., Oregon.

*Ochrogramma bentona*: Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 197, figs. 22, 23, 25-27, 33, 37-44.

Range: Coastal Oregon, recorded from numerous localities in Washington, Lincoln, Benton, Douglas, Lane, Coos, and Polk cos. (map, Gardner & Shelley, 1989, fig. 220).

**Ochrogramma formosula** Gardner & Shelley

*Ochrogramma formosula* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 201, figs. 20, 30, 31, 35, 36, 45-48. MALE HT (UCD) from two miles SE of Gates, Linn Co., Oregon.

Range: Northwestern Oregon (Lane, Linn, Marion, Multnomah cos.) (map, Gardner & Shelley, 1989, fig. 220).

**Ochrogramma haigi** Gardner & Shelley

*Ochrogramma haigi* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 199, figs. 21, 28, 29. MALE HT (UCD) from five miles SW of Gasquet on Hy. 199, Del Norte Co., California.

Range: Del Norte Co., California and Curry Co., Oregon.

**Ochrogramma heterogona** Gardner & Shelley

*Ochrogramma heterogona* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 195, figs. 24, 32. MALE HT (AMNH) from Cape Lookout State Park, Tillamook Co., Oregon.

### Genus **Opiona** Chamberlin

*Opiona* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 8. Type species: *O. columbiana* Chamberlin, by original designation. \_ Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 203.

Thirteen, one with three subspecies, coastal central California, western Oregon, Puget Sound region.

**Opiona berryessae** Gardner & Shelley

*Opiona berryessae* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 210, figs. 64-66, 109. MALE HT (UCD) from 12 miles west of Winters, Napa Co., California.

**Opiona bifurcata** Gardner & Shelley

*Opiona bifurcata* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 209, figs. 60-63. MALE HT (UCD) from Russian Gulch State Park, two miles north of Mendocino, Mendocino Co., California.

**Opiona casualis** Gardner & Shelley

*Opiona casualis* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 216, figs. 49-52, 76-78, 107. MALE HT (UCD) from two miles east of Valsetz, Polk Co., Oregon.

Range: Lincoln and Polk cos., Oregon.

***Opiona columbiana*** Chamberlin

*Opiona columbiana* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc. 87: 81, figs. 15-19. Location of MALE HT unknown (a FEMALE PT is at PMBC), from Victoria, Vancouver Island, British Columbia. \_ Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 215, figs. 85-87, 103.

*Opiona hatchi* Causey, 1954, Ann. Ent. Soc. America, 47: 81, figs. 1-3. MALE HT (AMNH) from Seattle, King Co., Washington. Synonymized by Gardner & Shelley, 1989.

Range: Periphery of Puget Sound, Washington and British Columbia.

***Opiona communis communis*** Gardner & Shelley

*Opiona communis communis* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 212, figs. 70-72, 100. MALE HT (UCD) from three miles north of Kenwood, Sonoma Co., California.

Range: Santa Cruz, Solano, and Sonoma cos., California.

***Opiona communis angusta*** Gardner & Shelley

*Opiona communis angusta* Gardner & Shelley, 1989, Pan-Pacific Entom. 65: 214, figs. 67-69. MALE HT (UCD) from six miles SSE of Santa Rosa, on Bennett Valley Road, Sonoma Co., California.

Range: Coastal California north of San Francisco (Marin and Sonoma cos.).

***Opiona communis prolixa*** Gardner & Shelley

*Opiona communis prolixa* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 214, figs. 73-75. MALE HT (UCD) from seven miles west of Oakville, Napa Co., California.

Range: Sonoma and Napa cos., California.

***Opiona confusa*** Gardner & Shelley

*Opiona confusa* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 207, figs. 54-56, 106. MALE HT (UCD) from 12 miles SE of Kernville, Lincoln Co., Oregon.

***Opiona distincta*** Gardner & Shelley

*Opiona distincta* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 209, figs. 58-59, 101. MALE HT (UCD) from 2.5 miles SE of Guerneville, Sonoma Co., California.

***Opiona exigua*** Gardner & Shelley

*Opiona exigua* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 217, figs. 82-84, 110. MALE HT (UCD) from Russian Gulch State Park, Mendocino Co., California.

Range: Mendocino and Sonoma cos., California.

**Opiona facetia** Gardner & Shelley

*Opiona facetia* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 219, figs. 53, 88-90. MALE HT (UCD) from Outlook, Clackamas Co., Oregon.

Range: Clackamas and Marion cos., Oregon.

**Opiona fisheri** Gardner & Shelley

*Opiona fisheri* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 220, figs. 93-95, 102, 104, 105. MALE HT (UCD) from Neptune State Park, Lane Co., Oregon.

Range: Lane and Lincoln cos., Oregon.

**Opiona goedeni** Gardner & Shelley

*Opiona goedeni* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 214, figs. 67-69. MALE HT (AMNH) from 1.7 miles SW of Timber, Washington Co., Oregon.

Range: Clatsop, Polk, and Washington cos., Oregon.

**Opiona scytonotoides** Gardner & Shelley

*Opiona scytonotoides* Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 220, figs. 91, 92, 92a. MALE HT (AMNH) from Hy. 227 at Canyonville Park, two miles east of Canyonville, Douglas Co., Oregon.

**Opiona siliquae** Causey

*Opiona siliquae* Causey, 1963, Wasmann Journ. Biol. 21: 197, figs. 5-8. MALE HT (USNM) from Fault Rock Cave, Mendocino Co., California. \_ Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 208, figs. 215- 218.

**Genus Speoseya** Causey

*Speoseya* Causey, 1954, Wasmann Journ. Biol. 21: 194. Type species: *S. grahami* Causey, by original designation.

One species, California.

**Speoseya grahami** Causey

*Speoseya grahami* Causey, 1963, Wasmann Journ. Biol. 21: 194, figs. 1-4. MALE HT (USNM) from Shaw s Cave, Calaveras Co., California.

**Genus Underwoodia** Cook & Collins

*Underwoodia* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 79. Type species: *U. polygama* Cook & Collins, by original designation. \_ Shelley, 1993, Canadian Journ. Zool., 71: 169 (revision).

Two species, northern North America; one, Russian Far East.

**Underwoodia iuloides** (Harger)

*Trichopetalum iuloides* Harger, 1872, American Journ. Sci. Arts, 4: 118. FEMALE ST (PMNH) from Simon s Harbor, Pukaskwa National Park, Ontario.

*Underwoodia iuloides* Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 83, figs. 177-179. \_ Shelley, 1993, Canadian Journ. Zool., 71: 171, figs. 1-8.

*Underwoodia polygama*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 80, figs. 180-190. MALE HT (USNM) from Huntington, Nassau Co., New York. Synonymized by Shelley, 1993.

Range: Northern North America from Newfoundland to Manitoba, south to New York and Michigan; a disjunct population in northeastern New Mexico (map, Shelley, 1993, fig. 11).

**Underwoodia tida** Chamberlin

*Underwoodia tida* Chamberlin, 1925, Pan-Pacific Entom., 2: 62. FEMALE HT (USNM) from Logan Canyon, Cache Co., Utah. \_ Shelley, 1993, Canadian Journ. Zool., 71: 173, fig. 9.

*Underwoodia hespera* Chamberlin, 1925, Pan-Pacific Entom., 2: 63. FEMALE HT (USNM) from Mill Creek Canyon, Salt Lake Co., Utah. Synonymized by Shelley, 1993.

Range: Northwestern North America, from Juneau, Alaska, south through the Cordilleran chain as far as northern Utah (map, Shelley, 1993, fig. 11).

**Genus Vasingtona** Chamberlin

*Vasingtona* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 12. Type species: *Caseya fasciata* Chamberlin, 1941, by original designation. \_ Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 187.

One species, British Columbia to Oregon.

**Vasingtona irritans** (Chamberlin)

*Caseya irritans* Chamberlin, 1910, Ann. Ent., Soc. America, 4: 241, pl. 34, figs. 6-9, pl. 35, fig. 1. FEMALE HT (USNM) from Portland, Multnomah Co., Oregon.

*Caseya fasciata* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 22. MALE HT (USNM) from Arlington, Snohomish Co., Washington. Synonymized by Gardner & Shelley, 1989.

*Vasingtona fasciata*: Chamberlin, 1941, Bull. Univ. Utah, 31(12): 12.

*Vasingtona irritans*: Gardner & Shelley, 1989, Pan-Pacific Entom., 65: 188, figs. 2-19.

Range: Extreme southwestern British Columbia, south to central western Oregon; one disjunct cave population in Harney Co., Oregon (map, Gardner & Shelley, 1989, fig. 220).

**Family Urochordeumatidae** Silvestri

*Urochordeumidae* Silvestri, 1909, Rend. Atti Accad. Lincei, 18: 230; 1913, Boll. Lab. Zool. Gen. Agr. Portici, 7: 303. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 260.

*Urochordeumatidae* Jeekel, 1971, Monogr. Nederlandse Entom. Ver., 5: 83.

One genus, northwestern North America (Washington State).

### Genus *Urochordeuma* Silvestri

*Urochordeuma* Silvestri, 1913, Rend. Atti Accad. Lincei, 18: 230; 1913, Boll. Lab. Zool. Gen. Agr. Portici, 7: 303. Type species: *U. bumpusi* Silvestri, by monotypy.

Two nominal species, Washington State.

#### *Urochordeuma bumpusi* Silvestri

*Urochordeuma bumpusi* Silvestri, 1909, Rend. Atti Accad. Lincei, 18: 230; 1913, Boll. Lab. Zool. Gen. Agr. Portici, 7: 303, figs. I, 1-10, II, 1-10, III, 1-5 MALE HT (LEAP) from Longmire Springs, near Tacoma, Pierce Co., Washington.

#### *Urochordeuma porona* Chamberlin

*Urochordeuma porona* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 23, figs. 45, 46. MALE HT (USNM) from Snoqualmie Pass, King Co., Washington. \_ Shear, 1972, Bull. Mus. Comp. Zool., 144: 260, figs. 445-450.

## Chordeumatida of uncertain family position

#### *Polydesmus ocellatus* Packard

*Polydesmus ocellatus* Packard, 1883, American Nat., 17: 428. Location of type unknown, from Oregon.

*Craspedosoma packardii* Stuxberg, 1885, American Nat., 19: 400. Invalid replacement name.

*Trichopetalum (?) ocellatum*: Cook & Collins, 1895, Ann. New York Acad. Sci., 9: 68, figs. 30-35.

The provenance and small size of this species suggest it may be a rhiscosomidid.

## Order Polydesmida

The current recognition of four suborders, essentially the three phyla defined by Brolemann in 1916 + a fourth to contain dalodesmids, is not entirely satisfactory. In particular, the characters used to distinguish the suborder Paradoxosomatidea are not as fixed as originally believed, and it is not impossible that some alternative arrangement based on new characters can

be devised. For the present, I maintain the system used in my 1980 classification, with reservations and a few changes (e.g., composition of Platyrhacidae).

## Suborder Chelodesmidea

With only a few points of uncertainty, I think that this taxon as defined on the basis of moveable gonopod coxae and sternum of the 2nd pair of male legs pivoted upon the pleurotergum is relatively discrete and perhaps even monophyletic. The relationships of the various families however remains unresolved despite some efforts in recent years to locate convincing synapomorphies. I suspect that any clues are either so obvious as to be overlooked, or so obscure as to have remain undetected.

The use of superfamilies in the 1980 list was probably premature, although in general they seemed to represent groupings of similar families. Except for Euryuridae, the following sequence of families remains that of the Classification, rather than strict alphabetical order, which, however, is observed for infrafamilial taxa to the extent that they have been established.

### Family Chelodesmidae Cook

Chelodesmidae Cook, 1895, Ann. New York Acad. Sci., 9: 4. \_ Hoffman, 1980, Classification of the Diplopoda, p.151.

Leptodesminae Attems, 1898, Denkschr. Akad. Wien, 67: 369.

Leptodesmidae (in part) Attems, 1938, Das Tierreich, 69: 1-201..

Eurydesmidae sensu auct., nec sensu *Eurydesminae* Attems, 1898.

Since 1980, some progress has been made in the definition of tribal groups within this vast assemblage of millipeds, but most involves the fauna of South America and only a few items are germane to the region covered by this list. In particular, the rich fauna of the Greater Antilles remains unassigned although preliminary studies suggest affinity with that of the Andes rather than of Central America. I continue use of the two subfamily dichotomy for the present, with the realization that this is surely an oversimplification of the actual picture.

### Subfamily Chelodesminae Cook

Chelodesminae Hoffman, 1980, Classification of the Diplopoda (nomen translatum ex family Chelodesmidae Cook, 1895).

### Tribe Batodesmini Cook

Batodesmini Cook, 1896, Brandtia, 4: 17. \_ Hoffman, 1969, Pap. Avuls. Zool. Sao Paulo, 22: 265 (synopsis).

Biporodesminae Verhoeff, 1941, Arch. Naturgesch. 10: 403..

### Genus **Alocodesmus** Silvestri

*Alocodesmus* Silvestri, 1896, Boll. Mus. Zool. Anat. Comp. Torino, 11(254): 5. Type species:  
*A. angustatus* Silvestri, by monotypy. \_ Carl, 1914, M m. Soc. Neuch teloise, 5: 896.

Four species, Panama, Colombia (undescribed species occur north to Honduras).

#### **Alocodesmus angustatus** Silvestri

*Alocodesmus angustatus* Silvestri, 1896, Boll. Mus. Zool. Anat. Comp. Torino, 11(254): 5, fig. 5. MALE HT (MZUT) from Punta Sabana, Darien Province, Panama. \_ Carl, 1914, M m. Soc. Neuch teloise, 5: 897, fig. 123.

#### **Alocodesmus dromeus** Chamberlin

*Alocodesmus dromeus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 48, pl. 18, figs. 4-7.  
MALEFEMALE ST

(USNM) from Culebra, Canal Zone, Panama. Synonymized with *angustatus* by Attems, 1938.

I have been unable to match the gonopods of specimens from the Canal Zone with the drawing made by Carl (1914: fig. 123) from the holotype of *angustatus*. Unless the latter was made from a slide-mounted and distorted gonopod, I see no course but to recognize two valid taxa at least provisionally, until the genus can be carefully revised.

### Genus **Cheirogonus** Hoffman

*Cheirogonus* Hoffman, 1982, Journ. Nat. Hist., 16: 651. Type species: *C. pittieri* Hoffman, by original designation.

One species: Panama.

#### **Cheirogonus pittieri** Hoffman

*Cheirogonus pittieri* Hoffman, 1982, Journ. Nat. Hist., 16: 651, figs. 42-45. MALE HT (USNM) from Los Sigüas, Prov. Chiriquí, Panama.

#### BATODESMINI OF UNCERTAIN GENERIC POSITION

**Leptodesmus oltramarei** Carl, 1902, Rev. Suisse Zool., 10: 600, fig. 34. MALE ST (MHNG) labeled only Guatemala .

This species almost certainly requires establishment of a new genus in this tribe. It may be related to *Cheirogonus*.

### Tribe **Caraibodesmini** Hoffman

Caraibodesmini Hoffman, 1979, Myriapodologica , 1(2): 12.

### Genus **Caraibodesmus** Chamberlin

*Caraibodesmus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 233. Type species: *C. bruesi* Chamberlin, by original designation. \_ Hoffman, 1979, Myriapodologica 1(2): 12. \_ Loomis, 1975, Florida Entom., 58: 173 (key to 10 species).

11 species, all endemic to Jamaica.

#### **Caraibodesmus acutipes** Loomis

*Caraibodesmus acutipes* Loomis, 1975, Florida Entom., 58: 174, fig. 5. MALE HT (FSCA) from one mile south of Clarendon, St. Ann Parish, Jamaica.

#### **Caraibodesmus bruesi** Chamberlin

*Caraibodesmus bruesi* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 233. MALE HT (MCZ) from Liguanea Plain (a district in eastern Kingston), St. Andrew Parish, Jamaica. \_ Loomis, 1941, Psyche, 48: 39, fig. f (gonopod drawing from holotype).

#### **Caraibodesmus criniger** Loomis

*Caraibodesmus criniger* Loomis, 1937, Bull. Mus. Comp. Zool., 80: 222, fig. 12. MALE HT (MCZ) from Main Ridge, Blue Mts., Jamaica, 5000-7000 feet, presumably the vicinity of Blue Mountain Peak, on the boundary between St. Thomas and Portland parishes.

Range: Higher elevations in the Blue Mountains, Jamaica. The record (Loomis, 1975) for Mount Diablo, St. Ann Parish, seems improbable, perhaps a mislabeled sample.

#### **Caraibodesmus formosus** (Pocock)

*Odontopeltis formosus* Pocock, 1894, Journ. Linnean Soc. London, 24: 517, pl. 39, fig. 7. MALE HT (BMNH) from Mandeville, Manchester Parish, Jamaica.

#### **Caraibodesmus lewisi** Hoffman

*Caraibodesmus lewisi* Hoffman, 1979, Myriapodologica, 1(2): 14, figs. 1-5. MALE HT (VMNH) from Corn Puss Gap, ca 5 km northwest of Bath, St. Thomas Parish, Jamaica.

Known also from Barnett's Gap, St. Thomas Parish, west of the type locality in the Blue Mountains.

#### **Caraibodesmus mammatus** (Pocock)

*Odontopeltis mammatus* Pocock, 1894, Journ. Linnean Soc. London, 24: 518, pl. 30, figs. 8-8b. MALE HT from Mandeville, Manchester Parish, Jamaica.

#### **Caraibodesmus morantus** (Karsch)

*Polydesmus (Rhacophorus) morantus* Karsch, 1881, Arch. Naturg. 47: 39. FEMALE HT (ZMB) labeled only Jamaica without further locality.



**Caraibodesmus pellus** Chamberlin

*Caraibodesmus pellus* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 234. FEMALE HT (MCZ) from Liguanea Plain [in Kingston], St. Andrew Parish, Jamaica.

**Caraibodesmus pictus** Loomis

*Caraibodesmus pictus* Loomis, 1969, Florida Entom., 52: 141, figs. 1,2. MALE HT (USNM) from Oxford Cave at Auchtembeddie, Manchester Parish, Jamaica.

**Caraibodesmus sculpturatus** Loomis

*Caraibodesmus sculpturatus* Loomis, 1975, Florida Entom., 58: 174, fig. 6. MALE HT (FSCA) from Mount Diablo, Moneague, St. Ann Parish, Jamaica.

**Caraibodesmus verrucosus** (Pocock)

*Odontopeltis verrucosus* Pocock, 1894, Journ. Linnean Soc. London, 24: 516, pl. 39, figs. 6-6d. MALE HT (BMNH) from Jamaica without further locality.

**Genus *Platyurodesmus*** Loomis

*Platyurodesmus* Loomis, 1977, Florida Entom., 60: 22. Type species: *P. parallelus* Loomis, by original designation. \_ Hoffman, 1979, Myriapodologica, 1(2): 16.

One species, endemic on Jamaica.

***Platyurodesmus parallelus*** Loomis

*Platyurodesmus parallelus* Loomis, 1977, Florida Entom., 60: 24, figs. 4-6. MALE HT (FSCA) from Jackson Bay Cave, Clarendon Parish, Jamaica.\_ Hoffman, 1979, Myriapodologica 1(2): 17, figs. 6-9.

**Tribe Chondrodesmini** Hoffman

Chondrodesmini Hoffman, 1978, Rev. Suisse zool., 85: 543; 1997, Myriapodologica, 5: 6 (revised key to genera).

Six genera, southern Mexico to Peru, northern Brasil, and Guyana.

**Genus *Chondrodesmus*** Silvestri

*Chondrodesmus* Silvestri, 1897, Boll. Mus. Zool. Anat. Comp. Torino, 12(305): 13. Type species, *C. armatus* Silvestri, by monotypy. \_ Attems, 1938, Das Tierreich, 69: 74 (key to then-known species). \_ Loomis, 1972, Florida Entom., 55: 186 (key to Costa Rican species).

*Dirhabdophallus* Pocock, 1909, Biol. Centr.-Amer., Diplop., 161. Type species: *D. montanus* Pocock, by original designation.

About 40 species, Vera Cruz and Guerrero south to Ecuador and Brazil.

**Chondrodesmus acanthurus** (Peters)

*Polydesmus (Oxyurus) acanthurus* Peters, 1864, Montansb. Akad. Wissensch. Berlin, p. 532.  
FEMALE HT (ZMB) labeled only Veragua (presumably Veraguas Province, Panama).

*Chondrodesmus acanthurus*: Carl, 1914, M m. Soc. Neucheloise, 5: 888, fig. 115.

Range: No definite localities have been established for this enigmatic species.

**Chondrodesmus acuticollis** Attems

*Chondrodesmus acuticollis* Attems, 1931, Zoologica (Stuttgart), 79: 47, figs. 69, 70. MALE HT (ZMH) from Acajutla, El Salvador. \_ Kraus, 1954, Senckenberg. Biol., 35: 310.

Range: El Salvador. A record for Costa Rica (Attems, 1933) requires verification.

**Chondrodesmus alidens** Chamberlin

*Chondrodesmus alidens* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 46, pl. 17, figs. 7-9.  
FEMALE HT (USNM) from La Ceiba, Dept. Atlantida, Honduras.

**Chondrodesmus allenae** Loomis

*Chondrodesmus alleni* Loomis, 1959, Ceiba, 8(2): 2, fig. 1. MALE HT (USNM) from Escuela Agricola Pan-americana, Zamorano, Honduras.

*Chondrodesmus allenae*: Loomis 1968, Bull. U. S. Nat. Mus. 266: 12.

**Chondrodesmus atrophus** Chamberlin

*Chondrodesmus atrophus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 42. FEMALE HT (MCZ) from Fort Sherman, Canal Zone, Panama.

**Chondrodesmus cairoensis** Loomis

*Chondrodesmus cairoensis* Loomis, 1972, Florida Entom., 55: 186, Fig. 1. MALE HT (USNM) from Cairo, Prov. Lim n, Costa Rica.

**Chondrodesmus chamberlini** Hoffman

*Chondrodesmus panamenus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 42. FEMALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama. Preoccupied by *Chondrodesmus panamenus* Chamberlin, 1922.

*Chondrodesmus chamberlini* Hoffman, 1950, Proc. Biol. Soc. Washington, 63: 70. New name for *Chondrodesmus panamenus* Chamberlin, 1925.

Loomis (1968: 12) apparently felt that both of the *panamenus* names proposed by Chamberlin were based on the same species. Although the 1925 description is very brief, it nonetheless mentions enough differences in detail to warrant maintaining the names as valid until their types have been directly compared.

**Chondrodesmus ensiger** (Pocock)

*Dirhabdophallus ensiger* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 165, pl. 12, fig. 7, pl. 13, fig. 1. Location of type material unknown, probably lost, from Omilteme [=Omiltemi, ca

18 miles west of Chilpancingo] and Xautipa, Guerrero, Mexico. Omiltemi is suggested as the restricted type locality.

*Chondrodesmus ensiger*: Attems, 1938, Das Tierreich, 69: 86.

**Chondrodesmus euliotus** Chamberlin

*Chondrodesmus euliotus* Chamberlin, 1933, Pan-Pacific Entom., 9: 21, figs. 4, 5. MALE HT (USNM) from Chitaria, Prov. Cartago, Costa Rica.

**Chondrodesmus falciphallus** Chamberlin

*Chondrodesmus falciphallus* Chamberlin, 1933, Pan-Pacific Entom., 9: 20, pl. 17, figs. 1-6. MALE HT (USNM) from Parismina, Prov. Limón, Costa Rica.

**Chondrodesmus granosus** (Carl)

*Leptodesmus plataleus granosus* Carl, 1902, Rev. Suisse Zool., 10: 602, fig. 27. MALE HT (MHNG) from San José, Costa Rica.

*Dirhabdophallus granosus*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 164, pl. 12, fig. 5.

**Chondrodesmus hoffmanni** (Peters)

*Rhacophorus hoffmanni* Peters, 1864, Monatsb. Akad. Wiss. Berlin, p. 537. FEMALE HT (ZMB) from Costa Rica, without closer locality.

*Dirhabdophallus hoffmanni* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 165.

*Chondrodesmus hoffmanni*: Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 48.

**Chondrodesmus montanus** (Pocock)

*Dirhabdophallus montanus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 163, pl. 12, figs. 4-4g, pl. 13, fig. 2. Location of type material unknown, probably lost, from Volcán de Agua, Dept. Sacatepequez, Guatemala.

*Chondrodesmus montanus*: Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 47.

Range: Recorded from several localities in El Salvador (Kraus, 1954).

**Chondrodesmus murphyi** Chamberlin

*Chondrodesmus murphyi* Chamberlin, 1946, Pan-Pacific Entom., 42: 147, fig. MALE HT (USNM) from Isla San José, Archipiélago de las Perlas, Panama.

**Chondrodesmus nannus** Chamberlin

*Chondrodesmus nannus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 58, fig. 137. MALE HT

(USNM) from Chilpancingo, Guerrero, Mexico.

Chamberlin provided no insights how this species differed from *C. ensiger*, of which it is almost certainly a junior synonym.

**Chondrodesmus orientalis** Kraus

*Chondrodesmus orientalis* Kraus, 1954, Senckenberg. Biol., 35: 309, figs. 28-29. MALE HT (SMF) from Conchagua, Depto La Union, El Salvador.

Range: Deps. La Union and San Miguel, El Salvador.

**Chondrodesmus panamenus** Chamberlin

*Chondrodesmus panamenus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 46, pl. 10, pl. 18, figs. 1-3. FEMALE HT (MCZ), from Panama, without further locality.

**Chondrodesmus pittieri** Loomis

*Chondrodesmus pittieri* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 83, figs. 1k-l. MALE HT (USNM) from Puerto Obaldia, Prov. San Blas, Panama.

**Chondrodesmus rodriguezii** (Brolemann)

*Leptodesmus rodriguezii* Brolemann, 1900, M m. Soc. zool. France, 13: 103, figs. 43-46. MALE HT (MHNP), from Guatemala without further locality.

*Chondrodesmus rodriguezii*: Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 47.

*Chondrodesmus nicaraguae* Chamberlin, 1924, Ent. News, 35: 174, fig. 1. MALE HT (MCZ) from Nicaragua without further locality. Synonymized by Loomis, 1950.

Synonymy of *nicaraguae* with *rodriguezii* must be considered provisional pending comparison of type material of the two names.

Recorded for Purulh, Guatemala by Pocock (1909: 164).

**Chondrodesmus sabachanus** Chamberlin

*Chondrodesmus sabachanus* Chamberlin, 1938, Carnegie Inst. Washington Publ. 491, p.74, figs. 29-31. FEMALE HT (USNM) from Sabacha Cave at Tekax, Yucatan, Mexico.

**Chondrodesmus singularis** Chamberlin

*Chondrodesmus singularis* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 44, pl. 16, figs. 10-13. FEMALE HT (MCZ) from Puerto Limón, Limón Prov., Costa Rica.

**Chondrodesmus spatulatus** (Pocock)

*Dirhabdophallus spatulatus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 165, pl. 12, fig. 6. Location of M HT unknown, probably lost, from Omilteme [=Omiltemi], 18 mi. west of Chilpancingo, Guerrero, Mexico.

**Chondrodesmus tuberculifer** Chamberlin

*Chondrodesmus tuberculifer* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 45, pl. 17, figs. 1-6. MALE HT (USNM) from La Ceiba, Dep. Atlantida, Honduras.

### Tribe Trichomorphini Hoffman

Trichomorphini Hoffman, 1979, Contrib. Sci. Natur. Hist. Mus. Los Angeles County, 305: 5; 1980, Classification of the Diplopoda, p. 153.

Seven genera, Costa Rica to Ecuador and Trinidad.

#### Genus **Allarithmus** Attems

*Allarithmus* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 265. Type species: *A. parvulus* Attems, by monotypy. Synonymized with *Phylactophallus* by Loomis (1968); reinstated as valid by Hoffman (1979).

One species, Costa Rica.

#### **Allarithmus parvulus** Attems

*Allarithmus parvulus* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 265, figs. 12-16. MALE HT (NMW) from Volcan Irazu, Prov. Cartago, Costa Rica.

Range: Also reported from San Isidro and La Carpintera, Costa Rica, by Attems (1933).

#### Genus **Loomisiola** Hoffman

*Loomisiola* Hoffman, 1979, Contr. Sci. Natur. Mus. Los Angeles County, 305: 5. Type species: *Trichomorpha crinitapes* Loomis, 1972, by original designation.

One species, Costa Rica.

#### **Loomisiola crinitapes** (Loomis)

*Trichomorpha crinitapes* Loomis, 1972, Florida Entom., 55: 190, figs. 8-9. MALE HT (USNM) from Cairo, Prov. Limón, Costa Rica.

*Loomisiola crinitapes*: Hoffman, 1979, Contr. Sci. Natur. Mus. Los Angeles County, 305: 5.

#### Genus **Phylactophallus** Pocock

*Phylactophallus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 166. Type species: *P. stenomerus* Pocock, by original designation.

*Isidrona* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 267. Type species: *I. forficula* Attems, by monotypy. Considered congeneric with *Phylactophallus* by Hoffman (1979).

Three (?two) species, Costa Rica.

#### **Phylactophallus canceripes** Loomis

*Phylactophallus canceripes* Loomis, 1972, Florida Entom., 55: 188, figs. 2-4. MALE HT (USNM) from Volc n Irazu [ above San Isidro : Loomis], Cartago Prov., Costa Rica.

The generic position of this species is doubtful, a restudy of the type is required.

**Phylactophallus stenomerus** Pocock

*Phylactophallus stenomerus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 166, pl. 13, figs. 3-3h. Location of type material unknown, probably lost, from Volc n Irazu, Prov. Cartago, Costa Rica.

*Isidrona forficula* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 268, figs. 17-20. MALE HT (NMW) from San Isidro, Prov. Cartago?, Costa Rica. **New Synonymy!**

Comparison of the published accounts of the two names cited above leave little doubt that both are based on specimens of the same species. Pocock's presentation is excellent even by today's standards.

**Genus Talamancia** Loomis

*Talamancia* Loomis, 1974, Florida Entom., 57: 170. Type species: *T. alba* Loomis, by original designation.

One species, Costa Rica.

**Talamancia alba** Loomis

*Talamancia alba* Loomis, 1974, Florida Entom., 57: 170, figs. 1-3. MALE HT (FSCA) from Inter-American Hwy on west side of Cerro de la Muerte, 8,5000 ft., San Jos Prov., Costa Rica.

**Genus Trichomorpha** Silvestri

*Trichomorpha* Silvestri, 1897, Boll. Mus., Zool. Anat. Comp. Torino, 12 (305): 11. Type species: *T. elegans* Silvestri, by monotypy. \_ Attems, 1938, Das Tierreich, 69: 107 (key to then-known species). \_ Loomis, 1964, Fieldiana Zoology, 47: 17 (key to species known from Panama); 1972, Florida Entom., 55: 00 (key to species known from Costa Rica).

*Ethophallus* Chamberlin, 1933, Pan-Pacific Entom., 9: 20. Type species: *E. cervantes* Chamberlin, by original designation. Synonymized by Loomis (1972) and by Hoffman (1979), after recognition by Loomis (1974).

*Typophallus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 10. Type species: *T. evidens* Chamberlin, by original designation. Synonymized by Loomis (1964).

*Desmachrides* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 11. Type species: *D. dichrus* Chamberlin, by original designation. Synonymized by Loomis (1964).

About 40 nominal species, Costa Rica to Ecuador and Colombia.

**Trichomorpha agilis** Loomis

*Trichomorpha agilis* Loomis, 1972, Florida Entom., 55: 190, figs. 5-7. MALE HT (USNM) from Cairo, Prov. Limón, Costa Rica.

**Trichomorpha capillata** Loomis

*Trichomorpha capillata* Loomis, 1964, Fieldiana Zoology, 47: 17, figs. 1, 1-m. MALE HT (FMNH) from west of Finca Palo Santo, near Nueva California, Prov. Chiriquí, Panama.

**Trichomorpha cervantes** (Chamberlin)

*Ethophallus cervantes* Chamberlin, 1933, Pan-Pacific Entom., 9:20. MALE HT (USNM) from Cervantes, Prov. Cartago, Costa Rica.

*Trichomorpha cervantes*: Loomis, 1972, Florida Entom., 55: 190.

**Trichomorpha crucicola** Hoffman

*Trichomorpha gracilis* Loomis, 1974, Florida Entom., 57: 172, fig. 6. MALE HT (FSCA) from Finca Las Cruces, San Vito, Puntarenas Prov., Costa Rica. Preoccupied by *Trichomorpha gracilis* Carl, 1914.

*Trichomorpha crucicola* Hoffman, 1979, Contr. Sci. Natur. Mus. Los Angeles County, 305: 4.

**Trichomorpha erosa** Loomis

*Trichomorpha erosa* Loomis, 1972, Florida Entom., 55: 191, figs. 10, 11. MALE HT (USNM) from Cairo, Prov. Limón, Costa Rica.

**Trichomorpha esulcata** Loomis

*Trichomorpha esulcata* Loomis, 1975, Florida Entom., 57: 171, figs. 4,5. MALE HT (FSCA) from Finca Las Cruces, near San Vito, Prov. Puntarenas, Costa Rica.

**Trichomorpha evidens** (Chamberlin)

*Typophallus evidens* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 11. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

*Trichomorpha fratellus*: Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 64, figs. 5-8 MALE HT

(USNM) from Summit, Canal Zone, Panama. Synonymized with *evidens* by Loomis (1964).

*Trichomorpha evidens*: Loomis, 1964, Fieldiana:Zoology, 47: 18.

**Trichomorpha folia** (Brolemann)

*Leptodesmus folium* Brolemann, 1903, Ann. Soc. Entom. France, 72: 139, figs. 8-10, 13-18. MALE HT (MHNP) from Cocos Island, Costa Rica.

*Camptomorpha folium*: Attems, 1938, Das Tierreich, 69: 73, fig. 86.

*Trichomorpha folium*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 16.

**Trichomorpha hyla** Hoffman

*Trichomorpha hyla* Hoffman, 1979, Contr. Sci. Natur. Mus. Los Angeles County, 305: 4, figs. 1-8. MALE HT (LACM) from Wafer Bay, Cocos Island, Costa Rica.

**Trichomorpha inflecta** Loomis

*Trichomorpha inflecta* Loomis, 1972, Florida Entom., 55: 192, figs. 12-14. MALE HT (USNM) from Cairo, Prov. Limón, Costa Rica.

**Trichomorpha nidicola** Chamberlin

*Trichomorpha nidicola* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38, 42. F HT (MCZ) from Barro Colorado Island, Canal Zone, Panama.

*Trichomorpha extrema* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 43. F HT (MCZ) from Barro Colorado Island, Canal Zone, Panama. Synonymized with *nidicola* by Loomis, 1964.

**Trichomorpha panamica** Chamberlin

*Trichomorpha panamica* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 43. MALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama.

*Trichomorpha recta* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 43. FEMALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama. Synonymized with *panamica* by Loomis, 1964.

*Desmacrides dichrus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 12. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama. Synonymized with *panamica* by Loomis, 1964.

*Trichomorpha kraussii* Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 63, figs. 1-4. MALE HT (USNM) from Summit, Canal Zone, Panama.

Range: Panama and Coclé provinces and Canal Zone, Panama.

**Trichomorpha tacarcuna** Loomis

*Trichomorpha tacarcuna* Loomis, 1964, Proc. Biol. Soc. Washington, 77: 182, figs. 1-3. MALE HT (USNM) from Rio Tacarcuna, ca 30 km east of El Real, Prov. Darien, Panama.

### Tribe Lepturodesmini Hoffman

Lepturodesmini Hoffman, 1975, Stud. Neotrop. Fauna, 10: 184 (synopsis of tribe, with key to four genera).

Six genera, northern South America to Costa Rica and ?Mexico. The two Mesamerican



genera may require reference to some other tribe upon further study.

### Genus **Rhaphandra** Loomis

*Rhaphandra* Loomis, 1966, Ann. Entom. Soc. America, 59: 12. Type species: *R. brunnea* Loomis, by original designation. One species, Oaxaca.

#### **Rhaphandra brunnea** Loomis

*Rhaphandra brunnea* Loomis, 1966, Ann. Entom. Soc. America, 59: 12, figs. 1-3. MALE HT (SMUK) from six miles west of Zanatepec, Oaxaca, Mexico.

### Genus **Solaenorhabdus** Hoffman

*Solaenorhabdus* Hoffman, 1950, Proc. Biol. Soc. Washington, 63: 70. Type species: *Cyclorhabdus contortus* Brolemann, 1900, by original designation.

One species, Guatemala.

#### **Solaenorhabdus contortus** (Brolemann)

*Cyclorhabdus contortus* Brolemann, 1900, M m. Soc. Zool. France, 13: 98, figs. 21-25. MALE HT (MHNP) from Guatemala without further locality.

*Solaenorhabdus contortus*: Hoffman, 1950, Proc. Biol. Soc. Washington, 63: 70.

### CHELODESMID GENERA WITHOUT TRIBAL ASSIGNMENT

Most of the chelodesmids described from the West Indies, and several from Central America, have not yet been placed in tribal groups. The Antillean genera, at least, appear to be fairly closely related and many of them, based by Loomis on variable peripheral characters, will surely be combined following a review of gonopod structure (already commenced by Attems, 1938, in the case of *Quisquicia*). For the present, enumeration in alphabetical order offers the most practical management of these orphaned taxa.

### Genus **Achromoporus** Loomis

*Achromoporus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 112. Type species: *A. coloratus* Loomis, by original designation.

Five species, all endemic to Hispaniola.

#### **Achromoporus coloratus** Loomis

*Achromoporus coloratus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 113, fig. 50a-c. MALE HT (USNM) from Thor, near Port-au-Prince, Haiti.

Range: Recorded from several localities in Haiti.

#### **Achromoporus ennergyensis** Loomis

*Achromoporus enneryensis* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 115, fig. 51. MALE HT (USNM) from Ennery, Haiti.

**Achromoporus furcipes** Loomis

*Achromoporus furcipes* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 117, fig. 52. MALE HT (USNM) from site near Plaisance, Haiti.

Range: Recorded from Morne Pilboreau, Haiti.

**Achromoporus heteromus** Loomis

*Achromoporus heteromus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 49, fig. 17a-b. MALE HT (MCZ) from Sanchez, Republica Dominicana.

**Achromoporus robustus** Loomis

*Achromoporus robustus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 118, fig. 53a-b. MALE HT (USNM) from site near Cancoque, Haiti.

Range: Recorded also from near Plaisance, Haiti.

### Genus **Amphelictogon** Chamberlin

*Amphelictogon* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 224. Type species: *A. cubanus* Chamberlin, by original designation. \_ Hoffman, 1963, Ent. Mitt. Zool. Mus. Hamburg, 2: 399. \_ P rez-Asso, 1996, Insecta Mundi, 10: 182 (revision).

17 species (one with four subspecies), Cuba, Bahama Islands.

P rez-Asso (1996) recognized three species-groups in his careful revision of this genus, which should be consulted in the original for details. The following alphabetical listing is merely a concession to consistency of format and in no way implies disagreement with the proposed groups.

**Amphelictogon alayoni** P rez-Asso

*Amphelictogon alayoni* P rez-Asso, 1996, Insecta Mundi, 10: 196, figs. 25A-B, 27C-F, 28). MALE HT (MHNCu) from Farallones de Moa near Holgu n, Prov. Holgu n, Cuba.

**Amphelictogon couloni** (Humbert & DeSaussure)

*Polydesmus Couloni* Humbert & DeSaussure, 1869, Rev. Mag. Zool., (2) 21: 151. MALE HT (MHNG) from le de Cuba without further locality.

*Leptodesmus Couloni*: Carl, 1903, Rev. Suisse Zool., 11: 552, fig. 13 (gonopod of holotype).

*Amphelictogon couloni*: Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 232. \_ P rez-Asso, 1996, Insecta Mundi, 10: 186, fig. 11.

Range: Reported from Pico Turquino, Prov. Santiago de Cuba, Cuba (Loomis, 1938).

**Amphelictogon cubanus** Chamberlin

*Amphelictogon cubanus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 224. MALE HT (MCZ) from Guantamo, Oriente, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 182, figs. 2A-b, 3A- G, 11).

*Amphelictogon rubripes*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 225. MALE HT (MCZ) from Belona, Prov. Guantamo, Cuba. Synonymized by P rez-Asso, 1996.

*Amphelictogon zygethus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 227. FEMALE HT (MCZ) from San Carlos, Prov. Guantamo, Cuba. Synonymized by P rez-Asso, 1996.

*Amphelictogon guantanamanus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 228. MALE HT (MCZ) from Guantamo, Prov. Guantamo, Cuba. Synonymized by P rez-Asso, 1996.

*Amphelictogon flavipes* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 229. MALE HT (MCZ) from Monte Toro, above Hembrita, Prov. Guantamo, Cuba. Synonymized by P rez-Asso, 1996.

Range: Throughout easternmost Cuba (map, P rez-Asso, 1996, fig. 11).

**Amphelictogon dentatus** Chamberlin

*Amphelictogon dentatus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 226. FEMALE HT (MCZ) from Alto de la Unión, Monte Líbano, Prov. Guantamo, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 185, figs. 4A-B, 5A-D, 11 (redescription, localities).

Range: Guantamo and Holguín provinces, Cuba.

**Amphelictogon flexus** Loomis

*Amphelictogon flexus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 456, figs. 22a-b. MALE HT (MCZ) from mountains north of Imías, Prov. Guantamo, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 196, figs. 24A-B, 28.

**Amphelictogon garridoi** P rez-Asso

*Amphelictogon garridoi* P rez-Asso, 1996, Insecta Mundi, 10: 197, figs. 26A-B, 27G-J, 28. MALE HT (MNHNCu) from Boca de Jauco, Mais, Prov. Guantamo, Cuba.

**Amphelictogon heteromus** Hoffman

*Amphelictogon heteromus* Hoffman, 1963, Ent. Mitt. Zool. Mus. Hamburg, 2: 400, figs. 1-6. MALE HT (ZMH) from mountains near Guisa, Bayamo, Prov. Granma, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 188, figs. 5G, 8A-B, 11.

**Amphelictogon hoffmani** P rez-Asso

*Amphelictogon hoffmani* P rez-Asso, 1996, Insecta Mundi, 10: 192, figs. 18A-B, 22, 27A. MALE HT (MNHNCu) from Agabama, Prov. Villa Clara, Cuba.

Range: Also recorded from Cubal de la Tres Ceibas, Prov. Matanzas, Cuba.

**Amphelictogon magnus** (Bollman)

*Rhacophorus magnus* Bollman, 1888, Proc. U. S. Nat. Mus., 11: 337. MALE HT (USNM) labeled only Cuba .

*Caraibodesmus magnus*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 236.

*Amphelictogon atricolor* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 466, fig. 21. MALE HT (MCZ) from Yunque de Baracoa, Prov. Guantamo, Cuba. Synonymized by P rez-Asso, 1996.

*Amphelictogon magnus*: P rez-Asso, 1996, Insecta Mundi, 10: 195, figs. 23A-B, 27B, 28.

Range: Known only from the type locality of *atricolor*.

**Amphelictogon obscurus** Chamberlin

*Amphelictogon obscurus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 226. MALE HT (MCZ) from La Cabrera, Prov. Guantamo, Cuba. \_ Loomis, 1938, Bull. Mus. Comp. Zool. 82: 464, fig. 19.

**Amphelictogon pallidipes** Chamberlin

*Amphelictogon pallidipes* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 228. MALE HT (MCZ) from Las Termopilas, Monte Libano, Guantamo, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 193, figs. 20A-B, 21A-D, 22.

**Amphelictogon propinquus** Loomis

*Amphelictogon propinquus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 460, figs. 17a, b. MALE HT (MCZ) from southwest slope Pico Turquino, Sierra Maestra, Prov. Santiago de Cuba, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 186, figs. 5F, 6A-B, 11.

Range: Several localities in the Sierra Maestra, Cuba.

**Amphelictogon rex** Loomis

*Amphelictogon rex* Loomis, 1941, Psyche, 48: 36, pl. 4, fig. A. MALE HT (MCZ) from Cayo del Rey, south of Sierra de Nipe, Prov. Santiago de Cuba, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 187, figs. 5E, 7A-B, 11).

**Amphelictogon strumosus** Loomis

*Amphelictogon strumosus* Loomis, 1938, Bull. Mus. Comp. Zool. 82: 465, fig. 20. MALE HT (MCZ) from Buenos Aires, Trinidad, Prov. Sancti-Spiritus, Cuba. \_ P rez-Asso, 1996, Insecta Mundi, 10: 191, figs. 16A-B, 17C-D, 22.

**Amphelictogon subterraneus subterraneus** (DeSaussure)

*Polydesmus subterraneus* DeSaussure, 1859, Linnean Entom., 13: 323; 1860, Soc. Phys. Hist. Nat. Gen ve, 15: 302, figs. 6, 7. MALE HT (MHNG) from Gruta de Cotilla, Prov. La Habana, Cuba.

*Leptodesmus subterraneus*: Carl, 1903, Rev. Suisse Zool., 11, pl. 16, fig. 14.

*Amphelictogon subterraneus*: Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 232.

*Amphelictogon subterraneus subterraneus* [by implication]: Prez-Asso, 1996, Insecta Mundi, 10: 189, figs. 12A-B, 17A, 22.

**Amphelictogon subterraneus bahamiensis** Chamberlin

*Amphelictogon bahamiensis* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 231. MALE HT (MCZ) from Mangrove Cay, Andros Island.

*Amphelictogon subterraneus bahamiensis*: Prez-Asso, 1996, Insecta Mundi, 10: 189. Figs. 13A-B, 14, 22.

Range: Several localities in the Archipi lago de Camaguey, Prov. Camaguey, Cuba. The ostensible type locality is suspect as the result of mislabeling or, less likely, an introduced population.

**Amphelictogon subterraneus dolius** Chamberlin

*Amphelictogon dolius* Chamberlin, 1922, Proc. U. S. Nat. Mus. 61(10): 14. FEMALE HT (MCZ) from Punta de Judas, 40 miles east of Caibarien, Prov. Sancti Spiritus, Cuba. \_ Hoffman, 1959, Journ. Washington Acad. Sci., 49: 287, figs. 5-9.

*Amphelictogon subterraneus dolius*: Prez-Asso, 1996, Insecta Mundi, 10: 190, figs. 15A-B, 17B, 22).

Range: Two localities in northeastern Sancti Spiritus, Cuba.

**Amphelictogon subterraneus pinetorum** Chamberlin

*Amphelictogon pinetorum* Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 15, pl. 5, fig. 6. MALE HT (MCZ) from Bibijagua, Isla de Juventud, Cuba.

*Amphelictogon subterraneus pinetorum*: Prez-Asso, 1996, Insecta Mundi, 10: 191, fig. 22.

**Amphelictogon thomasi** Prez-Asso

*Amphelictogon thomasi* Prez-Asso, 1996, Insecta Mundi, 10: 188, figs. 9A-B, 10A-D, 11. MALE HT (MNHNCu) from Chivirico, Prov. Santiago de Cuba, Cuba.

Range: Sierra de Maestra, Cuba.

NAMES OF UNCERTAIN STATUS PROPOSED IN AMPHELICTOGON

*Amphelictogon juvenis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 230. Immature HT (MCZ) from Belona Oriente, Guantamo, Cuba.

*Amphelictogon maculatus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 230. Immature HT (MCZ) from Los Hondones, ?Prov., Cuba.

Genus **Antilodesmus** Chamberlin

*Antilodesmus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 236. Type species: *A. grenadanus* Chamberlin, by original designation.

One species, Lesser Antilles.

**Antilodesmus vincenti** (Pocock)

*Odontopeltis vincenti* Pocock, 1894, Journ. Linnaean Soc. London, 24: 514, figs. 4-4d. MALE HT (BMNH) from St. Vincent, without further locality.

*Antilodesmus vincenti*: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 237. \_ Loomis, 1934, Smithsonian Misc. Coll., 89 (14): 30, fig. 15.

*Antilodesmus grenadanus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 236. MALE HT (MCZ) from Grand Etang, Grenada. Synonymized by Loomis, 1934.

Range: Recorded from Grenada and St. Vincent, Lesser Antilles.

Genus **Antrogonodesmus** Hoffman

*Antrogonodesmus* Hoffman, 1959, Journ. Washington Acad. Sci., 49: 284. Type species: *A. curiosus* Hoffman, by original designation.

One species, Cuba.

**Antrogonodesmus curiosus** Hoffman

*Antrogonodesmus curiosus* Hoffman, 1959, Journ. Washington Acad. Sci., 49: 285, figs. 1-4. MALE HT (USNM) from San Vincente, Prov. Pinar del Rio, Cuba.

Genus **Beatadesmus** Loomis

*Beatadesmus* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 31. Type species: *B. utowani* Loomis, by original designation.

One species, Haiti.

**Beatadesmus utowani** Loomis

*Beatadesmus utowani* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 32, figs. 16a-c. MALE HT (USNM) from Beata Island, Haiti.

Genus **Biaporus** Loomis

*Biaporus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 61. Type species: *B. montanus* Loomis, by original designation.

One species, Republica Dominicana.

**Biaporus montanus** Loomis

*Biaporus montanus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 62, fig. 23. MALE HT (MCZ) from Pico del Yaque, 8000-10,000 ft., Loma Rucilla, in the Cordillera Central, Republica Dominicana.

Genus **Chondrotropis** Loomis

*Chondrotropis* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 120. Type species: *C. niger* Loomis, by original designation.

Three species, Republica Dominicana.

**Chondrotropis niger** Loomis

*Chondrotropis niger* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 121, fig. 54. MALE HT (USNM) from near the road below Ennery, Haiti.

**Chondrotropis pictus** Loomis

*Chondrotropis pictus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 123, fig. 55, pl. 2, fig. 2. MALE HT (USNM) from Morne Pilboreau, above Ennery, Haiti.

**Chondrotropis venustus** Loomis

*Chondrotropis venustus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 126, fig. 56, pl. 2, fig. 3. MALE HT (USNM) from Morne Brigand, near Bayeux, Haiti.

Genus **Craterodesmus** Loomis

*Craterodesmus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 60. Type species: *C. ovatus* Loomis, by original designation.

One species, Republica Dominicana.

**Craterodesmus ovatus** Loomis

*Craterodesmus ovatus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 60, fig. 22. MALE HT (MCZ) from Monte Diego de Campo, 3000-4000 ft., Republica Dominicana.

Genus **Cubodesmus** Chamberlin

*Cubodesmus* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 237. Type species: *C. ramsdeni* Chamberlin, by original designation. \_ Prez-Asso, 1998, Myriapodologica, 5: 41-54 (revision).

Four species, Cuba.

**Cubodesmus mariana** P rez-Asso

*Cubodesmus mariana* P rez-Asso, 1998, Myriapodologica, 5: 48, figs. 7, 8, 13, 17, 19. MALE HT (MNHNCu) from Limoncito, Sierra de Mariana, Guantanamo, Cuba.

**Cubodesmus prominens** Loomis

*Cubodesmus prominens* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 471, figs. 24a-b. MALE HT (MCZ) from Los Llanos, , Cuba. \_ P rez-Asso, 1998, Myriapodologica, 5: 46, figs. 1, 2, 5, 6, 12, 15, 19.

Range: Guantamo and Holgu n provinces, Cuba.

**Cubodesmus ramsdeni** Chamberlin

*Cubodesmus ramsdeni* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 238. MALE HT (MCZ) from San Carlos, Rio Seco, Guantamo, Cuba. \_ P rez-Asso, 1998, Myriapodologica, 5: 43, figs. 3, 4, 11, 16, 19.

*Cubodesmus latior* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 239. MALE HT (MCZ) from Monte Toro, La Hembrita, Guantamo, Cuba. Synonymized by P rez-Asso, 1998.

*Cubodesmus proximus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 239. MALE HT (MCZ) from Ramon el Moro, Guantamo, Cuba. Synonymized by P rez-Asso, 1998.

*Cubodesmus princeps* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 240. MALE HT (MCZ) from Belona, Oriente, Cuba. FEMALE HT (MCZ) from La Union, Monte Libano, Guantamo, Cuba. Synonymized by P rez-Asso, 1998.

*Cubodesmus limoneus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 24. MALE HT (MCZ) from Monte Toro, above La Hembrita, Guantamo, Cuba. Synonymized by P rez-Asso, 1998.

Range: Meseta del Guaso and Sierra de Canasta, Prov. Guantamo, Cuba (map, P rez-Asso, 1998, fig. 19).

**Cubodesmus yazminae** P rez-Asso

*Cubodesmus yazminae* P rez-Asso, 1998, Myriapodologica, 5: 49, figs. 9, 10, 14, 18, 19. MALE HT (MNHNCu) from Paredones de Sierra de Cubitas, Prov. Camaguey, Cuba.

**Genus *Cylindromus* Loomis**

*Cylindromus* Loomis, 1977, Florida Entom., 60: 21. Type species: *C. uniporus* Loomis, by original designation.

One species, Puerto Rico.

***Cylindromus uniporus*** Loomis, 1977, Florida Entom., 60: 22, figs. 1-3. FEMALE HT



(FSCA) from Cuevo los Choros, 15 km south of Arecibo, Puerto Rico.

### Genus **Cyrtaphe** Loomis

*Cyrtaphe* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 142. Type species, *C. alternata* Loomis, by original designation.

Four species, Hispaniola.

#### **Cyrtaphe alternata** Loomis

*Cyrtaphe alternata* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 143, fig. 63, pl. 1, fig. 5, pl. 2, fig. 1. MALE HT (USNM) from Morne Pilboreau, above Ennery, Haiti.

#### **Cyrtaphe continuata** Loomis

*Cyrtaphe continuata* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 147, fig. 65. MALE HT (USNM) from vicinity of Trouin, Haiti.

#### **Cyrtaphe domingensis** Loomis

*Cyrtaphe domingensis* Loomis, 1941, Bull. Mus. Comp. Zool. 88: 55, fig. 20. MALE HT (MCZ) from Monte Diego de Ocampo, Cordillera Setentrional, Republica Dominicana.

#### **Cyrtaphe lobipes** Loomis

*Cyrtaphe lobipes* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 145, fig. 64. MALE HT (USNM) from spring near Ennery, Haiti.

### Genus **Ellipodesmus** Chamberlin

*Ellipodesmus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 243. Type species: *E. simplex* Chamberlin, by original designation.

One species, Haiti.

#### **Ellipodesmus simplex** Chamberlin

*Ellipodesmus simplex* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 243. FEMALE HT (MCZ) from Jacmel, Haiti.

### Genus **Eutyporhachis** Pocock

*Eutyporhachis* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 168. Type species, *E. tessellatus* Pocock, by original designation.

*Atylophor* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 49. Type species: *A. rafaelanus* Chamberlin, by original designation.

Two species, Guatemala, Chiapas.

**Eutyporhachis rafaeanus** (Chamberlin)

*Atylophor rafaeanus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 50, pl. 18, figs. 8-11, pl. 19, figs. 1-3. MALE HT (USNM) from San Rafael, Dept. ?, Guatemala.

**Eutyporhachis tessellatus** Pocock

*Eutyporhachis tessellatus* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 169, pl. XIII, figs. 4-4c. Type specimens (location unknown) from Senah, Dept. Alta Vera Paz, Guatemala.

Genus **Granmadesmus** P rez-Asso

*Granmadesmus* P rez-Asso, 1996, Revista Biologia, 4: 65. Type species: *G. minor* P rez-Asso, by original designation.

One species, Cuba.

**Granmadesmus minor** P rez-Asso, 1996, Revista Biologia, 4: 65, figs. 1-3. MALE HT (MNHNCu) from Cueva Fustete, Niquero, Prov. Granma, Cuba.

Genus **Hypselodesmus** Loomis

*Hypselodesmus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 53. Type species: *H. bicolor* Loomis, by original designation.

One species: Hispaniola.

**Hypselodesmus bicolor** Loomis

*Hypselodesmus bicolor* Loomis, 1941, Bull. Mus. Comp. Zool. 88: 54, figs. 19a-c. MALE HT (MCZ) from Monte Quita Espuela, Republica Dominicana.

Genus **Lasiomazus** Loomis

*Lasiomazus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 51. Type species: *L. concolor* Loomis, by original designation.

One species, Hispaniola.

**Lasiomazus concolor** Loomis

*Lasiomazus concolor* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 52, fig. 18. MALE HT (MCZ) from Loma Vieja near Constanza, Cordillera Central, Republica Dominicana.

Genus **Leiomodesmus** Loomis

*Leiomodesmus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 458. Type species: *L. Flavocinctus*

Loomis, by original designation.

One species, Cuba.

**Leiomodesmus flavocinctus** Loomis

*Leiomodesmus flavocinctus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 458, figs. 16a-c. F HT (MCZ) from El Yunque de Baracoa, Prov. Guantamo, Cuba.

Genus **Plicatodesmus** P rez-Asso

*Plicatodesmus* P rez-Asso, 1995, Insecta Mundi, 9: 171. Type species: *P. turquino* P rez-Asso, by original designation.

Three species, Cuba.

**Plicatodesmus baire** P rez-Asso

*Plicatodesmis baire* P rez-Asso, 1995, Insecta Mundi, 9: 172, figs. 1B, 3B, 4. MALE HT (MNHNCu) from La Pimenta, two km south of La Tabla, Baire, Prov. Santiago de Cuba, Cuba..

**Plicatodesmus mariana** P rez-Asso

*Plicatodesmus mariana* P rez-Asso, 1995, Insecta Mundi, 9: 173, figs. 2A, 3A, 4. MALE HT (MNHNCu) from Limoncito, Sierra de Mariana, Prov. Guantamo, Cuba.

**Plicatodesmus turquino** P rez-Asso

*Plicatodesmus turquino* P rez-Asso, 1995, Insecta Mundi, 9: 171, figs. 1A, 3C, 4. MALE HT (MNHNCu) from Pico Turquino, Sierra Maestra, Prov. Santiago de Cuba, Cuba.

Genus **Podiscodesmus** Loomis

*Podiscodesmus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 56. Type species: *P. carinatus* Loomis, by original designation.

One species, Hispaniola.

**Podiscodesmus carinatus** Loomis

*Podiscodesmus carinatus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 58, fig. 21. MALE HT (MCZ) from Sanchez, Republica Dominicana.

Genus **Pterygiodesmus** Loomis

*Pterygiodesmus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 149. Type species: *P. strumosus* Loomis, by original designation.

One species, Hispaniola.

**Pterygiodesmus strumosus** Loomis

*Pterygiodesmus strumosus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 150, figs. 66a-c.  
FEMALE HT (MCZ) from La Vestite. 6000-7000 ft., in the La Selle Range, Haiti.

Genus **Quisquicia** Loomis

*Quisquicia* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 128. Type species: *Q. scitula* Loomis, by original designation.

*Pogonodesmus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 137. Type species: *P. pullus* Loomis, by original designation. Synonymized by Attems, 1938.

*Aplopodesmus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 139. Type species: *A. longipes* Loomis, by original designation. Synonymized by Attems, 1938.

*Aplopodesmus* [sic!] Hoffman, 1980, Classification of the Diplopoda, p. 153.

Seven species, Hispaniola.

Synonymy of this name with *Beatadesmus* Loomis, 1934, seems likely.

**Quisquicia engonata** Loomis

*Quisquicia engonata* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 132, fig. 58a-b. MALE HT (MCZ) from Roche Croix, Morne La Hotte, Haiti.

**Quisquicia insignis** (Chamberlin)

*Caraibodesmus insignis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 234. FEMALE HT (MCZ) from Furcy, Haiti.

*Quisquicia insignis* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 133, fig. 59.

Range: Recorded from Furcy and Kenscoff, Haiti.

**Quisquicia longipes** (Loomis)

*Aplopodesmus longipes* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 140, figs. 62a-b. MALE HT (MCZ) from Morne La Selle, Haiti.

*Quisquicia longipes*: Attems, 1938, Das Tierreich, 69: 126.

**Quisquicia pulla** (Loomis)

*Pogonodesmus pullus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 138, fig. 61. MALE HT (MCZ) from Kenscoff, 3000-6000 ft., Haiti.

*Quisquicia pullus*: Attems, 1938, Das Tierreich, 69: 126.

**Quisquicia rubens** Loomis

*Quisquicia rubens* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 135, fig. 60. FEMALE HT (MCZ) from Morne La Selle, 7500 ft., Haiti.

**Quisquicia sallei** (DeSaussure)

*Polydesmus (Leptodesmus) Sallei* DeSaussure, 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 300, figs. 8, 8a-c. FEMALE HT (MHNG) from . . . l le de Saint-Domingue without further locality.

*Odontopeltis sallei*: Pocock, 1894, Journ. Linnaean Soc. London, 24: 512.

*Caraibodesmus (?) sallei*: Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 236.

*Quisquicia sallei*: Loomis, 1936, Bull. Mus. Comp. Zool., 80: 137.

Insofar as can be ascertained from the original description, Loomis was very likely correct in referring this species to *Quisquicia*. The same confidence may not be extended to Brolemann s (1898: 284) redescription of a male in MHNP considered to be . . . l original , for which no collection data were supplied.

**Quisquicia scitula** Loomis

*Quisquicia scitula* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 130, fig. 57a-b, pl. 1, fig. 4. MALE HT (MCZ) from north of Trouin, Haiti.

**Genus Ricodesmus** Chamberlin

*Ricodesmus*°Chamberlin, 1922, Proc. U. S. Nat. Mus. 61(10): 15. Type species: *R. stejnegeri* Chamberlin, by original designation.

Two (or only one?) species, Puerto Rico.

**Ricodesmus mauritii** (Brandt), new combination

*Polydesmus mauritii* Brandt, 1839, Bull. Sci. Acad. Imp. St. Petersburg, 5: 311. FEMALE HT (ZMB) labeled only Porto Rico.

*Odontopeltis mauritii*: Pocock, 1894, Journ. Linnean Soc. London, 24: 513.

*Caraibodesmus (?) mauritii*: Chamberlin, Bull. Mus. Comp. Zool. 62: 236.

**Ricodesmus stejnegeri** Chamberlin

*Ricodesmus stejnegeri* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(11): 15, pl.5, fig. 7, pl. 6, figs. 1, 2. MALE HT (USNM) from El Yunque, Puerto Rico.

Range: Central highlands of Puerto Rico.

### Genus **Schistides** Chamberlin

*Schistides* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 51. Type species: *S. atopophallus* Chamberlin, by original designation.

One species, Honduras.

#### **Schistides atopophallus** Chamberlin

*Schistides atopophallus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 51, pl. 19, figs. 4-9. MALE HT (USNM) from San Juan Pueblo, Honduras.

### Genus **Synecheporus** Loomis

*Synecheporus* Loomis, 1941, Bull. Mus. Comp. Zool. 88: 63. Type species: *S. platyurus* Loomis, by original designation.

One species, Hispaniola.

#### **Synecheporus platyurus** Loomis

*Synecheporus platyurus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 64, fig. 24. MALE HT (MCZ) from Pico de Yaque, 8000-10000 ft., Loma Rucilla, Republica Dominicana.

### Genus **Tomodesmus** Chamberlin

*Tomodesmus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 243. Type species: *T. thaumastus* Chamberlin, by original designation.

One species, Cuba.

#### **Tomodesmus thaumastus** Chamberlin

*Tomodesmus thaumastus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 244. F HT (MCZ) from Monte Libano, Las Termopilas, Guantamo, Cuba.

#### CHELODESMID SPECIES OF UNCERTAIN GENERIC POSITION

**Amphelictogon manni** Chamberlin 1918, Bull. Mus. Comp. Zool., 62: FEMALE HT (MCZ) from Diquini, Haiti.

Doubtless referable to one of the local Haitian genera.

## Family Eurymerodesmidae Causey

Eurymerodesmidae Causey, 1951, Proc. Arkansas Acad. Sci., 4: 69. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 18 (revision of family).

One genus, central and southeastern United States.

### Genus **Eurymerodesmus** Brolemann

*Eurymerodesmus* Brolemann, 1900, Mem. Soc. Zool. France, 13: 101. Type species: *Polydesmus hispidipes* Wood, 1864, by monotypy. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 19 et seq.

*Kewanius* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 208. Type species: *Eurymerodesmus simplex* Chamberlin, 1920, by original designation. Synonymized by Causey, 1963.

*Paresmus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 7. Type species: *Paresmus paroicus* Chamberlin, by original designation. Synonymized by Shelley, 1989.

Twenty-five species, central and southeastern United States (map, Shelley, 1989, fig. 1), greatest diversity in Louisiana, Arkansas, and eastern Texas..

Shelley (op. cit.) organized the species of this genus into four clearly-defined groups (called by him lineages). Although I believe that these are defensible, phylogenetically natural, groups, I here list all species in simple alphabetical order for convenience of reference and to maintain consistency with the arrangement in other genera.

#### **Eurymerodesmus amplus** Causey

*Eurymerodesmus amplus* Causey, 1952, Chicago Acad. Sci. Nat. Hist. Misc., 106: 4, fig. 3. MALE HT (USNM) from Ruston, Lincoln Parish, Louisiana. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 49, figs. 54, 72-82, 211-212.

*Eurymerodesmus hamatilis* Loomis, 1969, Florida Entom., 52: 250, figs. 11-13. MALE HT (USNM) from Jackson Hill Marina, Sam Rayburn Reservation, about eight miles North of Zavala, Angelina Co., Texas.

Range: Louisiana west of the Mississippi River, eastern Texas; also a disjunct population in Mason Co., Texas (maps, Shelley, 1989, figs. 54, 211-212).

#### **Eurymerodesmus angularis** Causey

*Eurymerodesmus angularis* Causey, 1951, Proc. Arkansas Acad. Sci., 4: 69, figs. 1-3. MALE HT (ANSP) from DeVall s Bluff, Prairie Co., Arkansas. \_ Shelley, 1989, Mem. American Entom. Soc. 37: 31, figs. 9, 17-30, 211.

*Eurymerodesmus wellesleybentoni* Causey, 1952, Ent. News, 63: 171, fig. 5. MALE HT (ANSP) from Helena, Phillips Co., Arkansas. Synonymized by Shelley, 1989.

*Eurymerodesmus wellesleybentonus* [sic!]: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus.

212: 81.

Range: Northern Louisiana, eastern Arkansas; possibly disjunct populations in western Missouri and northcentral Mississippi (map, Shelley, 1989, fig. 9).

**Eurymerodesmus birdi birdi** Chamberlin

*Eurymerodesmus birdi* Chamberlin, 1931, Ent. News, 42: 101, figs. 6-8. MALE HT (USNM) from an unspecified locality in Murray Co., Oklahoma.

*Eurymerodesmus creolus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 6, fig. 16. MALE HT (USNM) from five miles northwest of Shreveport, Caddo Par., Louisiana. Synonymized by Shelley, 1989.

*Eurymerodesmus schmidtii* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 38, fig. 7. MALE HT (FMNH) from Rich Mountain at Mena, Polk Co., Arkansas. Synonymized by Shelley, 1989.

*Eurymerodesmus plishneri* Causey, 1950, Ohio Journ. Sci., 50: 271, fig. 8. MALE HT (ANSP) from Mount Kessler in Fayetteville, Washington Co., Arkansas. Synonymized with *schmidtii* by Causey, 1952; with *birdi* by Shelley, 1989.

*Eurymerodesmus birdi birdi*: Shelley, 1989, Mem. American Entom. Soc., 37: 74, figs. 147-160, 211-212.

Range: Northeastern Kansas and adjacent Missouri south to Louisiana, extreme western Mississippi, and coastal Texas (map, Shelley, 1989, fig. 147).

**Eurymerodesmus birdi planus** Causey

*Eurymerodesmus planus* Causey, 1950, Ent. News, 61: 196, fig. 5. MALE HT (ANSP) from Piney Woods, Rankin Co., Mississippi.

*Eurymerodesmus birdi planus* Shelley, 1989, Mem. American Entom. Soc., 37: 77, figs. 147, 161-167, 211.

Range: Southwestern Mississippi, extreme eastern Louisiana (map, Shelley, 1989, fig. 147).

**Eurymerodesmus caesariatus** Shelley

*Eurymerodesmus caesariatus* Shelley, 1989, Mem. American Entom. Soc., 37: 64, figs. 54, 116-121. MALE HT (FSCA) from seven miles north of Meadville, Franklin Co., Mississippi.

**Eurymerodesmus clavatus** Shelley

*Eurymerodesmus clavatus* Shelley, 1989, Mem. American Entom. Soc., 37: 94, figs. 176, 204-209, 212. MALE HT (FSCA) from New Ulm, Austin Co., Texas.

**Eurymerodesmus compressus** Causey

*Eurymerodesmus compressus* Causey, 1952, Ent. News, 63, 169, figs. 1-4. MALE HT (not at ANSP, presumed lost), from Junction City, Union Co., Arkansas. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 35, figs. 9, 31-37, 211.

Range: Union Co., Arkansas.



Shelley (1989: 35) designated a male neotype (FSCA) from six miles west of El Dorado, Union Co., Arkansas.

**Eurymerodesmus crassatus** Shelley

*Eurymerodesmus crassatus* Shelley, 1989, Mem. American Ent. Soc., 37: 66, figs. 54, 126-132, 211. MALE HT (FSCA) from off old US highway 165, 2.6 mi. S. Georgetown, Grant Par., Louisiana.

**Eurymerodesmus dactylophorus** Shelley

*Eurymerodesmus dactylophorus* Shelley, 1989, Mem. American Entom. Soc., 37: 87, figs. 177, 183-189, 212. MALE HT (FSCA) from Maxwell, Caldwell Co., Texas.

Range: Southcentral Texas between the Brazos and Guadeloupe rivers (map, Shelley, 1989, fig. 212).

**Eurymerodesmus digitatus** Loomis

*Eurymerodesmus digitatus* Loomis, 1976, Florida Entom., 59: 288, figs. 1-3. MALE HT (FSCA) from five miles ESE of Marble Falls, Burnet Co., Texas. \_ Shelley, 1989, Mem. American Ent. Soc., 37: 91, figs. 176, 197-203.

Range: Southwestern Oklahoma to central Texas (map, Shelley, 1989, fig. 176).

**Eurymerodesmus dubius** Chamberlin

*Eurymerodesmus dubius* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 38, fig. 8. MALE HT (FMNH) from Delight, Poke Co., Arkansas. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 38, figs. 9, 45-53, 211.

Range: Southwestern Arkansas, and a disjunct record for Louisiana (map, Shelley, 1989, fig. 9).

**Eurymerodesmus elevatus** Shelley

*Eurymerodesmus elevatus* Shelley, 1989, Mem. American Entom. Soc., 37: 59, figs. 54, 96-101. MALE HT (FSCA) from Jefferson City, Cole Co., Missouri.

Range: Central Missouri (map, Shelley, 1989, fig. 54).

**Eurymerodesmus goodi** Causey

*Eurymerodesmus goodi* Causey, 1952, Chicago Acad. Sci. Nat. Hist. Misc. 106: 3, fig. 1. MALE HT (AMNH) from Bard Springs Road, 16 miles SE Mena, Polk Co., Arkansas. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 36, figs. 9, 38-44, 211.

Range: A small area in Polk and Montgomery counties, Arkansas (Map, Shelley 1989, fig. 211).

**Eurymerodesmus hispidipes** (Wood)

*Polydesmus (Polydesmus) hispidipes* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 7. 2 MALE ST (USNM) from an unspecified site in Illinois.

*Polydesmus (Paradesmus) hispidipes*: Wood, 1865, Trans. American Philos. Soc., 13: 220, fig. 48.

*Eurymerodesmus hispidipes*: Brolemann, 1900, Mem. Soc. Zool. France, 13: 101. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 25, figs. 2-9, 211.

Range: Known definitely only from a male taken at Charleston, Coles Co., Illinois, the record for Dixon Springs in that state (Causey, 1950) having been based on a specimen of *E. oliphantus*. A record for southeastern Arkansas (Ashley Co.) requires confirmation, if the locality is correct it perhaps represents an instance of downstream dispersal by high water (map, Shelley, 1989, fig. 9).

**Eurymerodesmus impurus** (Wood)

*Polydesmus impurus* Wood, 1867, Proc. Acad. Nat. Sci. Philadelphia, 19: 43. 2MALE ST (ANSP) from Long Point, Washington Co., Texas.

*Paresmus impurus*: Causey, 1952, Ent. News, 63: 174, figs. 8, 9.

*Eurymerodesmus impurus*: Shelley, 1989, Mem. American Entom. Soc., 37: 29, figs. 9-16, 212.

Range: Brazos and Washington counties, eastern Texas (map, Shelley, 1989, fig. 9).

**Eurymerodesmus melacis** Chamberlin & Mulaik

*Eurymerodesmus melacis* Chamberlin & Mulaik, 1941, Journ. New York Entom. Soc., 49: 59. MALE HT (USNM) from Edinburg, Hidalgo Co., Texas. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 882, figs. 176-182, 212.

Range: Coastal Plain and Edwards Plateau regions of central and southern Texas (map, Shelley, 1989, fig. 176).

**Eurymerodesmus mundus** Chamberlin

*Eurymerodesmus mundus* Chamberlin, 1931, Ent. News, 32: 102, figs. 3-5. MALE HT (USNM) from University (Norman), Cleveland Co., Oklahoma. \_ Shelley, 1989, Mem. American Ent. Soc., 37: 78, figs. 147, 168-175, 211-212.

Range: Great Plains, from Nebraska to northeastern Texas (map, Shelley, 1989, fig. 147).

**Eurymerodesmus newtonus** Chamberlin

*Eurymerodesmus newtonus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 5, fig. 14. MALE HT (USNM) from 1.2 miles south of Jasper, Newton Co., Arkansas. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 53, figs. 54, 83-88, 211.

*Eurymerodesmus bentonus* Causey, 1950, Ohio Journ. Sci., 50: 268, fig. 5. MALE HT (ANSP) from Monte Ne, Benton Co., Arkansas. Synonymized by Shelley, 1989.

Range: Benton, Newton, and Washington counties, Arkansas (map, Shelley, 1989, fig. 54).

**Eurymerodesmus oliphantus** Chamberlin

*Eurymerodesmus oliphantus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 6, fig. 15. MALE HT (USNM) from 15 miles SW of Oliphant, Jackson Co., Arkansas. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 55, figs. 54, 89-95, 211.

Range: Arkansas, Missouri, and southern Illinois (map, Shelley, 1989, fig. 54).

***Eurymerodesmus pariocus* (Chamberlin)**

*Paresmus pariocus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 7, figs. 18, 19. Original type material, from 1.5 miles north of Clay, on the Lincoln-Jackson parish border, Louisiana, is lost; Shelley (1989: 65) designated a MALE neotype (FSCA) from a nearby locality, Ruston, Pin-cola Par., Louisiana.

*Eurymerodesmus pariocus*: Shelley, 1989, Mem. American Entom. Soc., 37: 65, figs. 54, 122-125, 211.

Range: Lincoln Parish, Louisiana, only.

***Eurymerodesmus polkensis* (Causey)**

*Paresmus polkensis* Causey, 1952, Chicago Acad. Sci. Nat. Hist. Misc., 106: 5, fig. 4. MALE HT (AMNH) from 11 miles north of Mena, Polk Co., Arkansas.

*Eurymerodesmus polkensis*: Shelley, 1989, Mem. American Entom. Soc., 37: 62, figs. 54, 108-115, 211.

Range: Montgomery, Polk, and Scott counties, western Arkansas (map, Shelley 1989, fig. 54).

***Eurymerodesmus pulaski* (Causey)**

*Paresmus pulaski* Causey, 1950, Ohio Journ. Sci., 50: 271, fig. 9. Original type material, from three miles south of Sweet Home, Pulaski Co., Arkansas, is lost; Shelley (1989: 68) designated a topotypic MALE neotype (USNM) from Little Rock, Pulaski Co., Arkansas.

*Eurymerodesmus pulaski*: Shelley, 1989, Mem. American Entom. Soc., 37: 68, figs. 54, 133-140, 211.

***Eurymerodesmus sanbernardiensis* Causey**

*Eurymerodesmus sanbernardiensis* Causey, 1952, Ent. News, 63: 174, figs. 6, 7. FEMALE HT (ANSP) from beside the San Bernardo River at US 59 bridge, Fort Bend Co., Texas. \_ Shelley, 1989, Mem. American Entom. Soc., 37: 90, figs. 176, 190-195, 212.

Range: Southeastern Texas, between the Brazos and Colorado rivers (map, Shelley, 1989, fig. 176).

***Eurymerodesmus serratus* Shelley**

*Eurymerodesmus serratus* Shelley, 1989, Mem. American Entom. Soc., 37: 69, figs. 54, 141-146, 211. MALE HT (FSCA) from Cato, Pulaski Co., Arkansas.

Range: Pulaski Co., Arkansas. Shelley (op. Cit. 71) discusses an additional sample labeled as having been taken in Alachua Co., Florida. Until confirmed by additional collections, this

locality must be held in suspicion.

**Eurymerodesmus simplex** Chamberlin

*Eurymerodesmus simplex* Chamberlin, 1920, Proc. Biol. Soc. Washington, 33: 98. MALE HT (MCZ) from an uncertain locality in Louisiana. – Shelley, 1989, Mem. American Entom. Soc., 37: 60, figs. 54, 102-107, 211.

*Kewanius simplex*: Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 208.

Range: Rapides and Evangeline parished, central Louisiana (map, Shelley 1989, fig. 211).

Contrary to Shelley (1989: 62), I believe that Chamberlin's citation of *simplex* as the type species of *Kewanius* constitutes a new combination even though the two words are not directly juxtaposed.

**Eurymerodesmus varius varius** (McNeill)

*Polydesmus varius* McNeill, 1887, Proc. U. S. Nat. Mus., 10: 323. FEMALE HT (USNM) from Pensacola, Escambia Co., Florida.

*Eurymerodesmus varius*: Causey, 1954, Tulane Stud. Zool. 2: 67.

*Eurymerodesmus minimus* Loomis, 1943, Journ. Washington Acad. Sci., 33: 320, fig. 2. MALE HT (MCZ) from Marianna, Jackson Co., Florida. Synonymized by Causey, 1954.

*Eurymerodesmus varius varius*: Shelley, 1989, Mem. American Entom. Soc., 37: 43, figs. 54-61.

Range: Southeastern United States, from vicinity of Mobile Bay to southeastern North Carolina, Florida peninsula south to Hernando County (map, Shelley, 1989, fig. 54).

**Eurymerodesmus varius christianus** Chamberlin

*Eurymerodesmus christianus* Chamberlin, 1946, Proc. Biol. Soc. Washington, 59: 140, fig. 5. MALE HT (USNM) from Pass Christian, Harrison Co., Mississippi.

*Eurymerodesmus varius christianus*: Shelley, 1989, Mem. American Entom. Soc., 37: 46, figs. 54, 64-65, 211.

Range: Southeastern Louisiana between the Pearl and Mississippi Rivers (map, Shelley, 1989, fig. 211); populations intergradient with *E. v. varius* are recorded throughout Mississippi.

**Eurymerodesmus varius louisianae** Chamberlin

*Eurymerodesmus louisianae* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 6, fig. 17. MALE HT (USNM) from two miles south of Saline, Natchitoches Par., Louisiana.

*Eurymerodesmus spectabilis* Causey, 1950, Ohio Journ. Sci., 50: 270, figs. 6, 7. MALE HT (ANSP) from three miles east of Magnolia, Columbia Co., Arkansas. Synonymized with *louisianae* by Causey (1963).

*Eurymerodesmus varius louisianae*: Shelley, 1989, Mem. American Entom. Soc., 37: 47, figs. 54, 66-71, 211.

Range: Central Louisiana north to southwestern Arkansas (map, Shelley, 1989, fig. 54).

## Family Euryuridae Pocock

Euryurinae (in part) Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 147 (*Euryurus* only).

Euryurini (in part) Brolemann, 1916, Ann. Soc. Ent. France, 84: 584 (*Euryurus* only).

Euryuridae Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 249.

Euryurini Hoffman, 1980, Classification of the Diplopoda, p. 164.

Euryuridae Hoffman, 1998, Myriapodologica, 5: 136.

Until recently, this small North American taxon has been affiliated with the pantropical group Platyhacidae as a subcategory or as part of a heterogeneous coordinate family. Removal from such placements and re-location near of the more generalized xystodesmids was suggested by Hoffman (1998).

The genus *Illiniurus* is again considered as valid, after a period during which I thought it referable to *Auturus*. Revision of that genus by Shelley (1982) indicated that its homogeneity would be violated by the inclusion of *Illiniurus beattyi*. As that species remains known only from its original collection in 1966, the collection of new has become a major *desideratum*.

Three genera, eastern North America.

### Genus **Auturus** Chamberlin

*Auturus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 7. Type species: *A. phanus* Chamberlin, by original designation. \_ Shelley, 1982, Canadian Journ. Zool., 60: 3251 et seq. (revision).

Four species, two of them with two subspecies; Mississippi Valley and Coastal Plain of southeastern United States, north to Virginia and Minnesota.

#### **Auturus erythropygos erythropygos** (Brandt)

*Polydesmus erythropygos* Brandt, 1839, Bull. Sci. Acad. Imp. Sci. St.-Petersbourg, 5 (20): 313; 1841, Recueil de m moires..... , p. 134. MALE LT (ZMB) labeled *America boreali* , later (Chamberlin & Hoffman, 1958) provisionally restricted to Georgetown, South Carolina, a known residence of the collector of the type specimens which is within the known range of this taxon.

*Polydesmus erythropygus* [*sic!*]: Gervais, 1847, in: Walckenaer, Hist. Nat. Ins. Apt., 4: 106.

*Polydesmus (Euryurus) erythropygus*: DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., 6(2): 151.

*Euryurus erythropygus*: Bollman, 1887, Ann. New York Acad. Sci. 4: 108, et auct.seq. plur.

*Eutheatus erythropygos*: Attems, 1938, Das Tierreich, 69: 294.

*Auturus georgianus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 8, fig. 22. MALE HT (USNM) from 13 miles west of Savannah, Chatham Co., Georgia. Synonymized by Shelley, 1982.

*Auturus erythropygus*: Hoffman, 1978, Trans. American Entom. Soc., 104: 43.

*Auturus erythropygus erythropygus* Shelley, 1982, Canadian Journ. Zool., 60: 1361, figs. 18-22, 25.

Range: Southeastern Virginia to Georgia (map, Shelley, 1982, fig. 25).

The several usages of this specific name by Gervais, DeSaussure & Humbert, Bollman, and Attems, cited above, are included merely to show historical permutations. In all four cases, the species being referred to by those authors were NOT *erythropygus* in the current application of that name.

***Auturus erythropygus becki* Chamberlin**

*Auturus becki* Chamberlin, 1951, Great Basin Natur., 11: 29, fig. 2 MALE & FEMALE ST (USNM) labeled Suwannee River, Florida, presumably at a highway crossing in Columbia, Hamilton, or Suwannee counties.

*Auturus erythropygus becki*: Shelley, 1982, Canadian Journ. Zool., 60: 3262, figs. 23-24.

Range: Northern Florida (Columbia and Suwannee counties); doubtless also adjacent Georgia (map, Shelley, 1982, fig. 25).

***Auturus evides* (Bollman)**

*Paradesmus evides* Bollman, 1887, Entom. Americana, 2: 229. MALE HT (not at USNM, presumed lost) from Winona, Winona Co., Minnesota.

*Auturus mimetes* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 8, fig. 21. MALE HT (USNM) from one mile NW of Selma, Jefferson Co., Missouri. Synonymized by Shelley, 1982.

*Auturus florus* Causey, 1950, Ent. News, 61: 37, figs. 1, 2. MALE HT (ANSP) from Hemmed-in-Hollow at Compton, Newton Co., Arkansas. Synonymized by Causey, 1955.

*Auturus evides*: Shelley, 1982, Canadian Journ. Zool., 60: 3253, figs. 1-6.

Range: Central United States, from Oklahoma and Arkansas north to southeastern Minnesota (map, Shelley, 1982, fig. 25).

***Auturus louisianus louisianus* (Chamberlin)**

*Euryurus louisiana* Chamberlin, 1918, Ann. Ent. Soc. America, 11: 371. MALE HT (MCZ) from Creston, Natchitoches Par., Louisiana.

*Auturus louisiana*: Causey, 1955, Proc. Biol. Soc. Washington, 68: 22.

*Auturus louisianus louisianus*: Shelley, 1982, Canadian Journ. Zool., 60: 3257, figs. 7-10.

Range: Northern Louisiana to southwestern Oklahoma (map, Shelley, 1982, fig. 25).

If the position be taken that Chamberlin intended the specific name to be a noun in apposition to the masculine generic name, rather than an adjectival form of the proper name Louis, a case could be made for retention of the original suffix *-iana*. I see no reason, however, to disturb existing usage.

**Auturus louisianus phanus** Chamberlin

*Auturus phanus* Chamberlin, 1942. Bull. Univ. Utah, 32(8): 7, fig. 20. MALE HT (USNM) from Greensburg, Ste. Helena Par., Louisiana.

*Auturus dixianus*: Chamberlin, 1942, Bull. Univ. Utah, 32(8): 8. FEMALE HT (USNM) from Covington, St. Tammany Par., Louisiana. Synonymized by Shelley, 1982.

*Auturus scotius* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 9. MALE HT (USNM) from Darlington, Ste. Helena Par., Louisiana. Synonymized by Shelley, 1982.

*Auturus louisianus phanus*: Shelley, 1982, Canadian Journ. Zool., 60: 3258, figs. 11-12.

Range: Southern Mississippi and eastern Louisiana (map, Shelley, 1982, fig. 25).

**Auturus mcclurkini** Causey

*Auturus mcclurkini* Causey, 1955, Proc. Biol. Soc. Washington, 68: 23, fig. 1. MALE HT (AMNH) from Jackson, Madison Co., Tennessee. \_ Shelley, 1982, Canadian Journ. Zool., 60: 3259, figs. 13-17.

Range: East of the Mississippi River in Tennessee and Mississippi (map, Shelley, 1982, fig. 25).

## Genus **Euryurus** Koch

*Euryurus* Koch, 1847, System der Myriapoden (fasc. 59): 38. Type species: *Euryurus maculatus* Koch, by direct substitution and synonymy, through subsequent designation of Attems (1938) as type of the replacement name *Eutheatus*; Attems asserted the synonymy of *maculatus* with *Polydesmus erythropygos* Brandt, the name actually stipulated as type of *Eutheatus* but unavailable as not one of the three originally included species. The names *maculatus* and *erythropygos* are no longer considered as congeneric.

*Eutheatus* Attems, 1938, Das Tierreich, 69: 294. Proposed as replacement name for *Euryurus*, ipso facto with the same type species (see preceding entry).

*Singuliurus* Causey, 1955, Proc. Biol. Soc. Washington, 68: 23. Type species: *S. mississippiensis* Causey, by original designation. Synonymized by Hoffman, 1978.

*Euryurus*: Hoffman, 1978, Trans. American Entom. Soc., 104: 44 et seq. (revision). \_ Shelley, 1982, Florida Entom., 65: 254 (distributional records).

Six species, one with two subspecies; eastern United States.

**Euryurus amycus** Hoffman

*Euryurus amycus* Hoffman, 1978, Trans. American Entom. Soc., 104: 65, figs. 5, 13, 16. MALE HT (VMNH) from 1.5 miles south of Oakwood, Wilkes Co., North Carolina.

Range: Single localities in Wilkes and Surry counties, North Carolina.

**Euryurus carolinensis** (DeSaussure)

*Polydesmus carolinensis* DeSaussure, 1859, *Linnaea entom.*, 13: 325. MALE HT (MHNG) labeled only Caroline du sud .

*Euryurus erythropygus*: Carl, 1903, *Rev. Suisse Zool.*, 11: 562, fig. 19 (drawing of gonopod of holotype; incorrectly synonymized with this name).

*Euryurus carolinensis*: Hoffman, 1978, *Trans. American Entom. Soc.*, 104: 62, figs. 6, 9, 12.

Range: Primarily known from the Piedmont region of North Carolina; inferentially from South Carolina although no definite records are yet known for that state (map, Hoffman, 1978, fig. 12).

**Euryurus cingulatus** Hoffman

*Euryurus cingulatus* Hoffman, 1978, *Trans. American Entom. Soc.*, 104: 64, figs. 14, 15. MALE HT (USNM) from 800 Airport Road in Jasper, Walker Co., Alabama.

Range: Five counties in northwestern Alabama (map, Shelley, 1982, fig. 9).

**Euryurus leachii leachii** (Gray)

*Polydesmus Leachii* Gray, 1832, in: Edward Gray (ed.): *The Animal Kingdom, arranged in Conformity with its Organization by the Baron Cuvier.* . .15: pl. 135, figs. 3a-c. MALE HT (BMNH) without locality data.

*Euryurus leachii*: Hoffman & Browning, 1956, *Ent. News*, 67, 186, fig. 1.

*Euryurus aculeatus*: Causey, 1952, *Chicago Acad. Sci. Nat. Hist. Misc.*, 106: 9, fig. 8. MALE HT (AMNH) from Giant City State Park, Madison Co., Illinois. Synonymized by Hoffman, 1978.

*Euryurus leachii leachii*: Hoffman, 1978, *Trans. American Entom. Soc.*, 104: 55, figs. 4, 7, 10, 13.

Range: Central United States: Illinois, Indiana, Ohio, Kentucky (map, Hoffman, 1978, fig. 13).

**Euryurus leachii fraternus** Hoffman

*Euryurus leachii fraternus* Hoffman, 1978, *Trans. American Entom. Soc.*, 104: 58, figs. 11, 13. MALE HT (USNM) from McMinnville, Warren Co., Tennessee.

Range: Primarily in the Appalachian Plateaus physiographic province from western Pennsylvania to extreme northern Mississippi and Alabama (map, Hoffman 1978, fig. 13).

**Euryurus mississippiensis** (Causey)

*Singulius mississippiensis* Causey, 1955, *Proc. Biol. Soc. Washington*, 68: 23, fig. 2. MALE HT (AMNH) from Van Cleave, Jackson Co., Mississippi.



*Euryurus mississippiensis* Hoffman, 1978, Trans. American Entom. Soc., 104: 65, fig. 12. \_ Shelley, 1982, Florida Entom., 65: 255, figs. 1, 3-6 (redescription).

Shelley (1982: 255) recounts the circumstances concerning the loss of the type material of this species.

**Euryurus orestes** Hoffman

*Euryurus orestes* Hoffman, 1978, Trans. American Entom. Soc., 104: 62, figs. 3, 17, 18. MALE HT (VMNH) from Highlands, Macon Co., North Carolina.

Range: Southern Blue Ridge physiographic province west of the French Broad River, also disjunct population on Wallen Ridge, east Tennessee (map, Hoffman, 1978, fig. 18).

### Genus **Illiniurus** Shear

*Illiniurus* Shear, 1968, Proc. Biol. Soc. Washington, 81: 479. Type species: *I. beattyi* Shear, by original designation.

Monotypic, known only from southern Illinois.

**Illiniurus beattyi** Shear

*Illiniurus beattyi* Shear, 1968, Proc. Biol. Soc. Washington, 81: 480. MALE HT (AMNH, but misplaced or lost), from Clear Springs, Union Co., Illinois.

### Family Xystodesmidae Cook

Xystodesmidae Cook, 1895, Ann. New York Acad. Sci., 9: 4.

Fontariidae Attems, 1926, Handb. Zool., 4: 153.

Eurydesmidae Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 16.

Although most of the genera, both Nearctic and Palearctic, have been thoroughly revised during the past three decades, the higher classification remains as suggested by me in 1980: Parafontariinae for one Japanese genus opposed to a Xystodesminae for the remainder of the family. I am by no means satisfied that this is the definitive arrangement, nor that the tribal divisions of the Xystodesminae are entirely satisfactory either.

For the purposes of this list, I have adopted the findings outlined in the most recent treatments, with the exception of the tribe Aphelorini, as discussed thereunder.

### Tribe Aphelorini Hoffman

Aphelorini Hoffman, 1980, Classification of the Diplopoda, p. 158.\_ Shelley, 1986, Mem. American Ent. Soc., 35: 205.

Delimitation of genera in this section of the Xystodesmidae is fraught with difficulty and uncertainty because of the highly subjective character of diagnostic features (dominantly those of male genitalia) and the near impossibility of determining their polarity for objective reconstructions of phylogeny. Species-groups often appear to be fundamentally cohesive, but all

too frequently include species which merge gradually into the perimeters of other groups.

The most definitive work on this tribe has come from the hand of R. M. Shelley, who has courageously grasped the thistle that others (myself included) feared to handle and revised most of the Nearctic genera with precision and insight. Nonetheless, in the first steps of any investigation based largely upon the subjective evaluation of subtle, abstract, characters, it would be astonishing if the very nature of the material did not permit alternative interpretations. As with so much of systematic biology, future work with this tribe must involve the judicious selection of a middle ground between the Scylla of a few large and cumbersome genera and the Charybdis of many small and vaguely defined genera. Perhaps molecular genetics will lend some insights into the matter, with the caveat that even molecular data have to be quantified and weighted subjectively by someone.

As noted in an introductory paragraph, I think that use of the subgenus category imposes an unnecessary burden on a classification. In my view, and that of many others, a subgenus might just as well be either a genus or a species-group, if for no other reason (and there are others!) than escaping the redundant parenthetical rider which far too often adds a nomenclatorial complication as genera are combined or divided.

My decision to escalate existing subgenera is not without personal bias since I do consider some of these taxa (*Dixioria*, *Cleptoria*, *Stelgipus*, et al.) to merit generic status. The others are borne along on the vehicle of consistency.

### Genus *Apheloria* Chamberlin

*Apheloria* Chamberlin, 1921, Canadian Entom., 53: 232. Type species: *Fontaria montana* Bollman, 1887, by original designation.

*Leptocircus* Attems, 1931, Zoologica (Stuttgart) 30(3-4): 67. Type species: *L. inexpectatus* Attems, by original designation. Preoccupied by *Leptocircus* Swainson, 1833 (Lepidoptera).

*Apheloria* Hoffman, 1978, Myriapodologica, 1: 2. \_ Shelley, 1986, Trans American Entom. Soc., 37: 207.

Number of valid taxa uncertain, pending revision; northeastern and central United States.

A revisionary treatment of this genus, pursued for a number of decades, has still not reached a closure phase, and the following entries represent a medley of confirmed new synonymy (based on examination of relevant type material) for some names and uncertain status for others.

#### ***Apheloria montana* (Bollman)**

*Fontaria montana* Bollman, 1887, Proc. U. S. Nat. Mus., 10: 622. MALE HT (USNM) from Wolf Creek [– four miles east of Del Rio], Cocke Co., Tennessee.

*Apheloria montana* Chamberlin, 1921, Canadian Entom., 53: 232, fig. 2.

*Apheloria unaka* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 11, Fig. 33. MALE HT (USNM) from Unaka Springs, Unicoi Co., Tennessee. **New synonymy!**

*Apheloria pinicola* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 26, figs. 6, 7. MALE HT (ANSP) from Pine Mountain, Bell Co., Kentucky. **New synonymy!**

*Apheloria roanea* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 26, fig. 8. MALE HT (ANSP) from Harriman, Roane Co., Tennessee. **New synonymy!**

Range: Central eastern Tennessee, north into southeastern Kentucky and southwestern Virginia, east into the French Broad River drainage basin of North Carolina, south into northern Alabama and Georgia.

The new synonymy proposed here is based upon examination of the types of all names listed, as well as abundant non-type material.

***Apheloria tigana* Chamberlin**

*Apheloria tigana* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 11, fig. 29. MALE HT (USNM) from Raleigh, Wake Co., North Carolina. \_ Shelley, 1978, Journ. Nat. Hist., 12: 63.

*Apheloria waccamana* Chamberlin, 1940, Ent. News, 51: 284, fig. 3. MALE HT (USNM) from Lake Waccamaw, Columbus Co., North Carolina. Synonymized by Shelley, 1978.

*Apheloria aspila* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 10, fig. 28. MALE HT (USNM) labeled as from Soco Falls, near Waynesville, North Carolina [on US hy. 19 south of Soco Gap, Jackson Co.]. **New synonymy!**

Range: Coastal southeastern North Carolina, northwest to the Blue Ridge in Floyd and Franklin counties, Virginia.

Although the name *aspila* has one-page priority in Chamberlin's 1939 publication, *tigana* was selected as the senior synonym to avoid the type locality of this species being fixed at a place outside its actual range. The type material of *aspila* was obviously either mislabeled by its collector or while in Chamberlin's hands, a not uncommon accident in either case. The types of all three names cited above have been examined, as well as abundant non-type material.

***Apheloria virginiensis virginensis* (Drury), new status.**

*Julus virginensis* Drury, 1770, Illustrations of natural history.....1: pl. 43, fig. 8. Type material not known to exist, name based on specimens sent to Drury from Dinwiddie Co., Virginia (Shelley, 1980: 131, footnote 6).

*Apheloria virginia* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 12, fig. 30. MALE HT (USNM) from Chatham, Pittsylvania Co., Virginia. **New synonymy!**

*Apheloria virginensis* [by implication]: Shelley, 1980, Canadian Journ. Zool., 58: 131, footnote 6.

Range: Piedmont and inner Coastal Plain of Virginia, south of the James River.

Treatment of this name as type species of the genus *Fontaria* in the 1958 Checklist by Chamberlin & Hoffman was egregiously incorrect.

***Apheloria virginensis corrugata* (Wood), new combination**

*Fontaria virginensis* C. L. Koch, 1863, Die Myriapoden, 1: 71, pl. 32, fig. 62.

*Polydesmus (Fontaria) corrugatus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 6. MALE ST (USNM) from Trenton Falls [location undetermined], New York.

*Apheloria coriacea*: Hoffman, 1949, American Mus. Nov. 1405: 3, figs. 1-4. Incorrect identification of the name *Fontaria coriacea* Koch, 1847.

*Apheloria corrugata*: Attems, 1938, Das Tierreich, 69: 170.

*Apheloria adela* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 10, fig. 34. MALE HT (USNM) from Ithaca, Tompkins Co., New York. Synonymized by Hoffman, 1957.

*Apheloria corrugata corrugata*: Hoffman, 1957, Proc. Biol. Soc. Washington, 70: 183.

Range: Northeastern North America, from southeastern Virginia north to Montreal, Canada.

***Apheloria virginiensis butleriana*** (Bollman), new combination

*Fontaria butleriana* Bollman, 1889, Proc. U. S. Nat. Mus., 11: 407. FEMALE HT (USNM) from Brookville, Franklin Co., Indiana.

*Apheloria butleriana*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 18.

*Apheloria corrugata butleriana*: Hoffman, 1957, Proc. Biol. Soc. Washington, 70: 186, footnote.

*Apheloria asburna*: Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 101. MALE HT (USNM) from 20 miles north of Nashville, Davidson Co., Tennessee. **New synonymy!**

?*Leptocircus inexpectatus* Attems, 1931, Zoologica (Stuttgart), 30(3-4): 67, figs. 102-104. MALE HT (NMW) from an unspecified locality in North America. **Provisional new synonymy.**

Range: Ohio and Indiana, south to central Tennessee. Intergrades with the preceding in West Virginia.

***Apheloria virginiensis iowa*** Chamberlin, new status, new combination

*Apheloria iowa* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 10, fig. 28. MALE HT (USNM) from Mount Pleasant, Henry Co., Iowa.

Range: Eastern Iowa and adjacent Illinois, doubtless merging into the following subspecies.

***Apheloria virginiensis reducta*** Chamberlin, new status, new combination

*Apheloria reducta* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 11, fig. 35. MALE HT (USNM) from Imboden, Lawrence Co., Arkansas.

Range: Ozark-Ouachita highlands, Arkansas and Missouri.

**?Apheloria luminosa** (Kenyon)

*Fontaria luminosa* Kenyon, 1893, Publ. Nebraska Acad. Sci., 3: 16. Type material not known with certainty, apparently originating at Omaha, Douglas Co., Nebraska. \_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 55 (likely to prove to be a species of *Apheloria* ).

*Apheloria* [by implication] *luminosa*: Shelley, 1986, Mem. American Entom. Soc., 37: 209.

Shelley (loc. cit.) presented evidence that the species described by Kenyon is referable to *Apheloria*, and the original account of coloration, size, and genitalia tend to support such a placement. There is however a substantial disjunction between Omaha and the nearest genuine localities for this genus in Iowa and Missouri, both Dr. Shelley and I have failed to rediscover it in riparian forest along the Missouri River south of Omaha, and the University of Nebraska entomology collection has no material of any xystodesmid from that state. Before assuming *luminosa* to be a senior synonym of *A. v. iowa*, I prefer to await confirmation through the collection of fresh material in southeastern Nebraska.

**Genus Brachoria** Chamberlin

*Brachoria* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 3. Type species: *B. initialis* Chamberlin, by original designation. \_ Keeton, 1959, Proc. U. S. Nat. Mus., 109: 3 et seq.; 1965, Proc. Biol. Soc. Washington, 78: 225.

*Tucoria*°Chamberlin, 1943, Bull. Univ. Utah, 00: 17. Type species: *Fontaria kentuckiana* Causey, 1942, by original designation. Synonymized by Keeton, 1959.

*Anfractogon* Hoffman, 1948, Proc. Biol. Soc. Washington, 61: 94. Type species: *A. tenebrans* Hoffman, by original designation. Synonymized by Chamberlin & Hoffman, 1958.

26 nominal species, central eastern United States (Pennsylvania and Ohio south to Alabama and Mississippi).

**Brachoria calceata** (Causey)

*Tucoria calceata* Causey, 1955, Proc. Biol. Soc. Washington, 68: 28, figs. 4, 5. MALE HT (AMNH) from Tyrone, Anderson Co., Kentucky.

*Brachoria calceata*: Keeton, 1959, Proc. U. S. Nat. Mus., 109: 16, figs. 1h-j.

**Brachoria cedra** Keeton

*Brachoria cedra* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 17, figs. 2a-c. MALE HT (USNM) from cedar glades 5-6 miles west of Jonesville, Lee Co., Virginia. \_ Hoffman, 1971, Radford Review, 25: 85, fig. 2.

Range: Several localities in Lee Co., Virginia.

Incorrectly synonymized with *B. initialis* by Keeton (1965: 233).

**Brachoria conta** Keeton

*Brachoria conta* Keeton, 1965, Proc. Biol. Soc. Washington, 78: 225, figs. 1-3. MALE HT (USNM) from woods along US Hy. 460, five miles west of Grayson, Carter Co., Kentucky.

**Brachoria dentata** Keeton

*Brachoria dentata* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 18, figs. 2d-f. MALE HT (USNM) from Pennington Gap, Lee Co., Virginia.

**Brachoria divicuma** Keeton

*Brachoria divicuma* Keeton, 1965, Proc. Biol. Soc. Washington, 78: 229, figs. 6-8. MALE HT (USNM) from mountainside two miles west of Jamestown, Fentress Co., Tennessee.

**Brachoria electa** Causey

*Brachoria electa* Causey, 1955, Proc. Biol. Soc. Washington, 68: 25, fig. 3. MALE HT (AMNH) from Tyrone, Anderson Co., Kentucky.

Range: Anderson and Mercer counties, Kentucky.

Considered by Keeton to be almost certainly a junior synonym of *B. initialis*.

**Brachoria enodicuma** Keeton

*Brachoria enodicuma* Keeton, 1965, Proc. Biol. Soc. Washington, 78: 228, figs. 4-5. MALE HT (USNM) from mountainside 1.5 miles NE of Hodge, Jackson Co., Alabama.

**Brachoria eutypa eutypa** Chamberlin

*Brachoria eutypa* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 4, fig. 4. MALE HT (USNM) from Russelville, Hamblen Co., Tennessee.

*Brachoria eutypa eutypa*: Keeton, 1959, Proc. U. S. Nat. Mus., 109: 21, figs. 3a-g; 1965, Proc. Biol. Soc. Washington, 78: 232.

Range: Eastern Tennessee, chiefly between Bristol and Knoxville.

**Brachoria eutypa ethotela** Chamberlin

*Brachoria ethotela* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 5, fig. 13. MALE HT (USNM) from Marion, Smyth Co., Virginia. \_ Hoffman, 1971, Radford Review, 25: 95.

*Brachoria eutypa ethotela* : Keeton, 1959, Proc. U. S. Nat. Mus., 109: 23, figs. 3h-j.

Range: Southwestern Virginia: Washington, Smyth, Wythe, Pulaski counties.

I have already (1971) expressed doubts that *ethotela* is subspecifically related to *eutypa*.

**Brachoria falcifera** Keeton

*Brachoria falcifera* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 27, figs. 4a-c. MALE HT (USNM)

from Grimsleyville [merely a place name on US Hy. 460, ca. six miles SE of Keen Mountain], Buchanan Co., Virginia.

**Brachoria glendalea** (Chamberlin)

*Fontaria glendalea* Chamberlin, 1918, Psyche, 25: 123. MALE HT (MCZ) from Glendale Hills, Nashville, Davidson Co., Tennessee.

*Brachoria glendalea*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 24. \_ Keeton, 1959, Proc. U. S. Nat. Mus. 109: 28, figs. 4d-f.

Range: Central Tennessee: Cumberland, Hickman, Perry counties.

**Brachoria gracilipes** (Chamberlin)

*Sigmoria gracilipes* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 29, fig. 15. MALE HT (ANSP) from Stone Mountain, Harlan Co., Kentucky.

*Brachoria gracilipes*: Shelley, 1979, Florida Entom., 62: 220, figs. 1-3.

**Brachoria hansonia** Causey

*Brachoria hansonia* Causey, 1950, Ent. News, 61: 6, fig.1.\_ HT (ANSP) from Kentucky Ridge State Forest, Pineville, Bell Co., Kentucky.

**Brachoria hoffmani** Keeton

*Brachoria hoffmani* Keeton, 1959, Proc. U. S. Nat. Mus. 109: 32, figs. 5d-f. MALE HT (USNM) from woods beside Va. Hy. 83, one mile west of Vansant, Buchanan Co., Virginia. \_ Hoffman, 1971, Radford Review, 25: 37, fig. 3.

Range: Extreme southwestern Virginia and adjacent Kentucky (map, Hoffman, 1971, fig. 3).

**Brachoria hubrichti** Keeton

*Brachoria hubrichti* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 33, figs. 5g-i. MALE HT (USNM) from McMinnville, Warren Co., Tennessee; 1965, Proc. Biol. Soc. Washington, 78: 233, figs. 13, 14.

Range: Southeastern Tennessee: Hamilton, Sequatchie, and Warren counties.

**Brachoria indianae** (Bollman)

*Fontaria indianae* Bollman, 1888, Proc. U. S. Nat. Mus. 11: 406. MALE LT (USNM) from Brookville, Franklin Co., Indiana.

*Brachoria indianae*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 24. \_ Keeton, 1959, Proc. U. S. Nat. Mus., 109: 34, figs. 6a-c (selection of lectotype).

Range: Southern Indiana, northcentral Kentucky (map, Keeton, 1965, fig. 26).

**Brachoria initialis** Chamberlin

*Brachoria initialis* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 3, fig. 3. MALE HT (USNM) from Maplesville, Chilton Co., Alabama. \_ Keeton, 1965, Proc. Biol. Soc. Washington, 78: 233, figs. 17, 19, 20, 22, 23.

*Brachoria brachypus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 26, fig. 9. MALE HT (ANSP) from Harriman, Roane Co., Tennessee. Synonymized by Keeton, 1959.

*Brachoria benderi* Causey, 1950, Ent. News, 61: 193, fig.s. 1, 2. MALE HT (ANSP) from Piney Woods, Rankin Co., Mississippi. Synonymized by Keeton, 1959.

*Brachoria ochra initialis*: Keeton, 1959, Proc. U. S. Nat. Mus., 109: 11, figs. 1-a-c.

Range: Eastern Tennessee to central Alabama, possibly southern Mississippi (map, Keeton, 1965, fig. 26)

Keeton's analysis of geographic variation in size of the telopodite was flawed in recording the measurement as an actual value rather than as a proportion of body size (which varies substantially).

#### **Brachoria insolita** Keeton

*Brachoria insolita* Keeton, 1959, Proc. U. S. Nat. Mus. 109: 36, figs. 6d-f. MALE HT (USNM) from High Knob, two miles south of Norton, Wise Co., Virginia.

#### **Brachoria kentuckiana** (Causey)

*Fontaria kentuckiana* Causey, 1942, Ent. News, 53: 167, figs. 3, 4. MALE HT (ANSP) from Cumberland Falls State Park, Cumberland Co., Kentucky.

*Cleptoria kentuckiana*: Causey, 1943, Ent. News, 54: 264.

*Tucoria kentuckiana*: Chamberlin, 1943, Bull. Univ. Utah, 34(6): 17.

*Brachoria kentuckiana*: Keeton, 1959, Proc. U. S. Nat. Mus., 109: 38, figs. 6g-i.

#### **Brachoria laminata** Keeton

*Brachoria laminata* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 39, figs. 7a-c. MALE HT (USNM) from roadside sawmill site on Va. Hy. 83, three miles SW of Vansant, Buchanan Co., Virginia.

#### **Brachoria ligula** Keeton

*Brachoria ligula* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 40, figs. 7d-f. MALE HT (USNM) from 1.3 miles east of Premier, McDowell Co., West Virginia..

#### **Brachoria mendota** Keeton

*Brachoria mendota* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 42, figs. 7, g, h. MALE HT (USNM) from two miles south of Fugate Hill, west side of Clinch Mountain ( opposite Mendota ), Russell Co., Virginia.\_ Hoffman, 1971, Radford Review, 25: 84.



**Brachoria ochra** (Chamberlin)

*Fontaria ochra* Chamberlin, 1918, Psyche, 25: 123. MALE HT (USNM) from Agricultural College [now Mississippi State University], Starkville, Oktibbeha Co., Mississippi.

*Brachoria sequens* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 4, fig. 2. MALE HT (USNM) from Agricultural College, Oktibbeha Co., Mississippi. Synonymized by Keeton, 1959.

*Anfractogon tenebrans* Hoffman, 1948, Proc. Biol. Soc. Washington, 61: 94, figs. 1-3. MALE HT (USNM) from Winston Co., Alabama. Synonymized by Keeton, 1965.

*Brachoria ochra*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 25. \_ Keeton, 1965, Proc. Biol. Soc. Washington, 78: 237, figs. 15, 16.

*Brachoria ochra ochra*: Keeton, 1959, Proc. U. S. Nat. Mus. 109: 10.

Range: Northern Mississippi and northwest Alabama (map, Keeton, 1965, fig. 26).

**Brachoria plecta** Keeton

*Brachoria plecta* Keeton, 1959, Proc. U. S. Nat. Mus. 109: 43, figs. 8a-e. MALE HT (AMNH) from Natural Bridge, Powell Co., Kentucky.

**Brachoria separanda separanda** Chamberlin

*Brachoria separanda* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 28, fig. 10. MALE HT (ANSP) from Jennings, Garrett Co., Maryland. \_ Keeton, 1959, Proc. U. S. Nat. Mus. 109: 44, figs. 8g-i.

*Brachoria separanda separanda*: Hoffman, 1971, Radford Review, 25: 89, fig. 4.

Range: Western Maryland, northeastern West Virginia.

**Brachoria separanda calcaria** Keeton

*Brachoria calcaria* Keeton, 1959, Proc. U. S. Nat. Mus., 109: 15, figs. 1d-g. MALE HT (USNM) from Blacksburg, Montgomery Co., Virginia.

*Brachoria separanda calcaria*: Hoffman, 1971, Radford Review, 25: 96, fig. 5.

Range: Southwestern Virginia (Montgomery, Giles, Pulaski counties); adjacent West Virginia (map, Hoffman, 1971, fig. 11).

**Brachoria separanda hamata** Keeton

*Brachoria hamata* Keeton, 1959, Proc. U. S. Nat. Mus. 109: 30, figs. 4g-i. MALE HT (USNM) from east slope Beartown Mountain, Burkes Garden, Tazewell Co., Virginia.

*Brachoria separanda hamata*: Hoffman, 1971, Radford Review, 25: 94, figs. 9, 10.

Range: Southwestern Virginia (Tazewell and Bland counties) (map, Hoffman, 1971, fig. 11).

**Brachoria separanda versicolor** Hoffman

*Brachoria versicolor* Hoffman, 1963, Proc. Biol. Soc. Washington, 76: 223, figs. 1, 2. MALE

HT (USNM) from 11 miles northwest of Wytheville, Wythe Co., Virginia.

*Brachoria separanda versicolor*: Hoffman, 1971, Radford Review, 25: 93, fig. 8.

Range: Southwestern Virginia (Wythe and Bland counties) (map, Hoffman, 1971, fig. 11).

**Brachoria splendida** (Causey)

*Cleptoria splendida* Causey, 1942, Ent. News, 53: 167, fig. 5. MALE HT (ANSP) from Pine Mountain State Park, Bell Co., Kentucky.

*Tucoria dynama* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 29, fig. 16. MALE HT (ANSP) from Pine Mountain, Bell Co., Kentucky. Synonymized by Chamberlin & Hoffman, 1958.

**Brachoria turneri** Keeton

*Brachoria turneri* Keeton, 1959, Proc. U. S. Nat. Mus. 109: 49, figs. 9e-g. MALE HT (USNM) from bluff along North Fork Holston River, two miles SE of Hayter s Gap, Washington Co., Virginia.

**Brachoria viridicolens** (Hoffman)

*Tucoria viridicolens* Hoffman, 1948, Journ. Washington Acad. Sci., 38: 349, figs. 5, 6. MALE HT (USNM) from Trace Creek at Greensburg, Green Co., Kentucky.

Genus **Brevigonus** Shelley

*Brevigonus* Shelley, 1980, Brimleyana, 3: 32. Type species: *Cleptoria shelfordi* Loomis, 1944, by original designation. Synonymized with *Sigmoria* subgenus *Cleptoria* by Shelley, 1986.

Two species: western South Carolina.

**Brevigonus arcuata** Shelley

*Brevigonus arcuata* Shelley, 1981, Brimleyana, 6: 56, figs. 1-5. MALE HT (USNM) from George s Creek at SC Hy. 192, 8.5 miles east of Pickens, Pickens Co., South Carolina.

*Sigmoria (Cleptoria) arcuata*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc. 35: 94.

Range: Western South Carolina, Anderson, Abbeville, and Pickens cos. (map, Shelley, 1986, fig. 93).

**Brevigonus shelfordi** (Loomis)

*Cleptoria shelfordi* Loomis, 1944, Psyche, 51: 172, fig. 4. MALE HT (MCZ) from the DeLaHowe Forest, about seven miles west of McCormick, McCormick Co., South Carolina.

*Brevigonus shelfordi*: Shelley, 1980, Brimleyana, 3: 3, figs. 1-13.

*Sigmoria (Cleptoria) shelfordi*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom.

Soc. 35: 92.

Range: Eastern side of the Savannah River in western South Carolina, Abbeville and McCormick cos. (map, Shelley, 1986, fig. 93).

#### Genus **Cheiropus** Loomis

*Cheiropus* Loomis, 1944, *Psyche*, 51: 171. Type species: *C. plancus* Loomis, by original designation.

One species, southeastern United States.

Considered a subgenus of *Sigmoria* by Shelley, in Shelley & Whitehead, 1996. I cannot concur with the combination of *Lyrranea* and *Stelgipus* under this generic name as proposed by Shelley (1984).

#### **Cheiropus plancus** Loomis

*Cheiropus plancus* Loomis, 1944, *Psyche*, 51: 171, figs. 3a-b. MALE HT (MCZ) from Thomasville, Thomas Co., Georgia.

*Sigmoria (Cheiropus) plancus*: Shelley, 1984, *Proc. Biol. Soc. Washington*, 97: 267, figs. 1-7.

Range: Southwestern Georgia, south and east as far as Hernando Co., Florida (map, Shelley, 1984, fig. 23).

#### Genus **Cleptoria** Chamberlin

*Cleptoria* Chamberlin, 1939, *Bull. Univ. Utah*, 30(2): 9. Type species, *C. macra* Chamberlin, by original designation. \_ Hoffman, 1967, *Proc. U. S. Nat. Mus.*, 124: 1 (revision) \_ Shelley, 1986, in Shelley & Whitehead, *Mem. American Entom. Soc.*, 35: 76.

Shelley (1986) treated this taxon as a subgenus of *Sigmoria*.

#### **Cleptoria abbotti** Hoffman

*Cleptoria abbotti* Hoffman, 1967, *Proc. U. S. Nat. Mus.*, 124: 18, figs. 13-16. MALE HT (USNM) from five miles west of Waynesboro, Burke Co., Georgia.

*Sigmoria (Cleptoria) abbotti*: Shelley, 1986, in Shelley & Whitehead, *Mem. American Entom. Soc.*, 35: 81, figs. 53-55.

Range: Seven counties in northeastern Georgia, chiefly in the Savannah River drainage (map, Shelley, 1986, fig. 68).

#### **Cleptoria bipraesidens** Hoffman

*Cleptoria bipraesidens* Hoffman, 1967, *Proc. U. S. Nat. Mus.*, 124: 16, fig. 11. MALE HT (USNM) from Jefferson, Jackson Co., Georgia.

*Sigmoria (Cleptoria) bipraesidens*: Shelley, 1986, in Shelley & Whitehead, *Mem. American Entom. Soc.*, 35: 84, figs. 56-59.

Range: Known so far only from the type locality.

**Cleptoria macra** Chamberlin

*Cleptoria macra* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 9, figs. 36, 37. MALE HT (USNM) from Taylors, Greenville Co., South Carolina. \_ Hoffman, 1967, Proc. U. S. Nat. Mus., 124: 7, figs. 3, 5, 6, 12.

*Sigmoria (Cleptoria) macra*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 89, figs. 64-67.

Range: Western South Carolina (Greenville and Newberry cos.) (map, Shelley, 1986, fig. 68).

**Cleptoria rileyi** (Bollman)

*Fontaria rileyi* Bollman, 1889, Proc. U. S. Nat. Mus., 10: 345. MALE HT (USNM) from Macon, Bibb Co., Georgia.

*Cleptoria rileyi*: Chamberlin, 1939, Bull. Univ. Utah, 30(2): 9.

*Cleptoria rileyi rileyi*: Hoffman, 1967, Proc. U. S. Nat. Mus., 124: 12, figs. 2, 7, 8, 12.

*Cleptoria rileyi alabama*: Hoffman, 1967, Proc. U. S. Nat. Mus., 124: 16, figs. 9, 10, 12. MALE HT (USNM) from Auburn, Lee Co., Alabama. Synonymized by Shelley, 1986.

*Sigmoria (Cleptoria) rileyi*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 79, figs. 50-52.

Range: Piedmont region of central Georgia and eastern Alabama (map, Shelley, 1986, fig. 68).

**Cleptoria robusta** Shelley

*Sigmoria (Cleptoria) robusta* Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 86, figs. 60-63.

Range: Western South Carolina (Oconee and Anderson counties) (map, Shelley 1986, fig. 68).

Genus **Croatania** Shelley

*Croatania* Shelley, 1977, Proc. Biol. Soc. Washington, 90: 305. Type species: *C. catawba* Shelley, by original designation.

Four species: central Piedmont of South Carolina and adjacent parts of North Carolina (map, Shelley, 1986, fig. 49).

**Croatania catawba** Shelley

*Croatania catawba* Shelley, 1977, Proc. Biol. Soc. Washington, 90: 306, figs. 1, 2, 7, 11, 12, 16. MALE HT (USNM) from 5.8 mi. South Kings Mountain on Rt. 2245, Cleveland Co., North Carolina.

*Sigmoria (Croatania) catawba*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 71.

Range: Lincoln Co., North Carolina, southeastward to Union Co., South Carolina.

**Croatania saluda** Shelley

*Croatania saluda* Shelley, 1977, Proc. Biol. Soc. Washington, 90: 312, figs. 3, 8, 13. MALE HT (USNM), from site near Chiles Branch Creek, S. C. Hy. 48, 0.1 mile west junction with Hy. 63, 12 miles south of Greenwood, Greenwood Co., South Carolina.

*Sigmoria (Croatania) saluda*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 70.

Range: Recorded from eight counties in central South Carolina, between the Enoree and Savannah rivers.

**Croatania simplex** Shelley

*Croatania simplex* Shelley, 1977, Proc. Biol. Soc. Washington, 90: 316, figs. 4, 5, 9, 14. MALE HT (USNM) from Chester State Park, Chester Co., South Carolina.

*Sigmoria (Croatania) simplex*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 72, figs. 46-48 (description, distribution).

Range: Recorded from six counties in the Piedmont and Coastal Plain of South Carolina.

**Croatania yemassee** Shelley

*Croatania yemassee* Shelley, 1977, Proc. Biol. Soc. Washington, 90: 319, figs. 6, 10, 15. MALE HT (VMNH) from oak woods eight miles south of Hardeville, Jasper Co., South Carolina.

Range: Two localities along the seacoast in southeastern South Carolina.

### Genus **Deltotaria** Causey

*Deltotaria* Causey, 1942, Ent. News, 53: 165. Type species: *D. brimleii* Causey, by original designation. \_ Hoffman, 1961, Proc. U. S. Nat. Mus. 113: 22. \_ Shelley, 1986, Mem. American Entom. Soc., 35: 147 (revision).

*Phanoria* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 101. Type species: *P. philia* Chamberlin, by original designation. Synonymized by Chamberlin & Hoffman, 1958.

Four species, southern Blue Ridge, North Carolina, Tennessee, Georgia.

**Deltotaria brimleii brimleii** Causey

*Deltotaria brimleii* Causey, 1942, Ent. News, 53: 165, figs. 1, 2. MALE HT (ANSP) from Swannanoa, Buncombe Co., North Carolina. \_ Hoffman, 1961, Proc. U. S. Nat. Mus., 113: 25, fig. 2c

*Deltotaria brimleii brimleii*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom.

Soc., 35: 151, figs. 27-30.

Range: Southern Blue Ridge in at least eastern Buncombe Co., North Carolina.

***Deltotaria brimleii tela*** Causey

*Deltotaria tela* Causey, 1950, Ent. News, 61: 38, figs. 3-5. MALE HT (ANSP) from Bent Creek Experiment Station, southwest of Asheville, Buncombe Co., North Carolina. \_ Hoffman, 1961, Proc. U. S. Nat. Mus., 113: 31, figs. 1b,d; 2a.

Considered a strict junior synonym of *b. brimleii* by Shelley, 1986.

***Deltotaria brimleii brimleardia*** Causey, new status

*Deltotaria brimleardia* Causey, 1950, Ent. News, 61: 7, figs. 2,3. MALE HT (ANSP) from along Ramsey Prong, Gatlinburg, Sevier Co., Tennessee. \_ Hoffman, 1961, Proc. U. S. Nat. Mus., 113: 30, fig. 2b.

Considered a strict junior synonym of *b. brimleii* by Shelley, 1986.

***Deltotaria brimleii mariana*** Hoffman, new status

*Deltotaria mariana* Hoffman, 1961, Proc. U. S. Nat. Mus., 113: 28, figs. 1a, e-h. MALE HT (USNM) from Pink Beds Recreation Area, ca 8 miles northwest of Brevard, Transylvania Co., North Carolina.

Range: Southern Blue Ridge southwest of Asheville, North Carolina (Transylvania, Macon, Jackson counties, probably others).

Considered a strict synonym of *b. brimleii* by Shelley, 1986.

***Deltotaria lea*** Hoffman

*Deltotaria lea* Hoffman, 1961, Proc. U. S. Nat. Mus., 113: 33, figs. 1c, 3a. MALE HT (USNM) from 4.5 miles SE of Lincolnton, Lincoln Co., North Carolina. \_ Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 157, figs. 141-144.

Range: A limited area in the western Piedmont of North Carolina and adjacent South Carolina (map, Shelley, 1986, fig. 146).

***Deltotaria philia*** (Chamberlin)

*Phanoria philia* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 101, fig. 25. MALE HT (USNM) from Clarksville, Habersham Co., Georgia.

*Deltotaria philia*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 30. \_ Hoffman, 1961, Proc. U. S. Nat. Mus., 113: 34, fig. 3b.

*Deltotaria brimleii philia*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 155, figs. 137-140.

Range: Extreme western counties of North and South Carolina, extreme northern Georgia (map, Shelley, 1986, fig. 146).

### Genus **Dixioria** Chamberlin

*Dixioria* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 28. Type species: *D. dentifer* Chamberlin, by original designation. \_ Hoffman, 1956, Proc. U. S. Nat. Mus., 106: 1 (synopsis). \_ Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 45 (revision, as subgenus of *Sigmoria*).

Four species, one of them with four subspecies, southern Appalachian Mountains.

#### **Dixioria brooksi** Hoffman

*Dixioria pela brooksi* Hoffman, 1956, Proc. U. S. Nat. Mus., 106: 12, fig. 1d. MALE HT (USNM) from Holston Mountain at Damascus, Washington Co., Virginia.

*Dixioria brooksi*: Hoffman, 1969, Va. Polytech. Inst., Res. Div. Monogr. 1: 227. \_ Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 59, figs. 37-40.

Range: A limited area along Holston Mountain near and southwest of Damascus, Virginia (map, Shelley, 1986, fig. 45).

#### **Dixioria dactylifera** Hoffman

*Dixioria dactylifera* Hoffman, 1956, Proc. U. S. Nat. Mus. 106: 15, fig. 2. MALE TPT (AMNH) from Mill Hill (not located), Ashe Co., North Carolina. \_ Shelley, 1986, Mem. American Entom. Soc., 35: 63, figs. 41-44.

Range: Recorded from three localities in Ashe Co., North Carolina (map, Shelley, 1986, fig. 45).

#### **Dixioria fowleri** Hoffman, new status

*Dixioria pela fowleri* Hoffman, 1956, Proc. U. S. Nat. Mus., 106: 13, fig. 1e. MALE HT (USNM) from west side of Walker Mountain, U. S. Hy. 52, Bland Co., Virginia.

Range: Type locality and Burkes Garden, Tazewell Co., Virginia (other previous records require confirmation).

Shelley (1986: 55) considered this form to be identical with *coronata*. In my view the telopodite forms a smaller, closer circle as seen in dorsal (lateral) view, with the apical solenomere region thicker than in *coronata*, in fact much more similar to the configuration in both *dactyligera* and *watauga* with which conspecificity seems more likely.

#### **Dixioria pela acuminata** Hoffman

*Dixioria pela acuminata* Hoffman, 1956, Proc. U. S. Nat. Mus., 106: 11, fig. 1b. MALE HT (USNM) from crest of Holston Mountain, two miles west of Shady Valley on US Hy. 421, Johnson Co., Tennessee.

*Dixioria acuminata* Shelley, 1986, Mem. American Entom. Soc., 35: 50, figs. 25-27.

Range: Two localities in Johnson Co., Tennessee (map, Shelley, 1986, fig. 45).

#### **Dixioria pela coronata** Hoffman

*Deltotaria coronata* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 380, figs. 7, 8. MALE HT (USNM) from east slope of Mount Rogers, 5000 ft., Grayson Co., Virginia.

*Dixioria pela coronata*: Hoffman, 1956, Proc. U. S. Nat. Mus., 106: 12, fig. 1c.

*Dixioria coronata*: Shelley, 1986, Mem. American Entom. Soc., 35: 52, figs. 28-30.

Range: Vicinity of Mount Rogers, Virginia, southward through the Iron and Unicoi mountains to Watauga Co., North Carolina (map, Shelley, 1986, fig. 45).

***Dixioria pela pela* (Chamberlin)**

*Fontaria pela* Chamberlin, 1918, Psyche, 25: 122. MALE HT (?location uncertain at present) from Burbank, Carter Co., Tennessee [\_ and FEMALE PT in MCZ].

*Dixioria dentifer* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 28, fig. 13. MALE HT (ANSP) from Cranberry, Avery Co., North Carolina. Synonymized by Hoffman, 1956.

*Dixioria pela pela*: Hoffman, 1956, Proc. U. S. Nat. Mus., 106: 8, fig. 1a.

*Dixioria pela*: Shelley, 1986, Mem. American Entom. Soc., 35: 46, figs. 18-24.

Range: Southern Blue Ridge in Carter and Unicoi counties, Tennessee and Avery, Mitchell, and McDowell counties, North Carolina (map, Shelley, 1986, fig. 45).

***Dixioria pela wrighti* Hoffman**

*Dixioria pela wrighti* Hoffman, 1956, Proc. U. S. Nat. Mus., 106: 15, fig. 1f. MALE HT (USNM) from east side of Grandfather Mountain along US Hy. 221, ca. five road miles northeast of Linville, Avery Co., North Carolina.

*Dixioria wrighti* Shelley, 1986, Mem. American Entom. Soc., 35: 55, figs. 32-34.

Range: Watauga and Avery counties, North Carolina (map, Shelley, 1986, fig. 45).

***Dixioria watauga* Shelley**

*Dixioria watauga* Shelley, 1986, Mem. American Entom. Soc., 35: 58, figs. 35, 36. MALE HT (USNM) from Goforth Road, 0.5 miles north of US Hy. 321, Blowing Rock, Watauga Co., North Carolina.

Range: Blue Ridge in southern Watauga Co., North Carolina (map, Shelley, 1986, fig. 45).

A similarity in the gonopods of this species and *fowleri* is noted under the entry for that name.

Genus ***Dynoria*** Chamberlin

*Dynoria* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 7. Type species: *D. icana* Chamberlin, by original designation. \_ Shelley, 1984, Proc. Biol. Soc. Washington, 97: 92.



Two species, western Piedmont region of Georgia; Blue Ridge in northern Georgia and adjacent parts of North and South Carolina.

I am not convinced that the two species assigned to *Dynoria* are congeneric.

### **Dynoria icana** Chamberlin

*Dynoria icana* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 7, figs. 13, 14. MALE HT (USNM) from Tallulah Falls, Habersham Co., Georgia. \_ Shelley, 1984, Proc. Biol. Soc. Washington, 97: 93, figs. 1-5.

Range: Recorded only from five localities in Rabun and Habersham cos., Georgia, Oconee Co., South Carolina, and Macon Co., North Carolina (map, Shelley, 1984, fig. 10).

### **Dynoria medialis** Chamberlin

*Dynoria medialis* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 3, figs. 5, 6. MALE HT (USNM) from Atlanta, Georgia, without closer specification. \_ Shelley, 1984, Proc. Biol. Soc. Washington, 97: 97, figs. 6-9.

Range: Central and western Georgia, from vicinity of Atlanta southward, west of the Chattahoochee River, to Early Co., Georgia (map, Shelley, 1984, fig. 10).

## **Genus Falloria** Hoffman

*Falloria* Hoffman, 1948, Proc. Biol. Soc. Washington, 61: 93. Type species: *Apheloria bidens* Causey, 1942, by original designation. \_ Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 106 (as subgenus of *Sigmoria*).

*Hubroria* Keeton, 1960, Journ. Brooklyn Entom. Soc., 55: 42. Type species: *H. picapa* Keeton, by original designation. Synonymized by Shelley, 1986.

17 species, southern Appalachians, Cumberland Plateau, and Interior Basins.

As treated by Shelley (1986: 106 et seq.) *Falloria* is a very heterogeneous assemblage having only an ambiguous definition based largely upon color pattern. In many, perhaps most, of the species, the prefemoral process is enlarged, bifurcated, or both; in others (e.g., *prolata*, *aphelorioides*) this process is small and acuminate. In species of the *Mimetica* Group in central Tennessee, the telopodite is remarkably short and massive, and approximates the form of an unnamed species of *Brachoria* occurring in the same general area (as well as several Kentucky species for which the name *Tucoria* had been applied).

In my view, *Falloria* might be dismembered, with some species-groups given generic rank and others merged into *Sigmoria*. As with other kinds of radical surgery, a third, objective, evaluation of existing evidence would be a desirable antecedent. For the present, in a departure from the regular format of this list, I document the known species in the groups recognized by Dr. Shelley in order to keep related taxa together.

### Aphelorioides Group

**Falloria aphelorioides** Shelley

*Sigmoria (Falloria) aphelorioides* Shelley, 1986, Mem. American Entom. Soc., 35: 111, figs. 84-87. MALE HT (USNM) from Tenn. Hy. 165, 17.3 miles southeast Madisonville, Monroe Co., Tennessee.

Range: Extreme southeastern Tennessee (Monroe and McMinn cos.) and adjacent North Carolina (Swain Co.) (map, Shelley, 1986, fig. 125).

## Bidens Group

**Falloria bidens** (Causey)

*Apheloria bidens* Causey, 1942, Ent. News, 53: 169, fig. 9. MALE HT (ANSP) from Chimneys Picnic Area, ca. 7 miles south of Gatlinburg, on U.S. Hy. 441, Great Smoky Mountains National Park, Sevier Co., Tennessee

*Falloria bidens*: Hoffman, 1948, Proc. Biol. Soc. Washington, 61: 93.

*Dixioria bidens*: Causey, 1950, Ent. News, 61: 6.

*Sigmoria bidens*: Shelley, 1981, Mem. American Entom. Soc., 33: 82, figs. 78-81.

Range: Numerous localities in eastern Sevier Co., Tennessee (map, Shelley 1986, fig. 147).

**Falloria prolata** Shelley

*Sigmoria (Falloria) prolata* Shelley, 1986, Mem. American Entom. Soc., 35: 107, figs. 77-83. MALE HT (USNM) from Ramsey Cascade Parking Area, Great Smoky Mountains National Park, Sevier Co., Tennessee.

Range: Vicinity of Gatlinburg, Sevier Co., Tennessee (map, Shelley 1986, fig. 125).

## Leucostriata Group

**Falloria leucostriata** (Shelley)

*Sigmoria leucostriata* Shelley, 1981, Mem. American Entom. Soc., 33: 87, figs. 82-85. MALE HT (USNM) from a site on Cty. Rt. 2485, 10 miles south of Newport, Cocke Co., Tennessee.

*Sigmoria (Falloria) leucostriata* Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 107.

Range: Cocke and Sevier cos., Tennessee (map, Shelley, 1981, fig. 132).

**Falloria xerophylla** (Shelley)

*Sigmoria xerophylla* Shelley, 1981, Mem. American Entom. Soc., 33: 89, figs. 86-89. MALE HT (USNM) from a site along Cty. Rt. 4371, eight miles south of Athens, McMinn Co., Tennessee.

*Sigmoria (Falloria) xerophylla*: Shelley, 1986, in Shelley & Whitehead, Mem. American

Entom. Soc., 35: 107.

Range: Extreme southeastern Tennessee and adjacent northern Georgia (map, Shelley, 1981, fig. 132).

#### Mimetica Group

##### **Falloria crassicurvosa** (Shelley)

*Sigmoria (Falloria) crassicurvosa* Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 138, figs. 115-120. MALE HT (USNM) from a site along TN Hy. 25, two miles west of Carthage, Smith Co., Tennessee.

Range: Three localities on the eastern edge of the Nashville Basin, in DeKalb and Smith cos., Tennessee (map, Shelley, 1986, fig. 126).

##### **Falloria mimetica** (Chamberlin)

*Fontaria mimetica* Chamberlin, 1918, Psyche, 25: 29. MALE HT (?MCZ) from Glendale Hills, south of Nashville, Davidson Co., Tennessee.

*Sigmoria mimetica*: Hoffman, 1950, American Mus. Nov., 1462: 6.

*Sigmoria (Falloria) mimetica*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 133, figs. 109-114.

Range: Cumberland Plateau in central Tennessee north of the Duck River, possibly also in Kentucky (map, Shelley, 1986, fig. 126).

Shelley (1986: 135) noted that the locality Glendale Hills no longer exists by that name near Nashville, and suggested it may currently survive as Glendale Lane in the southern part of that city. The holotype, originally property of the MCZ, found its way to Salt Lake City when Prof. Chamberlin relocated there, and was separated out for return to MCZ when his collection was acquired by the USNM and curated by me in the 1970s.

##### **Falloria pendula** (Shelley)

*Sigmoria (Falloria) pendula* Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 142, figs. 121-124. MALE HT (USNM) from Edgar Evins State Park, DeKalb Co., Tennessee.

Range: Eastern Highland Rim in DeKalb and Putnam cos., Tennessee (map, Shelley, 1986, fig. 126).

#### Picapa Group

##### **Falloria picapa** (Keeton)

*Hubroria picapa* Keeton, 1960, Bull Brooklyn Entom. Soc., 55: 2, figs. 1-4. MALE PT (FMNH) from Sunbright, Morgan Co., Tennessee.

*Sigmoria (Falloria) picapa*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 130, figs. 105-108.

Range: Cumberland Plateau in Morgan Co., Tennessee.

## Translineata Group

**Falloria abbreviata** Shelley

*Sigmoria (Falloria) abbreviata* Shelley, 1986, Mem. American Entom. Soc., 35: 123, figs. 97-100. MALE HT (USNM) from Fall Creek Falls State Park, Van Buren Co., Tennessee.

Range: Van Buren and Bledsoe counties, central Tennessee (map, Shelley 1986, fig. 126).

**Falloria ainsliei** (Chamberlin)

*Apheloria ainsliei* Chamberlin, 1921, Canadian Entom., 53: 232, fig. 1. MALE HT (MCZ) from an unspecified locality in Knox County, Tennessee.

*Sigmoria (Falloria) ainsliei*: Shelley, 1986, Mem. American Entom. Soc., 35: 117, figs. 88-91.

Range: Tennessee River valley in Knox, Sevier, and Blount cos., Tennessee (map, Shelley, 1986, fig. 125)

**Falloria forficata** Shelley

*Sigmoria (Falloria) forficata* Shelley, 1986, Mem. American Entom. Soc., 35: 119, figs. 92-96. MALE HT (USNM) from a site along Fall Creek, 4.2 miles southeast Crab Orchard, Cumberland Co., Tennessee.

Range: A linear extent along the eastern escarpment of the Cumberland Plateau, in Scott, Morgan, Cumberland, Bledsoe, and Hamilton cos., Tennessee (map, Shelley 1986, fig. 126).

**Falloria fumimontis** (Shelley)

*Sigmoria fumimontis* Shelley, 1981, Mem. American Entom. Soc., 33: 79, figs. 74-77. MALE HT (USNM) from Abrams Creek Campground, 10.5 miles south of Maryville, Blount Co., Tennessee.

*Sigmoria (Falloria) fumimontis* Shelley, 1986, in Shelley & Whitehead, 1986, Mem. American Entom. Soc., 35: 115.

Range: Great Smoky Mountains in Blount Co., Tennessee (map, Shelley, 1981, fig. 133).

**Falloria houstoni** (Chamberlin)

*Sigmoria houstoni* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 144, fig. 1. MALE HT (USNM) stated to be from Houston, Texas, but clearly in error as the species is endemic to the Cumberland Plateau in eastern Tennessee.

*Sigmoria (Falloria) houstoni*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 126, figs. 101-104.

Range: eastern edge of the Cumberland Plateau in southeastern Tennessee (map, Shelley, 1981, fig. 126).

**Falloria lyrea** (Shelley)

*Sigmoria (Falloria) lyrea* Shelley, 1981, Mem. American Entom. Soc., 33: 76, figs. 70-73. MALE HT (USNM) from a site along Parsons Bridge Rd., 0.1 mile north of jct with US Hy. 129, 8.5 miles southeast of Tallahassee, Blount Co., Tennessee.

*Sigmoria (Falloria) lyrea*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 115.

Range: Great Smoky Mountains in Blount and Sevier cos., Tennessee (map, Shelley, 1981, fig. 133).

#### **Falloria translineata** (Shelley)

*Sigmoria translineata* Shelley, 1981, Mem. American Entom. Soc., 33: 73, figs. 66-69. MALE HT (USNM) from a site along Rich Mountain Gap Rd., 5.6 miles southwest of Townsend, Blount Co., Tennessee.

*Sigmoria (Falloria) translineata*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 115.

Range: Great Smoky Mountains in Blount and Sevier cos., Tennessee (map, Shelley, 1981, fig. 132, 133).

#### Tuberosa Group

#### **Falloria tuberosa** (Shelley)

*Sigmoria tuberosa* Shelley, 1981, Mem. American Entom. Soc., 33: 93, figs. 90-93. MALE HT (USNM) from Smokemont Campground, seven miles north of Cherokee, Swain Co., North Carolina.

*Sigmoria (Falloria) tuberosa*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 111.

Range: Apparently restricted to vicinity of the type locality (map, Shelley, 1981, fig. 132).

The very disjunct gonopod structure in this species would appear to merit generic-level status.

#### Genus **Furcillaria** Shelley

*Furcillaria* Shelley, 1981, Proc. Biol. Soc. Washington, 94: 953. Type species: *F. aequalis* Shelley, by original designation.

Four species, Piedmont region of South Carolina and adjacent Blue Ridge in North Carolina (map, Shelley, 1981, fig. 17).

Through the gonopodal similarity of the species *F. aequalis* and *P. thrinax* the genera *Furcillaria* and *Prionogonus* might be regarded as adelphotaxa, against the opinion of Shelley (1982: 473) who has also remarked the situation. Transfer of *thrinax* into *Furcillaria* produces a somewhat more homogeneous *Prionogonus*, it is also the species in which the lateral telopodital dentations are least developed.

**Furcillaria aequalis** Shelley

*Furcillaria aequalis* Shelley, 1981, Proc. Biol. Soc. Washington, 94: 956, figs. 1-5. MALE HT (USNM) from a site along SC Hy. 283, 11.3 miles northwest of Edgefield, Edgefield Co., South Carolina.

Range: Piedmont region of central western South Carolina, in Edgefield and Saluda cos.

**Furcillaria convoluta** Shelley

*Furcillaria convoluta* Shelley, 1981, Proc. Biol. Soc. Washington, 94: 959, figs. 6-10. MALE HT (USNM) from SC Hy. 32 at Indian Creek, 9.4 miles northwest of Newberry, Newberry Co., South Carolina.

Range: Piedmont region of central South Carolina: Spartanburg, Union, Laurens, and Newberry cos.

**Furcillaria laminata** Shelley

*Furcillaria laminata* Shelley, 1981, Proc. Biol. Soc. Washington, 94: 961, figs. 11-16. MALE HT (USNM) from SC Hy. 192 at George's Creek, 8.5 miles east of Pickens, Pickens Co., South Carolina.

Range: Western South Carolina, Pickens and Anderson cos.

**Furcillaria thrinax** (Shelley), new combination!

*Prionogonus thrinax* Shelley, 1982, Proc. Biol. Soc. Washington, 95: 471, figs. 9-12. MALE HT (USNM) from 3.1 miles northeast of Flat Rock, Cty. Rd. 1802, Henderson Co., North Carolina.

**Genus Lyrranea** Hoffman

*Lyrranea* Hoffman, 1963, Proc. Biol. Soc. Washington, 76: 114. Type species: *L. persica* Hoffman, by original designation. Synonymized with *Sigmoria* subgenus *Cheiropus* by Shelley, 1986

One species, Georgia.

**Lyrranea persica** Hoffman

*Lyrranea persica* Hoffman, 1963, Proc. Biol. Soc. Washington, 76: 115, figs. 1-4. MALE HT (USNM) from a wooded hillside three miles west of Fort Valley, Peach Co., Georgia.

*Cheiropus persicus*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 271.

*Sigmoria (Cheiropus) persica*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 101.

Range: A limited area in central western Georgia: Peach, Houston, Crawford, and Taylor counties.

### Genus **Prionogonus** Shelley

*Prionogonus* Shelley, 1982, Proc. Biol. Soc. Washington, 95: 460. Type species: *P. haerens* Shelley, by original designation. Synonymized with *Sigmoria* subgenus *Cheiropus* by Shelley, 1986.

Four species, western North Carolina (map, Shelley, 1982, fig. 14).

Removed from genus: *P. thrinax* Shelley, 1982, see *Furcillaria*.

#### **Prionogonus divaricatus** Shelley

*Prionogonus divaricatus* Shelley, 1982, Proc. Biol. Soc. Washington, 95: 467, figs. 5-8. MALE HT (USNM) from 4.8 miles northwest of Mill Spring on Cty. Rt. 1138, Polk Co., North Carolina.

*Sigmoria (Cheiropus) divaricata*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 101.

Range: Blue Ridge in western North Carolina: Rutherford, Henderson, and Polk cos.

#### **Prionogonus divergens** (Chamberlin), new combination!

*Sigmoria divergens* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 8, figs. 19-21. MALE HT (USNM) from Saluda, Polk Co., North Carolina.

*Sigmoria nigrescens* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 28, figs. 28-32. MALE HT (USNM) from Sassafras Mountain, US Hy. 178, one mile west of jct with SC Hy. 288, Pickens Co., South Carolina. Synonymized by Shelley, 1983.

*Cleptoria divergens divergens*: Hoffman, 1967, Proc. U. S. Nat. Mus., 124: 21, figs. 17-19.

*Sigmoria divergens*: Shelley, 1983, Myriapodologica, 1: 83, figs. 1-5.

Range: The Blue Ridge front along the border shared by North and South Carolina (map, Shelley, 1983, fig. 5).

Already Shelley (1983: 89, 1986: 100) noted a close relationship between *stibarophalla* and *divergens*.

#### **Prionogonus haerens** Shelley

*Prionogonus haerens* Shelley, 1982, Proc. Biol. Soc. Washington, 95: 463, figs. 1-4. MALE HT (USNM) from site along US Hy. 74, 0.4 miles west of the Henderson Co. line, in Buncombe Co., North Carolina.

*Sigmoria (Cheiropus) haerens*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 101.

Range: Blue Ridge in western North Carolina: Buncombe, McDowell, and Henderson cos.

#### **Prionogonus stibarophallus** (Shelley), new combination!

*Sigmoria stibarophalla* Shelley, 1981, Mem. American Entom. Soc., 33: 41, figs. 23-28, 132-133. MALE HT (USNM) from a site along NC Hy. 9, 7.2 miles east-southeast of Fairview, Buncombe Co., North Carolina.

Range: Blue Ridge in western North Carolina, Buncombe, McDowell, and Rutherford cos.

### Genus **Rudiloria** Causey

*Rudiloria* Causey, 1955, Proc. Biol. Soc. Washington, 68: 28. Type species: *R. mohicana* Causey, by original designation. \_ Hoffman, 1978, Myriapodologica, 1: 6.

*Sigmoria (Rudiloria)*: Shelley, 1986, Mem. American Entom. Soc., 35: 25 (revision).

Five species, one of them with two subspecies, northeastern United States.

My perception of this group as it occurs in Virginia differs somewhat from that of Dr. Shelley (1986: 30-35) and the situation invites further detailed investigation.

#### **Rudiloria guyandotta** (Shear)

*Apheloria guyandotta* Shear, 1972, Proc. Biol. Soc. Washington, 85: 494, figs. 1, 2. MALE HT (MCZ) from Shaft Hollow, near McGraws, Wyoming Co., West Virginia

*Rudiloria guyandotta*: Hoffman, 1972, Myriapodologica, 1: 6.

*Sigmoria (Rudiloria) guyandotta*: Shelley, 1986, Mem. American Entom. Soc., 35: 35, figs. 8-9.

Range: In addition to the type locality, recorded from Menifee and Rowan cos., Kentucky.

#### **Rudiloria kleinpeteri** (Hoffman)

*Apheloria kleinpeteri* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 375, figs. 3, 4. MALE HT (USNM) from Beartown Mountain at Burkes Garden, Tazewell Co., Virginia.

*Rudiloria kleinpeteri*: Hoffman, 1978, Myriapodologica, 1: 6.

*Sigmoria (Rudiloria) trimaculata kleinpeteri*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 34, figs. 4-7.

Range: Ridge and Valley province of western Virginia, from the New River southwest nearly to the Tennessee state line.

#### **Rudiloria mohicana** Causey

*Rudiloria mohicana* [sic!] Causey, 1955, Proc. Biol. Soc. Washington, 68: 28, fig. 6. MALE HT (AMNH) from Mohican State Park, Ashland Co., Ohio.

*Rudiloria mohicana*: Hoffman, 1978, Myriapodologica, 1: 6, fig. 4.

*Sigmoria (Rudiloria) mohicana*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 38, figs. 10-12.



Range: Definitely known only from the type locality, but doubtless widespread in southern Ohio.

**Rudiloria rigida** Shelley

*Rudiloria rigida* Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 41, figs. 13-16. MALE HT (VMNH) from bluffs along the Elk River, 1.0-1.5 miles south of Clay, Clay Co., West Virginia.

Range: Clay, Kanawha, and Nicholas cos., in central West Virginia (map, Shelley, 1986, fig. 17).

**Rudiloria trimaculata tortua** (Chamberlin)

*Apheloria tortua* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 101, fig. 23 (March). MALE HT (USNM) from Mountain Lake, Giles Co., Virginia.

*Apheloria picta* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 376, figs. 5, 6 (June). MALE HT (USNM) from Mountain Lake, Giles Co., Virginia. Synonymized with *tortua* by Hoffman, 1951, with nominate *trimaculata* by Shelley, 1986.

Range: Central western Virginia (Giles, Craig, Bedford cos.), usually above 3000 ft.

This geographic population was considered as intergradient between nominate *trimaculata* and *kleinpeteri* by Shelley (1986:30). My own experience with these organisms suggests the arrangement proposed here, which I hope to document more fully at some future time.

**Rudiloria trimaculata trimaculata** (Wood)

*Polydesmus (Fontaria) trimaculatus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 6. Type material not known to exist, from Sesquehanna Co., Pennsylvania; 1865, Trans. American Philos. Soc., 13: 223, figs. 53, 54.

*Apheloria trimaculata*: Attems, 1938, Das Tierreich, 69: 170.

*Fontaria lutzii* Jacot, 1938, American Midl. Nat., 20: 571, fig. 1. Location of type material uncertain (PMNH?) from Keene, Cheshire Co., New Hampshire. Synonymized by Hoffman, 1951.

*Apheloria keuka* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 10, fig. 32. MALE HT (USNM) from Ithaca, Tompkins Co., New York. Synonymized by Shelley, 1986.

*Apheloria antrostromicola* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 372, figs. 1, 2. MALE HT (USNM) from Stull's Cave, about nine miles southwest of Lowmoor, Alleghany Co., Virginia. Synonymized with nominate *trimaculata* by Shelley, 1986.

*Apheloria trimaculata trimaculata*: Hoffman, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 81: 2.

*Apheloria trimaculata incarnata*: Hoffman, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 81: 4, fig. 1a. MALE HT (USNM) from Gull Lake, near Arden, Frontenac Co., Ontario. Synonymized by Shelley, 1986.

*Rudiloria trimaculata*: Hoffman, 1978, *Myriapodologica*, 1: 5, figs. 2, 5.

*Sigmoria (Rudiloria) trimaculata trimaculata*: Shelley, 1986, in Shelley & Whitehead, *Mem. American Entom. Soc.*, 35: 31, figs. 1-3.

Range: Central and northern Appalachians, from the James River in Virginia north to Maine and Ontario (probably also adjacent Quebec) (map, Shelley, 1986, fig. 17).

I concur with Shelley's view that my *Apheloria antrostomicola* is not nameworthy, it was based on a single small sample and in my view represents a population intermediate between nominate *trimaculata* and *tortua*.

### Genus **Sigmoria** Chamberlin

*Sigmoria* Chamberlin, 1939, *Bull. Univ. Utah*, 30(2): 7. Type species: *S. munda* Chamberlin, by original designation. \_ Shelley, 1981, *Mem. American Entom. Soc.*, 33: 16 et seq. (revision).

*Sigiria* Chamberlin, 1939, *Bull. Univ. Utah*, 30(2): 9. Type species: *S. scorio* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

15 species, southeastern United States, West Virginia to South Carolina, most species in the Blue Ridge physiographic province.

I adopt here a somewhat more stringent concept of this genus than that proposed by Dr. Shelley in his 1986 revision. Consistency with his placement of such diverse taxa as *Stelgipus* and *Lyrranea* in *Sigmoria* would mandate inclusion of the much-less divergent (and older) genus *Apheloria* which would then assume both the group name and an internal diversity of awesome magnitude. Despite the insights that characterize Shelley's magisterial monograph, I believe that resolution of the Aphelorini remains an aspiration for the future (if ever!).

#### Australis Group

##### **Sigmoria australis** Shelley

*Sigmoria (Cheiropus) australis* Shelley, 1986, in Shelley & Whitehead, *Mem. American Entom. Soc.*, 35: 95, figs. 69-72. MALE HT (USNM) from Torreya State Park, Liberty Co., Florida.

Range: One area in southeastern South Carolina and adjacent Georgia, another in southern Alabama and adjacent parts of Georgia and Florida (map, Shelley, 1986, fig. 68).

Shelley (1986: 100) postulated a relationship of this species with *Prionogonus stibarophallus*; my perception of the gonopodal similarities favors random homoplasy.

#### Latior Group

##### **Sigmoria areolata** Shelley

*Sigmoria areolata* Shelley, 1981, *Mem. American Entom. Soc.*, 33: 38, figs. 19-22, 132, 133. MALE HT (USNM) from a site along cty. road 3119, seven miles southeast of Asheville, Buncombe Co., North Carolina.

Range: Localized in the southeastern part of Buncombe Co., North Carolina.

**Sigmoria laticurvosa** Shelley

*Sigmoria laticurvosa* Shelley, 1981, Mem. American Entom. Soc., 33: 59, figs. 49-54. MALE HT (USNM) from McTier Creek on S.C. Hy. 25, 16 miles northeast of Aiken, Aiken Co., South Carolina.

Range: Known from several localities in Aiken Co., South Carolina.

In my view, the gonopod of this species suggests a derivative relationship from an ancestral stock similar to *S. stenoloba*, hence membership in the Lator Group.

**Sigmoria latior hoffmani** Shelley

*Sigmoria latior hoffmani* Shelley, 1976, Proc. Biol. Soc. Washington, 89: 29, fig. 5. MALE HT (VMNH) from 4.4 miles northwest of North, Orangeburg Co., South Carolina; 1981, Mem. American Entom. Soc., 33: 30, fig. 9.

Range: Coastal Plain of South Carolina between the Savannah and Congaree rivers (map, Shelley, 1981, figs. 137, 139).

**Sigmoria latior latior** (Brolemann)

*Fontaria latior* Brolemann, 1900, Mem. Soc. Zool. France, 13: 123, pl. 6, figs. 37-42. MALE HT (MHNP) from an unspecified locality in North Carolina.

*Sigmoria latior*: Hoffman, 1950, American Mus. Nov., 1462: 5.

*Sigmoria aberrans* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 8, figs. 24, 25. MALE HT (USNM) from Linville Falls, Avery Co., North Carolina. Synonymized by Shelley, 1976.

*Sigmoria conclusa* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 8, figs. 22, 23. MALE HT (USNM) from Altapass, Mitchell Co., North Carolina. Synonymized by Shelley, 1976.

*Sigmoria furcifera* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 387, figs. 17, 18. MALE HT (USNM) from a site near Pineville, Wyoming Co., West Virginia. Synonymized by Shelley, 1976.

*Sigmoria latior latior*: Shelley, 1976, Proc. Biol. Soc. Washington, 89: 21, figs. 3, 6-14; 1981, Mem. American Entom. Soc., 33: 24, figs. 1-7, 132-133, 139.

Range: Extreme southern West Virginia, south and east across the Blue Ridge and Piedmont of North Carolina as far as the vicinity of Raleigh (map, Shelley, 1981, fig. 139).

**Sigmoria latior munda** Chamberlin

*Sigmoria munda* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 8, figs. 15, 16. MALE HT (USNM) from Hot Springs, Madison Co., North Carolina.

*Sigmoria mariona* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 9, figs. 17, 18. MALE HT (USNM) from Marion, McDowell Co., North Carolina. Synonymized by Shelley, 1981.

*Sigmoria latior mariona*: Shelley, 1976, Proc. Biol. Soc. Washington, 89: 28, fig. 4.

*Sigmoria latior munda*: Shelley, 1981, Mem. American Entom. Soc. 33: 28, figs. 8, 132-133, 139.

Range: Southern Blue Ridge in western North Carolina (Madison to Macon cos.), south and east into the western Piedmont (Spartanburg and Cherokee cos.) of South Carolina (map, Shelley, 1981, fig. 139).

**Sigmoria quadrata** Shelley

*Sigmoria quadrata* Shelley, 1981, Mem. American Entom. Soc., 33: 57, figs. 43-48. MALE HT (USNM) from a site beside S.C. Hy. 604, four miles southwest of Lexington, Lexington Co., South Carolina.

Range: eastern Piedmont region of South Carolina, Saluda, Edgefield, and Lexington cos. (Map, Shelley, 1981, fig. 137).

**Sigmoria stenoloba** Shelley

*Sigmoria stenoloba* Shelley, 1981, Mem. American Entom. Soc., 33: 33, figs. 10-18, 132-133. MALE HT (USNM) from a site at jct NC rts. 268 and 2083, 7.8 miles north-northeast of North Wilkesboro, Wilkes Co., North Carolina.

Range: Two apparently disjunct populations in Wilkes and Catawba cos., North Carolina (map, Shelley, 1981, fig. 132).

Nantahalae Group

**Sigmoria nantahalae** Hoffman

*Sigmoria nantahalae* Hoffman, 1958, Proc. Entom. Soc. Washington, 60: 281, figs. 1-4. MALE HT (USNM) from a site along US Hy. 19, about three miles northeast of Nantahala, Swain Co., North Carolina. \_ Shelley, 1981, Mem. American Entom. Soc., 33: 67, figs. 61-65, 132-33.

*Sigmoria (Falloria) nantahalae*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 106.

Range: Western North Carolina and adjacent northern Georgia, in and around the Nantahala Mountains (maps, Shelley, 1981, fig. 132, 133).

Stenogon Group

**Sigmoria stenogon** Chamberlin

*Sigmoria stenogon* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 5, fig. 12. MALE HT (USNM) from Bennett Gap Road, North Carolina. \_ Shelley, 1981, Mem. American Entom. Soc., 33: 63, figs. 55-60.

Range: South and east of Pisgah Ridge in Transylvania and Henderson cos., North Carolina (map, Shelley, 1981, fig. 132).

Shelley (1981: 63) suggested that the type material was probably collected along the road (now U.S. Hy. 276) to Wagon Road Gap rather than Bennett Gap, as labeled.

## Disjuncta Group

**Sigmoria disjuncta** Shelley

*Sigmoria disjuncta* Shelley, 1981, Mem. American Entom. Soc., 33: 121, figs. 128-130. MALE HT (USNM) from a site along S.C. Hy. 28, 2.3 miles northhwest of Mountain Rest, Oconee Co., South Carolina.

Range: Aside from the type locality, recorded from Dawson, Hall, and Stephens cos.in northern Georgia (map, Shelley, 1981, figs. 137, 138).

## Rubromarginata Group

**Sigmoria austrimontis** Shelley

*Sigmoria rubromarginata austrimontis* Shelley, 1981, Mem. American Entom. Soc., 33: 102, figs. 102,103. MALE HT (USNM) from a site on NC Rt. 1900, 9.2 miles south of Valdese, Burke Co., North Carolina.

*Sigmoria austrimontis*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 102.

Range: South Mountains in Burke, Cleveland, and Rutherford cos., North Carolina (map, Shelley, 1981, fig. 134).

**Sigmoria nigrimontis angulosa** Shelley

*Sigmoria nigrimontis angulosa* Shelley, 1981, Mem. American Entom. Soc., 33: 118, figs. 122-124. HT (USNM) from a site along NC Rt. 197, 6.8 miles southwest of Burnsville, Yancey Co., North Carolina.

Range: North and west of the Black Mountains, in southern Yancey and extreme northern Buncombe cos., North Carolina (maps, Shelley, 1981, figs. 133, 134).

**Sigmoria nigrimontis intermedia** (Hoffman)

*Apheloria intermedia* Hoffman, 1948, Journ. Washington Acad. Sci., 38: 346, figs. 1, 2. MALE HT (USNM) from Asheville, Buncombe Co., North Carolina.

*Sigiria intermedia*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 48.

*Sigmoria nigrimontis intermedia*: Shelley, 1981, Mem. American Entom. Soc., 33: 113, figs.113-121.

Range: South and west of the Black Mountains, in Buncombe, Madison, and Yancey cos., North Carolina, and adjacent Greene and Unicoi cos., Tennessee (maps, Shelley, 1981, figs. 134, 135). Shelley perceived this taxon as capriciously variable in gonopod structure and illustrated several of the variant forms of that appendage.

**Sigmoria nigrimontis nigrimontis** (Chamberlin)

*Deltotaria nigrimontis* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 28, figs. 11, 12.

\_ HT (apparently lost), MALE FEMALE PT (USNM) and MALE PT (AMNH) from Black Mountain [perhaps Black Mountains intended], Buncombe Co., North Carolina.

*Sigiria nigrimontis*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 48.

*Sigmoria nigrimontis nigrimontis*: Shelley, 1981, Mem. American Entom. Soc., 33: 109, figs. 107-112.

Range: The Black Mountains in Buncombe, McDowell, and Yancey cos., North Carolina.

***Sigmoria nigrimontis unicoi* Shelley**

*Sigmoria nigrimontis unicoi* Shelley, 1981, Mem. American Entom. Soc., 33: 119, figs. 125-127. MALE HT (USNM) from 6.8 miles south of Erwin, Unicoi Co., Tennessee, on Hy. 81..

Range: Two localities in Unicoi Co., Tennessee (map, Shelley, 1981, figs. 134, 135).

***Sigmoria rubromarginata* (Bollman)**

*Fontaria rubromarginata* Bollman, 1888, Proc. U. S. Nat. Mus., 10: 622. MALE HT (USNM) from Balsam, Jackson Co., North Carolina.

*Sigiria scorpio* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 9, figs. 26, 27. MALE HT (USNM) from a site between Hot Springs and Paint Rock, Madison Co., North Carolina. Synonymized by Hoffman, 1950.

*Sigmoria zyga* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 3, fig. 2. MALE HT (USNM) from a site between Hot Springs and Paint Rock, Madison Co., North Carolina. Synonymized by Shelley, 1981.

*Sigiria rubromarginata*: Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 25.

*Sigmoria rubromarginata rubromarginata*: Shelley, 1981, Mem. Entom. Soc. America, 33: 98, figs. 94-99.

*Sigmoria rubromarginata*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 102.

Range: Western North Carolina, from the Blue Ridge crest in Buncombe Co. west to the Great Smoky Mountains, Tennessee, south of the French Broad River (maps, Shelley, figs. 133, 134).

***Sigmoria simplex* Shelley**

*Sigmoria simplex* Shelley, 1981, Mem. American Entom. Soc., 33: 45, figs. 29-34. MALE (USNM) from a site along cty. road 1002, 6.8 miles southwest of Spruce Pine, Mitchell Co., North Carolina.

*Sigmoria inornata* Shelley, 1985, in Shelley & Whitehead, Mem. American Entom. Soc., 85: 105.

New name for *S. simplex*, to remove homonymy resulting from transfer of *Croatania simplex* Shelley, 1977, into *Sigmoria*. My recognition of *Croatania* as a different genus restores *simplex* as a valid name in *Sigmoria* for the present.

Range: Localized in a small area in the Blue Ridge of McDowell, Yancey, and Mitchell cos.,

North Carolina.

Shelley referred this species to a separate group within the genus, but the similarity in gonopod structure to that seen in *S. n. intermedia* would seem to suggest a fairly close affinity. His figures 31-34 (1981) demonstrate an astonishing variability within a small geographic range.

**Sigmoria triangulata** Shelley

*Sigmoria triangulata* Shelley, 1981, Mem. American Entom. Soc., 33: 104, figs. 104-106. MALE HT (USNM) from a site 0.9 miles north of Hot Springs on US Hys. 25-70, Madison Co., North Carolina.

Range: A small area just north of the French Broad River in Madison Co., North Carolina, and Greene and Cocke cos., Tennessee (maps, Shelley, 1981, figs. 133, 134).

**Sigmoria whiteheadi** Shelley

*Sigmoria whiteheadi* Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 102, figs. 73-76. MALE HT (USNM) from a site along Laurel Creek at mile 174.3, Blue Ridge Parkway, Patrick Co., Virginia.

Range: Despite considerable search in the vicinity and elsewhere, this species is still known only from its type locality.

### Genus **Stelgipus** Loomis

*Stelgipus* Loomis, 1944, Psyche, 51: 173. Type species: *S. agrestis* Loomis, by original designation.

Synonymized with *Sigmoria* subgenus°*Cheiropus* by Shelley, 1986.

Two species, Florida, Georgia..

**Stelgipus agrestis** Loomis

*Stelgipus agrestis* Loomis, 1944, Psyche, 51: 173, fig. 5. MALE HT (MCZ) from Waynesboro, Burke Co., Georgia.

*Cheiropus agrestis*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 273, figs. 12-16.

*Sigmoria (Cheiropus) agrestis*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom. Soc., 35: 101.

Range: Central-eastern Georgia (Clarke and Burke cos.) and coastal South Carolina (Wadlamaw Island). Confirmation of the last record is desirable (map, Shelley, 1984, fig. 23).

**Stelgipus serratus** (Shelley), new combination!

*Cheiropus serratus* Shelley, 1984, Proc. Biol. Soc. Washington, 97: 276, figs. 17-22. MALE HT (USNM) from Crooked River State Park, Camden Co., Georgia.

*Sigmoria (Cheiropus) serratus*: Shelley, 1986, in Shelley & Whitehead, Mem. American Entom.

Soc., 35: 101.

Range: Coastal region of southeastern Georgia and extreme northeastern Florida (map, Shelley, 1984, fig. 23).

### Tribe Rhysodesmini Brolemann

Rhysodesmini Brolemann, 1916, Ann. Soc. Entom. France, 84: 553. \_ Hoffman, 1960, Proc. U. S. Nat. Mus. 112: 260; 1980, Classification of the Diplopoda, p. 158..

### Genus **Boraria** Chamberlin

*Boraria* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 143. Type species: *Aporiaria carolina* Chamberlin, 1939, by original designation. \_ Hoffman, 1965, Proc. U. S. Nat. Mus., 117: 315(revision). \_ Hoffman & Shear, 1969, Radford Review, 23: 93 (nomenclatorial alterations).

*Howellaria* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 26. Type species: *H. deturkiana* Causey, 1942, by original designation. Synonymized by Hoffman, 1965.

Four species, southern Appalachian region, Arkansas.

#### **Boraria deturkiana** (Causey)

*Aporiaria deturkiana* Causey, 1942, Ent. News, 53: 169, fig. 8. MALE HT (ANSP) from Highlands, Macon Co., North Carolina.

*Howellaria deturkiana*: Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 26, figs. 7, 8, 13.

*Boraria deturkiana*: Hoffman, 1965, Proc. U. S. Nat. Mus., 117: 333, figs. 14-19.

Range: Southern Appalachian region in North Carolina and Tennessee (map, Hoffman, 1965, fig. 19).

#### **Boraria infesta** (Chamberlin)

*Nannaria infesta* Chamberlin, 1918, Psyche, 25: 126. MALE HT (MCZ) from Cranberry, Avery Co., North Carolina.

*Aporiaria geniculata* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 6, fig. 11. MALE HT (USNM) from Soco Falls, northeast of Cherokee, Jackson Co., North Carolina. Synonymized by Hoffman & Shear, 1969.

?*Aporiaria brunnior* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 37, fig. 10. MALE HT (FMNH) from Great Smoky Mountains National Park, Sevier Co., Tennessee.

*Boraria media* (nec *media* Chamberlin, 1918!): Hoffman, 1965, Proc. U. S. Nat. Mus., 117: 326, figs. 8-11.

*Boraria infesta*: Hoffman & Shear, 1969, Radford Review, 23: 95.

Range: Southern Appalachian region, from Mount Rogers, Virginia, south to the Balsam Mountains, North Carolina, and Great Smokies, Tennessee (map, Hoffman, 1965, fig. 13).

#### **Boraria profuga** (Causey)



*Cibularia profuga* Causey, 1955, Proc. Biol. Soc. Washington, 68: 29, fig. 7. MALE HT (AMNH) from Mount Ida, Montgomery Co., Arkansas.

*Boraria profuga*: Hoffman & Shear, 1969, Radford Review, 23: 95, figs. 1-3.

Range: Known only from the type locality, perhaps endemic to the Ouachita Mountains, Arkansas.

**Boraria stricta** (Brolemann)

*Fontaria tennesseensis* var. *stricta* Brolemann, 1896, Ann. Soc. Entom. France, 65: 63, figs. 17, 18. ST (MNHP) from North Carolina without further locality.

*Nannaria media* Chamberlin, 1918, Psyche, 25: 125. MALE HT (MCZ) from Burbank, Carter Co., Tennessee. Synonymized by Hoffman & Shear, 1969.

*Rhysodesmus strictus*: Attems, 1938, Das Tierreich, 69: 144, fig. 167.

*Aporiaria carolina* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 6, fig. 10. MALE HT (USNM) from Soco Falls, northeast of Cherokee, Jackson Co., North Carolina. Synonymized by Hoffman, 1965.

*Aporiaria fumans* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 37, fig. 9. MALE HT (FMNH) from Greenbrier Cove, Sevier Co., Tennessee. Synonymized by Hoffman, 1965.

*Boraria stricta*: Hoffman, 1965, Proc. U. S. Nat. Mus. 117: 317, figs. 1-7.

Range: Southern Appalachians, from Floyd Co., Virginia, south to Dawson Co., Georgia; also disjunct in the Kings Mountain region of North Carolina (Filka & Shelley, 1980) (map, Hoffman, 1965, fig. 7).

**Genus Erdelyia** Hoffman

*Erdelyia* Hoffman, 1962, Proc. Biol. Soc. Washington, 75: 181. Type species: *E. saucra* Hoffman, by original designation.

One species, Southern Appalachians (Georgia).

**Erdelyia saucra** Hoffman

*Erdelyia saucra* Hoffman, 1962, Proc. Biol. Soc. Washington, 75: 184, figs. 1-6. MALE HT (USNM) from woods along Ga. Hy. 180, 0.5 mile west of road to Brasstown Bald, Union Co., Georgia.

Range: Blue Ridge in northern Georgia (Townes, Union, White counties).

**Genus Cherokia** Chamberlin

*Cherokia* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 3. Type species: *C. georgiana*

Bollman, by original designation.\_ Hoffman, 1960, Proc. U. S. Nat. Mus. 112: 227 (revision).

One species, southeastern United States.

***Cherokia georgiana georgiana* (Bollman)**

*Fontaria georgiana* Bollman, 1889, Proc. U. S. Nat. Mus., 11: 344. MALE HT (USNM) from Macon, Bibb Co., Georgia.

*Fontaria tallulah* Bollman, 1889, Proc. U. S. Nat. Mus. 11: 344. FEMALE HT (USNM) from Tallulah Falls, Habersham Co., Georgia. Synonymized by Hoffman, 1950.

*Mimuloria furcifer* Chamberlin, 1940, Ent. News, 51: 282, fig. 1. MALE HT (USNM) from Pisgah National Forest southwest of Asheville, Buncombe Co., North Carolina. Synonymized by Hoffman, 1960.

*Mimuloria georgiana*: Loomis, 1943, Bull. Mus. Comp. Zool., 92: 402.

*Dynoria parvior* Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 10, fig. 4. MALE HT (USNM) from Neel Gap, Union Co., Georgia. Synonymized by Hoffman, 1960.

*Cherokia georgiana*: Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 3.

*Cherokia georgiana georgiana*: Hoffman, 1960, Proc. U. S. Nat. Mus., 112: 240, figs. 3d, 4e, 5a, 6, 7 (revision).

Range: Georgia, western South Carolina, southeastern Tennessee (map, Hoffman, 1960, fig. 7).

***Cherokia georgiana ducilla***

*Mimuloria ducilla* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 7, fig. 12. MALE HT (USNM) from Soco Falls, northeast of Cherokee, Jackson Co., North Carolina.

*Cherokia georgiana ducilla*: Hoffman, 1960, Proc. U. S. Nat. Mus., 112: 255, figs. 3b-e, 4f, 5b, 6, 7.

Range: Great Smoky and Balsam mountains, North Carolina -Tennessee (map, Hoffman, 1960, fig. 6).

***Cherokia georgiana latassa* Hoffman**

*Cherokia georgiana latassa* Hoffman, 1960, Proc. U. S. Nat. Mus., 112: 257, figs. 3a,c, 4a-e, 5c,d, 7. MALE HT (USNM) from bluff on Caney Fork River, one mile NE of Rock Island, Warren CO., Tennessee.

Range: Extreme southeastern Kentucky and adjacent Virginia south through central Tennessee to central Alabama (map, Hoffman, 1960, fig. 7).

**Genus *Gyalostethus* Hoffman**

*Gyalostethus* Hoffman, 1965, Proc. U. S. Nat. Mus., 117: 338. Type species: *Boraria monticolens* Chamberlin, 1951.

One species, southern Appalachians , eastern United States.

**Gyalostethus monticolens** (Chamberlin)

*Boraria monticolens* Chamberlin, 1951, Great Basin Naturalist, 11: 26, fig. 16. MALE HT (USNM) from an unspecified locality in the Great Smoky Mountains National Park, Sevier Co., Tennessee.

*Gyalostethus monticolens*: Hoffman, 1965, Proc. U. S. Nat. Mus., 117: 339, figs. 20-26.

Range: Southern Appalachian region from southwestern Virginia to north Georgia and Alabama (map, Hoffman, 1965, fig. 26).

**Genus Pleuroloma** Rafinesque

*Pleuroloma* Rafinesque, 1820, Annals of Nature, p. 8. Type species: *P. flavipes* Rafinesque, by monotypy. \_ Hoffman & Crabill, 1953, Florida Entom., 36: 79. \_ Shelley, 1980, Canadian Journ. Zool., 58: 129 et seq. (Revision).

Four species, eastern and central United States.

**Pleuroloma cala** (Chamberlin)

*Zinaria cala* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 4, fig. 6. MALE HT (USNM) from east of Deer Park [=Osceola or Brevard County], Florida.

*Pleuroloma cala*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 45. \_ Shelley, 1980, Canadian Journ. Zool., 58: 151, figs. 3, 5, 9, 15, 19, 27, 29, 31.

Range: Florida peninsula, south of Clay and Levy counties (map, Shelley, 1980, fig. 31). The record for Screven Co., Georgia (Chamberlin, 1943) is based on a specimen of *P. plana*.

**Pleuroloma flavipes** Rafinesque

*Pleuroloma flavipes* Rafinesque, 1820, Annals of Nature, p. 8. \_ Hoffman & Crabill, 1953, Florida Entom., 36: 79. \_ Shelley, 1980, Canadian Journ. Zool., 58: 139, figs. 1, 6-7, 11-13, 17, 25, 29, 30.

*Polydesmus (Fontaria) virginienensis*: Wood, 1865, Trans. American Philos. Soc., 13: 221, fig. 49, pl. III, fig. 8. Apparently the origin of most of the numerous citations of the name *virginienensis* (non sensu Drury) in connection with species of this genus; extensive references are cited by Shelley, 1980: 139-140.

*Fontaria virginienensis brunnea* Bollman, 1887, American Natur., 21: 82. MALE HT (USNM) from Fort Snelling, Hennepin Co., Minnesota. Synonymized by Shelley, 1980.

*Fontaria butlerii* McNeill, 1888, Bull. Brookville Soc. Nat. Hist., 3: 8. Type material not located, from Brookville, Franklin Co., Indiana. Synonymized by Shelley, 1980.

*Fontaria virginienensis castanea* Bollman, 1893, Bull. U. S. Nat. Mus., 46: 132 (*lapsus* for *brunnea*).

*Zinaria urbana*: Chamberlin, 1939, Bull. Univ. Utah, 30(2): 5, fig. 5. MALE HT (USNM) from

Urbana, Champaign Co., Illinois. Synonymized by Shelley, 1980.

*Zinaria iowa* Chamberlin, 1942, Canadian Entom., 74: 16, fig. 3. MALE HT (USNM) from Ames, Story Co., Iowa. Synonymized by Shelley, 1980.

*Zinaria mima* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 101, fig. 26. MALE HT (USNM) from Greene Co., Pennsylvania, without further locality. Synonymized by Shelley, 1980.

*Zinaria rubrilata* Hoffman, 1949, Proc. Biol. Soc. Washington, 62: 84. MALE HT (USNM) from roadside one mile north of Kilmarnock, Lancaster Co., Virginia. Synonymized by Shelley, 1980.

*Zinaria warreni* Causey, 1951, Proc. Arkansas Acad. Sci., 4: 83, figs. 1c, 3b, 6, 8c, 10. Type material (ANSP), from an island in King s River, near Berryville, Carroll Co., Arkansas. Synonymized by Shelley, 1980.

*Zinaria busheyi* Causey, 1951, Proc. Arkansas Acad. Sci., 4: 84, figs. 1f, 4, 7, 8j. Type material (ANSP) from Upland, Grant Co., Indiana. Synonymized by Shelley, 1980.

*Zinaria miribilia* Causey, 1951, Proc. Arkansas Acad. Sci., 4: 85, figs. 1d, 8f. Type material (ANSP, part (syntypes?) is in FSCA), from Ark. Hy. 62 on Crowley s Ridge, 12 miles NE of Piggott, Clay Co., Arkansas. Synonymized by Shelley, 1980.

*Zinaria proxima* Causey, 1951, Proc. Arkansas Acad. Sci., 4: 86, figs. 1g, 2a, 3c, 8e, 12. Type material (ANSP) from Liberty and Zeeb Roads, five miles west of Ann Arbor, Washtenaw Co., Michigan.

Range: Much of central and central-eastern United States: Massachusetts west to North Dakota, south to Louisiana and North Carolina (map, Shelley, 1980, fig. 29).

The remarkable list of names considered referable to *flavipes* by Shelley is due in part to simple carelessness by previous workers, but to a considerable extent also to extensive variation in peripheral characters throughout a very wide distribution. *P. flavipes* as defined by Shelley may be regarded as an aggressive and successful taxon in the expansion-phase of its phylogeny, in which numerous localized forms are evolving without having reached the level of genetic isolation. The genus is one admirably suited for analysis of genetic differentiation by use of molecular techniques.

### **Pleuroloma pinicola** Shelley

*Pleuroloma pinicola* Shelley, 1980, Canadian Journ. Zool., 58: 148, figs. 2, 8, 14, 18, 26, 29, 30. MALE HT (USNM, transferred from NCSM), from the Green Swamp, 8-9 miles south of Bolton, Columbus Co., North Carolina.

Range: Coastal Plain of South Carolina and southeastern North Carolina (map, Shelley, 1980, fig. 30).

### **Pleuroloma plana** Shelley

*Pleuroloma plana* Shelley, 1980, Canadian Journ. Zool., 58: 154, figs. 4, 10, 16, 20-24, 28-31.

MALE HT (USNM, transferred from NCSM), from Wakulla Springs Resort, Wakulla Co., Florida.

Range: Western South Carolina, southwest across Georgia to western Florida (map, Shelley, 1980, fig. 29).

### Genus **Rhysodesmus** Cook

*Rhysodesmus* Cook, 1895, Ann. New York Acad. Sci., 9: 5. Type species: *Polydesmus (Fontaria) limax* DeSaussure, 1860, by original designation. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 188. \_ Hoffman, 1970, Radford Review, 24: 143.

*Dampfaria* Verhoeff, 1932, Zool. Jahrb. Abt. Syst., 62: 519. Type species: *D. dampfi* Verhoeff, by monotypy. Synonymized by Hoffman, 1966.

*Aporiaria* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 207. Type species: *A. texicolens* Chamberlin, by original designation. Synonymized by Chamberlin, 1943.

*Acentronus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 50. Type species: *A. minor* Chamberlin, by original designation. Synonymized by Hoffman, 1966.

70 species, El Salvador and Guatemala, north through Mexico as far as southern and western Texas; one species, southern Appalachians (Virginia).

#### **Rhysodesmus acolhuus** (Humbert & DeSaussure)

*Polydesmus (Fontaria) acolhuus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool. (2) 21: 150. Original locality Mexico temperata. \_ DeSaussure & Humbert, 1872, in: Miss. Scient. Mex., Zool., (6) 2: 33, pl. II, figs. 2a-m., cited from ...la Cordill re orientale du Mexique, r gion moyenne; vall de Moyoapan et Sierra de Agua, pr s Orizaba. Extant syntypes (MHNG) all labeled Sta. Cruz, Mexique, lectotype designated by Hoffman, 1970.

*Rhysodesmus acolhuus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 203. \_ Hoffman, 1970, Radford Review, 24: 158, fig. 8 (notes on lectotype).

#### **Rhysodesmus alpuyecus** Chamberlin

*Rhysodesmus alpuyecus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 37, fig. 76, 77. MALE HT (USNM) from Alpuyec, Morelos, Mexico.

#### **Rhysodesmus angelus** (Karsch)

*Polydesmus (Fontaria) angelus* Karsch, 1881, Archiv Naturg., 48: 39, fig. 13. MALE HT (ZMB) from Puebla (presumably the city), Mexico.

*Rhysodesmus angelus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 203, pl. 15, fig. 14.

#### **Rhysodesmus angustus** Loomis

*Rhysodesmus angustus* Loomis, 1966, Ann.Entom. Soc. America, 59: 14, figs. 10-12. MALE HT (SMUK) from 25 miles west of Ciudad Hidalgo, Michoacan, Mexico.

**Rhysodesmus arcuatus** Pocock

*Rhysodesmus arcuatus* Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 201, pl. XV, figs. 13-13e. Location of type material unknown, from Omilteme, 8000 ft., Guerrero, Mexico.

**Rhysodesmus attemsi** Pocock

*Rhysodesmus attemsi* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 200. Location of type material unknown, from Amula and Omilteme, Guerrero, Mexico.

**Rhysodesmus bolivari** Chamberlin

*Rhysodesmus bolivari* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 38, fig. 78. MALE HT (USNM) from Garcia, Nuevo Leon, Mexico.

**Rhysodesmus byersi** Loomis

*Rhysodesmus byersi* Loomis, 1966, Ann. Entom. Soc. America, 57: 14, figs. 13, 14. MALE HT (SMUK) from Hy. 85, ten miles northeast of Jacala, Hidalgo, Mexico.

**Rhysodesmus championi** Pocock

*Rhysodesmus championi* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 198. Location of FEMALE HT unknown, from Zapote [Departamento not located], Guatemala.

**Rhysodesmus chisosi** Shelley

*Rhysodesmus chisosi* Shelley, 1989, Southwestern Natur., 34: 221, figs. 2a-b. MALE ST (USNM) from an unspecified locality in the Chisos Mountains, Brewster Co., Texas.

**Rhysodesmus consobrinus** (DeSaussure)

*Polydesmus (Fontaria) consobrinus* DeSaussure, 1859, Linnaea Entom., 13: 322. Location of type material unknown (not seen at MHNG by me), from . . .toutes terres froides du Mexique, dans l Anahuac, au pic d Orizaba. . . ; Anahuac selected by Loomis (1968) as type locality, without examination of syntypes or lectotype designation.

*Rhysodesmus consobrinus* Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 204.

**Rhysodesmus constrictus** Loomis

*Rhysodesmus constrictus* Loomis, 1966, Ann. Ent. Soc. America, 57: 16, figs. 15, 16. MALE HT (SMUK) from four miles west of Pachuca, Hidalgo, Mexico.

**Rhysodesmus coriaceus** Loomis

*Rhysodesmus coriaceus* Loomis, 1968, Journ. Kansas Entom. Soc., 41: 386. MALE HT (USNM) from Horsetail Falls, above Cercado, Nuevo Leon, Mexico.

**Rhysodesmus cuernavacae** Chamberlin

*Rhysodesmus cuernavaca* Chamberlin, 1942, Canadian Entom., 74: 92, fig. 00. MALE HT (USNM) from Cuernavaca, Morelos, Mexico.

**Rhysodesmus cumbres** Chamberlin

*Rhysodesmus cumbres* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 39, figs. 79, 80. MALE HT (USNM) from Cumbres, Veracruz, Mexico.

**Rhysodesmus dampfi** (Verhoeff)

*Dampfaria dampfi* Verhoeff, 1932, Zool. Jahrb. Abt. Syst., 62: 519, figs. 48-50. MALE HT (ZSM) from Desierto de los Leones, Distrito Federal, Mexico.

*Rhysodesmus eutypus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 41, figs. 81, 82. MALE HT (USNM) from Los Berros, 2500 m., Mexico, Mexico. Synonymized by Hoffman, 1970.

*Rhysodesmus dampfi*: Hoffman, 1966, Trans. American Entom. Soc., 92: 9; 1970, Radford Review, 24:147, figs. 1, 9.

Range: Central part of the Transverse Volcanic province, in Morelos, Mexico, and the Distrito Federal, Mexico.

**Rhysodesmus dasypus** (Gervais)

*Polydesmus dasypus* Gervais, 1847, in: Walckenaer & Gervais, Hist. Nat. Ins. Apt., 4: 115. MALE HT (MHNP) without locality data.

*Polydesmus (Fontaria) limax* DeSaussure, 1859, Linnaea Entom., 13: 312. MALE LT (MHNG) from San Andres Tuxtla, Veracruz, Mexico.

*Rhysodesmus limax*: Cook, 1895, Ann. New York Acad. Sci., 9: 5. \_ Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 205, pl. 15, figs. 1, la. \_ Hoffman, 1966, Trans. American Entom. Soc., 92: 10, fig. 4. (lectotype selected).

*Rhysodesmus dasypus*: Hoffman, 1970, Radford Review, 24: 144.

Range: Apparently confined to a limited area in the vicinity of San Andres Tuxtla, Veracruz (where, however, it seems to be abundant).

Already in 1860, DeSaussure remarked, after the description of *limax*, . . . Ne pourrait-on pas peut- tre rapporter ce Polyd me au *P. dasypus* de Gervais?

**Rhysodesmus depressus** Loomis

*Rhysodesmus depressus* Loomis, 1966, Ann. Entom. Soc. America, 57: 17, figs. 17-19. MALE HT (SMUK) from an unknown locality in Mexico.

**Rhysodesmus elestribus** Chamberlin

*Rhysodesmus elestribus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 39, figs. 87, 88. MALE HT (USNM) from Elestribo, Michoacan, Mexico.

**Rhysodesmus esperanzae** Chamberlin

*Rhysodesmus esperanzae* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 40, figs. 111, 112. MALE HT (USNM) from Esperanza, Guanajuato, Mexico.

Loomis (1966: 19) noted a discrepancy in the figure captions on Plate XI of Chamberlin's 1943 paper, in that Figures 111-112 actually refer to *R. esperanzae* instead of *elestribus* as credited on page 92. There seems to be no species in the text that is represented by Figures 109-110, since *elestribus* is illustrated by Figures 87 and 88, on Plate IX.

**Rhysodesmus eunis** Chamberlin

*Rhysodesmus eunis* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 41. FEMALE HT (USNM) from Volc n Orizaba, 3000 m., Puebla, Mexico.

**Rhysodesmus eusculptus** Chamberlin

*Rhysodesmus eusculptus* Chamberlin, 1941, Proc. Biol. Soc. Washington, 54: 64, fig. 4. MALE HT (USNM) from Tanc taro, Michoacan, Mexico.

**Rhysodesmus flavocinctus** Pocock

*Rhysodesmus flavocinctus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 199, pl. XV, figs. 6, 6a. Location of type material unknown, from Amula, Guerrero, Mexico.

**Rhysodesmus fraternus** (DeSaussure)

*Polydesmus (Fontaria) fraternus* DeSaussure, 1859, Linnaea Entom., 13: 322; 1860, Mem. Soc. Phys. Hist. Nat. Geneve, 15: 310, figs. 16-16e. ST (MHNG) from . . . les vall es du versant oriental de la Cordill re , Mexico.

*Rhysodesmus fraternus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 205. \_ Hoffman, 1970, Radford Review, 24: 155, fig. 6 (designation of lectotype from material labeled Cordova , Veracruz, Mexico.

**Rhysodesmus frionus** Chamberlin

*Rhysodesmus frionus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 42, figs. 107, 108. MALE HT (USNM) from Rio Frio, Distrito Federal, Mexico.

**Rhysodesmus garcianus** Chamberlin

*Rhysodesmus garcianus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 42, figs. 91, 92. MALE HT (USNM) from Garc a, Nuevo Le n, Mexico.

**Rhysodesmus godmani** Pocock

*Rhysodesmus godmani* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 199, pl. 1\XV, figs. 4-4d. Location of type material unknown, from Omilteme, Guerrero, Mexico.

**Rhysodesmus guardanus** Chamberlin

*Rhysodesmus guardanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 43, figs. 83, 84. MALE HT



(USNM) from El Guarda, Distrito Federal, Mexico.

**Rhysodesmus hamatilis** Loomis

*Rhysodesmus hamatilis* Loomis, 1966, Ann. Entom. Soc. America, 57: 17, fig. 20. MALE HT (SMUK) from Rancho San Felipe, Oaxaca, Mexico.

**Rhysodesmus intermedius** Chamberlin

*Rhysodesmus intermedius* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 43, figs. 89, 90. MALE HT (USNM) from Chilpanzingo, Guerrero, Mexico.

**Rhysodesmus inustus** Pocock

*Rhysodesmus inustus* Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 202, pl. XV, figs. 10, 10a. Location of type material unknown, from Omilteme, Guerrero, Mexico.

**Rhysodesmus jugosus** Loomis

*Rhysodesmus jugosus* Loomis, 1966, Ann. Entom. Soc. America, 57: 18, figs. 21, 22. MALE HT (SMUK) from four miles west of Yautepec, Morelos, Mexico.

**Rhysodesmus knighti** Chamberlin

*Rhysodesmus knighti* Chamberlin, 1941, Proc. Biol. Soc. Washington, 54: 65, fig. 00. MALE HT (USNM) from Horsetail Falls at Hacienda Vista Hermosa, Villa Santiago, Nuevo Leon, Mexico.

**Rhysodesmus latus** Loomis

*Rhysodesmus latus* Loomis, 1968, Journ. Kansas Entom. Soc., 41: 387, figs. 4-6. FEMALE HT (USNM) from Hy. 40 between Reynosa and General Bravo, Nuevo Leon, Mexico.

**Rhysodesmus leonensis** Chamberlin

*Rhysodesmus leonensis* Chamberlin, 1941. Proc. Biol. Soc. Washington, 54: 65, fig. 6. MALE HT (USNM) from Sabinas Hidalgo, Nuevo Leon, Mexico.

**Rhysodesmus malinche** Chamberlin

*Rhysodesmus malinche* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 44, figs. 93, 94. MALE HT (USNM) from La Canada, Malinche, Tlaxcala, Mexico.

**Rhysodesmus marcosus** Chamberlin

*Rhysodesmus marcosus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 572. MALE HT (FMNH) from El Provenir, San Marcos, Dept. San Marcos, Guatemala.

**Rhysodesmus mayanus** Chamberlin

*Rhysodesmus mayanus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 44. ? HT (MCZ) from Yucatan Mexico, without further locality.

**Rhysodesmus minor** (Chamberlin)

*Acentronus minor* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 50, figs. 115-116. MALE LT (USNM) from Chilpanzingo, Guerrero, Mexico.

*Rhysodesmus minor*: Hoffman, 1966, Trans. American Entom. Soc., 92: 10, fig. 5 (lectotype selected).

**Rhysodesmus morelus** Chamberlin

*Rhysodesmus morelus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 44, figs. 85, 86. MALE HT (USNM) from Tepoztlan, Morelos, Mexico.

**Rhysodesmus montezumae** (DeSaussure)

*Polydesmus (Fontaria) montezumae* DeSaussure, 1859, Linnaea Entom., 13: 323; Mem. Soc. Phys. Hist. Nat. Gen. ve, 15: 308, figs. 9, 9a-c. MALE & FEMALE ST (MHNG) from . . . Mirador et dans les

environs de Cordoba, sur le versant oriental de la Cordill. re. . . aussi sur le plateau d Anahuac, autour Puebla et de Cholchicomula.

*Rhysodesmus montezumae*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 195 (name only, conspecificity of material from Orizaba with typical *montezumae* uncertain).

I have been able to locate only two specimens authentically labeled as *montezumae* in the MHNG, a female from Moyoapan, and a male from Puebla, this latter individual has been labeled as lectotype of the species and is herewith so designated.

**Rhysodesmus murallensis** Loomis

*Rhysodesmus murallensis* Loomis, 1966, Ann. Entom. Soc. America, 59: 18, figs. 23, 24. MALE HT (SMUK) from two miles south/ three miles east, of Muralla, Coahuila, Mexico.

**Rhysodesmus mystecus** (Humbert & DeSaussure)

*Polydesmus (Fontaria) mystecus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool. (2): 21: 150. ST (MHNG) from Mexico temperata. \_ DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., 6(2): 32, pl. II, figs. 3, 3a-c. ( le Mexique; Cordill re oriental, r gion moyenne. )

*Rhysodesmus mystecus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 206.

The MHNG contains a small series of specimens labeled as types of *mystecus*, all from Sta. Cruz, Moyoapan [Veracruz], r gion des pins. None has yet been selected as lectotype.

**Rhysodesmus nahuus** (Humbert & DeSaussure)

*Polydesmus (Fontaria) nahuus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool. (2) 21: 151. MALE FEMALE ST (MHNG?) from Mexique temperata. \_ DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool. 6(2): 36, pl. I, figs. 6, 6a-b ( le Mexique; Cordill re orientale ).

*Rhysodesmus nahuus* Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 206.

Material of this species not seen by me in the MHNG, although eight specimens were specified in 1872.

**Rhysodesmus notostictus** Pocock

*Rhysodesmus notostictus* Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 202, pl. XV, figs. 10, 10a. Location of type material unknown, from Omilteme [Omiltemi], Guerrero, Mexico.

**Rhysodesmus obliquus** Loomis

*Rhysodesmus obliquus* Loomis, 1966, Ann. Entom. Soc. America, 59: 19, figs. 25, 26. MALE HT (SMUK) from 7.5 miles SE of Amecameca, Mexico, Mexico.

**Rhysodesmus otomitus** (DeSaussure)

*Polydesmus (Fontaria) otomitus* DeSaussure, 1859, Mem. Soc. Phys. Hist. Nat. Genève, 15: 57. MALE FEMALE ST (MHNG) from Le plateau Mexique et les terres temp r es (Cordova) .

*Rhysodesmus otomitus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 207.

At present, MHNG has only one immature male labeled as *otomitus*, if no others are located it will become lectotype by default (artificial selection).

**Rhysodesmus perotenus** Chamberlin

*Rhysodesmus perotenus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 45, figs. 95, 96. MALE HT (USNM) from 18 miles north of Perote, Veracruz, Mexico.

**Rhysodesmus potosianus** Chamberlin

*Rhysodesmus potosianus* Chamberlin, 1942, Canadian Entom., 74: 91, fig. 2. MALE HT (USNM) from Tamozunchole, San Luis Potos , Mexico.

**Rhysodesmus punctatus** Loomis

*Rhysodesmus punctatus* Loomis, 1966, Ann. Entom. Soc. America, 59: 19, figs. 27-29. MALE HT (SMUK) from Xilitla, San Luis Potos , Mexico.

**Rhysodesmus pusillus** Pocock

*Rhysodesmus pusillus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 197, pl. XIV, figs. 7, 7a; pl. XV, fig. 9. MALE HT (?BMNH, unverified) labeled only Mexico.

**Rhysodesmus restans** Hoffman

*Rhysodesmus restans* Hoffman, 1998, Myriapodologica, 5: 78, figs. 1-4. MALE HT (VMNH) from hillside off Va. Rte. 620, 2 km NE of Mendota, Washington Co., Virginia.

**Rhysodesmus rubrimarginis** Chamberlin

*Rhysodesmus rubrimarginis* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 46, figs. 99, 100.  
MALE HT (USNM) from Tacubaya, Distrito Federal, Mexico.

**Rhysodesmus sandersi** Causey

*Rhysodesmus sandersi* Causey, 1954, Proc. Biol. Soc. Washington, 67: 64, figs. 00-00. MALE  
HT (INHS) from Tamazunchale, San Luis Potos , Mexico.

Range: Recorded also from 10 miles west of Xilitla, San Luis Potos (Loomis, 1966).

**Rhysodesmus semiovatus** Loomis

*Rhysodesmus semiovatus* Loomis, 1966, Ann. Entom. Soc. America, 59: 22, figs. 32, 33. MALE  
HT (SMUK) from 25 miles west of Ciudad Hidalgo, Michoacan, Mexico.

**Rhysodesmus seriatus** Chamberlin

*Rhysodesmus seriatus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 31, fig. 17.  
MALE HT (ANSP) from Cieneguillas, Nuevo Leon, Mexico.

**Rhysodesmus simplex** Loomis

*Rhysodesmus simplex* Loomis, 1966, Ann. Entom. Soc. America, 59: 22, figs. 34, 35. MALE  
HT (SMUK) from an unspecified locality in Mexico.

Perhaps this species should be referred to another genus, on account of the very simple gonopod structure.

**Rhysodesmus smithi** Pocock

*Rhysodesmus smithi* Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 201, pl. XV, figs. 12, 12a.  
Location of type material unknown, from Omilteme, Guerrero, Mexico.

**Rhysodesmus stolli** Pocock

*Rhysodesmus stolli* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 198, pl. XV, figs. 3, 3b.  
Location of type material unknown, from Retalhuleu, Dept. Retalhuleu, Guatemala.

**Rhysodesmus tabascensis** Pocock

*Rhysodesmus tabascensis* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 198, pl. XV, figs. 2,  
2a. Location of female holotype unknown, from Teapa, Tabasco, Mexico. \_ Hoffman,  
1971, Radford Review, 24:159, figs. 12, 13.

Range: Recorded from Palenque, Chiapas, and a number of localities in the central valley of that state (Hoffman, 1971).

**Rhysodesmus tacubayae** Chamberlin

*Rhysodesmus tacubayae* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 46, figs. 101, 102. MALE  
HT (USNM) from Tacubaya, Distrito Federal, Mexico.

**Rhysodesmus tepanecus** (DeSaussure)

*Polydesmus (Fontaria) tepanecus* DeSaussure, 1859, *Linnaea Entom.*, 13: 321; 1860, *M m. Soc. Phys. Hist. Nat. Gen ve*, 15: 319, figs. 17, 17a-c. MALE FEMALE ST (MHNG) from Les terres chaudes du Mexique. \_ Cordova.

*Rhysodesmus tepanecus*: Pocock, 1910, *Biol. Centr.-Amer., Diplopoda*, p. 207. \_ Hoffman, 1971, *Radford Review*, 24: 153, figs. 5, 7 (designation of male syntype labeled Cordova as lectotype; female from Moyoapan, near Orizaba, Veracruz, as lectoparatype).

*Rhysodesmus pater* Chamberlin, 1943, *Bull. Univ. Utah*, 34(7): 45, figs. 97, 98. MALE HT (USNM) from near Fortin, Veracruz. Synonymized by Hoffman, 1971.

Range: Upper valley of the Rio Cotaxtla, central western Veracruz.

### **Rhysodesmus tepoztlanus** Chamberlin

*Rhysodesmus tepoztlanus* Chamberlin, 1943, *Bull. Univ. Utah*, 43(7): 47, figs. 103, 104. MALE HT (USNM) from Tepoztlan, Morelos, Mexico.

### **Rhysodesmus texicolens** (Chamberlin)

*Aporiaria texicolens* Chamberlin, 1938, *Proc. Biol. Soc. Washington*, 51: 207. MALE HT (USNM) from Edinburg, Hidalgo Co., Texas.

*Rhysodesmus texicolens* Chamberlin, 1943, *Proc. Biol. Soc. Washington*, 56: 143.

*Rhysodesmus brachus* Chamberlin, 1941, *Proc. Biol. Soc. Washington*, 54: 63, fig. 3. MALE HT (USNM) from Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, Mexico. Synonymized by Hoffman, 1971.

*Rhysodesmus viabilis* Chamberlin, 1943, *Bull. Univ. Utah*, 34(7): 47, Figs. 105, 106. MALE HT (USNM) from five miles west of El Folorn, Tamaulipas, Mexico. Synonymized by Hoffman, 1971.

*Rhysodesmus quadruplus* Loomis, 1966, *Ann. Entom. Soc. America*, 59: 20, figs. 30, 31. MALE HT (SMUK) from two miles south of Ciudad Victoria, Tamaulipas, Mexico. Synonymized by Hoffman, 1971.

Range: Rio Grande valley in Texas, south through Nuevo Leon and Tamaulipas to northern San Luis Potos (map, Hoffman, 1971, fig. 4).

### **Rhysodesmus toltecus** (DeSaussure)

*Polydesmus (Fontaria) toltecus* DeSaussure, 1859, *Linnaea Entom.*, 13: 322; 1860, DeSaussure, *M m. Soc. Phys. Hist. Nat. Gen ve*, 15: 323. MALE HT (MNHG) from Le versant oriental de la Cordillere du Mexique et le bord du plateau.

*Rhysodesmus toltecus*: Pocock, 1910, *Biol. Centr.-Amer., Diplopoda*, p. 208. \_ Hoffman, 1971, *Radford Review*, 24: 155.

*Polydesmus (Fontaria) mayus* DeSaussure, 1859, *Linnaea Entom.*, 13: 322. MALE HT (?MHNG) from Cordillere du Mexique. Synonymized by DeSaussure, 1860 (see commentary below concerning type).

*Polydesmus (Leptodesmus) granulatus* DeSaussure, 1859, *Linnaea Entom.*, 13: 323. HT (?MHNG) from Cordova au Mexique. Synonymized by DeSaussure, 1860 (see commentary below concerning type). Junior primary homonym of *Polydesmus granulatus* Palisot de Beauvois, 1805.

*Rhysodesmus amplinus* Chamberlin, 1952, *Ann. Entom. Soc. America*, 45: 571. MALE HT (FMNH) from El Fortin de las Flores, Veracruz, Mexico. Synonymized by Hoffman, 1971.

Range: Valley of the Rio Cotaxtla, central western Veracruz.

The type material of *toltecus* at Geneva consists of a single male labeled as type, from Cordova. There are no specimens labeled as either *mayus* or *granulosus*, since these two names were discarded by DeSaussure himself in 1860, perhaps he removed any labels that might have indicated such identifications and/or type status.

#### **Rhysodesmus totonacus** (DeSaussure)

*Polydesmus (Fontaria) totonacus* DeSaussure, 1859, *Linnaea Entom.*, 13: 321; 1860, *M m. Soc. Phys. Hist. Nat. Geneve*, 15: 22, pl. 2, fig. 14. Type material (MHNG) stated to inhabit . . .le plateau de l Anahuac et les montagnes qui s l vent sur le plateau.

*Rhysodesmus totonacus* [sic!]; Pocock, 1909, *Biol. Centr.-Amer.*, *Diplopoda*, p. 196, pl. 14, figs. 8, 8a. Loomis, 1968, *Bull. U. S. Nat. Mus.*, 266: 63.

The Geneva collection contains a single male labeled as type of *tononacus* from Pic d Orizaba. I had assumed this specimen to be the original holotype, inasmuch as DeSaussure (1860: 324) indicated no further material at hand. However, Pocock (1909: 196) described a male in the British Museum from Peak of Orizaba (unfortunately without further information) as agreeing perfectly with the original description and figures, and since this specimen might have been donated or traded by DeSaussure, perhaps it and the Geneva animal are actually two syntypes. To anticipate such a possibility, I venture to designate the MHNG specimen as **lectotype** of *tononacus*.

#### **Rhysodesmus vicinus** (DeSaussure)

*Polydesmus (Fontaria) vicinus* DeSaussure, 1859, *Linnaea Entom.*, 13: 322; 1860, *M m. Soc. Phys. Hist. Nat. Geneve*, 15: 318. Type material (?MHNG) from . . .le plateau de l Anahuac, toutefois on l a pris Oaxaca. . . (See comments below).

*Rhysodesmus vicinus*: Pocock, 1910, *Biol. Centr.-Amer.*, *Diplopoda*, p. 209.

?*Rhysodesmus vicinus*: Loomis, 1966, *Ann. Entom. Soc. America*, 59: 23.

I have been unable to locate material of this species in the Geneva collection or elsewhere. Although Loomis's identification of material from Monte Alban, Oaxaca, as *vicinus* may be correct, a definitive closure of this problem requires designation of a neotype (ideally from the region of Anahuac, *i.e.*, the central plateau of Puebla), to establish the identity of the name; comparison can then be made with Loomis's Oaxaca material (SMUK) to establish the characters of that taxon. Until then, *vicinus* will remain on the books as a *nomen inquirendum*.

**Rhysodesmus violaceus** (Brolemann)

*Fontaria violacea* Brolemann, 1900, M m. Soc. Zool. France, 13: 101, figs. 33-36. MALE HT (MHNP) from Guatemala without further locality.

*Rhysodesmus violaceus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 208, pl.15, fig. 15.

Range: Recorded also from Monte Metapan, El Salvador, by Kraus (1954).

**Rhysodesmus zapotecus** (DeSaussure)

*Polydesmus (Fontaria) zapotecus* DeSaussure, 1860, M m. Soc. Phys. Hist. Nat., Genève, 15: 314, pl. 2, fig. 11, 11a-f. Type material (?MHNG) from Les régions chaudes du Mexique. \_ San-Andres-Tuxtla, etc.

*Rhysodesmus zapotecus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 209.

I have not located material labeled as this species in the Geneva collection or elsewhere. Being very carefully described from a precise type locality, it should be no problem to establish the identity of *zapotecus* from topotypic material.

**Rhysodesmus zendalus** (Humbert & DeSaussure)

*Polydesmus Zendalus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., (2) 21: 150 ( Mexico orientalis );MALEFEMALE ST (MHNG) labeled Moyoapan [near Orizaba, Veracruz], Mexique.

*Polydesmus (Fontaria) Zendalus* DeSaussure & Humbert, 1872., Miss. Sci. Mexique, Zool., 6(2): 34, pl. 2, figs. 1, 1a ( Cordill re orientale. )

*Rhysodesmus zendalus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 209.

**Genus Stenodesmus** DeSaussure

*Stenodesmus* DeSaussure, 1859, Linnaea Entom., 13: 327. Type species: *S. mexicanus* DeSaussure, by monotypy.\_ Hoffman, 1966, Trans. American Entom. Soc., 92: 4.

*Cruzodesmus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 48. Type species: *C. ergus* Chamberlin, by original designation. Synonymized by Hoffman, 1966.

*Cibularia* Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 4. Type species: *Fontaria tuobita* Chamberlin, 1910. Synomized by Hoffman, 1980.

Five species: New Mexico to Veracruz.

**Stenodesmus acuarius** (Attems), new combination

*Rhysodesmus acuarius* Attems, 1931, Zoologica, 30(79): 63, fig. 98. MALE HT (NMW) from Orizaba, Veracruz, Mexico.

*Cruzodesmus browni* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 49, fig. 119. MALE HT (USNM) from Near Fortin , Veracruz, Mexico. Synonymized by Hoffman, 1966.

*Cibularia acuaria*: Hoffman, 1966, Trans. American Entom. Soc., 92: 15, figs. 8, 9.

Range: Southern Veracruz, Mexico.

**Stenodesmus mexicanus** DeSaussure

*Stenodesmus mexicanus* DeSaussure, 1859, Linnaea Entom., 13: 327. MALE HT (MHNG) from Cordova [= Cordoba], Veracruz, Mexico. \_ Carl, 1903, Rev. Suisse Zool., 11: 561, fig. 20. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 187. \_ Hoffman, 1966, Trans. American Entom. Soc., 92: 5, figs. 1-3.

*Cruzodesmus ergus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 48, figs. 117, 118. MALE HT (USNM) from near Fortin , Veracruz, Mexico. Synonymized by Hoffman, 1966.

Range: Southern Veracruz (Cordoba and El Fortin de las Flores).

**Stenodesmus simillimus** (Humbert & DeSaussure), new combination

*Polydesmus (Fontaria) simillimus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., (2) 21: 150 ( Mexico temperata )

*Polydesmus (Fontaria) simillimus* DeSaussure & Humbert, 1872, Miss. Sci. Mexico, Zool., 6(2): 31, pl. I, figs. 5, 5a-b. MALE/FEMALE ST (MHNG) from Santa Cruz, near Orizaba, Veracruz, Mexico.

*Rhysodesmus simillimus*: Pocock, 1910, Biol. Centr.-Amer., Diplopoda, p. 207.

*Cruzodesmus purojenus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 49, figs. 120-122. MALE HT (USNM) from Puroje Nuevo [*sic!* = Nuevo Paraje, near Cordoba], Veracruz, Mexico. Synonymized by Hoffman, 1966.

*Cibularia simillima*: Hoffman, 1966, Trans. American Entom. Soc., 92: 16, figs. 10, 11.

Range: Southern Veracruz.

**Stenodesmus serratus** (Loomis)

*Cruzodesmus serratus* Loomis, 1959, Ann. Entom. Soc. America, 59: 13, fig. 9. MALE HT (SMUK) from one mile east of Xilitla, San Luis Potos , Mexico.

*Stenodesmus serratus*: Hoffman, 1980, Classification of the Diplopoda, p. 158 (de facto new combination implied by synonymy of *Cruzodesmus* with *Stenodesmus*).

**Stenodesmus tuobitus** (Chamberlin)

*Fontaria tuobita* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 243, pl. 35, figs. 7, 8. MALE HT (location unknown, presumed lost), from Sacramento Mountains near Cloudcroft, Otero Co., New Mexico.



*Nannaria ursa* Chamberlin, 1938, Proc. Biol. Soc. Washington, 51: 207. MALE HT (USNM) from Camp Mary White near Cloudcroft, Otero Co., New Mexico. Synonymized by Chamberlin & Hoffman, 1950.

*Cibularia tuobita*: Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 5; 1958, Bull. U. S. Nat. Mus., 212: 28.

*Aporiaria anamesa* Chamberlin & Mulaik, 1941, Journ. New York Entom. Soc., 49: 57. FEMALE FEMALE ST (USNM) from Camp Mary White, near Cloudcroft, Otero Co., New Mexico. Synonymized by Hoffman, 1966.

*Stenodesmus tuobitus*: Hoffman, 1980, Classification of the Diplopoda, p. 158 (de facto new combination, implied by synonymy of *Cibularia* and *Stenodesmus*). \_ Shelley, 1987, Nat. Geogr. Res., 3: 336 (ecology and distribution).

Range: Sacramento Mountains, New Mexico; Guadalupe Mountains, Texas (map, Shelley, 1987, fig. 3).

#### GENERA PROVISIONALLY REFERRED TO RHYSODESMINI

### Genus **Caralinda** Hoffman

*Caralinda* Hoffman, 1978, Proc. Biol. Soc. Washington, 91: 365. Type species: *C. beatrix* Hoffman, by original designation. \_ Shelley, 1983, Florida Entom., 66: 407-415, figs. 1-11 (synopsis).

Four species: Southeastern United States (Georgia, Alabama, Florida).

#### **Caralinda beatrix** Hoffman

*Caralinda beatrix* Hoffman, 1978, Proc. Biol. Soc. Washington, 91: 366, figs. 1-10. MALE HT (USNM) from Tifton, Tift Co., Georgia.

#### **Caralinda causeyae** Shelley

*Caralinda causeyi* [sic!] Shelley, 1983, Florida Entom., 66: 410, figs. 1-5. MALE HT (FSCA) from Tall Timbers Research Station, 22 miles north of Tallahassee, Leon Co., Florida.

Range: Southern Georgia and north central Florida (map, Shelley 1983, fig. 11).

#### **Caralinda dactylifera** Shelley

*Caralinda dactylifera* Shelley, 1983, Florida Entom., 66: 412, figs. 6-10. MALE HT (FSCA) from Panama City, Bay Co., Florida.

Range: Bay and Walton counties, Florida (map, Shelley 1983, fig. 11).

#### **Caralinda pulchritecta** Shelley

*Caralinda pulchritecta* Shelley, 1979, Florida Entom., 62: 183-87, figs. 1-6. MALE HT (USNM) from Welcome Center on US Hy. 231, 3 miles north of Campbellton, Jackson Co., Florida.

Range: Jackson Co., Florida; Houston Co., Alabama (map, Shelley 1983, fig. 11).

### Genus **Gonoessa** Shelley

*Gonoessa* Shelley, 1984, Florida Entom., 67: 455. Type species: *G. clavata* Shelley, 1984, by original designation.

Five species, southeastern United States (map, Shelley, 1984, fig. 10).

#### **Gonoessa aciculata** Shelley

*Gonoessa aciculata* Shelley, 1984, Florida Entom., 67: 458, figs. 4, 5. MALE HT (USNM) from AL Hy. 26 at Steep Creek, 6.8 miles east of Hayneville, Lowndes Co., Alabama.

#### **Gonoessa cingulata** Shelley

*Gonoessa cingulata* Shelley, 1984, Florida Entom., 67: 460, figs. 6, 7. MALE HT (VMNH) from Dry Creek, seven miles southwest of Montgomery, Montgomery Co., Alabama.

#### **Gonoessa clavata** Shelley

*Gonoessa clavata* Shelley, 1984, Florida Entom., 67: 456, figs. 1-3. MALE HT (USNM) from beside AL Hy. 41, 7.2 miles northeast of Camden, Wilcox Co., Alabama.

Range: Recorded from Lowndes, Clarke, Washington, and Wilcox counties, southern Alabama.

#### **Gonoessa dentata** Shelley

*Gonoessa dentata* Shelley, 1984, Florida Entom., 67: 461, fig. 8. MALE HT (USNM) from beside US Hwy. 431, 2.7 miles south of Eufaula, Barbour Co., Alabama.

Range: Recorded also from Montgomery Co., Alabama.

#### **Gonoessa furcata** Shelley

*Gonoessa furcata* Shelley, 1984, Florida Entom., 67: 461, fig. 9. MALE HT (USNM) from beside US Hy. 31 just south of Pinalalla (13.1 miles SSW Montgomery), Montgomery Co., Alabama.

Range: Recorded also from Lowndes Co., Alabama.

### Genus **Lourdesia** Shelley

*Lourdesia* Shelley, 1991, Proc. Entom. Soc. Washington, 93: 245. Type species: *L. minuscula* Shelley, by original designation.

One species, southeastern United States.

#### **Lourdesia minuscula** Shelley

*Lourdesia minuscula* Shelley, 1991, Proc. Ent. Soc. Washington, 93: 246, figs. 1-4. MALE HT (FSCA) from beside US Hy. 84, 5.5 miles east of Elba, Coffee Co., Alabama.

Range: Also recorded from Baldwin Co., Alabama.

### Genus **Parvulodesmus** Shelley

*Parvulodesmus* Shelley, 1983, Proc. Biol. Soc. Washington, 96: 121. Type species: *P. prolixogonus* Shelley, by original designation.

One species, southeastern United States.

#### **Parvulodesmus prolixogonus** Shelley

*Parvulodesmus prolixogonus* Shelley, 1983, Proc. Biol. Soc. Washington, 96: 122, figs. 1-4. MALE HT (VMNH) from Abbeville, Abbeville Co., South Carolina.

### Tribe Chonaphini Verhoeff

Chonaphinae Verhoeff, 1941, Arch. Naturg., 10: 403.

Chonaphini Hoffman, 1980, Classification of the Diplopoda, p. 157. \_ Shelley, 1994, Brimleyana, 20: 111 (revision).

Six genera, northcentral and northwestern North America.

The status and content of this taxon remain uncertain despite Shelley's careful revision, particularly regarding its separation from the Harpaphini. Some species of *Selenocheir* strikingly resemble those of the multiformous Asiatic genus *Riukiaria*, whilst those in the genera *Semionellus* and *Montaphe* appear quite disjunct. Shelley's summary remark (op. cit.: 194) accurately portrays the situation: . . .the Chonaphini is closely related to the Harpaphini, and . . . the component taxa of both groups demonstrate a broad range of expressions of a suite of anatomical features.

### Genus **Chonaphe** Cook

*Chonaphe* Cook, 1904, Harriman Alaska Exped., 8: 56. Type species: *Polydesmus armatus* Harger, 1872, by original designation. \_ Shelley, 1994, Brimleyana, 20: 128 (revision).

Four species, Washington, Oregon, Idaho, Montana.

#### **Chonaphe armata** (Harger)

*Polydesmus armatus* Harger, 1872, Amer. Journ. Sci. Arts, 4: 119, fig. 8. MALE F ST (PMNH) from the vicinity of Canyon City, Grant Co., Oregon.

*Chonaphe armata*: Cook, 1904, Harriman Alaska Exped., 8: 56, pl. III, figs. 2a-c. \_ Shelley, 1994, Brimleyana, 20: 131, figs. 2-8, 68.

*Chonaphe cygneia* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 125, fig. 1. MALE HT (USNM) from White Swan, Yakima Co., Oregon. Synonymized by Shelley, 1994.

*Chonaphe patriotica* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 127, figs. 2, 3. MALE HT (USNM) from Fourth of July Canyon, Kootenai Co., Idaho. Synonymized by Shelley, 1994.

*Chonaphe serratus* Loomus & Schmitt, 1971, Northwest Sci., 45: 111, figs. 1-2. MALE HT (USNM) from one mile west Noxon, Sanders Co., Montana. Synonymized by Shelley, 1994.

Range: Known from five apparently disjunct areas in Oregon, Washington, Idaho, and Montana (map, Shelley, Figs. 68, 70).

#### **Chonaphe evexa** Shelley

*Chonaphe evexa* Shelley, 1994, Brimleyana, 20: 341, figs. 15-20. MALE HT (UCD) from nine miles north of Agness, Coos Co., Oregon.

#### **Chonaphe remissa** Chamberlin

*Chonaphe armata* Attems, 1931, Zoologica (Stuttgart) 79, : 65, figs. 100, 101 (misidentification).

*Chonaphe remissa* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 127, figs. 4, 5. MALE HT (USNM) from Puyallup, Pierce Co., Washington. \_ Shelley, 1994, Brimleyana, 20: 139, figs. 9-14.

Range: Washington state, south and southeast of Puget Sound, recorded from King, Pierce, Mason, Gray s Harbor, and Thurston counties (Map, Shelley, 1994, figs. 68, 70).

#### **Chonaphe schizoterminalis** Shelley

*Chonaphe schizoterminalis* Shelley, 1994, Brimleyana, 20: 144, figs. 21-26. MALE HT (MCZ) from Springdale, Stevens Co., Washington.

### Genus **Metaxycheir** Buckett & Gardner

*Metaxycheir* Buckett & Gardner, 1969, Proc. Entom. Soc. Washington, 81: 67. Type species: *M. Prolata* Buckett & Gardner, by original designation. \_ Shelley, 1994, Brimleyana, 20: 171.

One species, Washington, Idaho.

#### **Metaxycheir prolata** Buckett & Gardner

*Metaxycheir prolata* Buckett & Gardner, 1969, Proc. Entom. Soc. Washington, 81: 67, figs. 1-6. MALE HT (UCD) from seven miles northeast of Moscow, Latah Co., Idaho. \_ Shelley, 1994, Brimleyana, 20: 171, figs. 50-53a.

Range: Southeastern Washington (Whitman County) and adjacent northern Idaho (Benewah and Latah counties). (Map, Shelley, 1994, figs. 68, 70).

### Genus **Montaphe** Chamberlin

*Montaphe* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 127. Type species: *Leptodesmus (Chonaphe) elrodi* Chamberlin, 1913, by original designation. \_ Shelley, 1994, Brimleyana, 20: 156 (revision).

Two species, Washington, Idaho, Montana.

#### **Montaphe elrodi** (Chamberlin)

*Leptodesmus (Chonaphe) elrodi* Chamberlin, 1913, Canadian Entom., 45: 424, fig. 17. MALE LT (MCZ) from Flathead Lake, Flathead Co., Montana.

*Montaphe elrodi*: Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 127. \_ Shelley, 1994, Brimleyana, 20: 160, figs. 33-39 (revision; lectotype).

Range: Eastern Washington, northern Idaho, western Montana (map, Shelley 1994, figs. 68, 70).

#### **Montaphe paraphoena** Shelley

*Montaphe paraphoena* Shelley, 1994, Brimleyana, 20: 165, figs. 40-44. MALE HT (Univ. Washington Biol. Mus.) from Tichenal Canyon, 7.5 miles south, 1.5 mile east of Waterville, Douglas Co., Washington.

### Genus **Selenocheir** Shelley

*Selenocheir* Shelley, 1994, Brimleyana, 20: 175. Type species: *S. sinuata* Shelley, by original designation.

Three species, northern California, southwestern Oregon.

#### **Selenocheir arcuata** Shelley

*Selenocheir arcuata* Shelley, 1994, Brimleyana, 20: 183, figs. 59-63. MALE HT (UCD) from Black Rock Camp, Mill Creek, 18.8 miles northeast of Red Bluff, Tehama Co., California.

Range: Northern California (Tehama, Mendocino, Humboldt, Lake counties). (map, Shelley, 1994, figs. 68, 70).

#### **Selenocheir directa** Shelley

*Selenocheir directa* Shelley, 1994, Brimleyana, 20: 186, figs. 64-67. MALE HT (USNM) from Patrick Creek campground, U.S. Hy. 199, 7 miles northeast of Gasquet, Del Norte Co., California.

Range: Northwestern California and adjacent southwestern Oregon (map, Shelley, 1994, figs. 68, 70).

#### **Selenocheir sinuata** Shelley

*Selenocheir sinuata* Shelley, 1994, *Brimleyana*, 20: 179, figs. 53b-58. MALE HT (UCD) from two miles southwest of Dales, Tehama Co., California.

Range: Recorded from six counties in northern California (map, Shelley, 1994, figs. 68, 70).

### Genus **Semionellus** Chamberlin

*Semionellus* Chamberlin, 1920, *Proc. Biol. Soc. Washington*, 33: 97. Type species: *Polydesmus (Leptodesmus) placidus* Wood, 1864, by original designation. \_ Shelley, 1994, *Brimleyana*, 20: 147.

One species, central Appalachians and Interior Lowlands, United States.

Removed from genus: *Semionellus tertius* Chamberlin, 1948 (see *Aphelidesmus*, p. 393).

#### **Semionellus placidus** (Wood)

*Polydesmus (Leptodesmus) placidus* Wood, 1864, *Proc. Acad. Nat. Sci. Philadelphia*, 16: 9. Type material presumed lost, from Michigan without further data; 1865, *Trans. American Philos. Soc.*, n. s. 13: 225, fig. 56.

*Polydesmus (Leptodesmus) floridus* Wood, 1864, *Proc. Acad. Nat. Sci. Philadelphia*, (16): 9. Type material presumed lost, from Michigan without further data. Synonymized by Bollman, 1893.

*Leptodesmus borealis* Bollman, 1893, *Bull. U. S. Nat. Mus.* 46: 183. Immature ?ST (USNM) from Winona, Winona Co., Minnesota. Synonymized by Chamberlin & Hoffman, 1958.

*Semionellus placidus*: Chamberlin, 1920, *Proc. Biol. Soc. Washington*, 33: 97. \_ Shelley, 1994, *Brimleyana*, 20: 149, figs. 27-32.

*Chonaphe michigana*: Chamberlin, 1946, *Proc. Biol. Soc. Washington*, 59: 31, fig. 1. MALE HT (USNM) from Midland County, Michigan. Synonymized by Chamberlin & Hoffman, 1958.

Range: Known from four seemingly disjunct areas: Wisconsin-Minnesota; Michigan; Indiana-Ohio; Maryland-West Virginia-central northern Virginia (map, Shelley, 1994, fig. 69).

### Genus **Tubaphe** Causey

*Tubaphe* Causey, 1954, *Pan-Pacific Entom.*, 30: 222. Type species: *T. levii* Causey, 1954, by original designation. \_ Shelley, 1994, *Brimleyana*, 20: 167.

One species, Washington; British Columbia.

#### **Tubaphe levii** Causey

*Tubaphe levii* Causey, 1954, *Pan-Pacific Entom.*, 30: 223, figs. 2-4. MALE HT (AMNH) from Graves Creek campground, Olympic National Park, Jefferson Co., Washington. \_ Shelley, 1994, *Brimleyana*, 20: 169, figs. 45-49.

*Metaxycheir pacifica* Shelley, 1990, Canadian Journ. Zool., 68: 2311, figs. 1-5. MALE HT (Royal Brit. Col. Mus.) from Port Renfrew, Vancouver Island, British Columbia. Synonymized by Shelley, 1994.

Range: Northern half of the Olympic peninsula. Washington, and facing southern end of Vancouver Island, British Columbia (map, Shelley, 1994, figs. 68, 70).

### Tribe Harpaphini Hoffman

Harpaphini Hoffman, 1980, Classification of the Diplopoda, p. 157

Six or seven genera, western United States, eastern Asia.

Removed from tribe: *Tubaphe* Causey, 1955 [ see Chonaphini, *supra*].

Shelley (1994: 194) has already demonstrated the proximity of this nominal taxon to the largely sympatric Chonaphini; existing distinctions may prove to be illusory.

### Genus **Harpaphe** Cook

*Harpaphe* Cook, 1904, Harriman Alaska Exped., 8: 59. Type species: *Polydesmus haydenianus* Wood, 1864, by original designation. \_ Buckett & Gardner, 1968, Occ. Pap. California Dept. Agric., Bur. Entom., 11: 1-51.

Three species, one of them with six subspecies; western North America (California-British Columbia).

#### **Harpaphe haydeniana haydeniana** (Wood)

*Polydesmus (Leptodesmus) haydenianus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 10; 1865, Trans. American Philos. Soc., 13: 226, fig. 57. Original type material, from Oregon

lost. NTMALE (UCD) from nine miles north of Agness, Coos Co., Oregon, designated by Buckett & Gardner, 1968.

*Polydesmus intaminatus* Karsch, 1881, Arch. Naturg., 47: 41. MALE HT (ZMB) labeled only California. Synonymized by Buckett & Gardner, 1968.

*Fontaria Simoni* Brolemann, 1896, Ann. Soc. entom. France, 65: 65, figs. 19, 20. MALE HT (MHNP) from Washington (state), without further locality. Synonymized with *intaminata* by Attems, 1938, with *haydeniana* by Chamberlin & Hoffman, 1958.

*Harpaphe haydeniana*: Cook, 1904, Harriman Alaska Exped., 8: 59, pl. 4, figs. 4a-c.

*Harpaphe intaminata*: Cook, 1904, Harriman Alaska Exped., 8: 60.

*Isaphe simplex* Chamberlin, 1918, Pomona Coll. Journ. Entom. Zool., 10: 9. MALE HT (MCZ) from California without further locality. Synonymized with *haydeniana* by Shelley, 1993.

*Harpaphe penulta* Chamberlin, 1949, Proc. Biol. Soc. Washington, 63: 128, fig. 9. MALE HT (USNM) from nine miles south of Belknap Springs, Lane Co., Oregon. Synonymized by Buckett & Gardner, 1968.

*Harpaphe haydeniana haydeniana* Buckett & Gardner, 1968, Occ. Pap. Bur. Entom. California Dept. Agr., 11: 18, figs. 4, 13-15 (description, distribution).

Range: Southern Alaska south to central western Oregon; an apparently disjunct population on the California coast just north of San Francisco (map, Buckett & Gardner, 1968, figs. 1, 2).

***Harpaphe haydeniana cummingsiensis* (Verhoeff)**

*Pachydesmus cummingsiensis* Verhoeff, 1944, Bull. Southern California Acad. Sci., 43, 64, fig. 14. MALE HT (ZSBS) from Cummings, Mendocino Co., California. Synonymized with *intaminata* by Chamberlin & Hoffman, 1958; with *haydeniana* by Buckett & Gardner, 1968.

*Harpaphe haydeniana cummingsiensis*: Buckett & Gardner, 1968, Occ. Pap. Bur. Entom. California Dept. Agr. 11: 24, figs. 9, 22-24.

Range: Northern California coast region: Humboldt, Mendocino, Sonoma cos. (Map, Buckett & Gardner, 1968, fig. 1).

***Harpaphe haydeniana inlignea* Chamberlin**

*Harpaphe inlignea* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 128, fig. 8. MALE HT (USNM) from Inwood, Shasta Co., California.

*Harpaphe haydeniana inlignea*: Buckett & Gardner, 1968, Occ. Pap. Bur. Entom. California Dept. Agr., 11: 15, fig. 12.

Range: Sierra Nevada mountains, northern California (Shasta Co.).

***Harpaphe haydeniana maurogona* Buckett & Gardner**

*Harpaphe haydeniana maurogona* Buckett & Gardner, 1968, Occ. Pap. Bur. Ent. California Dept. Agr., 11: 23, fig. 20. MALE HT (UCD) from two miles east of Baxter, Nevada Co., California.

***Harpaphe haydeniana lanceolata* Buckett & Gardner**

*Harpaphe haydeniana lanceolata* Buckett & Gardner, 1968, Occ. Pap. Bur. Ent. California Dept. Agr. 11: 22, fig. 19. MALE HT (UCD) from Mt. Ste. Helena, Napa Co., California.

Range: Coast Ranges, northern central California (Napa and Lake cos.).

***Harpaphe haydeniana scotia* (Chamberlin)**

*Paimokia scotia* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 13, fig. 26. MALE HT (USNM) from 12 miles south of Los Gatos, Santa Cruz Co., California. Synonymized with *intaminata* by Chamberlin, 1947.

*Harpaphe clara* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 128, figs. 6, 7. MALE HT



(USNM) from Stevens Creek, Santa Clara Co., California. Synonymized by Buckett & Gardner, 1968.

*Harpaphe haydeniana scotia* Buckett & Gardner, 1968, Occ. Pap. Bur. Ent. California Dept. Agr., 11: 21, figs. 7, 16-18, frontispiece.

Range: Central coastal region of California (Santa Cruz, Santa Clara, Monterey cos.); a possibly disjunct population in Yosemite National Park (map, Buckett & Gardner, 1968, fig. 1).

### **Harpaphe pottera** Chamberlin

*Harpaphe pottera* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 129, fig. 11. MALE HT (USNM) from Potter Creek, Mendocino Co., California. \_ Buckett & Gardner, 1968, Occ. Pap. Bur. Entom. California Dept. Agr., 11: 15, fig. 12.

### **Harpaphe telodonta** (Chamberlin)

*Paimokia telodonta* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 17, fig. 33. MALE HT (USNM) from Arcata, Humboldt Co., California.

*Harpaphe telodonta* Buckett & Gardner, 1968, Journ. New York Entom. Soc., 76: 60, figs. 1-3; 1968, Occ. Pap. Bur. Ent. California Dept. Agr., 11: 13, figs. 6, 8, 10, 11.

Range: Extreme northwestern California (Humboldt and Del Norte cos).

## **Genus Isaphe** Cook

*Isaphe* Cook, 1904, Harriman Alaska Exped., 8: 57. Type species: *I. convexa* Cook, by original designation. \_ Shelley, 1993, Canadian Journ. Zool., 71: 1162.

*Hybaphe* Cook, 1904, Harriman Alaska Exped., 8: 58. Type species: *H. tersa* Cook, by original designation. Synonymized by Shelley, 1993.

Two species, Montana, Idaho, extreme southeastern Washington.

Removed from the genus: *Isaphe simplex* Chamberlin, 1918 [see *Harpaphe haydeniana*, *supra*].

### **Isaphe convexa** Cook

*Isaphe convexa* Cook, 1904, Harriman Alaska Exped., 8: 58, pl. III, figs. 1a-b. MALE HT (USNM) from an unspecified site in Kootenai Co., Idaho. \_ Shelley, 1993, Canadian Journ. Zool., 71: 1163, figs. 1-6.

Range: Northern Idaho, western Washington (map, Shelley, 1993, fig. 12).

### **Isaphe tersa** (Cook)

*Hybaphe tersa* Cook, 1904, Harriman Alaska Exped., 8: 58, pl. III, fig. 3a. MALE HT (USNM) from Almota, Whitman Co., Washington. \_ Shelley, 1993, Canadian Journ. Zool., 71: 1166, figs. 7-11.

*Hybaphe curtipes* Cook, 1904, Harriman Alaska Exped., 8: 59. HT (USNM) from Pullman, Whitman Co., Washington. Synonymized by Shelley, 1993.

Range: Southeastern Washington, adjacent Idaho (map, Shelley, 1993, fig. 12).

### Tribe Orophini Hoffman

Orophinae Hoffman, 1964, Trans. American Entom. Soc., 90: 301.

Orophini Hoffman, 1980, Classification of the Diplopoda, p. 157.

One genus, northwestern United States, one or two, China.

### Genus **Orophe** Chamberlin

*Orophe* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 2. Type species: *O. cabinetus* Chamberlin, by original designation. \_ Shelley, 1993, Insecta Mundi, 7: 175-182, figs. 1-9.

*Chipus* Loomis, 1953, Journ. Washington Acad. Sci., 43: 421. Type species: *C. unicus* Loomis, by original designation. Synonymized by Hoffman, 1964.

Two species, northwestern United States (Idaho, Montana).

#### **Orophe cabinetus** Chamberlin

*Orophe cabinetus* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 4, figs. 8, 9. MALE HT (USNM) from Clark s Peak, ca. three miles south-southeast of Thompson s Falls, Sanders Co., Montana. \_ Shelley, 1993, Insecta Mundi, 7: 178, figs. 1-3.

Range: Sanders, Lake, and Mineral counties, western Montana (map, Shelley, 1993, fig. 9).

#### **Orophe unicus** (Loomis)

*Chipus unicus*°Loomis, 1953, Journ. Washington Acad. Sci., 43: 421, fig. 18. MALE HT (USNM) from West Fork Emerald Creek, 3.8 miles northwest of Clarkia, Shoshone Co., Idaho. \_ Shelley, 1993, Insecta Mundi, 7: 180, figs. 4-8.

Range: Northern Idaho (Benewah, Latah, Shoshone, Clearwater, and Idaho counties) (map, Shelley 1993, fig. 9).

Considered as probably only a subspecies of *cabinetus* by Hoffman, 1964.

### Tribe Nannarini Hoffman

Nannarini Hoffman, 1964, Proc. Biol. Soc. Washington, 77: 26.

Two genera, eastern United States.

### Genus **Nannaria** Chamberlin

*Nannaria* Chamberlin, 1918, Psyche, 25: 124. Type species: *N. minor* Chamberlin, by original designation.

*Mimuloria* Chamberlin, 1928, Ent. News, 39: 155. Type species: *M. missouriensis* Chamberlin, by original designation.

*Castanaria* Causey, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 73: 1. Type species: *C. depalmai* Causey, by original designation.

25 named species (some of which are unquestionably junior synonyms), central and northeastern United States. Existing collections contain about three times this many undescribed taxa from the Appalachian region alone, and *Nannaria* will likely be divided into a number of additional genera.

Removed from genus: *Nannaria infesta* Chamberlin [see *Boraria*].

**Nannaria austriicola** Hoffman

*Nannaria austriicola* Hoffman, 1950, Journ. Elisha Mitchell Sci. Soc., 66: 26, figs. 26, 27. FEMALE HT (USNM) from Highlands, Macon Co., North Carolina.

**Nannaria castanea** (McNeill)

*Polydesmus castaneus* McNeill, 1887, Proc. U. S. Nat. Mus., 10: 329, pl. 12, fig. 8. MALE HT (USNM) from Bloomington, Monroe Co., Indiana.

*Mimuloria castanea*: Causey, 1952, Chicago Acad. Sci. Nat. Hist. Misc., 106: 8, fig. 6.

**Nannaria conservata** Chamberlin

*Nannaria conservata* Chamberlin, 1940, Canadian Entom., 72: 56. MALE HT (USNM) from Duke Forest [probably that compartment nearest the Duke University campus], Durham Co., North Carolina. \_ Shelley, 1975, Proc. Biol. Soc. Washington, 88: 180, figs. 1-6 (redescription of type).

Range: Piedmont of central North Carolina: Durham, Franklin, Wake counties.

**Nannaria davidcauseyi** Causey

*Nannaria davidcauseyi* Causey, 1950, Ent. News, 61: 194, figs. 3, 4. MALE HT (ANSP) from near Jasper, Newton Co., Arkansas.

**Nannaria depalmai** (Causey)

*Castanaria depalmai* Causey, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 73: 1, fig. 1. MALE HT (ANSP) from two miles south of Lake Leatherwood, Carroll Co., Arkansas.

**Nannaria domestica** Shelley

*Nannaria domestica* Shelley, 1975, Proc. Biol. Soc. Washington, 88: 186, figs. 10-12. MALE HT (USNM) from Goforth Road, Blowing Rock, Watauga Co., North Carolina.

**Nannaria equalis** Chamberlin

*Nannaria equalis* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 4, fig. 4. MALE HT (USNM) from Knoxville, Knox Co., Tennessee.

**Nannaria ericacea** Hoffman

*Nannaria ericacea* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 381, figs. 9, 10. MALE HT (USNM) from Clifton Forge, Alleghany Co., Virginia.

Range: Known from Alleghany, Botetourt, Craig, Montgomery counties, central western Virginia.

**Nannaria fowleri** Chamberlin

*Nannaria fowleri* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 29, fig. 14. MALE HT (ANSP) from Jennings, Garrett Co., Maryland.

*Nannaria cayugae* Chamberlin, 1949, Proc. Biol. Soc. Washington, 62: 4, fig. 3. MALE HT (USNM) from Ithaca, Tompkins Co., New York. Synonymized by Shelley, 1988.

**Nannaria laminata** Hoffman

*Nannaria laminata* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 383, figs. 11, 12. MALE HT (USNM) from two miles southwest of Glen Lyn, Mercer Co., West Virginia.

**Nannaria minor** Chamberlin

*Nannaria minor* Chamberlin, 1918, Psyche, 25: 124. MALE HT (MCZ) from Burbank, Carter Co., Tennessee. \_ Hoffman, 1964, Proc. Biol. Soc. Washington, 77: 33, figs. 5-7, 11.

Range: Known also from Madison Co., North Carolina.

**Nannaria missouriensis** (Chamberlin)

*Mimuloria missouriensis* Chamberlin, 1928, Ent. News, 39: 155. MALE HT (USNM) from St. Charles, St. Charles Co., Missouri.

**Nannaria morrisoni** Hoffman

*Nannaria morrisoni* Hoffman, 1948, Journ. Washington Acad. Sci., 38: 348, figs. 3, 4. MALE HT (USNM) from two miles west of Crozet, Albemarle Co., Virginia.

Range: Endemic in the central Blue Ridge, from Jefferson Co., West Virginia south to Rockbridge and Nelson counties, Virginia.

**Nannaria oblonga** (C. L. Koch)

*Fontaria oblonga* C. L. Koch, 1847, Syst. Myr., in Panzer: Krit. Rev. Insectf. Deutschl., 3: 175; 1863, Die Myriapoden, 1: 73, pl. 32, fig. 64. MALE HT (ZMB) labeled only Penvsylvanien.

**Nannaria ohionis** Loomis & Hoffman

*Fontaria castanea* (nec McNeill, 1887) Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 106, fig. 9b.

*Nannaria ohionis* Loomis & Hoffman, 1948, Proc. Biol. Soc. Washington, 61: 53 [new name for *Fontaria castanea* sensu Williams & Hefner]. Specific type material not identified, only Southern Ohio was specified for *castanea*. Neotype designation is mandated.

**Nannaria rutherfordensis** Shelley

*Nannaria rutherfordensis* Shelley, 1975, Proc. Biol. Soc. Washington, 88: 184, figs. 7-9. MALE HT (USNM) from urban woodlot along U.S. 74, just west of junction with Bypass 74, Rutherfordton, Rutherford Co., North Carolina.

**Nannaria scutellaria** Causey

*Nannaria scutellaria* Causey, 1942, Ent. News, 53: 168, figs. 6, 7. MALE HT (ANSP) from Chimneys, Great Smoky Mountains National Park, Sevier Co., Tennessee.

**Nannaria shenandoah** Hoffman

*Nannaria shenandoah* Hoffman, 1949, Proc. Biol. Soc. Washington, 62: 82, figs. 1-4. MALE HT (USNM) from Shenandoah Mountain, Rockingham Co., Virginia.

**Nannaria simplex** Hoffman

*Nannaria simplex* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 384, figs. 13, 14. MALE HT (USNM) from three miles northwest of Clifton Forge, Alleghany Co., Virginia.

**Nannaria tennesseensis** (Bollman)

*Fontaria tennesseensis* Bollman, 1889, Proc. U. S. Nat. Mus., 11: 340. HT (?USNM) from Mossy Creek [now Jefferson City], Jefferson Co., Tennessee.

*Nannaria tennesseensis*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 42.

**Nannaria terricola** (Williams & Hefner)

*Fontaria terricola* Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 106, fig. 9c. MALE HT (USNM) from an unspecified locality (probably Oxford) in Ohio.

*Nannaria terricola*: Loomis & Hoffman, 1948, Proc. Biol. Soc. Washington, 61: 53.

**Nannaria wilsoni** Hoffman

*Nannaria wilsoni* Hoffman, 1949, Proc. U. S. Nat. Mus., 99: 386, figs. 15, 16. MALE HT (USNM) from vicinity of Mountain Lake Biological Station, Giles Co., Virginia.

Range: Known from Floyd, Giles, Montgomery, Patrick, and Roanoke counties, Virginia.

**Genus Oenomaea** Hoffman

*Oenomaea* Hoffman, 1964, Proc. Biol. Soc. Washington, 77: 27. Type species: *Fontaria pulchella* Bollman, 1887, by original designation.

One species, Tennessee.

**Oenomaea pulchella** (Bollman)

*Fontaria pulchella* Bollman, 1889, Proc. U. S. Nat. Mus. 11: 316. FEMALE LT (USNM) from Strawberry Plains, Jefferson Co., Tennessee.

*Oenomaea pulchella*: Hoffman, 1964, Proc. Biol. Soc. Washington, 77: 29, figs. 1-4, 8-10.

Range: Recorded, perhaps dubiously, from Gordon Co., Georgia.

### Tribe Pachydesmini Hoffman

Pachydesmini Hoffman, 1980, Classification of the Diplopoda, pp. 158, 187.

Three genera, southeastern United States.

For the present, I adopt the conclusions about the membership of this tribe presented by Shelley (1984), but with the reservation that alternative arrangements may be considered in the future.

### Genus **Dicellarius** Chamberlin

*Dicellarius* Chamberlin, 1920, Proc. Biol. Soc. Washington, 33: 97. Type species: *Leptodesmus okafenokensis* Chamberlin, by original designation. \_ Shelley, 1984, Proc. Biol. Soc. Washington, 97: 473 (revision)

*Spathoria* Chamberlin, 1939, Bull. Univ. Utah, 30 (2): 6. Type species: *Fontaria lamellidens* Chamberlin, 1931, by original designation. Synonymized by Chamberlin & Hoffman, 1958.

*Epeloria* Chamberlin, 1939, Bull. Univ. Utah, 30 (2):: 3. Type species: *E. talapoosa* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

Five species (two of them with subspecies), southeastern United States.

**Dicellarius atlanta** (Chamberlin)

*Epeloria atlanta* Chamberlin, 1946, Ent. News, 57: 151, fig. 6. MALE HT (USNM) from Atlanta (perhaps that part in Fulton Co.), Georgia.

*Dicellarius atlanta*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 497, figs. 17-18.

Range: Western North Carolina (Graham Co.) south to central Georgia and extreme eastern Alabama (Lee Co.) (map, Shelley, 1984, fig. 29).

**Dicellarius bimaculatus bimaculatus** (McNeill)

*Polydesmus bimaculatus* McNeill, 1887, Proc. U. S. Nat. Mus., 10: 323, pl. 11, figs. 3-5.

18MALE and FEMALE STs (USNM) from Pensacola, Escambia Co., Florida. MALE lectotype designated by Shelley, 1984.

*Spathoria bimaculata*: Causey, 1955, Proc. Biol. Soc. Washington, 68: 24.

*Dicellarius bimaculatus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 30.

*Dicellarius bimaculatus bimaculatus*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 482.

Range: Extreme western end of Florida panhandle, adjacent southern Alabama, and north through central eastern Mississippi (map, Shelley, 1984, fig. 29).

***Dicellarius bimaculatus fictus* (Chamberlin)**

*Epeloria ficta* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 37, fig. 11. MALE HT (FMNH) from Thomasville, Thomas Co., Georgia.

*Epeloria dela* Chamberlin, 1946, Proc. Biol. Soc. Washington, 59: 139, figs. 1, 2. MALE HT (USNM) from Morgan, Calhoun Co., Georgia. Synonymized by Shelley, 1984.

*Epeloria leiacantha* Chamberlin, 1946, Proc. Biol. Soc. Washington, 59: 139, fig. 3. MALE HT (USNM) from Spring Creek, Decatur Co., Georgia. Synonymized by Shelley, 1984.

*Dicellarius bimaculatus fictus*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 485, figs. 5-6.

Range: Western Florida, southern Alabama, and southwestern Georgia (with a disjunct record for Savannah, Georgia, which invites confirmation) (map, Shelley, 1984, fig. 29).

***Dicellarius bimaculatus lamellidens* (Chamberlin)**

*Fontaria lamellidens* Chamberlin, 1931, Ent. News, 42: 78. Location of MALE HT unknown, from Biloxi, Harrison Co., Mississippi.

*Spathoria lamellidens*: Chamberlin, 1939, Bull. Univ. Utah, 30(2): 6, fig. 9.

*Dicellarius bimaculatus lamellidens*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 485, figs. 5-6.

Range: Southern Mississippi (Stone, Jackson, and Harrison counties).

***Dicellarius okefenokensis* (Chamberlin)**

*Leptodesmus okefenokensis* Chamberlin, 1918, Ann. Entom. Soc. America, 11: 370. MALE HT (MCZ) from Billy's Island, Okefenokee Swamp, Charlton Co., Georgia.

*Dicellarius okefenokensis*: Chamberlin, 1920, Proc. Biol. Soc. Washington, 33: 97. \_ Shelley, 1984, Proc. Biol. Soc. Washington, 97: 490, figs. 9-12.

*Epeloria nannodes* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 101, fig. 4. MALE HT (USNM) from Gainesville, Alachua Co., Florida. Synonymized by Chamberlin & Hoffman, 1958.

Range: North central Florida, southeastern Georgia (map, Shelley, 1984, fig. 29).

**Dicellarius sternolobus** Loomis

*Dicellarius sternolobus* Loomis, 1969, Florida Entom., 52: 247, figs. 5-7. MALE HT (USNM) from Alexander City, Tallapoosa Co., Alabama. \_ Shelley, 1984, Proc. Biol. Soc. Washington, 97: 500, figs. 19-23.

Range: Central Alabama (Shelby, Coosa, Talladega, and Tallapoosa counties) (map, Shelley, 1984, fig. 29).

**Dicellarius talapoosa talapoosa** (Chamberlin)

*Epeloria talapoosa* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 3, fig. 1. MALE HT (USNM) from Tallapoosa, Haralson Co., Georgia.

*Dicellarius talapoosa talapoosa*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 493, figs. 13-14.

Range: Piedmont region, west central Georgia and east central Alabama (map, Shelley, 1984, fig. 29).

**Dicellarius talapoosa separandus** Shelley

*Dicellarius talapoosa separandus* Shelley, 1984, Proc. Biol. Soc. Washington, 97: 497, figs. 15-16. MALE HT (USNM) from Rickwood Caverns State Park, Blount Co., Alabama.

Range: North central Alabama (DeKalb, Morgan, Blount, Jefferson, and Tuscaloosa counties) (map, Shelley, 1984, fig. 29).

Genus **Pachydesmus** Cook

*Pachydesmus* Cook, 1895, Ann. New York Acad. Sci., 9: 5. Type species: *Polydesmus crassicutis* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 7; 1865, Trans. American Philos. Soc., 13: 224, fig. 55. \_ Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 181 (revision).

Two species, one of them with eight subspecies, southeastern United States.

**Pachydesmus clarus** (Chamberlin)

*Fontaria clara* Chamberlin, 1918, Ann. Entom. Soc. America, 11: 372. MALE HT (MCZ) from Creston, Natchitoches Parish, Louisiana.

*Pachydesmus kisatchinsis* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 4, fig. 8. MALE HT (USNM) from Kisatchi, Natchitoches Parish, Louisiana. Synonymized by Chamberlin & Hoffman, 1958.

*Pachydesmus clarus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 43. \_ Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 190, figs. 1b, 6.

Range: Louisiana, eastern Texas (map, Hoffman, 1958, fig. 12).

**Pachydesmus crassicutis crassicutis** (Wood)



*Polydesmus crassicutis* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 7; 1865, Trans. American Philos. Soc. 13: 224, fig. 55. ST (present status unknown) from Mississippi without further locality.

*Pachydesmus crassicutis*: Cook, 1895, Ann. New York Acad. Sci., 9: 5.

*Fontaria louisiana* Chamberlin, 1918, Canadian Entom., 50: 363. MALE HT (apparently lost) from Covington, St. Tammany Par., Louisiana. Synonymized by Hoffman, 1958.

*Pachydesmus simulans* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 4, figs. 9, 10. MALE HT (USNM) from Gonzales, Ascension Par., Louisiana. Synonymized by Hoffman, 1958.

*Pachydesmus crassicutis crassicutis*: Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 199, figs. 1a, 7a., 8a, 9.

Range: Southern Louisiana, southern Mississippi (map, Hoffman, 1958, fig. 12).

***Pachydesmus crassicutis denticulatus* Chamberlin**

*Pachydesmus denticulatus* Chamberlin, 1946, Ent. News, 57: 152, figs. 8, 9. MALE HT (USNM) from Atlanta, Fulton Co., Georgia [?vicinity of Emory University].

*Pachydesmus crassicutis denticulatus*: Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 205, figs. 7d, 8d.

Range: central and northern Georgia (map, Hoffman, 1958, fig. 122).

***Pachydesmus crassicutis duplex* Chamberlin**

*Pachydesmus duplex* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 5, fig. 8. MALE HT (USNM) from Grenada, Grenada Co., Mississippi.

*Pachydesmus crassicutis crassicutis*: Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 206, figs. 1d, 5e-f, 7b, 8b.

Range: Northern Mississippi, western Tennessee (map, Hoffman, 1958, fig. 12).

***Pachydesmus crassicutis incursus* Chamberlin**

*Pachydesmus incursus* Chamberlin, 1939, Bull. Univ. Utah, 30(2): 5, fig. 7. MALE HT (USNM) from Taylors, Greenville Co., South Carolina.

*Pachydesmus crassicutis incursus*: Hoffman, 1958, Proc. U. S. Nat. Mus. 108: 207, figs. 7c, 8c. \_ Shelley & Filka, 1979, Brimleyana, 1: 147, figs. 1-10.

Range: South Carolina, extreme northeastern Georgia, Cleveland and Gaston counties, North Carolina (map, Shelley & Filka, 1979, fig. 10).

***Pachydesmus crassicutis laticollis* (Attems)**

*Fontaria laticollis* Attems, 1899, Denks. Akad. Wiss. Wien, 68: 258, fig. 312. MALE HT

(ZMB) labeled only Illinois.

*Pachydesmus laticollis*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 189.

*Pachydesmus crassicutis laticollis*: Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 208, figs. 5a-b, 10d, 11d.

Range: Cumberland Plateau, central Tennessee, northern Alabama (map, Hoffman, 1958, fig. 12).

**Pachydesmus crassicutis hubrichti** Hoffman

*Pachydesmus crassicutis hubrichti* Hoffman, 1958, Proc. U. S. Nat. Mus. 108: 210, figs. 5c-d, 10a, 11a. MALE HT (USNM) from Tuscaloosa, Tuscaloosa Co., Alabama.

Range: Central western Alabama (map, Hoffman, 1958, fig. 12).

**Pachydesmus crassicutis retrorsus** Chamberlin

*Pachydesmus retrorsus* Chamberlin, 1921, Canadian Entom., 53: 231, figs. 3, 4. MALE HT (MCZ) from Knox County, Tennessee.

*Pachydesmus crassicutis retrorsus*: Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 213, figs. 1c, 10b, 11b.

Range: Eastern Tennessee, north central Alabama (map, Hoffman, 1958, fig. 12).

**Pachydesmus crassicutis adsinicolus** Hoffman

*Pachydesmus crassicutis adsinicolus* Hoffman, 1958, Proc. U. S. Nat. Mus., 108: 215, figs. 10c, 11c. MALE HT (USNM) from Mobile, Mobile Co., Alabama.

Genus **Thrinaxoria** Chamberlin & Hoffman

*Thrinaxoria* Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 4. Type species: *Fontaria lampra* Chamberlin, 1918, by original designation.

Two species, southeastern United States.

**Thrinaxoria bifida** (Wood)

*Polydesmus bifidus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 7; 1865, Trans. American Philos. Soc., 13: 223, fig. 52. Type material apparently lost, originating from Georgia and Texas. NTMALE (USNM) from 0.2 miles northeast of Parksville, Polk Co., Tennessee, designated by Shelley, 1984.

*Epeloria bifida*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 32.

*Thrinaxoria bifida*: Shelley, 1984, Proc. Biol. Soc. Washington, 97: 506, figs. 27-28.

Range: Northern Georgia, adjacent parts of Tennessee and North Carolina (map, Shelley, 1984, fig. 29).

**Thrinaxoria lampra** (Chamberlin)

*Fontaria lampra* Chamberlin, 1918, Ann. Entom. Soc. America, 11: 371. MALE HT apparently lost, MALE PT (MCZ) from Creston, Natchitoches Par., Louisiana.

*Zinaria aberrans* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 4, fig. 7. MALE HT (USNM) from five miles northwest of Shreveport, Caddo Par., Louisiana.

*Thrinaxoria lampra*: Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 4. \_ Shelley, 1984, Proc. Biol. Soc. Washington, 97: 504, figs. 24-26.

Range: Northwestern parishes of Louisiana, adjacent eastern Texas, western Tennessee, northern Mississippi, northwestern Alabama (map, Shelley, 1984, fig. 29).

Tribe **Sigmocheirini** Causey

Sigmocheiridae Causey, 1955, Proc. Biol. Soc. Washington, 68: 93.

Sigmocheirini: Hoffman, 1980, Classification of the Diplopoda, p. 157. \_ Shelley, 1995, Entom. Scandinavica, 26: 343 (revision).

Two genera, central California.

Genus **Ochthocelata** Shelley

*Ochthocelata* Shelley, 1995, Entom. Scandinavica, 26: 355. Type species: *O. adynata* Shelley, by original designation.

One species, southern California.

**Ochthocelata adynata** Shelley

*Ochthocelata adynata* Shelley, 1995, Entom. Scandinavica, 26: 357, figs. 22-27. MALE HT (USNM) from four miles east off Glenville, Kern Co., California.

Genus **Sigmocheir** Chamberlin

*Sigmocheir* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 4. Type species: *S. calaveras* Chamberlin, by original designation. \_ Shelley, 1995, Entom. Scandinavica, 26: 343 (revision).

*Tuolumnia* Chamberlin, 1953, Proc. Biol. Soc. Washington, 66: 67. Type species: *Sigmocheir danehyi* Chamberlin, 1953, by monotypy. Synonymized (as subgenus) with *Sigmocheir* by Buckett, 1964, and (as strict synonym) by Hoffman, 1980.

Three species: California.

The curious circumstances involving the proposal and typification of *Tuolumnia* are recounted in detail by Shelley (1995: 341).

**Sigmocheir calaveras** Chamberlin

*Sigmocheir calaveras* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 5, figs. 10-11. MALE HT (USNM) from Crystal-Stanislaus Cave, ca. three miles west of Columbia, Calaveras Co., California. \_ Shelley, 1995, Entom. Scandinavica, 26: 345, figs. 1-10.

*Sigmocheir dohenyi* [sic!] Chamberlin, 1953, Ent. News, 64: 93. Location of type material (if extant) unknown, and indications of type locality contradictory. Synonymized by Shelley, 1995.

*Tuolumnia danehyi*: Chamberlin, 1953, Proc. Biol. Soc. Washington, 66: 67, fig. 1.

Range: Sierra Nevada Mountains in central California (Calaveras, Mariposa, and Tuolumne counties) (map, Shelley, 1995, fig. 28).

**Sigmocheir furcata** Shelley

*Sigmocheir furcata* Shelley, 1995, Entom. Scandinavica, 26: 352, figs. 17-21. MALE HT (FSCA) from Williams Cave, ca. one mile north of Murphys, Calaveras Co., California.

Range: Sierra Nevada mountains in central California (Amador, Calaveras, El Dorado, and Placer counties) (map, Shelley, 1995, fig. 28).

**Sigmocheir maculifer** (Chamberlin)

*Paimokia maculifer* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 14. FEMALE HT (USNM) from site nine miles north of Woodlake, Tulare Co., California.

*Harpaphe maculifer*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 35.

*Sigmocheir maculifer*: Shelley, 1995, Entom. Scandinavica, 26: 351, figs. 11-16.

Range: Sierra Nevada mountains in south-central California (Fresno and Tulare counties) (map, Shelley, 1995, fig. 28).

## Tribe Xystocheirini Cook

Xystocheirini Hoffman, 1980, Classification of the Diplopoda, p. 156, 187.

Five genera, western United States.

### Genus **Anombrocheir** Buckett & Gardner

*Anombrocheir* Buckett & Gardner, 1969, Ent. News, 80: 69. Type species: *A. spinosa* Buckett & Gardner, by original designation.

Two species, inner Coast Ranges, northern California.

**Anombrocheir bifurcata** Gardner & Buckett

*Anombrocheir bifurcata* Gardner & Buckett, 1969, Ent. News, 80: 295. MALE HT (UCD) from 8.5 miles northwest of Rumsey, in Colusa Co., California.

Range: Adjoining areas in Colusa and Yolo counties, California (map, Buckett & Gardner, 1969).

**Anombrocheir spinosa** Buckett & Gardner

*Anombrocheir spinosa* Buckett & Gardner, 1969, Ent. News, 80: 70, figs. 1-4. MALE HT (UCD) from, California.

**Genus Motyxia** Chamberlin

*Motyxia* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 15. Type species: *M. kerna* Chamberlin, by original designation. \_ Shelley, 1997, Insecta Mundi, 11: 335 (revision).

*Amplacheir* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 97. Type species: *Xystocheir sequoia* Chamberlin, 1941, by original designation. Synonymized by Causey & Tiemann, 1969.

*Luminodesmus* Loomis & Davenport, 1951, Journ. Washington Acad. Sci., 41: 270. Type species: *L. sequoiae* Loomis & Davenport, by original designation. Synonymized by Causey & Tiemann, 1969.

Eight species, two of them with named geographic races, southern California.

**Motyxia kerna** Chamberlin

*Motyxia kerna* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 15, fig. 29. MALE HT (USNM) from seven miles north of Glenville, Kern Co., California \_ Shelley, 1997, Insecta Mundi, 11: 338, figs. 9-12.

Range: Adjacent areas in Kern and Tulare counties, California (maps, Causey & Tiemann, 1969; Shelley, 1997, fig. 1).

The original published type locality (California: Kern Co., 12 miles northeast of Hammond) was incorrect, and corrected by Causey & Tiemann on the basis of information furnished *in litt.* by Professor Chamberlin.

**Motyxia monica** Chamberlin

*Motyxia monica* Chamberlin, 1944, Proc. Biol. Soc. Washington, 57: 113, figs. 1-3. MALE HT (USNM) from Madelia Canyon in the Santa Monica Mountains, Sherman Oaks, Los Angeles Co., California. \_ Shelley, 1997, Insecta Mundi, 11: 337, figs. 3-8.

*Motyxia tejona* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 25, fig. 4. MALE HT (ANSP?) from Fort Tejon, Kern Co., California. Synonymized by Shelley, 1997.

*Motyxia expansa* Loomis, 1953, Journ. Washington Acad. Sci., 43: 422, fig. 19. MALE HT (USNM) from Fort Tejon, Kern Co., California. Synonymized by Shelley, 1997.

*Motyxia exilis* Loomis, 1953, Journ. Washington Acad. Sci., 43: 422, fig. 20. MALE HT (USNM) from Woodford, near Tehachapi, Kern Co., California. Synonymized by Shelley, 1997.

*Motyxia dissecta* (nec *Polydesmus dissectus* Wood, 1867) Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 21, figs. 2-3, 8, 10-12.

Range: south-central region of Kern Co., and an apparently disjunct area in southwestern Los Angeles Co., California (map, Shelley, 1997, fig. 2).

***Motyxia pior* Chamberlin**

*Motyxia pior* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 16. F HT (USNM) from 12 miles northeast of Hammond, Tulare Co., California. \_ Shelley, 1997, Insecta Mundi, 11: 346, figs. 32-35.

[*Motyxia pior* form *secca* Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 27, figs. 15-16. Invalidly proposed for a minor variant and without standing in nomenclature.]

Range: Northcentral Tulare Co., California (maps, Causey & Tiemann, 1969, fig. 1; Shelley, 1997, fig. 2).

***Motyxia porrecta* Causey & Tiemann**

*Motyxia porrecta* Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 27, figs. 7, 21-22. MALE HT (FSCA) from Kern River canyon at county picnic site, Kern Co., California. \_ Shelley, 1997, Insecta Mundi, 11: 347, figs. 40-42.

Range: Greenhorn Mountains in central western Kern Co., California (maps, Causey & Tiemann, 1969, fig. 1; Shelley, 1997, fig. 2).

***Motyxia sequoia sequoia* (Chamberlin)**

*Xystocheir sequoia* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 15, fig. 28. MALE HT (USNM) from ten miles east of Hammond, Tulare Co., California.

*Amplocheir sequoia*: Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 97, figs. 12-13.

*Motyxia sequoia*: Causey & Tiemann, 1970, Bull. Mus. Nat. Hist. Natur., (2) 41: 35.

*Motyxia sequoia sequoia*: Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 30, figs. 31-32. \_ Shelley, 1997, Insecta Mundi, 11: 342, figs. 25-27.

Range: East Fork Kaweah River, in the vicinity of Hammond, Tulare Co., California (map, Causey & Tiemann, 1969, fig. 1).

***Motyxia sequoia alia* Causey & Tiemann**

*Motyxia sequoia alia* Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 29, figs. 5, 29-30. MALE HT (FSCA) from a site along highway 198 at Horseshoe Creek, southeast of Lake Kaweah, Tulare Co., California. \_ Shelley, 1997, Insecta Mundi, 11: 344, figs. 28-29.

Range: central Tulare Co., California (map, Shelley, 1997, fig. 2).

**Motyxia sequoiae** (Loomis & Davenport)

*Luminodesmus sequoiae* Loomis & Davenport, 1951, Journ. Washington Acad. Sci., 41: 271, fig. 1 MALE HT (USNM) from a site above Camp Nelson, Sequoia National Forest, Tulare Co., California.

*Xystodesmus sequoiae*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 54.

*Motyxia sequoiae*: Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 31, figs. 17-18. \_ Shelley, 1997, Insecta Mundi, 11: 338, figs. 13-16.

Range: Headwaters of the Middle Fork, Tule River, Tulare Co., California (map, Causey & Tiemann, 1969, fig. 1).

**Motyxia tularea tularea** (Chamberlin)

*Xystocheir tularea* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 101, fig. 27. MALE HT (USNM) from Sugarloaf Mountain, Tulare Co., California.

*Motyxia tularea*: Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 32, figs. 25-26.

*Motyxia tularea tularea*: Shelley, 1997, Insecta Mundi, 11: 340, figs. 17-20.

Range: Southcentral Tulare Co., California (map, Shelley, 1997, fig. 2).

**Motyxia tularea ollae** Causey & Tiemann

*Motyxia sequoia ollae* Causey & Tiemann, 1969, Proc. American Philos. Soc., 113: 29, figs. 6, 27-28. MALE HT (FSCA) from 5.4 miles west of the Tule River Indian Reservation, Tulare Co., California.

*Motyxia tularea ollae*: Shelley, 1997, Insecta Mundi, 11: 341, figs. 21-24.

Range: Along the North Fork of the Tule River, Tulare Co., California (map, Shelley, 1997, fig. 2).

### Genus **Parcipromus** Shelley

*Parcipromus* Shelley, 1995, Myriapodologica, 3: 55. Type species: *P. tiemanni* Shelley, by original designation.

Three species, Sierra Nevada mountains, California.

**Parcipromus cooki** (Causey)

*Xystocheir cooki* Causey, 1995, Proc. Biol. Soc. Washington, 68: 91, fig. 3. All type material [from Redwood Canyon, Sequoia National Park, Tulare Co., California] lost, not at AMNH nor other collections. MALE NT (CAS) designated by Shelley (1995) from Kings River Canyon, Fresno Co., California.

*Parcipromus cooki*: Shelley, 1995, Myriapodologica, 3: 65, figs. 19-27.

Range: Eastern Fresno and Tulare counties, California (map, Shelley 1995, fig. 2).

**Parcipromus gigantoarboricolus** Shelley

*Parcipromus gigantoarboricolus* Shelley, 1995, Myriapodologica, 3: 63. Figs. 15-18. MALE HT (FSCA) from a site along General's Highway at southern edge of Giant Forest, Sequoia National Park, Tulare Co., California.

Range: Known only from several sites adjacent to the type locality (map, Shelley, 1995, fig. 2).

**Parcipromus tiemanni** Shelley

*Parcipromus tiemanni* Shelley, 1995, Myriapodologica, 3: 59, figs. 3-14. MALE HT (FSCA) from Redwood Meadows Campground, Sequoia National Park, ca. 11.1 miles south of Camp Nelson, Tulare Co., California.

Range: Six localities in eastern Tulare Co., California (map, Shelley, 1995, fig. 2).

Genus **Wamokia** Chamberlin

*Wamokia* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 14. Type species: *W. placera* Chamberlin, by original designation. \_ Buckett & Gardner, 1968, Proc. Biol. Soc. Washington, 81: 511 (revision).

Eight species, California.

**Wamokia dentata** Buckett & Gardner

*Wamokia dentata* Buckett & Gardner, 1968, Proc. Biol. Soc. Washington, 81: 533, figs. 13, 14, 23. MALE HT (UCD) from three miles northwest of Somerset, El Dorado Co., California.

**Wamokia discordis** Buckett & Gardner

*Wakomia discordis* Buckett & Gardner, 1968, Proc. Biol. Soc. Washington, 81: 522, figs. 11, 12, 18, 28. MALE HT (UCD) from one mile east of Auburn, Placer Co., California.

Range: Placer and El Dorado counties, California (map, Buckett & Gardner, 1968, fig. 2).

**Wamokia falcata** Buckett & Gardner

*Wamokia falcata* Buckett & Gardner, 1968, Proc. Biol. Soc. Washington, 81: 534, figs. 7, 8, 30. MALE HT (UCD) from Camino, El Dorado Co., California.

**Wamokia hoffmani** Buckett & Gardner

*Wamokia hoffmani* Buckett & Gardner, 1968, Proc. Biol. Soc. Washington, 81: 528, figs. 21, 22, 27. MALE HT (UCD) from one mile north of Shingle Springs, El Dorado Co., California.



Range: El Dorado and Amador counties, California (map, Buckett & Gardner, 1968, fig. 2).

**Wamokia placera** Chamberlin

*Wamokia placera* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 14, fig. 27. MALE HT (USNM) from nine miles north of Placerville, El Dorado Co., California. \_ Buckett & Gardner, 1968, Proc. Biol. Soc. Washington, 81: 530, figs. 3, 4, 9, 10, 24, 26.

Range: Central-western El Dorado Co., California (map, Buckett & Gardner, 1968, fig. 2).

**Wamokia remota** Buckett & Gardner

*Wamokia remota* Buckett & Gardner, 1968, Proc. Biol. Soc. Washington, 81: 535, figs. 15-17, 25. MALE HT (UCD) from eight miles northeast of Auburn, Placer Co., California.

Range: Two localities in central Placer Co., California (map, Buckett & Gardner, 1968, fig. 2).

**Wamokia sierrae** Buckett & Gardner

*Wamokia sierrae* Buckett & Gardner, 1968, Proc Biol. Soc. Washington, 81: 537, figs. 19, 20, 29. MALE HT (UCD) from one mile southwest of Grass Valley., Nevada Co., California.

### Genus **Xystocheir** Cook

*Xystocheir* Cook, 1904, Harriman Alaska Exped., 8: 53. Type species: *X. obtusa* Cook, by original designation. \_ Shelley, 1996, Canadian Journ. Zool., 74: 1336 (revision).

*Paimokia* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 13. Type species: *P. modestior* Chamberlin, by original designation. Synonymized by Shelley, 1996.

*Cheirauxus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 97. Type species: *C. sapiens* Chamberlin, by original designation. Synonymized by Hoffman, 1980.

*Delocheir* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 99. Type species: *Xystocheir taibona* Chamberlin, 1912, by original designation. Synonymized by Hoffman, 1980.

Nine species, three of them with subspecies, California. These taxa are organized into four species-groups by Shelley (1996).

Members of this genus appear to be undergoing extensive local evolution in gonopod structure, especially *X. dissecta*, which . . . demonstrates all stages of the speciation process, species, semispecies, subspecies, and undefinable intergrades. . . in the opinion of the authority on this group (Shelley, 1996: 1341).

**Xystocheir bistipita** Shelley

*Xystocheir bistipita* Shelley, 1996, Canadian Journ. Zool., 74: 1354, figs. 49, 50. MALE HT (UCD) from one mile north of San Luis Obispo, San Luis Obispo Co., California.

**Xystocheir brachymacris** Shelley

*Xystocheir brachymacris* Shelley, 1996, Canadian Journ. Zool., 74: 1353, figs. 39-41. MALE HT

(USNM) from one miles northeast of Pacific House, El Dorado Co., California.

Range: Three localities in El Dorado Co., California.

**Xystocheir dissecta dissecta** (Wood)

*Polydesmus dissectus* Wood, 1867, Proc. Acad. Nat. Sci. Philadelphia, 19: 129. MALE LT (ANSP) from an unknown locality in California, deduced by Shelley (1996: 1341) to be either San Francisco or San Jose; the published locality Fort Tejon is manifestly an error.

*Polydesmus (Fontaria) furcifer* Karsch, 1881, Arch. Naturgesch. 47: 39, pl. 3, fig. 12. MALE HT (ZMB) from California, without further locality. Synonymized by Attems, 1938.

*Xystocheir dissecta*: Cook, 1904, Harriman Alaska Exped., 8: 55.

*Xystocheir obtusa*: Cook, 1904, Harriman Alaska Exped., 8: 53, pl. III, figs. 1a-c. MALE HT (USNM) from unknown locality in California. Synonymized by Attems, 1938.

*Xystocheir acuta* Cook, 1904, Harriman Alaska Exped., 8: 54. MALE HT (USNM) from unspecified locality in California, thought by Cook to be probably vicinity of Palo Alto, Santa Clara County. Synonymized by Shelley, 1996.

*Cheirauxus sapiens* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 97, figs. 14, 15. MALE HT (USNM) from Palo Alto, Santa Clara Co., California. Synonymized by Shelley, 1996.

*Xystocheir francisca* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 99, fig. 20. MALE HT (USNM) from San Francisco, California. Synonymized by Shelley, 1996.

*Xystocheir milpitas* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 99, figs. 21, 22. MALE HT (USNM) from Milpitas, Santa Clara Co., California. Synonymized by Shelley, 1996.

Range: Vicinity of San Francisco Bay, California (Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Sonoma counties), intergrading extensively north and east with adjacent subspecies (map, Shelley, 1996, fig. 73).

**Xystocheir dissecta microrama** Shelley

*Xystocheir dissecta microrama* Shelley, 1996, Canadian Journ. Zool., 74: 1345, figs. 18-20. MALE HT (UCD) from two miles west of Cordelia, Solano Co., California.

Range: Hills east of San Francisco Bay area (Alameda, Contra Costa, Sacramento, Solano counties) (map, Shelley, 1996, fig. 73).

**Xystocheir dissecta taibona** Chamberlin

*Xystocheir taibona* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 170, pl. 10, figs. 1, 2. MALE HT (USNM) from Pacific Grove, Monterey Co., California.

*Delocheir taibona*: Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 99, figs. 16, 17.

*Delocheir conservata*: Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 99, fig. 18. MALE

HT (USNM) from the Hastings Reservation, Monterey Co., California. Synonymized by Shelley, 1996.

*Delocheir dalea* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 99, fig. 19. MALE HT (USNM) from Brookdale, Santa Clara Co., California. Synonymized by Shelley, 1996.

*Xystocheir dissecta taibona*: Shelley, 1996, Canadian Journ. Zool., 74: 1345, figs. 13-17.

Range: Coastal ranges of California south of San Francisco Bay (Monterey, San Benito, Santa Clara, Santa Cruz counties) (map, Shelley, 1996, fig. 73).

**Xystocheir modestior modestior** (Chamberlin)

*Paimokia modestior* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 13, fig. 25. MALE HT lost, 2 FF PT (USNM) from 4-7 miles north of Badger, Fresno-Tulare counties, California.

*Harpaphe modestior*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 35.

*Xystocheir modestior modestior*: Shelley, 1996, Canadian Journ. Zool., 74: 1357, figs. 51-56.

Range: Sierra Nevada mountains in Madera, Fresno, and Tulare counties, California (map, Shelley, 1996, fig. 73).

**Xystocheir modestior haerens** Shelley

*Xystocheir modestior haerens* Shelley, 1996, Canadian Journ. Zool., 74: 1358, figs. 57-61. MALE HT (USNM) from site along Hwy. 180, one mile east jct. Hwy. 63 (ca. 28 miles east of Fresno), Fresno Co., California.

Range: Vicinity of Squaw Valley, Fresno Co., California (map, Shelley, 1996, fig. 73).

**Xystocheir prolixorama** Shelley

*Xystocheir prolixorama* Shelley, 1996, Canadian Journ. Zool., 74: 1348, figs. 24-27. MALE HT (UCD) from five miles east of Cloverdale, Mendocino Co., California.

**Xystocheir reducta** (Causey)

*Amplocheir reducta* Causey, 1955, Proc. Biol. Soc. Washington, 68: 92, fig. 4. Original type material (specified AMNH but not received there and presumed lost), from 0.6- 0.7 miles northeast of Briceburg, Mariposa Co., California. Near-topotypic MALE NT (UCD) from 2.1 miles east of Briceburg designated by Shelley, 1996: 1351.

*Xystocheir reducta*: Shelley, 1996, Canadian Journ. Zool., 74: 1351, figs. 32-38.

Range: Sierra Nevada and adjoining foothills in Amador, Tuolumne, and Mariposa counties, California (map, Shelley, 1996, fig. 73).

**Xystocheir solenofurcata** Shelley

*Xystocheir solenofurcata* Shelley, 1996, Canadian Journ. Zool. 74: 1348, figs. 28-31. MALE HT (UCD) from two miles north of Plymouth, Amador Co., California.

Range: Apparently confined to central and western Amador County, California (map, Shelley, 1996, fig. 73).

**Xystocheir stenomacris** Shelley

*Xystocheir stenomacris* Shelley, 1996, Canadian Journ. Zool., 74: 42-48. MALE HT (UCD) from 15 miles north of Ahwahnee, Mariposa Co., California.

Range: Apparently confined to central Mariposa Co., California (map, Shelley, 1996, fig. 73).

**Xystocheir stolonifera stolonifera** Shelley

*Xystocheir stolonifera stolonifera* Shelley, 1996, Canadian Journ. Zool., 74: 1358, figs. 62-66. MALE HT (FSCA) from two miles south of Tollhouse, Hwy. 168, Fresno Co., California.

Range: Sierra Nevada foothills in eastern Fresno Co., California.

**Xystocheir stolonifera uncinata** Shelley

*Xystocheir stolonifera uncinata* Shelley, 1996, Canadian Journ. Zool., 74: 1369, figs. 67-69. MALE HT (UCD) from three miles south of Coarsegold, Madera Co., California.

Range: Sierra Nevada foothills in eastern Fresno and Madera counties, California (map, Shelley, 1996, fig. 73).

## Family Aphelidesmidae Brolemann

Trachelorhachidae Silvestri, 1898, Boll. Mus. Zool. Anat. Comp. Torino, 13(324): 5. Based on *Trachelorhachis* Silvestri, 1898, a preoccupied generic name.

Aphelidesminae Brolemann, 1916, Ann. Soc. Entom. France, 84: 550 (in part).

Aphelidesminae + Amplininae: Hoffman, 1954, Journ. Washington Acad. Sci., 44: 57.

Aphelidesmini + Amplinini: Hoffman, 1980, Classification of the Diplopoda, p. 164.

Aphelidesmidae: Hoffman, 1998, Myriapodologica, 5: 135.

## Subfamily Amplininae Hoffman

Euryurini (in part) Brolemann, 1916, Ann. Soc. Entom. France, 84: 550.

Amplininae Hoffman, 1954, Journ. Washington Acad. Sci., 44: 57; 1998, Myriapodologica, 5: 136.

Amplininae Vohland, 1999, Amazoniana, 15: 129-163 (revision of subfamily at generic level). 14 genera, Mexico to Guyana, Peru, and western Brazil.

This taxon is interesting for its inclusion of both monotypic genera (e.g., *Meridiurus*,

*Colomborus*) and others which are extremely speciose (*Amplinus* in Central America, *Pycnotropis* in the Amazon basin). An adequate distinction between *Amplinus* and *Polylepiscus* remains to be discovered.

### Genus **Amplinus** Attems

*Amplinus* Attems, 1898, Denkschr. Akad. Wiss., Wien, 67: 264. Type species: *Polydesmus Klugii* Brandt, 1839, by subsequent designation of Attems, 1938. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 148. \_ Jeekel, 1971. Monogr. Nederl. Ent. Ver., 5: 247. \_ Hoffman, 1976, Revue suisse Zool., 83: 40 (note on typification of this name).

*Orthomorpha* (non sensu Bollman, 1893) Cook, 1911, Proc. U. S. Nat. Mus. 40: 627. Type species: *Polydesmus Klugii* Brandt, 1839.

*Pseudamplinus* Hoffman, 1954, Journ. Washington Acad. Sci., 44: 51. Type species: *Amplinus orphnius* Chamberlin, 1922, by original designation. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 23. Synonymized by Hoffman, 1976.

28 species, southern Mexico to Costa Rica. Several species from Venezuela placed in this genus in the past are probably referable to some other taxon.

#### **Amplinus areatus** Pocock

*Amplinus areatus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 151, pl. XI, figs. 4-4f. MALE HT (location unknown) from La Tortuga at Retalhuleu, Prov. Retalhuleu, Guatemala.

#### **Amplinus armatus** Pocock

*Amplinus armatus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 153, pl. XI, figs. 6-6b. MALE HT (location unknown) from Mexico without further data.

Range: Two specimens (VMNH) from near Valle Nacional, Oaxaca, agree very closely with Pocock's detailed account and if conspecific with the lost type provide the only known locality for this species.

#### **Amplinus bitumidus** (Loomis), new combination.

*Pseudamplinus bitumidus* Loomis, 1969, An. Inst. Biol. Univ. Nac. Mexico, Zool. 40: 49, fig. 1. MALE HT (USNM) from Estacion Biologica Los Tuxtlas, at San Andrés Tuxtla, Veracruz, Mexico.

#### **Amplinus constrictus** Chamberlin

*Amplinus constrictus* Chamberlin, 1953, Proc. Biol. Soc. Washington, 66: 67, fig. 2. MALE HT (FMNH) from west of San Pedro Sula, Prov. Cortes, Honduras.

#### **Amplinus convexus** Carl

*Pachyurus convexus* Carl, 1902, Revue suisse Zool., 10: 633, fig. 57. MALE HT (MHNG) from Costa Rica without further details.

*Amplinus convexus*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 150.

Range: Recorded from Parismina (Chamberlin, 1933), and Cairo and Gu piles (Loomis, 1972), all Prov. Lim n, Costa Rica.

**Amplinus erichsonii** (Brandt)

*Polydesmus Erichsonii* Brandt, 1839, Bull. Sci. Acad. Sci. St. Petersburg, 5: 315. MALE HT (ZMB) from Mexico without further data; 1841, Rec. Mem., p. 133.

*Amplinus erichsonii*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 152. \_ Hoffman, 1983, Deutsch. Entom. Zeitschr. NF, 30: 34, figs. 2-4 (description of holotype).

*Orthomorpha erichsonii*: Cook, 1911, Proc. U. S. Nat. Mus., 40: 628.

*Pseudamplinus erichsonii*: Hoffman, 1954, Journ. Washington Acad. Sci., 44: 51.

**Amplinus flavicornis** Pocock

*Amplinus flavicornis* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 151, pl. XI, figs. 2-2f. MALE HT (location uncertain) from Central America without further data.

Range: Specimens (VMNH) from Palenque, Chiapas, agree closely with the original description; if conspecific provide the only known locality for this species.

**Amplinus intermittens** Causey

*Amplinus intermittens* Causey, 1954, Proc. Biol. Soc. Washington, 67: 64, figs. 21, 22. MALE HT (INHS) from 15 miles south of Pichucalco, Chiapas, Mexico. \_ Hoffman, 1976, Revue suisse Zool., 83: 44.

**Amplinus klugii** (Brandt)

*Polydesmus Klugii* Brandt, 1839, Bull. Sci. Acad. Sci. St. Petersburg, 5: 313. MALE HT (ZMB) from ...urbe Alvarado regni Mexicani... (=Alvarado, Veracruz); 1841, Rec. Mem. p. 133.

*Pachyurus (Amplinus) klugii*: Attems, 1898, Denkschr. Akad. Wiss. Wien, 68: 284.

*Amplinus klugi*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 152 (combination only, not specimens described and figured, see entry for *A. pococki* Cook).

*Amplinus klugii*: Attems, 1938, Das Tierreich, 69: 308. \_ Hoffman, 1983, Deutsch. Entom. Zeitschr., NF 30: 32, fig. 1 (redescription of type specimen).

*Pseudamplinus klugii*: Hoffman, 1954, Journ. Washington Acad. Sci., 44: 51.

Range: Known definitely only from southern Veracruz; records for other parts of Mexico require confirmation.

**Amplinus leon** Chamberlin

*Amplinus leon* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 574, fig. 37. MALE HT (FMNH) from Monterey, Nuevo Leon, Mexico.

Monterey is so far from the nearest genuine locality for this genus, as well as being decidedly non-tropical, that the accuracy of the stipulated type locality must be held in suspicion.

**Amplinus manni** Chamberlin

*Amplinus manni* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 41, pl. 16, figs. 5-7. MALE HT (USNM) from La Ceiba, Prov. Atlantida, Honduras.

**Amplinus mimus** Chamberlin

*Amplinus mimus* Chamberlin, 1953, Proc. Biol. Soc. Washington, 66: 68. MALE HT (FMNH) from camp west of San Pedro Sula, Prov. Cortes, Honduras.

How this nominal species differs from either *A. orphnius* or *A. manni*, described from the same region, was neither specified nor evident from the published descriptions.

**Amplinus niteus** Chamberlin

*Amplinus niteus* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 43, pl. 16, fig. 9. MALE HT (USNM) from basin of San Juan River, either Alajuela or Heredia province, Costa Rica.

**Amplinus nitidus** (Brolemann)

*Platyrrhacus nitidus* Brolemann, 1900, M m. Soc. zool. France, 13: 97, figs. 18-20. MALE HT (MHNH) from Guatemala, without further details.

*Amplinus nitidus*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 149, pl. 11, fig. 3.

**Amplinus orphnius** Chamberlin

*Amplinus orphnius* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 42, pl. 16, fig. 8. MALE HT (USNM) from La Ceiba, Prov. Atlantida, Honduras.

*Pseudamplinus orphinus* [sic!]: Hoffman, 1954, Journ. Washington Acad. Sci., 44: 51.

Range: Recorded from Belize, eastern Guatemala, and the north coast of Honduras.

**Amplinus palicaudatus** (Attems)

*Pachyurus palicaudatus* Attems, 1901, Mitt. Zool. Mus. Hamburg, 18: 98, pl. 50, fig. 8. ST (ZMH) from La Joya, Chiapas, Mexico.

*Amplinus palicaudatus*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 150, pl. XI, figs. 1-1e. \_ Hoffman, 1976, Revue Suisse Zool., 83: 43, figs. 4, 5 (designation and illustration of lectotype).

Range: Highlands of Chiapas and adjacent Guatemala.

**Amplinus permundus** Hoffman

*Amplinus palicaudatus* (nec Attems 1901): Kraus, 1954, Senckenb. Biol., 35: 311.

*Amplinus permundus* Hoffman, 1976, Revue suisse Zool., 83: 40, figs. 1-3. MALE HT (MHNG) from Hacienda Los Plaines de Montecristo, near Metapan, Dept. Santa Ana, El Salvador.

Range: Uplands of extreme northern El Salvador, doubtless adjacent parts of Honduras and Guatemala.

**Amplinus pococki** (Cook)

*Amplinus klugii* (nec Brandt 1839) Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 152, pl. 11, figs. 5-5e (reference to specimen from Jalapa, Veracruz, only).

*Orthomorpha pococki* Cook, 1911, Proc. U. S. Nat. Mus., 40: 428. MALE HT (location uncertain, formerly BMNH) from Jalapa, Veracruz, Mexico.

*Amplinus crenus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 56, fig. 136. MALE HT (USNM) from near Fortin, Veracruz, Mexico. Synonymized by Hoffman, 1983.

*Amplinus eutypus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 573. FEMALE FEMALE ST (FMNH) from El Fortin [de las Flores], Veracruz, Mexico. Synonymized by Hoffman, 1983.

[*Amplinus fortinus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 575, in caption for fig. 36. Invalidly proposed name, apparently a predecessor of *eutypus* and apparently based on the same type material].

*Pseudamplinus pococki* + *eutypus* + *crenus*: Hoffman, 1954, Journ. Washington Acad. Sci., 44: 51.

*Amplinus pococki*: Hoffman, 1983, Deutsch. Entom. Zeitschr. NF 30: 34, fig. 5.

Range: Southern lowlands of Veracruz, Mexico.

The possible applicability of the name *picteti* to this species should not be overlooked.

**Amplinus schmidtii** Chamberlin

*Amplinus schmidtii* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 576, fig. 38. MALE HT (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

**Amplinus serratus** Kraus

*Amplinus serratus* Kraus, 1954, Senckenb. biol., 35: 311, figs. 32,33. MALE HT (SMF) from Monte Cristo, Dept. Santa Ana, El Salvador.

**Amplinus tajumulco** Chamberlin

*Amplinus tajumulco* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 376, fig. 39. MALE HT (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

**Amplinus tapachulae** Chamberlin

*Amplinus tapachulae* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 57. FEMALE HT (USNM) from Tapachula, Chiapas, Mexico.



**Amplinus triramus** Pocock

*Amplinus triramus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 153, pl. XI, figs. 7-7h. MALE HT (location unknown) from Omilteme (= Omiltemi), Guerrero, Mexico.

**Amplinus vergelanus** Chamberlin

*Amplinus vergelanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 57. MALE HT (USNM) from El Vergel, Chiapas, Mexico.

**Amplinus xilitlus** Chamberlin, nomen correctum

*Amplinus xelitlus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 57. MALE HT (USNM) from Xilitla (misspelled Xelitla by Chamberlin), San Luis Potos, Mexico.

**Amplinus zunilus** Chamberlin, nomen correctum

*Amplinus zuniulus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 577, fig. 40. MALE HT (FMNH) from Finca Monte Cristo, Volc n Zunil, Dept. Solola, Guatemala.

## SPECIES NAME OF UNCERTAIN STATUS

*Polydesmus Picteti* DeSaussure, 1859, Linnaea Entom., 13: 325. ST? (MHNG) from Cordova, Orizaba, and Panuco, Veracruz, Mexico.

DeSaussure (1860: 294) considered *Picteti* to be a synonym of *A. klugii*. But since the genitalic characters of Brandt's species were unknown to DeSaussure, that association may have been incorrect. Revision of the specimens labeled as *klugii* in MHNG, and selection of a lectotype, may result in validation of *picteti*, even its priority over some name later proposed for a Veracruzian amplinid, such as *A. pococki* Cook or *A. bitumidus* Loomis..

Genus **Exallostethus** Hoffman

*Exallostethus* Hoffman, 1975, Proc. Biol. Soc. Washington, 88: 212. Type species: *E. thrinax* Hoffman, by original designation.

One species, Chiapas.

**Exallostethus thrinax** Hoffman

*Exallostethus thrinax* Hoffman, 1975, Proc. Biol. Soc. Washington, 88: 212, figs. 1-4. MALE HT (VMNH) from site along Hy. 195, 11.6 miles north of Pueblo Nuevo, Chiapas, Mexico.

Genus **Polylepiscus** Pocock

*Polylepiscus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 154. Type species: *P. stollii* Pocock,

by original designation. \_ Hoffman, 1954, Journ. Washington Acad. Sci., 44: 52; 1962, Proc. Entom. Soc. Washington, 64: 137 (key to then known species).

*Euplinus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 578. Type species: *E. volcanicola* Chamberlin, by original designation. Synonymized by Hoffman, 1954.

Nine species, Chiapas, Guatemala. It is remarkable that so many of these big millipeds are still known only from the original types.

**Polylepiscus actaeon** Pocock

*Polylepiscus actaeon* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 155, pl. XII, figs. 2-2c. Location of MALE HT unknown, from Guatemala without further locality.

**Polylepiscus burgeri** Causey

*Polylepiscus burgeri* Causey, 1954, Proc. Biol. Soc. Washington, 67: 65, fig. 23. MALE HT (INHS) from 17 miles south of Simojovel, Chiapas, Mexico.

Range: Also recorded from 15 miles south of Pichucalco, Chiapas.

**Polylepiscus campanulae** Hoffman

*Polylepiscus campanulae* Hoffman, 1962, Proc. Entom. Soc. Washington, 64: 137, figs. 1, 2. MALE HT (USNM) from site beside Hy. 190, seven miles east of San Crist bal de las Casas, Chiapas, Mexico.

**Polylepiscus furcifer** Pocock

*Polylepiscus furcifer* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 156, pl. XII, figs. 1-1h. Location of MALE HT unknown, formerly BMNH, from ?Guatemala without further details. \_ Hoffman, 1954, Journ. Washington Acad. Sci., 44: 52.

*Euplinus volcanicola* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 578, fig. 43. MALE HT (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala. Synonymized by Hoffman, 1954.

Range: Recorded only from the type locality of *volcanicola*.

**Polylepiscus heterosculptus heterosculptus** (Carl)

*Pachyurus heterosculptus* Carl, 1902, Revue suisse Zool., 10: 635, fig. 73-75. MALE HT (MHNG) from Guatemala without further locality.

*Polylepiscus heterosculptus*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 157.

*Polylepiscus heterosculptus heterosculptus*: Hoffman, 1954, Journ. Washington Acad. Sci., 44: 53.

**Polylepiscus heterosculptus pococki** Hoffman

*Polylepiscus heterosculptus pococki* Hoffman, 1954, Journ. Washington Acad. Sci., 44: 53, fig. 1. MALE HT (USNM) from Tumbala, Chiapas, Mexico.

**Polylepiscus major** (Chamberlin)

*Aphelidesmus major* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 581. FEMALE HT (FMNH) from Escobas, opposite Puerto Barrios, Dept. Izabal, Guatemala.

*Polylepiscus major*: Hoffman, 1964, Proc. Biol. Soc. Washington, 77: 171.

**Polylepiscus stollii** Pocock

*Polylepiscus stollii* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 155, pl. XII, figs. 3-3d. MALE HT (location unknown) from Chalhuitz, Dept. Huehuetenango, Guatemala.

**Polylepiscus trimaculatus** Hoffman

*Polylepiscus trimaculatus* Hoffman, 1954, Journ. Washington Acad. Sci., 44: 53, fig. 2. MALE HT (USNM) from Finca Sepacuit, 50 km east of Cobán, Dept. Alta Verapaz, Guatemala.

**Polylepiscus vomeroi** Shear

*Polylepiscus vomeroi* Shear, 1977, Accad. Naz. Lincei, Prob. Sci. Cult., 171: 244, figs. 19-23. MALE HT (AMNH) from Gruta II, Finca Santa Anita, Simojovel de Allende, Chiapas, Mexico.

**Genus Seminellogon** Chamberlin

*Seminellogon* Chamberlin, 1933, Pan-Pacific Entom., 9: 18. Type species: *S. chitarianus* Chamberlin, by original designation. Synonymized with *Amplinus* by Jeekel, 1963; with *Pycnotropis* by Hoffman, 1980; revalidated by Vohland, 1999.

*Sigmogonotropis* Hoffman, 1951, Proc. U. S. Nat. Mus., 102: 240. Type species: *S. serratus* Hoffman, by original designation. Synonymized with *Amplinus* by Jeekel, 1963; with *Pycnotropis* by Hoffman, 1980.

Five species, Panama, Costa Rica.

**Seminellogon bituberculosis** (Loomis), new combination!

*Amplinus bituberculosis* Loomis, 1974, Florida Entom., 57: 177, fig. 13. MALE HT (FSCA) from Finca Las Cruces, near San Vito, Prov. Puntarenas, Costa Rica.

**Seminellogon cerroazulensis** Hoffman

*Seminellogon cerroazulensis* Hoffman, 1954, Journ. Washington Acad. Sci. 54: 54, fig. 3. MALE HT (USNM) from Cerro Azul, Prov. Panama, Panama. \_ Loomis, 1964, Fieldiana: Zool., 47: 54.

*Amplinus cerroazulensis* Loomis, 1968, U. S. Nat. Mus. Bull. 266; 21.

Range: Chiriquí and Panama provinces, Panama.

The original label with the type specimen did not indicate a province; I selected Chiriquí chiefly because the other two samples known to me originated there. However, Loomis (1964:

54) specified that Cerro Azul was near Goofy Lake , in Panama Province. I have not been able so far to locate a Cerro Azul in either province mentioned. There may be several small places, not on most maps, by that name in Panama.

**Seminellogon chitarianus** Chamberlin

*Seminellogon chitarianus* Chamberlin, 1933, Pan-Pacific Entom., 3: 19, figs. 6-8. MALE HT (USNM) from Chitaria, Prov. Cartago, Costa Rica.

**Seminellogon magnus** Loomis

*Seminellogon magnus* Loomis, 1964, Fieldiana: Zool., 47: 54, figs. 5C-E. MALE HT (FMNH) from El Valle, Prov. Cocl , Panama.

**Seminellogon panamicus** (Chamberlin)

*Aphelidesmus panamicus* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 41. FEMALE HT (MCZ) from headwaters of Rio Chinilla , Canal Zone, Panama.

*Seminellogon panamicus*: Loomis, 1961, Proc. U. S. Nat. Mus., 113: 86.

*Sigmogonotropis serratus* Hoffman, 1951. Proc. U. S. Nat. Mus., 102: 240, fig. 1. MALE HT (USNM) from Cana, Prov. San Blas, Panama. Synonymized by Loomis, 1968.

Range: Canal Zone east along the north coast nearly to the Colombian border.

## Subfamily Aphelidesminae Brolemann

Aphelidesminae Brolemann, 1916, Ann. Soc. Entom. France, 84: 550, 584. \_ Hoffman, 1998, Myriapodologica, 5: 136.

Monotypic, but current studies indicate that *Aphelidesmus* in its present inclusive sense requires division into at least four genera (most confined to northern South America).

## Genus *Aphelidesmus* Brolemann

*Trachelorhachis* Silvestri, 1898, Boll. Mus. Zool. Anat. Comp. Torino, 13(324): 5. Type species: *T. rivicola* Silvestri, by monotypy (preoccupied).

*Aphelidesmus* Brolemann, 1898, Ann. Soc. Ent. France, 67: 266. Type species: *A. hermaphroditus* Brolemann, by subsequent designation of Pocock, 1909.

*Trachelacantha* Berg, 1899, Comun. Mus. Nac. Buenos Aires, 1: 77. Type species: *Trachelorhachis rivicola* Silvestri, 1898, by direct substitution (replacement name for *Trachelorhachis*).

About 30 species, Costa Rica to Ecuador and western Brazil.

The apparent absence of this genus from most of Panama is noteworthy, but not without parallel in other groups of Diplopoda. Only type localities are cited for the following species, as published records for the Costa Rican species are not reliable prior to a careful revision of the material.

**Aphelidesmus calverti** Chamberlin

*Aphelidesmus calverti* Chamberlin, 1914, Trans. American Entom. Soc., 40: 191, figs. 6, 7.  
MALE HT (ANSP) from La Emilia, Puerto Limón, Prov. Limón, Costa Rica.

**Aphelidesmus glaphyros** (Attems)

*Euryurus glaphyros* Attems, 1899, Denkschr. Akad. Wiss. Wien, 68: 279, pl. 2, figs. 8-10. ST  
(NMW) from Costa Rica, without further details.

*Aphelidesmus glaphyros*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 158.

**Aphelidesmus intermedius** Chamberlin

*Aphelidesmus intermedius* Chamberlin, 1914, Trans. American Entom. Soc., 40: 192, figs. 8-10.  
MALE HT (ANSP) from Juan Viñas, Prov. Cartago, Costa Rica.

**Aphelidesmus taurinus** Loomis

*Aphelidesmus taurinus* Loomis, 1964, Fieldiana: Zool., 47: 51, figs. 5A-B. MALE HT (FMNH)  
from Almirante, Prov. Bocas del Toro, Panama.

**Aphelidesmus tertius** Chamberlin

*Aphelidesmus tertius* Chamberlin, 1948, Ent. News, 59: 269, figs. 1, 2. MALE HT (USNM) said  
to be from Kerrville, Kerr Co., Texas, but in actuality doubtless from Costa Rica or  
Colombia.

Only a revision of the entire genus will clarify the identity and status of this nominal species.

## Family Platyrhacidae Pocock

Platyrhacidae [*sic!*] Pocock, 1895, Ann. Mus. Civ. Stor. Nat. Genova, 34: 788.

Platyrhacidae Attems, 1938, Das Tierreich, 69: 202 (synopsis of family). \_ Hoffman, 1998,  
Myriapodologica, 5: 135.

Seven tribes, not allocated to subfamilies, are recognized by Hoffman (1998).

### Tribe Barydesmini Hoffman

Platyrhacini Hoffman, 1960, Proc. U. S. Nat. Mus. 111: 20.

Barydesmini Hoffman, 1980, Classification of the Diplopoda, p. 163.

With the restriction of the name *Platyrhacus* to a genus endemic in the East Indies, a new name was needed for the Neotropical taxa formerly referred to that name, and those of related genera.

### Genus **Barydesmus** Cook

*Barydesmus* Cook, 1896, Brandtia 12: 53. Type species: *B. kerri* Cook, by original designation.  
\_ Hoffman, 1980, Classification of the Diplopoda, p. 163.

*Platyrhacus* (non sensu Koch, 1847) Hoffman, 1956, Proc. Biol. Soc. Washington, 69: 45  
(concept based on incorrect type species; *Platyrhacus* has subsequently been typified by  
*P. fuscus* Koch, an Indonesian species [ICZN, Opinion 1128, 1979]).

*Platyrhacus* (*Tiroidesmus*) Attems, 1938, Das Tierreich, 69: 229 (key to then-known species).

About 36 names has been based on specimens referable to this genus, many are unquestionably synonymous; four generic names have been proposed for South American taxa. Costa Rica to Peru and northwestern Brazil; so far, however, there are no records for the central provinces of Panama..

#### **Barydesmus chapini** (Hoffman), new combination

*Platyrhacus chapini* Hoffman, 1953, Proc. Entom. Soc. Washington, 55: 254, figs. 1-3. MALE HT (USNM) from Los Siguanas, Chiriqui Prov., Panama.

#### **Barydesmus gracilipes** (Loomis), new combination

*Platyrhacus gracilipes* Loomis, 1964, Fieldiana: Zool., 47: 60, figs. 50-R. MALE HT (FMNH) from Cerro Punta, 6600 ft., Prov. Chiriqui, Panama.

#### **Barydesmus pococki** (Brolemann), new combination

*Platyrhacus stenopterus* [*nec stenopterus* Brolemann, 1905] Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 145, pl. X, figs. 8-8c (\_ & FEMALE from Costa Rica without further locality).

*Platyrhacus pococki* Brolemann, 1911, Bull. Soc. entom. France for 1911: 14. FEMALE ST (MHNP) from Cuesta del Tablazo (84.7 W, 9.50 N), Prov. San Jos, Costa Rica.

If Brolemann's identification of his material from Cuesta del Tablazo as conspecific with *stenopterus* sensu Pocock is correct, this species is referable to *Barydesmus*.

#### **Barydesmus propinquus** (Carl), new combination

*Platyrhacus propinquus* Carl, 1902, Rev. suisse Zool., 10: 665, figs. 80-82. MALE & FEMALE ST (MHNG) from Las Delicias, Sta-Clara (Costarica). Loomis (1974: 179) deduced that the village called Delicias on the Rio Guacalito (- 10.53 N, 85.10 W), Alajuela Prov., Costa Rica, is the probable place as thus identified on Biolley's label.

#### **Barydesmus stenopterus** (Brolemann), new combination

*Platyrhacus stenopterus* Brolemann, 1905, Ann. Soc. Entom. France, 74: 343. MALE HT (MHNP) from Rancho Redondo (84.10 W, 9.55 N), Prov. San Jos, Costa Rica.

Although this species is known only from the female type, apparently it is similar enough

structurally to *B. pococki* to justify inclusion in *Barydesmus*.

### Genus **Nyssodesmus** Cook

*Nyssodesmus* Cook, 1896, Brandtia 12: 53. Type species: *N. alboalatus* Cook, by original designation. \_ Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 37 (in part). \_ Hoffman, 1960, Proc. U. S. Nat. Mus., 111:26.

13 species, endemic in the area Nicaragua-Costa Rica-western Panama.

#### **Nyssodesmus alboalatus** Cook

*Nyssodesmus alboalatus* Cook, 1896, Brandtia, 12: 53. MALE HT (ZMB) from Puerto Viejo, Heredia Prov., Costa Rica (the specimen is so labeled by P. Biolley, its collector; Cook's published locality Nicaragua is obviously in error).

#### **Nyssodesmus antius** (Chamberlin)

*Platyrrhachus antius* Chamberlin, 1914, Trans. American Entom. Soc., 40: 189, figs. 4, 5. MALE HT (ANSP?, MCZ?) from Juan Vi as, Prov. Cartago, Costa Rica.

*Nyssodesmus antius*: Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 40.

#### **Nyssodesmus attemsi** Hoffman

*Nyssodesmus attemsi* Hoffman, 1960, Proc. U. S. Nat. Mus. 111: 27, fig. 1d. MALE HT (USNM) from Puerto Armuelles, Prov. Chiriqui, Panama.

#### **Nyssodesmus concolor** Loomis

*Nyssodesmus concolor* Loomis, 1964, Fieldiana:Zool., 47: 59, figs. 5L-N. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

#### **Nyssodesmus fraternus** (Carl)

*Platyrrhachus fraternus* Carl, 1902, Rev. Suisse Zool., 10: 655, fig. 71. MALE/FEMALE ST (MHNG) from San Jos and Puerto Lim n, Costa Rica, no designation of lectotype has been made.

*Nyssodesmus fraternus*: Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 40.

#### **Nyssodesmus limonensis** (Attems)

*Platyrrhachus limonensis* Attems, 1899, Denkschr. Akad. Wiss. Wien, 68: 344, fig. 319. MALE HT (ZMH) from Puerto Lim n, Prov. Lim n, Costa Rica.

#### **Nyssodesmus luteolus** Loomis

*Nyssodesmus luteolus* Loomis, 1974, Florida Entom., 57: 178, fig. 14. MALE HT (FSCA) from Finca Las Cruces, 4000 ft., west of San Vito, Prov. Puntarenas, Costa Rica.

**Nyssodesmus mimus** Chamberlin

*Nyssodesmus mimus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 38, pl. 15, figs. 9-11.  
MALE HT (MCZ) from Nicaragua without further locality.

**Nyssodesmus nicaraguanus** Chamberlin

*Nyssodesmus nicaraguanus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 39, pl. 16, figs. 1-4.  
MALE HT (?MCZ) from Machucha (province not located), Nicaragua.

**Nyssodesmus python** (Peters)

*Polydesmus (Odontodesmus) python* Peters, 1864, Monatsb. Akad. Wiss. Berlin fr 1864: 543.  
MALE HT (ZMB) from Costa Rica without further locality.

*Platyrrhacus bivirgatus* Carl, 1902, Rev. Suisse Zool., 10: 652, fig. 65. MF ST (MHNG) from San Jos , Costa Rica. **New synonymy!**

*Nyssodesmus nigricaudus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 37, pl. 15, figs. 4-8.  
MALE HT (USNM) from Costa Rica without further locality. **New synonymy!**

The identity of the names *python* and *bivirgatus* was implied already by Brolemann (1905) and Pocock (1909). I have examined the type material of both names and consider them conspecific. The name *nigricaudus* was justified primarily because the epiproct was black instead of yellow as in *bivirgatus*. My examination of the type specimen of *nigricaudus* showed that the epiproct was merely coated with black mud, which easily flaked off to show the underlying yellow coloration. The species appears to be widespread and locally abundant in Costa Rica.

**Nyssodesmus tristani** (Pocock)

*Platyrrhacus tristani* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 141, pl. X, figs. 6-6b.  
MALE HT  
(location unknown) from La Palma [perhaps the coastal town west of Quepos, Prov. Puntarenas ], Costa Rica.

**Nyssodesmus vialis** Loomis

*Nyssodesmus vialis* Loomis, 1974, Florida Entom., 57: 179, fig. 15. MALE HT (FSCA) from site at 5000 ft. along the Carretera Interamericana, between Cerro de la Muerte and San Isidro General, Prov. San Jos , Costa Rica.

**Genus Tiroidesmus** Cook

*Tiroidesmus* Cook, 1896, Brandtia 12: 53. Type species: *Polydesmus fimbriatus* Peters, 1864, by original designation. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 146.

Two (?) species, Costa Rica, Panama.

**Tiroidesmus biolleyi** (Carl)



*Platyrrhacus biolleyi* Carl, 1902, Rev. suisse Zool., 10: 658, figs. 67, 68. MALE HT (MHNG) from Las Delicias, Costa Rica, presumably the settlement on the Rio Guacalito, in northwestern Alajuela Prov.

*Tirodesmus biolleyi*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 146, pl. X, figs. 9-9b (records for La Palma and Cariblanco, Costa Rica).

*Nyssodesmus albomarginis* Chamberlin, 1933, Pan-Pacific Entom., 9: 16. FEMALE HT (USNM) from La Palma (84.10 W, 10.10 N) nr. Cariblanco, Prov. Alajuela, Costa Rica. Synonymized by Loomis, 1968.

Range: Alajuela and Heredia provinces, Atlantic side of the Cordillera Central, Costa Rica; San Juan del Norte, Prov. Rio San Juan, Nicaragua.

### **Tirodesmus fimbriatus** (Peters)

*Polydesmus (Stenonia) fimbriatus* Peters, 1864, Monatsb. Akad. Berlin for 1864: 543. MALE HT (ZMB) from Veragua without further locality.

*Tirodesmus fimbriatus*: Cook, 1896, Brandtia, p. 53.

Range: The locality label with the holotype may actually have referred to Veraguas Province, Panama, as was assumed by Carl (1914: 975). Attems (1938: 232) repeated that citation and added Neugrenada (the old name for Colombia) on the basis of a male specimen so labeled in the Vienna Museum, which I have examined. In the 19th Century, the present country of Panama included Veraguas Province of Colombia, which may explain how a specimen collected in Panama at that time might be labeled New Grenada. There are no records for Colombia in its modern sense.

The gonopods of the NMW specimen from Neugrenada agree exactly with those of a male from Puerto Viejo, Costa Rica (VMNH). Chamberlin (1922: 36) was probably correct in considering the two names as strict synonyms.

## Tribe Psammodesmini Hoffman

Psammodesmini Hoffman, 1960, Proc. U. S. Nat. Mus., 11: 29.

One genus, northwestern South America.

### Genus **Psammodesmus** Cook

*Psammodesmus* Cook, 1896, Brandtia 12: 53. Type species: *P. cos* Cook, by original designation. \_ Hoffman, 1953, Journ. Washington Acad. Sci., 43: 301.

Eight species, northern Peru to Panama.

### **Psammodesmus remotus** Loomis

*Psammodesmus remotus* Loomis, 1964, Fieldiana: Zool. 47: 62, figs. 6A-D. MALE HT (FMNH) from El Valle, Prov. Cocolé, Panama.

**Psammodesmus schmitti** Loomis & Hoffman

*Psammodesmus schmitti* Loomis & Hoffman, 1953, Journ. Washington Acad. Sci., 43: 301, figs. 1-4. MALE HT (USNM) from Puerto Obaldia, Prov. San Blas, Panama.

Range: Known also from Cana, Dari n Prov., Panama.

## GENERA OF UNCERTAIN TRIBAL POSITION

Genus **Nanorrhacus** Cook

*Nanorrhacus* Cook, 1896, Brandtia 12: 52. Type species: *Platyrrhacus luciae* Pocock, 1894, by original designation.

Monobasic; Lesser Antilles.

Jeekel (1963, 1980) expressed no conviction about the relationships of this genus; Hoffman (1980) placed it in the Platyrrhacini, more or less by default, suspecting that the type species might have been introduced from the Indomalayan Region.

**Nanorrhacus luciae** Pocock

*Platyrrhacus luciae* Pocock, 1894, Journ. Linnean Soc. London, 24: 511, pl. 39 figs. 3,3d MALE HT (BMNH) from Santa Lucia, British West Indies. \_ Jeekel, 1980, Bull. Zool. Mus. Amsterdam, 7: 84, figs. 4, 5.

Genus **Proaspis** Loomis

*Proaspis* Loomis, 1941, Journ. Washington Acad. Sci., 31: 193. Type species: *P. aitia* Loomis, by original designation.

One (two?, three?) species, West Indies.

Whether the two species listed here are congeneric cannot be assumed until male topotypes of the type species *aitia* are obtained in Haiti. *A priori*, I suspect they are not closely related.

**Proaspis aitia** Loomis

*Proaspis aitia* Loomis, 1941, Journ. Washington Acad. Sci., 31: 194, figs. 10-12. FEMALE HT (USNM) from roadside between Camp Perron and Riviere Glace, Haiti.

**Proaspis sahlia** Jeekel

*Proaspis sahlia* Jeekel, 1980, Bull. Zool. Mus. Amsterdam, 7: 81, figs. 1-3. MALE HT (ZMA) from Parc naturel de Guadeloupe, Basse Terre, Guadeloupe. \_ ? Mauris, 1980, Bull. Mus. natn. Hist. natur. Paris, (4) 2 (A4): 1071, figs. 14-15.

Comparison of the gonopod drawings by Jeekel (1980: fig. 3) and Mauris (1980: fig. 14), drawn from the same aspect, strongly suggests that two species are involved.

## Family Sphaeriodesmidae Humbert &amp; DeSaussure

*Sphaeriodesmii* Humbert & DeSaussure, 1869, Rev. & Mag. Zool. (2) 21: 149.

*Sphaeriodesminae* Bollman, 1893, Bull. U. S. Nat. Mus. 46: 161.

*Sphaeriodesmidae* Silvestri, 1896, Ann. Mus. Civ. Stor. Nat. Genova, (2) 16: 185. \_ Cook, 1898, Proc. U. S. Nat. Mus., 21: 460.

*Cyclodesmidae* Silvestri, 1895, Ann. Mus. Civ. Stor. Nat. Genova, (2) 14: 747 (in part, *Cyclodesmus* only). \_ Cook, 1898, Proc. U. S. Nat. Mus., 21: 459.

13 genera, Southeastern United States to Panama, Greater Antilles.

### Subfamily *Bonetesminae* Hoffman

*Bonetesminae* Hoffman, 1980, Classification of the Diplopoda, p. 162.

One genus, Mexico (Veracruz).

This taxon probably merits family status, although the gonopod structure is clearly sphaeriodesmoid.

### Genus *Bonetesmus* Chamberlin

*Bonetesmus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 11. Type species: *B. verus* Chamberlin, by original designation. \_ Shear, 1974, Accad. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 257.

Three species, Mexico (Veracruz, Oaxaca).

#### ***Bonetesmus ojo*** Shear

*Bonetesmus ojo* Shear, 1974, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(2): 260, figs. 29-31. MALE HT (MCZ) from Cueva del Ojo de Agua de Tlilapan, near Orizaba, Veracruz, Mexico.

#### ***Bonetesmus soileauae*** Shear

*Bonetesmus soileauae* Shear, 1982, Texas Mem. Mus. Bull. 28: 160, figs. 55-56. MALE HT (AMNH) from Cueva de Las Maravillas, six km south of Acatlan, Oaxaca, Mexico.

#### ***Bonetesmus verus*** Chamberlin

*Bonetesmus verus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 11, figs. 18-20. MALE HT (USNM) from Gruta de Atoyac, Veracruz, Mexico. \_ Shear, 1974, Accad. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 257, figs. 20-28.

*Bonetesmus novenus* Causey, 1971, Assoc. Mexican Cave Stud. Bull. 4: 30. MALE HT (USNM) from Cueva del Ojo de Agua Grande, 12 km NE of Cordoba, Veracruz, Mexico. Synonymized by Shear, 1974.

Range: Caves in southern Veracruz, Mexico.

## Subfamily Desmoninae Cook

Desmonidae Cook, 1898, Proc. U. S. Nat. Mus., 21: 463.

Desmoninae \_ Hoffman, 1980, Classification of the Diplopoda, p. 162.

Six very nominal genera, southeastern United States to Guatemala.

My treatment of desmonines in the 1980 classification recognized the two tribes Desmonini and Hybocestini, with two further genera not placed in either owing to deficient descriptions.

I am no longer convinced that this dichotomy is entirely correct, and for the purposes of this list omit the tribal category and revert to a simple alphabetical order for the genera.

### Genus *Cyphodesmus* Peters

*Cyphodesmus* Peters, 1864, Monatsb. Akad. Wiss. Berlin fr 1864: 530. Type species: *Oniscodesmus mexicanus* DeSaussure, 1859, by monotypy. \_ Hoffman, 1979, Rev. suisse Zool., 86: 4.

*Peridysodesmus* Silvestri, 1910, Zool. Anz., 35: 357. Type species: *P. trifidus* Silvestri, by original designation. Synonymized by Hoffman, 1979.

Three (?four) species, southern Mexico (Veracruz and Morelos).

***Cyphodesmus bifidus*** (Silvestri), new combination

*Peridysodesmus bifidus* Silvestri, 1910, Zool. Anz., 35: 358, fig. 2. MALE HT (LEAP) from Jalapa, Veracruz, Mexico.

***Cyphodesmus hidalgonus*** Chamberlin

*Cyphodesmus hidalgonus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 55. Imm. HT (USNM) from Chapulhuacan, Hidalgo, Mexico.

Placement in this genus was totally fanciful, considering the condition of the holotype; it could go almost anywhere in the Desmoninae.

***Cyphodesmus mexicanus*** (DeSaussure)

*Oniscodesmus mexicanus* DeSaussure, 1859, Linnaea Entom., 13: 328; 1860, M m. Soc. Phys. Hist. nat. Gen ve, 15: 278, pl. 1, fig. 2. MALE LT, FEMALE LPT (MHNG) from Cordoba, Veracruz, Mexico.

*Cyphodesmus mexicanus*: Peters, 1864, Monatsb. Akad. Wiss. Berlin fr 1864: 530. \_ Hoffman, 1979, Rev. suisse Zool., 86: 5, figs. 1-8.

***Cyphodesmus trifidus*** (Silvestri)

*Peridysodesmus trifidus* Silvestri, 1910, Zool. Anz., 35: 358, fig. 3. MALE HT (LEAP) from Cuernavaca, Morelos, Mexico.

### Genus **Desmonus** Cook

*Desmonus* Cook, 1898, Proc. U. S. Nat. Mus., 21: 463. Type species: *D. earlei* Cook, by original designation. Causey, 1958, Proc. Biol. Soc. Washington, 71: 173.

*Ethocyclus* Chamberlin & Mulaik, 1941, Journ. New York Entom. Soc., 49: 58. Type species: *E. atophus* Chamberlin & Mulaik, by original designation. Synonymized by Loomis, 1959.

*Desmoniella* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 400. Type species: *D. curta* Loomis, by original designation. **New synonymy!**

*Stilbopagus* Loomis, 1966, Journ. Kansas Entom. Soc., 39: 516. Type species: *S. acclivus* Loomis, by original designation. Synonymized by Hoffman, 1980.

10 species, southern United States, northeastern Mexico, some of these names are surely superfluous.

**Desmonus acclivus** (Loomis), new combination.

*Stilbopagus acclivus* Loomis, 1966, Journ. Kansas Entom. Soc., 39: 516. FEMALE HT (USNM) from Chipinque Mesa, Monterey, Nuevo Leon, Mexico; 1968, Journ. Kansas Entom. Soc., 39: 517, figs. 2-4, from male topotype.

**Desmonus atophus** (Chamberlin & Mulaik)

*Ethocyclus atophus* Chamberlin & Mulaik, 1941, Journ. New York Entom. Soc., 49: 58. HT (USNM) from Raven Ranch, south of Kerrville, Kerr Co., Texas.

*Desmonus atophus*: Loomis, 1959, Journ. Washington Acad. Sci., 49: 157.

**Desmonus austrus** Causey

*Desmonus austrus* Causey, 1958, Proc. Biol. Soc. Washington, 71: 178, fig. 3. ST (?AMNH) from Magnolia. Columbia Co., Arkansas.

Range: Recorded by Causey from sites in Arkansas, Louisiana, and eastern Texas.

**Desmonus conjunctus** Loomis

*Desmonus conjunctus* Loomis, 1959, Journ. Washington Acad. Sci., 49: 158, figs. 1-3. MALE HT (USNM) from a site between Bandera and Helotes, Bexar Co., Texas.

**Desmonus curtus** (Loomis)

*Desmoniella curta* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 401, figs. 14a-c. MALE HT (MCZ) from the Arbuckle Mountains, 2.3 miles south of Fittstown, Pontotoc Co., Oklahoma.

**Desmonus crassus** Loomis

*Desmonus crassus* Loomis, 1959, Journ. Washington Acad. Sci., 49: 158, fig. 4. MALE HT (USNM) from Victoria Co., Texas, without closer locality.

**Desmonus distinctus** Loomis

*Desmonus distinctus* Loomis, 1959, Journ. Washington Acad. Sci., 49: 158, fig. 5. MALE HT (USNM) from roadside side, Beauregard Road, five miles south of Boerne, Kendall Co., Texas.

**Desmonus earlei earlei** Cook

*Desmonus earlei* Cook, 1898, Proc. U. S. Nat. Mus., 21: 643, pl. 32, figs. 1a-n. MALE HT (?USNM) from Auburn, Lee Co., Alabama.

*Desmonus earlei earlei*: Causey, 1958, Proc. Biol. Soc. Washington, 71: 174.

Range: Southeastern United States, Kentucky north to the Ohio River, extreme southwestern Virginia, central and eastern Tennessee, central Georgia, most of Alabama, eastern Mississippi.

**Desmonus earlei mancus** Causey

*Desmonus earlei mancus* Causey, 1958, Proc. Biol. Soc. Washington, 71: 175. FEMALE HT (?AMNH) from Florida Caverns State Park, Jackson Co., Florida.

Range: Recorded also from Polk Co., Georgia.

**Desmonus inordinatus** Causey

*Desmonus pudicus* (*nec* Bollman, 1888): Cook, 1896, Proc. U. S. Nat. Mus., 21: 465, pl. 32, figs. 2a-b.

*Desmonus inordinatus* Causey, 1958, Proc. Biol. Soc. Washington, 71: 176, fig. 2. MALE HT (?AMNH) from Okalona, Clark Co., Arkansas.

Range: Numerous localities in Arkansas; Barry Co., Missouri.

**Desmonus pudicus** (Bollman)

*Sphaeriodesmus pudicus* Bollman, 1888, Entom. Americana, 4: 3. HT (?USNM) from Little Rock, Pulaski Co., Arkansas.

*Desmonus pudicus*: Causey, 1958, Proc. Biol. Soc. Washington, 71: 175, fig. 1.

Range: Pulaski County, Arkansas only.

Genus **Hybocestus** Hoffman

*Hybocestus* Hoffman, 1959, Proc. Biol. Soc. Washington, 72: 173. Type species: *H. octonodus* Hoffman, by original designation.

Two species, Guatemala.

**Hybocestus octonodus** Hoffman

*Hybocestus octonodus* Hoffman, 1959, Proc. Biol. Soc. Washington, 72: 174, figs. 1-4. MALE

HT (USNM) from Cob n, Dept. Alta Verapaz, Guatemala.

**Hybocestus plagiodon** Hoffman

*Hybocestus plagiodon* Hoffman, 1959, Proc. Biol. Soc. Washington, 72: 177, fig.5. MALE HT (USNM) from Finca Trece Aguas, five km southeast of Senah , Dept. Alta Verapaz, Guatemala.

Genus **Taphrodesmus** Silvestri

*Taphrodesmus* Silvestri, 1910, Zool. Anz., 35: 357. Type species: *T. vestitus* Silvestri, by original designation.

**Taphrodesmus vestitus** Silvestri

*Taphrodesmus vestitus* Silvestri, 1910, Zool. Anz., 35: 357, fig. 3. MALE HT (LEAP) from Jalapa [Xalapa], Veracruz, Mexico.

DESMONINAE OF UNCERTAIN STATUS

Genus **Tetraporosoma** Loomis

*Tetraporosoma* Loomis, 1966, Journ. Kansas Entom. Soc., 39: 517. Type species: *T. seriata* Loomis, by original designation.

**Tetraporosoma seriatum** Loomis

*Tetraporosoma seriata* [sic] Loomis, 1966, Journ. Kansas Entom. Soc., 39: 517, figs. 3-5. FEMALE HT (USNM) from Chipinque Mesa, Monterey, Nuevo Le n, Mexico.

Subfamily **Sphaeriodesminae** Humbert & DeSaussure

*Sphaeriodesmii* Humbert & DeSaussure, 1869, Rev. & Mag. Zool. (2) 21: 149.

*Sphaeriodesminae* Bollman, 1893, U. S. Nat. Mus. Bull. 46: 161. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 119. \_ Hoffman, 1980, Classification of the Diplopoda, p. 161.

The taxonomy of this group is very unsatisfactory; several of the smaller included genera appear to be reasonably homogeneous whereas the two largest are remarkably diversified in terms of gonopod structure and almost certain require organization into smaller taxa. Until this can be undertaken, I have no choice but to follow existing information.

Nine nominal genera, Mexico to Panama, Greater Antilles.

Genus **Colobodesmus** Brolemann

*Colobodesmus* Brolemann, 1905, Ann. Soc. entom. France, 74: 347. Type species: *C. biolleyi* Brolemann, by monotypy. \_ Loomis, 1974, Florida Entom., 57: 180 (key to known species).

Four species, Costa Rica, Guatemala, El Salvador.

**Colobodesmus biolleyi** Brolemann

*Colobodesmus biolleyi* Brolemann, 1905, Ann. Soc.entom. France, 74: 350, figs. 8-14. MALE HT (MHNP), from San Jos , Costa Rica.

Range: Reported also from Rincon, Prov. Puntarenas, Costa Rica (Loomis 1974).

**Colobodesmus cobanus** (Chamberlin)

*Sphaeriodesmus cobanus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 554, figs. 3, 4. MALE HT (FMNH) from Cob n, Dept. Alta Verapaz, Guatemala.

*Colobodesmus cobanus*: Loomis, 1968, Bull.U. S. Nat. Mus. 266: 42.

**Colobodesmus crucis** Loomis

*Colobodesmus crucis* Loomis, 1974, Florida Entom., 57: 180, figs. 16-18. MALE HT (FSCA) from Finca Las Cruces near San Vito, Puntarenas Prov., Costa Rica.

**Colobodesmus triramus** Kraus

*Colobodesmus triramus* Kraus, 1954, Senckenb. biol., 35: 320, figs. 47-49. MALE HT (SMF) from Finca la Yoya, km 40 on highway behind Sonsonate, Dept. Sonsonate, El Salvador.

Range: Depts. Santa Ana and Sonsonate., El Salvador.

Genus **Cyclodesmus** Humbert & DeSaussure

*Cyclodesmus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 13: 149. Type species: *C. aztecus* Humbert & DeSaussure, by monotypy. \_ Cook, 1898, Proc. U. S. Nat. Mus., 21: 459. \_ Carl, 1902, Rev. Suisse Zool., 10: 678.

One species, ?Veracruz, Mexico.

**Cyclodesmus aztecus** Humbert & DeSaussure

*Cyclodesmus aztecus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 13: 149; Miss. Sci. Mexique, Zool., 6(2): 24, pl. I, figs. 3-3c. Location of type material uncertain (presumably MHNG), from no closer locality than Cordill re orientale. \_ Carl, 1902, Rev. suisse Zool., 10: 678, fig. 109.

I have been unable to locate the original pinned specimens on which this species was based in the Geneva collection. It is especially unfortunate that *aztecus* is one of the few species for which some fairly precise locality was not mentioned by its describers, rendering its rediscovery in the field largely a matter of serendipity, and attention to the various places at which DeSaussure is known to have collected.

Genus **Cylionus** Cook



*Cylionus* Cook, 1898, Proc. U. S. Nat. Mus., 21: 462. Type species: *Sphaeriodesmus gracilis* Humbert & DeSaussure, 1869, by original designation. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 127.

Three species are described under this generic name, southern Mexico, Guatemala. As discussed by Pocock (1909: 127) the status of this name is uncertain and requires investigation.

***Cylionus constrictus* Pocock**

*Cylionus constrictus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 127, pl. IX, figs. 5-5f. Location of type material unknown, from Volc n de Agua, Dept. Sacatepequez, Guatemala.

***Cylionus gracilis* (Humbert & DeSaussure)**

*Sphaeriodesmus gracilis* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., (2) 21: 149; 1872, Miss. Sci. Mexique, Zool., (6) 2: 22, pl. 1, figs. 2-21. Type material (?MHNG) from la Cordill re orientale du Mexique; Moyoapan.

*Cylionus gracilis*: Cook, 1898, Proc. U. S. Nat. Mus. 21: 463. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 128.

I could not locate the type material at Geneva, nor was *gracilis* among the species redescribed by Carl in 1902-03. The collection of topotypic specimens at Moyoapan, a settlement close to Fortin de las Flores, Veracruz, warrants special consideration.

***Cylionus kauanus* Chamberlin**

*Cylionus kauanus* Chamberlin, 1938, Carnegie Inst. Washington Publ. 491: 182, figs. 52-55. FEMALE HT (USNM) from Kaua Cave at Kaua, Yucatan, Mexico.

**Genus *Eusphaeriodesmus* Brolemann**

*Eusphaeriodesmus* Brolemann, 1916, Ann. Soc. Entom. France, 84: 605. Type species: *Sphaeriodesmus angustus* Pocock, 1909, by original designation. \_ Loomis, 1972, Florida Entom., 55: 200 (key to known species).

Five species, Costa Rica to Veracruz and Guerrero, Mexico.

***Eusphaeriodesmus angustus* (Pocock)**

*Sphaeriodesmus angustus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 123, pl. IX, figs. 1-1g. Location of MALE HT unknown, from Senahu, Dept. Alta Verapaz, Guatemala.

***Eusphaeriodesmus bilobatus* Loomis**

*Eusphaeriodesmus bilobatus* Loomis, 1972, Florida Entom., 55: 200, figs. 23-25. MALE HT (USNM) from Cairo, Limon Prov., Costa Rica.

***Eusphaeriodesmus prehensor* (Pocock)**

*Sphaeriodesmus prehensor* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 123, pl. VIII, figs. 9, 9a. MALE HT (BMNH), from Omilteme [Omiltemi], Guerrero, Mexico.

Range: Recorded from two localities in Morelos, Mexico (Chamberlin, 1943).

**Eusphaeriodesmus robustus** (Pocock)

*Sphaeriodesmus robustus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 122, pl. VIII, figs. 7-7h. MALE HT (BMNH) from San Andres Tuxtla, Veracruz, Mexico.

**Eusphaeriodesmus stylifer** (Pocock)

*Sphaeriodesmus stylifer* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 124, pl. IX, figs. 2-2c. Location of type material unknown, from Irazu, Costa Rica, presumably Volc n Irazu, in Cartago Prov.

Genus **Haplocyclodesmus** Attems

*Haplocyclodesmus* [as subgenus of *Cyclodesmus*] Attems, 1940, Das Tierreich, 70: 368. Type species: *Cyclodesmus crassartus* Loomis, 1936, by original designation.

*Caraibocyclus* Loomis, 1959, Journ. Washington Acad. Sci., 49: 160. Type species: *Cyclodesmus angustipes* Loomis, 1936, by original designation. Synonymized by Hoffman, 1980.

17 species, Greater Antilles (Cuba, Haiti, Jamaica) and Guadeloupe, the majority of species in Haiti. It is remarkable that none have been described from the adjacent area of the Republica Dominicana..

**Haplocyclodesmus angustipes** (Loomis)

*Cyclodesmus angustipes* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 86, fig. 37. MALE HT (USNM) from near Trouin, Haiti.

*Caraibocyclus angustipes*: Loomis, 1959, Journ. Washington Acad. Sci., 49: 160.

**Haplocyclodesmus crassartus** (Loomis)

*Cyclodesmus crassartus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 81, fig. 34. MALE HT (USNM) from Fond des Negre, Haiti.

*Cyclodesmus (Haplocyclodesmus) crassartus*: Attems, 1940, Das Tierreich, 70: 369.

**Haplocyclodesmus ennergyensis** (Loomis)

*Cyclodesmus ennergyensis* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 92, fig. 40a,b. MALE HT (USNM) from Ennergy, Haiti.

**Haplocyclodesmus falcarius** (Loomis)

*Cyclodesmus falcarius* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 98, fig. 44. MALE HT (USNM) from Morne Pilboreau above Ennergy, Haiti.

**Haplocyclodesmus globulus** (Loomis)

*Cyclodesmus globulus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 90, fig. 39. MALE HT (USNM) from site between Leogane and Petit Goave, Haiti.

**Haplocyclodesmus haitianus** (Chamberlin)

*Cyclodesmus haitianus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 215. FEMALE HT (MCZ) from Diquini, Haiti. \_ Loomis, 1936, Bull. Mus. Comp. Zool. 80: 100, fig. 45.

Range: Diquini, Petionville, and Kenscoff, Haiti.

**Haplocyclodesmus hubbardi** (Cook)

*Cyclodesmus hubbardi* Cook, 1896, Brandtia, 5: 28; 1898, Proc. U. S. Nat. Mus. 21: 460, pl. 31, fig. 2. MALE HT (USNM) from a cave near Mandeville, Manchester Par., Jamaica.

**Haplocyclodesmus incisus** (Loomis)

*Cyclodesmus incisus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 88, fig. 38a-d, pl. 3, figs. 1, 2. MALE HT (USNM) from Port au Prince, Haiti.

**Haplocyclodesmus insulanus** (Loomis)

*Cyclodesmus insulanus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 93, fig. 41. MALE HT (USNM) from île de Cabrit, near Bayeux, Haiti.

**Haplocyclodesmus irretitus** (Loomis)

*Cyclodesmus irretitus* Loomis, 1937, Bull. Mus. Comp. Zool., 80: 219, figs. 7, 8. MALE HT (MCZ) from Soledad, near Cienfuegos, Prov. Cienfuegos., Cuba.

**Haplocyclodesmus jeremie** Mauris

*Haplocyclodesmus jeremie* Mauris, 1980, Bull. Mus. natn. Hist. natur. Paris, (4) 2 (A4): 1072, figs. 16-19. \_ HT (MHNP) from Trace Merwart (Basse Terre), Guadeloupe.

**Haplocyclodesmus montanus** (Loomis)

*Cyclodesmus montanus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 95, fig. 42. MALE HT (MCZ) from Morne Pilboreau, above Ennery, Haiti.

**Haplocyclodesmus nudatus** (Loomis)

*Cyclodesmus nudatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 85, fig. 36. MALE HT (USNM) from L Archaie, Haiti.

**Haplocyclodesmus obesus** Loomis

*Cyclodesmus obesus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 83, fig. 35. MALE HT (USNM) from Fond des Negre, Haiti.

**Haplocyclodesmus porcellanus** (Pocock)

*Cyclodesmus porcellanus* Pocock, 1894, Journ. Linnean Soc. London, 24: 509, pl. 39, figs. 1, 1a. MALE HT (BMNH) from Jamaica without further locality.

Range: The only known locality for the species is a site south of Claremont, St. Ann Par., Jamaica (Loomis, 1975).

**Haplocyclodesmus rubellus** (Loomis)

*Cyclodesmus rubellus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 97, fig. 43. MALE HT (USNM) from LeBorge, Haiti.

**Haplocyclodesmus setosus** (Loomis)

*Cyclodesmus setosus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 101. FEMALE HT (MCZ) from La Vestite, Haiti.

**Genus Ischnosphaeriodesmus** Brolemann

*Ischnosphaeriodesmus* Brolemann, 1916, Ann. Soc. Entom. France, 84: 561. Type species: *Sphaeriodesmus digitatus* Pocock, 1909, by original designation.

One species, Guatemala.

**Ischnosphaeriodesmus digitatus** (Pocock)

*Sphaeriodesmus digitatus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 124, pl. IX, figs. 3-3d. MALE HT (BMNH) from Volc n de Agua, Dept. Sacatepequez, Guatemala.

*Ischnosphaeriodesmus digitatus*: Brolemann, 1916, Ann. Soc. entom. France, 84: 561.

**Genus Lophocyclus** Loomis

*Lophocyclus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 102. Type species: *L. laxatus* Loomis, by original designation.

Four species, Haiti.

Structural diversity in gonopod structure suggests that this may be a polyphyletic group.

**Lophocyclus laxatus** Loomis

*Lophocyclus laxatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 106, fig. 48. FEMALE HT (USNM) from a site north of Trouin, Haiti.

**Lophocyclus munitus** Loomis

*Lophocyclus munitus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 105, fig. 47. MALE HT (MCZ) from Roche Croix, Haiti.

**Lophocyclus passus** Loomis

*Lophocyclus passus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 103, figs. 46a, b. MALE HT (MCZ) from Roche Croix, Haiti.

**Lophocyclus pumilus** Loomis

*Lophocyclus pumilus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 108, fig. 49. MALE HT (MCZ) from Morne La Hotte, Haiti.

**Genus Proeilodesmus** Hoffman

*Proeilodesmus* Hoffman, 1990, Rev. suisse Zool., 97: 672. Type species: *P. mecistonyx* Hoffman, by original designation.

One species, Oaxaca.

**Proeilodesmus mecistonyx** Hoffman

*Proeilodesmus mecistonyx* Hoffman, 1990, Rev. suisse Zool. 97: 674, figs. 1-5, 9-13. MALE HT (MHNG) from the cave Nita Diplodocus on Cerro Rabon, northeast of Huautla de Jimenez, Oaxaca, Mexico.

**Genus Sphaeriodesmus** Peters

*Sphaeriodesmus* Peters, 1864, Monatsb. Akad. Wiss. Berlin for 1864: 529. Type species: *Glomeridesmus mexicanus* De Saussure, 1859. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 119 (key to then-known species). \_ Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 81 (discussion of species groups).

34 species, Northern Mexico to Panama; Cuba, Jamaica.

**Sphaeriodesmus bruesi** (Chamberlin)

*Cyclodesmus bruesi* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 215. MALE HT (MCZ) from Liguanea Plain [eastern Kingston], St. Andrew Par., Jamaica.

*Sphaeriodesmus bruesi*: Loomis, 1937, Bull. Mus. Comp. Zool. 80: 222.

**Sphaeriodesmus bukowinus** Chamberlin

*Sphaeriodesmus bukowinus* Chamberlin, 1952, Ann. Ent. Soc. America, 45: 553, fig. 1,2. MALE HT (FMNH) from Bukowina, Belize.

Range: Recorded from Ruinas de Coba, Quintana Roo, Mexico (Shear 1986).

**Sphaeriodesmus conformans** Chamberlin

*Sphaeriodesmus conformans* Chamberlin, 1925, Proc. Biol. Soc. Washington, 38: 44. MALE HT (MCZ) from Barro Colorado Island, Canal Zone, Panama.

**Sphaeriodesmus coriaceus** Pocock

*Sphaeriodesmus coriaceus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 125, pl. IX, figs. 4-4b. MALE HT (BMNH) from San Juan, Dept. Alta Verapaz, Guatemala.

Range: Recorded from Volc n Tajumulco, Dept. San Marcos, Guatemala, and Ruinas de Cob , Quintana Roo, Mexico.

**Sphaeriodesmus cotzalostoc** Shear

*Sphaeriodesmus cotzalostoc* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 83, fig. 42. MALE HT (AMNH) from Sumidero de Cotzalostoc, three km east of Totolacatla, Zongolica, Veracruz, Mexico.

**Sphaeriodesmus cruzbelem** Shear

*Sphaeriodesmus cruzbelem* Shear, 1974, Quad. Accad. Lincei, Probl. Att. Sci. Cult., 171(2): 279, figs. 71-75. MALE HT (MCZ) from Cueva de la Cruz Bel n, Comit n, Chiapas, Mexico.

**Sphaeriodesmus filamentosus** Loomis

*Sphaeriodesmus filamentosus* Loomis, 1974, Florida Entom., 57: 182, fig. 19. MALE HT (FSCA) from Finca las Cruces, near San Vito, Puntarenas Prov., Costa Rica.

**Sphaeriodesmus golondrinensis** Shear

*Sphaeriodesmus golondrinensis* Shear, 1974, Acc. Naz. Lincei., Prob. Att. Sci. Cult., 171(2): 278, figs. 65-67. MALE HT (MCZ) from Cueva de la Golondrina, Bochil, Chiapas, Mexico.

**Sphaeriodesmus griseus** Chamberlin

*Sphaeriodesmus griseus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 55, fig. 172. MALE HT (USNM) from Volc n Orizaba at 300 m.[?], Veracruz, Mexico.

Aside from being appreciably smaller, this nominal species is very similar to *S. mexicanus*, and is probably at best a subspecies.

**Sphaeriodesmus grubbsi** Shear

*Sphaeriodesmus grubbsi* Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 83, fig. 39. MALE HT (AMNH) from S tano del Rio Iglesia, five km southeast of Huautla de Jimen z, Oaxaca, Mexico.

**Sphaeriodesmus hondurasanus** Chamberlin

*Sphaeriodesmus hondurasanus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 57, pl. 14, figs. 8-10, pl. 15, figs. 1, 2. MALE HT (USNM) from San Juan Pueblo, ? Dep. Yoro, Honduras.

**Sphaeriodesmus iglesia** Shear

*Sphaeriodesmus iglesia* Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 83, fig. 40. MALE HT (AMNH) from S tano del R o Iglesia, five km southeast of Huautla de Jimen z, Oaxaca, Mexico.

**Sphaeriodesmus isolatus** Chamberlin

*Sphaeriodesmus isolatus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 13. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

**Sphaeriodesmus longiramus** Kraus

*Sphaeriodesmus longiramus* Kraus, 1954, Senckenb. Biol., 35: 319, figs. 45, 46.. MALE HT (SMF) from Finca San Jorge, near Santa Ana, Dept. Santa Ana, El Salvador.

**Sphaeriodesmus longitubus** Loomis

*Sphaeriodesmus longitubus* Loomis, 1963, Journ. Kansas Entom. Soc., 36: 119, figs. 1-4. MALE HT (USNM) from site on road to Chipinque Mesa, five miles southwest of Monterrey, Nuevo Leon, Mexico.

**Sphaeriodesmus medius** Carl

*Sphaeriodesmus medius* Carl, 1902, Rev. suisse Zool., 10: 675, figs. 105, 106. MALE HT (MHNG) from Guatemala, without further details.

**Sphaeriodesmus mexicanus** (DeSaussure)

*Glomeridesmus mexicanus* DeSaussure, 1859, Linnaea Entom., 13: 328; M m. Soc. Phys. Hist. Nat. Gen ve, 15(2): 276, fig. 1. MALE HT (MHNG) from Cordova [Cordoba], Veracruz, Mexico.

*Sphaeriodesmus mexicanus*: Peters, 1864, Monatsber. Akad. Wiss. Berlin f r 1864: 529. \_ Carl, 1902, Revue suisse Zool., 10: 675, figs. 102-104.

**Sphaeriodesmus michoacanus** Chamberlin

*Sphaeriodesmus michoacanus* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 57, figs. 2, 3. MALE HT (USNM) from Cerro San Miguel near Tancitaro, Michoacan, Mexico.

**Sphaeriodesmus neglectus** Carl

*Sphaeriodesmus neglectus* Carl, 1902, Rev. suisse Zool., 10: 676, fig. 107, 108. 2MALE ST (MHNG) labeled Mexico without further details but probably from Veracruz or Puebla..

Range: Recorded from five km southeast of Huautla de Jimenez, Oaxaca, Mexico (Shear 1986)

**Sphaeriodesmus nodulosus** Kraus

*Sphaeriodesmus nodulosus* Kraus, 1954, Senckenb. Biol. 35: 318, fig. 43, 44. MALE HT (SMF) from Hacienda los Planes, Dept. Santa Ana, El Salvador.

**Sphaeriodesmus nortoni** Shear

*Sphaeriodesmus nortoni* Shear, 1974, Accad. Naz. Lincei Att. Prolb. Sci. Cult., 171(2): 276, figs. 59-61. MALE HT (MCZ) from Cueva Chica de la Perra, 8 miles northwest of Gomez

Farias, Tamaulipas, Mexico.

Range: Recorded from three km south of Gom z Farias, Tamaulipas (Shear, 1986).

**Sphaeriodesmus oniscus** Pocock

*Sphaeriodesmus oniscus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 122, pl. VIII, figs. 8-8b. MALE HT (BMNH) from San Andres Tuxtla, Veracruz, Mexico.

**Sphaeriodesmus pinetorum** (Chamberlin)

*Cyclodesmus pinetorum* Chamberlin, 1922, Proc. U. S. Nat. Mus., 61(10): 16, pl.6, figs. 4, 5. MALE HT (USNM) from Isla de Pinos [now Isla de la Juventud], Cuba.

*Sphaeriodesmus pinetorum*: Loomis, 1937, Bull. Mus. Comp. Zool., 80: 221, figs. 9, 10 (redescription, material from Soledad , Prov. Cienfuegos, Cuba).

**Sphaeriodesmus rabonus** Shear

*Sphaeriodesmus rabonus* Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 85, figs. 43, 44. MALE HT (AMNH) from trail to Cerro Rabon, 25-30 km east of Huautla Jimen z, Oaxaca, Mexico

**Sphaeriodesmus redondo** Shear

*Sphaeriodesmus redondo* Shear, 1977, Accad. Naz. Lincei, Probl. Att. Sci. Cult., 171(3): 240, figs. 12, 13. \_ HT (AMNH) from Cueva de Punte Redondo, Yitotl, Chiapas, Mexico.

**Sphaeriodesmus robertsoni** Shear

*Sphaeriodesmus robertsoni* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 83, fig. 41. MALE HT (AMNH) from Sumidero de Cotzalostoc, three km south of Totolacatla, Zongolica, Veracruz, Mexico.

**Sphaeriodesmus salto** Shear

*Sphaeriodesmus salto* Shear, 1974, Accad. Naz. Lincei, Att. Probl. Sci. Cult., 171(2): 276, figs. 62-64. MALE HT (MCZ) from El Salto, San Luis Potos , Mexico.

**Sphaeriodesmus sanjose** Shear

*Sphaeriodesmus sanjose* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 85, fig. 45. MALE HT (AMNH) from Cueva de San Jos , San Jos , Hidalgo, Mexico.

**Sphaeriodesmus saussurei** Attems

*Sphaeriodesmus mexicanus (in part)* Humbert & DeSaussure, 1872, Miss. Sci. Mexique, Zool., (6) 2: 21.

*Sphaeriodesmus Saussurei* Attems, 1899, Denks. Akad. Wiss. Wien, 69: 391. Four ST (MHNG) from Cordill re orientale , Mexico (it is uncertain if the syntypes of this species were collected at Cerro de Escamela with the much larger specimens of *mexicanus*, with which they were combined by Humbert & DeSaussure). \_ Carl, 1902, Revue suisse Zool., 10:



677, figs. 100, 101 (illustration of male syntype)..

One of the two male syntypes was specified by me in 1979 and is here designated **lectotype** of *Sphaeriodesmus saussurei* Attems.

**Sphaeriodesmus secundus** Loomis

*Sphaeriodesmus secundus* Loomis, 1977, Florida Entom., 60: 24, figs. 7, 8. MALE HT (FSCA) from Windsor Great Cave, 10 miles south of Falmouth, Trelawney Par., Jamaica.

**Sphaeriodesmus sprousei** Shear

*Sphaeriodesmus sprousei* Shear, 1986, Texas Mem. Mus. Speleol. Monogr. 1: 82, fig. 38. MALE HT (AMNH) from Cueva de Galindo, 500 m south of Galindo, Tamaulipas, Mexico.

**Sphaeriodesmus tortus** Shear

*Sphaeriodesmus tortus* Shear, 1986, Texas Mem. Mus. Speleol. Monogr., 1: 85, figs. 46, 47. MALE HT (AMNH) from Act n Lolt n, seven km southwest of Oxkutzcab, Yucat n, Mexico.

Range: Recorded also from Caves Branch, Cayo Dist., Belize.

**Sphaeriodesmus trullatus** Shear

*Sphaeriodesmus trullatus* Shear, 1977, Accad. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 239, figs. 9-11. MALE HT (AMNH) from Grutas de Llano Grande, at Llano Grande, Huixtla, Chiapas.

**Sphaeriodesmus zontehuitz** Shear

*Sphaeriodesmus zontehuitz* Shear, 1974, Accad. Naz. Lincei, Att. Probl. Sci. Cult. 171(2): 279, figs. 68-70. \_ HT (MCZ) from Cueva de Arcotete, six km east of San Crist bal de las Casas, Chiapas, Mexico.

## Family Holistophallidae Silvestri

Holistophallidae Silvestri, 1909, Boll. Mus. Zool. Anat. comp. Univ. Torino, 24(615): 2. \_ Loomis, 1968, Bull. U. S. Nat. Mus., 266: 27. \_ Hoffman, 1990, Rev. suisse Zool., 97: 677 (definition of group).

Seven genera, Mexico to Honduras.

### Genus **Duoporus** Cook

*Duoporus* Cook, 1901, Proc. Entom. Soc. Washington, 4: 403. Type species: *D. barretti* Cook, by original designation.

Monotypic. Mexico.

**Duoporus barretti** Cook

*Duoporus barretti* Cook, 1901, Proc. Entom. Soc. Washington, 4: 403. Type material (?USNM) from Cuernavaca, Morelos, Mexico.

Genus **Elcarmenia** Kraus

*Elcarmenia* Kraus, 1954, Senckenberg. Biol. 35: 328. Type species: *E. engelhardi* Kraus, by original designation.

Monotypic. El Salvador.

**Elcarmenia engelhardi** Kraus

*Elcarmenia engelhardi* Kraus, 1954, Senckenb. Biol. 35: 328, figs. 58-61. MALE HT (SMF) from Finca El Carmen, Dept. San Vicente, El Salvador.

Genus **Holistophallus** Silvestri

*Holistophallus* Silvestri, 1909, Boll. Mus. Zool. Anat. Comp. Univ. Torino, 24(615): 2. Type species: *H. peregrinus* Silvestri, by original designation.

Monotypic, Central America.

**Holistophallus peregrinus** Silvestri

*Holistophallus peregrinus* Silvestri, 1909, Boll. Mus. Zool. Anat. comp. Univ. Torino, 24 (615): 4, figs. I-III MALE HT (Mus. Zool. Univ. Torino) from Tabasco (?state), Mexico.

Range: East coast lowlands of Central America from Tabasco to northwestern Honduras.

Genus **Pammicrophallus** Pocock

*Pammicrophallus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 183. Type species: *P. ornatus* Pocock, by original designation.

Three species, Guerrero to El Salvador.

**Pammicrophallus ornatus** Pocock

*Pammicrophallus ornatus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 184, pl. XIV, figs. 3-3i. Location of type material unknown, from Omilteme (Omiltemi), 8000 ft., Guerrero, Mexico.

**Pammicrophallus pasaquinae** Kraus

*Pammicrophallus pasaquinae* Kraus, 1954, Senckenb. Biol. 35: 327, figs. 56, 57. MALE HT (SMF) from km 198 on the highway from La Union to Pasaquina, Dept. La Union, El Salvador.

**Pammicrophallus pictus** Pocock

*Pammicrophallus pictus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 185, pl. XIV, figs. 4-4b. Location of type material unknown, from Omilteme (Omiltemi), Guerrero, Mexico.

### Genus **Synthodesmus** Chamberlin

*Synthodesmus* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 54. Type species: *S. simulans* Chamberlin, by original designation.

Monotypic. Guatemala.

*Synthodesmus simulans* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 54, pl. 21, figs. 6-9, pl. 22, figs. 1,2. MALE HT (USNM) from San Rafael [? 30 km southwest of Jalapa, Dept. Jalapa], Guatemala.

The above specification of type locality is conjectural; I do not know at which of the several places called San Rafael Cook obtain the types, nor did Mr. Loomis who was in a better position to know. Perhaps Cook's field journal still exists in some USDA file and can provide a clue or hard evidence.

### Genus **Tunodesmus** Chamberlin

*Tunodesmus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 52. Type species: *T. orthogonus* Chamberlin, by original designation.

Two species, Guatemala.

#### **Tunodesmus laminiger** Chamberlin

*Tunodesmus laminiger* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 53, pl. 21, figs. 3-5. MALE HT (USNM) from San Rafael [Dept. Jalapa?], Guatemala.

#### **Tunodesmus orthogonus** Chamberlin

*Tunodesmus orthogonus* Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 53, pl. 19, figs. 10, pl. 20, figs. 1-9, pl. 21, figs. 1, 2. MALE HT (USNM) from San Rafael [Dept. Jalapa?], Guatemala. \_ Hoffman, 1990, Rev. suisse Zool., 97: 677, fig. 14 (gonopod of holotype).

### Genus **Zeuctodesmus** Pocock

*Zeuctodesmus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 185. Type species: *Z. caeruleus* Pocock, by original description.

Two species, Mexico (Guerrero: Michoacan).

#### **Zeuctodesmus caeruleus** Pocock

*Zeuctodesmus caeruleus* Pocock, 1909, Biol. Centr.-Amer. Diplopoda, p. 186, pl. XIV, figs. 5-5j. Location of type material unknown, from Amula, Guerrero, Mexico.

#### **Zeuctodesmus ferrugineus** Chamberlin

*Zeuctodesmus ferrugineus* Chamberlin, 1942, Bull. Univ. Utah, 34(7): 54, figs. 132-134. MALE HT (USNM) from Zitacuaro, Michoacan, Mexico.

## Family Rhachodesmidae Carl

Rhachidesminae Carl, 1903, Revue suisse Zool., 11: 553.

Rhachodesminae Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 170.

Rhachodesmidae Attems, 1914, Arch. Naturg. 80(A4): 281.

Aceratophallinae Verhoeff, 1941, Zool. Anz., 146: 82.

16 genera, Mexico to Costa Rica.

Removed from the family: *Sakophallus* Chamberlin, 1942 (see Nearctodesmidae).

The classification of this family is currently in a state of confusion; the limits of several genera are undefined, a number of species require relocation into new genera, additional synonymy is probable, and many new taxa remain to be accounted. Only a revision of the entire group will bestow law and order; and rather than anticipate likely changes my only option is to document the most recent treatment without prejudice. As a result, the following treatment is a patchwork of both reliable and totally chaotic information and should be recognized as such.

## Genus *Aceratophallus* Carl

*Aceratophallus* Carl, 1902, Revue suisse Zool., 10: 608. Type species: *A. unicolor* Carl, by original designation.

*Phorositus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 562. Type species; *P. granulifer* Chamberlin, by original designation. Synonymized by Shear, 1974..

Twelve species, Yucatan to Costa Rica.

### ***Aceratophallus calcehtokanus*** Chamberlin

*Aceratophyllus* [sic!] *calcehtokanus* Chamberlin, 1938, Carnegie Inst. Washington Publ. 491: 178, fig. 41. MALE HT (USNM) from Xkye Cave, Calcehtok, Yucatan, Mexico.

### ***Aceratophallus dux*** Chamberlin

*Aceratophallus dux* Chamberlin, 1914, Trans. American Entom. Soc., 40: 193, fig. 11. MALE HT(?ANSP/MCZ) from Juan Vi as, Prov. Cartago, Costa Rica.

### ***Aceratophallus granulifer*** (Chamberlin)

*Phorositus granulifer* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 562, fig. 27. MALE HT (FMNH) from Volc n Tajumulco, Dept. San Marcos, Guatemala.

*Aceratophallus granulifer*: Shear, 1974, Accad. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 268.

**Aceratophallus guatemalae** Chamberlin

*Aceratophallus guatemalae* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 31, figs. 18, 19. MALE HT (ANSP) from Piedras Negras, Dept. Pet n, Guatemala.

**Aceratophallus hoctunanus** Chamberlin

*Aceratophyllus [sic] hoctunanus* Chamberlin, 1938, Carnegie Inst. Washington Publ. 491: 176, fig. 40. MALE HT (USNM) from Hoctun Cave at Hoctun, Yucatan, Mexico.

**Aceratophallus lamellifer** Brolemann

*Aceratophallus unicolor lamellifer* Brolemann, 1905, Ann. Soc. ent. France, 74: 346, figs. 1-5. MALE HT (MHNP) from San Jos , Costa Rica.

*Aceratophallus lamellifer*: Chamberlin, 1922, Proc. U. S. Nat. Mus. 60(8): 56.

*Neoleptodesmus josefinus* Attems, 1944, Zool. Anz., 144: 238, figs. 24, 25. MALE HT (NMW) from La Caja, near San Jos , Costa Rica. **New synonymy!**

Range: Recorded also from Parismina, Chitaria, and Tilar n, Costa Rica.

Attems fig. 24 and Brolemann s fig. 4 in the works cited represent identical gonopod structure, as might be expected from proximity of the type localities.

**Aceratophallus maya** Loomis

*Aceratophallus maya* Loomis, 1964, Proc. Biol. Soc. Washington, 77: 186, figs. 4-6. MALE HT (USNM) from Tikal, Dept. Pet n, Guatemala.

**Aceratophallus oxkutzcabus** Chamberlin

*Aceratophyllus oxkutzcabus* Chamberlin, 1938, Carnegie Inst. Washington Publ. 491: 176, figs. 33-39. MALE HT (USNM) from Gongora Cave, Oxkutzcab, Yucatan, Mexico.

**Aceratophallus quadratus** Loomis

*Aceratophallus quadratus* Loomis, 1961, Proc. U. S. Nat. Mus. 113: 92, fig. 3a-b. MALE HT (USNM) thought to be from the Canal Zone, Panama, later (Loomis, 1964) corrected to Amaya, between Corinto and Chinandega, Dept. Chinandega, Nicaragua.

**Aceratophallus scutigeroides** Shear

*Aceratophallus scutigeroides* Shear, 1974, Accad. Naz. Lincei. Prob. Att. Sci. Cult. 171: 269, figs. 50-54. MALE HT (MCZ) from caves at Finca Sepacuite, Senah , Dept. Alta Verapaz, Guatemala.

**Aceratophallus sumucus** Chamberlin

*Aceratophallus sumucus* Chamberlin, 1956, Ent. News, 67: 158, fig. 3. MALE HT (USNM) from Musawas, Rio Waspuc, Dept. ?Zelaya, Nicaragua.

**Aceratophallus unicolor** Carl

*Aceratophallus unicolor* Carl, 1902, Revue suisse Zool., 10: 609, figs. 35, 36. MALE HT (MHNG) from San Jos , Costa Rica.

Range: Recorded from El Gallito [Prov. ?Cartago], Costa Rica (Chamberlin, 1933).

**Genus Acutangulus** Attems

*Acutangulus* Attems, 1898, Denks. Akad. Wiss. Wien, 67: 409. Type species: *Polydesmus coccineus* DeSaussure & Humbert, 1869, by monotypy. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 178. \_ Causey, 1973, Bull. Assn. Mexican Stud., 5: 108 (key to five species).

Five species, Mexico.

**Acutangulus alius** Causey

*Acutangulus alius* Causey, 1973, Bull. Assn. Mexican Cave Stud. 5: 109, figs. 3-6. MALE HT (USNM) from Cueva del Ojo de Agua de Tlilapan, Tlilapan, Veracruz, Mexico.

**Acutangulus coccineus** (Humbert & DeSaussure)

*Polydesmus (Tropisoma) coccineus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 21: 152. ST (MHNG) from Orizaba, Veracruz, Mexico.

*Polydesmus (Tropisoma) coccineus*: DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 160, pl. 1, fig. 12.

*Acutangulus coccineus*: Carl, 1903, Revue suisse Zool., 11: 560, fig. 17 (syntype gonopod).

**Acutangulus neglectus** Carl

*Polydesmus (Strongylosoma) coccineus* var. Humbert & DeSaussure, 1872, Miss. Sci. Mexique, Zool., (6) 2: 51.

*Acutangulus neglectus* Carl, 1903, Revue suisse Zool., 11: 650, fig. 16. MALE STs (MHNG) from Orizaba, Veracruz, Mexico.

**Acutangulus pictus** Causey

*Acutangulus pictus* Causey, 1973, Bull. Assn. Mexican Cave Stud., 5: 109, fig. 7. MALE HT (USNM) from S tano de Botella Chica, three km northwest of Tequila, Veracruz, Mexico.

**Acutangulus sororius** Causey

*Acutangulus sororius* Causey, 1973, Bull. Assoc. Mexican Cave Stud., 5: 111, fig. 8. MALE HT (USNM) from Coscamatepec, Veracruz, Mexico.

**Genus Ceuthauxus** Chamberlin

*Ceuthauxus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 12. Type species: *Pararachistes nuevus*

Chamberlin, 1941, by original designation.

Six species, northern Mexico.

**Ceuthauxus constans** Causey

*Ceuthauxus constans* Causey, 1973, Bull. Assoc. Mexican Cave Stud., 5: 111, figs. 9, 10. MALE HT (USNM) from Grutas del Mogote at El Mogote, 15 km NNE of Taxco, Guerrero, Mexico.

**Ceuthauxus galeanae** (Chamberlin)

*Pararachistes galeanae* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 52, figs. 128-129. FEMALE HT (USNM) from Laguna de Laboradores at Galeana, Nuevo Leon, Mexico.

*Ceuthauxus galeanae*: Causey, 1973, Bull. Assoc. Mexican Cave Stud., 5: 112.

**Ceuthauxus mediator** Chamberlin

*Ceuthauxus mediator* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 32, fig. 20. MALE HT (ANSP) from Pabillo, Nuevo Leon, Mexico.

Loomis (1976: 399, fig. 1) has noted that the gonopods now associated with the type material of this species do not resemble the drawing attributed to *mediator* in the original description.

**Ceuthauxus morelus** Chamberlin

*Ceuthauxus morelus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 51, figs. 123, 124. MALE HT (USNM) from Tepoztlán, Morelos, Mexico.

**Ceuthauxus nuevus** (Chamberlin)

*Pararachistes [sic!] nuevus* Chamberlin, 1984, Proc. Biol. Soc. Washington, 54: 63, figs. 1, 2. MALE HT (USNM) from Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, Mexico.

*Ceuthauxus nuevus*: Chamberlin, 1942, Bull. Univ. Utah, 33(4): 12. \_ Loomis, 1976, Florida Entom., 59:397.

*Ceuthauxus hirsutipes* Loomis, 1968, Journ. Kansas Entom. Soc., 41: 383, fig. 1. MALE HT (USNM) from Horsetail Falls, near Santiago, Nuevo Leon, Mexico. Synonymized by Loomis, 1976.

**Ceuthauxus palmitonus** Chamberlin

*Ceuthauxus palmitonus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 12. MALE HT (?USNM) from Gruta del Palmito at Bustamente, Nuevo Leon, Mexico.

**Genus Chromodesmus** Loomis

*Chromodesmus* Loomis, 1976, Florida Entom., 59: 399. Type species: *C. woodruffi* Loomis, by original designation.

Five species, eastern Mexico.

This taxon was mentioned as the *potosianus* superspecies by Causey (1971: 116). Status as a genus distinct from *Strongylodesmus* seems questionable.

**Chromodesmus granulatus** (Loomis), new combination.

*Strongylodesmus granulatus* Loomis, 1966, Ann. Entom. Soc. America, 59: 13, figs. 7, 8. MALE HT (SMUK) from 18 miles southwest of Tamazunchale on Hy. 85, near Jacala, Hidalgo.

**Chromodesmus planus** Loomis

*Chromodesmus planus* Loomis, 1976, Florida Entom., 59: 400, fig. 3. MALE HT (FSCA) from San Vicente, Hy. 85, north of Ixmiquilpan, Hidalgo, Mexico.

**Chromodesmus potosianus** (Chamberlin)

*Ceuthauxus potosianus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 32, fig. 21. MALE HT (ANSP) from Alvarez, San Luis Potos, Mexico.

*Strongylodesmus potosianus*: Loomis, 1968, Bull. U. S. Nat. Mus. 266: 41. \_ Causey, 1973, Bull. Assoc. Mexican Cave Stud., 5: 116.

*Chromodesmus potosianus*: Loomis, 1976, Florida Entom. 59: 400.

Range: Recorded from 17 km west of Santa Catarina, San Luis Potos, Mexico.

**Chromodesmus viridis** Loomis

*Chromodesmus viridis* Loomis, 1976, Florida Entom. 59: 401, fig. 4. MALE HT (FSCA) from Km. 165 on Hy.101, 1803 m ASL, Tamaulipas, Mexico.

**Chromodesmus woodruffi** Loomis

*Chromodesmus woodruffi* Loomis, 1976, Florida Entom., 59: 399, fig. 2. MALE HT (FSCA) from 29 km south of Jacala, Hidalgo, Mexico.

### Genus **Curodesmus** Chamberlin

*Curodesmus* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 55. Type species: *C. guatemalensis* Chamberlin, by original designation.

Two species, Guatemala, El Salvador..

Synonymized with *Neoleptodesmus* by Attems, 1940.

**Curodesmus guatemalensis** Chamberlin

*Curodesmus guatemalensis* Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 55, pl. 22, figs. 3-6, pl. 24, figs. 1-4. MALE HT (USNM) from San Rafael (?Departamento), Guatemala.

*Neoleptodesmus guatemalensis*: Kraus, 1954, Senckenberg. Biol., 35: 321.

**Curodesmus vulcani** (Kraus), new combination.



*Neoleptodesmus vulcani* Kraus, 1954, Senckenb. Biol. 35: 324, fig. 51. MALE HT (SMF) from west side of Volc n Santa Ana near Buenos Aires, Dept. Santa Ana, El Salvador.

Range: Recorded also from two localities in Dept. Ahuachapan, El Salvador.

### Genus **Diuncustoma** Shelley

*Diuncustoma* Shelley, 1997, Myriapodologica, 4: 85. Type species: *D. cylindricum* Shelley, by original designation.

Monotypic, southern Mexico.

#### **Diuncustoma cylindricum** Shelley

*Diuncustoma cylindricum* Shelley, 1997, Myriapodologica, 4: 86, figs. 1-9. MALE HT (UCD) from 3.2 km west of Cordoba, Veracruz, Mexico.

Range: Known also from Temaxcal, Oaxaca, Mexico (map, Shelley 1997, fig. 1).

### Genus **Metaphallus** Chamberlin

*Metaphallus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 560. Type species: *Metaphallus mimus* Chamberlin, by original designation.

Monotypic. Guatemala.

#### **Metaphallus mimus** Chamberlin

*Metaphallus mimus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 562, figs. 23-26. MALE HT (FMNH) from Chichivac, Dept., Guatemala.

### Genus **Mexidesmus** Loomis

*Mexidesmus* Loomis, 1976, Florida Entom. 59: 401. Type species: *Strongylodesmus harrisoni* Causey, 1971, by original designation.

Monotypic, Mexico (Tamaulipas)

#### **Mexidesmus harrisoni** (Causey)

*Strongylodesmus harrisoni* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 31. MALE HT (not stated, inferentially USNM ) from Cueva del Rancho del Cielo no. 7, six km northwest of Gomez Farias, Tamaulipas, Mexico; 1973, Bull. Assoc. Mexican Cave Stud., 5: 114, figs. 17, 18. \_ Shear, 1974, Accad. Naz. Lincei, Prob. Att. Sci. Cult. 171: 261  
*Mexidesmus harrisoni*: Loomis, 1976, Florida Entom., 59: 402, fig. 5.

### Genus **Neoleptodesmus** Carl

*Neoleptodesmus* Carl, 1903, Revue suisse Zool., 11: 557. Type species: *Polydesmus (Oxyurus) Sumichrasti* Humbert & Saussure, 1869, by subsequent designation of Pocock, 1909.

*Euphallus* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 559. Type species: *E. dybasi* Chamberlin, by original designation. Synonymized by Loomis, 1968.

Five nominal species, Mexico (Veracruz). Some of the names admitted here are certain to be synonyms.

Removed from the genus: *Neoleptodesmus josephinus* Attems, 1944 (see *Aceratophallus*), *N. vulcan* Kraus, 1954 (see *Curodesmus*), also *N. geniculatus*, *salvadorensis*, and *sinuatus* Kraus, 1954 (see Species of Uncertain Generic Position).

### ***Neoleptodesmus aztecus* (DeSaussure)**

*Polydesmus (Leptodesmus) aztecus* DeSaussure, 1859, Linnaea Entom., 13: 324. STs (MHNG) from le plateau de Mexique (see comment below); 1860, M m. Soc. Phys. Hist. nat. Gen ve, 15: 301, figs. 5-5c.

*Neoleptodesmus aztecus*: Carl, 1903, Revue suisse Zool., 11: 559, fig. 21. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 180.

*Neoleptodesmus dispersus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 53, figs. 130, 131. MALE HT (USNM) from Nuevo Paraje, Veracruz, Mexico. **New synonymy!**

*Euphallus dybasi* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 560, figs. 15, 16 [stated in the figure caption to be 19 and 20, but these represent the gonopod of a Brazilian chelodesmid]. MALE HT (FMNH) from El Fortin, Veracruz, Mexico. Synonymized by Loomis, 1968.

Range: southern Veracruz. Specimens collected by W. T. Keeton in 1959 extend the range as far east as Volc n San Martin and westward to Ojozarco (at 5400 ft.!) on Hy. 293.

Loomis (1968: 37) cited Volc n de Tuxtla as the type locality. In his 1860 monograph, DeSaussure stated Je l ai trouv plusieurs reprises sur le plateau de Puebla. Un grande individu m le a t pris sur le flancs du Pic d Orizaba, mais d autres individus proviennent du volcan de Tuxtla, d un climat temp r . The redescription of this species by Carl (1903: 559) mentioned Originalexemplare from Puebla, and when W. T. Keeton borrowed rhacodesmid material from Geneva, he was sent, of *aztecus*, only a male and immature female labeled Puebla. Presumably the male is the specimen studied by Carl; the gonopods are missing and are perhaps on a microscope preparation which was at that time disassociated from the main collection.

In 1964 I did not see other specimens from the localities mentioned by DeSaussure. Perhaps the Puebla specimens are the only surviving members of the original series. Dr. Keeton returned them with the male designated as lectotype, which action as here publicized restricts the type locality to Puebla.

The volcan de Tuxtla of DeSaussure is unquestionably Volc n San Martin, just east of San Andr s Tuxtla. Whether the same species occurs on this isolated mountain and the main eastern Cordillera at Orizaba remains to be established.

### ***Neoleptodesmus intermedius* (Humbert & DeSaussure)**

*Polydesmus (Oxyurus) intermedius* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 21:

151.MALE FEMALE ST (?MHNG) from Cordiliera orientalis mexicana. —  
DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 49, pl. 1, fig. 10 ( le  
Mexique; Orizaba.). Synonymized with *N. sumichrasti* by Carl, 1903.

Carl (1903: 558) examined the original male type specimens. They were not sent to Keeton in 1966 and I do not know if they still exist at Geneva. In any event, I revive the name here to prevent its continued status as a synonym of *sumichrasti* prior to a revision of the genus.

#### **Neoleptodesmus orizabae** (Humbert & DeSaussure)

*Polydesmus (Oxyurus) orizabae* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 21: 151.  
FEMALE HT (formerly MHNG, existence uncertain), from Orizaba, Veracruz, Mexico.

?*Neoleptodesmus orizabae*: Carl, 1903, Revue suisse Zool., 11: 557 (combination implied:  
Hierher geh ren.....wahrscheinlich.... ).

The type specimen of *orizabae* was not examined by Carl, who redescribed (1902, 1903) many of DeSaussure's polydesmidan species, and was perhaps lost by the time he was engaged at the Geneva museum.

#### **Neoleptodesmus sumichrasti** (Humbert & DeSaussure)

*Polydesmus (Oxyurus) Sumichrasti* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 21:  
151.MALE HT (MHNG) from Orizaba, Veracruz, Mexico.

*Neoleptodesmus sumichrasti*: Carl, 1903, Revue suisse Zool., 11: 558, fig. 22.

#### **Neoleptodesmus vermiformis** (DeSaussure)

*Polydesmus (Strongylosoma) vermiformis* DeSaussure, 1859, Linnaea Entom. 13: 326. Location  
of MALE HT unknown, originally in MHNG, from .....versant oriental de la Cordill re  
du Mexique.

?*Neoleptodesmus vermiformis*: Carl, 1903, Revue suisse Zool., 11: 557 (combination implied:  
Hierher geh ren.....vielleicht auch *L. vermiformis*. )

It is curious that DeSaussure & Humbert did not mention *vermiformis* in proposing the several new related taxa, with scarcely any larger paranota, from the same geographic area in their 1869 monograph.

### Genus **Pararhachistes** Pocock

*Pararhachistes* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 177. Type species: *P. elevatus*  
Pocock, by original designation.

Three species, western Mexico (Guerrero)

Synonymized with *Neoleptodesmus* by Kraus (1954).

Removed from genus: *P. potosinus* Chamberlin, 1943 (see *Strongylodesmus*); *P. galanae*  
Chamberlin, 1943 (see *Ceuthauxus*).

**Pararhachistes amblus** Chamberlin

*Pararhachistes* [sic!] *amblus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 13, figs. 21, 22. MALE HT (?USNM) from Cueva de Jutxlahuaca, Colotipla, Guerrero, Mexico.

**Pararhachistes elevatus** Pocock

*Pararhachistes elevatus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 178, pl. XIII, figs. 7-7d, pl. XIV, figs. 1-1c. Location of type material unknown, from Omilteme (=Omiltemi), Guerrero, Mexico.

**Pararhachistes vertebratus** Pocock

*Pararhachistes vertebratus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 178, pl. XIII, figs. 6-6c. Location of type material unknown, from Amula, Guerrero, Mexico.

Genus **Rhachidomorpha** DeSaussure

*Polydesmus* (*Rhachidomorpha*) DeSaussure, 1860, M m. Soc. Hist. Phys. Nat. Gen. ve, 15: 326. Type species: *P. (R.) tarascus* DeSaussure, by monotypy.

*Polydesmus* (*Rachidomorpha*) Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 21: 152. \_ DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 37.

*Rhachis* (*Microrhachis*) Carl, 1903, Revue suisse Zool. 11: 556. Type species: *Polydesmus* (*Rachidomorpha*) *uncinatus* Humbert & DeSaussure [= *P. (R.) aduncus* Humbert & DeSaussure, 1869] by original designation.

*Rhachidomorpha*: Attems, 1898, Denks. Akad. Wiss. Wien, 68: 410. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 174.

Two species, eastern Mexico.

**Rhachidomorpha adunca** DeSaussure & Humbert

*Polydesmus* (*Rachidomorpha*) *uncinatus* Humbert & DeSaussure, 1869, Rev. & Mag. Zool., 21: 152. MALE FEMALE ST (MHNG) from Mexico, Cordillera orientalis. Preoccupied by *Polydesmus* (*Euryurus*) *uncinatus* Peters, 1864.

*Polydesmus* (*Rachidomorpha*) *uncinatus*: DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6): 2: 38, pl. I, figs. 14a-c. Type data given as le Mexique; Monte Azul, Cerro de Azcamela, Sierra de Agua, dans la Cordillere orientale.

*Polydesmus* (*Rachidomorpha*) *aduncus*, 1872, Miss. Sci. Mexique, Zool. (6): 2: 158. New name to replace *Polydesmus* (*Rachidomorpha*) *uncinatus* Humbert & DeSaussure, 1869, *ipso facto* with the same type specimen(s).

*Rachis* (*Microrhachis*) *uncinatus*: Carl, 1903, Revue suisse Zool., 11: 556, fig. 15.

*Rhachidomorpha adunca*: Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 175. \_ Causey, 1973, Bull. Assoc. Mexican Cave Stud., 5: 113 (record for Veracruz).

Carl did not specify from which locality came the specimen that he illustrated in 1903. I do not know the present status of the type material of this species.

**Rhachidomorpha tarasca** (DeSaussure)

*Polydesmus (Rhachidomorpha) tarascus* DeSaussure, 1860, M m. Soc. Hist. Phys. Hist. Nat. Gen ve, 15: 327, pl. 4, fig. 24a-d. MALE STs (MHNG) from Cordova, Veracruz, Mexico.

**Genus Rhachodesmus** Cook

*Rachis* DeSaussure, 1859, Linnaea entom., 13: 326. Type species: *Polydesmus (Rachis) viridis* DeSaussure, 1859, by monotypy. Preoccupied by *Rachis* Albers, 1850.

*Rhachodesmus* Cook, 1895, Ann. New York Acad. Sci., 9: 4. Proposed to replace *Rachis* DeSaussure, *ipso facto* with the same type species.

Two species, Mexico (Veracruz and Oaxaca).

**Rhachodesmus digitatus** Causey

*Rhachodesmus digitatus* Causey, 1973, Bull. Assn. Mexican Cave Stud. 5: 112, figs. 11-14. MALE HT (USNM) from Milliped Cave, eight km north of Huautla, Oaxaca, Mexico.

**Rhachodesmus viridis** (DeSaussure)

*Polydesmus (Rachis) viridis* DeSaussure, 1859, Linnaea entom., 13: 326; 1860, M m. Soc. Phys. Hist. Nat. Gen ve, 15: 330, pl. 3, fig. 19. MALE HT (MHNG) from le Mexique. Tuxtla .

*Polydesmus (Rhachis) viridis*: DeSaussure & Humbert, 1872, Miss. Sci. Mexique, Zool., (6) 2: 55.

*Rhachodesmus viridis*: Cook, 1895, Ann. New York Acad. Sci., 9: 4 (combination implied by proposal of *Rhachodesmus* as a replacement of the monotypic taxon *Rachis*).

Pocock (1909: 177) and Loomis (1968: 40) cite Orizaba as type locality for this species. However, the original description mentions only Tuxtla as stated above, and the only specimen remaining in the Geneva museum is labeled Tuxtlan (obviously a clerical error). In 1860 DeSaussure stated Le versant oriental de la Cordillere du Mexique. J en ai pris deux individus MALE Orizaba. It is curious that Carl, who redescribed a number of DeSaussure's rhachodesmid types, passed over *viridis* without comment.

W. T. Keeton obtained the Tuxtla specimen on loan and prepared a full redescription and drawings of the gonopods, all of which came into my hands following his demise in 1975. It is clear, from this material, that the specimen labeled Ost-Cordilleren von Mexico in the Vienna museum described by Attems in 1898 is conspecific, possibly even part of the type series obtained through gift or exchange with DeSaussure.

**Genus Strongylodesmus** DeSaussure

*Strongylodesmus* DeSaussure, 1859, Linnaea Entom. 13: 327. Type species: *Strongylodesmus cyaneus* DeSaussure, 1859, by monotypy. \_ Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 172. \_ Loomis, 1968, Bull. U. S. Nat. Mus. 266: 40.

Four species, Mexico.

Removed from genus: *S. harrisoni* Causey, 1971 (see *Mexidesmus*); *S. granulatus* Loomis, 1966 (see *Chromodesmus*).

**Strongylodesmus conspicuus** Causey

*Strongylodesmus conspicuus* Causey, 1973, Bull. Assoc. Mexican Cave Stud. 5: 113, figs. 15, 16. MALE HT (USNM) from Rancho del Cielo, seven km northwest of Gomez Fari s, Tamaulipas, Mexico.

Range: Vicinity of Gomez Fari s, Tamaulipas, south to Xilitla, San Luis Potos .

**Strongylodesmus cruzanus** (Chamberlin)

*Ceuthauxus cruzanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 51. MALE HT (USNM) from near Fortin (presumably El Fort n de las Flores), Veracruz, Mexico.

Identity of this name with *S. cyaneus* seems highly probable.

**Strongylodesmus cyaneus** DeSaussure

*Strongylodesmus cyaneus* DeSaussure, 1859, Linnaea Entom., 13: 327; 1860, M m. Soc. Phys. Hist. nat. Gen ve, 15: 337, pl. 3, fig. 20. MALE HT (MNHG) from Orizaba, Veracruz, Mexico.. \_ Carl, 1903, Revue suisse Zool., 11: 555; figs. 10, 11.

**Strongylodesmus geddesi** Pocock

*Strongylodesmus geddesi* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 173, pl. XIII, figs. 5-5c. Location of type material unknown, from Mexico without further locality.\_ Causey, 1973, Bull. Assoc. Mexican Cave Stud. 5: 114.

Range: Recorded from adjacent areas in Hidalgo, Veracruz, and San Luis Potos .

Genus **Tancitares** Chamberlin

*Tancitares* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 58. Type species: *T. michoacanus* Chamberlin, by original designation.

Monotypic, Mexico (Michoacan)

**Tancitares michoacanus** Chamberlin

*Tancitares michoacanus* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 58, fig. 7. MALE HT (USNM) from Pedregal, Tanc taro, Michoacan, Mexico.

Genus **Teinorhachis** Loomis

*Teinorhachis* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 94. Type species: *T. tenuis* Loomis, by original designation.

Monotypic. Guatemala.

**Teinorhachis tenuis** Loomis

*Teinorhachis tenuis* Loomis, 1961, Proc. U. S. Nat. Mus. 113: 95, figs. 3c-h. MALE HT (USNM) originally stated to have come from Panama, later (1964) corrected to Amaya, between Corinto and Chinandega, Dept. Chinandega, Nicaragua.

Genus **Unculabes** Causey

*Unculabes* Causey, 1971, Bull. Assoc. Mexican Cave Stud. 4: 31. Type species: *U. crispus* Causey, by original designation. \_ Shear, 1973, Accad. Naz. Lincei, Prob. Att. Sci. Cult., 171: 263 (key to five species).

Five species, eastern Mexico.

**Unculabes arganoi** Shear

*Unculabes arganoi* Shear, 1974, Accad. Naz. Lincei Prob. Att. Sci. Cult., 171(2): 265, figs. 39-44. MALE HT (MCZ) from Cueva del Madroño at El Lolo (?Lobo), Queretaro, Mexico.

**Unculabes causeyae** Shear

*Unculabes causeyae* Shear, 1974, Accad. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 264, figs. 35-38. MALE HT (MCZ) from Cueva Chica de la Perra, eight km northwest of Gómez Farías, Tamaulipas, Mexico.

**Unculabes columbinus** Causey

*Unculabes columbinus* Causey, 1973, Bull. Assn. Mexican Cave Stud., 5: 118, fig. 23. MALE HT (USNM) from S tano de la Golondrinas, 10.5 km southwest of Aquismón, San Luis Potosí, Mexico.

**Unculabes crispus** Causey

*Unculabes crispus* Causey, 1971, Bull. Assoc. Mexican Cave Stud. 4: 31, figs. 18-20. MALE HT (USNM) from S tano de Huitzmolotitla, two km southwest of Tlamaya (10 km northeast of Xilitla), San Luis Potosí, Mexico. \_ Shear, 1986, Speleol. Monogr. Texas Mem. Mus., 1: 81 (distribution records).

*Unculabes versatilis* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 32. MALE HT (not specified, inferentially USNM) from Cueva de Potrerillos, 1.5 km west of Ahuacatlán, San Luis Potosí, Mexico. Synonymized by Causey, 1973.

Range: Numerous caves in San Luis Potosí, Querétaro, and Tamaulipas (Shear, 1986: 81).

**Unculabes porrensis** Shear

*Unculabes porrensis* Shear, 1974, Accad. Naz. Lincei Prob. Att. Sci. Cult. 171(2): 268, figs. 45-49. MALE HT (MCZ) from Cueva de la Porra, three miles north of Xilitla, San Luis Potosí, Mexico.

## Family Tridontomidae Loomis & Hoffman

Tridontomidae Loomis & Hoffman, 1962, Proc. Biol. Soc. Washington, 75: 146.

Two genera, Guatemala (vicinity of Senah , Dept. Alta Verapaz).

The status of this taxon as separable from the Rhachodesmidae requires a reconsideration.

### Genus **Aenigmopus** Loomis & Hoffman

*Aenigmopus* Loomis & Hoffman, 1962, Proc. Biol. Soc. Washington, 75: 151. Type species:  
*A. alatus* Loomis & Hoffman, by original designation.

One species: Guatemala.

#### **Aenigmopus alatus** Loomis & Hoffman

*Aenigmopus alatus* Loomis & Hoffman, 1962, Proc. Biol. Soc. Washington, 75: 152, figs. 14-21. MALE HT (USNM) from Seamay, near Senahu, Dept. Alta Verapaz, Guatemala.

### Genus **Tridontomus** Loomis & Hoffman

*Tridontomus* Loomis & Hoffman, 1962, Proc. Biol. Soc. Washington, 75: 146. Type species:  
*T. procerus* Loomis & Hoffman, by original designation.

Two species: Guatemala.

#### **Tridontomus loomisi** Shear

*Tridontomus loomisi* Shear, 1977, Accad. Naz. Lincei, Prob. Att. Sci. Cult., 171: 241, figs. 14-18. MALE HT (AMNH) from Cueva Seamay, near Senahu, Dept. Alta Verapaz, Guatemala.

#### **Tridontomus procerus** Loomis & Hoffman

*Tridontomus procerus* Loomis & Hoffman, 1962, Proc. Biol.Soc. Washington, 75: 148, figs. 1-13, 22. MALE HT (USNM) from Sepacuite, Dept. Alta Verapaz, Guatemala.

## Suborder Paradoxosomatidea Daday

Strongylosomidi Brolemann, 1916, Ann. Soc. entom. France, 84: 526.

Strongylosomidea Attems, 1914, Arch. Naturg., 80(A4): 184.

Paradoxosomatidea Hoffman, 1967, Rev. Zool. Bot. afr., 86: 202.

I am no longer convinced that this taxon is monophyletic, in its traditional sense.



## Family Paradoxosomatidae Daday

Paradoxosomatidae Daday, 1889, Term szetr. F z., 12: 135. \_ Jeekel, 1968, Classification and Distribution of the family Paradoxosomatidae, pp. 5 et seq. (hereinafter cited simply as Paradoxosomatidae ).

Strongylosomatidae Cook, 1895, Ann. New York Acad. Sci., 9: 5.

Strongylosomidae Attems, 1914, Arch. Naturg. 80(A4): 184. \_ Attems, 1937, Das Tierreich, 68: 24 et seq. (monograph of the family).

About 160 genera, worldwide except the Nearctic Region, with the greatest diversification in the Indo-australian region. Members of several genera have achieved nearly global distribution through anthropogenic means.

Jeekel distinguished 20 tribes, some of which may, in the light of recent discoveries, have to be combined. Three tribes represented in our area are placed in the nominate subfamily Paradoxosomatinae, the fourth (Australiosomatini) in the Australiosomatinae..

### Tribe Australiosomatini Brolemann

Australiosomini Brolemann, 1916, Ann. Soc. entom. France, 84: 540. \_ Jeekel, 1968, Paradoxo-somatidae p. 20, 126.

14 genera, Australia. One species dispersed through the Pacific region by commerce.

### Genus **Akamptogonus** Attems

*Akamptogonus* Attems, 1914, Arch. Naturg. 80(A4): 221. Type species: *Polydesmus Novarae* Humbert & DeSaussure, 1869, by original designation.

*Tricladosoma* Brolemann, 1916, Ann. Soc. entom. France, 84: 538, 591. Type species: *Polydesmus Novarae* Humbert & DeSaussure, 1869, by original designation. Synonymized by Attems, 1937.

*Zelanodesmus* Chamberlin, 1920, Bull. Mus. Comp. Zool., 64: 128. Type species: *Z. rotornanus* Chamberlin, by original designation. Synonymized by Jeekel, 1964.

One species, Australia, also widely dispersed in the Pacific region..

#### **Akamptogonus novarae** (Humbert & DeSaussure)

*Polydesmus Novarae* Humbert & DeSaussure, 1869, Verh. zool.-bot. Gesellsch. Wien, 19: 689. MALE HT (NMW) from Auckland, New Zealand.

*Strongylosoma Novarrae*: Attems, 1898, Denks. Akad. Wien, 67: 305, fig. 58.

*Orthomorpha triaina* Attems, 1911, in: Fauna Sud-West Australia, 3: 178, fig. 42. MALE HT (NMW) from Albany, Southwest Australia. Synonymized by Attems, 1914.

*Akamptogonus novarrae*: Attems, 1914, Arch. Naturg. 80 (A4): 223; 1937, Das Tierreich, 68: 254, fig. 315.

*Tricladosoma novarae*: Brolemann, 1916, Ann. Soc. entom. France, 84: 538, 591.

*Zelanodesmus rotornanus* Chamberlin, 1920, Bull. Mus. Comp. Zool. 64: 108. MALE HT (MCZ) from Rotorna [?Rotorua], New Zealand]. Synonymized by Jeekel, 1964.

*Zelanodesmus australianus* Chamberlin, 1920, Bull. Mus. Comp. Zool., 64: 109. MALE HT (MCZ) from Sutherland, New South Wales, Australia. Synonymized by Jeekel, 1964.

*Akamptogonus novarae*: Jeekel, 1964, Nova Guinea, Zool., 29: 106. \_ Hoffman, 1980, Wasmann Journ. Biol., 37: 55, fig. 1.

Range: Thought to be southeastern Australia, introduced into New Zealand, Chatham Island, Southwest Australia, Hawaii, and San Francisco, California.

### Tribe Catharosomatini Brolemann

Catharosominae Brolemann, 1929, M m. Soc. zool. France, 29: 12.

Catharosomatini Jeekel, 1968, Paradoxosomatidae p. 115.

12 (?11) genera, Neotropical Region north as far as Costa Rica.

### Genus *Mestosoma* Silvestri

*Mestosoma* Silvestri, 1897, Boll. Mus. Zool. Anat. comp. Univ. Torino, 12(283): 3. Type species: *Strongylosoma salvadorii* Silvestri, 1895, by original designation.

*Pernambucosoma* Schubart, 1939, Zool. Anz., 128: 82. Type species: *P. marthae* Schubart, by original designation. Synonymized by Jeekel, 1963.

*Titschackia* Kraus, 1956, Senckenberg. biol., 37: 405. Type species: *T. andina* Verhoeff, 1941, by original designation. Validation of the unavailable name *Titschackia* Verhoeff, 1941. Synonymized by Jeekel, 1963.

*Hylaiopus* Verhoeff, 1941, in Titschack (ed.): Beitr ge zur Fauna Perus, 1: 25. Type species: *H. sphinx* Verhoeff, by monotypy. Synonymized by Jeekel, 1963.

*Perusoma* Verhoeff, 1941, in Titschack (ed.): Beitr ge zur Fauna Perus, 1: 25. Type species: *P. recurvatum* Verhoeff, by monotypy. Synonymized by Jeekel, 1963.

*Nearctoma* Chamberlin, 1952, Ann. Entom. Soc. America, 45: 582. Type species: *N. cuzconum* Chamberlin, by original designation. Synonymized by Jeekel, 1963.

*Paracatharosoma* Kraus, 1959, Senckenberg. biol. 40: 263. Type species: *P. unicum* Kraus, by original designation. Synonymized by Jeekel, 1963.

About 75 nominal species, South America, north as far as Costa Rica, possibly introduced into Dominica, Lesser Antilles.

Some of the foregoing names may be revived for disjunct species-groups, and surely many

of them will be shown to be superfluous. Chamberlin's rationale in proposing *Nearctoma* for a species from southern Peru cannot be imagined.

**Mestosoma isthmianum** Loomis

*Mestosoma isthmianum* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 107, fig. 6b. MALE HT (USNM) from Alahjuela, Prov. Panama, Panama.

Range: Several localities in the Canal Zone and adjacent Panama Province (Loomis, 1964).

**Mestosoma moorei** Hoffman

*Mestosoma pulvillatum* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 257 (misidentification).

*Mestosoma moorei* Hoffman, 1977, Stud. Neotrop. Fauna Environ., 12: 210, figs. 1, 2, 7. MALE HT (VMNH) from Finca Taboga, ca. 20 km southwest of La Cañas, Prov. Guanacaste, Costa Rica.

**Mestosoma semirugosum** (Pocock)

*Strongylosoma semirugosum* Pocock, 1888, Ann. Mag. Nat. Hist. (6) 2: 477. MALE ST (BMNH) from Dominica, Lesser Antilles.

*Mestosoma semirugosum* Jeekel, 1963, Stud. Fauna Suriname, 4(11): 32, 38. \_ Hoffman, 1977, Stud. Neotrop. Fauna Environ., 12: 213, figs. 5, 6, 9. Designation, and gonopod drawings, of lectotype.

Range: So far as known, confined to the island of Dominica, into which possibly introduced from some as yet unidentified mainland source area.

## Tribe Orthomorphini Brolemann

Orthomorphini Brolemann, 1916, Ann. Soc. entom. France, 84: 583.

Nine (?) genera, southeast Asia, East Indies, Philippine Islands. One species has been widely dispersed by commerce through the tropics.

## Genus *Asiomorpha* Verhoeff

*Asiomorpha* Verhoeff, 1939, Zool. Anz., 127: 117. Type species: *Polydesmus coarctatus* DeSaussure, 1860, by original designation. \_ Hoffman, 1980, Classification of the Diplopoda, p. 169. Synonymized by Attems, 1940..

*Brasilogonopus* Verhoeff, 1943, Arq. Mus. Nac. (Rio de Janeiro), 37: 274. Type species: *B. attemsi* Verhoeff, by original designation. Synonymized by Jeekel, 1963.

*Oxidus (Orthomorphina)* Kraus, 1958, Senckenberg. biol. 39: 100. Type species: *Polydesmus coarctatus* DeSaussure, 1860, by original designation. Synonymized by Jeekel, 1963.

One species, synanthropically dispersed in the tropics of both hemispheres, presumably native to some place in southeast Asia..

Observing a fairly inclusive generic concept, Jeekel (1968: 45) admitted 13 species, including *coarctata*, to the genus *Orthomorpha*, and stated that he could see no reason for recognition of *Asiomorpha* as a valid genus. This opinion is shared by Golovatch (1997) in a detailed review of *Orthomorpha* that encompasses 42 species. In my view, the simple gonotelopodite (with a single, rounded apical lobe) contrasts *coarctata* against the numerous other species referred to *Orthomorpha* which have typically three apical processes.

### **Asiomorpha coarctata** (DeSaussure)

[Entries for junior synonyms are provided only for names with type localities in the area of this checklist. Jeekel (1963) provides a complete list of references for occurrences in the New World].

*Polydesmus* (*Paradesmus*) *coarctatus* DeSaussure, 1860, M m. Soc. Phy. Hist. natur. Gen ve, 15: 297, pl. 18, fig. 18. ST (?MHNG) from Cayenne, Guyane française.

*Strongylazoma* [*sic!*] *poeyi* Bollman, 1887, Entom. Americana, 3: 82. ST (?USNM) from Havana, Cuba. (the misspelling was corrected in the 1893 collection of Bollman publications, pp. 70, 86). Synonymized by Pocock, 1894.

*Strongylosoma coarctatum*: Pocock, 1894, Journ. Linnean Soc. London, 24: 512.

*Orthomorpha* (*Orthomorpha*) *coarctata*: Attems, 1937, Das Tierreich, 68: 62.

*Asiomorpha coarctata*: Verhoeff, 1939, Zool. Anz., 127: 117.

*Orthomorpha coarctata*: Jeekel, 1963, Stud. Fauna Suriname, 4(11): 22.

Range: Native to an unidentified region in southeast Asia, now distributed by human agencies throughout the tropical parts of the world, and a successful colonizer particularly of islands. Central & southern Florida; Texas, Louisiana. Virtually all of the West Indies; but only marginally established in Central America: Panama Canal Zone; coastal lowlands of Costa Rica and Guatemala only; but to 700 m. ASL in El Salvador. Found in Prov. Limón, C. R. in 1921 by W. M. Wheeler, but not in 1937 by H. F. Loomis despite longer and more intensive search.

## Tribe Sulciferini Attems

Sulciferinae Attems, 1898, Denkschr. Akad. Wien, Math.-Naturh. Klasse, 68: 345.

Anoplodesminae Pocock, 1909, Biol. Centr.-Amer., Diplopod., p. 110.

Sulciferini Jeekel, 1968, Paradoxosomatidae, p. 71, 128.

About 25 genera, east Asia, Indonesia, Japan, north and east Africa, Iberian peninsula. Several species have been widely dispersed through commerce, two of them occur in the Western Hemisphere.

## Genus **Chondromorpha** Silvestri

*Chondromorpha* Silvestri, 1897, Ann. Soc. entom. Belgique, 41: 356. Type species: *C. Severini*

Silvestri, by monotypy.

*Dasomus* Chamberlin, 1941, Proc. Entom. Soc. Washington, 43: 34. Type species: *D. bicolor* Chamberlin, by original designation. Synonymized by Jeekel, 1963.

*Xaymacia* Loomis, 1948, Journ. Washington Acad. Sci., 38: 187. Type species: *X. granulata* Loomis, by original designation. Synonymized by Jeekel, 1963.

About 12 nominal species, southeast Asia; one widely dispersed through commerce.

### **Chondromorpha xanthotricha** (Attems)

*Prionopeltis xanthotricha* Attems, 1898, Denks. Akad. Wien, 67: 359, fig. 115. MALE HT (NMW) from Mauritius.

*Chondromorpha xanthotricha*: Attems, 1937, Das Tierreich, 68: 111, fig. 146. \_ Jeekel, 1963, Stud. Fauna Suriname, 4: 24.

*Dasomus bicolor* Chamberlin, 1941, Proc. Entom. Soc. Washington, 43: 34, fig. 4. MALE HT (USNM) from an unspecified locality in Jamaica. Synonymized by Jeekel, 1963.

*Xaymacia granulata* Loomis, 1948, Journ. Washington Acad. Sci., 38: 187, figs. 3-6. MALE HT (USNM) from Caymanas, Rio Cobre, St. Catherine Parish, Jamaica. Synonymized with *C. kelaarti* by Loomis, 1950, with *xanthotricha* by Jeekel, 1963.

Range: Original area uncertain, probably southern India and/or Sri Lanka. Widely distributed through agricommerce: Luzon, New Caledonia, Samoa, Fiji, Mauritius; in the Neotropics known from Guadeloupe, Jamaica, and Suriname. As with many other synanthropic millipeds, colonization appears most successful in islands.

## Genus **Oxidus** Cook

*Oxidus* Cook, 1911, Proc. U. S. Nat. Mus., 40: 628. Type species: *Fontaria gracilis* C. L. Koch, 1847, by original designation. \_ Jeekel, 1963, Stud. Fauna Suriname, 4: 19.

*Orthomorpha* (*Kalorthomorpha*) Attems, 1914, Arch. Naturg. 80(A4): 191. Type species: *Fontaria gracilis* C. L. Koch, 1847, by original designation.

Four species, Japan, Riu Kiu islands, one species now almost worldwide in temperate regions.

### **Oxidus gracilis** (C. L. Koch)

*Fontaria gracilis* C. L. Koch, 1847, Syst. Myriap., in: Krit. Rev. Insectenf. Deutschlands, 3: 142; 1863, Die Myriapoden, 2: 151, fig. 173. Location of type material, if extant, unknown, from Puloloz .

*Paradesmus dasys* Bollman, 1887, Proc. U. S. Nat. Mus., 10: 619. ST (USNM?) from Baltimore, Maryland. Synonymized by Cook, 1911.

*Orthomorpha gracilis*: Bollman, 1893, Bull. U. S. Nat. Mus., 46: 197.

*Orthomorpha dasys*: Bollman, 1893, Bull. U. S. Nat. Mus., 46: 197.

*Kepolydesmus sontus* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 247, pl. 38, figs. 5-7.  
Type material lost, from Los Angeles, California. Synonymized by Brolemann, 1916.

*Oxidus gracilis*: Cook, 1911, Proc. U. S. Nat. Mus., 40: 631.

Range: Original native range uncertain, but probably Japan since the other three members of the genus also occur in Japan and the Riu Kiu islands. At present, nearly worldwide in temperate countries and at higher elevations in the tropics. Essentially continent wide in North America, initially in greenhouses and urban gardens, but now acclimatized and present in astronomical numbers in many parts of eastern United States (e.g., Virginia, Tennessee, Indiana) as part of the forest fauna adjacent to urbanized or cultivated areas. Widespread in Puerto Rico. Collected at 900 m. ASL in El Salvador; and in the high central valley of Costa Rica (but not found in the coastal lowlands by Loomis).

## Suborder Polydesmidea Leach

Polydesmidi Brolemann, 1916, Ann. Soc. ent. France, 84: 528, 586.

Polydesmidea Hoffman, 1980, Classification of the Diplopoda, p. 172 et seq. \_ Simonsen, 1990, Dr. scient. Thesis, Univ. Bergen, p. 33 et seq.

In many respects, this extensive aggregation of generally not well-defined groups of millipeds may be considered the *b te-noire* within the Polydesmida. In particular, the numerous tropical forms that appear referable here are mostly undersampled and inadequately described; as they become better known major reorganization of the Polydesmidea will almost certainly result. Brolemann's original perception was remarkably clairvoyant for its time. My 1980 arrangement was little more than an attempt to integrate subsequent information and was never intended to represent a thoughtful synthesis.

Simonsen (1990) produced a cladistic analysis, admirable in its audacity and comprehension, but despite its frequent good insights one flawed by too much assumption of the reality of pre-existing taxa and too little familiarity with the global fauna. It is my conviction that the cladistic approach is effective only when applied to groups which have already been delimited and refined by intensive revisionary studies which already demonstrated their monophyly. To extract presumably diagnostic group autapomorphies from a few examples of large, heterogeneous, and poorly-known taxa requires the investment of too much faith in highly fallible systems; it is something done in reverse order. Yet Simonsen is to be applauded for confronting a problematical situation avoided for decades by specialists with far more actual experience, and providing a much-needed baseline.

I have followed the structure of my 1980 classification, in summarizing these difficult families, for no better reason than consistency with other orders. Where relevant, I have been at pains to reference Simonsen's findings and suggestions, which should be consulted in the original by interested parties. In the same sense, I have chosen to omit the superfamily categories, as possibly only illusory, certainly premature.

## Family Polydesmidae Leach

Polydesmides Leach, 1815, Trans. Linnean Soc. London, 11: 381.

Polydesmidae [first use in modern sense] Cook, 1895, Ann. New York Acad. Sci., 9: 5. \_ Brolemann, 1916, Ann. Soc. ent. France, 84: 568. \_ Attems, 1940, Das Tierreich, 70: 1-162. \_ Hoffman, 1980, Classification of the Diplopoda, p. 172.

About 25 nominal genera, Holarctic Region.

### Genus **Bidentogon** Buckett & Gardner

*Bidentogon* Buckett & Gardner, 1968, Pan-Pacific Entom., 44: 198. Type species: *B. helferorum* Buckett & Gardner, by original designation. \_ Shear, 1972, Proc. Biol. Soc. Washington, 85: 489.

Two species, California.

#### **Bidentogon californicus** (Chamberlin)

*Brachydesmus californicus* Chamberlin, 1918, Pomona Coll. Journ. Ent. Zool., 10: 9. MALE and FEMALE ST (MCZ) from Sacramento, Sacramento Co., California.

*Bidentogon californicus*: Shear, 1972, Proc. Biol. Soc. Washington, 85: 490, figs. 4, 5.

#### **Bidentogon helferorum** Buckett & Gardner

*Bidentogon helferorum* Buckett & Gardner, 1968, Pan-Pacific Entom., 44: 198, figs. 1-7. MALE HT (UCD) from one mile north of Mendocino, Mendocino Co., California. \_ Shear, 1972, Proc. Biol. Soc. Washington, 85: 490, figs. 1-3.

Range: Central California: Alameda and Mendocino counties.

### Genus **Calianotus** Shelley

*Calianotus* Shelley, 1997, Myriapodologica, 4: 60. Type species: *Brachydesmus (Brachydesmus) yosemitensis* Causey, 19543, by original designation. Three species, California.

#### **Calianotus bituberculatus** (Loomis)

*Brachydesmus bituberculatus* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 57, figs. 1-3. MALE HT (USNM) from Altamont Pass, Niles Canyon, Alameda Co., California.

*Calianotus bituberculatus*: Shelley, 1997, Myriapodologica, 4: 63, figs. 5-7.

Range: Eastern side of San Francisco Bay, Alameda and Contra Costa counties, California (map, Shelley, 1997, fig. 1).

#### **Calianotus sastianus** (Chamberlin)

*Polydesmus sastianus* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 251, pl. 39, figs. 2-3. Original type material, from Shasta Springs, Siskiyou Co., California, lost. MALE NT (UCD) from eight miles south of Dunsuir, Shasta Co., California, designated by Shelley,

1997.

*Calianotus sastianus*: Shelley, 1997, *Myriapodologica*, 4: 63, figs. 8-9.

Range: Vicinity of Mount Shasta, northern California (map, Shelley, 1997, fig. 1).

***Calianotus yosemitensis* (Causey)**

*Brachydesmus (Brachydesmus) yosemitensis* Causey, 1954, *Pan-Pacific Entom.*, 30: 224, fig. 5. Original type material lost (not at AMNH or elsewhere), from Vernal Falls, Yosemite National Park, Mariposa Co., California.

*Calianotus yosemitensis*: Shelley, 1997, *Myriapodologica*, 4: 61, figs. 2-4.

Range: Western slopes of the Sierra Nevada Mountains, in Calaveras, Mariposa, Madera, Fresno counties, California (map, Shelley 1997, fig. 1).

**Genus *Polydesmus* Latreille**

*Polydesmus* Latreille, 1802/1803, *Hist. nat.*, g n. Part. Crust. Insect., 3: 44. Type species: *Julus complanatus* Linnaeus, 1761, by monotypy. \_ Attems, 1940, *Das Tierreich*, 70: 3-80.

*Brachydesmus* Heller, 1858, *Sitzungs.-ber. Akad. Wiss. Wien*, 26: 318. Type species: *B. subterraneus* Heller, by monotypy. Synonymized by Hoffman, 1980..

*Alpertia* Loomis, 1972, *Florida Entom.*, 55: 145. Type species: *A. lunatifrons* Loomis, by original designation. Described as a new genus in the family Trichopolydesmidae. Synonymized by Shelley, 1996.

About 300 named taxa (many of them surely superfluous) have been recognized in the genus in its present sense. Only a comprehensive revision of the entire family can clarify the status of the many genera and subgenera associated with the nominate genus. The group is centered in western Europe (especially the Balkan Peninsula); several species are anthropochoric and have been established in other parts of the world.

In the following entries, no attempt has been made to include the full spectrum of nomenclatorial confusion that enshrouds nearly every species, although some clarifications seemed inevitable.

I already stated in 1980 my conviction that *Brachydesmus* can be maintained as a separate taxon on the basis of gonopodal characters only. The endemic American species described at various times in *Brachydesmus* have in recent years been relocated into different genera; see *Calianotus*, *Bidentogon*, *Phreatodesmus*, and *Utadesmus*.

***Polydesmus angustus* Latzel**

*Polydesmus complanatus* var. *angustus* Latzel, 1884, *Bull. Soc. Amis Sci. Nat. Rouen*, (2) 19: 262. Type material (?NMW) from Gallia septentrionali-occidentalis (Eure), Normandie, France.

*Polydesmus complanatus* forma *angustus*: Brolemann, 1910, *Arch. Zool. Exp r. G n.* (5) 5: 349, figs. 13-18.

*Polydesmus verhoeffi* Lohmander, 1925, *Gteborgs Vetensk. Handl.* 30: 18 (new name for



*Polydesmus complanatus*, *sensu* Verhoeff *et auct. alia*, nec Linnaeus 1758, no type or type locality designated).

*Polydesmus angustus*: Schubart, 1934, Tierwelt Deutschl., 28: 158, fig. 259 (taxonomic-nomenclatorial review). \_ Jawlowski, 1930, Frag. Faun. Mus. Zool. Polonici, 1: 181. \_ Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 68.

*Polydesmus verhoeffi angustatus* [!] Attems, 1940, Das Tierreich, 70: 12.

*Polydesmus chapultepecus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 69, fig. 170. MALE HT (USNM) from Chapultepec Park, Distrito Federal, Mexico. Synonymized by Loomis, 1968.

*Alpertia lunatifrons* Loomis, 1972, Florida Entom., 55: 145, Imm.MALE HT (USNM) from Spokane, Washington. Synonymized by Shelley, 1996.

Range: Western Europe, whence a considerable number of subspecific taxa have been recognized, some are probably valid as geographic races, others are likely strict synonyms. A revision is eminently desirable.

In the New World, recorded from Louisiana (Chamberlin), Nova Scotia (Shelley, 1988), Washington and British Columbia (Shelley, 1996) and Mexico City (Jawlowski, 1930)..

### ***Polydesmus complanatus complanatus* (Linnaeus)**

*Julus complanatus* Linnaeus, 1761, Fauna Svecica, ed. 2, p. 502. Type material not known to exist, type locality assumed to be Sweden.

*Polydesmus complanatus*: Latreille, 1802/1803, Hist. Nat. g n., part. Crust. Insect., 3: 44. \_ Lohmander, 1925, Gteborgs Vetensk. Handling. 30: 16, figs. 1, 2.

*Polydesmus complanatus*: Chamberlin, 1951, Great Basin Nat., 11: 27.

Range: Eastern Europe, from Norway and Finland south through Germany to western Poland where merging into the larger southern subspecies *P. c. illyricus* Verhoeff (map, Hoffman & Lohmander, 1968, fig. 51). Introduced into and apparently acclimatized in eastern United States (e.g., New Jersey).

For some decades the name *complanatus* was misapplied to other Europe species (including *angustus*) and conversely, other names (e.g., *illyricus*) were used erroneously for the Linnaean *complanatus*. The true identity of the latter was apparently first stated by von Porat (1870) and later convincingly ratified by Lohmander (1925). A good resume of the earlier confusion was provided by Schubart (1934).

### ***Polydesmus denticulatus* Koch**

*Polydesmus denticulatus* Koch, 1847, Krit. Rev. Insectenf. Deutschl., 3: 135; 1863, Die Myriapoden, 2: 2, pl. 62, fig. 127. Type material unknown, thought to have come from Germany. \_ Palm n, 1952, Ann. Zool. Soc. Vanamo, 15: 14.

Range: Western Europe, Scandinavia south to France and the British Islands; introduced into Newfoundland, where collected at St. Johns (Palm n 1952). No recent information on the status of this colony is available.

**Polydesmus inconstans** Latzel

?*Scytonotus nodulosus* C. L. Koch, 1847, Syst. der Myriapoden, in Panzer, Krit. Rev. Insectenf. Deutschl., etc etc. Type material not known to exist, from Pansylvanien without further indication.

*Polydesmus inconstans* Latzel, 1884, Bull. Soc. Amis Sci. nat. Rouen, (2) 19: 269, fig. 3. Type material (?NMW) from Normandie, France.

*Polydesmus testi* Bollman, 1888, Proc. U. S. Nat. Mus., 10: 617. MALE HT (?USNM) from Indianapolis, Indiana. Synonymized by Chamberlin & Hoffman, 1958.

*Polydesmus socarnius* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 252. Original type material lost, from Salt Lake City, Utah. Synonymized by Chamberlin & Hoffman, 1958.

*Polydesmus hortus* Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 113, fig. 13d. Type material; not known to exist, from Athens Co., Ohio. Synonymized by Jawlowski, 1939.

*Polydesmus pronomeutes* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 9, fig. 29. MALE HT (USNM) from Fort Collins, Larimer Co., Colorado. Synonymized by Chamberlin & Hoffman, 1958.

*Polydesmus wheeleri* Causey, 1950, Ent. News, 61: 197, figs. 6, 7. MALE HT (ANSP) from Grand Fork, Grand Fork Co., North Dakota. Synonymized by Chamberlin & Hoffman, 1958.

*Polydesmus coriaceus* [nec von Porat, 1870] most authors prior to Palm n, 1949.

Range: Introduced into northeastern North America and now established in transcontinental urban areas in both Canada and northern United States.

**Polydesmus superus** (Latzel), new combination

*Brachydesmus superus* Latzel, 1884, Myr. st.-Ung. Monarch., 2: 130, pl. 6, figs. 68, 69. ST (NMW) from Vienna, Austria. \_ Attems, 1940, Das Tierreich, 70: 120.

*Brachydesmus gladiolus* Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 113, fig. 12c. Type material not located, from Allen Co., Ohio. Synonymized by Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 64.

*Brachydesmus pallidus* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 191, fig. 14. MALE HT (MCZ) from Charleston, Kanawha Co., West Virginia. Synonymized by Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 64.

*Brachydesmus dux* Chamberlin, 1940, Ent. News, 51: 284, fig. 4. MALE HT (USNM) from Duke Forest, Durham Co., North Carolina.

Range: General over western Europe, whence many subspecies have been recognized on very tenuous grounds; introduced and now widespread in North America, from Ontario south as far as North Carolina, west to Michigan, in gardens.

### Genus **Pseudopolydesmus** Attems

*Pseudopolydesmus* Attems, 1898, Denks. Akad. Wiss. Wien, 67: 479. Type species: *Polydesmus canadensis* Newport, 1844, by monotypy. \_ Carl, 1941, Revue suisse Zool., 133: 291. \_ Chamberlin, 1943, Bull. Univ. Utah, 34(6): 17.

*Dixidesmus* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 18. Type species: *D. tallulanus* Chamberlin, by original designation. Synonymized by Hoffman, 1974.

12 species, eastern North America.

This is one of the few major North American polydesmoid genera requiring a basic revision. A number of species names are unquestionably superfluous, and the nomenclatorial status of several must be considered. Some taxonomic innovations are introduced in the following treatment, for which confirmation is desirable.

#### **Pseudopolydesmus caddo** Chamberlin

*Pseudopolydesmus caddo* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 97, fig. 11. MALE HT (USNM) from five miles northwest of Shreveport, Caddo Par., Louisiana.

*Pseudopolydesmus bidens* Loomis, 1959, Journ. Washington Acad. Sci., 49: 181, fig. 8. MALE HT (USNM) from site beside U. S. Hy. 190, between Kinder and LeBlanc, Allen Par., Louisiana. **New synonymy!**

Range: Northwestern Louisiana; eastern Texas; westernmost Tennessee (Reelfoot Lake), presumably general in the lower Mississippi basin.

It is curious that the usually careful Loomis compared his *bidens* only with *P. minor* rather than the very similar *caddo*, described from a nearby locality in Louisiana. Comparison of the original gonopod illustrations shows their essential identity. The gonopod of *caddo* was illustrated from a slightly tilted position, causing the distal lateral telopodite flange to appear more prominent than in the corresponding drawing for *bidens*. The status of *caddo* relative to the very similar *P. neoterus* requires examination; the two taxa may be only subspecifically related, or the names synonymous.

#### **Pseudopolydesmus canadensis** (Newport)

*Polydesmus canadensis* Newport, 1814, Ann. & Mag. Nat. Hist., 13: 265. Imm. FEMALE HT (BMNH) from Albany River, Hudson s Bay , Ontario, Canada.

*Polydesmus glaucescens* C. L. Koch, 1847, in Panzer: Krit. Rev. Insectenf. Deutschlands, 3: 133; 1863, Die Myriapoden, 1: 59, pl. 26, fig. 51. Location of types, if extant, unknown, labeled only Nordamerika. **New synonymy!**

*Polydesmus branneri* Bollman, 1887, Proc. U. S. Nat. Mus., 11: 620. MALE HT (?USNM) from Mossy Creek [now Jefferson City], Jefferson Co., Tennessee. \_ Loomis, 1943, Bull. Mus. Comp. Zool., 92: 405, fig. 16, pl 1, fig. 4. **New synonymy!**

*Polydesmus nitidus* Bollman, 1887, Entom. Americana, 3: 45. Location of type material unknown, from Pensacola, Escambia Co., Florida. **New synonymy!**

*Polydesmus echinogon* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 10, fig. 33. MALE HT (USNM) from Shawanese[a village on Harvey s Lake], Luzerne Co., Pennsylvania. **New**

**synonymy!**

*Polydesmus conlatus* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 36, fig. 5. MALE HT (USNM) from Gatlinburg, Sevier Co., Tennessee. Synonymized with *branneri* by Chamberlin & Hoffman, 1958, with *canadensis*, **New synonymy!**

*Dixidesmus sylvicolens* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 20, fig. 33. MALE HT (USNM) from seven miles north of Sylvania, Screven Co., Georgia. **New synonymy!**

*Dixidesmus christianus* Chamberlin, 1946, Proc. Biol. Soc. Washington, 59: 142, fig. 4. MALE HT (USNM) from Pass Christian, Harrison Co., Mississippi. **New synonymy!**

*Dixidesmus catskillus* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 24, fig. 2. MALE HT (ANSP) from Catskill, Greene Co., New York. Synonymized with *branneri* by Shelley, 1988, with *canadensis*. **New synonymy!**

*Dixidesmus phanus* Chamberlin, 1951, Great Basin Nat., 11: 27, fig. 1. MALE HT (USNM) from Suwanee River, Florida, without further locality. **New synonymy!**

*Dixidesmus gausodicrorhachus* Johnson, 1954, Chicago Acad. Sci. Nat. Hist. Misc., 137: 1, fig. 1a-d. MALE HT (USNM) from west side of Garnet Lake, Mackinaw Co., Michigan. Synonymized with *branneri* by Shelley, 1988, with *canadensis*, herein. **New synonymy!**

Range: Southern Ontario south through Michigan and New York to northern Florida and the Gulf Coast.

Previous considerations of the name *canadensis* have generally associated it with the species called *serratus* Say. Upon examining the holotype in 1960, I was convinced that the paranota retained enough red pigment to refer it that currently known as *branneri* Bollman. The ostensible type locality may be taken *cum grano salis*, probably meaning only that the specimen was obtained through the Hudson's Bay Company along with many other kinds of natural history specimens, and I take this position until material of a species of *Pseudopolydesmus* has been secured at some point along the Albany River.

The original description of *glaucescens* notes the weinr thlich coloration of the paranota, sufficient to associate this name with the Appalachian populations of *canadensis*.

There is substantial geographic variation in size, color, and gonopod characters, more than enough to anticipate that a careful analysis will justify recognition of at least two, possibly three, subspecies of this very widespread taxon: one in the southeastern coastal plain, another in the Appalachians, and a third in the Great Lakes region.

**Pseudopolydesmus collinus** Hoffman

*Pseudopolydesmus collinus* Hoffman, 1974, Proc. Biol. Soc. Washington, 87: 346, figs. 1, 2. MALE HT (VMNH) from Pinnacles of Dan, ca. four miles southwest of Vesta, Patrick Co., Virginia.

Range: central North Carolina, across southwestern Virginia to eastern Kentucky and (disjunctly?) southern Indiana.

**Pseudopolydesmus erasus** (Loomis)

*Polydesmus erasmus* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 406, fig. 17; pl. 5, fig. 4 (June). MALE HT (MCZ) from Huntsville, Madison Co., Alabama.

*Dixidesmus tallulanus* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 19, fig. 34 (October). MALE HT (USNM) from a site between Clayton and Tallulah Falls, Rabun Co., Georgia. **New synonymy!**

*Dixidesmus penicillus* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 19, fig. 35 (October). MALE HT (USNM) from North and northwest of Clarkesville, Habersham Co., Georgia. **New synonymy!**

*Dixidesmus humilidens* Chamberlin, 1943, Bull. Univ. Utah, 34(6): 20, fig. 36 (October). MALE HT (USNM) from Gainesville, Hall Co., Georgia. Synonymized by Chamberlin & Hoffman, 1958.

Range: Southern part of the Appalachians in Georgia, North Carolina, Tennessee, and Alabama, also to the northwest in Kentucky and southern Illinois.

**Pseudopolydesmus euthetus** (Chamberlin)

*Polydesmus euthetus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 10, fig. 36. MALE HT (USNM) from Buder Park, one mile southwest of Valley Park, St. Louis Co., Missouri.

**Pseudopolydesmus minor** (Bollman)

*Polydesmus minor* Bollman, 1887, Entom. Americana, 4: 2. MALE HT (?USNM) from Little Rock, Pulaski Co., Arkansas.

*Pseudopolydesmus minor*: Chamberlin, 1943, Bull. Univ. Utah, 34(6): 18. \_ Loomis, 1959, Journ. Washington Acad. Sci., 49: 161, fig. 9.

Range: Arkansas, western Tennessee, southern Illinois.

**Pseudopolydesmus natchitoches** (Chamberlin)

*Polydesmus natchitoches* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 10, figs. 34, 35. MALE HT (USNM) from two miles south of Saline, Natchitoches Par., Louisiana.

*Pseudopolydesmus natchitoches*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 70.

**Pseudopolydesmus neoterus** Chamberlin

*Polydesmus neoterus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 10, fig. 30. MALE HT (USNM) from New Orleans, Louisiana.

*Pseudopolydesmus neoterus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus. 212: 70.

**Pseudopolydesmus paludicolus** Hoffman

*Pseudopolydesmus paludicolus* Hoffman, 1950, Virginia Journ. Sci. (NS), 1: 222, fig. 4. MALE HT (USNM) from Sand Bridge, City of Virginia Beach, Virginia.

Range: Extreme southeastern Virginia; Orangeburg Co., South Carolina. This psychrophilic species is doubtless widespread in the Atlantic Coastal Plain.

**Pseudopolydesmus paroicus** (Chamberlin)

*Polydesmus paroicus* Chamberlin, 1942, Bull. Univ. Utah, 32(8): 11, figs. 37, 38. MALE HT (USNM) from 1.5 miles north of Clay, Jackson Par., Louisiana.

*Pseudopolydesmus paroicus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 70.

***Pseudopolydesmus pinetorum* (Bollman)**

*Polydesmus pinetorum* Bollman, 1888, Entom. Americana, 4: 3. MALE HT (USNM) from Little Rock, Pulaski Co., Arkansas.

*Polydesmus americanus* Carl, 1902, Rev. suisse Zool., 10: 611, fig. 37. MALE HT (MHNG) from Texas without further locality. Synonymized by Causey, 1952.

*Polydesmus hubrichti* Chamberlin, 1943, Ent. News, 54: 15, figs. 1, 2. MALE HT (USNM) from St. Louis, Missouri. Synonymized by Causey, 1952.

*Polydesmus modocus* Chamberlin, 1943, Proc. Biol. Soc. Washington, 56: 36, fig. 6. MALE HT (?FMNH) from a site between Modoc and Roots, Randolph Co., Illinois. Synonymized by Causey, 1952.

*Pseudopolydesmus pinetorum*: Causey, 1952, Chicago Acad. Sci. Nat. Hist. Misc., 106: 6, fig. 5.

Range: Eastern parts of Texas, Oklahoma, and Kansas; Arkansas, Louisiana, Missouri, Illinois, Kentucky; presumably also Tennessee and Mississippi. A sample labeled Knox Co., Tennessee (VMNH) requires confirmation.

***Pseudopolydesmus serratus* (Say)**

*Polydesmus serratus* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 106. Type material, no longer extant, from the eastern shore of Virginia, under the bark of *Pinus variabilis*. Say is known to have collected on Assateague and Chincoteague islands, Accomack Co., Virginia, and material from either of these places should be obtained to provide a neotype.

?*Polydesmus pensylvanicus* Koch, 1847, in Krit. Rev. Insectenf. Deutschl., 3: 133; 1863, Die Myriapoden, 1: 59, pl. 69, fig. 142. Type material unknown, from Pennsylvania without further data.

*Polydesmus scopus* Chamberlin, 1942, Canadian Entom., 74: 16, fig. 1. MALE HT (USNM) from The Ledges, six miles south of Boone, Boone Co., Iowa. **New synonymy!**

*Polydesmus planicolens* Chamberlin, 1942, Canadian Entom., 74: 16, fig. 2. MALE HT (USNM) from Ames, Story Co., Iowa. **New synonymy!**

Range: Widespread over eastern North America, from Quebec (Gasp Peninsula), Michigan, and Minnesota southward to North Carolina, Tennessee, and Mississippi; apparently absent from the southeastern Coastal Plain and adjacent Piedmont.

Despite not having examined the relevant type material, I have been able to turn a single gonopod of a specimen of *P. serratus* into positions that gave such good approximations of the drawings for both *scopus* and *planicolens* that I have little doubt those names can be considered only a junior synonyms of *serratus*.

### Genus **Scytonotus** C. L. Koch

*Scytonotus* Koch, 1847, Syst. Myriap., in: Panzer, Krit. Rev. Insectenf. Deutschl., 3: 57. Type species: *S. scabricollis* Koch, by subsequent designation of Bollman, 1893. \_ Cook & Cool, 1894, Ann. New York Acad. Sci., 8: 233. \_ Shelley, 1993, Brimleyana, 19: 12 (revision).

*Lasiolathus* Loomis, 1943, Journ. Washington Acad. Sci., 33: 318. Type species: *L. virginicus* Loomis, by original designation. Synonymized by Hoffman, 1947.

Nine species, in four disjunct geographic areas, one in northeastern, the others in northwestern North America.

Shelley (1994) recognizes three species groups, the membership of which is here organized alphabetically for consistency.

Removed from the genus: *Scytonotus nodulosus* Koch, 1847, see Polydesmidae of Uncertain Status

#### **Scytonotus australis** Hoffman

*Scytonotus australis* Hoffman, 1962, American Midl. Natur., 68: 245, fig. 1. MALE HT (USNM) from ravine six miles west of Amicalola Falls, Dawson Co., Georgia. \_ Shelley, 1993, Brimleyana, 19: 47, figs. 27-28.

Range: Northern Georgia, North Carolina west of the French Broad River, adjacent parts of South Carolina and Tennessee (map, Shelley, 1993, fig. 30).

#### **Scytonotus bergrothi** Chamberlin

*Scytonotus bergrothi* Chamberlin, 1911, Canadian Entom., 43: 262, fig. 16. MALE and FEMALE ST (USNM), from Bremerton, Kitsap Co., Washington. \_ Shelley, 1994, Brimleyana, 19: 26, figs. 13-14.

*Scytonotus pallidus* Attems, 1931, Zoologica (Stuttgart), 30 (3-4): 145, figs. 234-39. MALE HT (NMW) from Vancouver Island, British Columbia, Canada. Synonymized by Chamberlin & Hoffman, 1958.

Range: Southwesternmost British Columbia south through Washington to northwestern Oregon (map, Shelley, 1994, figs. 18, 19).

#### **Scytonotus columbianus** Chamberlin

*Scytonotus columbianus* Chamberlin, 1920, Canadian Entom., 52: 166, figs. 16, 17. MALE HT (MCZ) from the Columbia Valley, British Columbia. \_ Shelley, 1994, Brimleyana, 19: 21, figs. 7-8.

Range: Southeastern British Columbia and northeastern Washington (doubtless also occurs in northern Idaho) (map, Shelley, 1994, fig. 10).

#### **Scytonotus granulatus** (Say)

*Polydesmus granulatus* Say, 1821, Journ. Acad. Nat. Sci. Philadelphia, 2: 107. No type material known to exist. Type locality not specified, traditionally assumed to be vicinity of Philadelphia, Pennsylvania.

*Scytonotus laevicollis* C. L. Koch, 1847, Syst. Myriap., in Panzer: Krit. Rev. Insectenf. Deutschl., 3: 131; Die Myriapoden, 1863, 2: 41, pl. 80, fig. 163. No type material known to exist, original MALE HT labeled only Nordamerika. Synonymized by Bollman, 1893.

*Scytonotus scabricollis* C. L. Koch, 1847, Syst. Myriap., in: Panzer: Krit. Rev. Insectenf. Deutschl., 3: 130; Die Myriapoden, 2: 41, pl. 80, fig. 164. No type material known to exist; original two FEMALE syntypes labeled only Pennsylvania. Synonymized by Bollman, 1893.

*Stenonia hispida*: Sager, 1856, Proc. Acad. Nat. Sci. Philadelphia, 8: 109. Type material not known to exist, original type from Ann Arbor, Michigan. Synonymized with *nodulosus* by Bollman, 1893; with *granulatus* by Chamberlin & Hoffman, 1958.

*Polydesmus setiger* Wood, 1865, Trans. American Philos. Soc., 13: 213. Types (ANSP), from Pennsylvania. Synonymized by Chamberlin & Hoffman, 1958.

*Scytonotus cavernarum* Bollman, 1887, Entom. Americana, 3: 46. MALE HT (USNM) from Mayfield's Cave, Monroe Co., Indiana. Synonymized by Hoffman, 1962.

*Scytonotus granulatus*: Bollman, 1887, Entom. Americana, 3: 47. \_ Cook & Cook, 1894, Ann. New York Acad. Sci., 8: 233, pls. 6-9, figs. 1-41, 46-62, 64-71. \_ Hoffman, 1962, American Midl. Natur., 67: 243, fig. 1. \_ Shelley, 1994, Brimleyana, 19: 38, figs. 21-22.

Range: Northeastern North America, from Quebec to South Carolina, west to Kansas, Nebraska, and Minnesota (map, Shelley, 1994, fig. 29).

#### **Scytonotus inornatus** Shelley

*Scytonotus inornatus* Shelley, 1994, Brimleyana, 19: 35, figs. 17-18. MALE HT (FSCA) from Geary Ranch (not localized), Klamath Co., Oregon.

Range: Known only from type locality and Klamath Falls, southern Oregon (map, Shelley, 1994, fig. 20).

#### **Scytonotus insulanus** Attems

*Scytonotus insulanus* Attems, 1931, Zoologica (Stuttgart), 30(3-4): 147, figs. 240-245. MALE/FEMALE ST (NMW) from Nanaimo, Vancouver Island, British Columbia. \_ Shelley, 1994, Brimleyana, 19: 23, figs. 11-12.

Range: Southeastern Alaska to central Oregon, with a disjunct population in extreme southeastern Washington (map, Shelley, 1994, figs. 19, 20).

#### **Scytonotus piger** Chamberlin

*Scytonotus piger* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 244, pl. 36, figs. 1-5. FEMALE STs (USNM) from upper end of Mill Creek Canyon, Salt Lake Co., Utah. \_ Shelley, 1994, Brimleyana, 19: 15, figs. 2-6.



*Scytonotus amandus* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 249, pl. 38, figs. 4-6, pl. 39, fig. 1. Location of type material unknown, from Mill Creek Canyon, Salt Lake Co., Utah. Synonymized by Shelley, 1994.

*Scytonotus orthodox* Chamberlin, 1925, Pan-Pacific Entom., 2: 61. MALE HT (USNM) from Logan Canyon, Cache Co., Utah. Synonymized by Shelley, 1994.

Range: Two apparently disjunct areas: northern Idaho and adjacent parts of Montana and Washington; Wahsatch and Teton ranges in western Montana, southeastern Idaho, northern Utah (map, Shelley, 1994, figs. 9, 10).

### **Scytonotus simplex** Chamberlin

*Scytonotus simplex* Chamberlin, 1941, Bull. Univ. Utah, 31(12): 16, fig. 30. MALE HT (USNM) from Days Creek, Douglas Co., Oregon. Shelley, 1994, Brimleyana, 19: 31, figs. 15-16.

Range: Coast ranges from Lincoln Co., Oregon, south to vicinity of San Francisco Bay, California (map, Shelley, 1994, fig. 20).

### **Scytonotus virginicus virginicus** (Loomis)

*Lasiolathus virginicus* Loomis, 1943, Journ. Washington Acad. Sci., 33: 319, fig. 1. Imm. MALE HT (MCZ) from Thornton Gap, Page-Rappahannock counties, Virginia.

*Scytonotus virginicus*: Hoffman, 1950, Virginia Journ. Sci., n.s. 1: 220, fig. 2; 1962, American Midl. Nat., 67: 247, fig. 5.

*Scytonotus virginicus virginicus*: Shelley, 1994, Brimleyana, 19: 44, figs. 23, 24.

Range: Blue Ridge physiographic province, Virginia, between the Potomac and Roanoke rivers (map, Shelley, 1994, fig. 30). Intergrades with the following in Grayson, Smyth, Wythe, and Patrick counties, Virginia.

### **Scytonotus virginicus michauxi** Hoffman

*Scytonotus michauxi* Hoffman, 1962, American Midl. Nat., 67: 247, fig. 6. MALE HT (USNM) from Roan Mountain, Carter Co., Tennessee.

*Scytonotus virginicus michauxi*: Shelley, 1994, Brimleyana, 19: 45, figs. 25-26.

Range: Southern Blue Ridge province in western North Carolina and adjacent Tennessee, from the Virginia state line to the Great Smoky Mountains (map, Shelley 1994, fig. 30).

## Genus **Speodesmus** Loomis

*Speodesmus* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 187. Type species: *S. echinourus* Loomis, by original designation.

*Speorthus* Chamberlin, 1952, Ent. News, 63: 12. Type species, *S. tujanbius* Chamberlin, by original designation. Synonymy implied by Loomis, 1960, formalized by Shear, 1974.

Four species, southwestern United States.

**Speodesmus aquiliensis** Shear

*Speodesmus aquiliensis* Shear, 1984, Myriapodologica, 1: 96, figs. 1-7. 0 HT (AMNH) from Fulford Cave, 21 miles southeast of Eagle, Eagle Co., Colorado.

**Speodesmus bicornourus** Causey

*Speodesmus bicornourus* Causey, 1959, Proc. Biol. Soc. Washington, 72: 71, figs. 4-6. 0 HT (AMNH) from Beck's Ranch Cave, six miles west of Round Rock, Williamson Co., Texas.

**Speodesmus echinourus** Loomis

*Speodesmus echinourus* Loomis, 1939, Bull. Mus. Comp. Zool., 86: 188, figs. 13a-g. 0 HT (MCZ) from Prassel Ranch Cave near Kerrville, Kerr Co., Texas.

**Speodesmus tujanbius** (Chamberlin)

*Speorthus tujanbius* Chamberlin, 1952, Ent. News, 63: 12. HT (USNM) from Carlsbad Caverns, Eddy Co., New Mexico. \_ Loomis, 1960, Journ. Kansas Entom. Soc., 33: 66, figs. 14-16 (gonopods illustrated from topotypic specimen).

*Speodesmus tujanbius*: Shear, 1974, Occ. Pap. California Acad. Sci., 112: 6, figs. 4-8.

Range: Caves in western Texas and eastern New Mexico.

Genus **Utadesmus** Chamberlin & Hoffman

*Utadesmus* Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 2. Type species: *Brachydesmus henriensis* Chamberlin, 1930, by original designation. \_ Shelley, 1996, Myriapodologica, 4: 10.

Two species: Northern New Mexico, southeast Utah (surely also in adjoining states).

**Utadesmus henriensis** (Chamberlin)

*Brachydesmus henriensis* Chamberlin, 1930, Pan-Pacific Entom., 6: 118, two unnumbered figures. MALE HT (USNM) from Mount Ellen, Henry Mountains, Garfield Co., Utah.

*Utadesmus henriensis* Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 2. \_ Shelley, 1996, Myriapodologica, 4: 11, figs. 1-3.

Range: Known only from Garfield Co., Utah (map, Shelley, 1996, fig. 7).

**Utadesmus hoffi** Chamberlin & Hoffman

*Utadesmus hoffi* Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 3, figs. 1, 2. MALE HT (USNM) from Sandia Mountains [probably at Albuquerque], Bernalillo Co., New Mexico. \_ Shelley, 1996, Myriapodologica, 4: 14, figs. 4-6.

Range: North-central New Mexico, in Cibola, Sandoval, Sante Fe, Bernalillo, and Torrance counties (map, Shelley, 1996, fig. 7).

## POLYDESMIDAE OF UNCERTAIN STATUS OR IDENTITY

**Scytonotus nodulosus** C. L. Koch, 1847, Syst. der Myriap., in Panzer: Krit. Rev. Insectenf. Deutschl., 3: 131; 1863, Die Myriapoden, 2: 43, pl. 80, fig. 165.

Bollman (1893: 122, 151) retained this species in *Scytonotus* on the basis of a supposed feature of the pore location, but as noted as soon as the following year (Cook & Cook, 1894: 235), the published accounts of *nodulosus* - the habitus drawing as well as some textual comments - exclude it from *Scytonotus*. The 1863 illustration shows 20 (19+1) body segments, supported by the remark that the specimen is a male with 31 pairs of legs. The metaterga are shown to have three transverse rows of polygons, 2+2 large ones in the first row and a greater number of smaller in the 2nd and 3rd. Contrary to Bollman, Koch clearly stated that the paranota (Seitenlappen) are modified laterally into a thickened peritreme (Beule), approximately as in species of the genus *Polydesmus*. In fact, it is difficult to imagine Koch's reasons for describing *nodulosus* in *Scytonotus*.

The type, part of the collection of the German entomologist Reich, was stated to have come from Pennsylvania. With an adult length of 11 mm, it is much too small to represent any of the native species of *Pseudopolydesmus*, but does fall into the size range of the European species currently called *inconstans* Latzel. It is entirely probable that this species was introduced and established in eastern Pennsylvania well before the 1840s, and collected there before it was found in Europe.

**Polydesmus moniliaris** C. L. Koch, 1847, Syst. der Myriap., in Panzer: Krit. Rev. Insectenf. Deutschl., 3: 135; 1863, Die Myriapoden, 2: 20, pl. 69, fig. 143.

Essentially the same commentary made above is applicable here, except that the description was based on females. Chamberlin & Hoffman (1958: 75) have already posited the identity of this name as a senior synonym of *inconstans*. Like the preceding, the animal is small enough to possibly be the same as that currently called *Brachydesmus superus*, but Koch's drawings clearly show 19+1 body segments rather than 18+1.

## Family Haplodesmidae Cook

Haplodesmidae Cook, 1895, Ann. New York Acad. Sci., 9: 4.

Haplosomidae Silvestri, 1895, Ann. Mus. Civ. Stor. Nat. Genova, 34: 638.

?Comodesmidae Cook, 1896, American Natur., 30: 415.

*Haplodesmus* Cook, 1895, proposed as a replacement for *Haplosoma* Verhoeff, 1894, is five months younger than *Haplosomum* Brolemann, 1895, which although an unjustified emendation of *Haplosoma*, is nonetheless valid because the latter name is preoccupied. Although Article 40 of the ICZN discusses the fate of family names based on type genera which are shown to be junior synonyms, it is not clear on this point in subparagraph (b) "Before 1961", whether Haplodesmidae should be replaced by a family name based on *Haplosomum*. I see no reason to invoke confusion by adopting such a change.

Two genera are represented in Middle America by introduced synanthropic species. A third, from Panama, is included with some reservations following its inclusion in Comodesmidae by Loomis, perhaps transfer to Fuhrmannodesmidae could be justified.

### Genus *Cylindrodesmus* Pocock

*Cylindrodesmus* Pocock, 1889, Proc. Zool. Soc. London for 1888: 558. Type species: *C. hirsutus* Pocock, by monotypy. \_ Schubart, 1945, Arq. Mus. Nac. (Rio de Janeiro), 38: 132 (key to four species).

?*Lasiodesmus* Silvestri, 1908, Bull. American Mus. Nat. Hist., 24: 575. Type species: *L. caribicus* Silvestri, by original designation. Synonymized with *Inodesmus* [*nec sensu* Cook, 1896] by Loomis, 1934; with *Cylindrodesmus* by Hoffman, 1980.

*Hypsoporus* Loomis, 1969, Florida Entom., 52: 145. Type species: *Inodesmus globulosus* Loomis, 1964, by original designation. Synonymized by Enghoff, 1978 (not Hoffman, 1980!)..

Three (or four) nominal species, two of them widely dispersed in the tropics through commerce.

Resolution of the membership of this genus can hardly be achieved until the characters of its type species have been established. It is by no means assured that Attems (1900) material from the Seychelles, on which our concept of *hirsutus* is based, is conspecific with that of Pocock from Christmas Island. A second and likewise widespread species, *C. laniger* (Schubart, 1945) is said to differ from *hirsutus* primarily in its smaller size, which casts doubt on identifications published prior to 1945 if in fact two species are involved.

Until such time as specimens- rather than literature accounts - are compared, I grant *laniger* the benefit of doubt rather than unjustly synonymize a valid form, and treat *hirsutus* as through Attems identification was correct..

#### ***Cylindrodesmus hirsutus* Pocock**

*Cylindrodesmus hirsutus* Pocock, 1889, Proc. Zool. Soc. London for 1888: 558. Type material (?BMNH) from Christmas Island (105.40 E, 10.30 S), Indian Ocean.

The only Neotropical records known to me appear to be those mentioned by Shear & Peck (1987) on the premise that *Lasiodesmus caribicus* is a junior synonym. Although entirely possible, this association remains to be confirmed, and in any case, some of these records may refer to the following species (**if** that is maintained as a valid species).

#### ***Cylindrodesmus laniger* Schubart**

*Cylindrodesmus laniger* Schubart, 1945, Arq. Mus. Nac. (Rio de Janeiro), 38: 130. MALE HT (Mus. Zool. Sao Paulo), from Tijuca, Distrito Federal, Brasil.

*Cylindrodesmus palmyrae* Chamberlin, 1954, Ent. News, 65: 66, fig. 1. MALE HT (USNM) from Palmyra Island, Line Islands, Polynesia. Synonymized by Enghoff, 1978.

*Inodesmus globulosus* Loomis, 1964, Fieldiana: Zool., 47: 30. FEMALE HT (FMNH) from Las Cumbres, Prov. Panama, Panama. Synonymized by Enghoff, 1978.

*Hypsoporus globulosus* Loomis, 1969, Florida Entom., 52: 145, fig. 8.

Range: Virtually pantropical, most records appear to be in the Neotropical Region, only the Panama locality for *I. globulosus* and a record for Guadeloupe (Mauris, 1980) are confirmed

for our area.

### Genus **Hypsiloporus** Loomis

*Hypsiloporus* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 104. Type species: *H. proclivis* Loomis, by original designation; 1964, Fieldiana Zool., 47: 27 (key to four species).

Four species, Panama.

This genus is retained in Haplodesmidae in deference to Loomis's original placement; perhaps it should be transferred to Fuhrmannodesmidae as a possibly close relative of *Eutynellus*.

#### **Hypsiloporus erosus** Loomis

*Hypsiloporus erosus* Loomis, 1964, Fieldiana Zool., 47: 27, fig. 13, O. MALE HT (FMNH) from El Valle, Prov. Cocle, Panama.

#### **Hypsiloporus montanus** Loomis

*Hypsiloporus montanus* Loomis, 1964, Fieldiana Zool., 47: 28, fig. 2, L. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

#### **Hypsiloporus proclivis** Loomis

*Hypsiloporus proclivis* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 105, figs. 5f-g, 6a. FEMALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

#### **Hypsiloporus serratus** Loomis

*Hypsiloporus serratus* Loomis, 1964, Fieldiana Zool., 47: 29, figs. 2, M, 13, P. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

### Genus **Prosopodesmus** Silvestri

*Prosopodesmus* Silvestri, 1910, Zool. Anz., 35: 360. Type species: *P. jacobsoni* Silvestri, by original designation.

*Homodesmus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 223. Type species: *H. parvus* Chamberlin, by original designation. Synonymized by Loomis, 1950.

Two species, one essentially pantropical through synanthropy.

#### **Prosopodesmus jacobsoni** Silvestri

*Prosopodesmus jacobsoni* Silvestri, 1910, Zool. Anz., 35: 362, figs. 6, 7. MALE FEMALE ST (LEAP) from Batavia (Djakarta), Java.

*Homodesmus parvus* Chamberlin, 1918, Bull. Mus. Comp. Zool. 62: 223. MALE HT (MCZ) from Manneville, Haiti. Synonymized by Loomis, 1950.

*Prosopodesmus jacobsoni hilaris* Brolemann, 1920, Voy. Alluaud & Jeannel en Afr. Or., Diplopoda, p. 226, text figs. LXXXI-LXXXII, pl. figs. 134-144. MALE HT (MHNP) from Grotte de Mangapwani, Zanzibar Island, Tanzania.

Range: Widespread in the tropics through human introductions: Java, New Caledonia; southern India; Zanzibar; southern Florida; Haiti, Puerto Rico, Jamaica, St. Eustatius; Panama; Brazil, Ecuador (Galapagos Islands). Original range unknown.

It seems unlikely that a local population in Tanzania is sufficiently different from the remainder of the species to warrant subspecific designation.

## Family Cryptodesmidae Karsch

Cryptodesmidae Karsch, 1880, Mitt. Munchner ent. Ver., 4: 143.

Cryptodesmidae Silvestri, 1894, Ann. Mus. Civ. Stor. Nat. Genova, 34: 647. Hoffman, 1973, Stud. Neotrop. Fauna, 8: 179 (classification).

Peridontodesmidae Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 134.

Hexodontiinae Verhoeff, 1941, Jenaische Zeitschr. Naturw., 73: 248.

About 36 genera worldwide, dispersed through four provisional subfamilies. As only the nominate group is represented in the Neotropical region, a subfamily heading is unnecessary.

The diversification of peridontodesmids in southern Mexico, and their poverty or absence in the lower Mesamerican isthmus, casts doubts on their affinity with South American cryptodesmids.

## Genus **Diaphanacme** Loomis

*Diaphanacme* Loomis, 1964, Fieldiana: Zool., 47: 31. Type species: *D. latus* Loomis, by original designation.

One species, Panama.

### **Diaphanacme lata** Loomis

*Diaphanacme lata* Loomis, 1964, Fieldiana: Zool., 47:32, figs. 2, O-R. MALE HT (FMNH) from El Valle, Prov. Cocle, Panama.

## Genus **Maderesmus** Chamberlin

*Maderesmus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 61. Type species: *M. tepoztlanus* Chamberlin, by original designation.

Two species, Mexico (Michoacan, Morelos).

### **Maderesmus hoogstraali** (Chamberlin)

*Peridontodesmus hoogstraali* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 58, fig. 6. MALE HT (USNM) from Cerro Tanc taro, Michoacan, Mexico.

*Maderesmus hoogstraali* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 61.

**Maderesmus tepoztlanus** Chamberlin

*Maderesmus tepoztlanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 61, fig. 148. MALE HT (USNM) from Tepoztlán, Morelos, Mexico.

**Genus Peridotodesmus** Silvestri

*Peridotodesmus* Silvestri, 1896, Ann. Mus. civ. Stor. nat. Genova, 36: 197. Type species: *Polydesmus woodianus* Humbert & DeSaussure, 1869, by original designation.

*Hexodontia* Verhoeff, 1932, Zool. Jahrb. Abt. Syst. 62: 516. Type species: *H. cordobana* Verhoeff, by monotypy. Synonymized by Hoffman, 1980.

*Trachyphloeus* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 264. Type species: *Peridotodesmus electus* Chamberlin, 1914, by original designation. Preoccupied by *Trachyphloeus* Germar, 1817.

*Rhexiphloeus* Attems, 1940, Das Tierreich, 70: 460. Replacement name for *Trachyphloeus* Attems, 1933, type species: *Peridotodesmus electus* Chamberlin, 1914, by direct substitution. Synonymized with *Hexodontia* by Hoffman, 1950, with *Peridotodesmus* by Hoffman, 1973.

*Kalesmus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 60. Type species: *K. phanus* Chamberlin, by original designation. **New synonymy!** Implied by Shear, 1986, here formalized.

*Apomus* (*Parapomus*) Kraus, 1954, Senckenbergiana biol., 35: 317. Type species: *A. (P.) zilchi* Kraus, by original designation. Synonymized by Loomis, 1968.

*Thelura* Loomis, 1966, Ann. Entom. Soc. America, 59: 12. Type species: *T. punctata* Loomis, by original designation. Synonymized by Shear, 1986.

Ten species, Mexico to Costa Rica. Some of the following names, based on female specimens, may be referable to other genera.

**Peridotodesmus cordobanus** (Verhoeff)

*Hexodontia cordobana* Verhoeff, 1932, Zool. Jahrb. Abt. Syst. 62: 518, figs. 45-47. MALE HT (ZSBS) from Cordoba, Veracruz, Mexico.

*Peridotodesmus cordobanus*: Hoffman, 1980, Classification of the Diplopoda, p. 147. New combination resulting from synonymy of *Hexodontia*.

**Peridotodesmus electus** Chamberlin

*Peridotodesmus electus* Chamberlin, 1914, Trans. American Entom. Soc., 40: 188, fig. 3. MALE HT (MCZ?) from Laguna, Juan Viñas, Prov. Cartago, Costa Rica.

*Rhexiphloeus electus* Attems, 1940, Das Tierreich, 70: 461, figs. 654-656.

**Peridotodesmus eutropis** (Chamberlin), new combination!

*Kalesmus eutropis* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 60, fig. 153. MALE HT (USNM)

from Fortin de los Flores, Veracruz, Mexico.

**Peridontodesmus flagellatus** Pocock

*Peridontodesmus flagellatus* Pocock, 1909, Biol. Centr.-Amer., Diplop. p. 136, pl. 10, figs. 4a-g. HT (?BMNH) from Chalhuitz (Departamento not located), Guatemala.

**Peridontodesmus hirsutus** Pocock

*Peridontodesmus hirsutus* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 136, pl. 10, figs. 5, 5a. HT (?BMNH) from Teapa, Tabasco, Mexico.

**Peridontodesmus medius** Chamberlin

*Peridontodesmus medius* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 59, figs. 138, 139. FEMALE HT (USNM) from Ixtapan del Oro, Mexico, Mexico.

**Peridontodesmus morelus** Chamberlin

*Peridontodesmus morelus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 59, figs. 140-143. MALE HT (USNM) from Chapultepec, near Cuernavaca, Morelos, Mexico.

**Peridontodesmus parvus** Chamberlin

*Peridontodesmus parvus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 59, fig. 144. FEMALE HT (USNM) from Villa Juarez, Puebla, Mexico.

**Peridontodesmus phanus** (Chamberlin), new combination!

*Kalesmus phanus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 60, figs. 150-152. MALE HT (USNM) from Parque Nacional de Zempoala, Morelos, Mexico.

**Peridontodesmus punctatus** (Loomis)

*Thelura punctata* Loomis, 1966, Ann. Entom. Soc. America, 59: 12, figs. 4-6. MALE HT (SMUK) from El Salto, San Luis Potos, Mexico.

*Peridontodesmus punctatus*: Shear, 1986, Speleol. Monogr. Texas Tech. Univ. 1: 79.

**Peridontodesmus zilchi** (Kraus)

*Apomus (Parapomus) zilchi* Kraus, 1954, Senckenbergiana biol., 35: 317, figs. 41, 42. MALE HT (SMF) from Volc n Los Naranjos, Dept. Santa Ana, El Salvador.

*Hexodontia zilchi*: Loomis, 1968, Bull. U. S. Nat. Mus., 266: 30.

Range: Recorded from several departments in El Salvador (Kraus, 1954).

Genus **Pinesmus** Chamberlin

*Pinesmus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 62. Type species: *P. setosus* Chamberlin, by original designation.

Monobasic, Mexico.



**Pinesmus setosus** Chamberlin

*Pinesmus setosus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 62, fig. 149. MALE HT (USNM) from Desierto de los Leones, Distrito Federal, Mexico.

Genus **Sierresmus** Chamberlin

*Sierresmus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 60. Type species: *S. hidalgonus* Chamberlin, by original designation.

Monobasic, Mexico.

**Sierresmus hidalgonus** Chamberlin

*Sierresmus hidalgonus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 61, figs. 145, 146. MALE HT (USNM) from Chapulhuacan, Hidalgo, Mexico.

Family **Macrosternodesmidae** Brolemann

Macrosternodesmini Brolemann, 1916, Ann. Soc. Ent. France, 84:585.

Macrosternodesmidae Hoffman, 1980, Classification of the Diplopoda, p. 177.

Three genera, Europe; ?one, North America.

My inclusion (1980) of *Chaetaspis* in this group was based largely on similarity of the gonopods with those of *Macrosternodesmus palicola* Brolemann.

Genus **Chaetaspis** Bollman

*Chaetaspis* Bollman, 1887, Entom. Americana, 3: 45. Type species: *C. albus* Bollman, by monotypy.

*Antriadesmus* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 408. Type species: *A. fragilis* Loomis, by original designation. Synonymized by Hoffman, 1980.

Five species, not all congeneric, have been placed in this genus; eastern United States.

**Chaetaspis albus** Bollman

*Chaetaspis albus* Bollman, 1887, Entom. Americana, 3: 45. Location of type material unknown, from Bloomington, Monroe Co., Indiana.

Range: Central eastern United States, from southern Indiana and southwestern Virginia to northern Alabama and Mississippi (from unpublished studies).

**Chaetaspis debilis** (Causey), new combination!

*Antriadesmus debilis* Causey, 1959, Journ. Tennessee Acad. Sci. 34: 231, fig. 2. MALE HT (AMNH) from Walker Spring Cave, Wayne Co., Tennessee.

Placement of this species only follows the generic synonymy; *debilis* in fact is not congeneric with *albus*.

**Chaetaspis fragilis** (Loomis)

*Antriadesmus fragilis* Loomis, 1943, Bull. Mus. Comp. Zool., 92: 109, figs. 18a-b. MALE HT (MCZ) from White s Cave, Edmondson Co., Kentucky. \_ Loomis, 1960, Journ. Kansas Entom. Soc., 33: 68, fig. 17.

Range: This species, congeneric with *albus*, seems restricted to the vicinity of Mammoth Cave, Kentucky.

**Chaetaspis mollis** (Causey)

*Antriadesmus mollis* Causey, 1959, Journ. Tennessee Acad. Sci., 34: 230, fig. 1. MALE HT (AMNH) from Cumberland Caverns, Warren Co., Tennessee.

Placement of this species only follows the generic synonymy; *mollis* in fact is not congeneric with *albus*.

**Chaetaspis ohionis** Causey

*Chaetaspis albus* [nec Bollman, 1887] Williams & Hefner, 1928, Bull. Ohio Biol. Surv., 18: 110, fig. 12a.

*Chaetaspis ohionis* Causey, 1950, Ent. News, 61: 197. Location of type material unknown, from localities in Athens and Washington cos., Ohio.

This species, never collected subsequent to its description, is not congeneric with *albus*, in fact possibly not even referable to this family. Examination of topotypic material remains a desideratum of the highest priority.

### Genus **Ophiodesmus** Cook

*Ophiodesmus* Cook, 1895, Ann. New York Acad. Sci., 9: 5. Type species: *Strongylosoma verhoeffi* Brolemann, 1895, by original designation.

Two species, western Europe, one introduced into North America.

**Ophiodesmus albanus** (Latzel)

*Paradesmus albanus* Latzel, 1895, Mitt. Naturh. Mus. Hamburg, 12: 107, fig. 1. Type material (ZMH) from Hamburg, Germany.

*Ophiodesmus albanus*: Schubart, 1934, Tierwelt Deutschlands, 28: 170, figs. 273-275. \_ Palm n, 1952, Ann. Zool. Soc. Vanamo , 15(1): 14.

Range: Northern Europe (England, France, Netherlands, Germany, Sweden), recorded from St. John s, Newfoundland, by Palm n (1952); it is not known if the population still exists there.

### Family Nearctodesmidae Chamberlin & Hoffman

Nearctodesmidae Chamberlin & Hoffman, 1950, Chicago Acad. Sci. Nat. Hist. Misc., 71: 1. \_

Shelley, 1994, Canadian Journ. Zool., 72: 470-495 (revision).

Five genera, northwestern North America; Illinois, central western Mexico (map, Shelley, 1994, fig. 1).

The content and affinities of this taxon are far from being settled. Already in 1980 I noted some similarities with various arcane polydesmoid genera from southwestern United States as well as with the Palearctic group Macrosternodesmidae. These points have been confirmed and elaborated by both Shelley (1994) and Simonsen (1990), the latter even suggesting union of nearctodesmids with macrosternodesmids as coordinate subfamilies. While this may indeed be the correct disposition, I concur with Dr. Shelley that no major changes be implemented until the micro-nearctodesmid fauna of the Sonoran region is much better investigated.

### Genus **Bistolodesmus** Shelley

*Bistolodesmus* Shelley, 1994, Canadian Journ. Zool., 72: 485. Type species: *Polydesmus bonikus* Chamberlin, 1912, by original designation.

Monobasic; Washington (state).

#### **Bistolodesmus bonikus** (Chamberlin)

*Polydesmus bonikus* Chamberlin, 1912, Ann. Entom. Soc. America, 5: 168, pl. 10, fig. 3. Type material lost, from Madison, Washington, considered by Shelley (1994: 486) to be a misspelling of Madson, Whitman Co., Washington.

*Bistolodesmus bonikus*: Shelley, 1994, Canadian Journ. Zool., 72: 485, figs. 27-30, 38, 42. Designation of MALE NT (USNM) from Cleveland Gulch, northeast of Harvard, Latah Co., Idaho.

Range: Northern Idaho, eastern Washington (map, Shelley, 1994, fig. 52).

### Genus **Ergodesmus** Chamberlin

*Ergodesmus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 94. Type species: *E. compactus* Chamberlin, by original designation. \_ Shelley, 1994, Canadian Journ. Zool., 92: 487.

*Ectopodesmus* Hoffman, 1962, American Midl. Natur., 68: 194. Type species: *E. remingtoni* Hoffman, by original designation. Synonymized by Hoffman, 1980.

Two species, northwestern North America; Illinois.

#### **Ergodesmus compactus** Chamberlin

*Ergodesmus compactus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 94, fig. 1. MALE HT (USNM) from Between Goldendale and Mayfield, Klickitat Co., Washington, the second locality being suspected by Shelley (1994: 487) of being an error for *Maryhill*. \_ Shelley, 1994, Canadian Journ. Zool., 92: 487, figs. 31-34, 39, 43.

*Ectopodesmus cristatus* Loomis & Schmitt, 1971, Northwest Science, 45: 115, figs. 3-6. MALE HT (USNM) from the junction of Clark Fork River and Deep Creek, Missoula Co.,

Montana. Synonymized by Shelley, 1994.

[*Ectopodesmus cristatus* variety *dentatus* Loomis & Schmitt, 1971, Northwest Science, 45: 115. MALE HT (USNM) from a site three miles north of Thompson Falls, Sanders Co., Montana. Synonymized by Shelley, 1994, but the name has no standing in zoological nomenclature (cf. ICZN Art. 16)].

Range: Western Montana, northern Idaho, adjoining parts of Washington and British Columbia (map, Shelley, 1994, figs. 52, 54).

#### **Ergodesmus remingtoni** (Hoffman)

*Ectopodesmus remingtoni* Hoffman, 1962, American Midl. Nat., 68: 194, figs. 1-6. MALE HT (USNM) from a cave 1.7 miles north of Grafton, Jersey Co., Illinois.

*Ergodesmus remingtoni*: Shelley, 1994, Canadian Journ. Zool., 92: 490, fig. 35.

Range: Known so far from a number of caves in western Illinois, and another in extreme southeastern Illinois. The species may actually be a facultative troglophile, occurring also in edaphic habitats that are adequately cool and moist.

### Genus **Kepolydesmus** Chamberlin

*Kepolydesmus* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 246 (as subgenus of *Polydesmus*). Type species: *P. (K.) anderisus* Chamberlin, by subsequent designation of Chamberlin, 1949. \_ Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 94. \_ Shelley, 1994, Canadian Journ. Zool., 92: 484.

One species, northwestern United States.

#### **Kepolydesmus anderisus** (Chamberlin)

*Polydesmus (Kepolydesmus) anderisus* Chamberlin, 1910, Ann. Entom. Soc. America, 3: 246, pl. 36, figs. 6-9, pl. 37, figs. 1-4. MALE HT (USNM) from Kendrick, Latah Co., Idaho.

*Kepolydesmus anderisus*: 1949, Journ. Washington Acad. Sci., 39: 94, fig. 2. \_ Shelley, 1994, Canadian Journ. Zool., 92: 484, figs. 23-26, 37, 41.

*Kepolydesmus mimus* Chamberlin, 1947, Proc. Biol. Soc. Washington, 60: 10, fig. 3. MALE HT (USNM) from Martha Creek, Skamania Co., Washington. Synonymized by Shelley, 1994.

*Kepolydesmus hesperus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 94, fig. 3. MALE HT (USNM) from Ashland, Jackson Co., Oregon. Synonymized by Shelley, 1994.

*Kepolydesmus pungo* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 95, fig. 4. MALE HT (USNM) from Horsetail Falls, Multnomah Co., Oregon. Synonymized by Shelley, 1994. [The enigmatic specific name assumes relevance on being recognized as the Gosiute indian word meaning horse ].

Range: Apparently dispersed into three disjunct areas: one in southwest Oregon, a second in south central Washington, and the main area centered on northern Idaho and adjacent parts of Montana, Oregon, and Washington (map, Shelley, 1994, fig. 54).

### Genus *Nearctodesmus* Silvestri

*Nearctodesmus* Silvestri, 1910, Zool. Anz., 35: 364. Type species: *Polydesmus (Stenonia) cerasinus* Wood, 1864, by original designation. \_ Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 96. \_ Shelley, 1994, Canadian Journ. Zool., 92: 479 (revision).

Three species, Pacific Coast region from British Columbia to San Francisco Bay.

Article 70(a) of the ICZN states that if an established species is designated by an author as type species of a new nominal genus, it is to be assumed that the author has identified the species correctly. Although Silvestri specified *Polydesmus cerasinus* Wood as the type of *Nearctodesmus*, the somewhat ambiguous gonopod drawing that he provided, under that species name, is distinctly more similar to the gonopods of the species identified by Shelley as *N. insulanus* Chamberlin. Perhaps for this reason, Shelley cited Silvestri's usage under both of those species names. I believe that no useful end would be served by invoking the provisions of Article 70(b) to refer the case to the Commission for judgement.

#### ***Nearctodesmus cerasinus* (Wood)**

*Polydesmus (Stenonia) cerasinus* Wood, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 6. Type material lost, from an unspecified place in Oregon. Shelley (1994) designated a MALE NT (USNM) from Pistol River, Curry Co., Oregon

*Nearctodesmus cerasinus*: Silvestri, 1910, Zool. Anz., 35: 364, fig. 10. \_ Shelley, 1994, Canadian Journ. Zool., 92: 482, figs. 15-18.

*Nearctodesmus brunnior* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 96, fig. 6. MALE HT (USNM) from nine miles north of Crescent, Del Norte Co., California. Synonymized by Shelley, 1994.

*Nearctodesmus campicolens* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 96, fig. 7. MALE HT (USNM) from Redwood Fort, Route 101, Prairie Creek Park, California. Synonymized by Shelley, 1994, who cited the type locality - presumably from a vial label - as Redwood National Park, Prairie Creek area, Humboldt Co., California.

*Nearctodesmus malkini* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 1, figs. 1-3. MALE HT (USNM) from Brookings, Curry Co., Oregon. Synonymized by Shelley, 1994.

Range: Coastal region from Douglas Co., Oregon, south to Humboldt Co., California, with an apparently disjunct more southern population in Mendocino Co., California (map, Shelley, 1994, fig. 54).

#### ***Nearctodesmus insulanus* Chamberlin**

*Kepolydesmus insulanus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 25, fig. 47. MALE HT (USNM) from Vancouver Island, British Columbia.

*Nearctodesmus insulanus*: Chamberlin & Hoffman, 1958, Bull. U. S. Nat. Mus., 212: 62. \_ Shelley, 1994, Canadian Journ. Zool., 92: 479, figs. 9-14, 36, 40.

*Nearctodesmus amissus* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 96, fig. 5. MALE HT (USNM) from Oregon without further locality. Synonymized by Shelley, 1994.

*Nearctodesmus pseustes* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 96, fig. 8. MALE HT (USNM) from Boyer, Tillamook Co., Oregon. Synonymized by Shelley, 1994.

*Nearctodesmus renigens* Chamberlin, 1949, Journ. Washington Acad. Sci., 39: 97, fig. 9. MALE HT (USNM) from Oregon, probably near Corvallis. Synonymized by Shelley, 1994.

*Nearctodesmus carli* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 2, figs. 4, 5. MALE HT (Location ?) from Scott Island, British Columbia. Synonymized by Shelley, 1994.

*Nearctodesmus boydi* Chamberlin, 1951, Chicago Acad. Sci. Nat. Hist. Misc., 87: 2, figs. 6, 7. MALE HT (USNM) from Lake Cowichan, Vancouver Island, British Columbia. Synonymized by Shelley, 1994.

*Nearctodesmus cochlearius* Causey, 1954, Ann. Entom. Soc. America, 47: 82, figs. 4-6. MALE HT (AMNH) from Seattle, King Co., Washington. Synonymized by Shelley, 1994.

*Nearctodesmus olympus* Causey, 1954, Ann. Entom. Soc. America, 47: 84, figs. 7, 8. MALE HT (AMNH) from Olympic Hot Springs, Clallam Co., Washington. Synonymized by Shelley, 1994.

Range: Coastal regions of British Columbia, Washington, and Oregon; a disjunct population in southeastern British Columbia (map, Shelley, 1994, fig. 54).

### Genus **Sakophallus** Chamberlin

*Sakophallus* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 59. Type species: *S. simplex* Chamberlin, by original designation.

*Jaliscodesmus* Hoffman, 1975, Rev. suisse Zool., 82: 648. Type species: *J. alticola* Hoffman, by original designation. Synonymized by Shelley, 1994.

One species, central western Mexico.

Shelley (1994: 492) has correctly pointed out the disjunct position of this genus in the Nearctodesmidae.

### **Sakophallus simplex** Chamberlin

*Sakophallus simplex* Chamberlin, 1942, Proc. Biol. Soc. Washington, 55: 59, figs. 8-10. MALE HT (formerly USNM, lost or misplaced) from Cerro Tancitaro, 7,800 ft., Michoacan, Mexico.

*Jaliscodesmus alticola* Hoffman, 1975, Rev. suisse Zool., 75: 649, figs. 1-5. MALE HT (MHNG) from east slope of Volc n de Colima near tree line, Jalisco, Mexico. Synonymized by Shelley, 1994.

## Family Fuhrmannodesmidae Brolemann

Fuhrmannodesmini Brolemann, 1916, Ann. Soc. ent. France, 84: 586.

Fuhrmannodesmidae Hoffman, 1980, Classification of the Diplopoda, p. 177.

Eutynebellidae Chamberlin, 1940, Bull. Univ. Utah, 30(9): 30.

Trichopolydesmidae Loomis, 1964, Fieldiana: Zool., 47: 79 (key to nine genera occurring in Panama).

About 55 very nominal genera, most of them monobasic;

In 1980, I referred to this taxon as a . . .gigantic residue of tropical species previously placed in the Polydesmidae, Vanhoeffenidae, Trichopolydesmidae, or no family at all. Aside from being small to tiny, pallid or colorless, and somewhat polydesmid in form, these creatures are extremely diverse in gonopod pattern and should unquestionably be sorted out into at least two or three families. In the two decades since those words were written, a number of new species and genera have been described under this rather shaky family name, but virtually no progress has been made toward a revision.

Accepting the precedent of my 1980 concept of a superfamily Trichopolydesmoidea (almost certainly an *ignis fatuus*), Simonsen (1990) very briefly treated the Trichopolydesmidae and Fuhrmannodesmidae as distinct families, whilst combining the Nearctodesmidae and Macrosternodesmidae under the latter name. In revising the Nearctodesmidae, Shelley (1994) noted the disjunct status of *Sakophallus* and commented that several genera of small polydesmoids from southwestern United States (which he denominated micro-nearctodesmids) required clarification as possible members of a nearctodesmid-macrosternodesmid spectrum. In my view, these same genera (e.g., *Harpagonopus*, *Oodedesmus*, *Phreatodesmus*, *Tidesmus*) equally suggest an interface with fuhrmannodesmids, through *Tylogoneus*, for instance.

The following list of taxa must be taken for what it is - a heterogeneous aggregation of tiny polydesmids pragmatically combined into an illusory, polyphyletic taxon for want of a better alternative. Critics are earnestly invited to replace this *collage* with a real classification.

### Genus **Agenodesmus** Loomis

*Agenodesmus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 38. Type species: *A. reticulatus* Loomis, by original designation. \_ Shear & Peck, 1987, Canadian Journ. Zool., 65: 2641.

Two species: Caribbean region; Galapagos Islands.

#### **Agenodesmus reticulatus** Loomis

*Agenodesmus reticulatus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 40, fig. 20. MALE HT (USNM) from Fond des Negre, Haiti.

Range: Haiti, St. Kitts, St. Luciaa, Dominica, Grenada, clearly an anthropochoric distribution.

### Genus **Caramba** Shear

*Caramba* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 246. Type species: *C. delburro* Shear, by original designation.

Three species, central eastern Mexico, in caves.

**Caramba delburro** Shear

*Caramba delburro* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 248, figs. 24-28. MALE HT (AMNH) from Cueva del Burro, Rio Escondido, Lago de Malpaso, Ocozocuatla, Chiapas, Mexico.

**Caramba enbecausius** Shear

*Caramba enbecausius* Shear, 1982, Bull. Assoc. Mexican Cave Stud., 8: 157, figs. 47-49. MALE HT (AMNH) from Cueva de Las Miravillas, six miles south of Acatlán, Oaxaca, Mexico.

**Caramba grandeza** Shear

*Caramba grandeza* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 250, fig. 29. MALE HT (AMNH) from Grutas de Llano Grande, Llano Grande, Huixtla, Chiapas, Mexico.

### Genus **Chilaphrodesmus** Loomis

*Chilaphrodesmus* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 43. Type species: *C. rubellus* Loomis, by original designation. Synonymized with *Cryptogonodesmus* Silvestri, 1898, by Loomis, 1941.

Two species, Hispaniola; two, Puerto Rico..

Loomis's combination of this genus with *Cryptogonodesmus* was made without knowledge of the gonopod structure in *C. clavidives*, the Venezuelan type species.

**Chilaphrodesmus clarus** (Chamberlin), new combination!

*Cryptogonodesmus clarus* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 148. FEMALE HT (USNM) from Toro Negro, Villalba, Puerto Rico.

**Chilaphrodesmus darlingtoni** (Loomis), new combination!

*Cryptogonodesmus darlingtoni* Loomis, 1941, Bull. Mus. Comp. Zool. 88: 65, figs. 25a-b. MALE HT (MCZ) from Loma Vieja, south of Constanza in the Cordillera Central, Republica Dominicana.

**Chilaphrodesmus rollei** (Velez), new combination!

*Cryptogonodesmus rollei* Velez, 1967, Caribbean Journ. Sci., 7: 31, figs. 13-15. MALE HT (USNM) from La Mina, El Yunque, Puerto Rico.

**Chilaphrodesmus rubellus** Loomis

*Chilaphrodesmus rubellus* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 43, text figs 21a, b; pl. 2, fig. 6. MALE HT (USNM) from Morne Pilboreau, above Ennery, Haiti.



### Genus **Chirripeckia** Hoffman

*Chirripeckia* Hoffman, 1976, Rev. suisse Zool., 83: 744. Type species: *C. lyncilecta* Hoffman, by original designation.

One species, Guatemala.

#### **Chirripeckia lyncilecta** Hoffman

*Chirripeckia lyncilecta* Hoffman, 1976, Rev. suisse Zool., 83: 744, figs. 1-3. MALE HT (MHNG) from Cueva Chirripeck, south of Coban, Dept. Alta Verapaz, Guatemala.

### Genus **Cylindrogonus** Loomis

*Cylindrogonus* Loomis, 1964, Fieldiana: Zool., 47: 83. Type species: *C. copiosus* Loomis, by original designation.

Two species, Panama and Costa Rica..

#### **Cylindrogonus copiosus** Loomis

*Cylindrogonus copiosus* Loomis, 1964, Fieldiana: Zool., 47: 84, figs. 8, A-F. MALE HT (FMNH) from Casita Alta, Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

#### **Cylindrogonus tumidus** Loomis

*Cylindrogonus tumidus* Loomis, 1974, Florida Entom., 57: 182, figs. 20-22. MALE HT (FSCA) from north side of Cerro de la Muerte on the Interamerican Highway, Prov. ?Cartago, Costa Rica.

### Genus **Cyclopsodesmus** Loomis

*Cyclopsodesmus* Loomis, 1964, Fieldiana: Zool., 47: 80. Type species: *C. scaurus* Loomis, by original designation.

Three species, Panama.

#### **Cyclopsodesmus geniculatus** Loomis

*Cyclopsodesmus geniculatus* Loomis, 1964, Fieldiana: Zool., 47: 82, figs. 7, M-P. MALE HT (FMNH) from Cerro Punta, Prov. Chiriqui, Panama.

#### **Cyclopsodesmus octosetosus** Loomis

*Cyclopsodesmus octosetosus* Loomis, 1964, Fieldiana: Zool., 47: 83, figs. 7, Q-S. MALE HT (FMNH) from Cerro Punta, Prov. Chiriqui, Panama.

**Cyclopsodesmus scaurus** Loomis

*Cyclopsodesmus scaurus* Loomis, 1964, Fieldiana: Zool., 47: 81, figs. 7, G-L. MALE HT (FMNH) from Finca Lerida near Boquete, Prov. Chiriqu, Panama.

Genus **Enantiogonus** Loomis

*Enantiogonus* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 103. Type species: *E. fragilis* Loomis, by original designation.

One species, Panama.

**Enantiogonus fragilis** Loomis

*Enantiogonus fragilis* Loomis, 1961, Proc. U. S. Nat. Mus. 113: 104, figs. 5b-e. MALE HT (USNM) from Pi a area, Canal Zone, Panama.

Genus **Eutynellus** Chamberlin

*Eutynellus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 9. Type species: *E. flavior* Chamberlin, by original designation.

One species, Panama.

**Eutynellus flavior** Chamberlin

*Eutynellus flavior* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 9. HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

The failure of numerous collectors (including Loomis himself) to recollect this species on Barro Colorado Island suggests the possibility that his 18-segmented specimens were in fact immatures of a species later described from that locality under other generic and specific names. Redescription of the original type material is an obvious desideratum.

Genus **Harponopus** Loomis

*Harponopus* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 58. Type species: *H. confluentus* Loomis, by original designation.

One species, southern California.

**Harponopus confluentus** Loomis

*Harponopus confluentus* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 59, figs. 4, 5. MALE HT (USNM) from Cottonwood Creek, 45 miles east of San Diego [presumably on US Hy. 80], San Diego Co., California.

Range: Recorded from several localities in San Diego Co., California, and from 14 to 20

miles north of Ensenada Baja California Norte, Mexico.

### Genus **Hexadesmus** Loomis

*Hexadesmus* Loomis, 1933, Bull. Mus. Comp. Zool., 75: 362. Type species: *H. lateridens* Loomis, by original designation.

One species, Cuba.

#### **Hexadesmus lateridens** Loomis

*Hexadesmus lateridens* Loomis, 1933, Bull. Mus. Comp. Zool., 75: 363, figs. 9, 10. FEMALE HT (MCZ) from Jaronu, Prov. ?Camaguey, Cuba.

Range: Definitely known only from the type locality. Records by Loomis (1934) for Haiti, St. Kitts, and Carricou, were based on females possibly referable to other species.

### Genus **Irazunus** Attems

*Irazunus* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 260. Type species: *I. reimoseri* Attems, by original designation. — Loomis, 1964, Fieldiana: Zool., 47: 87 (key to five Panamanian species).

Seven species, Panama, Costa Rica.

#### **Irazunus chiriquensis** Loomis

*Irazunus chiriquensis* Loomis, 1964, Fieldiana: Zool., 47: 87, figs. 8, G-L. MALE HT (FMNH) from west of Finca Palo Santo, near Nueva California, Prov. Chiriqui, Panama.

#### **Irazunus minusculus** Attems

*Irazunus minusculus* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 262, figs. 7-10. MALE HT (NMW) from Hamburg Farm, northwest of Port Limón, Prov. Limón, Costa Rica.

#### **Irazunus ovatus** Loomis

*Irazunus ovatus* Loomis, 1964, Fieldiana: Zool., 47: 88, figs. 8, M-N. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

#### **Irazunus penicillatus** Loomis

*Irazunus penicillatus* Loomis, 1964, Fieldiana: Zool., 47: 89, figs. 8, O-Q. MALE HT (FMNH) from Barca Area, Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

#### **Irazunus reimoseri** Attems

*Irazunus reimoseri* Attems, 1933, Ann. Naturh. Mus. Wien, 46: 260, figs 1-6. MALE HT (NMW) from Volcán Irazú, 2200 m. [probably on the southeast slope], Prov. Cartago, Costa Rica.

**Irazunus uncus** Loomis

*Irazunus uncus* Loomis, 1964, Fieldiana: Zool., 47: 90, figs. 8, R-S. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Irazunus velaripes** Loomis

*Irazunus velaripes* Loomis, 1964, Fieldiana: Zool., 47: 91, figs. 8, T-V. MALE HT (FMNH) from El Valle, Prov. Coclé, Panama.

**Genus Irogonus** Loomis

*Irogonus* Loomis, 1964, Fieldiana: Zool., 47: 92. Type species: *I. reniformis* Loomis, by original designation.

One species, Panama.

**Irogonus reniformis** Loomis

*Irogonus reniformis* Loomis, 1964, Fieldiana: Zool., 47: 92, figs. 9, A-E. MALE HT (FMNH) from Cerro Punta, Prov. Chiriquí, Panama.

**Genus Leiogonopus** Loomis

*Leiogonopus* Loomis, 1964, Fieldiana: Zool., 47: 93. Type species: *L. echinus* Loomis, by original designation.

Two species, Panama.

**Leiogonopus bidentatus** Loomis

*Leiogonopus bidentatus* Loomis, 1947, Fieldiana: Zool., 47: 96. FEMALE HT (FMNH) from El Valle, Prov. Coclé, Panama.

**Leiogonopus echinus** Loomis

*Leiogonopus echinus* Loomis, 1964, Fieldiana: Zool., 47: 94, figs. 9, F-J. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Genus Oodedesmus** Loomis

*Oodedesmus* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 60. Type species: *O. variabilis* Loomis, by original designation.

Monobasic, Arizona.

**Oodedesmus variabilis** Loomis

*Oodedesmus variabilis* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 60, figs. 6, 7 +

unnumbered photograph. MALE HT (USNM) from Fish Creek, east of Phoenix, Maricopa Co., Arizona.

Range: Recorded from localities in Yavapai, Pinal, and Maricopa cos., Arizona.

### Genus **Pachygonopus** Loomis

*Pachygonopus* Loomis, 1964, Fieldiana: Zool., 47: 96. Type species: *P. apiculatus* Loomis, by original designation.

Monobasic, Panama.

#### **Pachygonopus apiculatus** Loomis

*Pachygonopus apiculatus* Loomis, 1964, Fieldiana: Zool., 47: 97, figs. 9, K-M. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

### Genus **Phreatodesmus** Loomis

*Phreatodesmus* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 62. Type species: *P. torreyanus* Loomis, by original designation.

Three (?four) species, California.

#### **Phreatodesmus cooki** Loomis

*Phreatodesmus cooki* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 64, fig. 12. MALE HT (USNM) from Clear Creek at Tehachapi Pass, Kern Co., California.

#### **Phreatodesmus dentatus** Loomis

*Phreatodesmus dentatus* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 64, fig. 13. MALE HT (USNM) from Cajon Pass, seven miles west of Cajon, San Bernardino Co., California.

#### **Phreatodesmus hastingsus** (Chamberlin)

*Brachydesmus hastingsus* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 27, figs. 48, 49. MALE HT (USNM) from Hastings Reservation, Monterey Co., California.

*Phreatodesmus hastingsus*: Loomis, 1960, Journ. Kansas Entom. Soc., 33: 65.

Placement of *hastingsus* in this genus is entirely speculative.

#### **Phreatodesmus torreyanus** Loomis

*Phreatodesmus torreyanus* Loomis, 1960, Journ. Kansas Entom. Soc., 33: 62, figs. 8-11. MALE HT (USNM) from Torrey Pines near La Jolla, San Diego Co., California.

Range: Recorded from Riverside Co., California, and Baja California Norte, Mexico.

### Genus **Pozodesmus** Shear

*Pozodesmus* Shear, 1986, Speleol. Monogr. Texas Mem. Mus., 1: 78. Type species: *P. poco* Shear, by original designation.

One species, Mexico (Hidalgo).

***Pozodesmus poco* Shear**

*Pozodesmus poco* Shear, 1986, Speleol. Monogr. Texas Mem. Mus., 1: 78, figs. 34-37. MALE HT (AMNH) from S tano del Tres Pozos at Ejido El S tano, Hidalgo, Mexico.

**Genus *Salvadoria* Kraus**

*Salvadoria* Kraus, 1954, Senckenberg. Biol., 35: 314. Type species: *S. alata* Kraus, by original designation.

Seven species, El Salvador, Belize, Chiapas.

***Salvadoria alata alata* Kraus, new status**

*Salvadoria alata* Kraus, 1954, Senckenb. Biol., 35: 315, figs. 33-35. MALE HT (SMF) from Laguna Verde, 1600 m., Dept. Ahuachapan, El Salvador.

***Salvadoria alata propinqua* Kraus**

*Salvadoria alata propinqua* Kraus, 1954, Senckenb. Biol. 35: 315, fig. 6. MALE HT (SMF) from Laguna de Las Ranas, 1720-1730 m., Dept. Sonsonate, El Salvador.

***Salvadoria argentea* Kraus**

*Salvadoria argentea* Kraus, 1954, Senckenb. Biol., 35: 316, figs. 38, 39. MALE HT (SMF) from Hacienda Los Planes, Sierra de Metapan, Dept. Santa Ana, El Salvador.

***Salvadoria beliza* Shear**

*Salvadoria beliza* Shear, 1982, Bull. Assoc. Texas Cave Stud., 8: 159, figs. 50-52. MALE HT (AMNH) from Caves Branch, Cayo District, Belize.

***Salvadoria furcata* Kraus**

*Salvaadoria furcata* Kraus, 1954, Senckenb. Biol. 35: 316, fig. 37. MALE HT (SMF) from Monte Cristo, Sierra de Metapan, Dept. Santa Ana, El Salvador.

***Salvadoria mexicana* Shear**

*Salvadoria mexicana* Shear, 1982, Bull. Assoc. Texas Cave Stud., 8: 159, figs. 53-55. MALE HT (AMNH) from S tano de Cancuc, Chiapas, Mexico.

***Salvadoria sagittalis* Kraus**

*Salvadoria sagittalis* Kraus, 1954, Senckenb. Biol., 35: 316, fig. 40. MALE HT (SMF) from Laguna Verde, 1600 m., Dept. Ahauachapan, El Salvador.

### Genus **Sumidero** Shear

*Sumidero* Shear, 1982, Bull. Assoc. Mexican Cave Stud., 8: 155. Type species: *S. sumidero* Shear, by original designation.

Three species, central and northeastern Mexico.

#### **Sumidero pecki** (Shear)

*Speodesmus pecki* Shear, 1974, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 273, figs. 55-58. MALE HT (AMNH) from Cueva del Pach n, Tamaulipas, Mexico.

*Sumidero pecki*: Shear, 1982, Bull. Assoc. Mexican Cave Stud., 8: 157.

Range: Caves in Tamaulipas (Shear, 1986).

#### **Sumidero sprousei** Shear

*Sumidero sprousei* Shear, 1982, Bull. Assoc. Mexican Cave Stud., 8: 157, figs. 44-45. MALE HT (AMNH) from S tano de La Silleta, La Silleta, San Luis Potos , Mexico.

#### **Sumidero sumidero** Shear

*Sumidero sumidero* Shear, 1982, Bull. Assoc. Mexican Cave Stud., 8: 155. Figs. 39-43. MALE HT (AMNH) from Sumidero de Coahuatichan, two km south of Cuetzalan, Puebla, Mexico.

### Genus **Tichodesmus** Chamberlin

*Tichodesmus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 13. Type species: *T. micrus* Chamberlin, by original designation.

One species, Panama.

#### **Tichodesmus micrus** Chamberlin

*Tichodesmus micrus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 13. HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

### Genus **Tylogoneus** Causey

*Tylogoneus* Causey, 1973, Bull. Assoc. Mexican Cave Stud, 5: 119. Type species: *T. rainesi* Causey, by original designation.

Four species, caves in northeastern Mexico.

#### **Tylogoneus delnegro** (Shear)

*Caramba delnegro* Shear, 1977, Acc. Naz. Lincei. Prob. Att. Sci. Cult., 171(3): 248, figs. 24-28. MALE HT (AMNH) from Cueva del Negro, near Bochil, Chiapas, Mexico.

*Tylogoneus delnegro*: Shear, 1982, Bull. Assoc. Mexican Cave Stud., 8: 157.

**Tylogoneus minus** Causey

*Tylogoneus minus* Causey, 1973, Bull. Assoc. Mexican Cave Stud. 5: 121, fig. 32. MALE HT (USNM) from Cueva de Tres Manantiales, 17 km southwest of Gomez Fari s, Tamaulipas, Mexico.

**Tylogoneus oyamel** Shear

*Tylogoneus oyamel* Shear, 1982, Bull. Assoc. Mexican Cave Stud., 8: 157, fig. 46. MALE HT (AMNH) from Sumidero de Oyamel, Conrado Castillo, Tamaulipas, Mexico.

**Tylogoneus rainesi** Causey

*Tylogoneus rainesi* Causey, 1973, Bull. Assoc. Mexican Cave Stud., 5: 121, figs. 27-31. MALE HT (USNM) from Cueva de Poca Ventana, one km west of Xilitla, San Luis Potos , Mexico.

Range: Also recorded from a cave at San Jos , Hidalgo, Mexico (Shear, 1986).

## Family Pyrgodesmidae Silvestri

Pyrgodesmidae Silvestri, 1896, Ann. Mus. Civ. Stor, Nat. Genova, 36: 192 (March).

Stylodesmidae Cook, 1896, Proc. U. S. Nat. Mus., 18: 82 (April).

Chytodesmidae Cook, 1896, Brandtia, 5: 20.

Stiodesmidae Cook, 1896, Brandtia, 5: 25.

Decaporodesmidae Kenyon, 1899, Proc. Entom. Soc. Washington, 4: 299.

Idiurodesmini Silvestri, 1924, Boll. Lab. Zool. Gen. Agr. Portici, 17: 172.

Ceratesmidae Chamberlin, 1942, Bull. Univ. Utah, 33(4): 10.

Stenotodesminae Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 28.

Pyrgodesmidae Hoffman, 1980, Classification of the Diplopoda, p. 179.

The foregoing list does not include suprageneric taxon names based on genera (mostly monotypic) in other parts of the world and not recorded from the Neotropics.

The problems that beset the study of this group have been stated several times in recent years and need not be repeated here. I only want to observe that so many of the generic names have been based on the peripheral characters of single species (often known only from females), such as number of body segments (rings), distribution of ozopores, tergal ornamentation, and number of collum lobes, and too often published without any illustrations. It is not surprising that a backlash developed against such abuses in recent years, and genera redefined on the basis of gonopodal characters, resulting in some astonishing rosters of synonymical generic names.

In the virtual lack of personal experience I have had no option than to adopt, as basically reasonable, such amalgamations as published. Yet I would invoke the admonition about throwing the baby out with the bathwater since gonopodal similarities may well be reflecting



relationships at the tribal level, and more refined later studies may show gonopod-taxa to correspond to some of the body-form genera. The difficulties of studying and illustrating the minute gonopods impede the recognition of both homologies and homoplasies.

I am by no means satisfied that the Pyrgodesmidae, as treated by me in 1980 (and here) is mono-phyletic. Certainly I was wrong to consider the Eoromidae as a pyrgodesmid, and a careful examination of the original description suggests to me the strong possibility of some chelodesmoid affinity.

Loomis (1941: 67) provided a key to the nine West Indian genera (except *Chytodesmus* itself) of Chytodesmidae, i.e., those forms of pyrgodesmids which lack porosteles. While that character is now known to be of specific importance only, the millipeds referred by Cook and Loomis to Chytodesmidae have a distinct *Gestalt* and one wonders if some other, so-far overlooked character, might not vindicate Cook's perception.

### Genus **Airocaulon** Loomis

*Airocaulon* Loomis, 1964, Fieldiana: Zool., 47: 66. Type species: *A. humerosum* Loomis, by original designation.

One species, Panama.

#### **Airocaulon humerosum** Loomis

*Airocaulon humerosum* Loomis, 1964, Fieldiana: Zool., 47: 66, figs. 6, E-H. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

### Genus **Berlesedesmus** Loomis

*Berlesedesmus* Loomis, 1975, Florida Entom., 58: 169. Type species: *B. flagellipes* Loomis, by original designation.

One species, Jamaica.

#### **Berlesedesmus flagellipes** Loomis

*Berlesedesmus flagellipes* Loomis, 1975, Florida Entom., 58: 169, fig. 3. MALE HT (FSCA) from Whitfield Hall, 4200 ft., St. Thomas Par., Jamaica.

Range: Recorded from St. Thomas, St. Ann, and Trelawney parishes, Jamaica.

### Genus **Botrydesmus** Loomis

*Botrydesmus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 62. Type species: *B. lutosus* Loomis, by original designation.

*Prionodesmus* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 7. Type species: *P. fulgens* Loomis, by original designation. Synonymized by Loomis, 1964.

Five species, Panama, northern South America (Trinidad).

#### **Botrydesmus biramosus** Loomis

*Botrydesmus biramosus* Loomis, 1964, Fieldiana: Zool., 47: 68, fig. 6, I. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Botrydesmus conifer** Loomis

*Botrydesmus conifer* Loomis, 1964, Fieldiana: Zool., 47: 68, figs. 6, J-K. MALE HT (FMNH) from a site along the road west of Finca Palo Santo, near Nueva California, Prov. Chiriquí, Panama.

**Botrydesmus cryptus** Chamberlin

*Botrydesmus cryptus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 6. FEMALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

Whether this species is actually a *Botrydesmus* is purely speculative.

**Botrydesmus fulgens** (Loomis)

*Prionodesmus fulgens* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 7, figs. 17-20. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

*Botrydesmus coronatus* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 96, figs. 3k-m. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama. Synonymized by Loomis, 1964.

Range: Recorded (but from females only) also from Chiriquí and Panama provinces.

Genus **Calymmodesmus** Carl

*Calymmodesmus* Carl, 1914, M. m. Soc. neucheloise Sci. natur., 5: 959. Type species: *C. andinus* Carl, by monotypy.

*Yucodesmus* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 178. Type species: *Y. viabilis* Chamberlin, by original designation. Synonymized by Shear, 1973.

16 species, Oaxaca and Yucatan to central Colombia.

**Calymmodesmus alienus** (Chamberlin)

*Yucodesmus alienus* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 180, figs. 46-48. MALE HT (USNM), thought to have been collected in Hoctun Cave, Hoctun, Yucatan, Mexico.

**Calymmodesmus biensifer** Loomis

*Calymmodesmus biensifer* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 4, fig. 6. MALE HT (USNM) from Loma Bonita, 20 km south of Tuxtepec, Oaxaca, Mexico.

**Calymmodesmus dampfi** (Chamberlin)

*Yucodesmus dampfi* Chamberlin, 1947, Pan-Pacific Entom., 23: 101, fig. 1. MALE HT (USNM) from Hacienda Sayula, west of Veracruz, Veracruz, Mexico.

**Calymmodesmus falcatus** Loomis

*Calymmodesmus falcatus* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 2, fig. 3. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

**Calymmodesmus formicatus** Loomis

*Calymmodesmus formicatus* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 2, figs. 1, 2. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

**Calymmodesmus gracilis** Loomis

*Calymmodesmus gracilis* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 4, fig. 5. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

**Calymmodesmus hoctunanus** (Causey)

*Yucodesmus hoctunanus* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 28, figs. 14, 15. MALE HT (USNM) from Hoctun Cave, at Hoctun, Yucatan, Mexico. Synonymized by Shear, 1973.

**Calymmodesmus inquinatus** Causey

*Calymmodesmus inquinatus* Causey, 1960, Proc. Biol. Soc. Washington, 73: 276, fig. 00. MALE HT (?) from Gruta el Salvino, 34 km west of Puerto Barrios, Dept. Izabal, Guatemala. Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171: 285, figs. 76, 77.

**Calymmodesmus isidricus** (Chamberlin)

*Yucodesmus isidricus* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 179, fig. 51. MALE HT (USNM) from San Isidro cave, Merida, Yucatan, Mexico.

**Calymmodesmus mexicanus** Loomis

*Calymmodesmus mexicanus* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 5, figs. 7, 8. MALE HT (USNM) from Loma Bonita, 20 km south of Tuxtpec, Oaxaca, Mexico.

**Calymmodesmus montanus** Loomis

*Calymmodesmus montanus* Loomis, 1964, Proc. Biol. Soc. Washington, 77: 187, fig. 7-9. MALE HT (USNM) from Monteverde, Prov. Puntarenas, Costa Rica.

**Calymmodesmus muruztunicus** (Chamberlin)

*Yucodesmus muruztunicus* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 182, figs. 49, 50. MALE HT (USNM) from Murutzun Cave, Tizamin, Yucatan, Mexico.

**Calymmodesmus rettenmeyeri** Loomis

*Calymmodesmus rettenmeyeri* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 2, figs. 11-16. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama

**Calymmodesmus sodalis** Schubart

*Calymmodesmus sodalis* Schubart, 1952, An. Acad. Brasileira Cienc., 24: 438, figs. 1-8. MALE HT (Mus. Zool. Univ. Sao Paulo), from Costa Rica without further locality, but possibly

from Hamburg Farm northwest of Puerto Limón, Prov. Limón.

***Calymodesmus viabilis*** (Chamberlin)

*Yucodesmus viabilis* Chamberlin, 1938, Publ. Carnegie Inst. Washington, 491: 179, figs. 42-45.  
MALE HT (USNM) from Luchil Cave, Tixcacal, Yucatan, Mexico.

**Genus *Calyptodesmus* Schubart**

*Calyptodesmus* Schubart, 1944, Acta Zool. Lilloana, 2: 367. Type species: *C. sanctus* Schubart, 1944, by original designation.

*Anartiodesmus* Silvestri, 1947, Boll. Lab. ent. agr. Portici, 8: 27. Type species: *A. myrmophilus* Silvestri, by original designation. Synonymized by Schubart, 1954.

One species, Argentina and Brasil, introduced into Florida where now widespread.

***Calyptodesmus sanctus* Schubart**

*Calyptodesmus sanctus* Schubart, 1944, Acta Zool. Lilloana, 2: 368, fig. 38. FEMALE HT (MZUSP) from Cachoeira, Edo. São Paulo, Brasil. Hoffman, 1993, Insecta Mundi, 7: 191.

*Anartiodesmus myrmophilus* Silvestri, 1947, Boll. Lab. ent. agr. Portici, 8: 27, figs. XIII, 114. FEMALE HT (LEAP) from La Plata, Argentina. Synonymized by Hoffman, 1993..

*Calyptodesmus schubarti* Causey, 1960, Florida Entom., 43: 148, fig. 1. FEMALE HT (AMNH) from Lake City, Columbia Co., Florida. Synonymized by Hoffman, 1993.

Range: Northwestern Argentina, Paraguay, southeastern Brasil; introduced into Florida where now almost statewide.

**Genus *Catapleuradesmus* Loomis**

*Catapleuradesmus* Loomis, 1964, Fieldiana: Zool., 47: 71. Type species: *C. diadematus* Loomis, by original designation.

One species, Panama.

***Catapleuradesmus diadematus* Loomis**

*Catapleuradesmus diadematus* Loomis, 1964, Fieldiana: Zool., 47: 72, figs. 6, L-Q. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Genus *Chytodesmus* Cook**

*Chytodesmus* Cook, 1896, Brandtia, 5: 20. Type species: *Cryptodesmus laqueatus* Karsch, 1880, by original designation.

One species, Cuba.

**Chytodesmus laqueatus** (Karsch)

*Cryptodesmus laqueatus* Karsch, 1880, Mitt. Münchner Entom. Ver. 4: 141. MALE FEMALE ST (ZMB) from Cuba without further locality.

**Genus Coccoelasma** Loomis

*Coccoelasma* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 167. Type species: *C. incisura* Loomis, by original designation.

One species, Hispaniola.

**Coccoelasma incisura** Loomis

*Coccoelasma incisura* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 16, figs. 71a, b; pl. 3, fig. 4. MALE HT (USNM) from Île de Cabret near Bayeux, Haiti.

**Genus Cryptyma** Chamberlin

*Cryptyma* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 66. Type species: *C. lobata* Chamberlin, by original designation.

Three species, Veracruz to Guatemala.

**Cryptyma cocona** Shear

*Cryptyma cocona* Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 291, figs. 89-91. MALE HT (AMNH) from Grutas de Cocon, Teapa, Tabasco, Mexico.

**Cryptyma guatemala** Shear

*Cryptyma guatemala* Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(2): 289, figs. 87, 88. MALE HT (AMNH) from Cueva Lanquin at Lanquin, Dept. Alta Verapaz, Guatemala.

**Cryptyma lobata** Chamberlin

*Cryptyma lobata* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 66, figs. 160-161. FEMALE HT (USNM) from Fortin de las Flores, Veracruz, Mexico.

**Genus Cynedesmus** Cook

*Cynedesmus* Cook, 1895, Ann. New York Acad. Sci., 9: 5. Type species: *Cryptodesmus ornamentatus* Karsch, by monotypy.

*Augesmus* Chamberlin, 1951, Publ. Cult. Comp. Diam. Angola, 10: 76. Type species: *Cynedesmus varilobatus* Loomis, by original designation. **New synonymy!**

Three species, West Indies, Panama. This is implausible as a natural generic range; either the genus is heterogeneous or some anthropogenic distribution has occurred.

As noted by Jeekel (1972: 320), the species designated by Cook as type of *Cynedesmus* (*formicola* Ck.) was not described in 1895, and thus unavailable as type species. The other included species, *ornamentatus* Karsch, became *ipso facto* the type by monotypy. Chamberlin was not aware of this technicality when he proposed *Augesmus* on the grounds that *formicola* (of which he had inherited Cook's original drawings of the type specimen) was not zoologically congeneric with the several West Indian species later proposed in *Cynedesmus*.

Whether the following three species are really congeneric cannot be assumed until the characters of *C. ornamentatus* have been ascertained. At that time the generic status of *formicola*, currently orphaned, can be established.

### **Cynedesmus ornamentatus** (Karsch)

*Cryptodesmus ornamentatus* Karsch, 1880, Mitt. Münchener entom. Ver., 4: 142. Imm.MALE HT (ZMB) from Cuba without further locality.

*Cynedesmus ornamentatus*: Cook, 1895, Ann. New York Acad. Sci., 9: 5.

*Augesmus ornamentatus*: Chamberlin, 1951, Publ. Cult. Companhia. Diam. Angola, 10: 76.

### **Cynedesmus trinus** Loomis

*Cynedesmus trinus* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 5, figs. 9, 10. MALE HT (USNM) from Monte Lirio, Canal Zone, Panama.

*Augesmus trinus*: Loomis, 1964, Fieldiana: Zool., 47: 67.

### **Cynedesmus varilobatus** Loomis

*Cynedesmus varilobatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 184, fig. 75. MALE HT (USNM) from a site . . .near the road going down the hill east of Petit Goave from Leogoane....., Haiti.

## Genus **Cyphotylus** Loomis

*Cyphotylus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 170. Type species: *C. prolatus*°Loomis, by original designation.

One species, Hispaniola.

### **Cyphotylus prolatus** Loomis

*Cyphotylus prolatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 172, fig. 72. Imm.MALE HT (USNM) from Morne Brigand, near Bayeux, Haiti.

## Genus **Darlingtoniella** Loomis

*Darlingtoniella* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 474. Type species: *D. provecta* Loomis, by original designation.

One species, Cuba.

### **Darlingtoniella provecta** Loomis

*Darlingtoniella provecta* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 475, figs. 26a-f. MALE HT (MCZ) from Sierra de Trinidad, 2500-3500 ft., Buenos Aires, Prov. Santa Clara, Cuba.

### Genus **Decaporodesmus** Kenyon

*Decaporodesmus* Kenyon, 1899, Proc. Entom. Soc. Washington, 4: 299. Type species: *D. motzoranginis* Kenyon, by monotypy.

*Oligodesmus* Gill, 1899, Proc. Entom. Soc. Washington, 4: 300. Invalid replacement name for *Decaporodesmus*, with the same type species. Preoccupied by *Oligodesmus* Attems, 1898.

One species, Mexico.

If a synonym of *Myrmecodesmus*, as suspected by Shear (1977:252), this name has 11 years priority over Silvestri s.

### **Decaporodesmus motzoranginis** Kenyon

*Decaporodesmus motzoranginis* Kenyon, 1899, Proc. Entom. Soc. Washington, 4: 299. HT (location unknown) from Motzorango, Veracruz, Mexico.

### Genus **Dicropus** Loomis

*Dicropus* Loomis, 1972, Florida Entom., 55: 193. Type species: *D. tecticaudatus*°Loomis, by original designation.

One species: Costa Rica.

### **Dicropus tecticaudatus** Loomis

*Dicropus tecticaudatus* Loomis, 1972, Florida Entom., 55: 193, figs. 15-16. MALE HT (USNM) from Hamburg Farm, northwest of Puerto Limón, Prov. Limón, Costa Rica.

### Genus **Dilophops** Loomis

*Dilophops* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 59. Type species: *D. bullatus* Loomis, by original designation.

One species, Hispaniola.

### **Dilophops bullatus** Loomis

*Dilophops bullatus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 61, figs. 30a-c, pl. 4, fig. 4. MALE HT (USNM) from . . . an eighth of a mile from the beach at Bayeux, Haiti.

### Genus **Docodesmiella** Loomis

*Docodesmiella* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 80. Type species: *D. insularis* Loomis, by original designation.

Three species, Panama.

***Docodesmiella insularis* Loomis**

*Docodesmiella insularis* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 81, figs. 1g-i. MALE HT (USNM) from Berro Colorado Island, Canal Zone, Panama.

***Docodesmiella magna* Loomis**

*Docodesmiella magna* Loomis, 1964, Fieldiana: Zool., 47: 20, figs. 1, N-S. MALE HT (FMNH) from Finca Lerida near Boquete, Prov. Chiriqui, Panama.

***Docodesmiella spathulata* Loomis**

*Docodesmiella spathulata* Loomis, 1964, Fieldiana: Zool., 47: 21, figs. 1, T-U, 2, A-B. MALE HT (FMNH) from Finca Lerida near Boquete, Prov. Chiriqui, Panama.

**Genus *Docodesmus* Cook**

*Aporodesmus* Pocock, 1895, Ann. Mus. civ. Stor. nat. Genova, 34: 789. Type species: *Cryptodesmus vincentii* Pocock, 1894, by original designation. Preoccupied by *Aporodesmus* Porat, 1894.

*Docodesmus* Cook, 1896, Brandtia 2: 5. Type species: *Cryptodesmus vincentii* Pocock, 1894, by direct substitution. \_ Loomis, 1972, Florida Entom., 52: 249 (key to the 13 then-known species).

*Schizodira* Loomis, 1941, Psyche, 48: 37. Type species: *Stenonia maculata* Bollman, 1888, by original designation. Synonymized by Loomis, 1950.

18 species, West Indies, northern South America.

***Docodesmus alifer* Loomis**

*Docodesmus alifer* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 68, figs. 26a-c. FEMALE HT (MCZ) from Pico del Yaque, Loma Rucilla, Republica Dominicana.

***Docodesmus angustus* Loomis**

*Docodesmus angustus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 71, figs. 29a-d. MALE HT (MCZ) from Valle Nuevo, southeast of Constanza, Republica Dominicana.

***Docodesmus brodzinskyi* Shear**

*Docodesmus brodzinskyi* Shear, 1981, Myriapodologica, 1: 53, figs. 1, 2. HT (Brodzinsky Coll., Santo Domingo, R.D.), in amber thought to be of Oligocene age, from an uncertain locality in the Republica Dominicana.



It is entirely possible that this species represents a pyrgodesmid still living in Hispaniola.

**Docodesmus cooki** Loomis

*Docodesmus cooki* Loomis, 1969, Florida Entom., 52: 248, figs. 8-10. MALE HT (USNM) labeled Etowah, Tennessee.

Despite the biogeographic implausibility of a docodesmid in the southern Appalachians, Loomis (1969) was at pains to discount the possibility of a mix-up of material by Cook. That Cook was not infallible is attested by the case of two rhachodesmids labeled as Haiti? and later re-attributed by him to Panama (cf. Loomis, 1971: 175, who deduced the correct origin as Nicaragua!). More likely, a museum preparator, not Cook, could have made the mistake in labeling the *Docodesmus*..

**Docodesmus coxalis** Loomis

*Docodesmus coxalis* Loomis, 1975, Florida Entom., 58: 170, fig. 4. MALE HT (FSCA) from one mile south of Claremont, St. Ann Parish, Jamaica.

**Docodesmus cubensis** Loomis

*Docodesmus cubensis* Loomis, 1937, Bull. Mus. Comp. Zool., 80: 225, figs. 13, 14. MALE HT (MCZ) from Soledad, Prov. Cienfuegos, Cuba; 1938, Bull. Mus. Comp. Zool., 82: 473, fig. 25.

Range: Aside the type locality, recorded from Pico Turquino, Provs. Granma-Santiago de Cuba, Cuba.

**Docodesmus eggletoni** Velez

*Docodesmus eggletoni* Velez, 1967, Caribbean Journ. Sci., 7: 28, figs. 7-9. MALE HT (USNM) from Hy. 119, nine km north of San German, Puerto Rico.

Range: Westernmost third of Puerto Rico (map, Velez, 1967, map II).

**Docodesmus grenadae** Chamberlin

*Docodesmus grenadae* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 219. MALE HT (MCZ) from Grand Etang, Grenada, Lesser Antilles. \_ Loomis, 1937, Bull. Mus. Comp. Zool. 80: 226, figs. 15, 16.

**Docodesmus griseus** Loomis

*Docodesmsus griseus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 69, fig. 27. MALE HT (MCZ) from Sanchez, Republica Dominicana.

**Docodesmus haitiensis** Chamberlin

*Docodesmus haitiensis* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 216. MALE HT (MCZ) from Diquini, Haiti. \_ Loomis, 1934, Smithsonian Misc. Coll. 89(14): 45, pl. 3, figs. 1, 2; 1941, Bull. Mus. Comp. Zool., 88: 71. Figs. 28a, b.

Range: Recorded from over a dozen localities in Haiti and northern Republica Dominicana..

**Docodesmus maculatus** (Bollman)

*Stenonia maculata* Bollman, 1888, Proc. U. S. Nat. Mus., 11: 336. MALE HT (unknown, FEMALE PT at USNM), from Cuba, without further locality.

*Schizodira maculata*: Loomis, 1941, Psyche, 48: 37.

*Docodesmus maculatus*: Loomis, 1950, Journ. Washington Acad. Sci., 40: 166.

**Docodesmus maldonadoi** Velez

*Docodesmus maldonadoi* Velez, 1967, Caribbean Journ. Sci., 7: 27, fig. 6. MALE HT (USNM) from Km 4.4 on the Sabana Road at 1,850 ft., near El Yunque, Puerto Rico.

**Docodesmus parvior** Chamberlin

*Docodesmus parvior* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 218. FEMALE HT (MCZ) from Furcy, Haiti. \_ Loomis, 1936, Bull. Mus. Comp. Zool. 80: 162, pl. 3, fig. 3.

Range: Recorded from seven Haitian localities.

**Docodesmus sculpturatus** Loomis

*Docodesmus sculpturatus* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 45, fig. 22, pl. 4, fig. 1. MALE HT (USNM) from a banana hole three or four miles from Nassau, New Providence, Bahama Islands. \_ Velez, 1967, Caribbean Journ. Sci., 7: 26.

Range: Velez (1967, map II) shows two localities attributed to this species in central Puerto Rico. If the identification is correct, the occurrence of *sculpturatus* on New Providence must surely be the result of anthropochorism.

**Docodesmus semiseptus** Loomis

*Docodesmus semiseptus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 163, fig. 69. MALE HT (USNM) from Morne Pilboreau, above Ennery, Haiti.

**Docodesmus vidalius** Velez

*Docodesmus vidalius* Velez, 1967, Caribbean Journ. Sci., 7: 24, figs. 2-5. MALE HT (USNM) from Km 10.7 on Hy. 146, about ten km southwest of Ciuales, Puerto Rico.

**Docodesmus vincentii** (Pocock)

*Cryptodesmus vincentii* Pocock, 1894, Journ. Linnean Soc. London, 24: 510, pl. 39, figs. 2-2d. HT (BMNH) from St. Vincent, Lesser Antilles.

*Docodesmus vincentii*: Cook, 1896, Brandtia, 2: 5.

Genus **Fennellia** Loomis

*Fennellia* Loomis, 1941, Journ. Washington Acad. Sci., 31: 194. Type species: *F. ovipes*°Loomis, by original designation.

One species, Hispaniola.

**Fennellia ovipes** Loomis

*Fennellia ovipes* Loomis, 1941, Journ. Washington Acad. Sci., 31: 195, figs. 13-17. MALE HT (USNM) from Jeremie, Haiti.

Genus **Henicomus** Loomis

*Henicomus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 78. Type species: *H. septiporus* Loomis, by original designation.

One species, Hispaniola.

**Henicomus septiporus** Loomis

*Henicomus septiporus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 79, figs. 33a, b. FEMALE HT (MCZ) from Loma Vieja, 6,000 ft., Cordillera Central south of Constanza, Republica Dominicana.

Genus **Heteropente** Loomis

*Heteropente* Loomis, 1933, Bull. Mus. Comp. Zool., 75: 360. Type species: *H. planifrons* Loomis, by original designation.

One species, Cuba.

**Heteropente planifrons** Loomis

*Heteropente planifrons* Loomis, 1933, Bull. Mus. Comp. Zool., 75: 361, figs. 7, 8. MALE HT (MCZ) from Jatibonico, Prov. Ciego de vila, Cuba.

*Styraxodesmus cubensis* Chamberlin, 1947, Proc. Acad. Nat. Sci. Philadelphia, 99: 21, fig. 1. MALE HT (ANSP) from Modana, Tapaste, Prov.?, Cuba. Synonymized by Loomis & Hoffman, 1948.

Range: Recorded from several localities in central Cuba.

Genus **Idiuroidesmus** Silvestri

*Idiuroidesmus* Silvestri, 1924, Boll. Lab. Zool. gen. agr. Portici, 17: 172. Type species: *I. tristani* Silvestri, by original designation.

One species, Costa Rica.

**Idiuroidesmus tristani** Silvestri

*Idiuroidesmus tristani* Silvestri, 1924, Boll. Lab. Zool. gen. agr. Portici, 17: 175, figs. 1-12. MALE HT (LEAP) from Turr cares, ca. 15 km southwest of Alajuela, Prov. Alajuela, Costa Rica.

Genus **Iomoides** Loomis

*Iomoides* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 49. Type species: *I. hispidus* Loomis, by original designation.

Four species, Hispaniola.

**Iomoides conjunctus** Loomis

*Iomoides conjuncta* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 76, fig. 32. MALE HT (MCZ) from Villa Altagracia, Republica Dominicana.

**Iomoides glabrus** Loomis

*Iomoides glabra* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 53, fig. 26, pl. 3, fig. 5. MALE HT (USNM) from Christoph s Citadel, Cape Haitien, Haiti.

**Iomoides hispidus** Loomis

*Iomoides hispidus* Loomis, 1934, Smithsonian Misc. Coll. 89(14): 51, figs. 25a-c, pl. 3, figs. 3, 4. MALE HT (USNM) from Morne Brigand, near Bayeux, Haiti.

**Iomoides parallelus** Loomis

*Iomoides parallela* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 75, fig. 31. MALE HT (MCZ) from Sanchez, Republica Dominicana.

Genus **Iomus** Cook

*Iomus* Cook, 1911, Proc. U. S. Nat. Mus., 40: 455. Type species: *I. incisus* Cook, by original designation.

Four species, Puerto Rico, one, Guadeloupe (lack of species from Hispaniola remarkable).

**Iomus incisus** Cook

*Iomus incisus* Cook, 1911, Proc. U. S. Nat. Mus., 40: 458, fig. 4. MALE HT (?USNM) from a site near Mayaguez, Puerto Rico.

**Iomus obliquus** Cook

*Iomus obliquus* Cook, 1911, Proc. U. S. Nat. Mus., 40: 460. FEMALE HT (?USNM) from a site near Bayamon, Puerto Rico.

**Iomus platanus** Cook

*Iomus platanus* Cook, 1911, Proc. U. S. Nat. Mus. 40: 459. FEMALE HT (?USNM) from Barrio Plata, Puerto Rico.

**Iomus recentus** Chamberlin

*Iomus recentus* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 149. FEMALE HT

(USNM) from Toro Negro, Villalba, Puerto Rico.

***Iomus thibaudi*** Mauri s

*Iomus thibaudi* Mauri s, 1980, Bull. Mus. natn. Hist. nat., Paris, (4) 2A: 1067, figs. 7-13.  
MALE HT (MHNP) from Mamelle de Petit-Bourg, Basse-Terre, Guadeloupe.

**Genus *Jeekelia* Loomis**

*Melanodesmus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 73. Type species: *M. granulosus* Loomis, by original designation. Preoccupied by *Melanodesmus* Carl, 1914.

*Jeekelia* Loomis, 1950, Journ. Washington Acad. Sci. 40: 166 .New name for *Melanodesmus* Loomis, 1941, *ipso facto* with the same type species.

One species, Hispaniola.

***Jeekelia granulosa*** (Loomis)

*Melanodesmus granulosus* Loomis, 1941, Bull. Mus. Comp. Zool., 88: 74, figs. 30a-c.  
FEMALE HT (MCZ) from . . .between 5,000 and 8,000 feet elevation, Loma Rucilla and mountains north, Cordillera Central , Republica Dominicana.

*Jeekelia granulosa*: Loomis, 1950, Journ. Washington Acad. Sci., 40: 166.

**Genus *Kapyrodesmus* Attems**

*Xerodesmus* Chamberlin, 1923, Proc. California Acad. Sci., (4) 12: 403. Type species: *X. mulegensis* Chamberlin, by original designation. Preoccupied by *Xerodesmus* Cook, 1896.

*Kapyrodesmus* Attems, 1940, Das Tierreich, 70: 322. Type species: *Xerodesmus mulegensis* Chamberlin, 1923, by direct substitution (new name for *Xerodesmus* Chamberlin).

One species, Mexico (Baja California).

***Kapyrodesmus mulegensis*** (Chamberlin)

*Xerodesmus mulegensis* Chamberlin, 1923, Proc. California Acad. Sci., (4) 12: 403, figs. 36-38.  
FEMALE HT (CAS) from Muleg , Baja California Sur, Mexico.

*Kapyrodesmus mulegensis*: Attems, 1940, Das Tierreich, 70: 323.

**Genus *Karukeromus* Mauri s**

*Karukeromus* Mauries, 1980, Bull. Mus.natn. Hist. nat, Paris, (4) 2A: 1078. Type species: *K. delamarei* Mauri s, by monotypy.

One species, Guadeloupe.

**Karukeromus delamarei** Mauri s

*Karukeromus delamarei* Mauri s, 1980, Bull. Mus. natn. Hist. nat., Paris, (4) 2A: 1079, figs. 27-30. MALE HT (MHNP) from Capesterre-l Habitu e, 500 m, Basse-Terre, Guadeloupe.

Genus **Liomus** Chamberlin

*Liomus* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 149. Type species: *L. albanus* Chamberlin, by original designation.

Three species, Puerto Rico (Velez, 1967, Map II, plots localities for all three species).

**Liomus albanus** Chamberlin

*Liomus albanus* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 149, figs. 1-3. FEMALE HT (USNM) from Toro Negro, Villalba, Puerto Rico.

**Liomus obscurus** Chamberlin

*Liomus obscurus* Chamberlin, 1950, Proc. Biol. Soc. Washington, 63: 150. FEMALE HT (USNM) from the Maricao Insular Forest, between San Germ n and Maricao, Puerto Rico.

**Liomus ramosus** Velez

*Liomus ramosus* Velez, 1967, Caribbean Journ. Sci., 7: 24, fig. 1. MALE HT (USNM) from the Maricao Insular Forest, Puerto Rico.

Genus **Lobodesmus** Loomis

*Lobodesmus* Loomis, 1936, Bull. Mus. Comp. Zool. 80: 164. Type species: *L. granosus* Loomis, by original designation.

One species, Hispaniola.

**Lobodesmus granosus** Loomis

*Lobodesmus granosus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 165, fgis. 70a-d. MALE HT (MCZ) from Morne La Hotte, 3000-7000 ft., Haiti.

Genus **Lophodesmus** Pocock

*Lophodesmus* Pocock, 1894, in: Weber, Zool. Ergebn. Reise Niederlandisch Ost-Indien, 3: 372. Type species: *L. pusillus* Pocock, by monotypy.

East Indies, number of species uncertain; ten Mesamerican species are referred here provisionally.

This generic name embraces a taxonomic house of cards. There is no assurance that any of the New World species are congeneric with the type from Flores and it seems clear that several genera are represented by the following roster of names. In effect, nobody should take *Lophodesmus* seriously at the present.

**Lophodesmus bituberculatus** Loomis

*Lophodesmus bituberculatus* Loomis, 1970, Florida Entom., 53: 130, fig. 1. MALE HT (USNM) from Cueva Pajita, Lares, Puerto Rico.

Loomis (MS notes) considered this species to be referable to *Cynedesmus*.

**Lophodesmus caraibianus** (Chamberlin)

*Treseolobus caraibianus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 220. FEMALE HT (MCZ) from Mandeville, Haiti.

*Lophodesmus caraibianus* Loomis, 1934, Smithsonian Misc. Coll., 89(14): 59; 1936, Bull. Mus. Comp. Zool., 80: 186, pl. 3, fig. 8.

Loomis (MS notes) considered this species to be referable to *Cynedesmus*.

**Lophodesmus celatus** Pocock

*Lophodesmus celatus* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 133, pl. X, fig. 2, 2a. FEMALE ST (BMNH) from Volc n de Agua, Dept. Sacatepquez, Guatemala.

**Lophodesmus italolegatus** Shear

*Lophodesmus italolegatus* Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(2): 286, figs. 78-82. MALE HT (AMNH) from Cueva de la Golondrina, Bochil, Chiapas, Mexico.

Range: Recorded also from caves near Finca Santa Anita, Chiapas.

**Lophodesmus perparvus** Pocock

*Lophodesmus perparvus* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 133, pl. X, figs. 2, 2a. ST (BMNH) from Volc n de Agua, Dept. Sacatepquez, Guatemala. \_ Hoffman, 1976, Rev. suisse Zool., 83: 311, fig. 2 (gonopod of syntype).

**Lophodesmus petrinus** Hoffman

*Lophodesmus petrinus* Hoffman, 1976, Rev. suisse Zool., 83: 312, figs. 7-12. MALE HT (MHNG) from Cueva Chirripeck, south of Coban, Dept. Alta Verapaz, Guatemala.

Range: Known also from Cueva Agua Escondida at El Tobacal, Dept. Huehuetango, Guatemala.

**Lophodesmus rodriguezi** Shear

*Lophodesmus rodriguezi* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 261, figs. 53-56. MALE HT (AMNH) from Sima I del Tempisque, Chiapas, Mexico.

**Lophodesmus shawcrossi** Shear

*Lophodesmus shawcrossi* Shear, 1977, Acc. Naz. Lincei Prob. Att. Sci. Cult., 171(3): 263, figs. 49-52. MALE HT (AMNH) from Cueva Agua Escondida, El Tobacal, Dept. Huehuetenango, Guatemala.

**Lophodesmus zullinii** Shear

*Lophodesmus zullinii* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 263, figs. 45-48. MALE HT (AMNH) from Grutas de Llano Grande, La Grandeza, Huixtla, Chiapas.

**Genus Myrmecodesmus** Silvestri

*Myrmecodesmus* Silvestri, 1910, Zool. Anz., 35: 539. Type species: *M. formicarius* Silvestri, by monotypy. \_ Hoffman, 1973, Proc. Biol. Soc. Washington, 86: 511. \_ Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171: 253.

*Ilyma* Chamberlin, 1941, Bull. Univ. Utah, 31(11): 24. Type species: *I. orizaba* Chamberlin, by original designation. Synonymized by Hoffman, 1973.

*Bolivaresmus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 10. Type species: *B. sabinus* Chamberlin, by original designation. Synonymized by Shear, 1977.

*Ceratesmus* Chamberlin, 1942, Bull. Univ. Utah, 33(4) : 10. Type species: *C. clarus* Chamberlin, by original designation. Synonymized by Shear, 1977.

*Apsyma* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 65. Type species: *A. atopa* Chamberlin, by original designation. Synonymized by Shear, 1977.

*Orthyma* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 66. Type species: *O. clara* Chamberlin [= *Myrmecodesmus chamberlini* Shear, 1977], by original designation. Synonymized by Shear, 1977.

*Eirenyma* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 67. Type species: *E. munda* Chamberlin, by original designation. Synonymized by Shear, 1977.

*Telauxus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 68. Type species: *T. fractus* Chamberlin, by original designation. Synonymized by Shear, 1977.

*Melastolus* Loomis, 1966, Journ. Kansas Entom. Soc., 59: 520. Type species: *Styraxodesmus chipinqueus* Chamberlin, 1943, by original designation. Synonymized by Shear, 1977.

*Gibberdesmus* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 23. Type species: *G. egenus* Causey, by original designation. Synonymized by Shear, 1977.

*Stenotodesmus* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 28. Type species: *S. amarus* Causey, by original designation. Synonymized by Shear, 1977.

28 species, Mexico.

**Myrmecodesmus aconus** (Shear)



*Ilyma acona* Shear, 1973, Acc. Naz. Lincei Prob. Att. Sci. Cult. 171 (2): 296, figs. 101-104.  
MALE HT (MCZ) from Cueva de Coatepec, Coatepec-Harinas, Edo. Mexico, Mexico.

*Myrmecodesmus aconus*: Shear, 1977, Acc. Naz. Lincei Prob. Att. Sci. Cult., 171 (3): 256.

**Myrmecodesmus amaurus** (Causey)

*Stenotodesmus amaurus* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 28, figs. 16, 17.  
MALE HT (?USNM) from Sotano de Tlamaya, five km north of Xilitla, San Luis Potos, Mexico.

*Myrmecodesmus amaurus*: Shear, 1977, Acc. Naz. Lincei Prob. Att. Sci. Cult., 171(3): 256.

**Myrmecodesmus amplus** (Causey)

*Gibberdesmus amplus* Causey, 1973, Bull. Assoc. Mexican Cave Stud., 5: 119, figs. 24-26.  
MALE HT (USNM) from Cueva del Guano, 10 km northeast of Valle Nacional, Oaxaca, Mexico.

*Myrmecodesmus amplus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cxult., 171(3): 256.

Range: Caves in the vicinity of Valle Nacional, Oaxaca.

**Myrmecodesmus analogous** (Causey)

*Gibberdesmus analogous*: Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 27, figs. 12, 13.  
MALE HT (?USNM) from Pinal de Amoles, Queretaro, Mexico.

*Myrmecodesmus analogous*: Shear, 1977, Acc. Naz. Lincei Prob. Att. Sci. Cult. 171(3): 255.

**Myrmecodesmus atopus** (Chamberlin)

*Apysma atopa* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 65, fig. 159. MALE HT (USNM)  
from San Rafael, 2700-3000 m., Edo. Mexico, Mexico.

*Myrmecodesmus atopus*: Shear, 1977, Acc. Naz. Lincei Prob. Att. Sci. Cult., 171(3): 255.

**Myrmecodesmus brevis** Shear

*Myrmecodesmus brevis* Shear, 1977, Acc. Naz. Lincei Prob. Att. Sci. Cult. 171(3): 257, figs. 35-37. MALE HT (AMNH) from Rio Frio cave A, Augustine, Belize.

**Myrmecodesmus chamberlini** Shear

*Orthyma clara* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 66, fig. 165.. FEMALE HT (USNM)  
from Fortin de las Flores, Veracruz, Mexico. A secondary junior homonym of  
*Ceratesmus clarus* Chamberlin, 1942, when both were transferred into *Myrmecodesmus*.

*Myrmecodesmus chamberlini* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 255.

**Myrmecodesmus chipinqueus** (Chamberlin)

*Styraxodesmus chipinqueus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 68, figs. 166-167.  
FEMALE HT (USNM) from Chipinque Mesa, Monterey, Nuevo Leon, Mexico. \_ Shear,

1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(2): 292, figs. 92-94.

*Melastolus chipinqueus*: Loomis, 1966, Journ. Kansas Entom. Soc., 59: 520.

*Myrmecodesmus chipinqueus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 254.

**Myrmecodesmus clarus** (Chamberlin)

*Ceratesmus clarus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 10, figs. 11-13. FEMALE HT (USNM) from Gruta de Atoyac, Veracruz, Mexico. Synonymized by Shear, 1977.

**Myrmecodesmus colotlipa** (Chamberlin)

*Ilyma colotlipa* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 9. FEMALE HT (USNM) from Cueva de Jutxlahuaca, Colotlipa, Guerrero, Mexico.

*Myrmecodesmus colotlipa*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 254.

**Myrmecodesmus cornutus** (Shear)

*Ilyma cornuta* Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(2): 294, figs. 98-100. MALE HT (AMNH) from Cueva Nacimiento del Rio Frio, Gom z Farias, Tamaulipas, Mexico.

*Myrmecodesmus cornutus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 256.

**Myrmecodesmus egenus** (Causey)

*Gibberdesmus egenus* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 25, figs. 2-8. MALE HT (USNM) from Cueva de la Mina, seven km northwest of Gom z Farias, Tamaulipas, Mexico.

*Myrmecodesmus egenus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 255.

**Myrmecodesmus digitatus** (Loomis), new combination!

*Ilyma digitata* Loomis, 1959, Journ. Washington Acad. Sci., 49: 160, figs. 6, 7. MALE HT (USNM) from a site beside US Hy. 190, between Kinder and LeBlanc, Allen Par., Louisiana.

Range: Louisiana eastward along the Gulf coast as far as Calhoun Co., Florida (VMNH, Loomis det.)

**Myrmecodesmus errabundus** (Shear)

*Bolivaresmus errabundus* Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(2): 301, figs. 121-127. MALE HT (AMNH) from Cueva Nacimiento del Rio Frio, Gom z Farias, Tamaulipas, Mexico.

*Myrmecodesmus errabundus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 255.

**Myrmecodesmus gelidus** (Causey), new combination!

*Gibberdesmus gelidus* Causey, 1971, Bull. Ass. Mexican Cave Stud., 4: 25, figs. 9. MALE HT

(USNM?) from Cueva Nacimiento del Rio Frio, seven km northwest of Gom z Farias, Tamaulipas, Mexico.

**Myrmecodesmus formicarius** Silvestri

*Myrmecodesmus formicarius* Silvestri, 1910, Zool. Anz., 35: 360, fig. 5. MALE HT (LEAP) from Jalapa [= Xalapa], Veracruz, Mexico. \_ Hoffman, 1973, Proc. Biol Soc. Washington, 86: 513, figs. 1, 2.

*Ilyma cajuni* Loomis, 1944, Psyche, 51: 175, figs. 6a-b. MALE HT (MCZ) from Venice, Plaquemines Par., Louisiana. Synonymized by Hoffman, 1973.

Range: From Vera Cruz north and east through the Texas coastal plain as far as Louisiana (perhaps some populations introduced?).

**Myrmecodesmus fractus** (Chamberlin)

*Telauxus fractus* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 68, figs. 168, 169. FEMALE HT (USNM) from Fortin de las Flores, Veracruz, Mexico.

*Myrmecodesmus fractus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 255.

**Myrmecodesmus ilymoides** (Shear)

*Gibberdesmus ilymoides* Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 297, figs. 105-110. MALE HT (AMNH) from Gruta de San Bartolo, ten miles southwest of Monterrey, Nuevo Le n, Mexico.

*Myrmecodesmus ilymoides*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 256.

**Myrmecodesmus inornatus** Shear

*Myrmecodesmus inornatus* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 259, fig. 31. MALE HT (AMNH) from Grutas de Llano Grande, Huixtla, Chiapas, Mexico.

**Myrmecodesmus monasticus** (Causey)

*Bolivaresmus monasticus* Causey, 1971, Bull. Soc. Mexican Cave Stud., 4: 24, fig. 1. MALE HT (USNM) from Cueva de Llanura, three km west of Los Micos, San Luis Potos , Mexico.

*Myrmecodesmus monasticus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 255.

**Myrmecodesmus modestus** Silvestri

*Myrmecodesmus modestus* Silvestri, 1911, Boll. Lab. zool. Portici, 5: 194, fig. XVII, 1-2. FEMALE HT (LEAP) from Jalapa (Xalapa) Veracruz, Mexico.

**Myrmecodesmus morelus** (Chamberlin)

*Ilyma morela* Chamberlin, 1942, Bull. Univ. Utah, 34(7): 63, figs. 154-156. MALE HT (USNM) from Parque Nacional de Zempoala, Morelos, Mexico.

*Myrmecodesmus morela*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 254.

**Myrmecodesmus mundus** (Chamberlin)

*Eirenyma munda* Chamberlin, 1943, Bull. Univ. Utah, 34(7): 67, figs. 162-164. MALE HT (USNM) from Ciudad Vera Cruz, Vera Cruz, Mexico.

*Myrmecodesmus mundus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 255.

**Myrmecodesmus obscurus** (Causey)

*Gibberdesmus obscurus* Causey, 1971, Bull. Assoc. Mexican Cave Stud., 4: 27, fig. 10. FEMALE HT (USNM) from San Miguel, 16 km west of Aquism n, San Luis Potos , Mexico.

*Myrmecodesmus obscurus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3) 256.

**Myrmecodesmus orizaba** (Chamberlin)

*Ilyma orizaba* Chamberlin, 1942, Bull. Univ. Utah, 31(11): 24. FEMALE HT (USNM) from Orizaba, Veracruz, Mexico.

*Myrmecodesmus orizaba*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 254.

**Myrmecodesmus potosinus** (Shear)

*Bolivaresmus potosinus*: Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(2): 300, figs. 111-117. MALE HT (AMNH) from Cueva de la Perra, three miles north of Xilitla, San Luis Potos , Mexico.

*Myrmecodesmus potosinus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 300.

**Myrmecodesmus sabinus** (Chamberlin)

*Bolivaresmus sabinus* Chamberlin, 1942, Bull. Univ. Utah, 33(4): 10, figs. 14-17. MALE HT (USNM) from Cueva de los Sabinos, 12.5 km northeast of Valles, San Luis Potos , Mexico. \_ Shear, 1973, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(2): 301, figs. 118-120.

*Myrmecodesmus sabinus*: Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult. 171(3): 255.

**Myrmecodesmus unicorn** Shear

*Myrmecodesmus unicorn* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 257, figs. 32, 33. MALE HT (AMNH) from St. Herman Cave, Caves Branch, Belize.

**Genus Peckfiskia** Loomis

*Peckfiskia* Loomis, 1969, Florida Entom., 52: 142. Type species: *P. cavernicola* Loomis, by original designation.

One species, Jamaica.

**Peckfiskia cavernicola** Loomis

*Peckfiskia cavernicola* Loomis, 1969, Florida Entom., 52: 142, figs. 3-6. MALE HT (FSCA) from Coffe River Cave, 1.5 miles north of Oxford, Auchtembedde, Manchester Par., Jamaica.

### Genus **Penteporus** Loomis

*Penteporus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 180. Type species: *P. crenellatus* Loomis, by original designation.

One species, Hispaniola.

#### **Penteporus crenellatus** Loomis

*Penteporus crenellatus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 181, figs. 74a-c. FEMALE HT (USNM) from Fond des Negre, Haiti.

### Genus **Poratia** Cook & Cook

*Poratia* Cook & Cook, 1894, Ann. New York Acad. Sci., 8: 238. Type species: *Scytonotus digitatus* Porat, 1889, by original designation.

*Dominicodesmus* Chamberlin, 1923, Proc. Biol. Soc. Washington, 36: 189. Type species: *D. geophilus* Chamberlin, by original designation. Synonymized with *Psochodesmus* by Loomis, 1934.

*Tidopterus* Chamberlin, 1923, Zoologica (New York), 3: 420. Type species: *T. sequens* Chamberlin, by original designation. Synonymized by Loomis, 1934.

Two (?) species, widespread in the Neotropical Region.

This genus is customarily listed also for the East Indies, but I believe solely on the basis of Silvestri's relegation of *Poratia heterotuberculata* (Carl, 1902) to the synonymy of *digitata* in 1925. Carl's species was based on a series of females from Java, and the description itemized a number of important differences from *digitata* in tergal ornamentation. Until genuine males of *heterotuberculata* are known, I think that placing it under Porat's name is very premature and unjustifiable.

#### **Poratia digitata** (Porat)

*Scytonotus digitatus* Porat, 1889, Entom. Tidskr., 10: 59. HT ?FEMALE (Mus. G teborg) from a greenhouse in G teborg, Sweden.

*Poratia digitata*: Cook & Cook, 1894, Ann. New York Acad. Sci., 8: 238. \_ Silvestri, 1925, Bol. Real Soc. Española, 23: 375, figs. III, 1-9, IV, 1-9.

*Dominicodesmus panamicus* Chamberlin, 1940, Bull. Univ. Utah, 30(2): 6. HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

Range: Widespread in the tropics, dispersed by agricommerce; Panama, Costa Rica.

**Poratia fossata** Loomis

*Poratia fossata* Loomis, 1964, Fieldiana: Zool., 47: 74, figs. 6, R-U. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Poratia granulofrons** (Chamberlin)

*Treseolobus granulofrons* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 221. FEMALE PT (MCZ) from Jacmel, Haiti.

*Donnicodesmus geophilus* Chamberlin, 1923, Proc. Biol. Soc. Washington, 36: 189. HT (MCZ) from plants originating in the Republica Dominicana. Synonymized by Loomis, 1934.

*Psochodesmus granulofrons*: Loomis, 1934, Smithsonian Misc. Coll. 89(14): 55.

Range: Haiti; Panama?

**Genus Poratioides** Loomis

*Poratioides* Loomis, 1970, Florida Entom., 53: 131. Type species: *P. virginalis* Loomis, by original designation.

Two species, U. S. Virgin Islands, southern Florida.

**Poratioides disparatus** Loomis

*Poratioides disparatus* Loomis, 1973, Florida Entom., 56: 322. MALE HT (FSCA) from the Loomis residence at 5355 SW 92nd St., Miami, Dade Co., Florida.

**Poratioides virginalis** Loomis

*Poratioides virginalis* Loomis, 1970, Florida Entom., 53: 132, figs. 2, 3. FEMALE HT (USNM) from Hawksnest Bay, St. John, U. S. Virgin Islands.

**Genus Psochodesmus** Cook

*Psochodesmus* Cook, 1896, Brandtia, 5: 25. Type species: *P. crescentis* Cook, by monotypy.

One (two?) species, Florida.

**Psochodesmus crescentis** Cook

*Psochodesmus crescentis* Cook, 1896, Brandtia, 5: 25. MALE HT (USNM) from Crescent City, Putnam Co., Florida. \_ Loomis, 1934, Smithsonian Misc. Coll. 89(14): 54, figs. 27a,b.

Range: Southern two-thirds of the Florida Peninsula.

### Genus **Rettenmeyeria** Loomis

*Rettenmeyeria* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 6. Type species: *R. parvipes* Loomis, by original designation.

Two species, Panama, Belize.

#### **Rettenmeyeria cryptymoides** Shear

*Rettenmeyeria cryptymoides* Shear, 1977, Acc. Naz. Lincei, Prob. Att. Sci. Cult., 171(3): 260. MALE HT (AMNH) from Rio Frio Cave A, St. Augustine, Belize.

#### **Rettenmeyeria parvipes** Loomis

*Rettenmeyeria parvipes* Loomis, 1959, Journ. Kansas Entom. Soc., 32: 6, figs. 11-16. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

### Genus **Sarolepis** Loomis

*Sarolepis* Loomis, 1964, Fieldiana:Zool., 47: 75. Type species: *S. spiculatus* Loomis, by original designation.

One species, Panama.

#### **Sarolepis spiculatus** Loomis

*Sarolepis spiculatus* Loomis, 1964, Fieldiana: Zool., 47: 76, figs. 7, A-F. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

### Genus **Styraxodesmus** Chamberlin

*Styraxodesmus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 222. Type species: *S. furcatus* Chamberlin, by original designation.

Three (?) species, Puerto Rico, Haiti.

Removed from genus: *Styraxodesmus cubensis* Chamberlin, 1947 (see *Heteropente*); *Styraxodesmus chipinqueus* Chamberlin, 1943 (see *Myrmecodesmus*).

#### **Styraxodesmus ater** Loomis

*Styraxodesmus ater* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 188, pl. 3, fig. 9. MALE HT (USNM) from the île de Cabrit, near Bayeux, Haiti.

Range: Loomis (1936) cited a number of Haitian localities.

**Styraxodesmus furcatus** Chamberlin

*Styraxodesmus furcatus* Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 222. FEMALE HT (MCZ) from Jacmel, Haiti.

**Styraxodesmus juliogarciai** Velez

*Styraxodesmus juliogarciai* Velez, 1967, Caribbean Journ. Sci., 7: 29, figs. 10, 11. MALE HT (USNM) from La Mina, 2000 ft., on El Yunque, Puerto Rico.

**Genus Synoptura** Attems

*Synoptura* Attems, 1914, Arch. Naturg. 80(A4): 174, 179. Type species: *Lophodesmus laminatus* Pocock, 1909, by original designation; 1938, Das Tierreich, 70: 307. \_ Hoffman, 1976, Rev. suisse Zool., 83: 314.

One species, Mexico.

Attems concept of the genus included also *Lophodesmus perparvus* and *L. celatus* of Pocock.

**Synoptura laminata** (Pocock)

*Lophodesmus laminatus* Pocock, 1909, Biol. Centr.-Amer., Diplop., 132, pl. X, figs. 1-1g. MALE HT (BMNH) from Teapa, Tabasco, Mexico.

*Synoptura laminata*: Attems, 1914, Arch. Naturg. 80(A4): 179. \_ Hoffman, 1976, Rev. suisse Zool., 83: 316, fig. 6.

Range: Known from the type locality and eastern Chiapas, Mexico.

**Genus Tracheloaspis** Loomis

*Tracheloaspis* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 98. Type species: *T. tumida* Loomis, by original designation.

One species, Panama.

**Tracheloaspis tumida** Loomis

*Tracheloaspis tumida* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 99, figs. 4b-e. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

Range: Recorded also from Almirante, Prov. Bocas del Toro, Panama.

**Genus Tridesmus** Cook



*Tridesmus* Cook, 1896, *Brandtia*, 5: 21. Type species: *T. sectilis* Cook, by original designation.

Three species, Puerto Rico.

***Tridesmus guilarteus* Chamberlin**

*Tridesmus guilarteus* Chamberlin, 1950, *Proc. Biol. Soc. Washington*, 63: 148. FEMALE HT (USNM) from Villa de Guilarte [presumably near Monte Guilarte, west of Adjuntas], Puerto Rico.

***Tridesmus portoricensis* Silvestri**

*Tridesmus portoricensis* Silvestri, 1908, *Bull. American Mus. Nat. Hist.*, 24: 577, fig. XII, 1-3. MALE HT (?AMNH) from Utuado, Puerto Rico.

***Tridesmus sectilis* Cook**

*Tridesmus sectilis* Cook, 1896, *Brandtia*, 5: 21. MALE HT (ZMB) from Portorico without further locality.

**Genus *Xenoporus* Loomis**

*Xenoporus* Loomis, 1961, *Proc. U. S. Nat. Mus.*, 113: 100. Type species: *X. cariniceps* Loomis, by original designation.

One species, Panama.

***Xenoporus cariniceps* Loomis**

*Xenoporus cariniceps* Loomis, 1961, *Proc. U. S. Nat. Mus.*, 113: 101, figs. 4f-g, 5a. MALE HT (USNM) from El Valle, Prov. Coclé, Panama.

Range: Recorded also from Almirante, Prov. Bocas del Toro, Panama.

**PYRGODESMIDAE OF UNCERTAIN STATUS OR POSITION**

(In reality, half the names in the foregoing list could be justifiably entered under this heading)

***Gasatomus dubius* Chamberlin, 1940, *Bull. Univ. Utah*, 30(9): 5. Imm. ST (USNM) from Barro Colorado Island, Canal Zone, Panama.**

Loomis (1964) suspected that this name was based on one of the four species of *Calymmodesmus* known from Barro Colorado, but despaired of ever associating the appropriately named *dubius* with any of them. The type species of *Gasatomus* is known from Guyana; the genus is here stricken from the list of Mesamerican millipeds.

***Stylodesmus sanantoni* Velez, 1967, *Caribbean Journ. Sci.*, 7: 30, fig. 12. FEMALE HT (USNM) from eight km east of San Sebastian, Puerto Rico.**

Congenericity of this species with *S. horridus* (Liberia) seems entirely implausible.

## Family Cyrtodesmidae Cook

Cyrtodesmidae Cook, 1896, *Brandtia*, 2: 7; 1898, *Proc. U. S. Nat. Mus.*, 21: 457. \_ Hoffman, 1980, *Classification of the Diplopoda*, p. 183.

Three genera, Costa Rica to Trinidad and Peru.

### Genus *Cyrtodesmus* Gervais

*Cyrtodesmus* Gervais, 1847, in Walckenaer & Gervais, *Hist. natur. Insectes Aptères*, 4: 92.  
Type species: *Polydesmus velutinus* Gervais & Goudot, 1844, by subsequent designation of Silvestri, 1896. \_ Loomis, 1964, *Fieldiana: Zool.*, 35 (discussion; description of *C. velutinus*; key to Panamanian species).

[Loomis allocation of the names *Oncodesmus* Cook and *Cyliocryptus* Cook as junior synonyms of *Cyrtodesmus* was not based on adequate knowledge of the two respective type species, and they are reinstated (even if as *nomina dubia*) until more substantial information about their characters is forthcoming].

*Trigonostylus* Brolemann, 1898, *Ann. Soc. entom. France*, 67: 273. Type species: *T. spinosus* Brolemann, 1898, by subsequent designation of Attems, 1914. Synonymized with *Cyliocryptus* by Loomis, 1937, and both in turn with *Cyrtodesmus* by Loomis, 1964.

*Peltedo* Chamberlin, 1940, *Bull. Univ. Utah*, 30(9): 8. Type species: *P. archimedes* Chamberlin, by original designation. Synonymized by Loomis, 1964.

*Oncodesmoides* Kraus, 1954, *Senckenb. biol.* 35: 41. Type species: *O. rectus* Kraus, by original designation. Synonymized by Loomis, 1964.

About 25 species, Costa Rica to Peru and Trinidad.

#### ***Cyrtodesmus archimedes*** (Chamberlin)

*Peltedo archimedes* Chamberlin, 1940, *Bull. Univ. Utah*, 30(9): 8. Imm. ? HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

*Cyrtodesmus archimedes*: Loomis, 1964, *Fieldiana; Zool.*, 47: 37.

*Oncodesmoides angulatus* Loomis, 1961, *Proc. U. S. Nat. Mus.*, 113: 87. Figs. 2b. MALE HT (USNM) from the Pi a area, Canal Zone, Panama. Synonymized by Loomis, 1964.

Range: Recorded by Loomis from several Panamanian provinces west of the Canal Zone.

#### ***Cyrtodesmus bifurcus*** Loomis

*Cyrtodesmus bifurcus* Loomis, 1964, Fieldiana: Zool., 47: 38, figs. 3, F-I. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Cyrtodesmus confluentus** Loomis

*Cyrtodesmus confluentus* Loomis, 1964, Fieldiana: Zool., 47: 40, figs. 3, J-N. MALE HT (USNM) from Distr. Changuinola, Prov. Bocas del Toro, Panama.

**Cyrtodesmus coronatus** Loomis

*Cyrtodesmsus coronatus* Loomis, 1964, Fieldiana: Zool., 47: 42, figs. 3, P.-Q. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Cyrtodesmus dentatus** Loomis

*Cyrtodesmus dentatus* Loomis, 1964, Fieldiana: Zool., 47: 43, figs. 3, R-U. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

Range: Chiriqui and Bocas del Toro provinces, western Panama.

**Cyrtodesmus depilis** Loomis

*Cyrtodesmus depilis* Loomis, 1964, Fieldiana: Zool., 47: 44, figs. 4, A-D. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

**Cyrtodesmus depressus** Loomis

*Cyrtodesmus depressus* Loomis, 1974, Florida Entom., 57: 174, fig. 7. MALE HT (FSCA) from Finca Las Cruces, near San Vito, Prov. Puntarenas, Costa Rica.

**Cyrtodesmus hispidulosus** Loomis

*Cyrtodesmus hispidulosus* Loomis, 1964, Fieldiana: Zool., 47: 46, figs. 4, E-H. MALE HT (FMNH) from Finca Palo Santo, near Nueva California, Prov. Chiriqui, Panama.

**Cyrtodesmus humerosus** Loomis

*Cyrtodesmus humerosus* Loomis, 1974, Florida Entom., 57: 175, figs. 9, 10. MALE HT (FSCA) from north side Cerro de la Muerte, Prov. San Jose-Cartago, Costa Rica.

**Cyrtodesmus laticaudatus** Loomis

*Cyrtodesmus laticaudatus* Loomis, 1972, Florida Entom., 55: 197, figs. 17, 18. MALE HT (USNM) from Cerro Azul, Prov. Panama, Panama.

**Cyrtodesmus lobatus** Loomis

*Cyrtodesmus lobatus* Loomis, 1974, Florida Entom., 57: 176, fig. 12. FEMALE HT (FSCA) from Finca Las Cruces, near San Vito, Prov. Puntarenas, Costa Rica.

**Cyrtodesmus lyrapes** Loomis

*Cyrtodesmus lyrapes* Loomis, 1964, Fieldiana: Zool., 47: 47, fig. 4, I. MALE HT (FMNH) from Almirante, Prov. Bocas del Toro, Panama.

**Cyrtodesmus macrosetosus** Loomis

*Cyrtodesmus macrosetosus* Loomis, 1964, Fieldiana: Zool., 47: 48, fig. 4, J-N. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriquí, Panama.

**Cyrtodesmus mundus** Loomis

*Cyrtodesmus mundus* Loomis, 1964, Fieldiana: Zool., 47: 49, figs. 4, O-U. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriquí, Panama.

**Cyrtodesmus palliatus** Loomis

*Cyrtodesmus palliatus* Loomis, 1972, Florida Entom., 55: 198, figs. 19, 20. ) HT (USNM) from Cairo, Prov. Limón, Costa Rica.

**Cyrtodesmus quadridens** Loomis

*Cyrtodesmus quadridens* Loomis, 1972, Florida Entom., 55: 199, fig. 22. MALE HT (USNM) from Cairo, Prov. Limón, Costa Rica.

CYRTODESMIDAE OF UNCERTAIN GENERIC POSITION

**Cyrtodesmus bicolor** Loomis

*Cyrtodesmus bicolor* Loomis, 1964, Fieldiana: Zool., 47: 37, figs. 3, B-E. FEMALE HT (FMNH) from west of Finca Palo Santo, near Neuva California, Prov. Chiriquí, Panama.

The scarcely enlarged paranota of the second body segment suggest generic status for this species, if commensurate differences are found in male genitalia.

## Family Oniscodesmidae DeSaussure

Oniscodesmides DeSaussure, 1860, M m. Soc. Phys. Hist. nat. Gen ve, 15: 272.

Oniscodesmidae Cook, 1896, Brandtia, 5: 28; 1898, Proc. U. S. Nat. Mus., 21: 453. \_ Hoffman, 1980, Classification of the Diplopoda, p. 183.

Crypturodesmidae Silvestri, 1897, Boll. Mus. Zool. Anat. comp. Univ. Torino, 12(277): 1.

Eight genera, Mexico to Brazil and Argentina. Placement of *Ligiodesmus* in this family requires confirmation.

### Genus **Barrodesmus** Chamberlin

*Barrodesmus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 7. Type species: *B. isolatus* Chamberlin, by original designation.

One species, Panama.

As the genus was based upon a very inadequately described type species, Loomis (1964) was unable to associate the name with anything he knew from Barro Colorado Island, and it is here entered as a valid taxon solely by default.

**Barrodesmus isolatus** Chamberlin

*Barrodesmus isolatus* Chamberlin, Bull. Univ. Utah, 30(9): 7. HT/ST? (USNM) from Barro Colorado Island, Canal Zone, Panama.

Genus **Ligiodesmus** Pocock

*Ligiodesmus* Pocock, 1909, Biol. Centr.-Amer., Diplopoda, p. 111. Type species: *L. pusillus* Pocock, by original designation.

Monobasic, southern Mexico (disjunct from the main area of the family).

**Ligiodesmus pusillus** Pocock

*Ligiodesmus pusillus* Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 111, pl. VIII, figs. 6a-e. HT (?BMNH) from Teapa, Tabasco, Mexico.

Genus **Lignydesmus** Cook

*Lignydesmus* Cook, 1896, Brandtia 5: 28. Type species: *Oniscodesmus rubriceps* Peters, 1864, by original designation. \_ Loomis, 1964, Fieldiana: Zool., 47: 56.

*Mesesmus* Chamberlin, 1941, Pomona Coll. Journ. Entom. Zool., 33: 57. Type species: *M. insulanus* Chamberlin, by original designation. Synonymized by Loomis, 1964.

*Panamadesmus* Loomis, 1961, Proc. U. S. Nat. Mus. 113: 89. Type species: *P. sculptilis* Loomis, by original designation. Synonymized by Loomis, 1964.

*Huanucodesmus* Loomis, 1961, Proc. U. S. Nat. Mus. 113: 91. Type species: *Detodesmus tingonus* Chamberlin, 1955, by original designation. Synonymized by Loomis, 1964.

Nine species, Panama to Peru.

**Lignydesmus eutypus** (Chamberlin)

*Oniscodesmus eutypus* Chamberlin, 1940, Bull. Univ. Utah, 30(9): 7. HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

*Mesesmus eutypus*: Chamberlin, 1941, Pomona Coll. Journ. Entom. Zool., 33: 57, figs.

*Lignydesmus eutypus*: Loomis, 1964, Fieldiana: Zool., 47: 57.

**Lignydesmus insulanus** (Chamberlin)

*Mesesmus insulanus* Chamberlin, 1941, Pomona Coll. Journ. Entom. Zool., 33: 57. fig. 1. MALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama.

*Lignydesmus insulanus*: Loomis, 1964, Fieldiana: Zool., 47: 57.

**Lignydesmus panamanus** Loomis

*Lignydesmus panamanus* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 88, figs. 2c-d. FEMALE HT (USNM) from Almirante, Prov. Bocas del Toro, Panama.

**Lignydesmus projectus** Loomis

*Lignydesmus projectus* Loomis, 1964, Fieldiana: Zool., 47: 57, figs. 5, F-K. MALE HT (FMNH) from Finca Lerida, near Boquete, Prov. Chiriqui, Panama.

**Lignydesmus sculptilis** (Loomis)

*Panamadesmus sculptilis* Loomis, 1961, Proc. U. S. Nat. Mus., 113: 90, figs. 2e-i. MALE HT (USNM) from the Pi a area, Canal Zone, Panama.

## Family Dorsoporidae Loomis

Dorsoporidae Loomis, 1958, Journ. Washington Acad. Sci., 48: 237.

One genus, Panama.

### Genus **Dorsoporus** Loomis

*Dorsoporus* Loomis, 1958, Journ. Washington Acad. Sci., 48: 237. Type species: *D. barroensis* Loomis, by original designation.

One species, Panama.

**Dorsoporus barroensis** Loomis

*Dorsoporus barroensis* Loomis, 1958, Journ. Washington Acad. Sci., 48: 137, figs. 1-4. FEMALE HT (USNM) from Barro Colorado Island, Canal Zone, Panama..

## Polydesmida of uncertain family position or status

### Genus **Dasyodontus** Loomis

*Dasyodontus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 156. Type species: *D. hispaniolus* Loomis, by original designation.

One species: Haiti.

**Dasyodontus hispaniolus** Loomis

*Dasyodontus hispaniolus* Loomis, 1936, Bull. Mus. Comp. Zool., 80: 158, figs. 68a, b. MALE HT (USNM) from Le Borgne, Haiti.

### Genus **Eoromus** Cook & Loomis

*Eoromus* Cook & Loomis, in: Loomis, 1936, Bull. Mus. Comp. Zool., 80: 175. Type species: *E. aberrans* Cook & Loomis, by original designation.

One species: Haiti.

From the moment of its publication, this genus, and the family based upon it, has remained of uncertain position. Its authors considered possible affinity with the Pyrgodesmidae, without much conviction. With no better insights, I placed Eoromidae as a synonym of Pyrgodesmidae in 1980, and listed *Eoromus* in the alphabetical roster of pyrgodesmid genera.

However, with subsequent knowledge of unusual Neotropical chelodesmoids, I have come to suspect that *Eoromus*, despite its minute size and geographic isolation, may have close affinities with the Andean tribe Batodesmini. This is suggested by the form of both the collum and epiproct, although the reduced gonopods would seem to exclude the genus from the Batodesmini. A very careful re-examination of the single known male of *E. aberrans*, or of topotypic material, could quickly confirm or refute this proposed allocation.

#### **Eoromus aberrans** Cook & Loomis

*Eoromus aberrans* Cook & Loomis, in: Loomis, 1936, Bull. Mus. Comp. Zool. 80: 176, figs. 73a-g, Pl. 3, figs. 5, 6. MALE HT (USNM) from . . .the base of a limestone cliff, south of the divide near Trouin, on the road to Jacmel. . . Haiti. It is unknown if this crucial site has escaped the deforestation that has swept Haiti since 1928.

### Genus **Eudiporus** Silvestri

*Eudiporus* Silvestri, 1929, Boll. Lab. Zool. Portici, 23: 7. Type species: *E. bruneri* Silvestri, by original designation.

One species, Puerto Rico.

#### **Eudiporus bruneri** Silvestri

*Eudiporus Bruneri* Silvestri, 1929, Boll. Lab. Zool. Portici, 23: 9, figs. I, 11-4, II, 1-11. 2 FEMALE ST (LEAP) from Bellamar caverns, Prov. Matanzas, Cuba.

### Genus **Hystrichodesmus** Loomis

*Hystrichodesmus* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 477. Type species: *H. cubensis* Loomis, by original designation.

One species, Cuba.

The genus was originally proposed in the Comodesmidae. Later, Loomis (MSS notes) thought it should be transferred to the Trichopolydesmidae, then used to denote the taxon now called Fuhrmannodesmidae. While that may be correct, the notably small gonopod coxa, as shown in Loomis's figure 27f for *H. cubensis*, seems discordant against other fuhrmannodesmid genera. Adequate placement of this genus seems contingent upon a careful re-examination of a male specimen.

**Hystrichodesmus cubensis** Loomis

*Hystrichodesmus cubensis* Loomis, 1938, Bull. Mus. Comp. Zool., 82: 478, figs. 27a-f. MALE HT (MCZ) from Pico Turquino, Prov. Granma or Santiago de Cuba, Cuba.

**Genus Inodesmus** Cook

*Inodesmus* Cook, 1896, Brandtia, 5: 25. Type species: *I. jamaicensis* Cook, by monotypy.

?*Inodesmus* Loomis, 1969, Florida Entom., 52: 144. \_ Jeekel, 1986, Beaufortia, 36: 46.

?*Atopogonus* Carl, 1926, Nova Caledonia, Zool., 4: 386. Type species: *A. baccatus* Carl, by original designation.

Three (?four) species, Jamaica, New Caledonia, Queensland.

This small taxon poses an intriguing and very difficult problem. Cook's original description is barely enough to validate the species name and his type material has never been recovered.

When H. F. Loomis received material that concurred with the description, and which was also taken from a Jamaican cave, it was understandable that he would assume conspecificity with *I. jamaicensis*. His redescription (1975) included a drawing of the gonopod, in which Jeekel soon afterwards saw striking similarity with that of *Atopogonus baccatus*, described by Carl from New Caledonia, and a congeneric new species which he had collected in Queensland. If Loomis's Jamaican material could be proven to be *jamaicensis*, there is little doubt that *Atopogonus* must fall as a junior synonym of *Inodesmus*.

Jeekel took the conservative position, that the foregoing association was still only circumstantial, and preferred to retain the well-described *Atopogonus* for the two species from New Caledonia and Queensland, while admitted that both were congeneric with whatever species Loomis had described, and holding *Inodesmus jamaicensis* in abeyance. I think that a logical extension of this reasoning would have compelled the proposal of a new name for the Loomis species.

Although the body form of this genus clearly suggests allocation to the Haplodesmidae, as formalized by Jeekel, the gonopods present a singular and highly disjunct pattern that invites taxonomic recognition at a level no less than subfamily (or family). I do not wish to muddy this water any more than it is, and suggest that no arbitrary placements be proposed until an adequate comparative study can be made. In this connection, it should not be overlooked that the family name Comodesmidae (Cook, 1896) may well cover the same taxonomic concept as does Haplodesmidae.

The biogeographic implications are equally perplexing. The only similar cases known to me in the Diplopoda, of taxa having species in the Australian region and the West Indies, are the genus *Spirobolellus* and the genus-pair *Rhinocricus* and *Acladocricus*. However, in both instances the taxa are locally quite speciose and widespread, but neither is currently represented on Jamaica. Jeekel's suggestion that the Jamaican form might have been introduced is plausible, but diminished by the fact that I have seen material of an additional - still undescribed - species from the rain forests in the Blue Mountains of Jamaica. While a multiple transport of rare and localized species from the Antipodes to a single West Indian island is not impossible, it does appear improbable. How else, then, can this distribution be accounted for? If natural, it can only represent an astonishing case of reliction of a formerly widespread parental lineage.

**Inodesmus jamaicensis** Cook

*Inodesmus jamaicensis* Cook, 1896, Brandtia, 5: 25. Location of type material unknown, from



an unspecified cave in Jamaica.

? *Inodesmus jamaicensis*: Loomis, 1969, Florida Entom., 52: 144, fig. 7.

Range: Recorded by Loomis from two caves in Trelawney Par., Jamaica, on circumstantial identification.

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