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On Some Genera and Species of American Millipeds

BY

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ON SOME GENERA AND SPECIES OF AMERICAN MILLIPEDS*

By Ralph V. Chamberlin

The notes and diagnoses in this paper are based primarily upon a small but interesting collection of millipeds recently made in Georgia by Wilton Ivie, and upon specimens in the Field Museum collection chiefly from neighboring sections of the southern states.

CAMBALIDAE

Cambala saltillona, new species.

Figs. 1 and 2.

General color of female light brown, of male holotype more nearly yellow, the prozonites in each paler, the body otherwise without markings.

Ocelli small, pale; in the usual single series, 5 or 6 in number.

Dorsal crests beginning on second tergite and ending on the penult.

While this species in size and color resembles *C. minor* Bollman and *C. ochra* Chamberlin, it is quite distinct from both in the details of the gonopods as represented in figs. 1 and 2.

Number of segments, 45.

Length of male holotype, about 25 mm.; width, 1.8 mm. The female allotype smaller.

Locality.—Texas: Stephens Co., Saltillo, Apr. 5, 1937. A male and female taken by K. P. Schmidt. (Field Museum.)

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CAMBALOPSIDAE

Genus **ERGENE**, new.

A cambalopsid genus with segments constricted in the usual manner, the body therefore being submoniliform in appearance. Body not, or but slightly, narrowed behind anterior end. Body a little flattened above and smooth, no ridges or swellings being present. Like *Leiodere* of California in lacking eyes. Decidedly different from the latter genus in the form of the collum which is relatively shorter and is subacutely narrowed down each side but with lower ends rounded.

GENOTYPE.—*Ergene setosus*, new species.

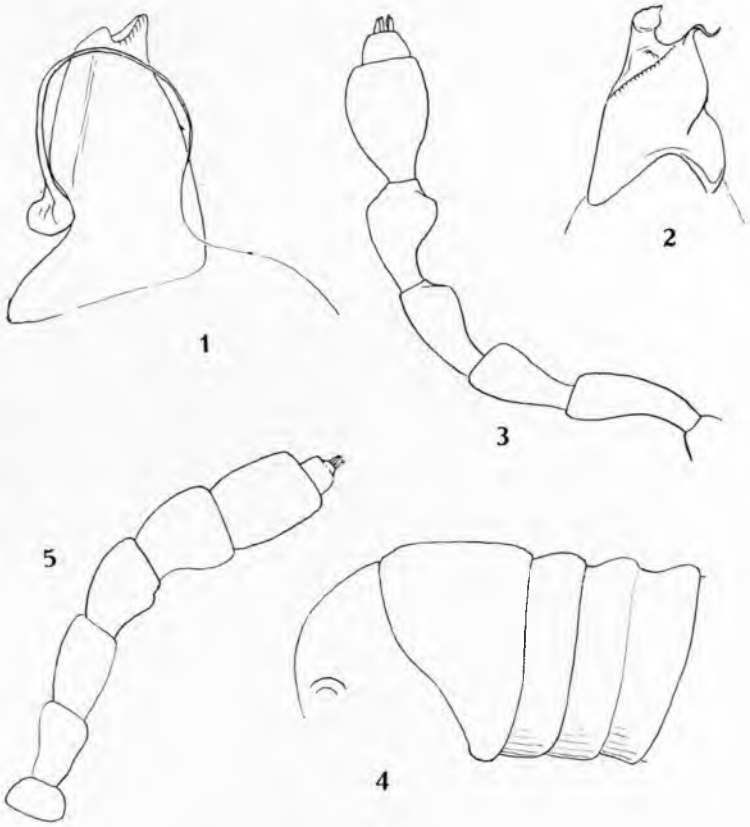


Fig. 1. *Cambala saltillona*, n. sp. Right anterior gonopod, mesal aspect.
Fig. 2. The same. Right posterior gonopod, mesal aspect.
Fig. 3. *Ergene setosus*, n. sp. Antenna.
Fig. 4. The same. Anterior segments, lateral view.
Fig. 5. *Leiodere angelorum*, n. sp. Antenna.

Ergene setosus, new species.

Figs. 3 and 4.

General color of body dusky brown, the color about caudal border more solid. Collum also bordered with deeper, nearly black color, and antennae yellow.

Antennae rather long, increasing in thickness distad, with each article conspicuously clavate; second article longer than the third (see fig. 3).

For form and relations of the first tergite (collum) see fig. 4.

Constricting furrows of segments moderately deep, beaded by numerous fine longitudinal raised lines. Tergites clothed with numerous short straight setae which are conspicuous on last tergite as well as on anal valves. Last tergite rounded behind, exceeded by the valves.

Number of segments, 61.

Diameter, near 1 mm.

Locality.—Mexico: Tamaulipas, 19 miles south of Ciudad Victoria, "Highway No. 1 and Tropic of Cancer," June 17, 1941. Two females collected by H. Dybas. (Field Museum.)

Leiodere angelorum, new species.

Fig. 5.

In small size and pale color comparable only with *L. nana*, although the preserved types do not show the series of orange spots along the sides mentioned as showing in living specimens of *nana*.

The species differs decidedly from *nana* in the form of the antennae and the proportions of their articles. Whereas in *nana* the antennae are described as short and stout with the second article longest, in the present species the antennae are longer with the proximal joints proportionately narrower, and the third article longer than the second, and the sixth longer than either. See further fig. 5.

Number of segments, 39.

Length, about 13 mm.; width, .65 mm.

Locality.—California: Los Angeles, June 5, 1936. Two females. G. Grant, collector. (Field Museum).

SPIROBOLIDAE

Spirobolus gordanus, new species.

Figs. 6-11.

A dark brown to nearly black form in which the legs are dark ferruginous.

It is most readily separated from *marginatus* and other related species by the details of the gonopods and the secondary characters of the male.

The anterior gonopods with median plate as shown in fig. 6. The posterior gonopods have the basal joint but weakly sclerotized and defined; the inner piece is relatively large and wholly free. See further figs. 7 and 8.

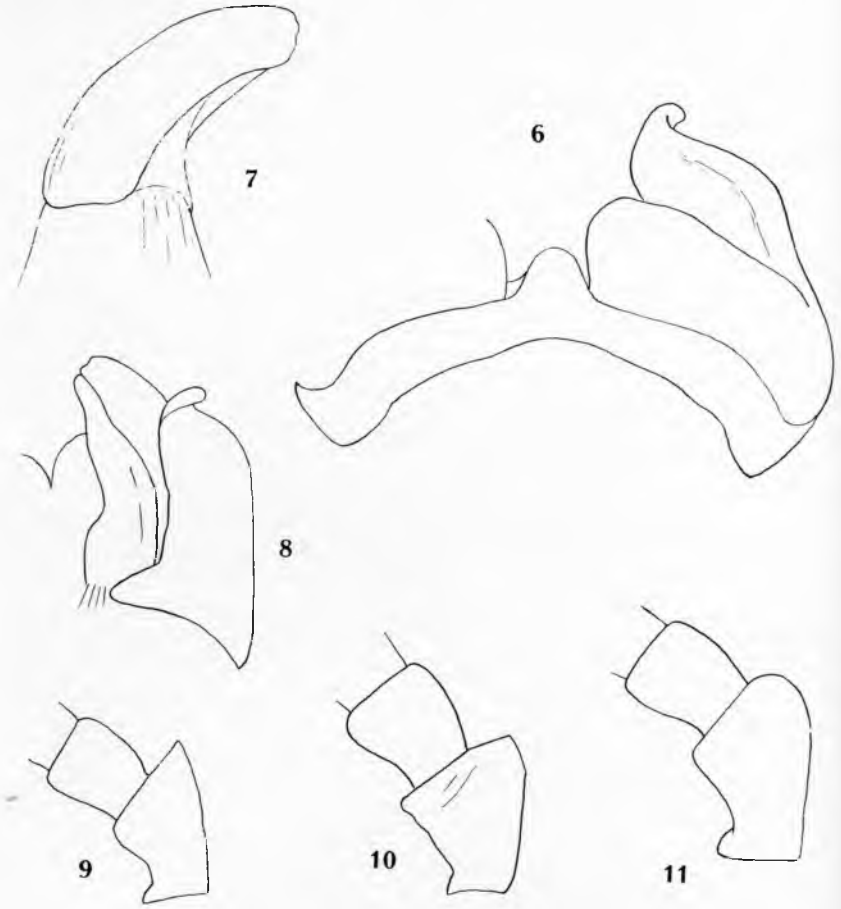


Fig. 6. *Spirobolus gordanus,* n. sp. Anterior gonopods and plate, anterior aspect.

Fig. 7. The same. Right posterior gonopod, caudal view.

Fig. 8. The same. Left posterior gonopod *in situ* against anterior gonopod, Caudal view.

Fig. 9. The same. Coxal process of fourth right leg of male, caudal view.

Fig. 10. The same. Coxal process of fifth leg of male, caudal view.

Fig. 11. The same. Coxa of seventh leg of male, caudal view.

The coxal processes of the pregenital legs of the male are relatively small, those of fourth, fifth and seventh pairs of the forms shown in figs. 9, 10, and 11.

Diameter of male holotype, 8 mm.

LOCALITY.—Florida: Punta Gorda, Feb., 1940. One male taken by H. Ramstadt. (Field Museum.)

Spirobolus ramstadti, new species.

Figs. 12-16.

General color of body brown, with band about caudal part of tergites darker brown to chestnut. Legs dark brown.

Related to *S. gordanus,* occurring in the same region, but in the male differing, e.g., in the decidedly longer coxal processes on the fourth and fifth legs (See figs. 12, 13, and 14).

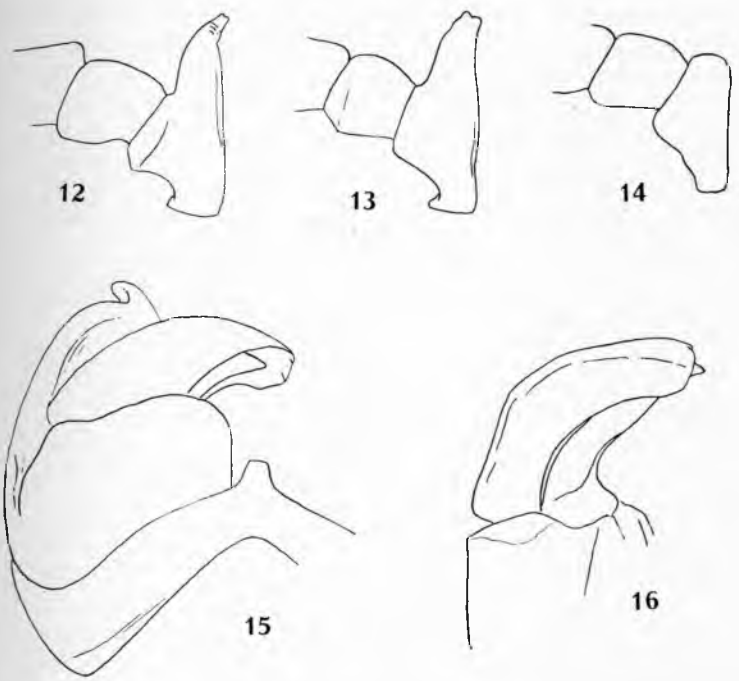


Fig. 12. *Spirobolus ramstadti,* n. sp. Coxa of fourth right leg of male, caudal view.

Fig. 13. The same. Coxa of fifth right leg of male.

Fig. 14. The same. Coxa of seventh right leg of male.

Fig. 15. The same. Anterior gonopods of male, left members, anterior view.

Fig. 16. The same. Right posterior gonopod, caudal view.

The gonopods of the male differ, e.g., in the narrower median division of the anterior plate. In the posterior gonopods the inner piece is expanded distally, with the distal margin straight and oblique instead of convexly rounded; and it is closely appressed to the concave inner surface of the outer piece instead of standing relatively free from it. Proximal piece of posterior gonopod well sclerotized and defined. See figs. 15 and 16.

Number of segments, 50-52.

Length of females up to 90 mm., with width 9 mm.; width of males, 6.5-7 mm.

Locality.—Florida: Punta Gorda, March, 1940. Several males and females taken by H. Ramstadt. (Field Museum.)

Spirobolus orophilus, new species.

Figs. 17-21.

Dark brown to nearly black, the caudal border of tergites darker as usual, sometimes dull chestnut. Legs dark or reddish brown.

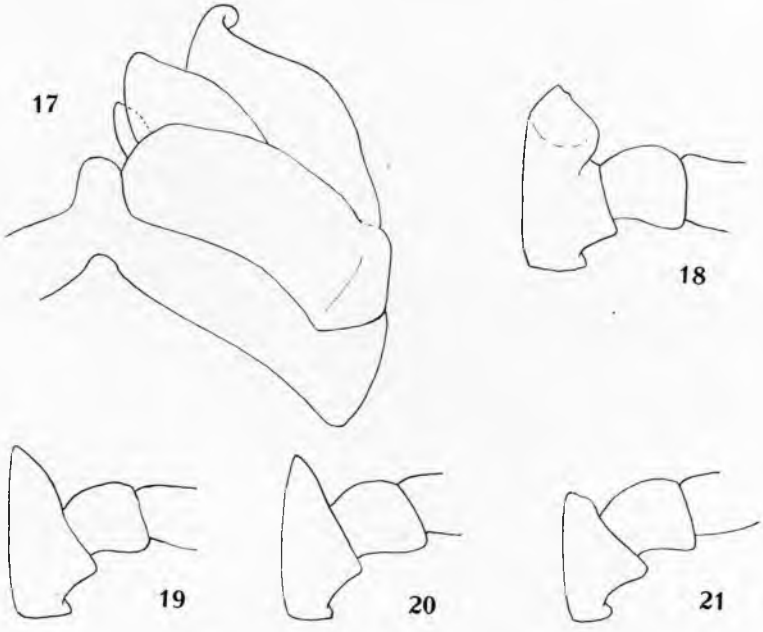


Fig. 17. *Spirobolus orophilus,* n. sp. Anterior gonopods and plate, right half, anterior view.

Fig. 18. The same. Coxa and process of third left leg of male, caudal view.

Fig. 19. The same. Coxa and process of fourth left leg of male.

Fig. 20. The same. Coxa and process of fifth left leg of male.

Fig. 21. The same. Coxa of seventh left leg of male.

In the male distinguished especially by the character of the gonopods. These rather small with median process of anterior plate proportionately longer and more narrow than, e.g., that in *gordanus* and *ramstadti*. Coxal piece of anterior gonopods proportionately short. Inner piece of posterior gonopods free, subspatulate in form with apex narrowly rounded. See further fig. 17.

The forms of the coxal processes of part of the pregenital legs are shown in figs. 18, 19, 20, and 21.

Number of segments, 51-57.

Diameter of male holotype, 6 mm.; of female allotype, 7 mm.

Localities.—Tennessee: Great Smoky Mt. Nat. Park, Gatlinburg, June 13-19, six specimens of both sexes, and Greenbriar Cove, several males and females. H. Dybas, colector. (Field Museum.)

Spirobolus melanior, new species.

Distinguished among known North American species by its large size and deep chocolate, almost black coloration without distinct annuli of different color. Collum and last segment, including valves, of uniform color throughout.

Collum widely rounded at each end below, with the usual anterior margining sulcus on each side.

Segmental sulci well defined throughout, each angled at level of pore with the rim of which it is contiguous.

Number of segments, 47.

Length, about 98 mm.; width, 10 mm.

Locality.—Texas: Stephen E. Austin State Park, 5 miles east of Scaley, Austin Co., April, 1941. One female collected by K. P. Schmidt. (Field Museum.)

NEMASOMIDAE

Nemasoma nigrius, new species.

Fig. 22.

In comparison with the related and common *Nopoiulus minutus* (Brandt), a clearly smaller and more slender form in which the segments are constricted in about the same degree.

The dorsum above, including upper part of sides, dark, nearly black, without definite spots, with venter and lower part of sides yellow. Last segment entirely dark, or valves somewhat lighter. Legs yellow, in part dusky, the antennae darker like dorsum.

Belonging in the group with sternites wholly free; the anterior sternite broader across anterior end than the posterior sternite.

Gnathochilarium of typical general form but proportionately broader across distal end than, e.g., in *N. littoralis*. Promentum narrow.

Eyes black, rather large, composed typically of about 20 ocelli arranged in 5 vertical series; e.g., 3, 5, 5, 5, 2.

First legs of male of nearly typical form, consisting of 5 articles beyond the coxa, with tarsal joint flattened and bearing beneath a straight cylindrical peg.

Gonopods of male with a long curved sinuous flagellum from posterior base of each anterior gonopod, thus placing the species in *Nemasoma* in the restricted sense. Form of anterior sternal plate and gonopods as shown in fig. 22.

Number of segments, 39-40.

Diameter, .5 mm.

Locality.—Tennessee: Great Smoky Mts. Nat. Park, Gatlinburg, June 13-19, 1942. Two adult males taken by H. Dybas. (Field Museum.)

PARAIULIDAE

Saiulus fumans, new species

Fig. 23.

Agreeing closely in general form and structure, including conspicuously the stout evenly decurved mucro of the last tergtie, with the previously known species of the genus (*setifer* Chamberlin, *canadensis* (Newport), *immaculatus* (Wood), and *dux* Chamberlin).

It is most readily distinguished by details of the gonopods of the male. In the anterior pair the inner joint, or coxa, is equal in length to the outer branch (femur), instead of being shorter than it (*dux, canadensis*) or longer than it (*setifer*). Various other differences are shown in the accompanying drawing (Fig. 23).

Length, up to about 34 mm. with maximum width 2.4 mm.

Locality.—Tennessee: Great Smoky Mts. Nat. Park, Gatlinburg, June 13-19, 1942; also Greenbriar Cove, June 14-19, 1942. Many specimens, taken by H. Dybas. (Field Museum.)

Ptyoiulus coveanus, new species.

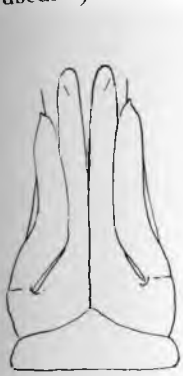
Figs. 24-25.

The types of this species seem to have been taken along with those of *Saiulus fumans.* The two forms are readily distinguishable at all stages by the form of the cauda, that of *S. fumans* being large and decurved, that of *P. coveanus* straight and shorter, though plainly exceeding the valves.

This species is different from *P. pennsylvanicus* (Brandt), the genotype, in the form of the apical portion of the posterior gonopods of the male, and the spine proximad of its middle is larger as shown in fig. 25. The coxal plate of the anterior gonopods is different in the form of its distal expansion as shown in fig. 24.

Length, about 32 mm.; width, 2 mm.

Locality.—Tennessee: Great Smoky Mts. Nat. Park, Greenbriar Cove, June 14-19, 1942. Six specimens taken by H. Dybas. (Field Museum.)



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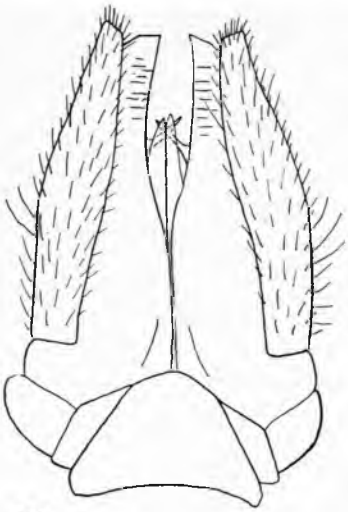

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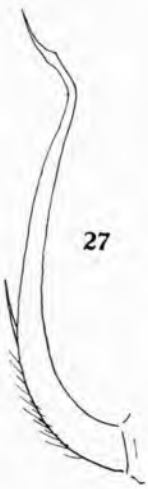

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Fig. 22. *Nemasoma nigrius,* n. sp. Gonopods of male, anterior view.

Fig. 23. *Saiulus fumans,* n. sp. Gonopods of male, anterior view.

Fig. 24. *Ptyoiulus coveanus,* n. sp. Right anterior gonopod of male, caudal view.

Fig. 25. The same. Posterior gonopod, lateral aspect.

Fig. 26. *Ptyoiulus georgiensis,* n. sp. Right anterior gonopod of male, caudal view.

Fig. 27. The same. Posterior gonopod of male, lateral view.

Ptyoiulus georgiensis, new species.

Figs. 26-27.

Close in size, appearance and general structure to *P. coveanus* but clearly different in details of the gonopods of male. In the posterior members there is the usual spine along with setae proximad of middle, this spine smaller than in *coveanus;* the apical portion different in shape as shown in fig. 26. Features of the anterior pair or coleopods are shown in fig. 27.

Locality.—Georgia: Northwest of Clayton, Apr. 28, 1943. Male holotype taken by W. Ivie.

Caliulus pearcei, new species.

Fig. 39.

A dark, nearly black form, with the mottlings below present but these often obscure.

In the structure of the posterior gonopods resembling *C. signifer* of Oregon in having the outer branch distally expanded; but this branch more evenly curved, not geniculate, with the expanded part hairy as shown in fig. 39.

Number of segments, 51-57.

A notably smaller species than *signifer,* the diameter being typically about 2 mm., as against 6 mm.

Locality.—Cal.: Inyo Co., south fork of Bishop Creek, Aug. 17, 1941. Nineteen specimens taken by W. M. Pearce.

Apparently closely related to C. *rhodogeus,* but differing in the form of the outer branch of posterior gonopods and in having a small fungiform process at base of inner branch on caudal side, etc.

PAEROMOPIDAE

Californiulus vicinus, new species.

Figs. 40-42.

This species differs from *C. chamberlini* (Broleman), the types of which likewise came from Shasta Co., California, in the form of the first legs of the male and in the details of anterior and posterior gonopods which are represented in the accompanying drawings (Figs. 40, 41, and 42). In the case of the first legs, the terminal hood, e.g., is much larger and is directed ectad rather than cephlad as decribed and illustrated for *chamberlini.* The retrose process on cephalic gonopod is more ectal in position than it is in other known species.

The usual broad, yellowish or in part orange colored stripe runs

along the dorsum. This stripe interrupted by the dark, often more or less chestnut colored caudal band about each tergite.

Number of segments in male holotype, 69.

Length of holotype, about 90 mm.; width, 5 mm.

LOCALITY.—California: Shasta Co., Dickson Flat (N. E. part of Co.), July 21, 1941. Five specimens taken by W. M. Pearce.

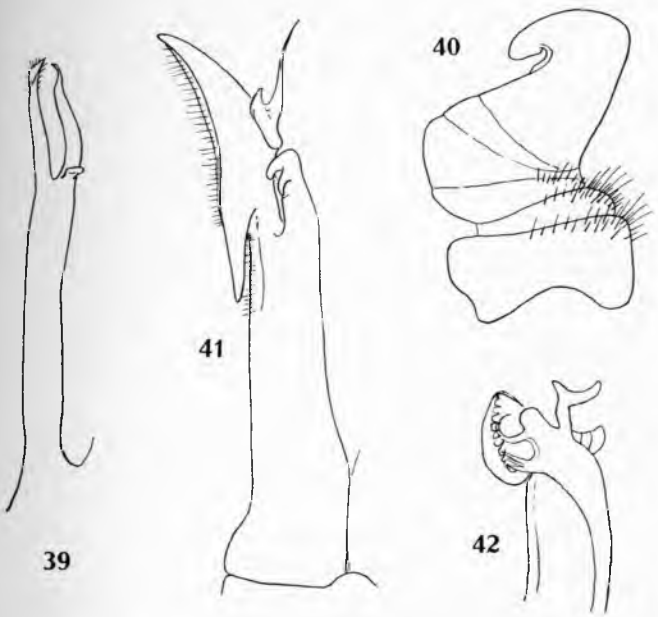

Fig. 39. *Caliulus pearcei,* new species. Left posterior gonopod, anterior aspect.

Fig. 40. *Californiulus vicinus,* new species. Right first leg of male, caudal aspect.

Fig. 41. The same. Right anterior gonopod, cephalic aspect.

Fig. 42. The same. Right posterior gonopod, distal portion mesocephalic aspect.

LYSIOPETALIDAE

Genus **DELOPHON,** new.

In general structure cose to Spirostrephon but differing cospicuously in the gonopods of the male. In thse the coxal division is developed into a characteristic sheath in which the telopodite lies. Telopodite at distal end. with three retrorse slender and acute principal processes, one of which gives exit to the seminal canal.

No true pregonopodal spines.

GENOTYPE.—*Delophon georgianum,* new species.

Delophon georgianum, new species.

Figs. 28-30.

Anterior segments conspicuously narrow, the sixth segment being considerably thicker than those preceding but with the fifth intermediate. Caudal end of body gradually and notably attenuated.

Antennae elongate, with the third joint longest. Eyes in a triangular patch, with ocelli arranged in 8 or 9 transverse series, e.g., 8, 8, 8, 8, 8, 7, 5, 4, 2.

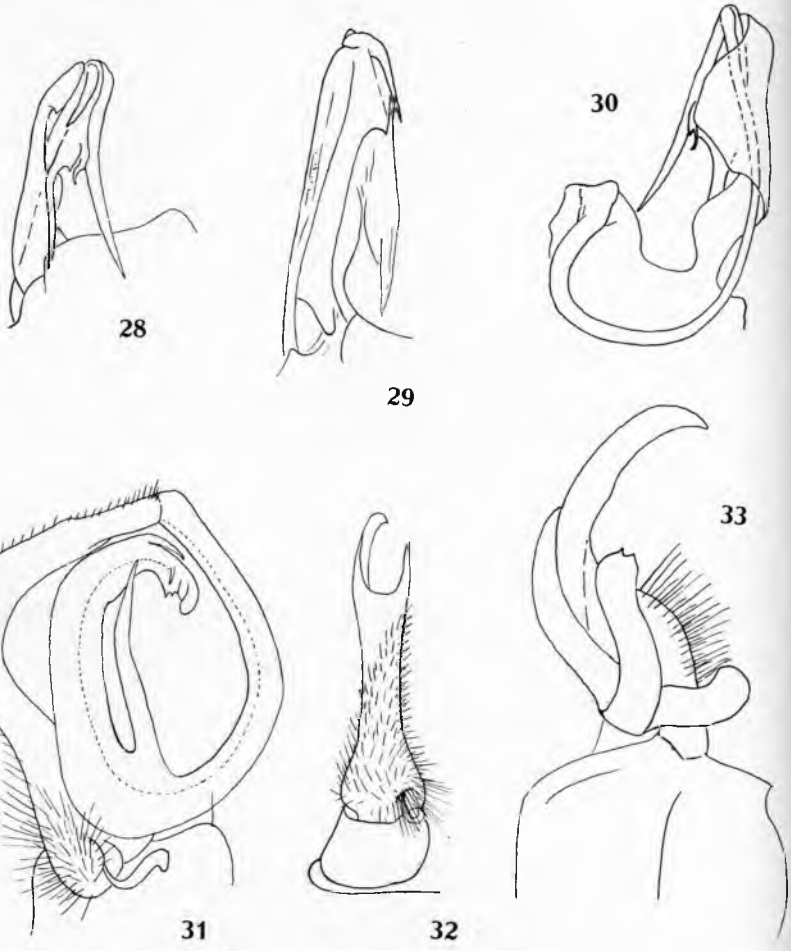

Fig. 28. *Delophon georgianum,* n.sp. Left gonopod of male *in situ,* lateral view.
Fig. 29. The same. Left gonopod *in situ,* caudoventral view.
Fig. 30. The same. Left gonopod of male, mesal view.
Fig. 31. *Grayaria attemsi,* n. sp. Gonopod of male.
Fig. 32. *Zinaria cala* Chamberlin. Gonopod of male, ventromesal view.
Fig. 33. *Paimokia telodonta,* n. sp. Left gonopod of male, subanterior view.

Collum with 20 longitudinal ridges of which the outer ones are longest, and the median and submedian ones obviously less than half the length of collum.

On the subsequent tergites there are 3 primary setiferous ridges on each side between the middle line and the poriferous keel, which is not much enlarged. On the anterior segments the secondary crests are equal in development to the primary; but in going caudad the secondary crests become reduced and on the most posterior segments entirely obliterated. On the middle segments of the middle region six crests are usually present on each side mesad of the poriferous keel; but in front of the eleventh or twelfth the number is typically 5.

The features of the male gonopods are shown in figs. 28, 29, and 30.

Length, about 23 mm.; width, 1.2 mm.

Iocality.—Georgia: Gainesville, Apr. 24, 1943. One male taken by W. Ivie.

XYSTODESMIDAE

Genus **FONTARIA** Gray.

1832. *Fontaria* Gray, in Griffith, Anim. Kingdom, Ins. 2, XV, p. 787.
1909. *Fontaria* Pocock, Biol. Centr. Amer., p. 188.

Readily separated from *Zinaria*, in having a spine on the first and second joints of the legs as well as in the features of the gonopods as noted below.

Genotype.—*Fontaria virginiensis* (Drury) Gray.

The genus *Fontaria* was established by Gray in 1832 (Griffith's Cuvier, Anim. Kingdom, Ins., I, pl. 135; II, p. 787) with *Julus virginiensis* Drury (1770) as the genotype. In limiting the genus *Fontaria*, therefore, the all-important problem is in the identification of Drury's species. In the British Museum are the specimens identified by Gray as this species. These specimens in the words of Pocock, have "the distal segments of the phallopod strongly arcuate, curved through three-fourths of a circle, with the convexity inferior (or posterior), hairy all along its inner edge, with the apex strongly expanded and wtihout an auxiliary branch; the basal segment rises up into a high, shelf-like projection behind the base of the distal segment. Moreover the first segment of the legs, as well as the second, is spined; and the sterna from the tenth backwards are spined, the spines becoming progressively stronger in the posterior half of the body."

It is obvious that this species, considered by Gray as *virginiensis*, is not the same as the one described under that name by Wood, and as accepted by other American workers who have followed him. Still a third species has been described by Attems as *virginiensis*, and another one at an earlier date by Saussure. Under these circumstances it seems desirable to fix the species by designating the British Museum specimens

studied by Gray and more recently by Pocock as the neotypes of *virginiensis*. The genus *Fontaria* thus differs clearly from *Zinaria*, in which Wood's species falls.

Genus **GRAYARIA**, new.

The species regarded by Attems (Zoologica, 1931, vol. 30, ½, p. 69) as *virginiensis* is in agreement with it in the spining of the first two joints of the legs and in having the last two joints of the legs subequal in length, etc. Differences in the gonopods of the male, however, seem to necessitate removing the form from *Fontaria* as here conceived. The telopodite of the gonopods has the femoral part clearly set off from the tibiotarsus by a suture, suggesting that in species of *Brachoria*. Telopodite curling into a complete circle, or somewhat more than a circle, as shown in the accompanying figure; a long accessory branch from near the middle of the tibio-tarsus (Fig. 31).

GENOTYPE.—*Grayaria attemsi*, new species.

Grayaria attemsi, new species.

Fig. 31.

Fontaria virginiensis Attems (not of Drury), Zoologica, Vol. 30, Lief ¾, p. 69, figs. 106 and 107, 1931.

Attems does not give the origin of the specimen he illustrates and which becomes the holotype of the present species.

Genus **ZINARIA** Chamberlin

1939. *Zinaria* Chamberlin, Bull. Univ. of Utah, Biol. Series, V, no. 3, p. 4.
1943. *Fontaria* Loomis (not of Gray), Bull. Mus. Comp. Zool., XCII, no. 7, p. 401.

Distinguished from the two preceding genera in having the first joint of the legs unspined and especially in the characteristic form of the gonopods of the male as illustrated in the accompanying figure of that organ in the genotype. (Fig. 32).

GENOTYPE.—*Zinaria cala* Chamberlin.

In addition to the genotype, other described species pertaining to this genus are as follows: Z. *brunnea* Bollman, Z. *urbana* Chamberlin, Z. *iowa* Chamberlin, Z. *aberrans* Chamberlin and Z. *butleri* (McNeill). These forms are small in comparison with those so far known to belong to the preceding genera.

Zinaria butleri (McNeill).

Polydesmus butleri McNeill, Bull. Brookville Soc. Nat. Hist., no. 3, p. 6, 1888.
Fontaria virginiensis Wood, (not of Drury) Trans. Am. Phil. Soc., XIII, p. 221, fig. 49, 1865.
Fontaria virginiensis Bollman, (not of Drury), Myr. of North America, 1893, p. 123 and in various other papers.
Zinaria virginiensis Chamberlin, (not of Drury), Bull. Univ. of Utah, Biol. Series, V, no. 3, p. 4, 1939.

Zinaria cala Chamberlin.

Fig. 32.

Z. cala Chamberlin, Bull. Univ. of Utah, Biol. Series, vol. 5, no. 4, 1939, p. 4, fig. 6.

Localities.—Florida: east of Deer Park (Type Locality).

Georgia: 7 miles north of Sylvania, Apr. 12, 1943. Four males and two females, and a male and female near Sylvania on Apr. 15, 1943, taken by W. Ivie.

Genus **TUCORIA**, new.

The telopodite of the male gonopods relatively heavy and distally expanded much as in *Dynoria*, but lacking the conspicuous branch from middle of anterior edge present in the latter; expanded distal portion set off by a constriction or transverse furrow at base, this furrow on convex surface limited proximally by a conspicuous, typically strongly sclerotized ridge. Coxae of legs not ventrally spined.

Genotype.—*Tucoria kentuckiana* (Causey).

Cleptoria splendida Causey is also referable to this genus.

CHELODESMIDAE

Paimokia telodonta, new species.

Fig. 33.

Apparently nearest to *P. scotia*, described from Santa Cruz Co., Calif., but the color brown instead of shining black, with the keels yellow. Legs yellow.

Close to *scotia* in the form of the male gonopods but the intermediate process notched or bidentate apically as shown in fig. 33.

Width of male holotype, 5 mm.; of female allotype, 6 mm.

Locality.—California: Humbodlt Co., Arcata, Dec. 21, 1942. A male and female taken by E. Mills.

POLYDESMIDAE

Genus **PSEUDOPOLYDESMUS** Attems.

Pseudopolydesmus Attems, Denkschr. Akad. Wiss. Wien., 67, p. 270, 1898.

While Carl (Rev. Suisse Zool., 1902, p. 613) has shown that *Pseudopolydesmus* cannot be separated from *Polydesmus* on the basis given by Attems, the genotype and most related American species in various other features of the male gonopods differ from the European species congeneric with *P. companatus* L., while forming a homogeneous group among themselves. For this group it seems desirable to revive the name *Pseudopolydesmus*. In these species the lower branch of the gonopods through which the seminal duct opens is reduced to a characteristic papillose or setose cushion-like lobe, while the principal branch

instead of being smooth or more or less dentate, nearly always bears setae distally and often in one or more other patches in addition to conspicuous teeth.

GENOTYPE.—*Pseudopolydesmus serratus* (Say) (= *canadensis* Newport).

Among other North American species belonging in this genus are *P. minor* (Bollman), *P. modocus* (Chamberlin), *P. euthetus* (Chamberlin), *P. neoterus* (Chamberlin), *P. hubrichti* (Chamberlin) and *P. paroicus* (Chamberlin).

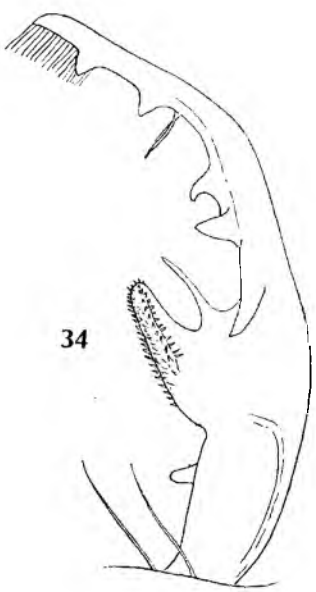

Fig. 34. *Dixidesmus tallulanus*, n. sp. Left gonopod of male, ectal view.
Fig. 35. *Dixidesmus penicillus*, n. sp. Left gonopod of male, ectal view.

Genus **DIXIDESMUS**, new.

The male gonopods of the same general structure as those of *Pseudopolydesmus* but differing in having a spine or spine-like process in the angle above the papillose cushion and in having on outer side, at or distad of the level of the cushion, a retrorse tooth or barb with a spur on or near its base, the latter rarely abortive (*humilidens*) or absent (*erasus*).

GENOTYPE.—*Dixidesmus tallulanus*, new species.

Other species in this group are the following: *penicillus*, n. sp., *humilidens*, n. sp., *erasus* (Loomis), *echinogon* (Chamberlin), *conlatus* (Chamberlin), and *sylvicolens*, n. sp.

Dixidesmus tallulanus, new species.

Fig. 34.

Dorsum and antennae dull brown; the keels more or less paler, sometimes reddish. Legs yellow or sometimes reddish yellow.

Keels with teeth small and mostly obtuse but distinct. Sternal processes between anterior legs of 6th and 8th segments well developed.

Distinguished by the details of the male gonopods which are represented in fig. 34.

Length of average male, 23 mm.; width, 4 mm.

Localities.—Georgia: Clayton to Tallulah Falls, April 28, 1943, male holotype; Northwest of Clayton, April 28, 1943, males and females; and Tallulah Falls, April 27, 1943, male paratype. All collected by W. Ivie.

Dixidesmus penicillus, new species.

Fig. 35.

In general color, structure and appearance much resembling *D. tallulanus* but a considerably smaller form differing in the details of the gonopods, such as in the relatively smaller tooth or spur at base of

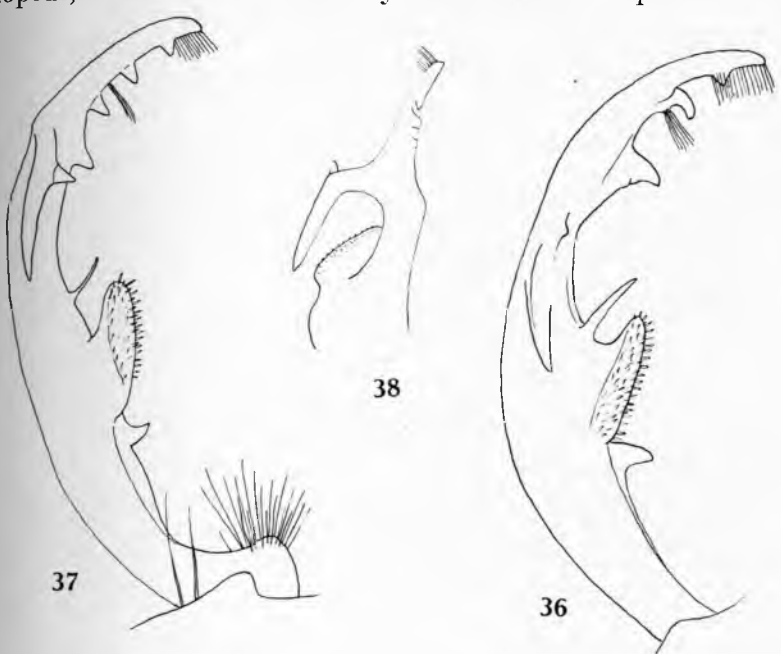

Fig. 36. *Dixidesmus humilidens*, n. sp. Right gonopod of male, ectal view.
Fig. 37. *Dixidesmus sylvicolens*, n. sp. Right gonopod of male, ectal view.
Fig. 38. The same. Left gonopod of male, subdistal view.

retrorse lateral spine, the well developed subdistal pencil of hairs in place of the usually single or double seta in *tallulanus*, etc. See fig. 35.

Length of an average male, 18 mm.; width, 3.6 mm.

LOCALITIES.—Georgia: North and northwest of Clarkesville, Apr. 27, 1943, a number of males and females.

Dixidesmus humilidens, new species.

Fig. 36.

Somewhat similar in size and appearance to *D. penicillus* but more slender. Differing in the details of the gonopods of the male as represented in fig. 36. The tooth or spur at base of retrorse spine very small, almost obsolete.

Length of male, 19 mm.; width, 3.2 mm.

LOCALITY.—Georgia: Gainesville, Apr. 24, 1943. Two males and two females.

Dixidesmus sylvicolens, new species.

Figs. 37-38.

A species readily distinguishable by its small size and the details of the male gonopods as shown in the figures. (Figs. 37 and 38).

Dorsum and antennae dark brown, with the legs brown except proximally where more or less yellow or whitish like the venter.

Raised areas of tergites distinctly defined. Margins of keels with serratures well defined.

Gonopods of male with a spurred process at bend of telopodite—prominent. See further figs. 37 and 38.

Length, 16 mm. and under; maximum width, 2.5 mm.

LOCALITY.—Georgia: Briar Co., 7 mi. north of Sylvania, Apr. 12, 1943. Many specimens taken by W. Ivie.