

Article XXVIII.—MYRIOPODA FROM PORTO RICO AND CULEBRA.

BY FILIPPO SILVESTRI.

The Myriopoda hitherto recorded from Porto Rico number 12 species, viz: *Otocryptops melanostomus* Newp.; *Siphonophora portoricensis* Brandt; *Stemmiulus compressus* Karsch; *Iulus curiosus* Karsch; *I. cæsar* Karsch; *Spirostreptus sculpturatus* Karsch; *Spirobolus multiporus* Karsch; *Rhinocricus parvus*; *Rhinocricus arboreus* Sauss. var. *krugii* Karsch and var. *gundlachi* Karsch; *Odontopeltis mauritii* Brandt; *Tridesmus sectilis* Cook.

From Culebra, one of the Virgin Islands, no Myriopoda have been till now described or recorded.

In March, 1906, Prof. W. M. Wheeler, while visiting Porto Rico and Culebra, among other interesting specimens collected a number of Myriopods, representing 18 species, of which 5 belong to the Chilopoda and 13 to the Diplopoda. Of the former, one species (*Geophilus culebræ*), and of the latter, 6 species (*Rhinocricus modestior*; *Diopsiulus wheeleri*; *Microspirobolus insularis*, *Microspirobolus marmoratus*; *Tridesmus portoricensis*; *Lasiodesmus caraibicus*), are new to science.

Including Professor Wheeler's interesting collection the known Myriopods of Porto Rico are now as follows:

CHILOPODA.

Otocryptops melanostomus.
Newportia ernsti.
Otostigmus caraibicus.

DIPLOPODA.

Lophoproctus?
Diopsiulus compressus.
Siphonophora portoricensis.
Iulus curiosus.
" *cæsar*.
Orthoporus sculpturatus.

Rhinocricus parvus.
Rhinocricus arboreus v. *gundlachi*.
" *modestior*.
Spirobolus multiporus.
Microspirobolus insularis.
" *marmoratus*.
Orthomorpha coarctata.
Leptodesmus sallei.
" *mauritii*.
Tridesmus portoricensis.
" *sectilis*.
Lasiodesmus caraibicus.

From Culebra we know at present:

CHILOPODA.

Cupipies? ungulatus.
Geophilus culebræ.

DIPLOPODA.

Rhinocricus arboreus.
Diopsiulus wheeleri.

Among the Diplopoda of Porto Rico and Culebra here recorded or

described, the species of *Diopsiulus* deserve special mention, because this genus is also recorded from West Africa, Ceylon and New Guinea but not from Central America, where the family Stemmatoiulidæ is represented, as far as we know, only by the genus *Stemmatoiulus* Gerv.

Very few Myriopods are yet known from the southern portions of North America and from the other West Indian Islands, so that we cannot speak of the affinities of the Porto Rican Myriopods with relation to the species of the above mentioned countries.

CHILOPODA.

1. *Otocryptops melanostomus* Newp.

Porto Rico: Monte Mandios, Utuado.

This species has a wide distribution in tropical America, south to Argentina and in the oriental region from Java to the Philippine Islands.

2. *Newportia ernsti* Poc.

Porto Rico: Coamo Springs.

Already known from St. Vincent, Venezuela, Brazil.

3. *Otostigmus caraibicus* Kraep.

Porto Rico: Utuado.

This species was described from a specimen collected in St. Thomas and until now has not been recorded from other localities.

4. *Cupipes* ? *ungulatus* Mein.

Culebra.

Only one specimen, wanting the anal legs and therefore not to be certainly identified. Since only the last tergite is marginate it resembles *Cupipes ungulatus* Mein., but differs from it in having unarmed pleura.

5. *Geophilus culebræ* sp. nov.

Female.—Color dull ochre-yellow, maxillipedes pallid rusty with black claw.

Body moderately narrowed anteriorly and posteriorly.

Head (Fig. I, 1) of nearly equal length and breadth, narrowed anteriorly. Antennæ of moderate length somewhat attenuated. Prebasal plate covered. Width of basal plate more than twice its length, narrowed anteriorly. Mandibles (Fig. I,

6) with one pectinate lamella as in all other species of *Geophilus*. First maxillæ (Fig. I, 4) with a very short process on the outside of the antepenultimate joint. Second maxillæ with the claw of the palpus moderately long and simple, without hairs. Maxillipedes (Fig. I, 2) reaching the frontal margin of head, unarmed.

First sternum (Fig. I, 2) with a small submedian area of pores; sterna 2-25 with a wide transverse and posterior area of pores, which from sternum 26 begin to be interrupted in the middle, and with slightly wider interruptions continue to the

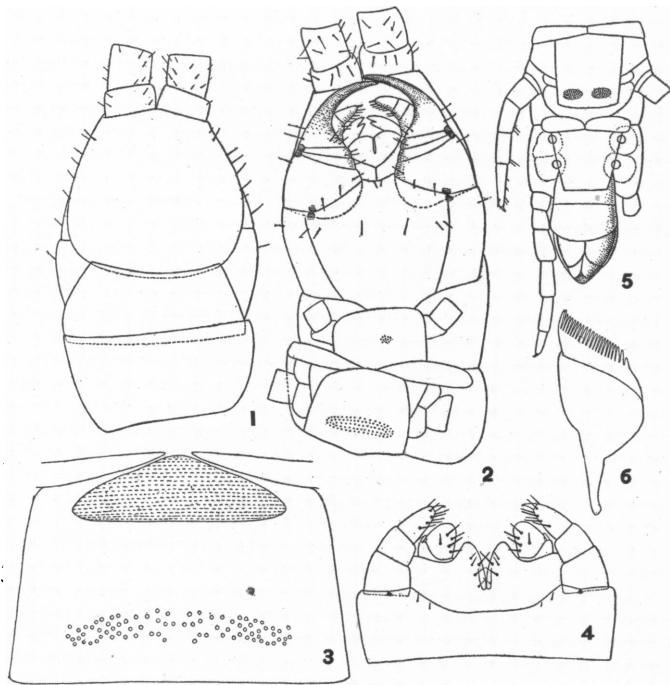


Fig. I.

Geophilus culebra: 1, head with basis of the antennæ and first two segments from above; 2, head with maxillipedes and two segments from below; 3, sternum 15th; 4, first and second maxillæ; 5, posterior part of the body from below; 6, mandibula.

penultimate sternum (Fig. I, 5). Sterna 15-20 (Fig. I, 3) with a transverse triangular anteriorly depressed, rusty area. The sternum of the last pediferous segment (Fig. I, 5) trapezoidal, with legs somewhat longer than those of the preceding segment, and armed with a rather robust claw, subcoxae with two large partly covered pores.

Anal pores not detected.

Pairs of legs 60.

Length of body 37 mm.

Habitat.—Culebra.

This species belongs to the *G. carpophagus* Leach group, but to establish its affinities it is necessary to know better the West Indian Geophiloidea.

DIPLOPODA.

1. *Lophoproctus* sp.

Porto Rico: Utuado.

Only one specimen, wanting antennæ and hairs, and incapable of identification.

2. *Siphonophora portoricensis* Brandt.

Siphonophora portoricensis BRANDT, Bull. Acad. St. Petersburg, I (1837), p. 179. — GÉRAIS, Apt., IV, p. 209 (1847). — C. KOCH, Die Myriapoden, I, p. 90, fig. 78 (1863). — PETERS, Mon. Ak. Wiss. Berlin, p. 549 (1864). — Pocock, Journ. Linn. Soc. London, XXIV, p. 478 (1849).

Species briefly described and here simply recorded for Porto Rico.

3. *Diopsiulus compressus* (Karsch).

Stemmiulus compressus KARSCH, Zeit. Naturw. (3), VI, p. 11 (1881). — Pocock, Journ. Linn. Soc. London, p. 478 (1894).

Color brown with median row of light isabelline spots on segments 2-10; on the following segments the spots are contiguous, forming a narrow median stripe with a row of similarly coloured spots along the line of the pores and another row between this and the ventral surface umber in color like the proximal part of the legs.

Body rather robust and compressed, somewhat narrowed anteriorly and much more posteriorly.

Head almost smooth, with a few rather long facial hairs.

Ocelli two, the superior much the larger.

Antennæ elongated, the second joint the longest, joints 3-5 subequal in length, the sixth $\frac{1}{2}$ shorter than the preceding and a little thicker at the tip.

Collum quite convex, nearly smooth; the anterior border arched; the sides with three small carinæ, the outer submarginal.

Following segments with a median sulcus and deep longitudinal striæ, which on the submedian surface of the segments are oblique, diverging posteriorly. No setæ on the dorsal surface of the specimens examined. Repugnatorial pores subdorsal in position and somewhat behind the suture.

Preanal segment with posterior dorsal margin convex, slightly projecting beyond the anal valves, and furnished below on each side with six setiferous, conical processes. Base of preanal scale wider than long, subtrapezoidal with two long submedian setæ.

Anal valves slightly convex, moderately hirsute, with internal margin somewhat elevated.

Legs (Fig. II, 6) slender, moderately long, hirsute.

Number of segments 45.

Length 27 mm., width of 15th segment 2.2 mm.; dorso-ventral diameter of same segment 2.6 mm.; length of antennæ 3 mm.

Male.— Body somewhat more slender than that of the female.

Hypostoma (Fig. II, 1) with the internal maxillary stipites longer than in female.

First pair of legs (Fig. II, 2) well-developed, 7-jointed, but joints 1-2 very closely united; joints 3-5 (especially 4-5) internal with long, robust, pubescent, somewhat

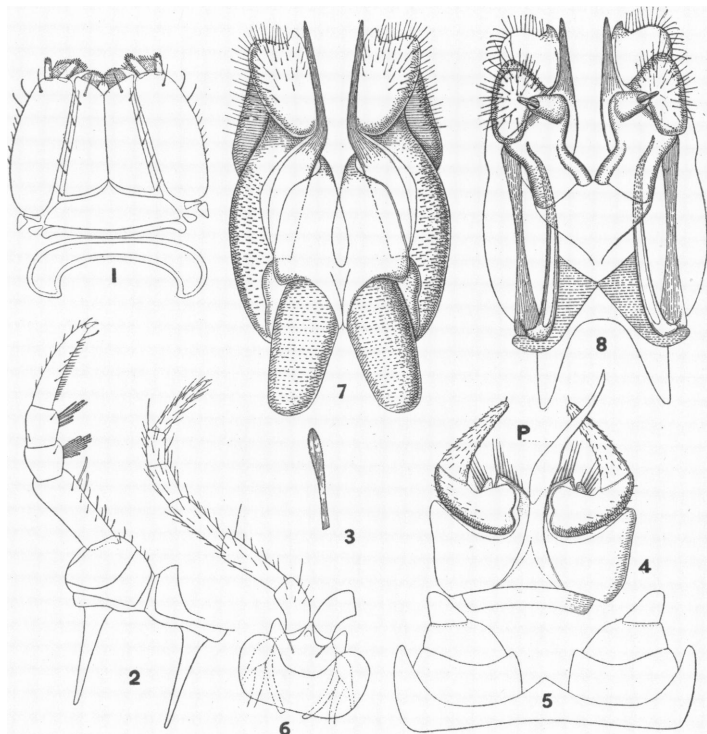


Fig. II.

Diopsiulus compressus male: 1, hypostoma; 2, first pair of legs; 3, seta of third segment of the same legs; 4, second pair of legs, P, penis; 5, second copulatory legs; 6, legs of 10th segment; 7 anterior view and 8 posterior view of the first copulatory legs.

clavate setæ (Fig. II, 3); sixth joint with an internal row of short setæ and others scattered dorsally and laterally; last joint or claw rather short.

Second pair of legs much reduced (Fig. II, 4), 3-jointed, as shown in figure.

Third pair of legs long, moderately crassate, with very small claw and three long, robust setæ at the apex of sixth joint.

First copulatory legs as in Fig. II, 7-8.

Second copulatory legs (Fig. II, 5) very small, 3-jointed.

Penis (Fig. II, 4, P) long, slender, tapering.

The redescription of this species is based on 2 ♀ and 1 ♂ specimens collected by Professor Wheeler at Utuado, Porto Rico.

4. *Diopsiulus wheeleri* sp. nov.

This species is very closely allied to the preceding but may be easily recognized by the following characters:

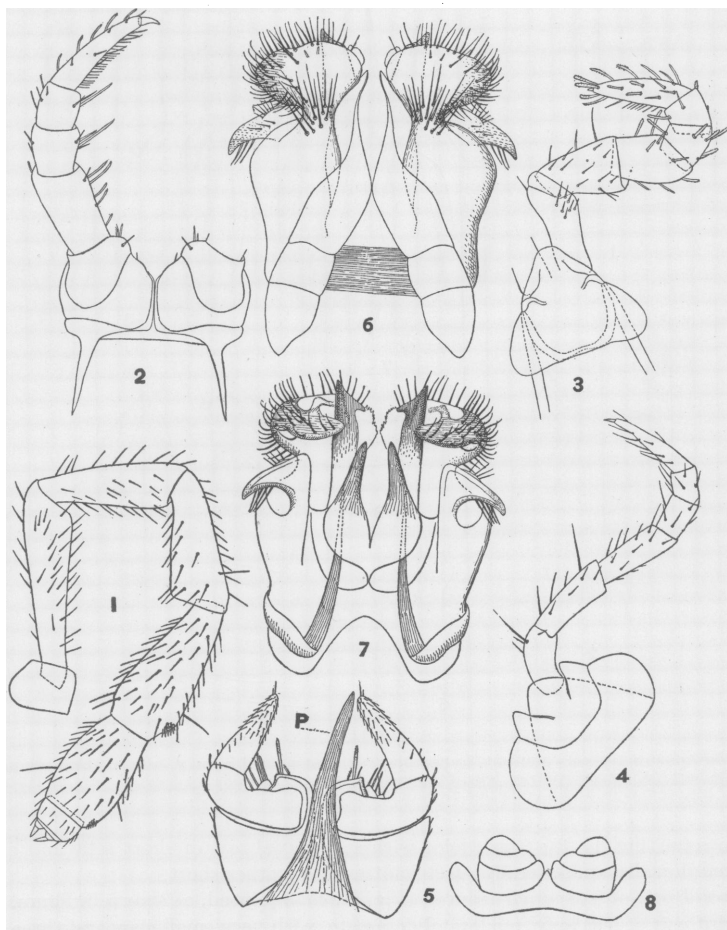


Fig. III.

Diopsiulus wheeleri, male: 1, antenna; 2, first pair of legs; 3, third pair of legs; 4, 10th pair of legs; 5, second pair of legs. P, penis; 6, anterior and 7 posterior view of the first copulatory legs; 8, second copulatory legs.

Body small, little compressed but narrowed anteriorly and posteriorly as in *D. compressus* (Karsch).

Color brown with a median isabelline stripe and a row of not very distinct spots along the line of the repugnatorial pores.

Head and antennæ (Fig. III, 1) similar to that of *D. compressus*, but the sixth joint of the latter is less than $\frac{1}{2}$ shorter than the fifth.

Legs (Fig. III, 4) more slender and slightly less hirsute.

Male.— First pair of legs (Fig. III, 2) with the internal part of joints 4-5 with two long, robust setæ.

Second pair of legs (Fig. III, 5) similar to that of *D. compressus*.

Third pair of legs (Fig. III, 3) well-developed, with very small claw and the other joints furnished with setæ as in the figure.

First copulatory legs rather different from those of *D. compressus* (see figures III, 6-7).

Second copulatory legs (Fig. III, 8) with the third joint shorter and less slender than in *D. compressus*.

Number of segments perhaps 35-38 (the type specimens are broken).

Length 12-15 mm., width of 15th segment, 1.3 mm.

Habitat.— Culebra.

This species is named after Prof. W. M. Wheeler, by whom it was collected.

5. *Rhinocricus arboreus* (Sauss.).

Julus arboreus SAUSS., Linn. Ent., XIII, p. 331 (1859).— Mém. Mex. Myr., p. 98, pl. iv, fig. 28 (1860).

Spirobolus (Rhinocricus) arboreus KARSCH, Zeit. Naturwiss. (3), VI, p. 8 (1881).

Rhinocricus arboreus Pocock, Journ. Linn. Soc., XXIV, p. 493, pl. xxxviii, fig. 4.

This species is recorded from the Antilles (St. Thomas), by Saussure, from Porto Rico by Karsch, and from St. Thomas, Santa Cruz and Antigua by Pocock.

Professor Wheeler collected specimens in Culebra, the females of which have 51-54 segments, the males 50-53, and the immature females 50.

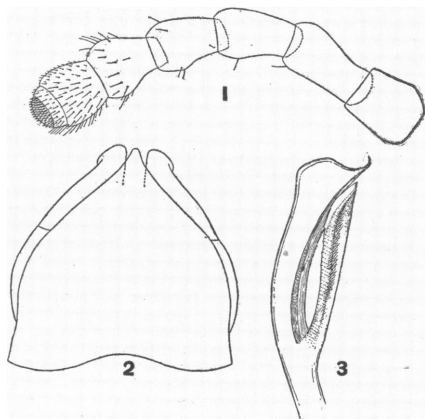


Fig. IV.

Rhinocricus arboreus gundlachi: 1, antenna, 2, anterior view of copulatory apparatus; 3, apex of the internal part of copulatory apparatus.

6. *Rhinocricus arboreus* (Sauss.) var. *gundlachi* Karsch.

KARSCH, Zeit. Naturw. (3), VI, p. 8; Pocock, Journ. Linn. Soc., XXIV, p. 494.

Several specimens of this very distinct variety of *R. arboreus* were collected by Professor Wheeler in Porto Rico: Vega Baja.

Karsch described this variety from Porto Rican specimens.

For the shape of the antennæ and the copulatory legs see Figure IV, 1-3.

7. *Rhinocricus modestior* sp. nov.

Male.—Color dark brown, with the posterior part of all the segments and the anterior portion of the collum brick-coloured; antennæ and legs dark brown.

Head smooth, the vertex with a median sulcus, which is produced anteriorly over the frontal area and terminates on the clypeus where it is deeper. Clypeus with 2+2 setiferous pores.

Antennæ (Fig. V, 1) short, gradually becoming a little crassate to the sixth joint,

which is the widest of all; the last joint with many olfactory cones. Eyes nearly round, consisting of about 45 ocelli arranged in 7-8 transverse series.

Collum smooth, rather rounded at the sides with a marginal sulcus.

The following segments with the posterior part smooth, distinctly higher than the rest and separated by a narrow, deep sulcus, the anterior part lightly and irregularly striate. Pores conspicuous just in front of the transverse sulcus. Scobina present, at least in segments 7-28. Preanal segment triangular posteriorly, with moderately rounded tip, crassate and

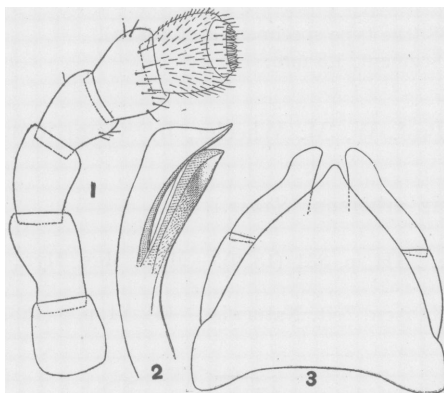


Fig. V.

Rhinocricus modestior: 1, antenna; 2, apex of the internal part of copulatory apparatus, 3, anterior view of copulatory apparatus.

projecting very slightly beyond the anal valves.

Preanal scale subtriangular.

Anal valves moderately convex with the margin compressed.

Legs 1-3 a little crassate, but with the joints not especially produced. The other legs rather short and slender.

Copulatory legs, see figures V, 2-3.

Number of segments 50.

Length 48 mm., width 4.6 mm.

Habitat.—Porto Rico: Coamo Springs (1 immature male and 1 very young specimen, with 43 segments).

8. *Rhinocricus parvus* Karsch.

Spirobolus (Rhinocricus) parvus KARSCH, Zeit. Naturw. (3), VI, p. 68.

Rhinocricus parvus POOCK, Journ. Linn. Soc., XXIV, p. 494.

This species is known from the description given by Karsch and only from Porto Rico.

9. *Spirobolus multiporus* Karsch.

KARSCH, Zeit. Naturw. (3), VI, p. 58; Pocock, Journ. Linn. Soc., XXIV, p. 485.

This species was also recorded by Karsch for Porto Rico only.

It is very probably congeneric with the following species.

10. *Microspirobolus marmoratus* sp. nov.

Female.—Body lightly isabelline with a dorso-median black stripe and the sides more or less variegated with black which usually predominates over the isabel-

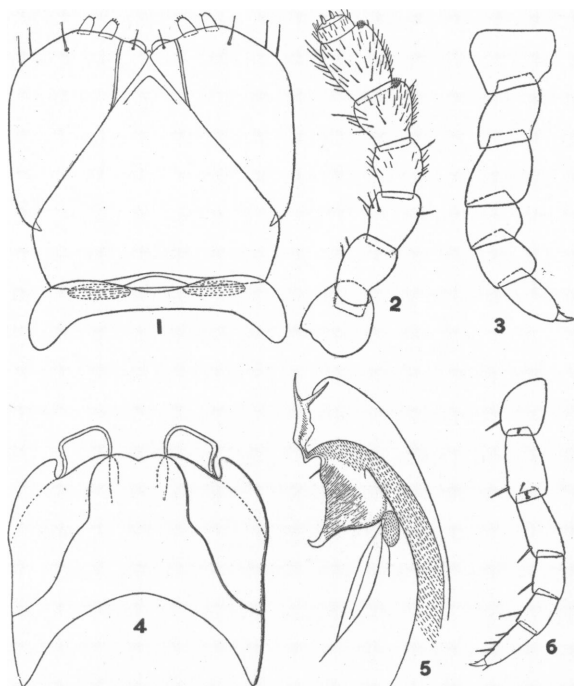


Fig. VI.

Microspirobolus marmoratus: 1, hypostoma; 2, antenna; 3, legs of third pair; 4, anterior view of copulatory apparatus; 5, apex of the internal part of copulatory apparatus; 6, leg of 10th pair.

line; preanal segment black; antennæ and legs light isabelline. Subcylindrical, slightly narrowed posteriorly.

Head smooth, vertex with faint sulcus, clypeus with 3 + 3 setiferous points. Eyes small, nearly round, consisting of about 22 not very distinct ocelli. Antennæ (Fig. VI, 2) short, gradually crassate as far as the sixth joint, fitting in a cavity of the mandibles.

Hypostoma (Fig. VI, 1) with the infrabasilare consisting of two small, elliptical, widely separated plates covered by the basillare.

Collum smooth with the lateral margin reaching the inferior side of the second segment, rather wide with obtuse rounded angles and a marginal sulcus, which is prolonged also on the anterior margin to just behind the eyes.

The following segments are smooth with a weak transverse sulcus, the posterior part a little higher than the anterior and longitudinally striate ventrally.

Sterna transversely striate. Repugnatorial pores very small, opening a little behind the transverse sulcus.

Preanal segment dorsally triangular, rather pointed, slightly projecting beyond the anal valves. Preanal scale wide, subsemielliptical.

Anal valves convex with margins compressed.

Legs (Fig. VI, 6) short.

Number of segments 37-38.

Length 21 mm., width 2.6 mm., length of antennæ 1.5 mm

♀ Body more slender and legs longer than in the female.

Legs 1-3 (Fig. VI, 3) somewhat crassate.

Copulatory legs, see figures VI, 4-5.

Habitat.—A few specimens collected at Utuado (Porto Rico), by Professor Wheeler.

This species is easily distinguishable from *Spirobolus multiporus* Karsch, at least in color, and is referred by me to the genus *Microspirobolus*, of which I described one species from Venezuela.

11. *Microspirobolus insularis* sp. nov.

Female.—Color blackish with the antennæ and legs pale brick-color.

Head smooth as in preceding species.

Collum smooth or with 2-3 short striæ on the lateral posterior part, sides rather narrowed, more so than in the preceding species, with the anterior angle more or less acutely rounded and the posterior more or less obtusely rounded, provided laterally and antero-laterally with a marginal sulcus.

The following segments smooth with the suture longitudinally striate, especially laterally, the posterior part of the segments a little higher than the anterior part and ventro-longitudinally striate. Repugnatorial pores very small as in *M. marmoratus*.

Preanal segment gradually a little narrowed dorsally, subrounded posteriorly, not projecting beyond the anal valves. Preanal scale wide, short, rounded posteriorly.

Legs rather short.

Number of segments 48-49.

Length 30 mm., width 2.7 mm.; length of the antennæ 1.7 mm.

Male.—Copulatory legs very similar to those of *M. marmoratus* (see Fig. VII, 1-2).

Habitat.—Porto Rico: Utuado.

This species is closely related to the preceding, but is very easily recog-

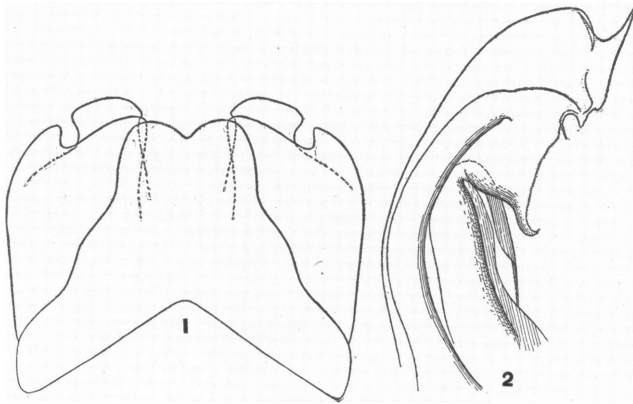


Fig. VII.

Microspirobotus insularis: 1, anterior view of copulatory apparatus; 2, apex of the internal part of copulatory apparatus.

nized by color, number and sculpture of segments, and form of the preanal segment.

12. *Orthoporus sculpturatus* (Karsch).

Spirostreptus sculpturatus KARSCH, Zeit. Naturw. (3), VI, p. 39 (1881).—POCOCK, Journ. Linn. Soc. London, XXIV, p. 482 (1894).

Female.—Color brown with the extreme posterior part of segments light brown; antennæ and legs light brick-color, in other specimens the body color is subrufous, with the ventral part, antennæ and legs rufous-umber.

Head smooth with a faint sulcus on the vertex and four setiferous points on the clypeus. Eyes wider than long, separated by a space greater than their transverse diameter, consisting of about 36 ocelli arranged in five transverse rows. Antennæ (Fig. VIII, 3), when reversed, reaching a little beyond the collum, gradually very little crassate.

Hypostoma; see Figure VII, 1.

Collum smooth, with the sides a little narrowed, furnished near the lateral margin with two deep sulci, anterior angle obtusely rounded, posterior angle subrectangular, more or less rounded.

The following segments with the prozonæ nearly smooth, the metazonæ all rather deeply and finely wrinkled longitudinally, ventrally longitudinally striate. Suture crenulated. Repugnatorial pores very small, somewhat behind the suture. Sterna smooth.

Legs very short.

Preanal segment nearly smooth or very little wrinkled, dorsal surface wide posteriorly, rounded, not projecting beyond the anal valves. Preanal scale wide and very short.

Anal valves convex with very narrow margins.

Number of segments as many as 58.

Length 60 mm., width 4.5 mm., length of the antennæ 3. mm.

Male.—Collum as in the female.

Legs (Fig. VIII, 4) with 4th–5th joints furnished with a rather small pad.

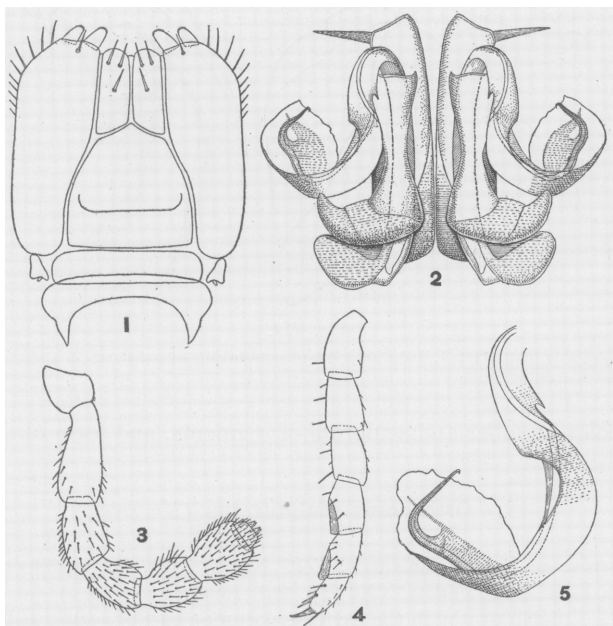


Fig. VIII.

Orthoporus sculpturatus: 1, hypostoma, 2, anterior view of copulatory apparatus; 3, antenna; 4, leg of 10th pair; 5, apex of anterior-internal part of copulatory apparatus.

Copulatory legs, see Figure VIII, 2 and 5.

Habitat.—My redescription is founded on specimens collected by Professor Wheeler in Porto Rico, Utuado, Santurce and near Aibonito, south side of Sierra. The specimens described by Karsch were also from Porto Rico.

13. *Iulus curiosus* Karsch.

Iulus curiosus KARSCH, Zeit. Naturw. (3), VI, p. 15 (1881).

Paraiulus curiosus BOLLMAN, Bull. U. S. Nat. Mus., 46, p. 61 (1893).

Iulus curiosus Pocock, Journ. Linn. Soc. London, XXIV, p. 480 (1894).

Porto Rico.

Until a new examination of the type specimens is made, it is impossible to establish the right generic position of this and of the following species.

14. *Iulus cæsar* Karsch.

Iulus cæsar KARSCH, Zeit. Naturw. (3), VI, p. 18.

Paraiulus cæsar BOLLMAN, Bull. U. S. Nat. Mus., 46, p. 61.

Iulus cæsar POCK, Journ. Linn. Soc. London, XXIV, p. 480 (1894).

Porto Rico.

15. *Orthomorpha coarctata* (Sauss.).

Prof. Wheeler collected specimens of this widely distributed tropical species in Porto Rico: Utuado, Coamo Springs, Morro at San Juan.

16. *Leptodesmus sallei* (Sauss.).

Polydesmus sallei SAUSS., Myr. Mexique, p. 42, pl. ii, fig. 8 (1860).

Odontopeltis sallei POCK, Journ. Linn. Soc., XXIV, p. 512 (1894).

Leptodesmus sallei ATTEMS, Denk. Ak. Wien, LXVII, p. 388 (1899).

Some specimens of this species were secured by Professor Wheeler at Utuado and Monte Mandios in Porto Rico.

Saussure recorded the species from the Antilles and Pocock from San Domingo and Hayti.

17. *Leptodesmus mauritii* Brandt.

Polydesmus mauritii BRANDT, Bull. Sci. St. Petersburg, V, p. 311 (1839).

Oxyurus mauritii PETERS, Monats. Ak. Wiss. Berlin, 1864, p. 533.

Odontopeltis mauritii POCK, Journ. Linn. Soc. London, XXIV, p. 513 (1894).

Of this species we know only the short description given by Brandt, from which it appears that it is different from *L. sallei*, at least in coloration. Porto Rico.

Lasiodesmus gen. nov.

Body slender, subcylindrical, composed of the head, collum, anal valves and 19 segments.

Head not covered.

Antennæ (Fig. IX, 1) short, with the 6th joint longer and more crassate than the other, the 5th and 6th joints each with a lateral fine brush of olfactory cones.

Collum (Fig. IX, 2) small, convex, subelliptical, covered with many tubercles, each of which bears a rather long seta.

The following segments (Fig. IX, 2-4) cylindrical and have the metazonæ somewhat higher than the prezonæ, and covered on the dorsal part with as many setiferous tubercles as the collum; they are destitute of lateral carinæ and the inferior

part of the metazonæ is only a little lower than the dorsal and without setiferous tubercles, or nearly so.

Repugnatorial pores (Fig. IX, 3) are rather conspicuous and located on the lateral subposterior part of the metazonæ of the segments 5, 7, 9, 10, 13, 15-19.

Sterna very small and somewhat produced at the bases of the legs.

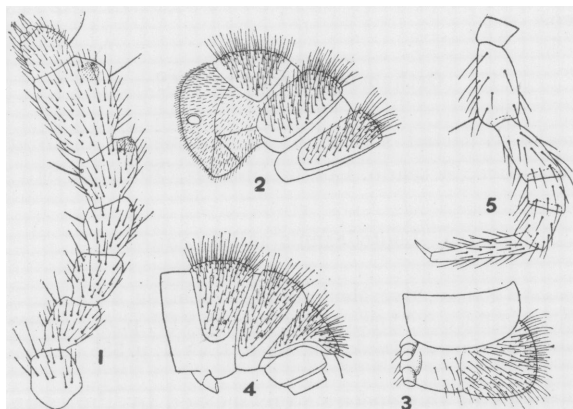


Fig. IX.

Lasiodesmus caraibicus: 1, antenna, 2, head, collum and first two segments; 3, 10th segment; 4, posterior part of body; 5, leg of 10th segment.

Legs (Fig. IX, 5) rather short with the second joint a little longer than the third and furnished beneath at the apex with a long seta; claw simple and rather robust.

Segmentum preanal (Fig. IX, 4) furnished with setiferous tubercles as in the preceding, dorsally triangular at the apex, subcylindrical, projecting beyond the anal valves when closed and not when opened as in Figure IX, 4.

Male unknown.

This genus at first sight is similar to *Cylindrodesmus* Pocock, except for the form of the antennæ. The armature of the metazonæ is easily recognizable as distinct.

18. *Lasiodesmus caraibicus* sp. nov.

Female.— Body brick-colored with the ventral part and the legs umber.

Head (Fig. IX, 2) bearing a great number of short hairs.

Antennæ (Fig. IX, 1) short, with joints 2-4 about equal in length and in width, the 5th very little longer than the 4th, but somewhat wider, the 6th longer and wider as in Fig. IX, 1.

Preanal scale subtrapezoidal with posterior margin a little sinuated and the angles bearing a long seta.

For the other characters see the description of the genus.

Habitat.— A single female specimen from Utuado (Porto Rico).

19. *Tridesmus sectilis* O. F. Cook.

O. F. Cook, in the description of the genus *Tridesmus* (*Brandtia*, p. 21), gives this as the type species, but he has not yet published the description of it.

20. *Tridesmus portoricensis* sp. nov.

Female.—Color umber with the antennæ whitish from the second joint.

Head nearly smooth with a sulcus on the vertex. Antennæ rather long, with the joints as in figure X, 1.

Collum (Fig. XI) wide anteriorly and laterally projecting beyond the head,

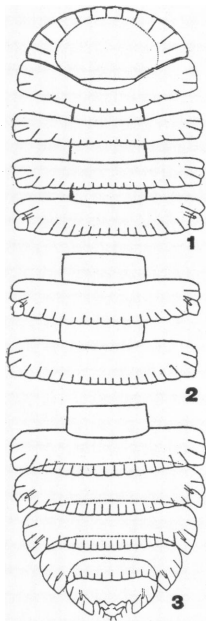


Fig. X.

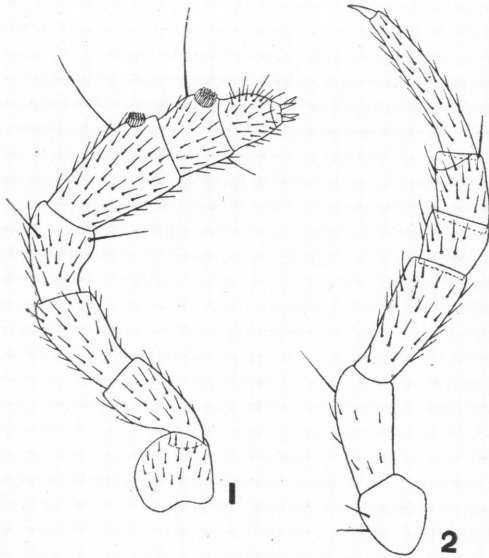


Fig. XI.

Tridesmus portoricensis.

Fig. X.

1, antenna, 2, leg of 10th segment.

Fig. XI.

1 anterior part of body; 2, 10th and 11th segments; 3, posterior part of body (in the figure the sculpture of the body is not reproduced).

anterior margin widely rounded and divided by sulci into 12 distinct areas, posterior part laterally somewhat obliquely truncate, and in the middle slightly truncate, besides the marginal areas the surface is divided into ten others, each a little elevated in the middle, being furnished with a small tubercle.

The following segments (Fig. XI) with the posterior part divided into 16 areas, the lateral margin of non-poriferous carinæ with 3 areas, the rest of the dorsal surface has four median, transverse tubercles, the anterior of which are little wider than the posterior and at the sides of these there are two other small tubercles and another latero-anteriorly. The carinæ are wider than half the width of the segments, subrectangular, with the anterior angle more or less rounded, the posterior part of the poriferous carinæ of the anterior segments slightly produced, and on the posterior segments gradually becoming more acutely produced; the lateral margin of the carinæ is slightly three-lobed, on the poriferous carinæ of the fifth segment two-lobed, on the others to the 15th, three-lobed, and from the 16th to the 18th four-lobed. Repugnatorial pores open rather far from the margin on the posterior lateral area.

Preanal segment (Fig. XI) very short, subrounded posteriorly and scarcely projecting beyond the posterior angles of the 18th segment. Preanal scale subtriangular with two posterior submedian setiferous tubercles.

Sterna small, smooth, somewhat produced at the base of the legs.

Legs (Fig. X, 2) scarcely projecting beyond the lateral margin of the carinæ with the 2d and 3d joints subequal in length.

Length 8.5 mm., width 2.1 mm., length of the antennæ 1.2 mm.

Habitat.—The above description is based upon a female specimen having 19 segments including the collum, collected at Utuado (Porto Rico).