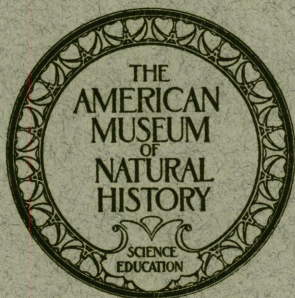


ON A COLLECTION OF MILLIPEDES AND CENTIPEDES FROM NORTHEASTERN PERU

BY RALPH V. CHAMBERLIN



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Article VII.—ON A COLLECTION OF MILLIPEDES AND CENTIPEDES FROM NORTHEASTERN PERU

By RALPH V. CHAMBERLIN

FIGURES 1 TO 230

The present paper is a report upon the diplopods and chilopods embraced in collections of natural history specimens made by Dr. Harvey Bassler in northeastern Peru and by him recently donated to The American Museum of Natural History. For the privilege of studying this highly interesting material, I am indebted to the authorities of the American Museum, and particularly to Dr. Willis J. Gertsch and to Dr. Roy W. Miner, Curator of Lower Invertebrates, to whom I wish here to express my thanks.

The collection was made in the region of the forested slopes and so-called montana region on the eastern side of the sierra leading down to the vast low-lying Amazonian plains and embraced in the Department of Loreto and that of San Martín lying to the west of it. The elevations of the localities at which collections were made varied from 4000 feet down to only 200 feet above sea level. The region is one of heavy precipitation throughout the year in which the rich alluvial fill of the valley bottoms and the luxuriant forests suggest conditions ideal for an abundance of diplopods in particular.

The Bassler collection of myriopods, confined to the larger and more conspicuous forms, contains representatives of 78 species of millipedes here referred to 22 genera and 6 families, as against only 7 species of centipedes falling in 6 genera. Of the families of millipedes, the Platyrrhacidae is represented by 25 species, the Spirostreptidae by 18, the Rhinocricidae and Euryuridae each by 11, the Chelodesmidae by 11, and the Pachybolidae and Xystodesmidae each by 1.

Of the millipedes all the species and fifteen of the genera recognized and of the centipedes three of the species and one of the genera are here described as new. These species, apparently the first to be reported upon from the region above indicated, undoubtedly represent but a moderate fraction of the myriopod fauna occurring there and are too few to form the basis for revisional work strongly indicated as desirable for most of the South American myriopod groups. It is to be hoped that the accumulation of further material from Peru and adjacent countries may make such revisional work possible in the not too distant future.

LIST OF LOCALITIES WITH NAMES OF THE SPECIES TAKEN AT EACH

Rio Aguaytia (September, 1923)	<i>Thrinozethus cainarachus</i>
<i>Spirostreptus aguaytianus</i>	<i>Iphyria clavalata</i>
<i>Aymaermus celinus</i>	<i>Incorya incus</i>
<i>Otocryptops ferrugineus</i> (Linné)	
Ayendama, Rio Cenipa (December, 1929)	Contayo Hills, Upper Rio Tapiche (elev. 700 ft.) (November, 1926)
<i>Polyconoceras cenipanus</i>	<i>Spirostreptus contayanus</i>
Upper Biabo (elev. 3500 ft.) (October, 1929)	<i>Inconus brunniior</i>
<i>Rhinocricus biabonus</i>	<i>Eucampesmus orites</i>
Rio Cainarachi (elev. 700–1500 ft.) (December, 1925)	<i>Platyrrhacus contayus</i>
<i>Inconus lissus</i>	<i>Platyrrhacus mineri</i>
<i>Platyrrhacus cainarachus</i>	<i>Aymaermus leucus</i>
	<i>Aymaermus tapichus</i>
	<i>Ernostyx dasys</i>
	<i>Scolopendra hermosa</i>

Rio Bombo, Alto Tapiche
(January, 1928)

Rhinocricus bombonus
Chondrodesmus albimarginis
Platyrrhacus bombonus
Thrinozethus bombonus
Thrinozethus nitens
Rhysida nuda
Scolopendra hermosa

Pachiza, Upper Huallaga
Otostigmus scabricaudus (Humbert and Saussure)
La Frontera, Upper Utoquinia (elev. 700-1500
ft.)
(December, 1925)

Andineptus apheles
Chondrodesmus diversus
Inconus fronterus
Inconus lissus
Platyrrhacus utoquinius

IQUITOS
(August, 1928)

Spirostreptus bassleri
Spirostreptus confusus
Andineptus delectus
Cladodeptus iquitus
Orthogeneptus mineri
Rhinocricus annexus
Rhinocricus iquitus
Rhinocricus urethus
Chondrodesmus mimus
Ptyzesmus atyphus
Platyrrhacus acompus
Platyrrhacus socius
Aymaresmus fuscatus
Aymaresmus medius
Dynesmus iquitus
Thrinozethus iquitus
Phinotropis tidus
Ptyzogon incus
Otocryptops melanostomus
Otostigmus scabricaudus (Humbert and Saussure)

Pongo de Manseriche, Rio Marañon (elev.
550 ft.)
(August, 1924)

Andineptus pongus
Ellateptus telosortus
Rhinocricus lamprurus
Microspirobolus mansericus
Platyrrhacus loretus
Platyrrhacus mansericus
Thrinozethus phanotypus
Amydrinus pongus
Cupipes annectans

Rio Alto Marañon, between Rios Cenipa and
Nieva
(September, 1924)

Rhinocricus maranonus
Chondrodesmus maranonus
Dromodesmus homalus
Platyrrhacus incus

Orellana
(March, 1927)

Spirostreptus orellanus
Aymaresmus orellanus
Rhysida nuda

Tabalosas to Chasuta (elev. 2000 ft.)
(1928)

Platyrrhacus trichotypus

Upper Rio Blanco
Aymaresmus brunniior

Moyobamba, Balsapuerto Trail
(December, 1925)

Spirostreptus leucocephalus
Platyrrhacus balsapuertus
Platyrrhacus zygethus
Ernostyx moyabambus
Thrinozethus lamprus

Rio Pisqui
(April, 1929)

Rhinocricus cophurus
Rhinocricus pisquius
Otostigmus scabricaudus (Humbert and Saussure)
Scolopendra hermosa

Pampa Hermosa, Rio Ucayali
(January, 1927)

Spirostreptus epelus
Spirostreptus hermosus
Thrinozethus hermosus
Scolopendra hermosa

Suhuaya, Rio Ucayali
(December, 1926)

Spirostreptus ucayalus
Andineptus perditus
Orthogoneptus caudifer
Chondrodesmus erratus
Thrinozethus ucayalus

San Ignacio (Chinchipe) (elev. 4000 ft.)
(July, 1929)

Spirostreptus chinchipus
Polycoceras chunchonus

NEW SUBFAMILY

Orthogoneptinae (of family Spirostreptidae)

NEW GENERA

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NEW SPECIES

(Those marked with an asterisk (*) are the genotypes)

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<i>Ernostyx</i> (n. gen.) <i>chuncho</i>	497
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<i>Phinotropis</i> (n. gen.) <i>tidus</i> *	499	<i>Scolopendra hermosa</i>	501
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DIPLOPODA

ORDER JULIDA

SUBORDER Spirostreptoidea

Spirostreptidae

This family is represented in the collection by five genera, of which four, namely, *Spirostreptus* Brandt, *Cladodeptus*, new, *Andineptus*, new, and *Ellateptus*, new, belong in the Subfamily *Spirostreptinae*, while the fifth, *Orthogoneptus* is regarded as representing a new subfamily, *Orthogoneptinae*.

Spirostreptinae

SPIROSTREPTUS BRANDT

With one exception, the species here

listed under *Spirostreptus* are based upon females only and their pertinence to this genus in the strict modern sense is therefore not wholly certain. Because of the importance of the collection, however, it seems best to describe and record the species under this generic name used in the broad sense pending the time when more abundant material embracing adequate representation of both sexes shall make closer restriction possible. The ten species recognized may be separated from each other by means of the following key.

KEY TO SPECIES OF *Spirostreptus* HEREIN DESCRIBED

- a.—Anal valves not obviously compressed, narrowly margined at mesal edges.
 - b.—Collum on each side with three sulci, only the most anterior of which meets the lateral margin (Fig. 14)..... *ucayalus*, n. sp.
 - bb.—Collum on each side with 5 or 6 sulci, the two anterior of which end on the lateral margin (Fig. 8)..... *epelus*, n. sp.
- aa.—Anal valves with mesal borders strongly compressed and elevated.
 - b.—Collum with all sulci on each side curving caudad below where more or less parallel with lateral margin, and ending on caudal border of plate.
 - c.—Segmental suture on middle segments straight or nearly so opposite the pore.
 - d.—Light colored; diameter near 4 mm..... *chinchipus*, n. sp.
 - dd.—Dark colored; diameter near 7 mm..... *bassleri*, n. sp.
 - cc.—Segmental suture on middle segments strongly curved opposite the pore.
 - d.—Infero-anterior corner of collum subrectangular or slightly produced. Collum as shown in Fig. 2; antennae and legs dark brown; number of segments 69; diameter 7 mm..... *aguaytianus*, n. sp.
 - dd.—Infero-anterior corner of collum more oblique and rounded (Fig. 13)..... *orellanus*, n. sp.
 - bb.—Collum with one or more of the anterior sulci on each side ending on the lateral margin.
 - c.—Sulci in form of broad furrows leaving conspicuous ridges elevated between them; infero-anterior corner widely rounded (Fig. 12); diameter near 8 mm..... *leucocephalus*, n. sp.
 - cc.—Sulci narrower, not limiting sharply defined ridges; infero-anterior corners a little produced, much more narrowly rounded; diameter 7 mm. or less
 - d.—Diameter 7 mm. or more.
 - e.—Collum on each side typically with 3 striae (Fig. 4); diameter near 7 mm..... *contayanus*, n. sp.

- ee.—Collum on each side with 5 or more striae (Fig. 11); diameter near 8 mm.....*hermosus*, n. sp.
 dd.—Diameter about 4.3 mm.; collum as in Fig. 3.....*confusus*, n. sp.

Spirostreptus aguaytianus, new species

Figure 2

General color nearly black with anterior part of prozonites and posterior part of metazonites lighter, the resulting annulus from light brown to dark chestnut. Antennae and legs brown, in part of reddish cast.

Eye patches subrhomboidal in outline, the ocelli forming seven series running oblique to the vertical and eleven series running in a nearly longitudinal direction. Antennae of the typical stout form (see Fig.).

The collum with lateral ends of form shown in the figure.

Suture on ordinary segments rather strongly curved opposite the pore which is about one-fourth the distance from it to the caudal margin. Surface of tergites smooth and shining.

Anal tergite smooth and shining, posteriorly more distinctly and acutely angular than, e. g., in *confusus*. Anal valves compressed as usual. Anal sternite of usual general shape, posterior angle obtuse and sides a little incurved.

Number of segments, 69.

Length, about 100 mm.; width, 7 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9429, Rio Aguaytia, September, 1923.

Spirostreptus bassleri, new species

Figure 1

The general color is dark brown with caudal part of segments becoming deeper, nearly olive-black. Anal segment and collum also dark olivaceous. Legs dark brown.

Antennae short, compressed. Ocelli in 5 series: 10, 10, 10, 8, 6.

Collum with two sulci on each side deep and conspicuous. See Fig.

On median and posterior segments the suture not at all or but slightly curved at level of pore which is located at fully one-third the distance from suture to caudal margin. Tergites above smooth and shining, the punctae under lens appearing as extremely fine.

Anal tergite exceeded by the valves; with no transverse sulcus, but with median longitudinal region somewhat elevated and ridge-like behind. Valves and last sternite normal.

Number of segments, 48.

Diameter, 7 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9427, Iquitos, August, 1928.

LOCALITY.—Peru: Iquitos. Two females.

This species is dedicated to Dr. Harvey Bassler.

Spirostreptus chinchipus, new species

Figure 7

General color gray of a slight olive cast, with

a sharply defined, narrow annulus of reddish brown, a little in front of caudal margin of tergites. Head and collum somewhat darker and of a somewhat orange cast. Legs yellow.

Ocelli in 5 sublongitudinal series: 10, 8, 7, 5,

1. Antennae of intermediate stoutness.

Collum as figured.

Sulcus only very slightly or not at all curved opposite the pore. Tergites above smooth and shining, punctae under lens few and vague.

Anal tergite much exceeded by the valves; surface more densely punctate over caudal portion where the punctae in part are somewhat confluent into lines. Valves and last sternite normal.

Number of segments, 64.

Diameter, 4 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9430, San Ignacio (Chinchipe), elev. 4000 ft., July, 1929.

Spirostreptus confusus, new species

Figure 3

The general color is light brown, with some of the segments of middle region paler on the sides, a lighter annulus about posterior portion of metazonites. Antennae and legs light brown, in part nearly yellow.

Eye patch composed of numerous ocelli in 6 subvertical series; upper (mesal) and caudal margins of patch forming an even curve, the anterior margin nearly straight, and the lower margin slightly convex. The antennae thick with joints relatively short.

Collum with antero-inferior and postero-inferior corners a little and about equally obtusely angular. Sulci as shown in the figure. Surface finely punctate with obscure reticulation of low rugae.

Ordinary somites subdensely finely punctate, not truly rugulose. Repugnatorial pore widely separated from the suture, being at fully one-third the distance from suture to caudal margin; suture gently excurved opposite the pore.

Anal tergite obtusely rounded behind, much exceeded by the valves. Valves with inner borders compressed and elevated as usual. Anal sternite broadly subtriangular, with posterior angle obtuse.

Number of segments, 60.

Diameter, 4.3 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9431, Iquitos, August, 1928.

Spirostreptus contayanus, new species

Figures 4 to 6

General color light olive-brown, with a darker brown annulus about caudal border of metazonites. Antennae and legs a lighter brown of slightly orange cast.

Antennae more slender, with first articles especially more elongate, than usual as figured. Eyes with ocelli in 5 nearly longitudinal series: e. g., 10, 10, 10, 8, 7. The patch with anterior end narrow, the upper margin gently convex and the anterior and lower margin together forming an even oblique line.

End of collum and its striae of form shown in the figure.

Segmental sulcus gently excurved opposite the pore which is located one-fourth, or slightly more, the distance from sulcus to caudal margin. Metazonites densely finely punctate.

Anal tergite much exceeded by the valves, its caudal end obtusely rounded. Valves mesally strongly compressed. Anal sternite with lateral angles very acutely extended, the caudal angle rounded, the sides gently concave.

Number of segments, 59.

Length, about 102 mm.; diameter, 7 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9432, Contayo, Upper Tapiche, November 20, 1926.

Spirostreptus epelus, new species

Figures 8 to 10

In color a strongly annulate form in which a wide olive-gray annulus encircles each ordinary segment about its middle, leaving a narrower light brown to reddish-brown annulus about caudal border and one about anterior portion of prozonite. Collum and anal segment light olive-brown. Legs light brown to yellow of orange tinge.

Antennae short. Ocelli in patch of usual form.

Collum as drawn.

Sulcus widely curved opposite pore on middle segments, the pore about one-fourth the distance from sulcus to caudal margin. Segments above smooth and shining, not showing the wavy surface due to low longitudinal elevations.

Anal tergite very obtuse at middle behind, without furrows. Anal sternite with caudal margin very obtusely angled at middle as shown in the figure. Valves narrowly margined, not compressed.

Gonopods of male as illustrated.

Number of segments, 57–59.

Diameter, 7 mm.; length, about 80–85 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9433, Pampa Hermosa, January, 1927.

LOCALITY.—Pampa Hermosa. A male and female taken January 18–31, 1927.

Spirostreptus hermosus, new species

Figure 11

General color dark brown, each ordinary somite with a narrow light annulus about caudal border. Antennae nearly yellow, and legs light brown.

Head smooth. Clypeal setigerous faveolae 2 + 2. Antennae stout, distally moderately compressed. Eyes with ocelli in 7 series: 10, 10, 10, 10, 9, 6, 2 (3).

Collum with characteristic sulci as shown in the drawing.

Ordinary segments smooth and shining above, not truly punctate. Segmental sulcus deeply impressed throughout and conspicuously excurved at level of pore which is less than one-third the distance from sulcus to caudal margin.

Anal tergite more extended caudally than usual and free at end though much exceeded by the valves. Anal valves with mesal border strongly compressed and elevated. Last sternite of usual form.

Number of segments, 61.

Length about 120 mm.; diameter, 8 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9434, Pampa Hermosa, Rio Ucayali, January 18–31, 1927.

Spirostreptus leucocephalus, new species

Figure 12

The general color is black or nearly so with the metazonites tending to verge into dark reddish brown toward caudal margin. Collum and head abruptly lighter brown, with caudal border of the former, however, blackish. Anal valves also somewhat lighter. Antennae and legs brown.

Antennae flattened and relatively short as normal. Eyes with ocelli in 5 series: 11, 10, 9, 6, 5; ocelli pale.

Collum as drawn.

Segmental suture conspicuously and sometimes subangularly bent opposite the pore which is at more than a fourth of the distance from suture to caudal edge. Surface of tergites above irregularly punctate and uneven.

Anal tergite exceeded by valves, of usual form, a distinct transverse furrow setting off caudal portion. Valves and sternite of the usual general form.

Number of segments, 55.

Diameter, 8 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9435, Moyobamba, Balsapuerto Trail, December, 1925.

Spirostreptus orellanus, new species

Figure 13

In the segments of the middle region of the body the caudal border of the metazonites and most of the prozonites are light brown of slightly olive tinge, the remaining portion of metazonites and prozonites adjacent to sulcus olive-black; the line between dark annulus and light area of prozonite uneven, the posterior edge even; the darker annulus more extensive dorsally. Toward anterior and posterior ends of body the dark color tending to embrace entire segment. Collum, head and last segment entirely dark. Antennae and legs light brown.

Antennae relatively short and thick, only slightly compressed. Ocelli in 5 series: 10, 10, 10, 9, 7.

Collum as drawn.

Sulcus conspicuously curved at level of pore

which is less than one-fourth the distance to the caudal margin. Dorsal surface of tergites smooth and shining.

Anal tergite of usual proportions. A shallow transverse furrow setting off caudal portion, the anterior area somewhat wrinkled transversely. Valves as usual. Anal sternite with posterior angle obtuse, not rounded.

Number of segments, 60.

Diameter, 7.2 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9436, Orellana, March, 1927.

Spirostreptus ucayalus, new species

Figures 14 and 15

Typically each somite is dark chocolate-brown excepting the caudal border of the metazonite and the anterior portion of the prozonite which may be lighter, but in most cases the annulation is obscure or absent. One paratype has the dark color confined to the metazonite, the prozonite on most segments being olive-brown, and annulation as a result conspicuous. Anal segment in all abruptly paler, light olive-brown. Legs brown to reddish brown.

Antennae of normal proportions as to length of articles, considerably compressed. Ocelli in 6 series: 10, 11, 11, 9, 6, 4.

Collum as drawn.

Segments of middle region with sulcus deeply impressed considerably excurved at level of pore which is between a fourth and a third the distance to the caudal margin from the sulcus. The dorsum of segments crossed longitudinally by wide, low, and in part obscure rugae, detectable under the lens.

Anal tergite with caudal angle very obtuse, rounded; not crossed by a transverse sulcus or furrow. Anal valves with free borders not compressed and elevated, narrowly margined. Anal sternite only slightly produced caudally, the posterior angle very obtuse. (See Fig.)

Number of segments, 60.

Diameter, 6.4 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9437, Suhuaya, Ucayali, December, 1926.

LOCALITY.—Suhayo, Ucayali. Two additional females taken December 12, 1926.

ANDINEPTUS, NEW GENUS

Pores beginning on the sixth segment. Anterior gonopods without lateral cone. Posterior gonopods without coxal or femoral branches or spines; telopodite expanded in a conspicuous lamellose expansion from the inner side of which there is a spinelike branch through which the seminal canal opens.

GENOTYPE.—*A. apheles*, new species.

Suggesting the African *Eumepius* of Attems but differing in having the telopodite of the posterior gonopods expanded, lamellate, instead of slender. The genus

is at present known definitely to contain only the four new species described below.

Andineptus apheles, new species

Figures 16 to 18

General color brown, a narrow annulus about caudal border of each somite a darker brown. Legs and antennae brown.

Vertex of head crossed with a median longitudinal sulcus. From the caudal end of the median sulci two impressed lines extend laterad on each side parallel to edge of collum and ending on the corresponding eye. Ocelli in 5 sub-longitudinal series: 9, 8, 7, 6, 2. Antennae short, decidedly compressed or flattened.

Collum with infero-anterior corner in the female nearly rectangular, but little obtuse, the angle narrowly rounded; with three sulci on each side as shown in figure. In the male the lower anterior corner is conspicuously produced and the angle is acute (Fig. 16).

Ordinary somites smooth and shining above, striate beneath as usual. Segmental sulcus sharply defined throughout; conspicuously excurved opposite the pore which is not very far from it.

Anal tergite obtusely angled behind, much exceeded by the valves the mesal borders of which are strongly compressed and elevated. Anal sternite wide, its caudal border at middle obtusely angled, its lateral portions transverse, and nearly straight.

Gonopods of male as illustrated.

Number of segments, mostly 60–62.

Diameter, up to 6 mm.; length 80–85 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9438, La Frontera, Rio Tapiche, January, 1928.

LOCALITY.—La Frontera, Rio Tapiche. Many specimens, male and female, taken in January, 1928.

Andineptus delectus, new species

Figures 19 and 20

A dark-colored form with the usual narrow brownish annuli. Legs and antennae pale brown or yellowish.

Antennae and eyes typical. Head smooth and shining; its sulci as usual, distinct.

Collum as shown in Fig. 19.

Ordinary somites with segmental suture moderately excurved at level of pore which is not more than one-fourth the distance to caudal margin. Striae on prozonites as in *pongus*.

Anal tergite of form of that in *pongus*, its surface finely and densely punctate. Sternite as in *perditus*.

Distinct especially in the form of the gonopods as illustrated.

Number of segments, 50.

Diameter, 5.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9439, Iquitos, August 1, 1928.

Andineptus perditus, new species

Figures 21 and 22

Color from somewhat olive-gray to deep brown, in the narrow annulus of deeper color about caudal border of each ordinary somite as in *A. apheles*. Legs and antennae yellowish brown.

Head with sulci as in *apheles*; smooth and shining. Antennae short. Ocelli in 5 series: 10, 10, 9, 6, 5.

Collum of male with lower anterior corner acutely produced as shown in Fig. 21. Sulci as illustrated.

Ordinary tergites smooth and shining above. Segmental suture sharply impressed and complete, strongly excurved at level of pore which is about one-fourth the distance from it to the caudal margin.

Last tergite and valves in general as in *apheles*. Anal sternite obtusely angular at middle, with sides of caudal margin widely and evenly concave.

Gonopods as illustrated.

Number of segments in male holotype, 58.

Diameter, 5 mm.; length, about 74 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9440, probably Suhuaya, December, 1926.

LOCALITY.—Peru. Two males taken December 12–16, 1926. The precise locality on original label rubbed off, but the date indicates it to have been Suhuaya on the Ucayali.

Andineptus pongus, new species

Figures 23 to 25

Brown, with the posterior borders of somites annulate with deeper color as in the other species. Legs and antennae brown.

Antennae of the usual form. Ocelli typically in 6 series: 8, 9, 7, 6, 6, 3. Sulci on vertex as usual, the longitudinal one sharply impressed only at anterior end.

Collum of male and female as shown in Figs. 23 and 24.

Segmental sulcus of ordinary somites sharply impressed throughout, widely excurved opposite pore which is about one-fourth the distance from it to the caudal margin. In front of the sulcus and mostly on portion overlapped by preceding segment a series of distinct transverse striae across dorsum.

Last tergite of same general form as in *apheles*, etc., but caudal angle rather more rounded, much exceeded by the valves. Anal sternite shaped nearly as in *perditus* but caudal angle more rounded.

Gonopods as drawn.

Number of segments, 62.

Length of female allotype, about 68 mm.; diameter, 5 mm.

Diameter of male holotype, 4.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9441, Pongo de, Manseriche, August, 1924.

LOCALITY.—Peru: Below Pongo de Manseriche, on Rio Marañon. Male holotype and female allotype taken in August, 1924.

ELLATEPTUS, NEW GENUS

Posterior gonopods wholly lacking coxal and femoral spines; telopodite long and slender, without trace of spurs or lamellose expansion, distally finely acuminate. Anterior gonopods distally divided or lobed (cf. Figs. 27 and 28); an external process near level of knee of posterior gonopod. Repugnatorial pores beginning on sixth segment.

GENOTYPE.—*Ellateptus telotortus*, new species.

Ellateptus telotortus, new species

Figures 26 to 28

A light brown form with darker annuli. Legs and antennae brown.

Head smooth, with the usual sulcus across vertex. Eyes well developed, the ocelli in 5 series: 9, 8, 7, 7, 4. Antennae of moderate length and thickness, conspicuously clavate, the joints not at all or but very slightly compressed.

Collum as figured.

Ordinary segments sulcate below as usual, above appearing smooth and shining to the naked eye but under the lens seen to be finely and evenly puncto-rugulose. Segmental sulcus smooth and sharply impressed, complete; only slightly excurved in region of pore which is located at nearly one-third the distance from sulcus to caudal margin.

Anal valves with mesal borders compressed and elevated, much exceeding the last tergite, subdensely punctate. Anal scale wide but short, the caudal angle very obtuse.

Gonopods as illustrated.

Number of segments, 55.

Diameter 3.2 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9442, Pongo de Manseriche, August, 1924.

LOCALITY.—Below Pongo de Manseriche, on Rio Marañon, Loreto. A male (holotype) and female taken in August, 1924.

CLADODEPTUS, NEW GENUS

Coxa of anterior gonopods with a strongly developed conical process projecting lateral from the distal end. Posterior gonopod with coxal spur and also with a curved, acutely pointed femoral spine; telopodite long and slender, acuminate, without trace of process or lamellose expansion. Repugnatorial pores beginning on sixth segment.

GENOTYPE.—*Cladodeptus iquitus*, new species.

This genus differs from *Spirostreptus* primarily in the presence of a strongly developed femoral spine.

Cladodeptus iquitus, new species

Figures 29 and 30

The segments are dark excepting for a light annulus immediately caudal of the segmental sulcus. Antennae and legs pale brown or yellow.

Sulcus distinct across vertex of head. Eyes widely separated, rather small, subelliptic in outline, their ocelli in 6 or 7 longitudinal series and about 12 shorter oblique ones. Antennae short and thick.

Collum as figured.

Segments in middle region of body, smooth and shining above. Segmental sulcus distinct throughout; strongly excurved at level of pore which is about one-third the distance from suture to caudal margin.

Anal tergite obtusely angled behind, not produced or free. Anal valves mesally compressed and elevated but inner elevated rims not set off by furrows. Anal scale short and wide, with caudal angle very obtuse, nearly straight.

Gonopods as illustrated.

Number of segments, 64.

Diameter of female allotype, 6 mm.; of male holotype, 5.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9443, Iquitos, August, 1928.

LOCALITY.—Iquitos. Male holotype and female allotype taken in August, 1928.

Orthogoneptinae, new subfamily

Proposed to contain the new genus *Orthogoneptus*, characterized by the freely exposed posterior gonopods and the spike-like caudal process from the last tergite.

ORTHOGONEPTUS, NEW GENUS

This genus differs from *Spirostreptus*, etc., in possessing a peculiar spikelike caudal process from the last tergite, in which respect it is readily distinguished from the other known spirostreptids of South America, and especially in having the posterior gonopods, of the form shown in Fig. 33, not sheathed by the anterior but freely exposed to base. The coxa of anterior gonopods lacks an external conical process.

GENOTYPE.—*Orthogoneptus mineri*, new species.

Orthogoneptus mineri, new species

Figures 31, 33 and 34

General color in front of suture of typical segment light olivaceous and dark brown behind suture. Legs yellow; antennae yellow proximally and light brown distally.

Head smooth and shining; vertigial sulcus obsolete, a slight depression at the usual terminus midway between inner angles of eyes; two impressions or dimples mesad of base of antennae on each side, the outer of these elongate, the

inner circular. Ocelli in six curved series: 10, 9, 8, 7, 6, 3. Antennae moderate, not compressed.

Collum of male with antero-lateral corner widely rounded, not at all produced. Sulci as shown in figure.

Segmental sulcus coarse and deeply impressed; slightly and gently curved opposite pore which is rather more than one-third the distance from sulcus to caudal margin. Several fine striae encircling segment in front of sulcus, the most posterior of these most sharply defined and characteristically angled just above level of pore.

Last dorsal plate with a conspicuous caudal process from middle of caudal end, this process much exceeding the valves, ending in a minute, acute and slightly decurved apical point.

Anal valves with mesal border strongly compressed and elevated, this border further set off by a wide and deep furrow ectad of its base. Anal sternite proportionately very wide, its caudal angle very obtuse.

Number of segments, 52.

Diameter, 6 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9444, Iquitos, August, 1928.

Orthogoneptus caudifer, new species

Figures 32 and 35 to 38

General color black; of a somewhat dark brown cast about caudal portion of metazonites; legs pale yellow, antennae light brown.

Sulcus across vertex of head ending in a depression at level of inner angle of eyes. Ocelli in 5 or 6 subvertical series; anterior margin of eye patch straight or slightly incurved, the posterior and lateral margins together forming a convex, nearly semicircular curve.

Collum with lateral margins straight, the anterior corner widely rounded and the posterior corner subrectangular; sulci as shown in the figure; borders smooth, the surface elsewhere regularly reticulo-rugose, the meshes somewhat coarser than on ordinary somites.

The metazonite of ordinary somites conspicuously and characteristically finely reticulo-rugose or puncto-rugulose.

The anal tergite seems to be especially distinctive. In this the posterior portion of the plate is depressed below level of anterior portion; across the depressed area conspicuous median longitudinal ridge runs and continues beyond as a slender cylindrical caudal process which surpasses the anal valves.

Anal valves with inner border conspicuously compressed and elevated. Anal sternite triangular, much broader than long; caudal angle obtuse; anterior margin gently convex.

Number of segments, 55.

Diameter, 6.5 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9445, locality name worn off the original label, but according to the date, probably Suhuaya, on the Ucayali, December 12–16, 1926.

SUBORDER Spiroboloidea

Rhinocricidae

RHINOCRICUS KARSCH

The eleven species in the collection belonging to this family represent the two genera *Rhinocricus* and *Polyonoceras*.

The nine species represented in this genus may be separated by means of the following key.

KEY TO SPECIES OF *Rhinocricus*

- a.—Anal tergite decidedly exceeding the anal valves.
 - b.—Anal tergite abruptly narrowed into a rather slender apical portion or cauda..... *maranonus*, n. sp.
 - bb.—Anal tergite not thus abruptly narrowed into a terminal cauda, broadly subtriangular.
 - c.—Scobina of middle region large on some segments, not more than once and a half their diameter apart..... *urethus*, n. sp.
 - cc.—Scobina much smaller, always from two to four or more times their diameter apart.
 - d.—Legs olive in color; the last tergite also uniform olive; anterior impression of scobina lunate, the striate area unusually long..... *pisquius*, n. sp.
 - dd.—Legs from light brown to ferruginous; last tergite either entirely light brown or light at caudal end; scobina with anterior impression semicircular, the striate area shorter.
 - e.—Anal tergite with a sharply impressed transverse sulcus setting off triangular caudal portion..... *bombonus*, n. sp.
 - ee.—Anal tergite with no such transverse sulcus..... *lamprurus*, n. sp.
 - aa.—Anal tergite not exceeding the valves.
 - b.—Tergites without a supplementary sulcus across dorsum; anterior impressions of scobina large, but little more than their transverse diameter apart; striate area widely rounded behind..... *R. biabonus*, n. sp.
 - bb.—Tergites with a supplementary sulcus across dorsum; scobina from nearly twice to three times or more their transverse length apart.
 - c.—Tergites above strongly but finely puncto-rugulose..... *R. annexus*, n. sp.
 - cc.—Tergites not thus finely roughened, at most lightly punctate but without close network of fine rugae.
 - d.—Tergites minutely lightly punctate but with no rugae; striate area as wide anteriorly as the lunate impression, triangular in outline.... *R. cophurus*, n. sp.
 - dd.—Tergites not punctate; striate area much narrower than lunate impression..... *R. iquitus*, n. sp.

***Rhinocricus annexus*, new species**

Figures 39 to 41

General color olive, the color deeper behind the suture, with a narrow light band along caudal margin. Head without light areas or markings. Legs pale brown or yellowish.

Head sulcus interrupted as usual. Eye patch subcircular, the anterior side more flattened, only slightly convex.

Second tergite extending much below level of collum, the lower margin strongly convex, notched at middle.

Second and succeeding tergites with sulci distinct and complete. In front of sulcus across dorsum a distinct supplementary sulcus. The dorsum finely and characteristically puncto-rugose.

Scobina with anterior impression lunate, middle segments a little less than twice their transverse length apart. Striate area narrower than the impression pointed behind, the caudal apex narrowly rounded, sides not incurved.

Last tergite acutely pointed behind, the point not free, much exceeded by the valves.

Anal scale relatively wide, the caudal margin nearly straight, being only weakly convex.

Number of segments, 42.

Length, about 70 mm.; diameter, 7 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9446, Iquitos, August, 1928.

***Rhinocricus bombonus*, new species**

Figures 42 to 45

This form presents typically a dusky band along each side of dorsum, the general color elsewhere brown. The usual ferruginous band along caudal border of tergites. A light, in part almost white, stripe a little in front of the suture on the sides below level of dusky band. Legs brown, in part of slight ferruginous cast.

Median sulcus of head widely interrupted at middle.

Second tergite extending well below the level of the collum, the lower margin convex; its suture weak or obscure above.

On succeeding tergites the sulcus is complete dorsally but weaker than the supplementary sulcus across dorsum a little in front of it.

Scobina with anterior impressions deep, semi-circular, on middle segments somewhat more than twice their transverse length apart. The striate area narrower than anterior impression, tongue-like, with sides concave.

Anal tergite extending much beyond the valves, caudally well rounded, crossed near middle by a deep transverse sulcus.

Anal scale relatively wide, its caudal margin widely convex, slightly obtusely angled at middle. Gonopods as illustrated.

Number of segments, 48-49.

TYPE.—Male, A. M. N. H. Cat. No. 9447, Rio Bombo, January, 1928.

LOCALITY.—Rio Bombo, Alto Tapiche, January, 1928. A male and female.

Rhinocricus biabonus, new species

Figures 46 and 47

General color dark olive with posterior annulus of tergites a light olive. Anal segment uniform dark olive. Collum dark olive with borders lighter as usual. Head dark olive except for labial region which is somewhat lighter olive. Legs somewhat reddish brown.

Median sulcus of head widely interrupted, the upper segment not ending in a depression.

Collum without markings such as those described for *iquitus*.

Sulcus of second tergite complete. Sulcus of succeeding tergites deep, smooth and complete, not preceded by a second sulcus across dorsum.

Scobina with anterior impression long transversely, on middle segments separated by more than their length. The striae very fine, the area anteriorly as wide as the impression and posteriorly characteristically rounded.

Last tergite rounded behind; much exceeded by the valves and its apex not free.

Anal scale wide in comparison with length, well rounded behind.

Number of segments, 51.

Length, about 95 mm.; diameter, 9 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9448, Upper Biabo, elev. 3500 ft., October, 1929.

Rhinocricus cophurus, new species

Figures 48 to 50

Dark, of olive cast, with each tergite bordered behind with an annulus of light ferruginous color. Legs lighter brown of slight ferruginous cast.

Head depressed in region of interruption of sulcus. Eyes widely rounded in front and practically touching margin of antennal socket.

Collum marked as in *iquitus*, etc.; more widely rounded at ends than in *pisquius*.

Second tergite extending well below collum, its lower margin convex, lowest behind.

On the ordinary tergites the anterior sulcus near caudal border of preceding tergite distinct throughout, with no definite continuous sulcus across dorsum between it and the main sulcus, or this broken into a series of short curved lines not deeply impressed. Pore re-

lated to sulcus as usual. Scobina small, of usual form, widely separated, beginning as faint impressions on fifth segment and ceasing at about the forty-first; striate area triangular, as wide anteriorly as the lunate impression, pointed behind, with sides straight.

Last tergite acutely pointed behind in general outline, the point very narrowly rounded; clearly exceeded by the anal valves.

Anal scale wide, with posterior and lateral margins together forming a somewhat arcuate line.

Number of segments, 52.

Length, about 70 mm.; diameter, 6 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9449, Rio Pisqui, April, 1929.

Rhinocricus iquitus, new species

Figures 51 to 55

General color somewhat olivaceous black with the metazonites behind suture lighter brown or pale ferruginous, the light band commonly narrowing dorsally. Anterior and posterior border of collum also paler. Legs and antennae yellowish brown to brown, commonly with a light ferruginous cast.

Head smooth. Sulcus interrupted at level of antennae. Clypeal foveolae 2 + 2.

Collum smooth; widely rounded below, with a slight marginal indentation behind and above lower end; crossed transversely by two pale impressed lines which meet above lower border on each side and continue as a single line to the margin; a longitudinal pale line across the plate above level of union of the transverse lines.

Second tergite extending below level of collum, its lower margin convex, a little indented opposite end of column; sulcus distinct.

Sulci on succeeding segments distinct and complete, contiguous with pore above which distinctly angled, the sulcus obscure above.

In front of sulcus and across dorsum between pore levels a much coarser and deeper, somewhat wavy sulcus, and in front of this more wavy, irregular and partly broken transverse impressions. Metazonites behind sulcus smooth above, with the usual longitudinal striae below level of pores.

Scobina small, with anterior impression deep and lunate, striae fine forming an area pointed behind, much narrower than lunate impression and shorter than in *pisquius*; the interval between scobina about three times the width of one of the latter; beginning on seventh segment and ending on the forty-second.

Anal tergite slightly exceeded by the anal valves though its tip is a little free. Anal valves compressed as usual, smooth and shining. Anal scale obtusely angular behind, its sides weakly convex.

Gonopods of male as illustrated.

Number of segments, 50-54.

Length, about 70 mm.; width, to 5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9450, Iquitos, August, 1928, seven specimens taken

Rhinocricus lamprurus, new species

Figures 56 to 58

Of an olivaceous cast, the sides below level of pores lighter, the usual lighter band behind on each tergite with a deeper, ferruginous narrow stripe or line in this light annulus just in front of the caudal margin. Legs light brown of ferruginous cast. Collum light brown. Head dark above, the frontal and clypeal regions lighter and the light area extending up to vertex in a cuneate patch.

Sulcus of head continuous but very lightly impressed at level of antennae.

Collum smooth and shining; widely rounded at ends; not marked with lines like those of *iquitus*, etc.

Ordinary tergites with a lightly impressed sulcus across dorsum a little in front of primary sulcus but with no anterior sulcus such as present in *cophurus*.

Scobina small, widely separated; the anterior impression deep, lunate; the striate area much narrower than the lunate impression, tongue-like.

Last tergite much exceeding the valves, obtusely angular behind with the apex rounded. Anal scale broadly subtriangular, the posterior angle obtuse.

Number of segments, 54.

Length, about 75 mm.; diameter, 6 mm.

TYPE.—A. M. N. H. Cat. No. 9452, below Pongo de Manseriche, Dept. Loreto, elev. 550 ft., August, 1924.

Rhinocricus maranonus, new species

Figures 59 to 61

A strikingly and characteristically annulate form unlike most forms in having the lightest band in front of the sulcus, the color of this being of a pale bluish or bluish-white cast; a dark brown annulus back of sulcus and extending a little in front of it, followed by a narrow annulus about posterior border of ferruginous color. Head dark above, light in frontal and clypeal region.

Head with sulcus widely interrupted, the anterior end of the upper segment ending in a depression.

Collum without definite paired crosslines uniting below on each side.

Second tergite extending well below collum.

Ordinary tergites with sulcus complete across dorsum but somewhat more lightly impressed than a sulcus across dorsum a little farther forward; anterior secondary sulcus complete and distinct.

Scobina with lunate impressions wide, in middle region not or but little shorter than the interval between them. Striate area wider than long, as wide anteriorly as the lunate impression, pointed behind.

Last tergite with caudal end characteristically narrow, extended distinctly beyond the valves.

Anal scale triangular, longer than usual, the caudal angle slightly obtuse.

Number of segments, 43.

Diameter, 5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9453, Rio Alto Maraion, between Rios Cenipa and Nieva, September 16–24, 1924, collected by Klug.

Rhinocricus pisquius, new species

Figures 62 to 64

General color olive-brown with approximately the caudal half of the area of the metazonite back of the suture ferruginous yellow, the collum also bordered throughout with the same color. Legs and antennae also olivaceous.

Median sulcus of head narrowly interrupted with upper portion ending below in a depression. Ocelli forming a large patch which is bluntly rounded in front and does not reach level of base of antennae.

Collum lacking the characteristic lines present in *iquitus* and *urethus*; its lateral end narrowly rounded; the margining sulcus arching convexly above lateral end and continuing up anterior margin to some distance below level of eye.

Second tergite extending a little below level of collum, its lower margin horizontal, convex, and not sharply defined; sulcus continuous and distinct across its dorsum.

Sulci of succeeding tergites deeper and coarser than in *urethus*. A sulcus across dorsum a little in front of primary sulcus but distinct. Pores embraced by sulcus as in *urethus*.

Anterior impressions of scobina of same form as in *urethus* but those of middle region smaller and decidedly farther apart; beginning on segment 6 or 7 and continuing to fifth segment from caudal end (48th segment); striate area long and tongue-like, much narrower than the lunate impression.

Last tergite smooth and shining, narrowed conspicuously, anal end narrowly rounded, extending much beyond valves as in *urethus*.

Anal sternite rounded behind with sides weakly sigmoidally curved.

Number of segments, 52.

Length, about 90 mm.; diameter, 7.5 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9454, Pisqui, April, 1929.

LOCALITY.—Pisqui, April, 1929. Two females.

Rhinocricus urethus, new species

Figures 65 to 67

General color dark bluish black with lighter bands arranged as in *iquitus* but the posterior annulus of segments narrower and darker, dark ferruginous, the annulus bordered behind by a narrow blackish and marginal annulus. Legs yellow to ferruginous.

Median sulcus of head deep, only narrowly interrupted at level of antennae. Head smooth. Ocelli in a large patch which is prolonged in front in a short acute process above base of antenna.

Collum marked as in *iquitus*, but lacking the marginal indentation above lower end on posterior side.

Second tergite extending below collum with lower margin straight but very oblique, descending caudad.

Sulci and markings on succeeding tergites as in *iquitus* but the sulcus deeper across dorsum. Tergites above more or less longitudinally weakly rugose.

Scobina larger and closer together than in *iquitus*, the interval between them on middle segments not more than once and a half the width of the deep anterior lunate impression in the middle region (e. g., segment 25) but these impressions becoming smaller and more widely separated anteriorly. Striate area triangular, not quite as wide anteriorly as the impression and acutely pointed behind, the sides a little incurved. Beginning on sixth segment and ending at about the forty-first.

Anal tergite conspicuously exceeding the anal valves, apically rounded. Anal valves smooth. Anal sternite strongly rounded behind.

Number of segments in female holotype, 47; in female paratype, 49.

Length, about 80 mm.; width, 7 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9455, August, 1928.

LOCALITY.—Iquitos. August, 1928. Two females.

Structurally very similar to *R. iquitus* but a larger form at once separated by the caudal tergite in that it decidedly exceeds the anal valves, as well as in the form of the anal scale.

POLYCONOCERAS ATTEMS

This genus has been previously found in America only in Colombia. It is otherwise known from the East Indies.

Polyconoceras cenipanus, new species

Figures 68 and 69

In this species the prozonites olivaceous, the metazonites brown. The legs are light brown of a more or less olive cast. Last tergite and anal valves entirely olive. Collum mostly olive, brown in a band across middle. Head and antennae light olive.

Head smooth. Median sulcus nearly as in *incus*. Ocelli in 5 or 6 vertical series: 7, 7, 6, 5, 4, or 7, 7, 6, 5, 4, 1.

Collum narrowly margined as in *incus* but with no other sulci above lower end and without the V-shaped impression on each side.

Second tergite not or but slightly extending below level of collum, its anterior border not reflexed downward. Principal sulcus weak laterally and absent above where, as in *incus*, a supplementary sulcus is sharply impressed.

On third and subsequent tergites the sulcus is complete though at first weak above. Tergites in general smooth and shining above.

Scobina with anterior impressions relatively narrower in the antero-posterior direction and wider transversely than in *incus* as shown in the figures; about their transverse diameter apart. Striate areas shorter antero-posteriorly than in *incus*, widely convex behind and sharply defined laterally.

Last tergite with caudal end free, narrowly rounded; with no transverse furrow.

Anal valve triangular, the caudal angle narrowly rounded.

Number of segments, 44.

Diameter, 25.5 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9456, Ayendama, Rio Cenipa, December, 1929.

Polyconoceras chunchonus, new species

Figures 70 to 73

In the type of this large form the prozonites of the ordinary somites are dark, chocolate-brown, while the metazonites are colored chestnut or orange-chestnut. The last tergite is chestnut except at caudal end which is darker, the anal valves of similar color. Collum chocolate colored bordered all around with chestnut. Head chestnut. Antennae and legs orange colored, with basal joints of latter more brown.

Median sulcus widely interrupted, the upper portion crossing the vertex, the lower portion beginning in a depression at level of lower end of antennal socket. Clypeal foveolae 2 + 2. Eyes consisting of numerous ocelli arranged in 5 subvertical series: 7, 7, 6, 6, 4.

Collum very narrowly margined below and up front to level of eye. Above the lower end two coarser, short longitudinal sulci. Two rather weak sulci meeting laterally at a very acute angle some distance above lower end, each ending below middle region of collum.

Second tergite extending well below level of collum, its anterior border below bent abruptly downward. Segmental sutural sulcus distinct on sides but absent across dorsum.

On third and succeeding tergites the sulcus is complete though at first weak or obscure in dorsal region. In general the tergites are smooth and shining above on the metazonite, with very fine punctae showing more distinctly on the prozonite.

Scobina with anterior depressions sublunate, large, separated by nearly their transverse length. Striate area as wide as anterior impressions, not sharply limited laterally, posteriorly widely convex.

Anal tergite with caudal end broken off, but apparently exceeded the valves; caudal portion of plate crossed by a distinct transverse furrow, with several weaker ones caudad of it.

Anal scale much broader than long, subtrapeziform, the caudal margin convex at middle and

convex at ends; roughened in front of caudal margin. Caudal margin rather less symmetrical than shown in the figure and the caudal end of plate may have been broken off and regenerated.

Gonopods as illustrated.

Number of segments, 42.

Diameter, 24 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9457, San Ignacio (Chinchipe), elev. 4000 ft., July, 1929.

Pachybolidae

Microspirobolus manserichus, new species

Figure 74

Exposed portion of prozonites and anterior portion of metazonites of a dull bluish cast, the posterior portion of metazonites brown. Head, collum and anal segment light or yellowish brown. Legs also pale brown.

Ocelli in 4 series paralleling anterior margin of collum with a single ocellus in front of these: 7, 6, 5, 4, 1. Antennae short and stout, lying in a rather deep furrow that runs backward under eye and then downward adjacent to margin of collum.

The collum narrowed down each side and strongly rounded at ends below, smooth, margined below and in front as usual.

Repugnatorial pore essentially in touch with the segmental suture which is curved at its level.

Anal tergite widely rounded behind; distinctly surpassing the anal valves which are mesally margined.

Anal sternite wide, narrow anterocaudally, the caudal margin nearly straight.

Gonopods as illustrated.

Number of segments, 42.

Diameter, 3 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9458, below Pongo de Manseriche, Rio Marañon, Loreto, elev. 550 ft., taken in August, 1924.

ORDER POLYDESMIDA

KEY TO SPECIES OF *Chondrodesmus*

- a.—Dorsum uniformly dark brown in color excepting the keels.
 - b.—Keels concolorous with dorsum excepting caudolateral corner and a narrow marginal line laterally and anteriorly.....*maranonus*, n. sp.
 - bb.—Keels light colored excepting at base.....*minus*, n. sp.
- aa.—Dorsum not uniformly dark brown.
 - b.—Entire dorsum, including keels, yellow excepting for a longitudinal dark stripe adjacent to keels on each side.....*erratus*, n. sp.
 - bb.—Not so. . .
 - c.—Metazonites uniform brown, or nearly so, excepting for narrow borders of keels; prozonites with mid-dorsal region yellow divided by a median longitudinal brown stripe.....*albimarginis*, n. sp.
 - cc.—Dorsum between keels chocolate colored excepting for a mid-dorsal longitudinal yellow stripe characteristically interrupted on both prozonites and metazonites, the keels yellow excepting at base.....*diversus*, n. sp.

Chelodesmidae

CHONDRODESMUS SILVESTRI

Chondrodesmus SILVESTRI, 1897, Boll. Mus. Zool. Torino, No. 305.

Dirhabdophallus Pocock, 1910, Biol. Centr. Amer., Zool., Chilopoda Diplopoda, p. 161.

Chondrodesmus albimarginis, new species

Figures 75 and 76

The dorsum of the metazonites is dark brown to somewhat dusky chocolate colored excepting that the keels are narrowly margined laterally with white, the white extending also along the caudal margin. Tip of cauda also white. Legs brown.

Prozonites on dorsum paler with a median longitudinal darker stripe.

Collum a little bent forward at ends. Caudal margin arcuate. Surface distinctly roughened. Caudal margin of second to fourth keels straight, the posterior production of caudal corners beginning on the fifth tergite. Caudal margin of keels with a single well-developed tooth but with several minute ones in addition.

Lateral margins of keels smooth, weakly indented at anterior end of porigerous swelling (see figures). Dorsal surface of metazonites with elevated tubercular areas in the usual three series except on the keels where the roughening is pronounced but irregular.

Dorsal surface of 19th segment with tubercles nearly obliterated.

Anal tergite nearly smooth, conspicuously depressed transversely in front of process.

Anal scale as drawn.

Length, 52 mm.; width, 10 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9459,

Rio Bombo, Alto Tapiche, taken in January, 1928.

Chondrodesmus diversus, new species

Figures 77 to 80

Keels and a median longitudinal band light brownish yellow, a blackish stripe along each side of dorsum, black transverse line across each metazonite connecting the black stripes. Antennae light brown; the legs yellow except the two proximal joints which are more brownish.

Sulcus across vertex of head deeply impressed, ending in a broad depression between bases of antennae.

Collum with anterior margin convex at middle and a little flattened or a little incurved on each side, the end portion then widely curving about anterior corner and back to antero-lateral corner which is nearly rectangular. Posterior margin somewhat arcuate.

Anterior corners of following tergites rounded, without trace of lateral tooth; posterior corners first produced on fifth, or first porigerous tergite, the processes becoming more pronounced in going. Caudal as usual; none of the lateral margins indented in front of porigerous swellings or elsewhere.

Caudal margin of keels mostly with a single low denticle. Dorsal surface of metazonites strongly roughened with typical polygonal elevated areas, these less distinctly defined on the collum; these areas forming typically two transverse series behind the middle and one in front of it, the areas of anterior commonly less distinct at middle.

Anal tergite as usual. Anal scale deeply transversely depressed across middle and of form shown in the figure.

Gonopods as illustrated.

Length, 64 mm.; width, 11 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9460, La Frontera, Upper Utoquinia, 1928.

Chondrodesmus erratus, new species

Figures 229 and 230

Dorsum light brownish yellow with an interrupted longitudinal dark stripe on each side adjacent to bases of keels, the latter somewhat lighter than the mid-dorsal region. Legs and antennae brownish yellow.

Collum fully as long as the second tergite; entire dorsal surface strongly roughened, with polygonal areas only weakly indicated. On following segments the polygonal areas become sharply defined and typically show a more or less developed tubercle at center of each, this surrounded by smaller granules. Keels wide, nearly continuing the slant of dorsum, sharply margined on all free sides, the margins wholly smooth. For form see Fig. 229. Processes of 18th and 19th segments of form shown in Fig. 230.

Length of female holotype about 65 mm.; width, 12 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9461, Suhuaya, Ucayali, taken December 12, 1926.

Chondrodesmus maranonus, new species

Figures 81 to 83

A broad robust form in which the dorsum is deep chocolate-brown excepting the caudolateral corners of the keels which are yellow; the keels of collum and of the three or four following segments may be yellow anteriorly as well as posteriorly. Last tergite with process yellow, the base dark like rest of dorsum. Antennae and legs brown.

Vertigial sulcus of head lying in a distinct furrow.

Collum much wider than the head. Middle part of anterior margin nearly straight, the lateral portions bending forward and then curving convexly back to caudal corners of keels. Middle of caudal margin nearly straight or but slightly incurved, the lateral portions bending convexly somewhat forward to corner. Dorsal surface roughened throughout.

Keels in general broad, nearly continuing the convexity of the dorsum. Anterior corner of keels rounded but more or less shouldered; lateral margin smooth but distinctly indented at anterior end of porigerous swellings; caudal margin typically with a single distinct tooth. Posterior corners of keels on fourth segment slightly extended caudad, those on succeeding segments more and more strongly produced. Dorsal surface of metazonites strongly roughened with elevated polygonal areas of which there are three series; of these the anterior two extend out upon the keels.

Width, 15 mm.; length, about 65 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9462, Rio Alto Marañon, September, 1924.

LOCALITY.—Rio Alto Marañon, between Rios Cenipa and Nieva, September 10–24, 1924. Three females.

Chondrodesmus mimus, new species

Figures 84 and 85

A broad-winged species in general form somewhat suggesting *Maranonus*. The dorsum is similarly chocolate colored but the keels are entirely yellow with the yellow a little extending mesal along the anterior and posterior borders. Anal tergite entirely chocolate colored. Legs brown.

Collum of the general form of that of *Maranonus* and the dorsal surface similarly roughened.

Dorsal surface of metazonites with three well-developed transverse rows of elevated polygonal tubercles, but none of them extending out on bases of keels, the surface of keels, however, strongly roughened with smaller tubercles and granules. For form and proportions of keels of anterior, middle and posterior regions see the figures.

Width, 13 mm.; length, about 63 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9463, Iquitos, taken in August, 1928.

INCONUS, NEW GENUS

Composed of head and twenty segments. Antennae long, uniform or nearly so in thickness. Collum of general form shown in Fig. 87, relatively long; wider than head but narrower than the second tergite. Dorsum in general strongly convex, the keels which are of moderate width, nearly continuing its general slope. Keels strongly margined, smooth, without teeth or indentations; posterior corner moderately produced on at least the last few tergites, but the keels of the 19th segment much reduced. Dorsum of tergites smooth, or with three transverse rows of very small, well-separated tubercles; without a distinct transverse sulcus. Pores on segments 5, 7, 9, 10, 12, 13, 15–19. Last tergite of general form shown in Figs. 86 and 88. Legs without special spines or pads.

In the male the fourth sternite bearing a subconical process at base of each leg of their pair; better developed erect sternal processes on fifth segment at base of each leg of fourth and fifth pairs; while on sixth segment there is a single pair of processes, these between the anterior pair of legs, none developed between posterior pair or there but vaguely indicated. Legs without pads, processes or spines.

Gonopods of male suberect; the telopodite presenting a posterior somewhat laminate branch and an anterior branch typically furcate to base in spinelike branches.

GENOTYPE.—*Inconus fronterus*, new species.

Differing from *Chondrodesmus* in the smooth dorsum and narrow keels, but the reduction of latter notably less than in *Zigwadesmus*. The gonopods of the genotype are distinctive. The two other species, being based on females, are placed here tentatively because of the agreement in character of tergites and their keels.

Inconus brunrior, new species

Figure 86

The color of the dorsum nearly brown, in part of somewhat ferruginous tinge. Legs and antennae a lighter brown.

Sulcus across vertex more sharply impressed than in *fronterus*, and the antennae relatively somewhat longer and more slender.

Collum with keels shorter anteroposteriorly and the line of anterior and lateral margins together less semicircular.

The tergites differ in having the posterior corner produced from the sixth segment caudad, but all processes are short. Keels of 19th segment almost obliterated (see Fig.). Keels narrow, continuing the outline of dorsum.

Anal tergite, valves and sternite of usual

general form as in the tip of tergite somewhat decurved, distally notched (see Fig.).

Width, 7 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9464, Contayo, Upper Tapiche, taken November 20, 1926.

Inconus fronterus, new species

Figures 87 to 91

The color above is light olive without markings. Antennae and legs light brown or yellowish.

Median sulcus across vertex of head lightly impressed, deeper between bases of antennae where furcate, the branches short and fine. Antennae moderately clavate.

Collum of form figured. Surface smooth and shining. Keels narrowly margined laterally and anteriorly and obscurely so for a short distance posteriorly.

Keels of following tergites similarly but more strongly margined. Surface smooth except for three transverse rows of small, widely separated tubercles, of which one row, the best developed, is across the caudal border.

Dorsum strongly convex with the keels continuing the slope or nearly so. Keels all narrow, with none of posterior angles produced excepting those of 19th segment which are slightly so. Pores on segments 5, 7, 9, 10, 12, 13 and 15–19.

Last tergite produced into a cylindrical cauda much exceeding the anal valves (see Fig.). Anal valves with inner borders strongly elevated. Anal scale as figured.

Gonopods as drawn.

Length, about 45 mm.; width, 6.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9465, La Frontera, Upper Utoquinia, taken in 1928.

Inconus lissus, new species

Figures 92 to 94

The dorsum is brown excepting the keels which are yellow. Antennae and legs yellow.

Head smooth and shining; vertical sulcus fine but distinct, with no broader depression at its anterior end.

The anterior and lateral margins of collum together forming a nearly evenly convex curve back to caudal corners; caudal margin a little incurved at middle.

Following tergites with anterior corners of keels rounded with the lateral margins produced slightly on fourth segment and more conspicuously in going caudad. Dorsal surface of all tergites, including the collum, wholly smooth and shining.

Anal tergite normal (see Fig.). Anal scale smooth and shining, of usual general form.

Length, 47 mm.; width, 8 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9466, La Frontera, 1925.

LOCALITIES.—La Frontera, Upper Utoquinia, one female holotype in 1928; Rio

Cainarachi, elev. between 700 and 1500 ft., one female taken in December, 1925.

DROMODESMUS CHAMBERLIN

Dromodesmus CHAMBERLIN, 1923, Occasional Papers of the University of Michigan, No. 133, p. 53.

Dromodesmus homalus, new species

Figures 95 and 96

Dorsum a light, slightly olivaceous brown, the keels more yellowish. Legs yellow.

Antennae moderately long, linear. Vertex of head finely granular; sulcus distinct.

Collum of form shown in Fig. 95, posterior angles more produced than in *D. longipes*, the genotype and the anterior corners widely rounded.

Surface densely granular with a transverse row of small tubercles among the granules in front of middle in which series the two rather irregular series of tubercles behind the middle.

The dorsum in general is only slightly convex, with the keels high. Keels of but moderate width, laterally narrowly margined, with posterior angles of all broadly produced caudad. Surface with a transverse submedian sulcus more or less evident, densely granular; among the granules larger tubercles irregularly seriate and on most plates not sharply differentiated.

Sternite of 19th segment narrowed caudad, with bases of posterior legs nearer together than the anterior and extended but little ectad of caudad. This sternite without spines but those immediately in front of it with a spine at base of each leg, the spines fine distally and tending to curve caudad. Anterior sternites without spines.

Last dorsal plate of moderate width, flat, much exceeding the valves, of form shown in Fig. 96. Anal valves with inner borders elevated, surface as also that of last ventral plate densely granular.

Width, 6 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9467, Rio Alto Marañon, September, 1924.

LOCALITY.—Rio Alto Marañon, between Rios Cenipa and Nieva. Two females taken September 10–24, 1924, by Klug.

The previously known species, *D. longipes*, was described by the author from Colombia.

EUCAMPESMUS, NEW GENUS

Composed of head and twenty segments. The antennae long, subfiliform, the last article distally a little thicker than the others. General form of collum as shown in Fig. 97, the surface smooth and shining. Surface of other tergites also nearly smooth. Keels narrow, margined, the margins smooth. Penult seg-

ment of legs produced beneath base of ultimate segment. Characterized especially by the structure of the gonopods, the telopodite of each of which is deeply divided into two lamellate branches the anterior (more dorsal) of which in the genotype presents two spinelike processes from its mesal margin, while from the mesal side of the base of the posterior lamella arises a long, distally curved and slenderly acute process. (See, further, Fig. 100.)

GENOTYPE.—*Eucampesmus orites*, new species.

Eucampesmus orites, new species

Figures 97 to 100

Dorsum dark brown or chocolate colored with the keels light brown or yellowish. Antennae and legs light brown.

Collum of form shown in Fig. 97; entire surface smooth and shining. The surface of other tergites similar, no distinct swollen or polygonal areas developed on any. Keels narrow, the lateral borders narrowly but sharply margined. Anterior keels rather wide, with the lateral margin smooth except for a single tooth toward the anterior corner, present on the most anterior pairs only. Keels becoming very narrow toward posterior end of body. (See, further, Figs. 98 and 99.)

Penult segment of legs produced beneath base of ultimate segment.

Gonopods drawn in Fig. 100.

Length, about 48 mm.; width, 6 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9468, Contayo Hills, Rio Tapiche, 700 ft., November, 1926.

PTYXESMUS, NEW GENUS

Composed of head and twenty segments. Antennae long, gently clavate. Collum wider than head and equal in width to the succeeding tergite; acutely narrowed on each side. Dorsum convexly arched. Metazonites without distinct transverse sulci, and with surface wholly smooth. Keels high, narrow, thick, and strongly margined throughout, only the most posterior ones with caudal angles produced. Pores on segments 5, 7, 9, 10, 12, 13 and 15–19. Last tergite triangularly narrowed caudad, notched and setose at the end. Sternites without any well-developed processes near bases of legs. Legs of male with second article in most produced at distal end into a short, blunt lobe projecting beneath base of third joint; first tarsal article with a thickened pad at distal end extending beneath base of the slender terminal article. Gonopods of male with telopodite broadly laminate, not branched.

GENOTYPE.—*Ptyxesmus atyphus*, new species.

Ptyxesmus atyphus, new species

Figures 101 and 102

General color above dark olive, the keels in part more brownish. Legs and antennae dark

brown. Antennae long, linear, of nearly uniform thickness. Collum broad, narrowing decidedly on each side as shown in the figure.

Keels all well developed; all margined throughout, the margining along caudal margin narrower and weaker. Only the last seven or eight tergites with caudal corners produced; all processes small. Keels of 19th segment nearly obliterated.

Cauda of last tergite slightly, evenly decurved, the apex notched. Valves and scale of usual form.

Gonopods as drawn.

Width, 5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9469, Iquitos, August, 1928.

Platyrrhacidae

PLATYRRHACUS C. KOCH

The generic name *Platyrrhacus*, based by C. Koch upon a Brazilian species, *Polydesmus scaber* Perty, is used in the present paper for the largest generic group of *Platyrrhacidae* represented in the Peruvian collection studied. The species here included agree with the genotype as far as the description of the latter goes, but it must be admitted that when *scaber* is definitely identified and restudied it may possibly have to be otherwise aligned.

The species herein referred to *Platyrrhacus* may be separated by means of the following key.

KEY TO SPECIES OF *Platyrrhacus*

- a.—Dorsum with one or two distinct longitudinal light stripes.
 - b.—With a single median dorsal light stripe.
 - c.—The median light stripe interrupted, developed on prozonites only; seriate tubercles strongly developed. *P. cainarachus*.
 - cc.—The median light stripe broad and continuous over both prozonites and metazonites; seriate tubercles only weakly developed. *P. trichotypus*.
 - bb.—With paired dorsal light stripes.
 - c.—Light stripes interrupted, showing on prozonites only. *P. retentus*.
 - cc.—Light stripes showing on both prozonites and metazonites.
 - d.—Median dark stripe obviously narrower than the keels, and on collum narrower than the light area each side of it; width 14–16 mm.
 - e.—Keels light colored ectad of base.
 - f.—Seriate tubercles of ordinary segments conspicuous to the naked eye; width, 14–16 mm. *P. contayus*.
 - ee.—Keels light colored at most, only in a narrow line along anterior and posterior margins, no broad outer light area.
 - f.—Keels of collum relatively long, as shown in Figs. 113 and 127.
 - g.—Median dark stripe on prozonites fully twice as wide as one of paired light stripes, while on metazonites it is narrower than the latter. *P. bombois*.
 - gg.—Median dark stripe not thus abruptly greatly different in width on prozonites and metazonites.
 - h.—Median dark stripe on prozonites but little or not at all wider than the adjacent light stripes; width, 16 mm. *P. utoquinius*.
 - hh.—Median dark stripe on prozonites two or more times as wide as the adjacent light stripes; width, 14 mm. *P. loretus*.
 - ff.—Keels of collum shorter, more evenly attenuated at ends as in Fig. 136. *P. chuncho*.
 - dd.—Median dark stripe as wide as length of keels and on collum broader than light area each side of it; width near 20 mm. *P. incus*.
 - aa.—Dorsum without longitudinal light stripes or such only obscurely indicated.
 - b.—Collum without a distinct transverse depression behind anterior border; surface nearly uniformly tuberculate, the seriate tubercles scarcely differentiated. *P. zygethus*.
 - bb.—Collum with a distinct transverse depression behind anterior border; seriate tubercles larger, more distinct.
 - c.—Tubercles of posterior series on collum and next 2 or 3 tergites especially prominent, being large and elevated. *P. balsapuertus*.
 - cc.—Tubercles less developed, those of anterior tergites not especially elevated and prominent.
 - d.—Collum distinctly coarsely dentate at ends; general surface between keels with granules well developed. *P. manserichus*.
 - dd.—Collum with margins smooth at ends; general surface uneven but with granules almost smoothed out.

- e.—Collum more evenly narrowing at ends (Fig. 142); paired, slightly paler dorsal stripes obscurely indicated. *P. socius*.
 ee.—Collum more abruptly narrowing at ends; no trace of paired longitudinal dorsal stripes. *P. acompus*.

Platyrhacus acompus, new species

Figures 103 to 107

General color above deep brown without any lighter markings. Legs and antennae brown.

Collum of characteristic outline, nearly as figured for *socius*. Tubercles of anterior and posterior borders low, not sharply set off; the surface of collum elsewhere rugose but with granules and tubercles weakly developed; the usual transverse depression behind anterior border, and a median triangular depression farther caudad with angle open anteriorly; surface in general notably less granular and rugose than in *socius*.

On ordinary metazonites tubercles of posterior row small and well separated, the others still smaller, mostly obscure and irregular. Surface marked off into polygonal areas. General form of keels as in *loretus*, etc.; lateral teeth characteristically broad across base, low pore between one-third and one-half the distance from outer margin of keel to its base. Form of last tergite and keels as drawn (Fig. 103). Surface of anal sternite and valves finely granular, the valves only slightly rugose.

Gonopods as drawn (Figs. 106 and 107), distally strongly bent dorsad.

Width of male holotype, 15 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9470, Iquitos.

Platyrhacus balsapuertus, new species

Figures 108 to 112

Dorsum dark brown throughout excepting for the marginal region of the keels which is pale all around. Legs and antennae brown.

Collum of form shown in Fig. 108. The posterior border conspicuously elevated and bearing tubercles much larger than those of the anterior border; intervening seriate tubercles small and partly obscure on the general surface which, except for them, lacks tubercles and granules but is finely rugose.

The tubercles of posterior series on the next two or three tergites also elevated and conspicuous, becoming less strongly elevated on other segments, but well developed on all. On the ordinary segments the tubercles of the other two rows small and poorly defined. The surface otherwise lacking distinct tubercles but finely rugose like that of the collum. Keels high and moderately wide with pore about one-third the distance from outer margin to base; anterior margin shouldered at base, a little convex and parallel to slightly concave caudal margin; outer margin toothed as shown in Fig. 109; roughening on dorsal surface of keels more tuberculiform than on middle region of segment. Posterior keels and last tergite as drawn (Fig. 110).

Anal scale of usual general form, its surface granular. Anal valves granular and longitudinally rugose.

Gonopods as drawn (Figs. 111 and 112), the apical portion bent dorsad as usual and crossing the opposite one.

Length, 85 mm.; width, 14 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9471, Moyobamba, Balsapuerto Trail, December, 1925.

Platyrhacus bombonus, new species

Figures 113 to 115

Dorsum dark brown or in part fuscous, with paired longitudinal yellow stripes; the mid-dorsal dark stripe between the yellow stripes approximately twice as wide on prozonites as on metazonites, the stripe on each metazonite and the prozonites adjacent being somewhat hour-glass shaped. In the type the yellow stripes are not evident on the collum. The keels are darker, more fuscous at base than elsewhere, but the difference is not abrupt or striking; anterior and posterior margins of keels somewhat lighter. Antennae and legs brown.

For form of collum see Fig. 113. The usual four series of tubercles of which the second and third have fewer, smaller, and more widely separated tubercles.

Ordinary metazonites with seriate tubercles small. For form of keels, etc., see Fig. 114. For posterior keels, last tergite, and anal sternite see Fig. 115.

Length, 90 mm.; width, 17 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9472, Rio Bombo, Alto Tapiche, Jan., 1928.

Platyrhacus cainarachus, new species

Figures 116 and 117

Color above brown, with a lighter median longitudinal stripe across prozonites only and the keels outside of bases also lighter.

Collum of form drawn (Fig. 116). The keels abruptly depressed below intervening area on which the tubercles are more than usually well developed. Tubercles of anterior and posterior series large and distinct; two intervening series also distinct but tubercles fewer as usual. A shallow median longitudinal furrow running to the anterior transverse depression.

On the ordinary metazonites the tubercles of all three series are also larger and higher than in the other species herein described under *Platyrhacus*, the present form in this respect more resembling *Dynesmus*. Keels narrower than usual, with anterior and posterior margins nearly straight and parallel. Teeth of lateral margins as shown in Fig. 117.

Width, 11 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9473, Rio Cainarachi, elev. 700–1500 ft., December, 1925. The specimen lacks the posterior segments.

Platyrhacus contayus, new species

Figures 118 to 123

Dorsum brown with two longitudinal yellow stripes which are narrower than the brown stripe left between them. Keels paler than brown of dorsum excepting at base. Legs and antennae light brown.

Collum of form shown in Fig. 118; the usual median longitudinal furrow; seriate tubercles prominent along anterior and posterior border, those of intermediate region more irregularly arranged in roughly two series.

Anterior and posterior margins of ordinary keels sub-parallel, the anterior being convex, the posterior concave; outer margins parallel with long axis of body; pores of cannon-mouth form, located about one-third the distance from outer margin to base of keel; outer margin usually preventing four (or five) smooth, well-separated teeth, of which the anterior and posterior become much enlarged in posterior segments, leaving an excavation behind anterior one or two as shown in Fig. 119. Three series of larger, subconical tubercles across each metazonite; each keel outside of basal region densely tuberculate with tubercles of about same size as those of the series, the surface of base of keel and of metazonite between keels with lower, less sharply defined and smaller tubercles.

For form of last tergite and preceding keels see Fig. 123. Surface of anal valves and scale finely irregularly wrinkled but without clearly defined granules or tubercles excepting those special setigerous ones.

Gonopods as drawn (Figs. 120–123).

Length of male holotype, 72 mm.; width, 14 mm.

Width of female allotype, 16 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9474, Contayo, November 20, 1926.

LOCALITIES.—Contayo, Upper Tapiche, Nov. 20, 1926, one male and three females; also Pongo de Manseriche on the Rio Marañon, elev. 550 ft., two young females probably this species.

Platyrhacus incus, new species

Figures 124 to 126

The dorsum brown with two longitudinal light lines as in *loretus* but these more widely separated, the intervening brown stripe being as wide as or wider than the length of the keels and on the collum still much wider than the light marks. Keels lighter along anterior and posterior borders. Antennae and legs brown.

Form of collum shown in Fig. 125. Tubercles

of anterior border small, the border set off by a well-marked transverse depression midway between the anterior furrow and the posterior margin, this second depression extending only across the more elevated portion of the plate. Tubercles of posterior row larger.

Ordinary metazonites with surface marked off into large polygonal areas. Seriate tubercles very small, those of posterior row somewhat larger except for a few of most posterior segments, all widely separated. Keels of usual general form but upper margin not distinctly shouldered at base. Outer margin with mostly five teeth. Pore just outside of middle of width. (See, further, Fig. 124. For form of last keels see Fig. 126.) Anal valves densely granular and rather evenly wrinkled longitudinally.

Length of female holotype, about 95 mm.; width, 20 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9475, Rio Alto Marañon, between Rios Cenipa and Nieva, taken September 10–24, 1924, by Klug.

Platyrhacus loretus, new species

Figures 127 to 130

Color above dark brown with paired longitudinal yellowish to nearly white stripes much as in *contayus* but the stripes much narrower relatively to the median dark stripe between them, these light stripes much broader on collum where they are twice or more the width of the dark intervening area. Keels with a characteristic narrow light colored border along anterior and posterior margins. Antennae and legs brown.

Collum of form shown in Fig. 127. Along anterior and posterior borders the usual series of tubercles but these low and obscure toward ends. Middle part of collum with smaller tubercles or granules. A conspicuous circular depression at middle of plate and a transverse depression behind anterior series of tubercles.

Ordinary keels with anterior margin convex, shouldered at base, the posterior margin paralleling it. Outer margin parallel to axis of body, mostly with four teeth (see Fig. 128). Dorsum of metazonite with the usual three transverse series of tubercles of which those in first two are small and more or less obscure, those of posterior row larger and more or less elongate longitudinally. Characters of last tergite, etc., as illustrated (Fig. 129).

Gonopods much as in *manserichus* (see Fig. 130).

Length of male holotype, 80 mm.; width, 13.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9476, below Pongo de Manseriche, August, 1924.

LOCALITY.—Below Pongo de Manseriche on the Rio Marañon, Dept. of Loreto, elev. 550 ft. Two males taken in August, 1924.

Platyrhacus manserichus, new species

Figures 131 to 135

Dorsum black or nearly so, wholly lacking any trace of longitudinal stripes. Legs and antennae light brown.

Collum of general form shown in Fig. 131. Tubercles of anterior row smaller than, e. g., in *contayus* and distinct only over middle part of series, fading out toward ends of series; posterior border roundly elevated, the tubercles of posterior series extending more caudad than dorsad; no seriate tubercles are evident in middle region.

On ordinary metazonites polygonal areas evident over entire surface; seriate tubercles small and poorly developed, and other tubercles low and smooth. Pores just outside middle of width of keels. Form of keels as shown in Fig. 132 and last tergite and preceding keels as shown in Fig. 133.

Gonopods of male with apical end rather slender and acutely pointed, also curved somewhat dorsad (see Figs. 134 and 135).

Length of male holotype, 88 mm.; width, 17 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9477, below Pongo de Manseriche on the Rio Marañon, elev. 550 ft., taken in August, 1924.

Platyrhacus chuncho, new species

Figures 136 to 139

In general appearance suggesting *loretus* but the paired light stripes are obscure or absent on posterior portion of metazonites. Keels narrowly margined with light and a light spot on each mesad of outer border.

The form of collum characteristic as shown in Fig. 136. Series of tubercles along caudal border well developed, the tubercles larger than the anterior ones. Middle portion of collum densely granule-tubercular. Median depression less pronounced than in *loretus*.

On ordinary metazonites the tubercles of middle and caudal series small but distinct, rather widely separated, those of first row less distinct, fewer. The form of keels and position of pore as illustrated (Fig. 139). Last tergite and keels of 19th segment nearly as in *loretus*. Sternites with a low, broadly conical elevation at base of each leg.

Gonopods as drawn (Figs. 137 and 138).

Length of male holotype, 66 mm.; width, 14 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9478, Contayo, Upper Tapiche, taken in November, 1926.

Platyrhacus retentus, new species

Figures 140 and 141

Dorsum nearly black entirely without lighter markings except for two longitudinal light bands across prozonites only; these light bands narrower than intervening dark area. Antennae and legs brown.

Collum of characteristic form shown in Fig. 140. Tubercles of anterior and posterior series well developed, close together; tubercles of intervening area irregularly seriate; between tubercles surface more granular.

On ordinary metazonites the surface densely tubercular or coarsely granular; the seriate tubercles well separated, those of posterior and middle series decidedly larger than the non-seriate granules; those of anterior series smaller than those in other series. Anterior margin of keel not shouldered at base, convex, and subparallel as usual with concave posterior margin; teeth of outer margin irregular; pore about one third distance from outer margin to base (see Fig. 141).

Width, 15 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9479, Peru, no definite location not given. Caudal end of specimen lost.

Platyrhacus socius, new species

Figures 142 to 146

Dorsum fuscous brown, slightly lighter in a stripe each side of mid-dorsal stripe. Antennae and legs brown.

The collum more gradually narrowed at ends than in *acompus* as shown in Fig. 142. Tubercles of anterior border low and confluent into a ridge, those of posterior border similar; tubercles of vertex of plate practically obliterated but the surface unevenly rugose.

On ordinary segments the tubercles of the posterior row are low and rounded, while those of other series are small and obsolete; intervening surface almost free from granules but the latter well developed on the outer region of keels. Form of keels nearly as in *acompus* as illustrated (Fig. 144). Last tergite, etc., shown in Fig. 143.

Gonopods shown in Figs. 145 and 146. More abruptly bent dorsad at free end than in *acompus*.

Width, 14.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9480, Iquitos.

Platyrhacus trichotypus, new species

Figures 147 to 151

Dorsum with a broad median longitudinal stripe of brownish yellow bordered on each side by a narrower stripe of deep brown or blackish color. Keels outside of base light yellow except along anterior and posterior margins, along which the dark color of base may extend. The median light stripe extends across collum and upon vertex of head where it is narrow and embraces the caudal end of the sulcus. Legs and antennae yellowish.

Form of collum shown in Fig. 147. Surface more densely and uniformly granular and tubercular than usual. Depression back of anterior border less marked than usual, a slight median longitudinal furrow running caudad from the transverse depression.

Seriate tubercles of ordinary tergites all small, those of caudal series most distinct as usual, the others but weakly differentiated from those of general surface. Keels not shouldered on anterior side at base. Pore behind middle of length and well outside middle of width. Teeth of outer margin low, the margin appearing crenate or nearly so. (See, further, Figs. 148 and 149, the latter showing the last tergite and keels.)

Gonopods of male drawn (Figs. 150 and 151).

Width, 11 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9481, Tabalosas to Chasuta.

LOCALITIES.—Tabalosas to Chasuta; one male at 2000 ft. Rio Cainarachi, elev. 700–1500 ft.; one male, December, 1925.

Platyrrhacus utoquinus, new species

Figures 152 to 154

Dorsum brown or in part fuscous, anterior and posterior margins of keels bordered with yellow; paired longitudinal light stripes well developed on prozonites but more or less obscure on metazonites; median dark stripe on middle segments relatively narrow, less than twice the width of each adjacent light stripe, the outer edge of which is not usually sharply defined. Antennae and legs brown.

Collum in form as drawn. Tubercles of anterior series contiguous or nearly so with each other, the series more or less irregular, with tubercles at middle smaller than those on each side; tubercles of posterior series largest, also closely arranged; two intermediate series of tubercles also distinct.

Three series of tubercles on ordinary segments also well developed, the tubercles of anterior row smallest. Form of keels as illustrated (Fig. 153). Posterior keels and last tergite drawn (Fig. 154).

Length, 90 mm.; width, 16 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9482, La Frontera, Upper Utoquinia, taken in 1928.

Platyrrhacus zygethus, new species

Figures 155 to 158

Dorsum dark brown except for outer portions of keels which are lighter. Legs brown.

Form of collum illustrated. The surface densely and nearly uniformly tuberculate, the seriate tubercles of anterior and posterior series small in size; anterior border depressed in front of seriate tubercles but with no distinct furrow behind them (see Fig. 152).

Surface of ordinary metazonites also densely tubercular with tubercles of three series small and widely separated; ordinary tubercles of middle region largest, decreasing in size toward anterior and posterior margins and also toward keels upon which they are reduced and more granular. Dorsum conspicuously arched and keels depressed. Keels of moderate width, with pore not much more than one-fourth the distance from outer margin to base; anterior margin not at all shouldered at base, convex, parallel with concave caudal margin; outer margin subrenate. (See, further, Figs. 153 and 154, the latter figure showing features of posterior end.)

Surface of valves and last sternite densely tubercular with rather small tubercles of irregular form, the valves lacking longitudinal rugae.

Width, 9.5 mm.

TYPE.—Female, A. M. N. H. No. 9483, Moyobamba, Balsapuerto Trail, December, 1925.

This is an aberrant form placed but tentatively with the other species here listed under *Platyrrhacus*.

AYMARESMUS, NEW GENUS

Differing from *Platyrrhacus*, as here used, in lacking teeth or incisions on any of the keels. Keels distinctly margined, the borders being evenly thickened and nearly smooth. The seriate tubercles in most species are smaller and more weakly developed than in *Platyrrhacus sens. str.*, the tubercles of surface more evenly developed; typically sparser and weaker on posterior segments.

Gonopods as in *Platyrrhacus*.

GENOTYPE.—*A. tapichus*, new species.

KEY TO SPECIES OF *Aymaresmus*

- a.—Dorsum brown with two longitudinal yellow stripes..... *A. tapichus*.
- aa.—Dorsum with no such longitudinal yellow stripes.
 - b.—Keels narrowly margined throughout with light yellow or white.
 - c.—Width, 16 mm.; form of keels of 19th segment as shown in Fig. 174..... *A. orellanus*.
 - cc.—Width 18–20 mm.; form of keels of 19th segment as shown in Fig. 164..... *A. celinus*.
 - bb.—Keels not so margined.
 - c.—Dorsum high, hemicylindrical, with keels flaring out abruptly (see Fig. 167)..... *A. fuscatus*.
 - cc.—Dorsum lower with keels more nearly continuing its slant.
 - d.—Dorsum brown with a narrow longitudinal darker stripe along and over bases of keels; width less than 11 mm..... *A. medius*.
 - dd.—Dorsum not so marked; width 16 mm. or more; general color light brown.

- e.—A narrow median longitudinal dark stripe across prozonites only *A. leucus*.
 ee.—The median stripe also extending part way over the metazonites *A. brunrior*.

Aymaresmus brunrior, new species

Figures 159 to 161

Dorsum brown, the keels somewhat, but not abruptly, lighter. An interrupted median dark line along the dorsum, this extending across each prozonite and over the anterior half or more of metazonite. Collum with a median longitudinal dark line and one on each side, the three united across anterior border and not fully reaching caudal margin. Antennae and legs brown.

Head each side of sulcus on occiput with a large area smooth except for a broken network of fine impressed lines; elsewhere the vertex and frontal region granular; the usual triangular area in clypeal region. This smooth, limited by the usual series of 3 seterous tubercles on each side; each side of this triangular area the surface is vertically rugose.

Collum with surface continuously covered with smooth tubercles excepting on the smooth borders.

Succeeding keels of the general form of those in *A. tapechus* (see Figs. 159, 160 and 161). Keels with margins smooth throughout, narrowly margined. Pores well outside of middle of keels.

Dorsal surface of metazonites tubercular as in the collum, with a series of larger tubercles across posterior border of metazonite showing on most segments other rows more vaguely indicated, the seriate tubercles widely separated.

Sternites with four low, broadly subconical processes, one at base of each leg. Last tergite and anal valves broken off and lost.

Width, 20 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9484, Upper Rio Blanco, 1928.

Aymaresmus celinus, new species

Figures 162 to 166

Dorsum fuscous, sometimes of an obscure, olivaceous cast; keels narrowly margined with yellow. Antennae and legs also fuscous.

Smooth or very finely granular clypeal area extending up between and beyond bases of antennae.

Collum with surface densely tubercular except for narrow smooth margin; finer granules almost absent. Transverse series of tubercles behind anterior smooth rim indistinct laterally, the tubercles of middle part widely separated. A more distinct transverse row of large smooth areas or flattened tubercles across posterior border, these areas contiguous.

Tergites also densely tubercular with the usual very fine granules between and over them. A transverse row of larger tubercles along posterior border evident to the naked eye, a second row

behind middle of metazonite and a third anterior one more widely separated.

Gonopods of male of usual form (see Figures 165 and 166).

Length of male holotype, 80 mm.; width, 18 mm. Length of female, 95 mm.; width, 20 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9485, Rio Aguaytia, September, 1923.

LOCALITIES.—Rio Aguaytia, September, 1923, two males and a female; Iquitos, two males; Pampa Hermosa, Rio Ucayali, January 18–31, 1927, two males.

Aymaresmus fuscatus, new species

Figures 167 and 168

A dark brown species without lighter markings. Legs dark brown.

Dorsum above keels especially strongly arched, hemicylindrical (see Fig. 167). Granules of surface of metazonites smaller than usual; tubercles of posterior row small and widely separated, those of a series across anterior border of similar size and still more widely separated, and mostly irregular. The form of the keels of the 19th segment characteristic. (For form of these and other keels see Fig. 168.)

Width 13 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9486, Iquitos, taken in August, 1928.

Aymaresmus leucus, new species

Figures 169 and 170

Evidently close to *brunrior*, but a less robust species, in which the dorsum is less strongly convex. It is a lighter brown or buff color with the median dark line showing over prozonites only. On the collum the three dark lines are indicated but they are more obscure. The margins of keels for the most part are lighter, commonly nearly white. Legs brown, darker than dorsum.

Vertex of head with the coarser granules or tubercles lower and less developed than in *tapechus*.

General form of keels, e.g., of 18th and 19th segments, as in *tapechus*. Sternites with spines as in *tapechus*.

Anal valves with inner borders elevated as usual; outer portion of each longitudinally rugose, the inner part more even, the entire surface granular, with granules not dense; setigerous tubercles smaller than in *tapechus*. Anal scale only very finely roughened, of form drawn.

Gonopods typical (see Figs. 169 and 170).

Length of female allotype, about 85 mm.; width, 18 mm.

The male holotype of nearly the same dimensions.

TYPE.—Male, A. M. N. H. Cat. No. 9487, Contayo, November 20, 1926.

LOCALITY.—Contayo, Upper Tapiche. A male and female taken November 20, 1926.

Aymaresmus medius, new species

Figures 171 to 173

General color of dorsum brown with a narrow deeper brown to blackish stripe on each side of dorsum adjacent to and over bases of the keels. Antennae and legs brown.

Head densely granular. Sulcus deep furcate between antennae, each branch continuous with a widening depression below antennae. A triangular clypeal area with acute apex above near level of lower edge of antennal sockets. This area on each side limited by a series of 3 tubercles each bearing a brush of setae; area granular, not smooth as in *tapechus*.

Collum of typical general form; densely covered with smooth tubercles and granules excepting the narrow raised lateral rim of the keels (Fig. 171).

The keels of posterior segments more strongly extended caudad than in, e. g., *tapechus*, the characteristic form of these and of more anterior keels as shown in Fig. 172. Pores widely separated from lateral margin of keels but outside the middle of keel. Dorsal surface of tergites densely granular as on the collum, without definite rows of larger tubercles. Anal tergite as illustrated (Fig. 173).

Anal valves densely granular, with inner borders elevated as usual.

Width, 10.2 mm.; length, about 61 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9488, Iquitos, taken in August, 1928.

An aberrant form which may prove not to belong with the other species here placed in *Aymaresmus*.

Aymaresmus orellanus, new species

Figures 174 to 177

In general appearance much resembling *A. celinus*, but a decidedly smaller form with the color not so nearly black. The keels are similarly margined with a light, almost white color. Legs also dark.

No large smooth areas on vertex of head, but in their place are smooth, flat, transversely elongate tubercles, the surface of the head elsewhere granular throughout.

Collum with a series of larger contiguous tubercles along caudal border. A series of tubercles, smaller than those of caudal series but larger than those of the general surface, runs along the anterior border.

On the metazonites of ordinary segments a series of well-separated tubercles along caudal

border, these best developed on more posterior segments and on some anterior segments may not be evident. Pores outside middle of keels. The form of keels as illustrated (Fig. 177). The form of the keels of the 19th segment characteristic of the species. For this and anal tergite see Fig. 174. Anal valves margined as usual, granular and longitudinally rugose. Anal scale normal.

Gonopods of typical general form (see Figs. 175 and 176).

Width of male holotype, 15 mm.; of female allotype, 16 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9489, Orellana, March, 1927.

LOCALITY.—Orellana. Male and female taken in March, 1927.

Aymaresmus tapichus, new species

Figures 178 to 182

Dorsum dark brown; with two longitudinal yellow stripes continuous over both prozonites and metazonites, these stripes about equal in width to the mid-dorsal dark stripe between them; keels narrowly margined with yellow. Legs and antennae brown.

Vertex of head coarsely granular; a larger smooth, rounded elevation each side of sulcus above. A triangular area with apex in upper clypeal region and widening below over whole width of lobial region smooth except for the fascioli of hairs.

Collum with margins wholly smooth; entire dorsal surface with densely set coarse granules excepting the smooth borders which are indistinctly divided into areas.

All succeeding keels of usual general form, the anterior and lateral margins forming a continuous curve though an anterior shoulder more developed than in, e. g., *Tirodesmus biolleyi*, and the posterior corner less acute (see Fig. 179). Pores widely separated from the lateral margin of keel, at about the middle of the latter. Dorsal surface of metazonites coarsely granular as on the collum, without distinct transverse series of larger tubercles. Anal tergite broad, the corners well rounded, margins smooth except for slight indentations where setae are inserted.

Sternites all with four conical spines, or tubercles, one at base of each leg. Anal valves densely granular and irregularly rugose; strongly margined; setigerous tubercles large.

The gonopods of the male with major terminal lobe drawn out into a slenderly acute tip which curves upward. See, further, Figs. 181 and 182.

Length, near 90 mm.; width, 18 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9490, Contayo, November 20, 1926.

LOCALITIES.—Contayo, Upper Tapiche, November 20, 1926, Rio Bombo, Alto Tapiche, January, 1928, a male and female; R. Iquitos, two females, August,

1928; Frontera, Upper Utoquinia, 1928, one female and a male and female taken April 10, 1927; Rio Cainarachi, elev. 700 to 1500 ft., December, 1925, one female.

DYNESMUS, NEW GENUS

Differing from *Aymaresmus* in having the apex of the gonopods acutely pointed. Keels strongly narrowed laterally, conspicuously curving caudad and ending in an acute point, the margins dentate but not at all divided or lobed. Metazonites with three transverse rows of conspicuously elevated tubercles.

GENOTYPE.—*Dynesmus iquitus*, new species.

Dynesmus iquitus, new species

Figures 183 to 187

Dorsum deep brown, appearing nearly black; tops of tubercles appearing light, nearly white; keels lighter over a broad border along anterior and ectal margin, the light area mostly covering the entire caudal-lateral process, and usually extending mesad in a narrower band along caudal border. Antennae and legs brown.

Surface of head granular; furrow across vertex deep, a broad ridge-like elevation on each side of it running to antennal socket, also a rounded swelling ventroectad of each socket.

Collum of form and sculpturing shown in Fig. 183.

Keels of tergites as shown in Fig. 184. Pore mesad and caudad of middle of width of keel. Tubercles of first (or most anterior) series fewer and more widely separated than those of second and third series. Keels of 19th segment and last tergite of form shown in Fig. 185. Anal valves with mesal borders elevated; surface coarsely granular or tubercular.

Gonopods as illustrated (Figs. 186 and 187).

Width, 14.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9491, Iquitos, August, 1928.

LOCALITY.—Iquitos. Two males taken in August, 1928.

ERNOSTYX, NEW GENUS

Each gonopod ending in a clavately widening, spoonlike lobe which stands at an obtuse angle to the principal axis and crosses that of other gonopod, this lobe lying beneath a slender acutely pointed finger. Collum wider than head but much narrower than the second tergite; keels narrowing sub-acutely and sub-symmetrically to lateral end; surface coarsely granular with a series of larger tubercles along anterior and one along posterior border, the latter border typically more elevated. Ordinary tergites with three transverse series of well-developed tubercles. Dorsum low, with keels high and nearly horizontal; anterior and posterior margins of keels parallel with each other and the outer margin parallel or nearly so with

axis of body; outer margin evenly dentate on non-poriferous keels, while it may be more or less excavated at middle on poriferous keels of middle region of body, with pore not far removed from bottom of the excavation. Posterior angles of keels of posterior segments strongly produced caudad.

GENOTYPE.—*Ernostyx moyobambus*, new species.

Ernostyx chuncho, new species

Figures 197A

Color above more or less fuscous. Legs and antennae brown.

Collum wider than head but much exceeded by the second tergite as usual; lateral depressed portion more gradually narrowed, i. e., shorter in the antero-caudal direction across its more mesal portion or base, than in *moyobambus*, well rounded at outer end; densely tubercular but the tubercles not contiguous, with a median area behind the transverse sulcus caudad of anterior border free from tubercles; the usual series of larger tubercles. Lateral margins of poriferous keels in middle region of body not excavated as in *moyobambus*, those in posterior region slightly widely incurved, with rounded teeth throughout. Keels of posterior end of body in outline nearly as in *moyobambus*; margins of 19th keels distinctly crenate.

Gonopods of male with ventral lamina at distal end strongly clavate and truncate across end as usual; bearing an acute tooth at the cephalo-ectal angle; distinguishable especially in the form of the dorsal stylus as shown in Fig. 197A.

Width of male holotype, 8 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9492, Iquitos.

LOCALITY.—Iquitos. Holotype and two females taken in August, 1928.

Ernostyx dasys, new species

Figures 193 to 196

The general color is light brown or nearly yellow, in this contrasting strongly with *E. moyobambus*. Legs also yellowish.

Collum much as in *moyobambus*, but posterior tubercles somewhat smaller and less elevated.

Ordinary tergites much as in the genotype, but the teeth of lateral margin of keels fewer and more irregular. The lateral margin of poriferous keels not excavated, but part of margin opposite pore lacking teeth. (See, further, Figs. 193 and 194; the latter showing forms of keels of 19th and 18th segments.) Anal scale and valves essentially as in the genotype.

Gonopods of male illustrated (Figs. 195 and 196).

Width, about 8.8 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9493, Contayo Hills, Rio Tapiche, elev. 700 feet, November, 1926.

Ernostyx moyobambus, new species

Figures 188 to 192

The color above is uniform dark brown. Antennae and legs also brown.

Surface of head coarsely granular; furrow across vertex widening and occupying most of width between antennae.

Collum with keels abruptly depressed at base below middle portion of tergite; posterior border with tubercles large and carried on an elevated border, the line of apices of tubercles indented at middle due to a longitudinal median depression across the plate (Fig. 188). On ordinary tergites the tubercles of posterior row larger than the others, anterior and middle. Poriferous keels deeply excavated as shown in Fig. 189. Last tergite and keels of 18th and 19th segments are represented in Fig. 190. Sternites without spines. Anal valves mesally margined, the general surface granular and more or less rugose.

Gonopods of male as drawn (Figs. 191 and 192).

Width, 8.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9494, Moyobamba, Balsapuerto Trail, December, 1925.

Euryuridae**THRINOXETHUS**, NEW GENUS

Agreeing in general structure with *Polylepiscus* but differing in the form of the gonopods of the male. In these there are two distal branches of which one is distally acute and the other, larger one, furcate at its distal end as shown in Figs. 199, 204 and 212.

GENOTYPE.—*Thrincoxethus hermosus*, new species.

In addition to the genotype, seven other new species apparently pertaining to this genus are described below.

Thrincoxethus bombonus, new species

Figures 197, 198 and 199

Dorsum black, with keels, antennae and legs yellow.

Collum of usual proportions; polygonal areas absent from mid-dorsal region but well marked laterally as in *cainarachus*, an elongate smooth area at each end adjacent to anterior margin.

Polygonal areas absent also from middle of second, third and fourth tergites but covering entire dorsum from fifth on and arranged in three series excepting on the 19th tergite from which the areas are absent. Anterior keels with antero-lateral corners more widely rounded than in *cainarachus*; posterior angle slightly obtusely produced on third segment, gradually more acutely and more strongly produced in going caudad, the processes of 19th tergite not spike-like. Anal tergite with a deep median longitudinal sulcus.

Legs normal.

Length of male holotype, 55 mm.; width, 8.6 mm. Width of female allotype, 9.2 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9495, Rio Bombo, January, 1928.

LOCALITY.—Rio Bombo, Alto Tapiche, January, 1928. A male and female.

Thrincoxethus cainarachus, new species

Figure 200

General color above brown with the keels and caudal portion of last tergite yellow. Antennae and legs also yellow.

Collum almost as wide as the second tergite; middle portion of dorsum smooth but side portions with conspicuous polygonal areas and a larger smooth area adjacent to each end. On the second tergite the middle area more roughened and on fourth the polygonal areas well marked over entire surface. The polygonal areas typical segments longer than wide, arranged in the usual three transverse series; on the 15–17 tergites areas more numerous, fancy four series and on the eighteenth smaller and still more numerous; on the nineteenth tergite the polygonal areas absent from middle region and only weakly indicated at sides.

Keels but little raised above line continuing the slant of dorsum; anterior angle of keels of second and third segments subrectangular, that of following segments evenly but not widely rounded; posterior angle of second keels slightly obtusely produced, that of following segments becoming gradually more strongly acutely produced, the process of 19th apically rounded as figured; both anterior and posterior margins of keels smooth. Anal tergite of form shown in figure (Fig. 200). Sides of segments without definite granules.

Length of female, near 68 mm.; width, 11 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9496, Rio Cainarachi, taken in December, 1925, at elev. 700–1500 ft.

Thrincoxethus hermosus, new species

Figures 210 to 212

Dorsum and sides brown, the keels and caudal part of the last tergite yellow. Legs and antennae yellow.

Collum rounded at lateral ends as shown in Fig. 210, which also shows the sculpturing; no polygonal areas over middle portion.

Polygonal areas also absent or but weakly indicated on middle portion of segments back of middle region and absent from 19th tergite as usual in *Polylepiscus*, the surface of this tergite marked with low longitudinal rugae. The form of keels and last tergite shown in Fig. 211.

For gonopods of male see Fig. 212.

Width, 9 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9497, Pampa Hermosa, January, 1927.

LOCALITY.—Pampa Hermosa, Rio Uca-

yali. January 18-31, 1927. A male (holotype) and female.

***Thrinoxethus iquitus*, new species**

Figure 201

Dorsum dark brown or chocolate colored, the keels not differently colored. Antennae light brown or yellow, the legs similar or a little lighter.

Collum with mid-dorsal region smooth, the polygonal areas on each side as usual, few in number. Polygonal areas on mid-dorsal region of following tergites first present on fourth tergite; in three series as in *bombonus* except on 19th segment from which absent, those of 18th also somewhat weakly delimited. Posterior angles on posterior tergites relatively short. For those of 18th and 19th segments see Fig. 201. Anal tergite with no median sulcus. Legs normal.

Width of female holotype, 8 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9498, Iquitos.

***Thrinoxethus lamprus*, new species**

Figures 202 to 204

Dorsum brown, the keels not differently colored. Legs and antennae light brown.

Collum nearly as long as the second tergite; polygonal areas absent from middle region as usual, this area with an irregular network of impressed lines, a broad anterior border set off by a wide transverse depression, the anterior and posterior median borders crossed by longitudinal sulci; smooth area behind anterior margin on each side more elongate than usual as shown in the figure (Fig. 202). Polygonal areas absent from mid-dorsal area of second tergite but more or less clearly indicated on the third; polygonal areas in the usual transverse series on all tergites where present. Keels narrow, their anterior corners widely rounded as usual and the posterior processes in caudal region comparatively short, those of 19th tergite not spikelike. The last tergite with a median longitudinal sulcus ending in a depression in front of the caudal border (see Fig. 203).

Gonopods of male drawn (Fig. 204).

Width of male holotype, 8 mm.; of female allotype, 8.5 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9499, Moyobamba, Balsapuerto Trail, December, 1925.

LOCALITY.—Moyobamba, Balsapuerto Trail, December, 1925. One adult male (holotype) and female, and one young specimen. All specimens are broken.

***Thrinoxethus nitens*, new species**

Figures 205 and 206

Light brown, with lateral borders of keels yellow. Legs and antennae yellow.

Collum of form shown in Fig. 205, polygonal areas developed only toward lateral ends, the

middle regions smooth and shining; on other tergites polygonal areas first showing over entire dorsum on the fifth; polygonal areas again missing from middle region of 18th tergite and 19th as usual. Keels narrow, posterior processes relatively short as shown in Fig. 206. Anal tergite evenly rounded or swollen anteriorly, smooth, with no trace of a median sulcus.

Width of female holotype, 9.2 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9500, Rio Bombo, January, 1928.

LOCALITY.—Rio Bombo, Alto Tapiche. Two females and a young specimen taken in January, 1928.

***Thrinoxethus phanotypus*, new species**

Figures 207 and 208

A small light-colored species in which the keels are uniform with the rest of the dorsum.

This form seems to be very distinct in the sharp definition of unusually regular polygonal areas over entire collum as well as entire surface of the following tergites, inclusive of the 19th. For form of collum see Fig. 207.

The keels are exceptionally narrow. See further, Fig. 208, for their form and that of last tergite.

Width, 5 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9501, below Pongo de Manseriche, Dept. of Loreto, elev. 550 ft., August, 1924.

***Thrinoxethus ucayalus*, new species**

Figure 209

Dorsum chestnut, the keels yellow. Antennae and legs light brown. Sides and under surface of keels dark like dorsum.

Collum of usual proportions and sculpturing, the median region smooth and shining. Polygonal areas first showing clearly in middle region on fourth or fifth segment. Posterior keels as shown in Fig. 209.

Length of female, about 60 mm.; width, 9 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9502, Suhuaya, Ucayali, taken December 12, 1926.

PHINOTROPIS, NEW GENUS

This genus is erected for the species described below in which the male gonopods differ from those of *Thrinoxethus* in having the major distal branch entire and distally acute like the minor branch.

GENOTYPE.—*Phinotropis tidus*, new species.

***Phinotropis tidus*, new species**

Figures 213 and 214

Color above and laterally brown, the keels similar or scarcely lighter. Antennae and legs light brown.

Collum in general form as in *hermosus*; at each end a large swollen area and some adjacent polygonal areas set off; the middle region smooth as usual. Middle region of all tergite

smooth and shining polygonal areas evident only adjacent to keels. Keels of posterior region especially narrow.

Gonopods of male holotype as drawn (Figs. 213 and 214).

Length of female about 58 mm.; width 8.5 mm.; width of male 6.2 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9503, Iquitos, August, 1928.

LOCALITY.—Iquitos, August, 1928. Two males and a female.

PTYXOGON, NEW GENUS

The male gonopods in this genus differ from those of the two preceding genera in having one of the distal branches broad and laminate as shown in Figs. 217 and 218.

GENOTYPE.—*Ptyxogon incus*, new species.

Ptyxogon incus, new species

Figures 215 to 218

Dorsum and sides, inclusive of keels, uniform shining black. Antennae and legs brown.

Collum of shape and proportions similar to those of the other two known species; the smooth area set off at ends larger as shown in Fig. 215. Mid-dorsal region of collum and all other tergites smooth and shining, polygonal areas being indicated only adjacent to keels. Keels relatively broader than in *tidus*.

For form of keels, etc., see Fig. 216.

Gonopods of male as figured (Figs. 217 and 218).

Length, about 62 mm.; width, 10 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9504, Iquitos.

AMYDRINUS, NEW GENUS

In structure of the male gonopods very similar to *Phinotropis* but differing in having the tergites almost wholly smooth, lacking polygonal areas except for a few more or less vague ones adjacent to the keel on each side.

GENOTYPE.—*Amydrinus pongus*, new species.

Amydrinus pongus, new species

Figures 219 to 221

Middle portion of metazonites and the keels light brown, the prozonites and a stripe along each side adjacent to keels darker. Antennae and legs nearly yellow.

Collum smooth and shining throughout, the usual swollen area extending from each end up the anterior border but with no polygonal areas distinctly set off. See, further, Fig. 219. Second tergite also with a swollen area on each keel and two or three smaller polygonal areas adjacent, the remaining part of plate smooth and shining. Succeeding tergites similar. For

general form of keels and last tergite see Fig. 220. Legs nearly as in species of *Polylepiscus*; the last pair very close together.

Gonopods of male shown in Fig. 221.

Width of male holotype, 5.6 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9505, below Pongo de Manseriche, Dept. of Loreto, elev. 550 ft., taken August, 1924.

Xystodesmidae

IPHYRIA, NEW GENUS

Composed of head and twenty segments, with pore formula normal. Antennae long, subfiliform. Collum much wider than the head, equal in width to the second tergite. Dorsum smooth, wholly without polygonal areas or tubercles. Keels located high on body, strongly margined, with margins wholly smooth; caudal corners produced only on posterior segments. Legs with second article at distal end beneath with a pointed process as in other genera of the family. In the gonopods of the male the coxa large, at right angles to telopodite; femoral division large, in line with terminal division; the latter presenting a broad lamina from the base of which rises a slender stylus and a shorter hook as shown in Fig. 224.

GENOTYPE.—*Iphyria claralata*, new species.

Readily distinguished in the structure of the male gonopods.

Iphyria claralata, new species

Figures 222 to 224

The dorsum between the broad keels is dark chocolate except for a narrow, more or less interrupted, median longitudinal brown line which widens at anterior and posterior borders of metazonites. Keels, legs and antennae yellow.

Head smooth and shining, with vertigial sulcus distinct, the surface bordering it anteriorly depressed or a broader furrow.

Collum with anterior margin at middle slightly convex; posterior margin conspicuously arcuate.

Posterior margins of second and third metazonites also arcuate, with posterior angles of keels somewhat curving caudal, while those of fourth segment are subrectangular. The keels in general are unusually broad and elevated; posterior angles in middle region not produced caudal, those of 17th, 18th and 19th keels alone distinctly produced (see Figs. 222 and 223). Caudal margins of keels wholly smooth.

Dorsal surface of all tergites nearly smooth, with no polygonal area clearly set off.

Gonopods as illustrated (Fig. 224).

Width, 9.5 mm.; length, about 60 mm.

TYPE.—Male, A. M. N. H. Cat. No. 9506, Rio Cainarachi, elev. 700 to 1500 ft., taken in December, 1925.

CHILOPODA

ORDER SCOLOPENDRIDA

Cryptopidae

Otocryptops ferrugineus (Linné)

LOCALITY.—Rio Aguaytia, one specimen, September, 1923; more exact locality uncertain, the label being badly rubbed; one specimen.

Otocryptops melanostomus (Newport)

LOCALITY.—Iquitos, August, 1928; nine specimens.

Ototigmidae

Ototigmus scabricaudus (Humbert and Saussure)

LOCALITIES.—Peru: Pachiza, Upper Huallaga, several specimens; Upper Pisqui, two specimens; Iquitos, one specimen, August, 1928; several from an unknown locality, the label having been rubbed, but possibly also Iquitos.

Cupipes annectans, new species

Color of dorsum in general brownish with first plate and head of more rust color.

Head clearly longer than broad with the sides moderately convex and the anterior margin notched at middle; finely punctate; paired sulci distinct, diverging forward to anterior margin. Antennae consisting of 17 articles, with six or seven articles smooth and shining as in *impressus* but not sharply set off in the type.

Dorsal plates with sharply impressed paired sulci from the first to the twentieth, without any median keel. Last dorsal plate with a single complete median sulcus; obscurely, finely punctate.

Prosternum with paired longitudinal sulci which are parallel to an anterior transverse sulcus distad of which they converge to the sinus between the dental plates. Dental plates much longer than wide; with three teeth of which the two inner are more completely coalesced.

Ventral plates from the second to the twentieth with deeply impressed paired sulci; without median impression. Last ventral plate with sides converging caudad, the caudal margin slightly incurved, the corners rounded; no sulci present.

Coxopleurae extended posteriorly to an angle on inner side which is less produced than in *andinus* but more so than in *impressus*, the process with the usual two spines at end but with no lateral spines.

Third joint of anal legs with 5 coarse ventral spines of which 2 are at inner edge and 3 toward the outer; on mesal face one spine near middle; along mesodorsal line 2 spines and at distal corner in line with these 2 to 4 spines (2 on one and 4 on the other in the type).

Length, 55 mm.

TYPE.—A. M. N. H. Cat. No. 9510, below Pongo de Manseriche, Dept. of Loreto, on the Rio Marañon, elev. 550 ft.

Perhaps closest to *C. andinus* Kraepelin, but with the head decidedly longer than broad instead of equal in length and breadth. The coxopleural process shorter than in *andinus*, being less than half the width of the coxopleura.

Rhysida nuda (Newport)

LOCALITIES.—Orellana, one specimen taken in March, 1927; Rio Bombo, Alto Tapiche, one specimen, January, 1928.

While these specimens are variant, it does not seem desirable to separate them until the whole complex at present embraced under the name above can be restudied.

Scolopendridae

Scolopendra hermosa, new species

Figure 225

Dorsum dark olive with the first dorsal plate, preheaters and the head nearly chestnut-brown. Antennae olive. Legs proximally brown, distal joints olive.

Cephalic plate with two very fine sulci diverging cephalad across entire length of plate. Smooth and shining, not punctate.

Antennae short, composed of 17 articles of which the first four are glabrous.

Prosternum and preheaters smooth and shining. Dental plates set off by sulci which meet in an obtuse angle at the middle, a median sulcus extending a short distance caudad from the angle. Behind the free ends of these sulci a transverse sulcus. Each dental plate with three stout teeth of which the two inner are found at base.

The first dorsal plate smooth and shining. A transverse cervical sulcus; a pair of rather faint longitudinal pale lines each of which branches anteriorly, the lateral branch running laterad, the inner one extending in front of the transverse sulcus. The second tergite without longitudinal paired sulci which are present on and from the third caudad. Only the nineteenth dorsal plate showing lateral margination;

this plate smooth and shining and with neither paired nor median sulci.

Ventral plates smooth and shining, without paired sulci. Last ventral plate conspicuously narrowed caudad, the caudal margin evenly convex.

Caudal process of coxopleurae of anal legs short, ending in three spines; either with or without a spine on caudal margin of coxopleurae. Pores very fine and numerous.

First legs with two tarsal spines, second to nineteenth with a single tarsal spine. Twentieth legs with third joints bearing at distal end above two, or occasionally but one, dorsal spine; this joint in nineteenth legs also with a single (or sometimes two) more or less reduced spine in the same position. Fourth joint of these legs also commonly with a dorsal spine at distal end. Third joint of nineteenth and twentieth legs unarmed ventrally.

The third joint of anal legs ending at distal end above in a process that bears usually three spines of which two are smaller and may sometimes be absent; ventrally with 5 spines at and proximad of middle; on mesal face with 5 spines commonly in two longitudinal series; a single smaller, dorsal spine toward mesal side at

middle of length. Fifth joint with one (right leg of type) or two (left leg of type) spines on mesal side toward middle, and in most cases, but not always, with a spine at distal end above. Claw with two spines at base.

Length, 110 mm.

TYPE.—A. M. N. H. Cat. No. 9511, Rio Pisqui, January, 1927.

LOCALITIES.—Rio Pisqui, January, 1927; Rio Bombo, Alto Tapiche, January, 1928; Pampa Hermosa, R. Ucayali, January 18–31, 1927; and Contayo Hills, Rio Tapiche, elev. 700 ft., November, 1926; Upper Huallaga, Pachiza, three specimens.

This species seems to be nearest *Scolopendra explorans*, the type of which was taken in Brazil on the Rio Madeira, state of Matto Grosso. It is clearly distinct in having only the last dorsal plate laterally margined whereas in *explorans* the margination begins on the eleventh to fourteenth plate; also in having the dorsal sulci run entirely across the tergites, etc.

ORDER GEOPHILIDA

Oryidae

INCORYA, NEW GENUS

A genus in most respects nearest to the West Indian *Titanophilus*. Unlike the latter paratergites are present on all segments, inclusive of the anterior, in a single row, none having two series of true paratergites. It also differs in

having the spiraculiferous plate decidedly larger than the prescutellum instead of smaller. Tergites not bisulcate.

GENOTYPE.—*I. incus*, new species.

This genus may be placed with reference to other American genera of the family by means of the following key.

KEY TO AMERICAN GENERA OF THE ORYIDAE

- a.—Each coxopleura of anal legs with two large pits into which glands open. *Trematorya* Brolemann.
- aa.—Coxopleurae of anal segment without pores.
 - b.—Tarsus of anal legs two-jointed. *Orphnaeus* Meinert.
 - bb.—Tarsus of anal legs one-jointed.
 - c.—Claw of the second maxillae pectinate. *Notiphilides* Latzel.
 - cc.—Claw of the second maxillae concave, not pectinate.
 - d.—Tergites bisulcate.
 - e.—Anterior segments without paratergites, the middle ones with two series; no frontal suture present; ventral pores in a quadrangle. *Titanophilus* Chamberlin.
 - ee.—All segments with paratergites; frontal suture present; no ventral pores. *Keporya* Chamberlin.
 - dd.—Tergites not bisulcate. All segments with a single series of paratergites; prescutellum smaller than the spiraculiferous plate. *Incorya*, n. gen.

Incorya incus, new species

Figures 226 to 228

General color light olivaceous.

Head wider than long, narrowed forward from middle; anterior margin widely convex or obtusely somewhat angular; posterior margin gently convex; surface smooth and shining. Antennae wide and flattened proximally, conspicuously narrowing from the fourth article distad.

Basal plate equal in width to the head, short. Prosternum proportionately very wide and short; the anterior margin between prehensors wide and gently concave. Claws of prehensors long and evenly curved, when closed not fully attaining the anterior margin of the head.

Second tergite a little wider than the first (basal) and decidedly wider than the third. Basal plate about two-thirds as long as the second plate. Tergites not bisulcate but with a circu-

lar impression on each side much as in *Notiphilides*. Anal tergite broad, shield-shaped, the caudal end rounded.

Spiracles long, narrowly oblong, subvertical. Spiraculiferous plate sharply separated from the prescutellum.

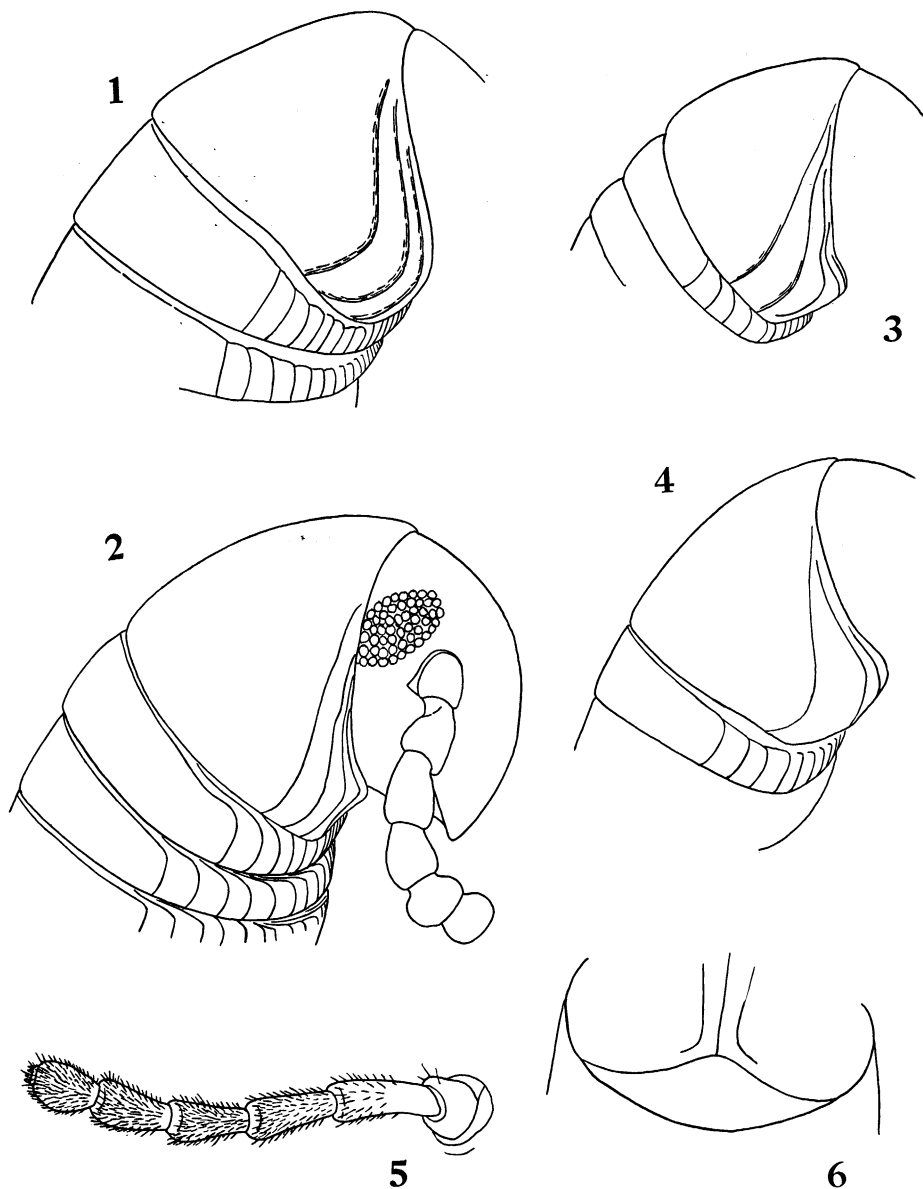
Ventral pores small and numerous over most of plate; absent in a narrow transverse submedian band. Last ventral plate short, proportionately very wide, sides converging moderately caudad.

Anal legs in the female not crassate, composed of five joints beyond the coxopleurae of which the terminal one is proportionately slender, the penult of intermediate thickness and the others thicker and nearly uniform; glabrous.

Number of pairs of legs, 155.

Length, about 175 mm.

TYPE.—Female, A. M. N. H. Cat. No. 9512, Rio Cainarachi, elev. from 700 to 1500 ft., taken in December, 1925.



Spirostreptus bassleri, new species

Fig. 1. Collum of female, lateral view.

S. aguaytitanus, new species

Fig. 2. Collum of female, lateral view.

S. confusus

Fig. 3. Collum of female, lateral view.

S. contayanus

Fig. 4. Collum of female, lateral view

Fig. 5. Antenna.

Fig. 6. Anal scale.

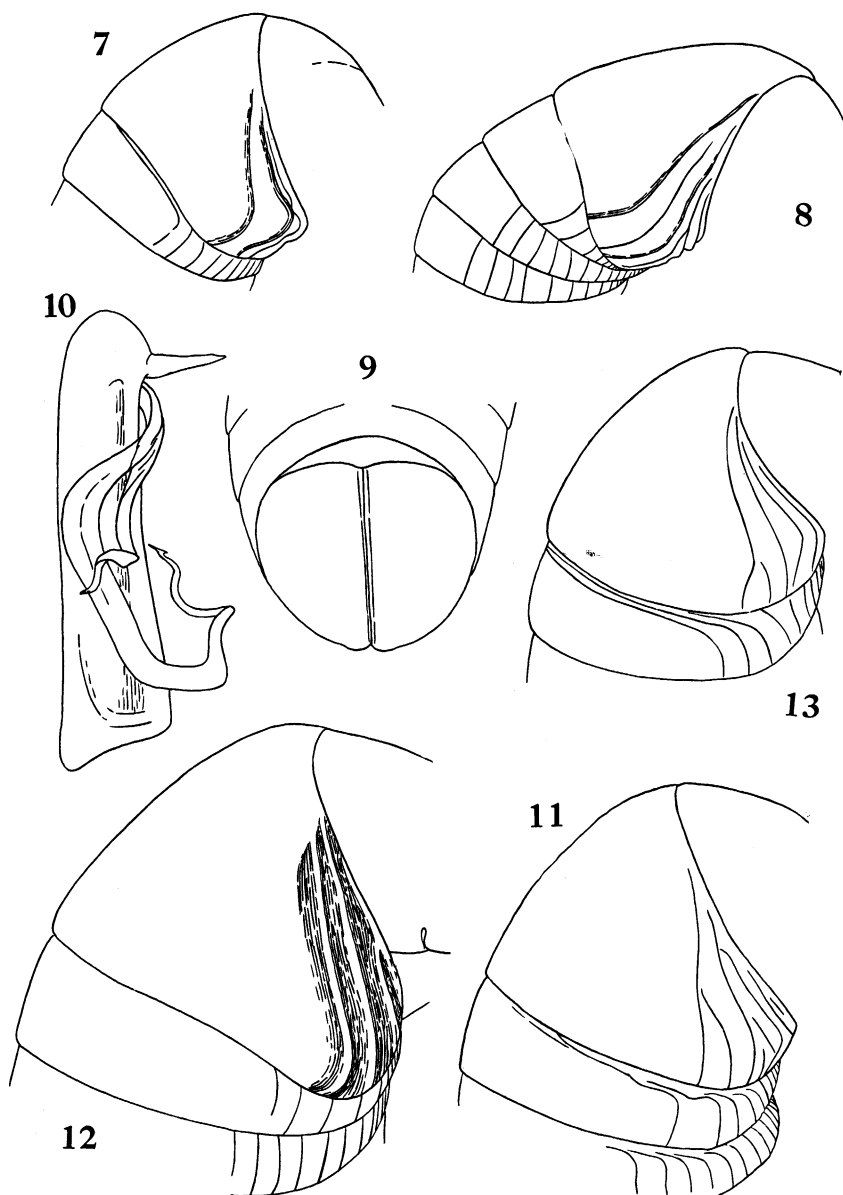
*Spirostreptus chinchipus*, new species

Fig. 7. Collum of female, lateral view.

S. epelus, new species

Fig. 8. Collum, lateral view.

Fig. 9. Anal end, ventral view.

Fig. 10. Right gonopods caudal view.

S. hermosus, new species

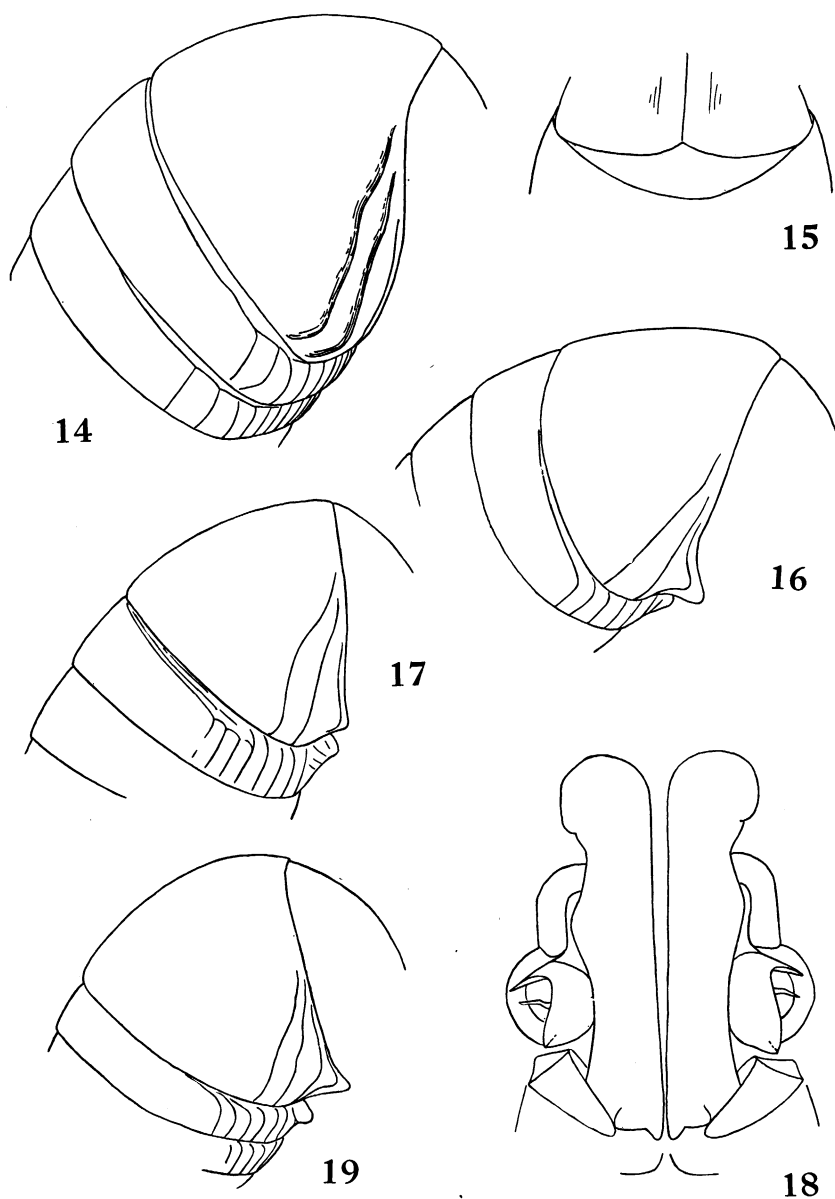
Fig. 11. Collum of female, lateral view.

S. leucocephalus, new species

Fig. 12. Collum of female, lateral view.

S. orellanus, new species

Fig. 13. Collum of female, lateral view.



Spirostreptus ucayalus, new species

Fig. 14. Collum of female, lateral view.

Fig. 15. Anal scale.

Andineptus apheles, new species

Fig. 16. Collum of male, lateral view.

Fig. 17. Collum of female, lateral view.

Fig. 18. Gonopods of male, anterior view.

A. delectus, new species

Fig. 19. Collum of male, lateral view.

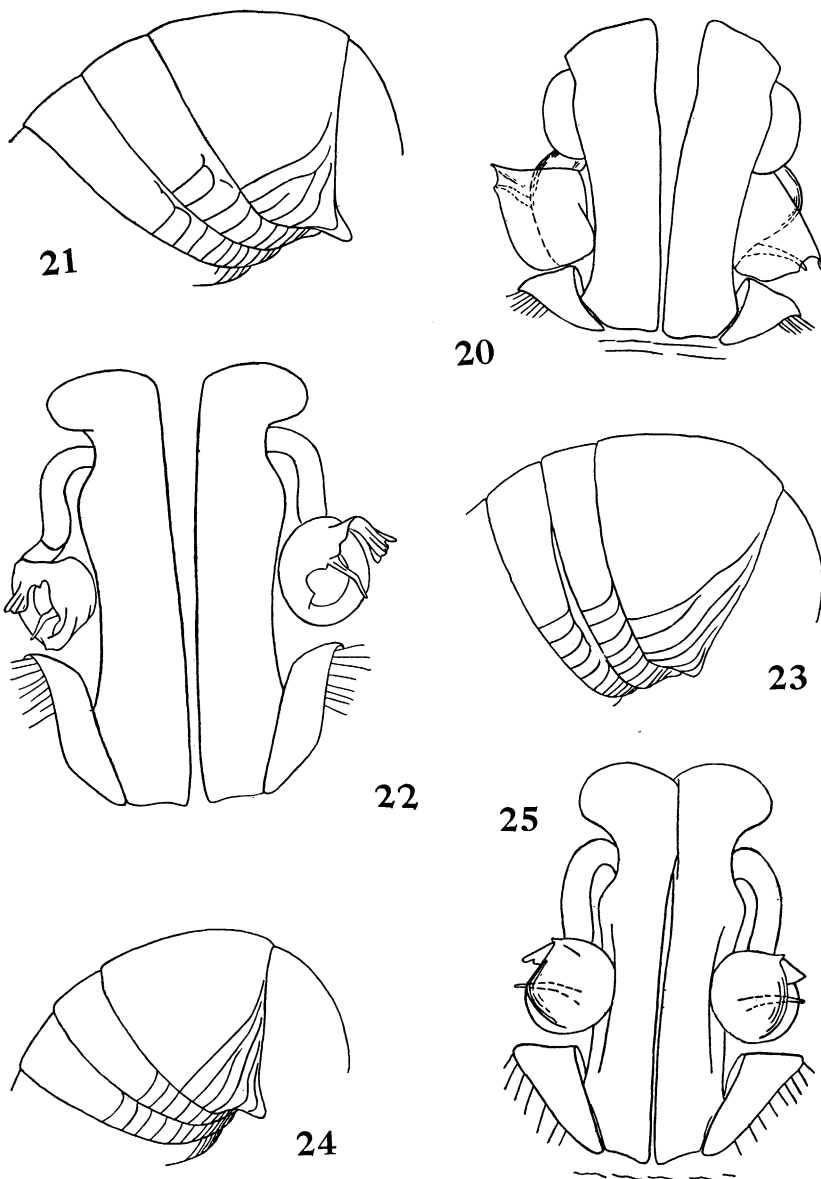
*Andineptus delectus*, new species

Fig. 20. Gonopods of male, anterior view.

A. perditus, new species

Fig. 21. Collum of male, lateral view.

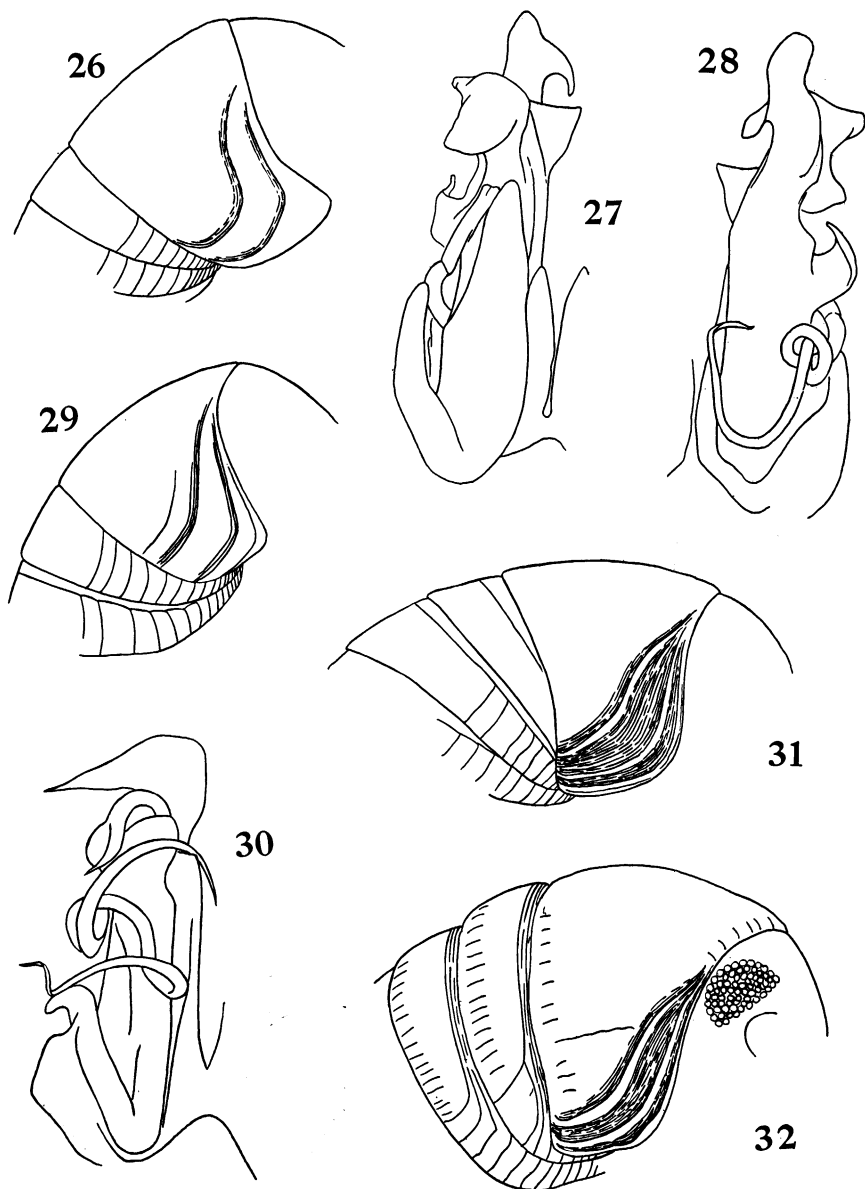
Fig. 22. Gonopods of male, anterior view.

Andineptus pongus, new species

Fig. 23. Collum of female, lateral view.

Fig. 24. Collum of male, lateral view.

Fig. 25. Gonopods of male, anterior view.



Ellateptus telotortus, new species

Fig. 26. Collum of male, lateral view.

Fig. 27. Left gonopods of male, anterior view.

Fig. 28. Left gonopods of male, caudal view.

Cladodeptus iquitus, new species

Fig. 29. Collum, lateral view.

Fig. 30. Left gonopods of male, anterior view.

Orthogoneptus mineri, new species

Fig. 31. Collum of male, lateral view.

Orthogoneptus caudifer, new species

Fig. 32. Collum of female, lateral view.

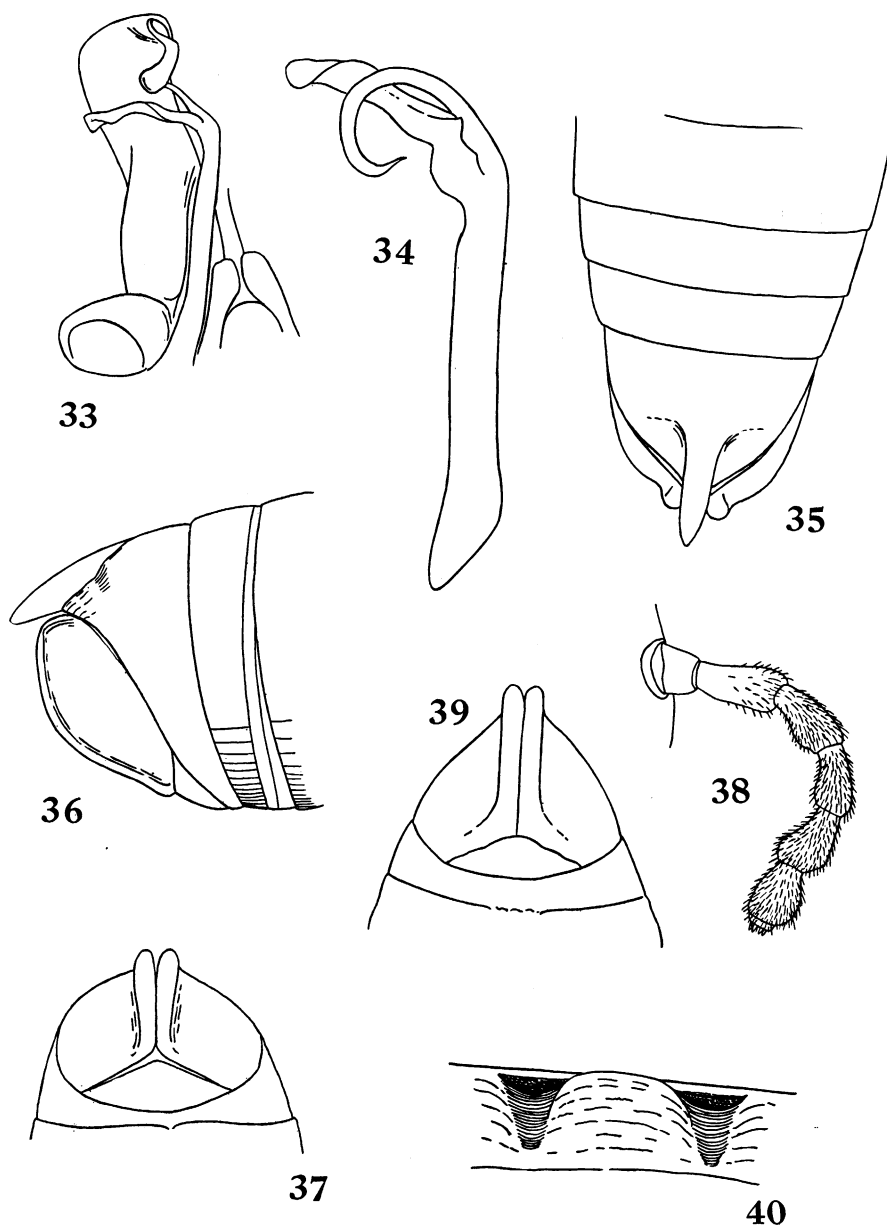
*Orthogoneptus mineri*, new species

Fig. 33. Left gonopods of male, anterior view.

Fig. 34. Left posterior gonopods, more enlarged.

Orthogoneptus caudifer, new species

Fig. 35. Posterior end, dorsal view.

Fig. 36. Posterior end, lateral view.

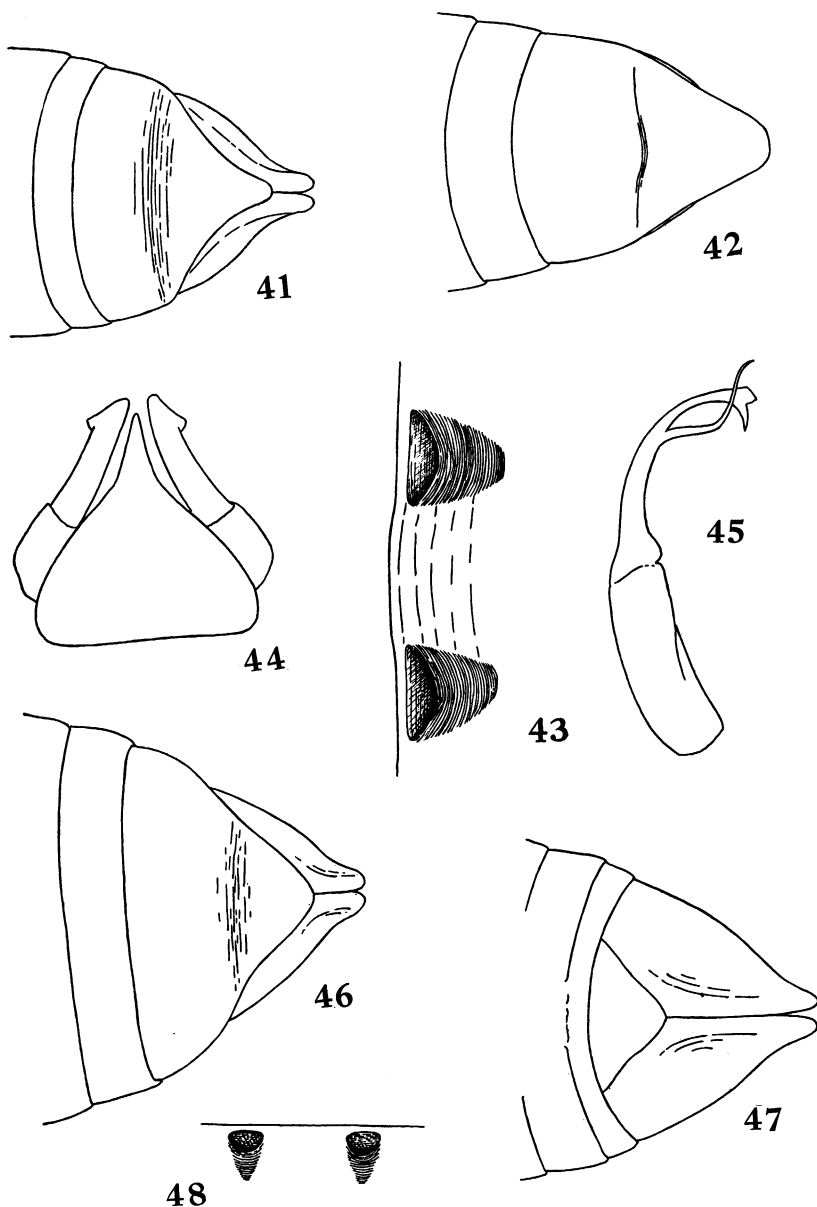
Fig. 37. Posterior end, ventral view.

Fig. 38. Antenna.

Rhinocricus annexus, new species

Fig. 39. Posterior end, ventral view.

Fig. 40. Scobina.



Rhinocricus annexus, new species

Fig. 41. Caudal end, dorsal view.

R. bombonus, new species

Fig. 42. Caudal end, dorsal view.

Fig. 43. Scobina.

Fig. 44. Gonopods of male, anterior view.

Fig. 45. Posterior gonopods, more enlarged.

R. biabonus, new species

Fig. 46. Caudal end, dorsal view.

Fig. 47. Caudal end, ventral view.

R. cophurus, new species

Fig. 48. Scobina.

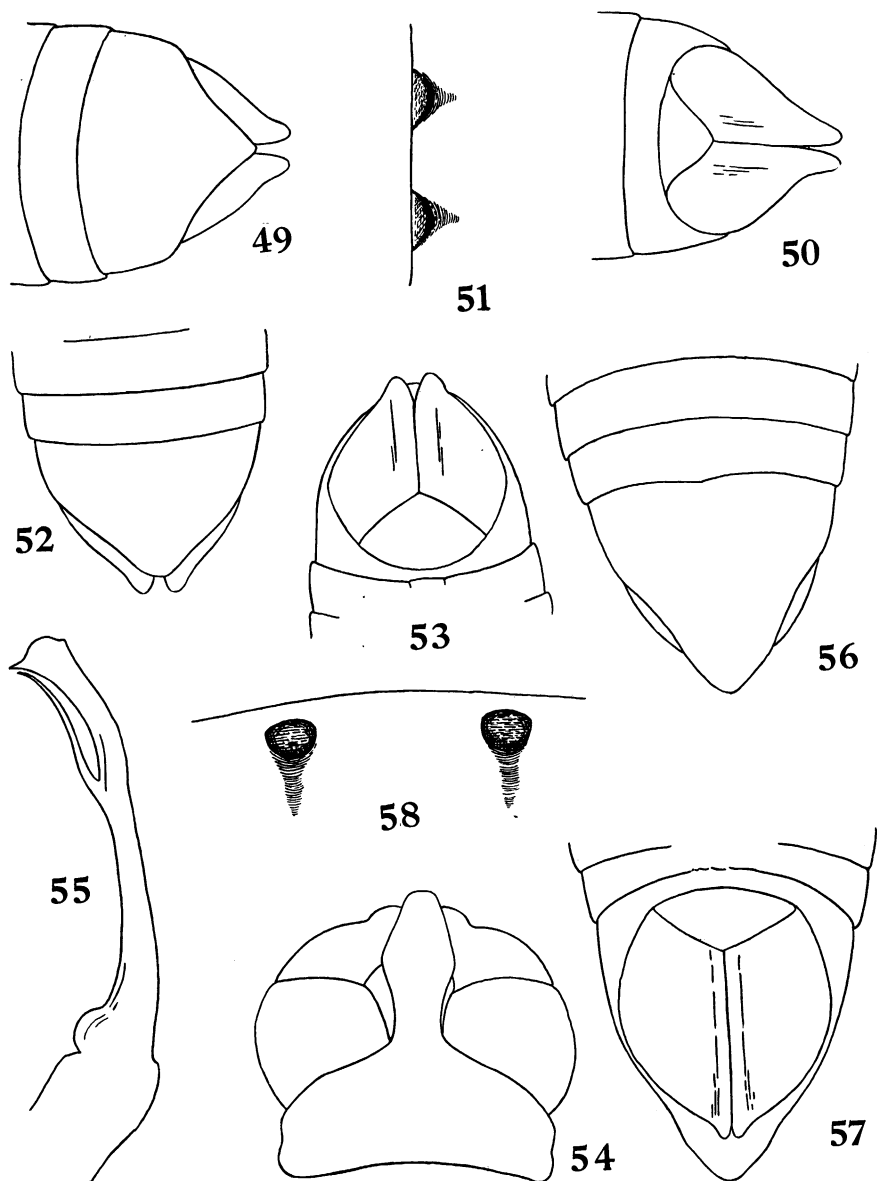
*Rhinocricus cophurus*, new species

Fig. 49. Posterior end, dorsal view.

Fig. 50. Posterior end, ventral view.

R. iquitus, new species

Fig. 51. Scobina.

Fig. 52. Posterior end, dorsal view.

Fig. 53. Posterior end, ventral view.

Fig. 54. Gonopods of male, anterior view.

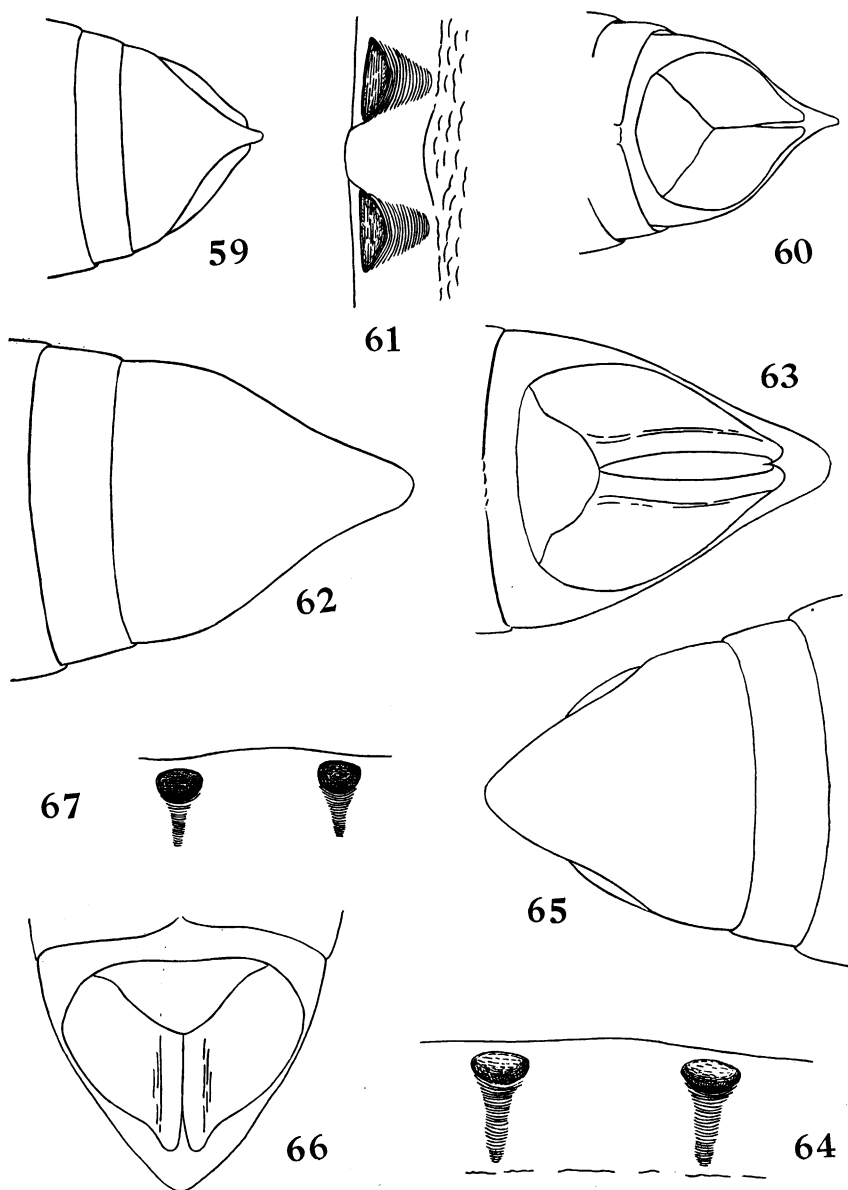
Fig. 55. Posterior gonopod, more enlarged.

R. lamprurus, new species

Fig. 56. Posterior end, dorsal view.

Fig. 57. Posterior end, ventral view.

Fig. 58. Scobina.



Rhinocriscus maranonus, new species

Fig. 59. Posterior end, dorsal view.

Fig. 60. Posterior end, ventral view.

Fig. 61. Scobina.

R. pisquius, new species

Fig. 62. Posterior end, dorsal view.

Fig. 63. The same, ventral view.

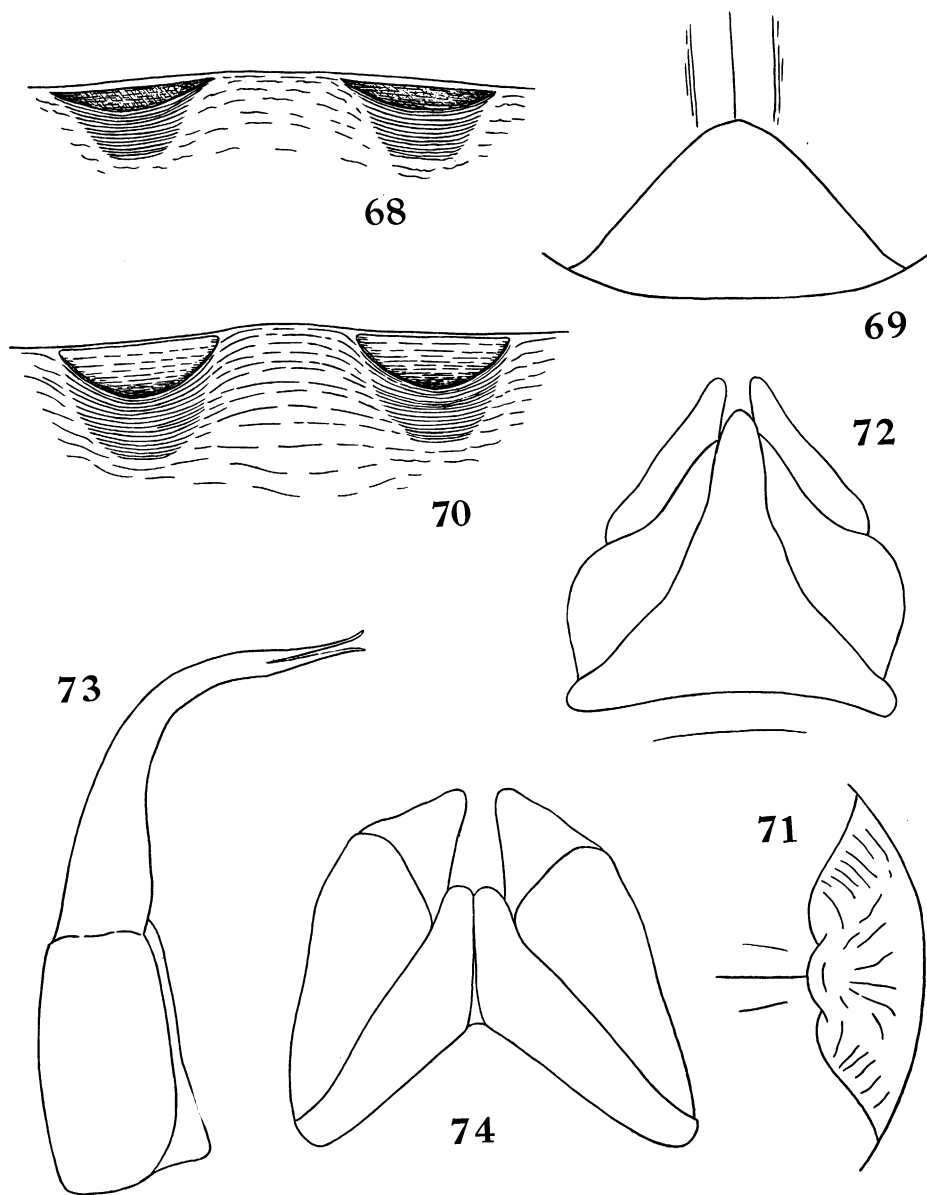
Fig. 64. Scobina.

R. urethus, new species

Fig. 65. Posterior end, dorsal view.

Fig. 66. Posterior end, ventral view.

Fig. 67. Scobina.



Polyconoceras cenipanus, new species

Fig. 68. Scobina.

Fig. 69. Anal scale.

Polyconoceras chunchonus, new species

Fig. 70. Scobina.

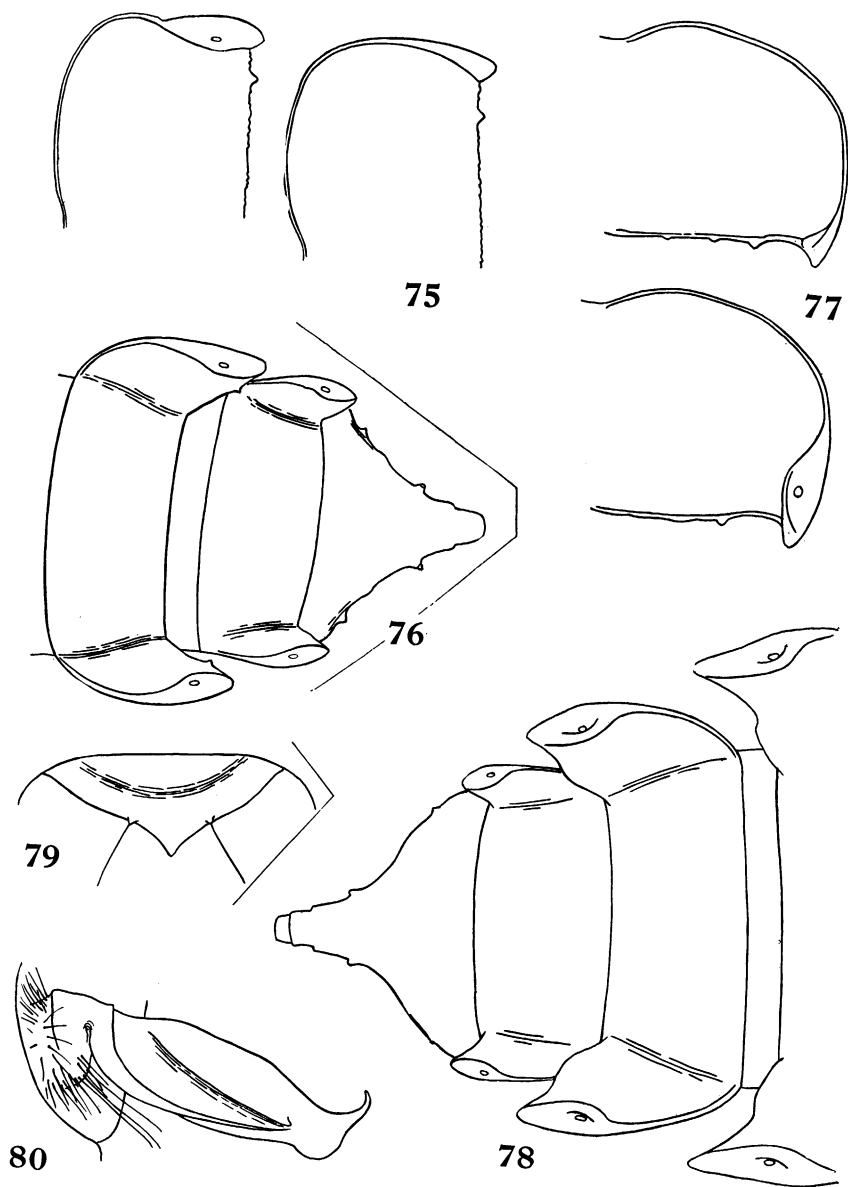
Fig. 71. Anal scale.

Fig. 72. Gonopods of male, anterior view.

Fig. 73. Posterior gonopod of male.

Microspirobolus manserichus, new species

Fig. 74. Gonopods of male, anterior view.



Chondrodesmus albimarginis, new species

Fig. 75. Keels of right side, tenth and eleventh segments.

Fig. 76. Posterior end, dorsal view.

Chondrodesmus diversus, new species

Fig. 77. Right keels, eleventh and twelfth segments.

Fig. 78. Posterior end, dorsal view.

Fig. 79. Anal scale.

Fig. 80. Left gonopod of male, subventral view.

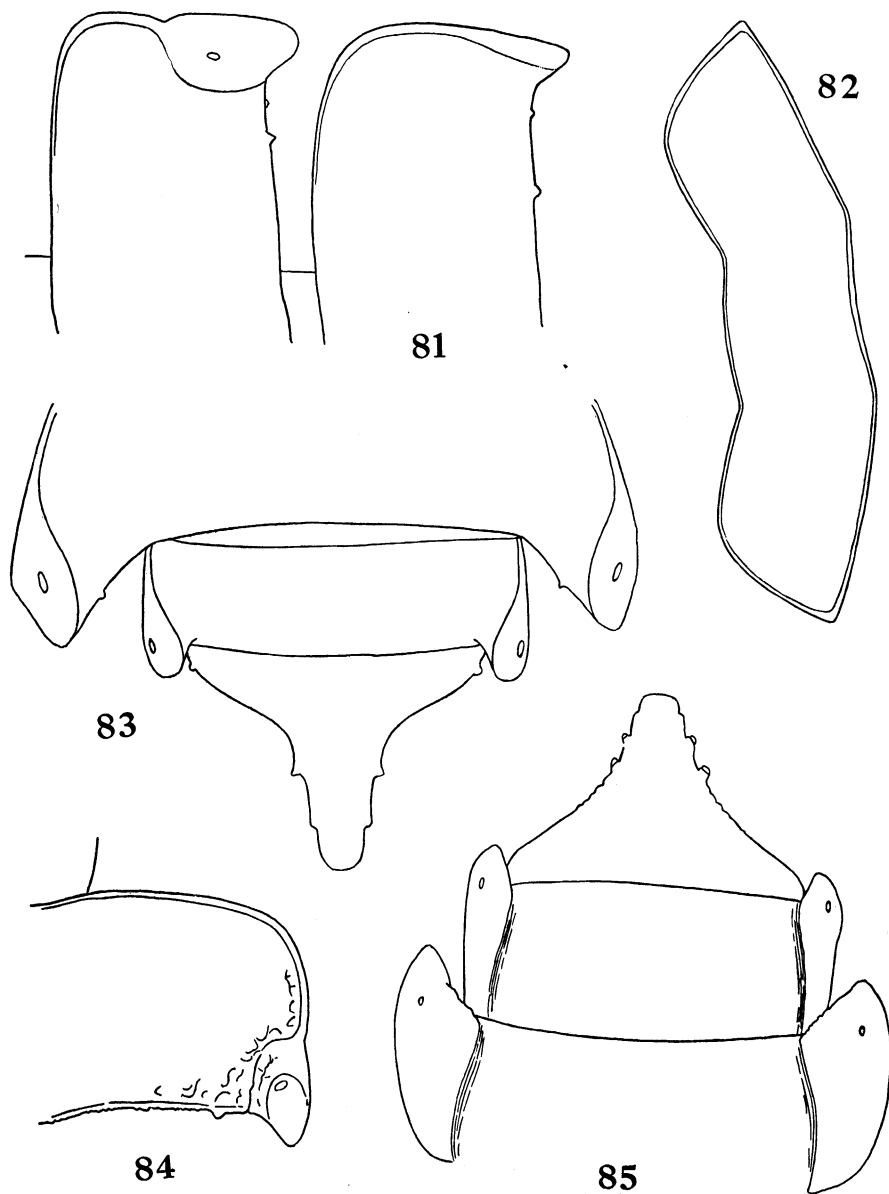
*Chondrodesmus maranonus*, new species

Fig. 81. Collum, dorsal view.

Fig. 82. Right keels, tenth and eleventh segments.

Fig. 83. Posterior end, dorsal view.

Chondrodesmus mimus, new species

Fig. 84. Right keel, tenth tergite.

Fig. 85. Posterior end, dorsal view.

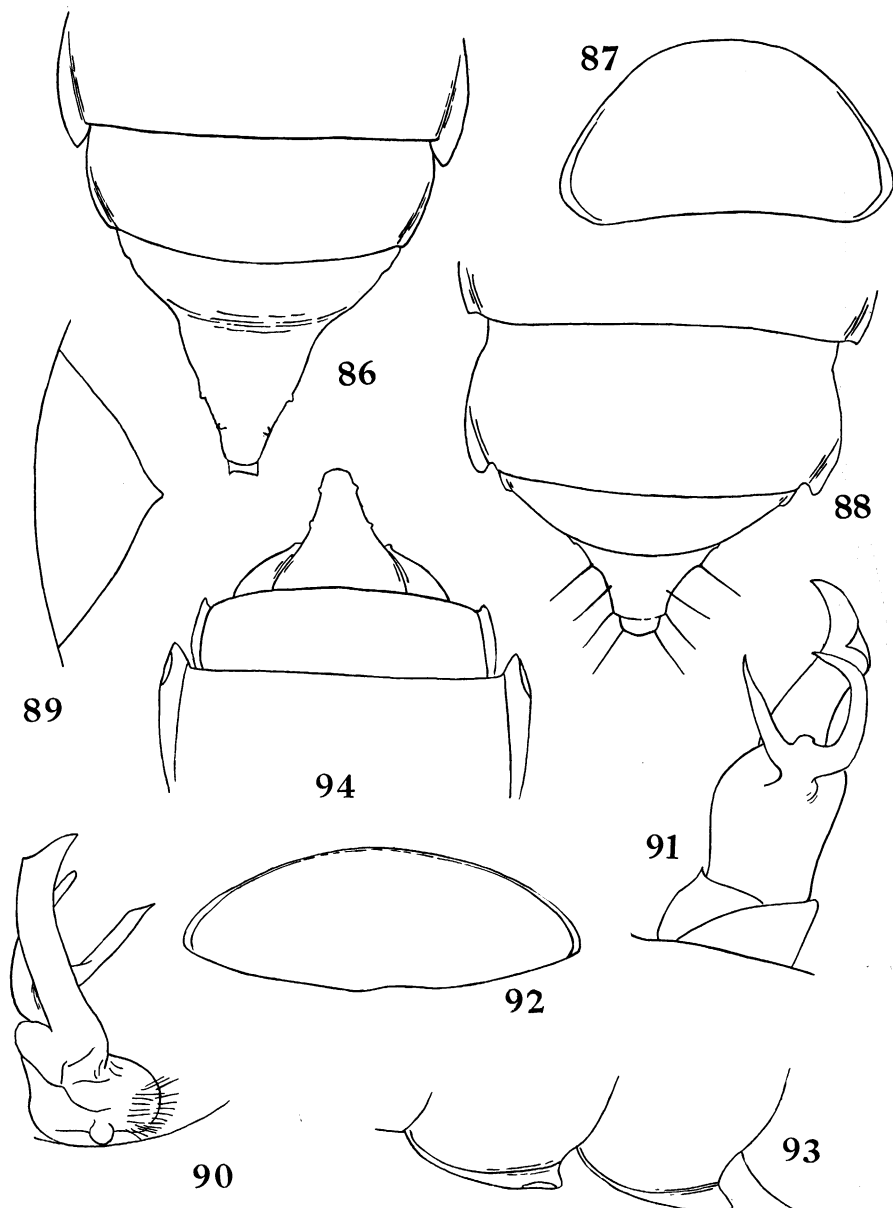
*Inconus brunrior*, new species

Fig. 86. Posterior end, dorsal view.

Inconus fronterus, new species

Fig. 87. Collum in outline.

Fig. 88. Posterior end, dorsal view.

Fig. 89. Anal scale.

Fig. 90. Right gonopod of male, subcaudal view.

Fig. 91. The same, anterior view.

Inconus lissus, new species

Fig. 92. Collum in outline.

Fig. 93. Left keels, tenth and eleventh tergites.

Fig. 94. Caudal end, dorsal view.

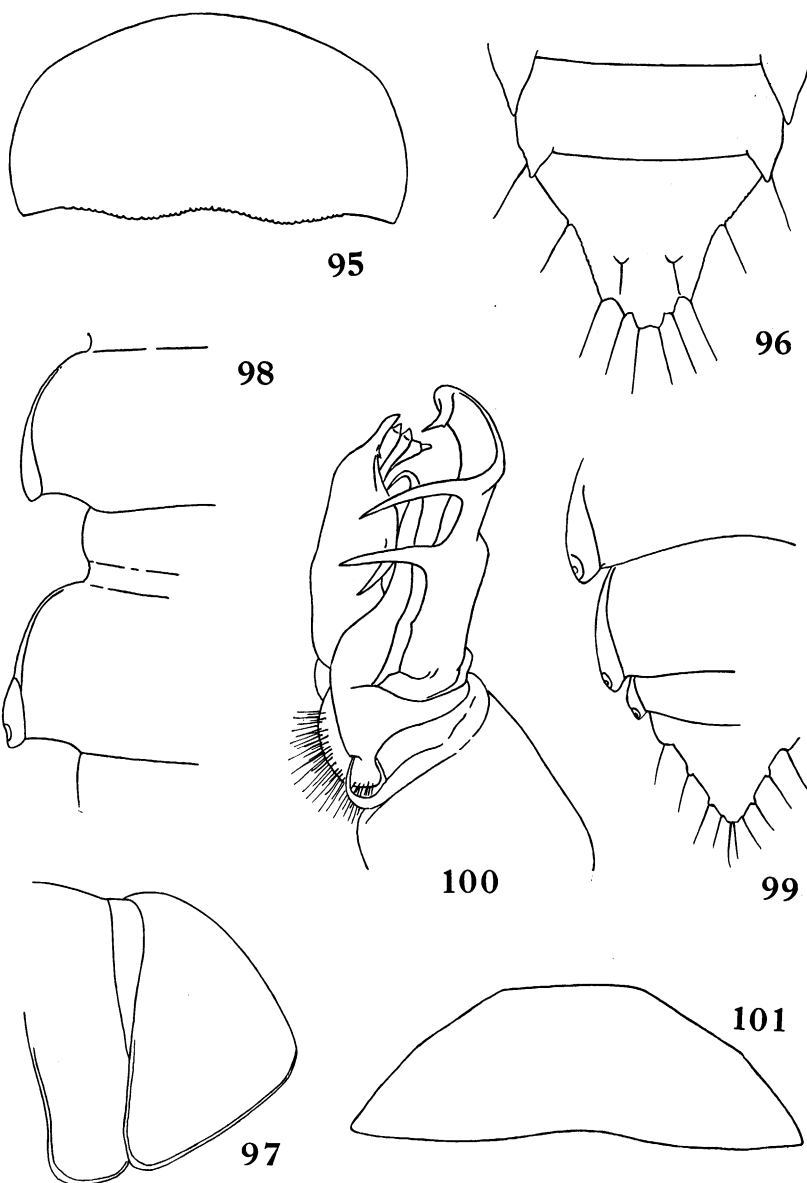
*Dromodesmus homalus*, new species

Fig. 95. Collum in outline.

Fig. 96. Posterior end, dorsal view.

Eucampesmus orites, new species

Fig. 97. Collum and second tergite, sublateral view.

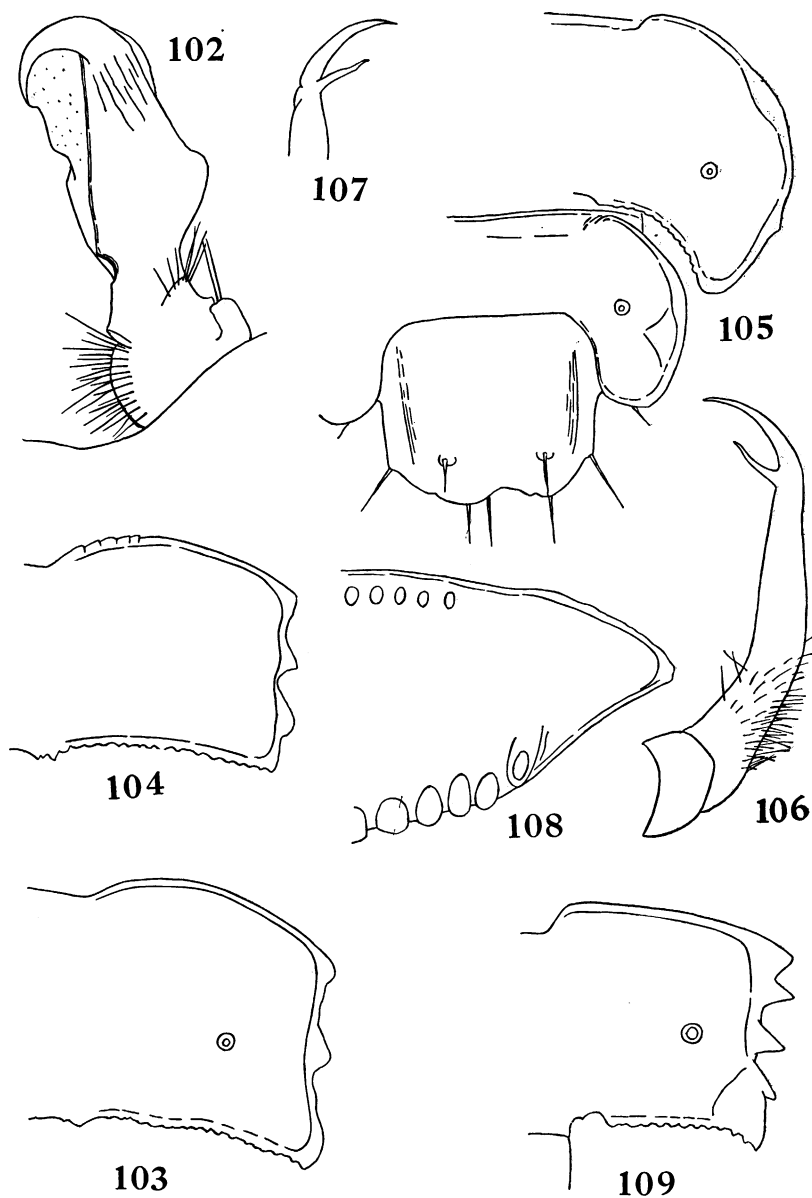
Fig. 98. Left keels, tenth and eleventh view.

Fig. 99. Posterior end, dorsal view.

Fig. 100. Right gonopod of male, submesal view

Ptyxesmus atyphus, new species

Fig. 101. Collum in outline.



Ptyzesmus atyphus, new species

Fig. 102. Left gonopod of male, subcaudal view.

Platyrhacus acompus, new species

Fig. 103. Right keel, eleventh segment.

Fig. 104. Right keel, eleventh segment.

Fig. 105. Posterior end, dorsal view.

Fig. 106. Gonopod of male, ectal view.

Fig. 107. Distal portion of other gonopod, subectal view.

Platyrhacus balsapuertus, new species

Fig. 108. Right half of collum in outline.

Fig. 109. Right keel of tenth segment.

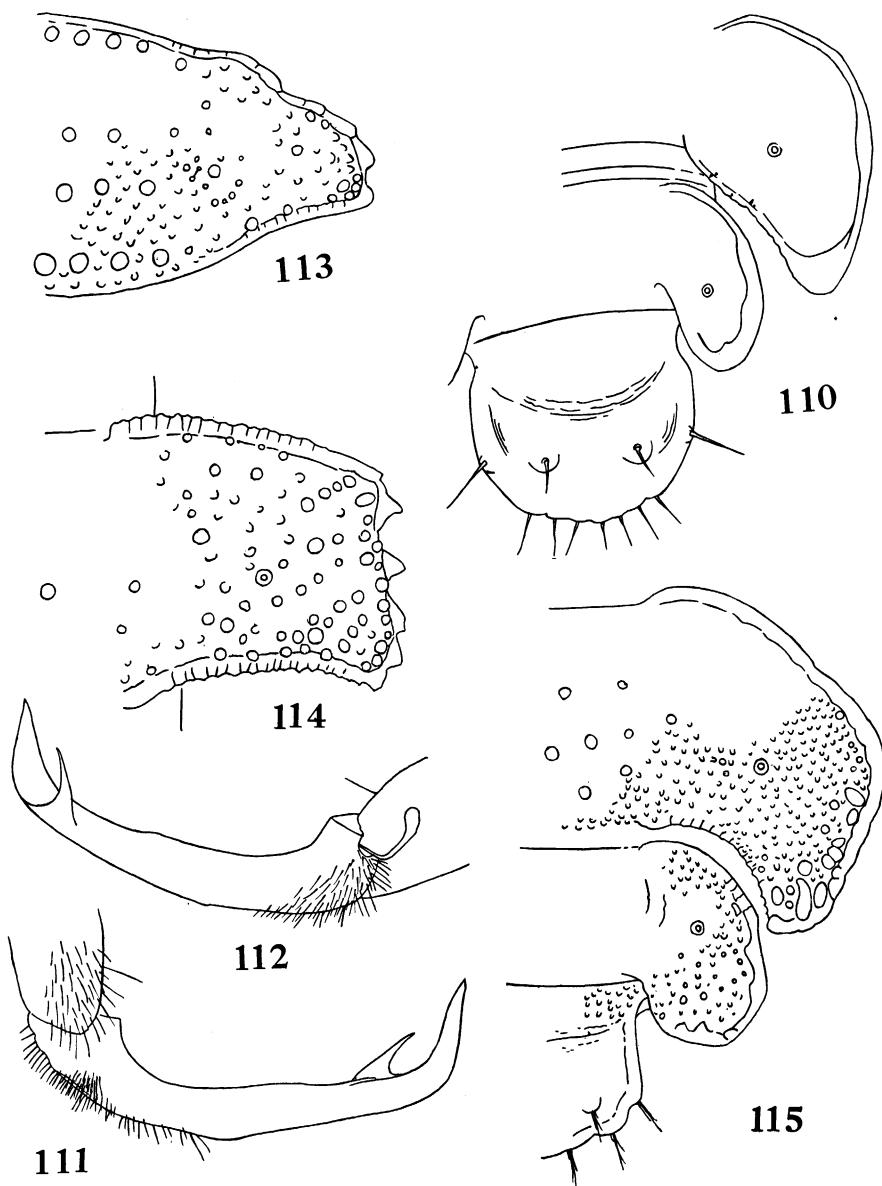
*Platyrrhacus balsapuertus*, new species

Fig. 110. Posterior end, dorsal view.

Fig. 111. Right gonopod of male, ectal view.

Fig. 112. The same, submesal view.

Platyrrhacus bombonus, new species

Fig. 113. Collum, right portion, in outline.

Fig. 114. Right keel, tenth segment

Fig. 115. Posterior end, right half, dorsal view.

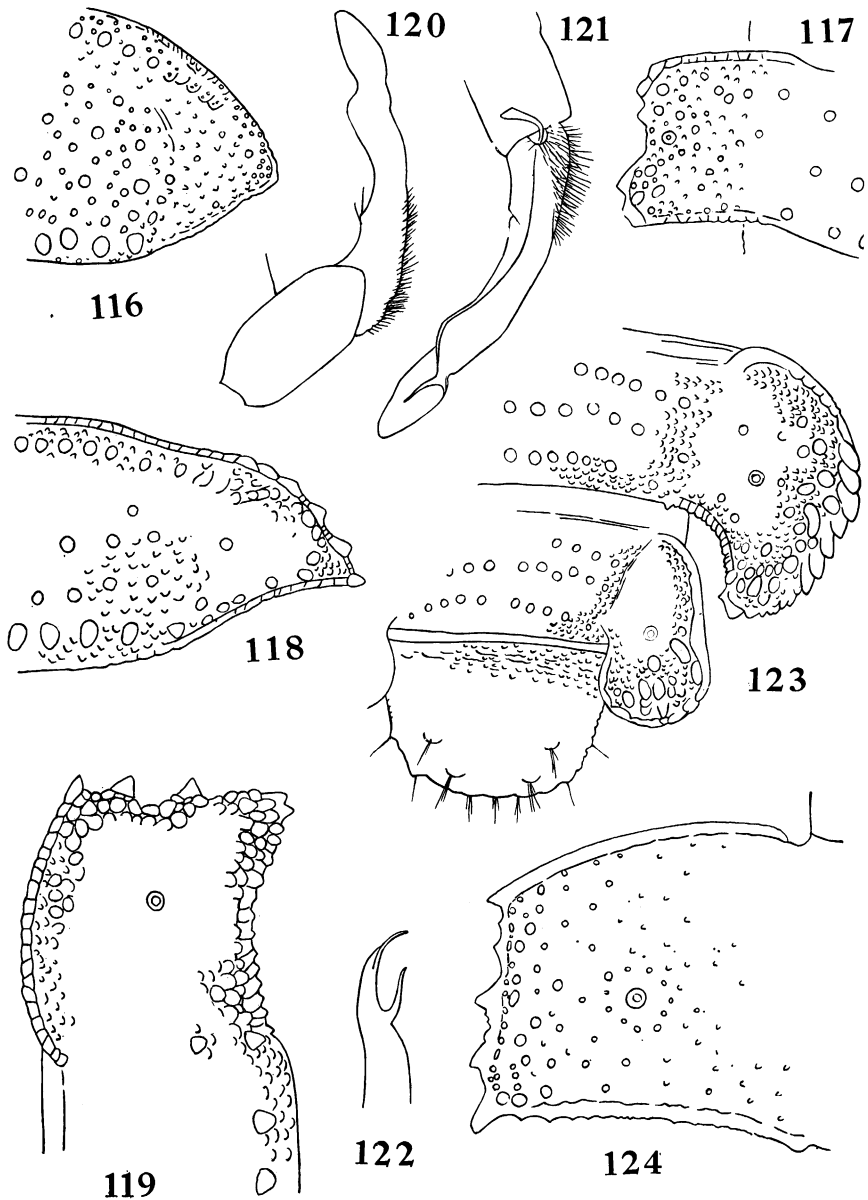
*Platyrrhacus cainarachus*, new species

Fig. 116. Right portion of collum, dorsal view.

Fig. 117. Left keel, ninth segment.

Platyrrhacus contayus, new species

Fig. 118. Collum, right portion, dorsal view.

Fig. 119. Right keel, tenth segment.

Fig. 120. Right gonopod, ectal view.

Fig. 121. The same, mesal view.

Fig. 122. The same, apical portion, ventral view.

Fig. 123. Posterior end of body, dorsal view.

Platyrrhacus incus, new species

Fig. 124. Left keel, tenth segment.

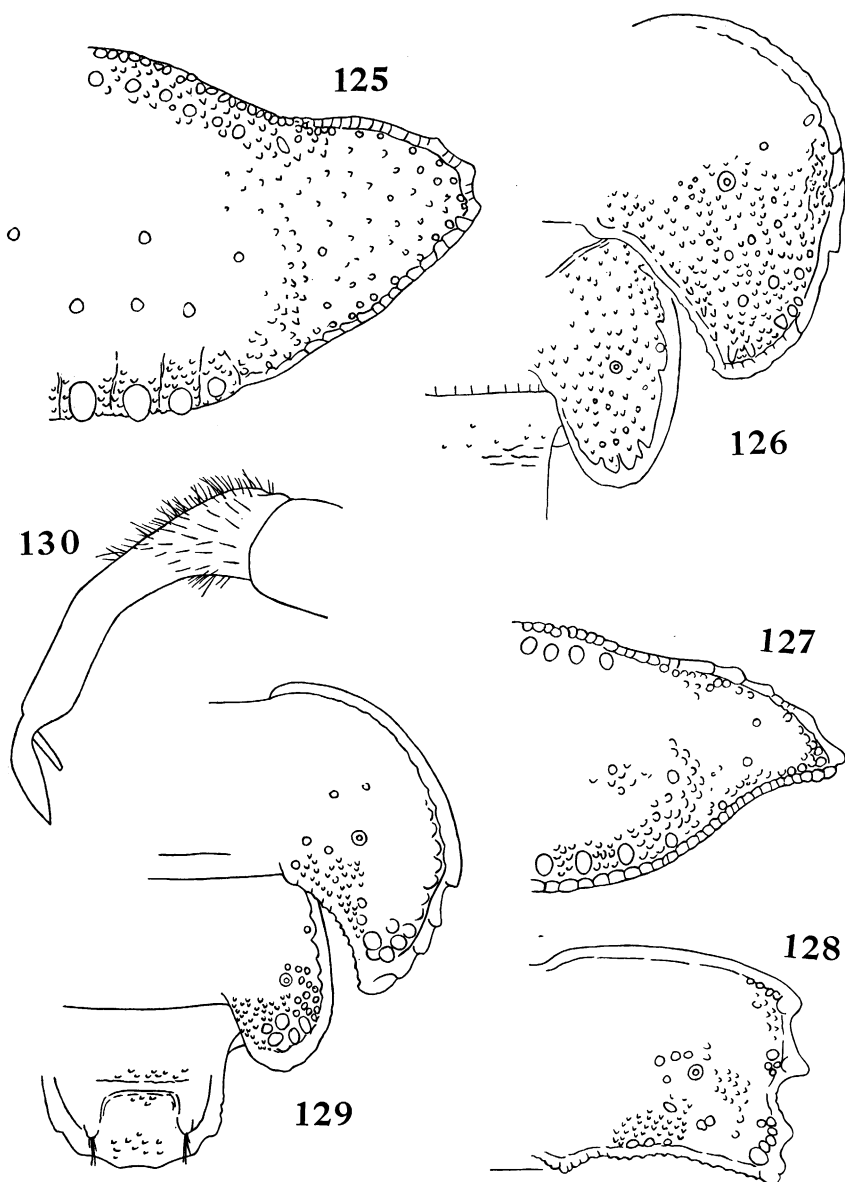
*Platyrhacus incus*, new species

Fig. 125. Collum, right half, dorsal view.

Fig. 126. Right keels of 18th and 19th segments.

Platyrhacus loretus, new species

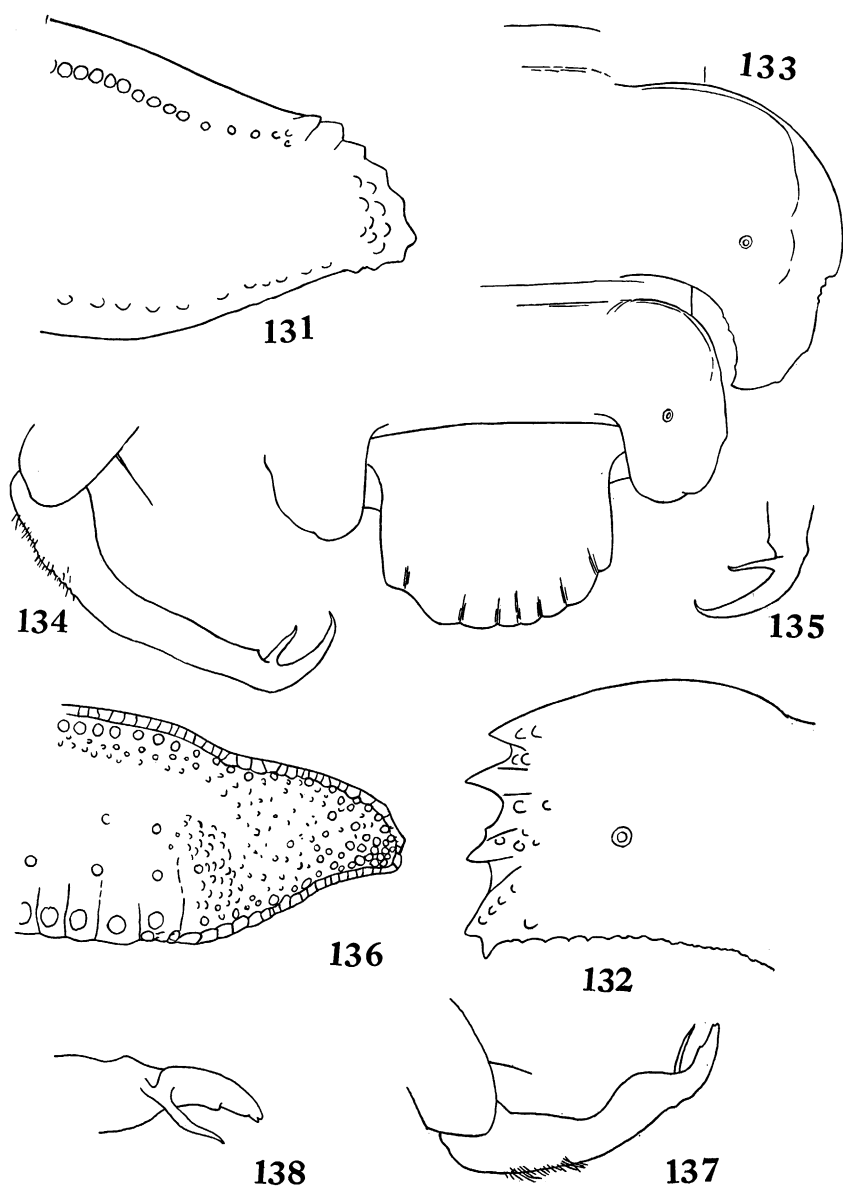
Fig. 127. Collum, right half.

Fig. 128. Right keel, tenth segment.

Fig. 129. Caudal end, dorsal view.

Fig. 130. Right gonopod of male, ectal view.

(Tip of style broken off.)



Platyrrhacus manserichus, new species

Fig. 131. Right half of collum.

Fig. 132. Left keel, tenth segment.

Fig. 133. Posterior end, dorsal view.

Fig. 134. Right gonopod of male, ectal view.

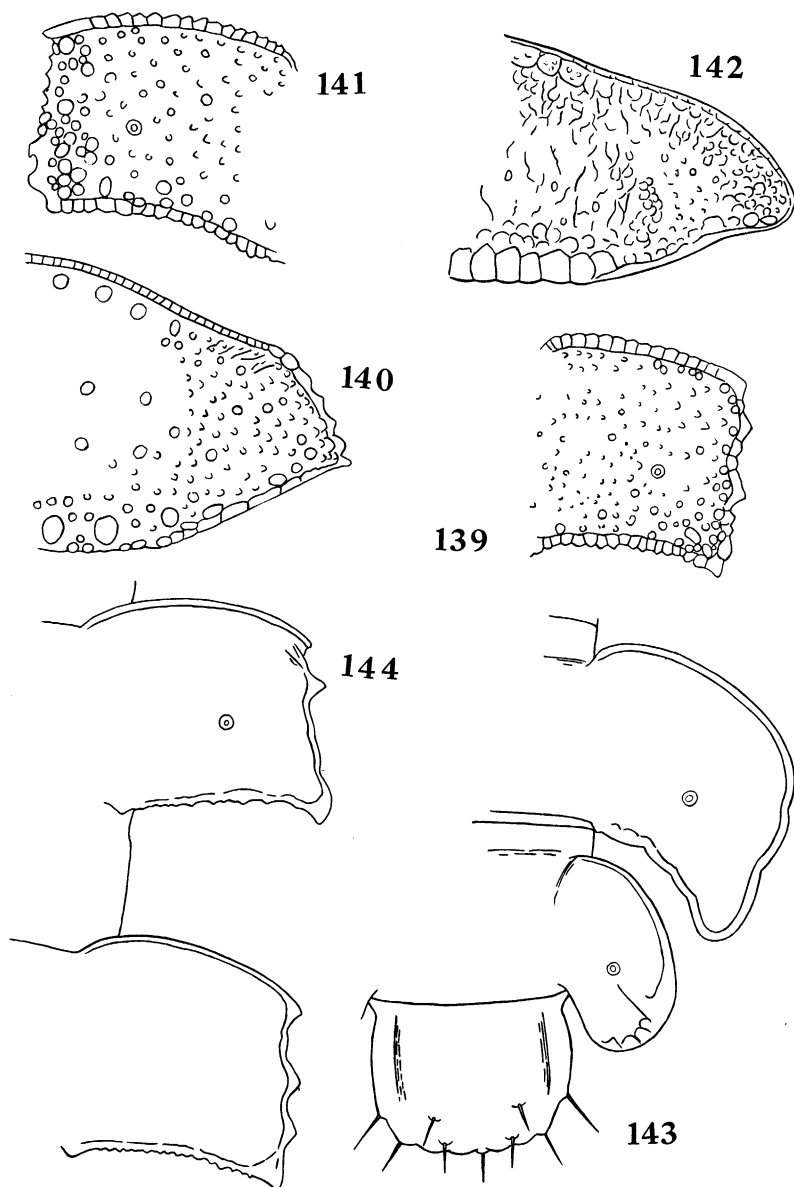
Fig. 135. Apical portion of same, submesal view.

Platyrrhacus chuncho, new species

Fig. 136. Right half of collum.

Fig. 137. Right gonopod of male, ectal view.

Fig. 138. Apical portion of same, submesal view.



Platyrhacus chuncho, new species

Fig. 139. Right keel, tenth segment.

Platyrhacus retentus, new species

Fig. 140. Right half of collum.

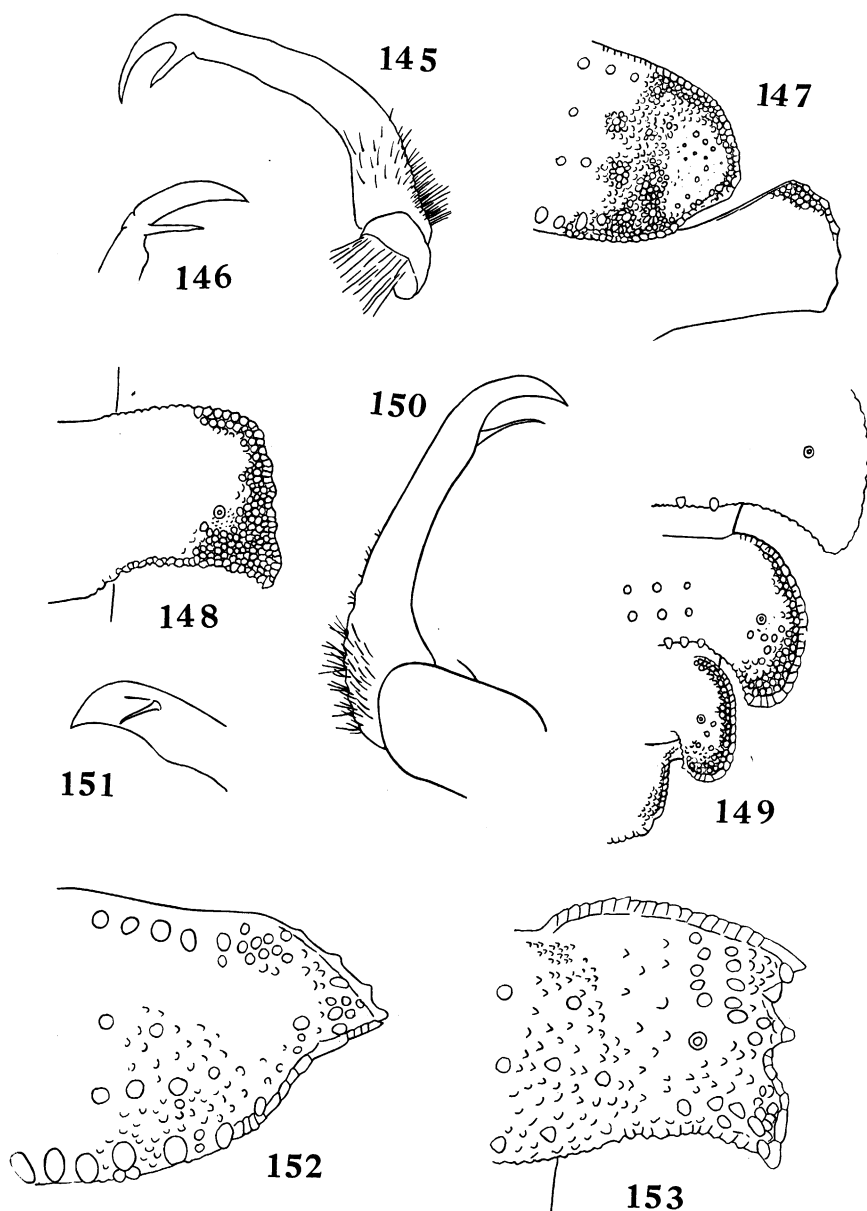
Fig. 141. Left keel, seventh segment.

Platyrhacus socius, new species

Fig. 142. Right half of collum.

Fig. 143. Posterior portion, dorsal view.

Fig. 144. Right keels of tenth and eleventh segments.



Platyrrhacus socius, new species

Fig. 145. Right gonopod, ectal view.

Fig. 146. Apical portion of same, submesal view.

Platyrrhacus trichotypus, new species

Fig. 147. Right portion of collum and second keel.

Fig. 148. Right keel, tenth segment.

Fig. 149. Right half, posterior end of body.

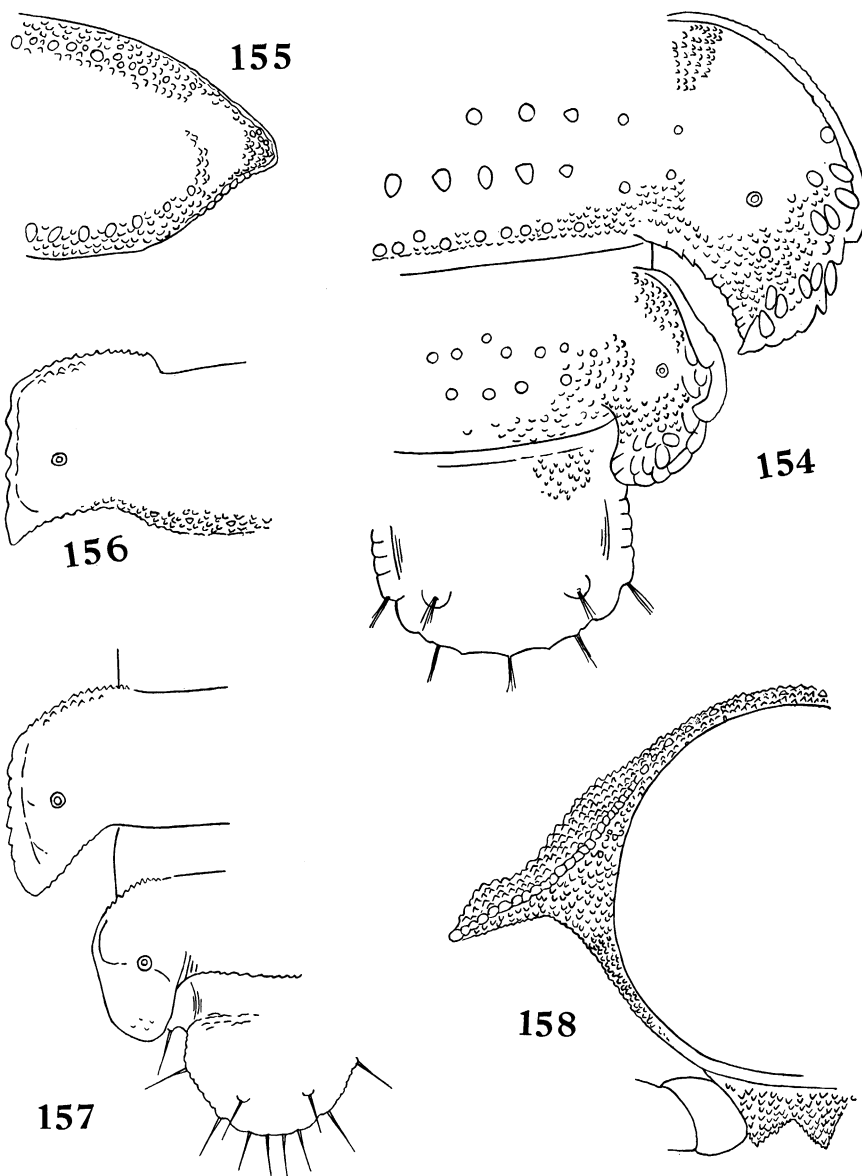
Fig. 150. Left gonopod of male, ectal view.

Fig. 151. Apical part of same, mesodorsal view.

Platyrrhacus uloquinius, new species

Fig. 152. Collum, right half.

Fig. 153. Right keel, tenth segment.



Platyrrhacus utoquinius, new species

Fig. 154. Posterior end, dorsal view.

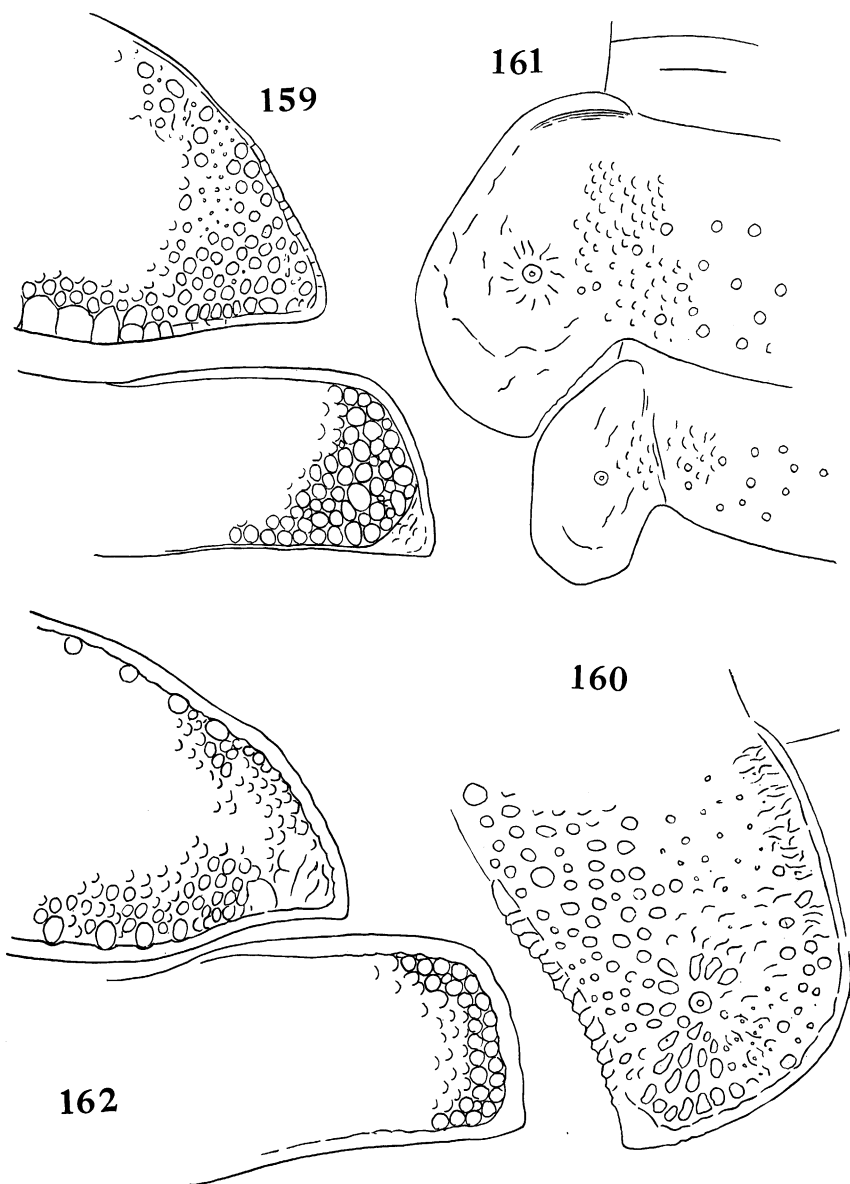
Platyrrhacus zygethus, new species

Fig. 155. Collum, right half.

Fig. 156. Left keel, tenth segment.

Fig. 157. Posterior end, dorsal view.

Fig. 158. Twelfth segment, caudal view.



Aymaresmus brunrior, new species

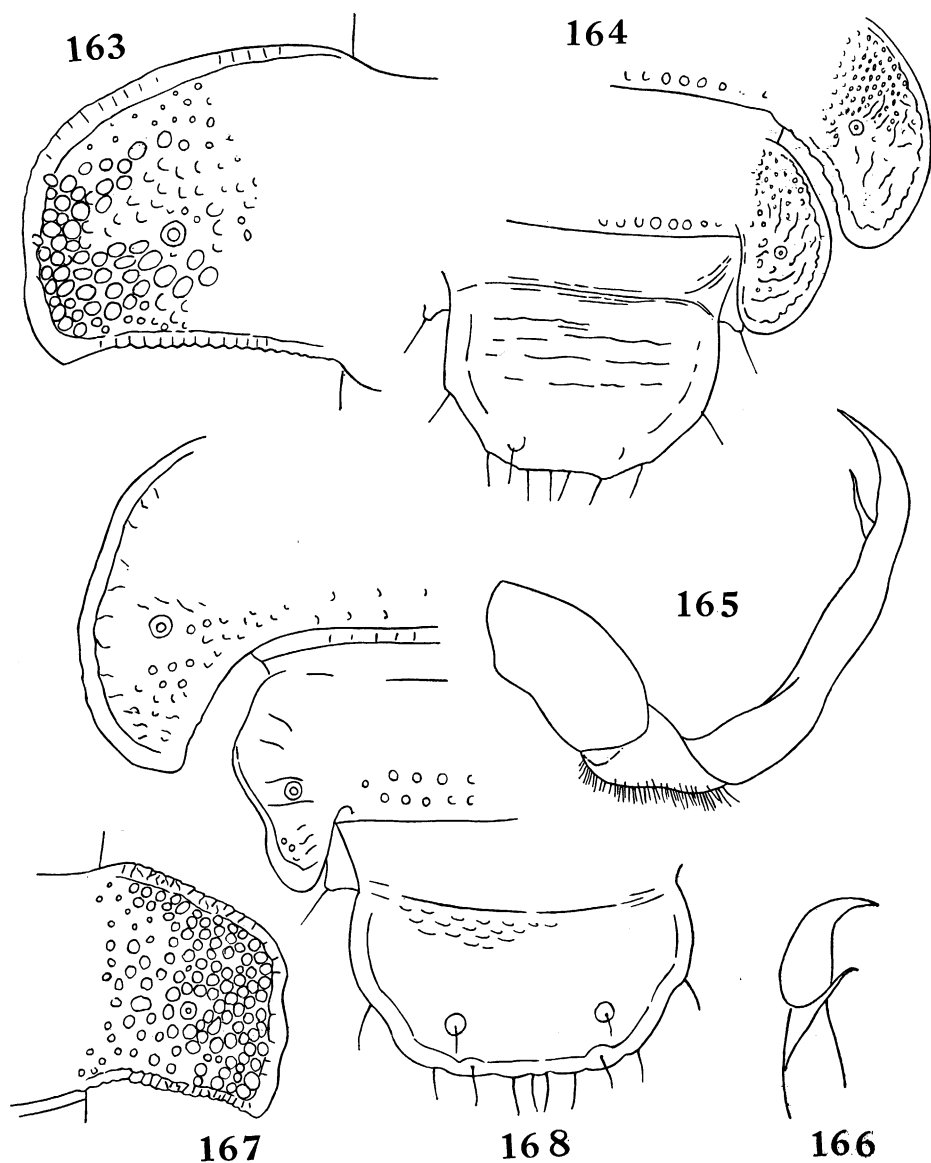
Fig. 159. Collum and second tergite, right portion.

Fig. 160. Right keel, tenth segment.

Fig. 161. Left keels of 18th and 19th segments.

Aymaresmus celinus, new species

Fig. 162. Collum and second tergite, right ends.



Aymaeresmus celinus, new species

Fig. 163. Left keel, tenth segment.

Fig. 164. Posterior end, dorsal view.

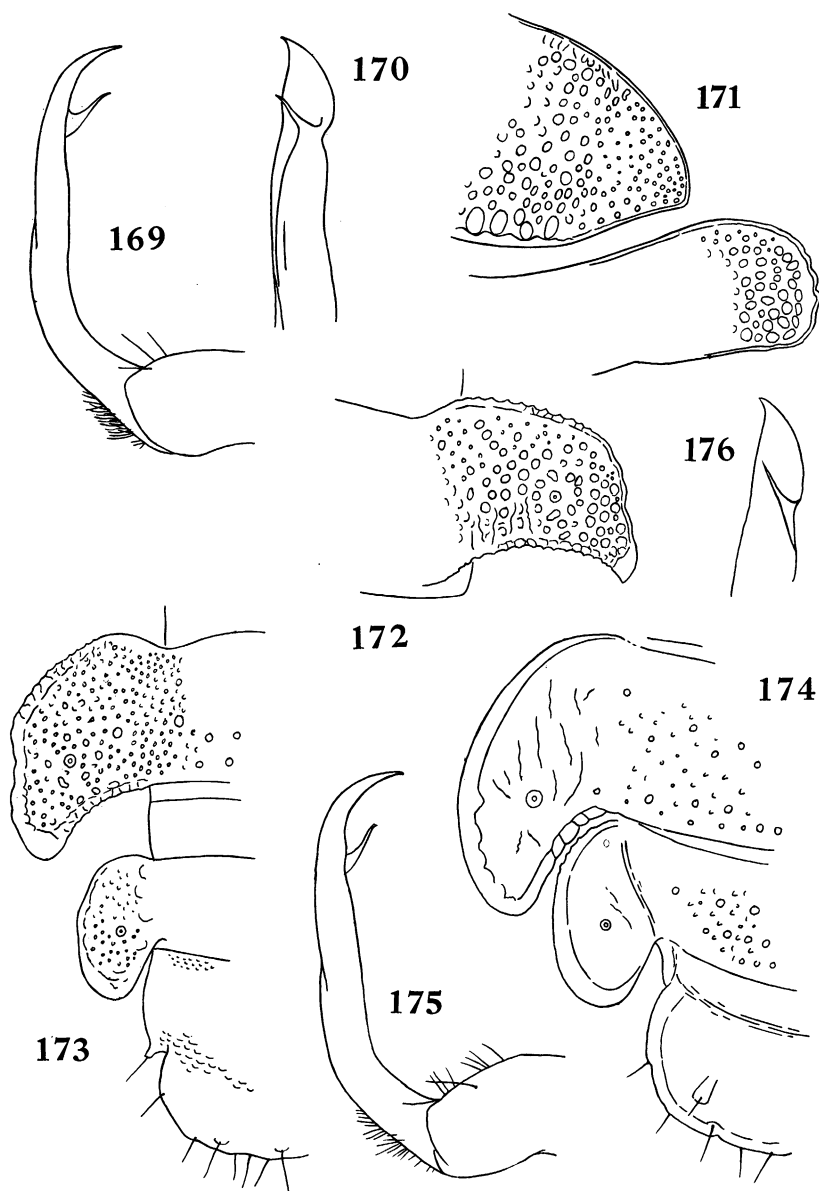
Fig. 165. Gonopod of male, ectal view.

Fig. 166. Apical part of same, a little dorsad of mesial.

Aymaeresmus fuscatus, new species

Fig. 167. Right keel, tenth segment.

Fig. 168. Posterior end, dorsal view.



Aymaeresmus leucus, new species

Fig. 169. Left gonopod of male, ectal view.

Fig. 170. Apical part of same, subdorsal view.

Aymaeresmus medius, new species

Fig. 171. Collum and second tergite, right ends.

Fig. 172. Right keel, tenth segment.

Fig. 173. Left portion of posterior end, dorsal view.

Aymaeresmus orellanus, new species

Fig. 174. Posterior end, left half, dorsal view.

Fig. 175. Left gonopod of male, ectal view.

Fig. 176. Distal end of same, mesodorsal view.

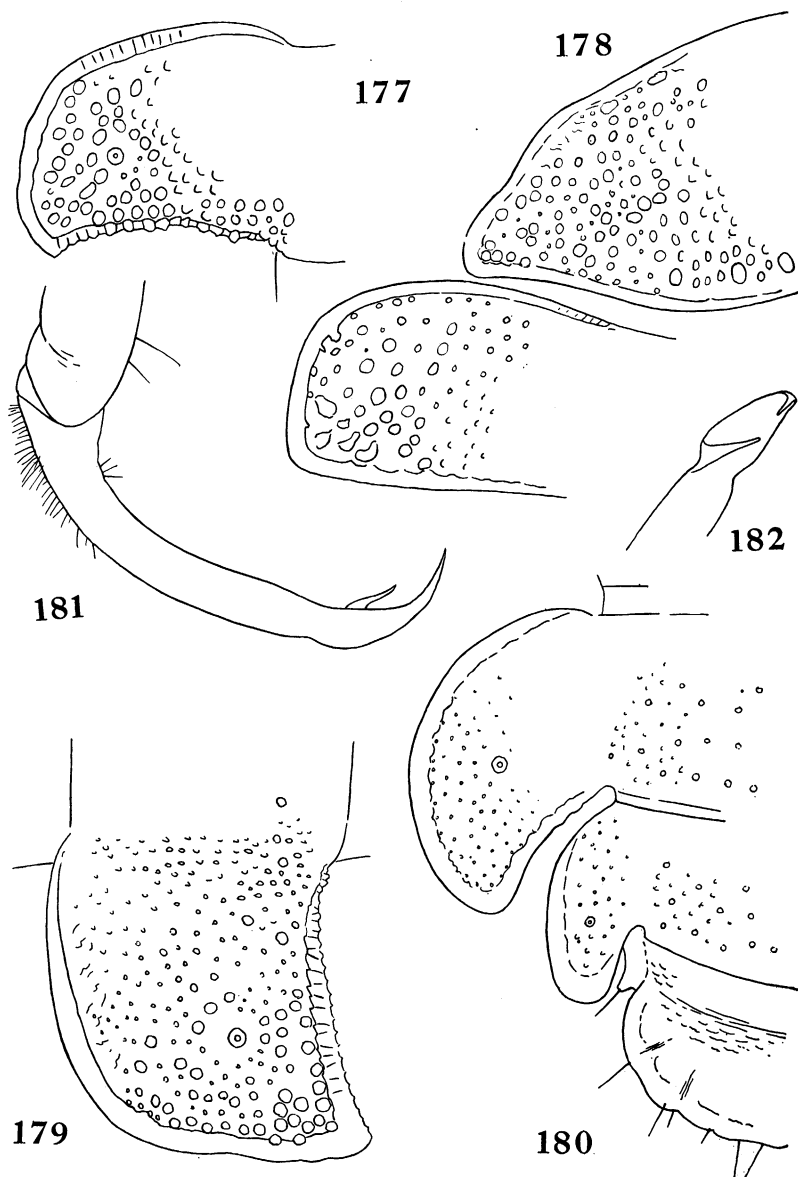
*Aymaresmus orellanus*, new species

Fig. 177. Left keel, tenth segment.

Aymaresmus tapichus, new species

Fig. 178. Collum and second keel, left end, dorsal view.

Fig. 179. Left keel, tenth segment.

Fig. 180. Left half of posterior end, dorsal view.

Fig. 181. Right gonopod of male, ectal view.

Fig. 182. Apical part of same, dorsal view.

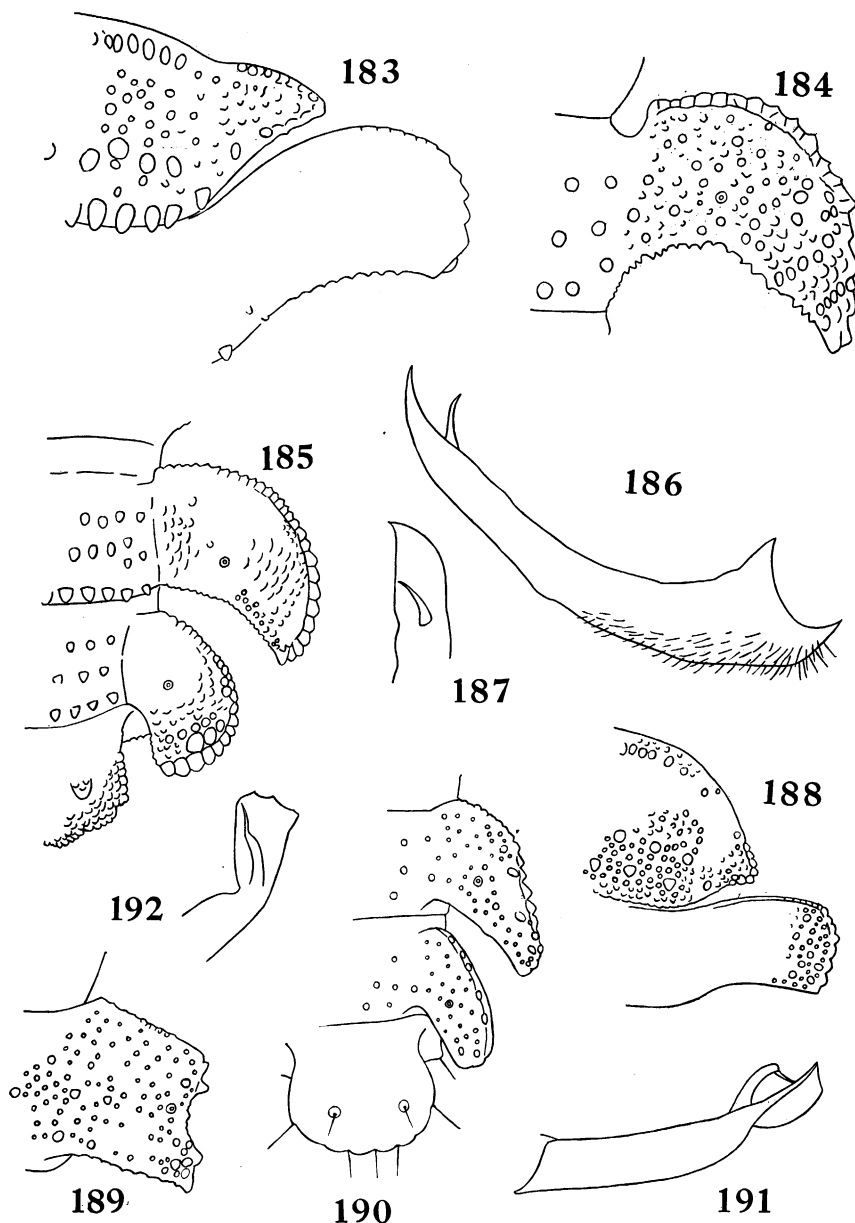
*Dynesmus iquitus*, new species

Fig. 183. Right portion of collum and second segment.

Fig. 184. Right keel, tenth segment.

Fig. 185. Right half of posterior end, dorsal view.

Fig. 186. Left gonopod of male, ectal view.

Fig. 187. Apical portion of same, dorsoectal view.

Ernostyz moyobambus, new species

Fig. 188. Right side, collum and second segment, dorsal view.

Fig. 189. Right keel, ninth segment.

Fig. 190. Right side of posterior end, dorsal view.

Fig. 191. Right gonopod, subectal view.

Fig. 192. Distal end of same, subdorsal view.

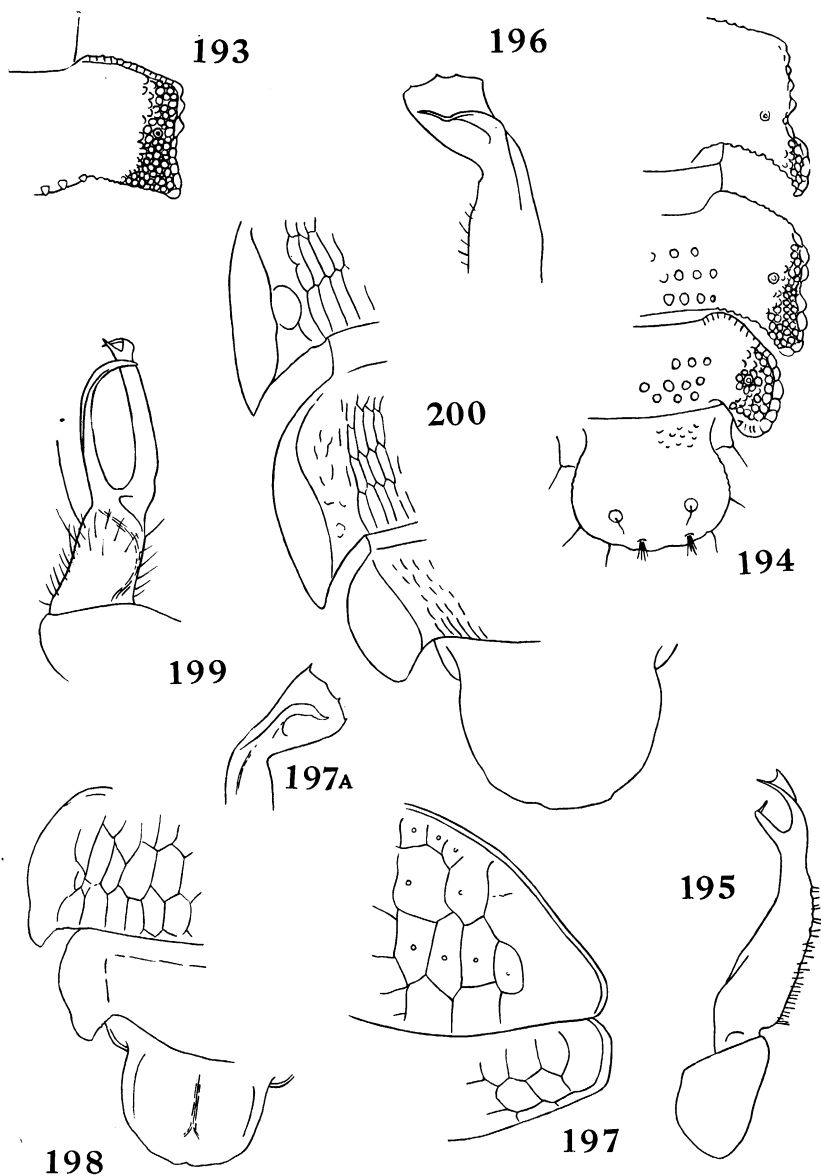
*Ernostyx dasys*, new species

Fig. 193. Right keel, ninth segment.

Fig. 194. Posterior end, right side, dorsal view.

Fig. 195. Right gonopod of male, ectal view.

Fig. 196. The same, subdorsal view.

Thrinooxethus bombonus, new species

Fig. 197. Collum and second tergite, right side, dorsal view.

Ernostyx chuncho, new species

Fig. 197 A. Apical portion of left gonopod, dorsal view.

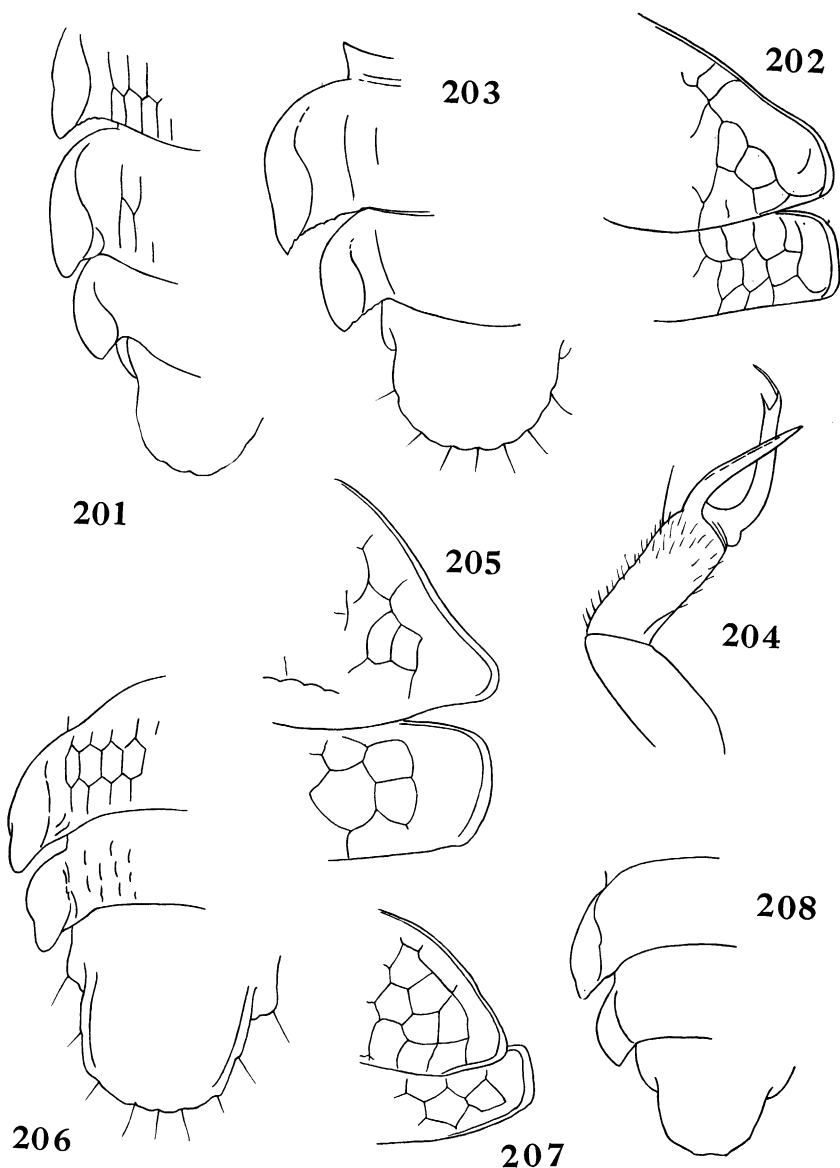
Thrinooxethus bombonus, new species

Fig. 198. Posterior end, dorsal view.

Fig. 199. Left gonopod of male, ectal view.

Thrinooxethus cainarachus, new species

Fig. 200. Posterior end, left side, dorsal view.



Thrinozethus iquitus, new species

Fig. 201. Posterior end, left side, dorsal view.

Thrinozethus lamprus, new species

Fig. 202. Collum and second tergite, right side.

Fig. 203. Posterior end, dorsal view.

Fig. 204. Left gonopod, ectal view.

Thrinozethus nitens, new species

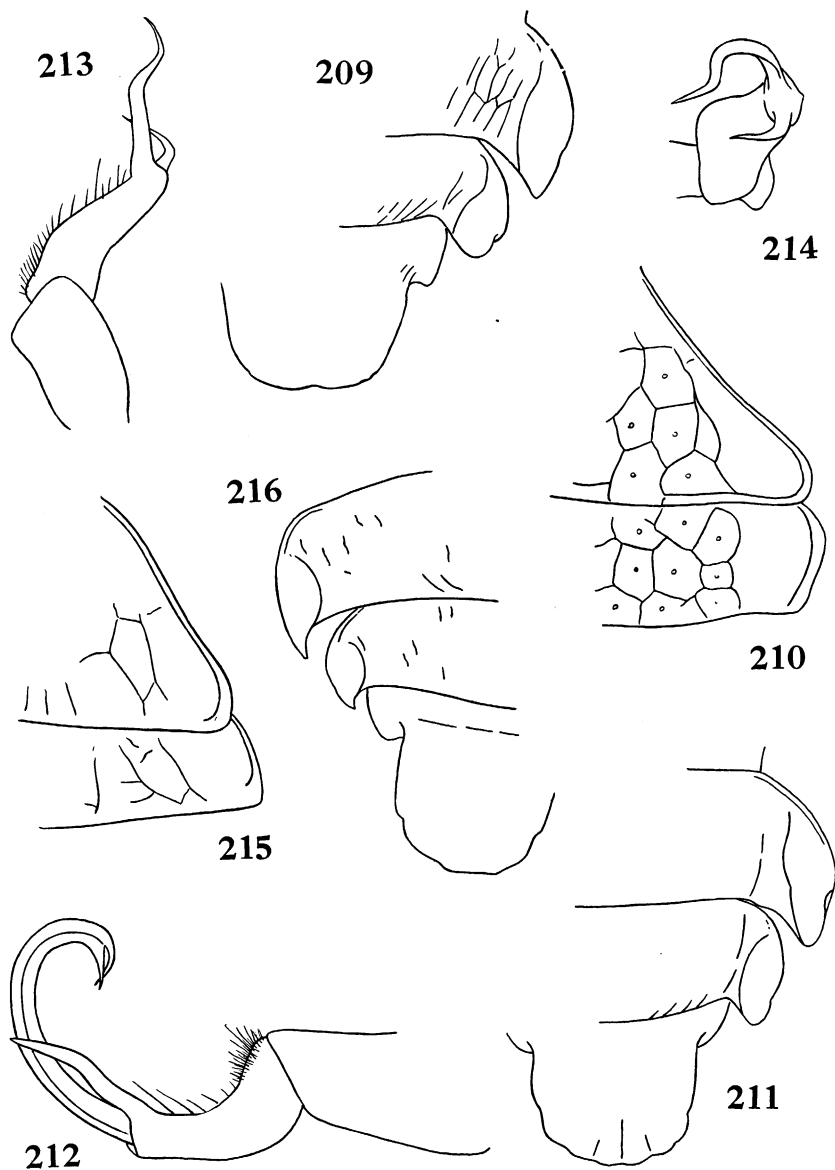
Fig. 205. Collum and second tergite, right side.

Fig. 206. Posterior segments.

Thrinozethus phanotypus, new species

Fig. 207. Collum and second tergite, right side.

Fig. 208. Posterior segments, left side, dorsal view.



Thrinooxethus ucayalus, new species

Fig. 209. Posterior end, right side, dorsal view.

Thrinooxethus hermosus, new species

Fig. 210. Collum and second tergite, right side, dorsal view.

Fig. 211. Posterior end.

Fig. 212. Right gonopod of male, ectal view.

Phinotropis tidus, new species

Fig. 213. Left gonopod, subectal view.

Fig. 214. Right gonopod, distal view.

Ptyxogon incus, new species

Fig. 215. Collum and second tergite, right side.

Fig. 216. Posterior end.

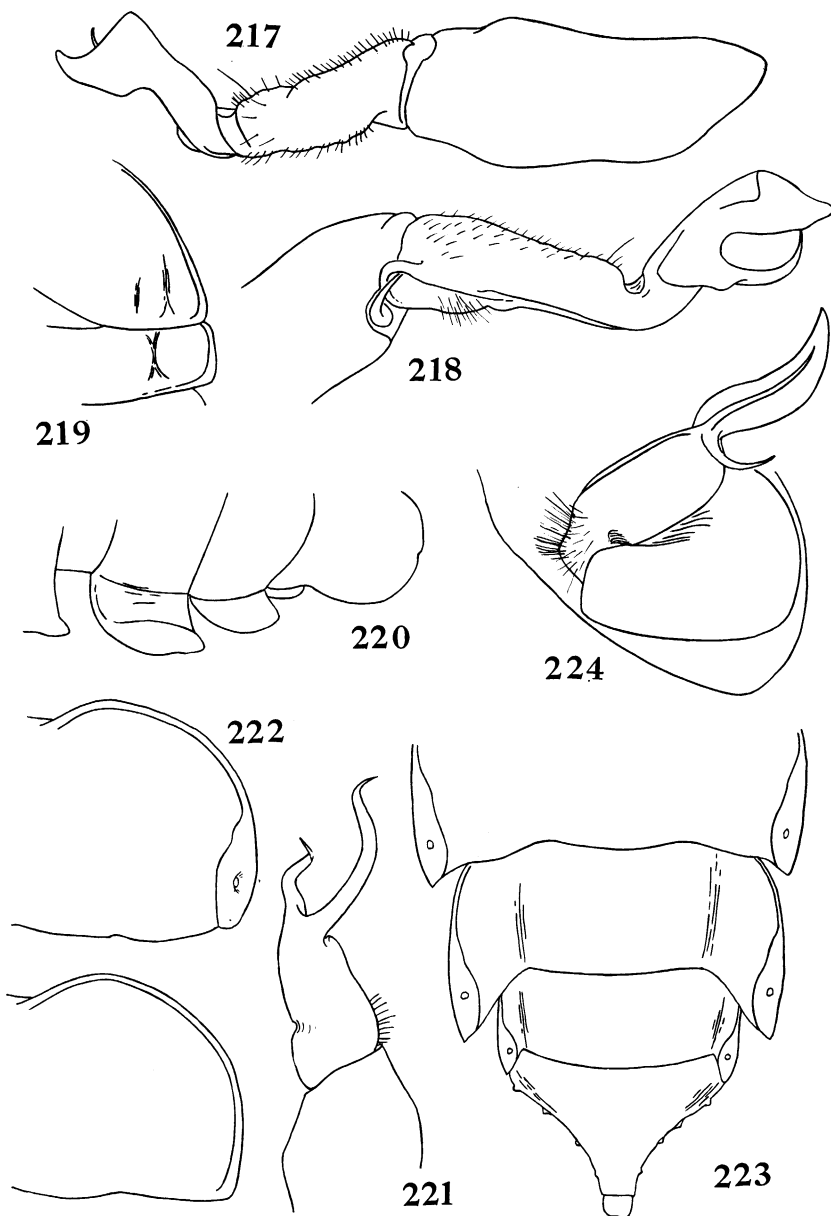
*Ptyzogon incus*, new species

Fig. 217. Right gonopod, subectal view.

Fig. 218. The same, submesal view.

Amydrinus pongus, new species

Fig. 219. Collum and second tergite, right end.

Fig. 220. Posterior end, left side.

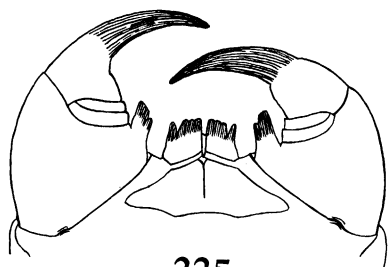
Fig. 221. Right gonopod, a little ectad of dorsal.

Iphyria claralata, new species

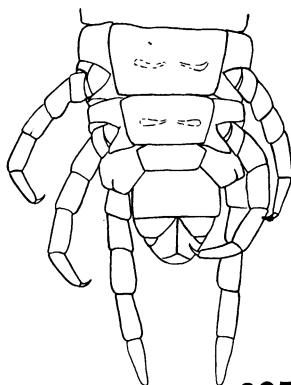
Fig. 222. Right keels of seventh and eighth segments.

Fig. 223. Posterior end.

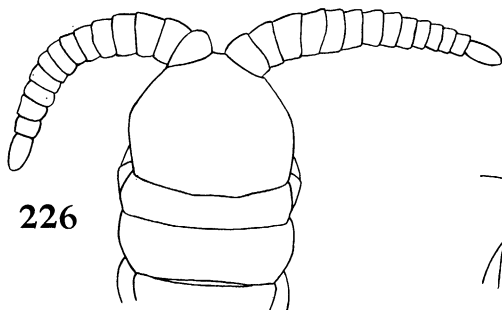
Fig. 224. Left gonopod of male, subventral view.



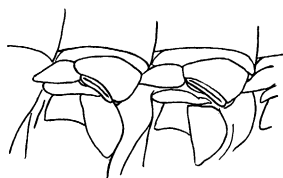
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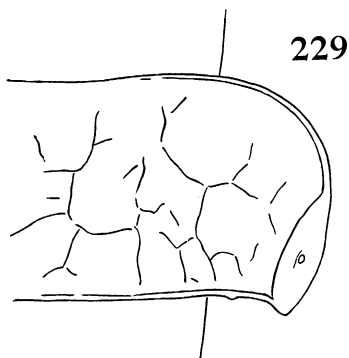
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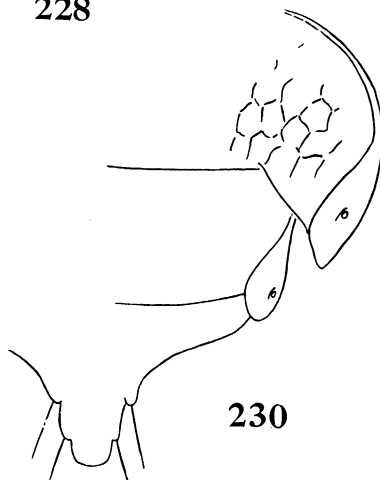
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Scolopendra hermosa, new species

Fig. 225. Prehensors.

Incorya incus, new species

Fig. 226. Anterior end, dorsal view.

Fig. 227. Posterior end, ventral view.

Fig. 228. Pleural sclerites, 34th and 35th segments.

Chondrodesmus erratus, new species

Fig. 229. Right keel, tenth segment.

Fig. 230. Posterior end.

