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RESULTS OF THE BRYANT WALKER EXPEDITIONS  
OF THE UNIVERSITY OF MICHIGAN TO COLOMBIA,  
1913, AND BRITISH GUIANA, 1914

THE CHILOPODA

BY RALPH V. CHAMBERLIN

This report deals with the chilopods collected in Colombia in the summer of 1913 and in British Guiana in the summer of 1914 by the Bryant Walker expeditions of the University of Michigan. At the latter time two species were also taken at St. Croix, United States Virgin Islands. The material, which was almost wholly collected by F. M. Gaige, represents twenty-six species. The type specimens are in the Museum of Comparative Zoology. Included in the paper are descriptions of two new Brazilian species of *Pselliodes* related to the one described from Colombia. The forms secured in the three localities mentioned are as follows:

COLOMBIA

*Otocryptops ferrugineus* (Linné)

*Newportia longitarsis* (Newport)

*Otostigmus scabricaudus* (Humbert and Saussure)

- Otostigmus clavifer*, sp. nov.  
*Rhysida celeris* (Humbert and Saussure)  
*Scolopendra gigantea* Linné  
*Cupipes ungulatus* Meinert  
*Notiphilides maximiliani* (Humbert and Saussure)  
*Diplethmus mexicanus* Cook  
*Schendylurus colombianus*, sp. nov.  
*Pselliodes colombiana*, sp. nov.

## BRITISH GUIANA

- Cryptops furciferens*, sp. nov.  
*Otocryptops ferrugineus inversus*, subsp. nov.  
*Tidops echinopus*, sp. nov.  
*Newportia diagramma*, sp. nov.  
*Newportia (Newportides) unguifer*, sp. nov.  
*Newportia lasia*, sp. nov.  
*Newportia parva*, sp. nov.  
*Otostigmus clavifer*, sp. nov.  
*Otostigmus brunneus*, sp. nov.  
*Ribautia fuhrmanni* Ribaut  
*Orphnaeus brevilabiatus* (Newport)  
*Adenoschendyla gaigei*, sp. nov.  
*Schendylurus labbanus*, sp. nov.  
*Ityphilus guianensis*, sp. nov.

## UNITED STATES VIRGIN ISLANDS

- Scolopendra morsitans* Linné                      *Scolopendra subspinipes* Leach

## CRYPTOPIDAE

**Cryptops furciferens**, sp. nov.

Caudal margin of head overlapped by the first dorsal plate. Head without longitudinal sulci. First dorsal plate with a cervical sulcus which is angularly produced caudad at the middle, the apex of the angle in a slight pit; two longitudinal sulci which bifurcate cephalad, and end on the cervical sulcus, the inner branches converging and meeting at the angle of the latter. Second and succeeding dorsal plates to the twentieth bisulcate. Anterior margin of prosternum distinctly biarcuate; marginal setae 3+3.

Last ventral plate with sides convex, more strongly so caudad, the caudal margin wide and nearly straight. Anterior legs with tarsi uniarticulate. Anal legs with only the femur (prefemur of Verhoeff) furrowed above, the furrow deepest distally; succeeding joints merely flattened above or the tibia shortly furrowed or notched at distal end. Femur, tibia, and metatarsus flattened along mesal side, or the second and third of these joints somewhat concave along this surface. Femur and tibia each with numerous spinules along dorsomesal surface and along the ventromesal surface, the median region of mesal surface entirely free from them, a tooth toward distal end of ventromesal series as in *heathi* Chamb.; the ventral surface of femur also with numerous spinules excepting a narrow naked stripe just ectad of the ventromesal spinous band; tibia with fewer ventral spinules than femur, the naked space more extensive. Metatarsus with a ventral series of four teeth, the first tarsal joint with two. Coxoplae truncae caudally; each with two spinules along caudal border and one farther forward toward ectal border.

Length, 13.5 mm.

British Guiana: Demerara River, east trail along river bank, collected in very damp clay beneath ground litter of rotten twigs and leaves, F. M. Gaige, August 11, 1914. One specimen, the type, M.C.Z., 2173.

Apparently most nearly related to the Brazilian *C. heathi* Chamberlin, which it resembles in the furcate paired sulci of the first segment, etc. It is a larger form in which the last dorsal plate is not so angular caudally and the last ventral plate with caudal margin essentially truncate instead of rounded. The anal legs with tibia and metatarsus not furrowed above, and with spining different; e.g., the spinules along dorsomesal surface of femur and tibia which are absent in *heathi*, the more numerous ventral spinules of ventral surface with the naked space between them and mesoventral ones, especially on tibia, etc.

*Otocryptops ferrugineus* (Linné)

*Scolopendra ferruginea* Linné, *Syst. Nat.*, 12th Ed. (1767), 1, part 2, p. 1063.

Colombia: San Lorenzo, 4,500 ft. Six adults and several young collected July 2, 3, 4, and 7, 1913.

These specimens are typical and uniform in all characters.

***Otocryptops ferrugineus inversus*, subsp. nov.**

Plate I, Figs. 1 and 2

Specimens from Guiana agree in general with those of the preceding species excepting more particularly the armature of the prosternum. In typical *ferrugineus* four teeth are present with the two mesal ones much larger and carried farther forward than the laterals which are often much reduced. In the present form there is a smooth-edged dental plate across anterior margin of prosternum much as in *melanostomus* but with the ends the highest part, the edge concave between the ends. In one specimen the outer ends of the plate are abruptly and angularly extended forward, subdentiform. The margin of prosternum beneath the plate is very obtuse, nearly straight, not produced forward at middle so far as in typical *ferrugineus* (Plate I, Figs. 1 and 2). The specimens are somewhat larger than ordinary *ferrugineus*, the type being 62 mm. long.

British Guiana, Dunoon: sand-hill forest, August 18, 1914; Labba Creek, sand hills, August 25, 1914. One specimen from each place. Type, M.C.Z., 2174.

***Tidops echinopus*, sp. nov.**

Plate I, Fig. 5; Plate II, Figs. 6 and 7

Body in general ochraceous. Head and prosternum with prehensors pale chestnut. Antennae and legs fulvous, or the latter when in full color ochraceous like the body excepting the last pair.

Head with paired median sulci showing only as short lines at posterior border as in *T. simus* Chamberlin. Caudal margin widely convex, more flattened in middle region. Anterior margin notched at middle, a short median sulcus extending caudad from the notch.

Antennae somewhat flattened, composed of seventeen articles. First four or five articles rather sparsely hirsute, the succeeding ones becoming more and more densely clothed with fine short hairs.

Claws of prehensors dwarfed as in the genotype. Anterior margin of prosternum bearing two broad teeth or dental plates which are contiguous or subcontiguous at middle and are distally obliquely truncate, longest on outer side, wider than long (Plate I, Fig. 5).

Transverse sulcus of first dorsal plate bent back at middle in an obtuse angle which lies in a shallow depression, the sulcus free from the cephalic plate. The paired longitudinal sulci furcate anteriorly as in the genotype, the inner branches meeting at the angle of the transverse sulcus. Paired submedian sulci present also on succeeding tergites, including the second; lateral sulci beginning on the third. With no median keel set off on posterior plates. Last tergite with caudal margin truncate at middle and concave on each side, without a median sulcus but with a shallow median depression or pit.

Each normal sternite with a deep median longitudinal sulcus which does not cross the anterior portion of plate. Last ventral plate with caudal margin incurved.

Process of coxopleurae moderately long, with apex acute and single. No lateral spines. Pores small, numerous.

Spiracles obliquely elliptic and rather large.

Anterior tarsi undivided. Tarsi unspined.

Each metatarsus of anterior legs with a stout spine at distal end on anterior side, and a more slender spine or spiniform seta at distal end beneath, several other ventral setae also ordinarily stout

and subspiniiform. Tibia also with several stout ventral setae, two usually at distal end. Femur with three or four stout setae in a series beneath.

Femur of anal legs armed beneath with a series of four stout spines or processes which are as long as the depth of the joint or nearly so;<sup>1</sup> along middle of outer surface a series of about seven ordinary spines, and along middle of mesal surface a series of typically five similar spines, the series not extending to distal end; along dorsomesal edge a series of eleven or twelve similar but longer spines. Tibia in midventral line with two short, distally curved teeth or spines, one a little each way from middle, and a single similar spine on mesal surface at proximal end; the other joints unarmed. Metatarsus not produced at distal end beneath. First tarsal joint much thicker and longer than the other as in the genotype, clavately enlarging distad. Distal division of tarsus composed in the type of twenty-three short articles (Plate II, Figs. 6 and 7).

Length, up to 25 mm.

British Guiana, Dunoon: Labba Creek, sand-hill forest, July 27, August 19; "second mourie," August 24, 1914. Six specimens. Type, M.C.Z., 2175.

This is an interesting form in that it is the second species of the genus to become known. The first, *T. simus* Chamberlin, was described from Grenada (*Bull. M.C.Z.*, 59 [1915], p. 496, Plate I). From *T. simus* the present species differs in various obvious features. Thus, the antennae have seventeen joints instead of thirteen; the dental processes of the prosternum are broader than long, close together, and distally rounded; the femur of the anal legs bears four processes beneath instead of three and these are much longer, the mesal spines are five in number instead

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<sup>1</sup> Only three ventral processes are present on one side in one specimen, this leg being apparently regenerated. The distal tarsus is much shorter than that of the other leg, but the normal number of articles is present.

of two and the dorsomesal ones eleven or twelve instead of five or six; the tibia of anal legs lacks the conspicuous process at distal end beneath, and the distal division of tarsus consists typically of twenty-three articles instead of six or eight, etc.

*Newportia longitarsis* (Newport)

*Scolopocryptops longitarsis* Newport, *Trans. Linn. Soc. London*, XIX (1845), 407, Plate 40, Fig. 10.

Colombia: San Lorenzo. July 4, one specimen; July 5, a female with her numerous young taken in a stump, 4,500 ft.; July 22, 1913, 5,000 ft., one specimen, also a female with her eggs for which more definite data are not given.

***Newportia diagramma*, sp. nov.**

Plate II, Figs. 8 and 9

The general color of dorsum is from ochraceous to light chestnut with the head scarcely differing from the tergites. Legs from essentially similar in color to the tergites to fulvous, the anal legs always fulvous distally.

Head with scattered punctae; with two short paired longitudinal sulci from caudal margin. Caudal margin widely convex, in middle region nearly straight.

Antennae consisting normally of seventeen articles of which the first four bear setae and the succeeding ones more numerous short hairs of the usual character.

Anterior margin of prosternum bearing a narrow chitinous plate which is convex on each side and obtusely notched at the middle. Prosternum with a median longitudinal sulcus which is not sharply impressed at the middle and is often distinct nowhere else.

First dorsal plate with a semicircular cervical sulcus free from the head with unbranched paired longitudinal sulci which, beginning about halfway from caudal margin to cervical sulcus, first diverge from each other and then come back a little before reaching the sulcus which they cross, continuing to or nearly to the edge of

the head. Paired sulci distinct on tergites from second to twenty-second inclusive, lateral sulci for the most part not obvious and median keels absent or obsolete.

Ventral plates with a median longitudinal sulcus which is interrupted over caudal border and over about the second fifth of its length. Last ventral plate with caudal margin weakly concave.

Coxopleural processes very short, practically reduced to the single terminal spine. Coxopleurae wholly unarmed. Pores small and very numerous.

Spiracles circular, rather large.

Tarsi of all legs but the last biarticulate, but the two joints not movable upon each other. Metatarsus of all legs from first to antepenult with the usual spur at distal end on anterior side, otherwise legs wholly unspined. Penult legs unarmed.

Femur of anal legs somewhat triangular in cross-section, being dorsally flattened with a furrow at distal end and ventrally compressed to a ridge which bears three long straight processes which project ventrocaudad, or less commonly four or even five such processes; otherwise without spines or spinules but with numerous very short hairs each of which arises from a nodule or slight tubercle. Tibia and metatarsus wholly unarmed, bearing short hairs from nodular bases like those of the femur (Plate II, Fig. 8). First joint of tarsus half or more the length of the metatarsus; distal division or flagellum of tarsus composed of distinct articles of variable length and mostly from nineteen to twenty-five in number; setae of tarsus short (Plate II, Fig. 9).

Length, to 50 mm.

British Guiana, Dunoos: Labba Creek, sand hills, July 27 and August 25, 1914; and sand-hill forest, August 17, 19, 20, and 24, 1914. Nine specimens. Type, M.C.Z., 2176.

A female numbered 101 is accompanied by her numerous eggs, the field note stating that "it was found in a small cavity in a



rotten log and was curled about the eggs when uncovered, but made no attempt to defend them, hurrying away to concealment in the débris." (August 19.) This indicates that the female *Newportia* remains with the eggs as do those of *Otocryptops* and various other Scolopendroids in which respect they are like the *Geophiloids*.

***Newportia* (*Newportides*) *unguifer*, subgen. et sp. nov.**

Plate II, Fig. 10

Body and legs in general fulvous. Head with prehensors and antennae darker, more orange.

Head with paired sulci similar to those of *ernsti* Poc. but shorter, not fully attaining the middle, and not crossed by a transverse sulcus near base.

Antennae proportionately long, composed of seventeen articles of which all but the first two are clothed with numerous short fine hairs.

Dental plates of margin of prosternum more prominent than usual, separated by a deep acute median emargination, inner corner of each rounded, the ectal one subrectangular.

First dorsal plate with a free semicircular cervical sulcus; with paired longitudinal sulci which pass beyond the cervical sulcus as in *ernsti* Poc., etc. Paired submedian sulci present on all subsequent tergites to the twenty-second, deep lateral sulci present from the fifth plate caudad as are also paired sulci setting off a flat median keel.

Ventral plates with a median longitudinal sulcus. Last ventral plate with caudal margin gently arcuate, being convex at the middle and concave toward each end.

Coxopleural processes of moderate length, ending in a single point; they and coxopleurae otherwise unarmed.

Spiracles minute.

Anterior legs unarmed excepting for the usual metatarsal spine at distal end in front and this much reduced.

Femur, tibia, and metatarsus of anal legs conspicuously flattened. First tarsal joint about half as long as the metatarsus; distal division of tarsus abruptly much more slender than first, consisting of distinct articles typically nine in number and terminating in a fully developed curved claw. Femur armed beneath with four spines or processes which are short and distally curved. Tibia with two much smaller spines beneath, one a little each side of middle in the median line. Other joints unarmed (Plate II, Fig. 10).

Length, 18 mm.

British Guiana, Dunoon: Labba Creek, sand hills, July 27 and August 25, 1914; sand-hill forest, August 17 and 24, 1914. Five specimens. Type, M.C.Z., 2177.

The claws of the anal legs in this species are of normal size, being rather better developed than those of *N. amazonica* Brölemann, the only other known species of the genus bearing true claws on the anal legs. The present species differs from *amazonica* in having the joints of the tarsus distinct, or mostly so, in the shorter processes of the femur, the much smaller spines of tibia and their position, and in numerous other details; but the two are obviously closely related and may be placed in a separate subgenus, Newportides, subgen. nov., in contrast with the forms with clawless anal legs, *Newportia sens. str.*

***Newportia lasia*, sp. nov.**

Plate III, Fig. 11

Ochraceous to bright orange-yellow, the head more reddish. Antennae and legs fulvous.

Head with short paired sulci extending across posterior border; punctae fine, sparse; caudal margin widely convex.

Antennae long, reaching upon the fifth segment when laid back; consisting of seventeen articles. Short hairs on all articles

though less dense on first one or two which have the more numerous setae.

Dental plates low, separated by a median incision, their edges straight. Prosternum without median or paired sulci.

First dorsal plate with a freely exposed semicircular cervical sulcus, but without trace of paired longitudinal sulci, which are also lacking on the second tergite. Paired submedian sulci present from third tergite caudad, lateral sulci beginning with the fourth. All tergites without traces of a median keel.

Ventral plates with a median longitudinal sulcus. Last ventral plate not sulcate, its caudal margin obtusely excavated.

Spiracles circular, rather large.

Coxopleural processes of moderate length, point single, no spinules on them or coxopleurae. Pores of coxopleurae very numerous. Mesal surfaces of coxopleurae beginning at bases of processes densely pilose.

Basal spines of tarsal claws large. Distal division of tarsus of all legs to the penult inclusive with a large ventral spine at its middle. Metatarsus of all legs to the antepenult inclusive with two distal spines, that of the penult legs with only the ventral one. All joints of penult legs densely pilose over mesal surface.

Mesal surface of femur of anal legs densely pilose, the hairs elsewhere numerous but less dense. All joints of anal legs more or less decidedly flattened. Tarsus without any first article set off from the rest, no distinct divisions at all present, as a whole much longer than the metatarsus. Femur armed along ventral edge with five short curved spines. The tibia with a series of three similar but somewhat smaller spines, one near middle and two proximad of middle (Plate III, Fig. 11).

Length of type, 52 mm.

British Guiana, Dunoon: sand-hill forest, August 20, 1914, F. M. Gage. Two specimens. Type, M.C.Z., 2178.

**Newportia parva**, sp. nov.

Plate IV, Fig. 16

General color of body and appendages fulvous.

Head relatively long, widest behind; paired longitudinal sulci present only for a short distance in front of caudal margin.

First three articles of antennae sparsely hirsute, the other with the usual fine short hairs.

Dental plates low, each convex.

First dorsal plate with cervical sulcus free, strongly angled at middle, the angle in a depression. Paired longitudinal sulci furcate, their inner branches running as usual to the angle of the cervical sulcus and each outer one ectocephalad to the sulcus. Paired sulci also present on the second and succeeding plates as usual. On the third and more posterior plates lateral sulci also present and a flat median keel set off by submedian sulci present in posterior region at least.

Last ventral plate rather broad, its caudal margin concave.

Spiracles minute.

Coxopleural processes proportionately long, point single.

Anterior legs without true spines excepting the small spine or spur at distal end of metatarsus on anterior side, but setae in part stout and subspiniform.

First tarsal joint of anal legs half as long as metatarsus or a little longer, somewhat clavate distad, abruptly thicker than the distal division, which in the type is short, and consists in the type of ten articles, in a young paratype of but four. Femur armed beneath with a series of three processes which are distally curved and are short, in length less than half the depth of the article; also bearing along mesal surface three spinules and along dorso-mesal edge six; also a series of about six similar spinules along ectal surface. Tibia in median ventral line with two spinules, one each side of the middle, on mesal face with three of which the

basal one is larger, and two on dorsomesal edge proximad of middle. Other joints unarmed (Plate IV, Fig. 16).

Length, 16 mm.

British Guiana, Dunoon: Labba Creek, "first mourie," sand-hill forest, August 18 and 26, 1914, F. M. Gaige. Two specimens. "The first collected in rotten wood and the second under fallen leaves in a tree clump." Type, M.C.Z., 2179.

#### OTOSTIGMIDAE

*Otostigmus scabricaudus* (Humbert and Saussure)

*Branchiostoma scabricauda*, *Rev. et Mag. Zool.*, Ser. 2, XXII (1870), 203

Colombia: San Lorenzo. One female taken from a bromeliad on a tree, July 22, 1913.

*Otostigmus clavifer*, sp. nov.

Plate I, Fig. 3

Dorsum in general light olivaceous; sometimes the caudal borders of tergites, the first tergite, and head caudad of the frontal region with prosternum somewhat light ferruginous, or the first tergite and head abruptly darker brown. Legs pale olive, the antennae browner.

Head with punctae sparse; with no paired sulci.

Antennae rather long; composed of twenty articles of which the first two and the basal fourth or less of the third are essentially glabrous.

Prosternal teeth 4+4, the innermost and outermost on each side smaller than the median two, the interval between which is wider than the others. Sulcus at base of dental plates forming an obtuse angle at middle, from which a short median line extends caudad.

Dorsal plates distinctly bisulcate from the fifth caudad. Excepting the last none of the tergites laterally margined. None of the plates with a median keel, all smooth and shining, with no

trace of cornicles or spinous points. Last tergite with caudal margin obtusely angular at middle, wholly without furrows or pits.

Ventral plates in general without distinct furrows; with a network of lines over caudal and cephalic borders. Last ventral plate narrowed caudad; the caudal margin slightly incurved; a median longitudinal furrow.

Coxopleurae of pregenital segment not at all produced, caudally simply rounded.

First four pairs of legs with two tarsal spines, the fifth and succeeding ones to the twentieth inclusive with one tarsal spine.

Anal legs wholly unspined.

Femur in male with a long process similar to that of *scabricaudus*, etc., which arises from base on mesal side and attains the distal end of the joint; this appendage flattened, its mesal edge obtusely angled distad of its middle, appendage beyond this weakly curved, distally rounded and bearing at distal end on dorsal or submedian side a patch of golden-brown hair (Plate I, Fig. 3).

Length, 52 mm.

British Guiana, Dunoon: sand-hill forest, in rotten wood, August 24, 1914, one male; "first mourie," August 26, 1914, one male; and "second mourie," August 19 and 20, 1914, two females; F. M. Gaige.

Colombia: Cincinnati Coffee Plantation, July 5, 1913, F. M. Gaige.

Type, M.C.Z., 2180, from Dunoon, British Guiana.

The species is related most nearly apparently to *O. scabricaudus* (Humbert and Saussure), but is distinguished by the wholly smooth tergites and absence of median keels, the absence of median furrow on sternites, and the form of the appendage of the femur of the last legs, this being flattened rather than cylindrical with the end rounded, not flattened, and the patch of golden-brown hair at the side of the end, not at the middle of the distal surface, etc.

**Otostigmus brunneus**, sp. nov.

Plate I, Fig. 4

Both dorsum and venter brown, the head not differing from tergites. Anal legs olivaceous distad of femora.

Head with paired longitudinal furrows at base and a short median sulcus extending caudad from anterior median emargination.

Antennae long; composed of twenty articles of which the first two are glabrous excepting a few scattered setae, the others abundantly clothed with fine short hairs of the usual character.

Prosternal teeth 4+4 but the most mesal one on each side united with the adjacent one nearly completely. Basal sulcus as in the preceding species.

Dorsal plates from the fourth inclusive with paired sulci distinct. Only the last plate laterally margined, its caudal margin strongly convex in middle. Tergites with surface smooth.

Sternites not distinctly furrowed. Last ventral plate strongly narrowed caudad, its caudal margin incurved.

Coxopleurae of pregenital segment not produced, caudally simply blunt or rounded.

Legs of first three pairs with two tarsal spines, the succeeding ones to the antepenult inclusive with a single tarsal spine, the penult and anal legs unspined.

Femur of anal legs of male with an appendage arising from mesal side toward the base much as in the preceding form; the appendage reaching only about two-thirds the distance to the caudal end of femur, much more slender than that of the preceding form, cylindrical, distally somewhat clavate and rounded and with a small patch of golden-brown hair on mesal side of end (Plate I, Fig. 4).

Length, nearly 32 mm.

British Guiana, Dunoon: "first mourie," August 5, 1914, F. M. Gaipe, one male taken "among fallen leaves in a tree clump";

and Labba Creek, sand hills, July 27, 1914, F. M. Gaige, one female "collected in rotten wood on ground." Type, M.C.Z., 2181.

*Rhysida celeris* (Humbert and Saussure)

*Branchiostoma celer* Humbert and Saussure, *Rev. et Mag. Zool.*, Ser. 2, XXII (1870), 202.

Colombia: Fundacion, August 11, 1913, under log in dry part of cleared marsh, one specimen, and August 16, 1913, 4,500 ft., one specimen; near Mamotoca, July 28, 1913, 200 ft., under damp leaves along ditch from Tamocal River.

SCOLOPENDRIDAE

*Scolopendra gigantea* Linné

*Syst. Nat.*, 10th Ed. (1758), p. 638

Colombia: near Mamotoca at foot of mountains, under logs, July 30, 1913, Ruthven and Gaige.

Two specimens about 150 mm. long. These are very deep olive brown, almost blackish in part, the tergites paler along caudal borders and posterior plates of more reddish tinge. Anal legs reddish chestnut proximally, distally deep olive. First legs with no dorsal spine above on femur, others with three or four.

*Scolopendra moisitans* Linné

*Syst. Nat.*, 10th Ed. (1758), p. 638

United States Virgin Islands (Danish West Indies): St. Croix, one young specimen collected beneath stone on a dry hillside September 18, 1914, and two adult specimens taken September 14-18, 1914, F. M. Gaige.

*Scolopendra subspinipes* Leach

*Trans. Linn. Soc.*, XI (1814-15), 383

United States Virgin Islands (Danish West Indies): St. Croix, five specimens of typical form taken September 14-18, 1914, F. M. Gaige.



*Cupipes ungulatus* Meinert

*Proc. Amer. Phil. Soc.*, XXIII (1886), 187

Colombia: near Mamotoca, under leaves along stream at La Tigrera, 400 ft., August 3, 1913, one young specimen apparently this species.

CHILENOPHILIDAE

*Ribautia fuhrmanni* Ribaut

*Mem. Soc. Sci. Nat. de Neuchâtel*, V (1914), 79, Figs. 3-15

British Guiana, Dunoon: sand-hill forest, one specimen taken in aerial root masses, August 14, 1914, F. M. Gaige.

Previously known from Colombia.

ORYIDAE

*Notiphilides maximiliani* (Humbert and Saussure)

*Notiphilus maximiliana* Humbert and Saussure, *Rev. et Mag. Zool.*, Ser. 3, V (1879), 205.

Colombia: Fundacion, one male taken under bark of a log in the forest, August 14, 1913.

*Orphnaeus brevilabiatus* (Newport)

*Geophilus brevilabiatus* Newport, *Trans. Linn. Soc. London*, XIX (1844), 436.

British Guiana, Dunoon: sand-hill forest, one specimen taken August 14, 1914, in aerial root masses, F. M. Gaige.

SCHENDYLIDAE

*Diplethmus mexicanus* Cook

*Proc. Ent. Soc. Wash.*, IV (1899), 306, Plate V, Figs. 2a-2e

Colombia: San Lorenzo, one male taken from bromeliad on tree at 5,000 ft., July 22; and an incomplete male taken under log at 2,000 ft., July 25, 1913.

Professor Ribaut has also recorded this species from Colombia (Capetal Camelia, near Angelopolis) and gives an excellent description with figures (*Mem. Soc. Sci. Nat. de Neuchâtel*, V [1914], 90, Figs. 26-37).

**Adenoschendyla gaigei**, sp. nov.

Plate III, Figs. 12, 13, and 14; Plate IV, Fig. 17

Pairs of legs, 53, 55.

Head plate longer than wide in ratio 12:11. Anterior margin straight or nearly so, emarginate at middle between antennae. Anterior corners oblique. Caudal margin wide, straight. Widest in front of middle, sides slightly converging caudad (Plate III, Fig. 12).

Prebasal plate slightly exposed at middle only.

Prelabial zone more than twice as wide as long. Reticulation distinct, fine, closest in the anterior median region as usual. A postantennal seta each side of this more finely reticulated area and just caudad of this a transverse series of typically six setae (3+3 or 3+4) the series not fully reaching the outer end on either side. Two setae adjacent to median region of labrum.

Labrum with median arc consisting typically of ten or eleven to fourteen teeth which increase in size from the middle to each end of the series, the median teeth distally rounded, the more lateral ones becoming more acute. Teeth of median arc on each side passing almost insensibly into the lateral series, the teeth of which are from seven to ten in number and become more slender and prolonged distally in going toward ectal end. The distance between the sides of the lateral pieces to the total width of labrum, measured straight across, as 9:40 (Plate III, Fig. 14).

Coxosternum of first maxillae with 2+2 setae in a transverse series, the more mesal seta of each pair long, the ectal greatly reduced. For coxosternum of second maxillae see Plate IV, Fig. 17. Setae 3+3 or 3+4 in the usual semicircle back of anterior border of coxosternum of second maxillae with caudad of this on each side along median line and in front of caudal border out to the metameric pore a group of setae in a double series, the anterior series continuing forward a little in front of the pore. Metameric pore separated by a distance clearly four times or a little more the

distance from each pore to the corresponding caudoectal angle of the coxosternum. Claw of palpus large, completely pectinate.

Basal plate wide at base, strongly narrowed forward. Prosternum broad, a little less than once and a half times wider than long (nearly 1.4:1); anterior margin unarmed. Femuroid of prehensors armed at distal end within with a short blunt tooth, the other joints unarmed. Claws of prehensors when closed extending beyond front margin of head, attaining or nearly attaining the distal end of the first antennal article (Plate III, Fig. 13).

Tergites bisulcate. Last tergite large, a little broader than long (about as 14:13), shield-shaped, the sides being convex and converging caudad to an obtuse or rounded point.

Ventral pores absent from first tergite; present without break on sternites from second to antepenult inclusive; pore area circular and undivided in all cases.

Last ventral plate broad, sides converging caudad, posterior angles rounded and caudal margin widely convex.

Last legs composed of the usual seven joints. Coxopleurae each with two heterogeneous or branched glands. Anal legs alike in stoutness and pilosity in the two sexes.

Pairs of legs in the male, fifty-three; in the female, fifty-five.

Length, up to 45 mm.

British Guiana, Dunoon: Labba Creek sand hills, July 27; clay jungle by first landing on Labba Creek, August 12; sand-hill forest, August 14, 17, 18, 22, 24, 27, September 4; east trail along river September 2, 1914; F. M. Gage. Many specimens collected under leaves and logs, in rotten wood and damp earth, etc. Type, M.C.Z., 2182.

This species seems to be in most features very close to *A. geayi* Brölemann and Ribaut<sup>1</sup> the types of which were taken on the

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<sup>1</sup> *Nouvelles Archives du Muséum d'Histoire Naturelle*, Ser. 5, IV (1912), 108, Figs. 24-32.

lower Carsevenne, a river of northern Brazil just east of French Guiana. In *geayi* the anal legs of the male have the third, fourth, and fifth articles much more densely pilose than in the female, whereas in the present species there is no such difference. The figure given by the authors mentioned (Fig. 30) to illustrate the coxal glands of *geayi* shows the caudal margin of the last ventral plate as straight or slightly incurved, whereas in the present species it is distinctly convex. The prehensors in *geayi* are smaller, when closed (as shown in Fig. 24, *op. cit.*) falling short of the front margin of the head, whereas extending well beyond it in *gaigei*. The prelabral setae in *geayi* are twelve in number in two series caudad of the postantennal pair, whereas there are but six (3+3) in a single series in the present form, or rarely with one or two extra ones in a second line. Teeth of the lateral pieces of the labrum in *gaigei* seven to ten, in *geayi* more than twelve. Metameric pores in coxosternum of second maxillae four times as far apart as each pore is from the corresponding caudo-ectal angle of coxosternum in *gaigei*, whereas they are only two and a half times as far apart as this distance in *geayi*. The present species is larger, the maximum length being 45 mm. as against 25 mm.

**Schendylurus colombianus, sp. nov.**

Plate IV, Figs. 18 and 19

Cephalic plate with two furrows extending from caudal margin forward to about the middle. Short and broad, longer than wide in the ratio 9:8. Anterior margin obtusely angular.

In prelabral region eight setae in two series caudad of the postantennal pair; thus, 1+1, 3+3, 1+1, the last two setae but little caudad of the preceding series and close to the middle. A clypeal area, or area of smaller reticular polygons, between and extending both cephalad and caudad of these two last setae, as also described for *lesnei* Brölemann and Ribaut, but more in front than behind the setae.

Median arc of labrum composed of about sixteen stout teeth of which those toward the ends of the series have the tips more acute and curved mesad, in transition to the more finely tipped lateral teeth of which there are in the type four on each side, making a total of twenty-four teeth (Plate IV, Fig. 18).

Branches of first maxillae distinct, set off by suture; both distally membranous and pointed, the outer branch more obtusely so.

In the second maxillae the suture between pleurite and coxosternum is of the typical form. Claws of palpi completely pectinate as usual.

Basal plate trapeziform, its anterior margin overlapped by the head, the prebasal plate thus not evident. Anterior margin of prosternum unarmed. Claws of prehensors stout, when closed about on a level with anterior margin of head. Femuroid of prehensors with inner side very short, it and other joints unarmed.

Tergites strongly bisulcate, the sulci deep and broad from the first plate. Last tergite very broad, wider than long nearly in ratio 5:3; sides moderately converging caudad; caudal margin widely convex with a short median portion truncate.

Ventral pores present in a subcircular area on all sternites from the second to the penult inclusive.

Last ventral plate trapeziform, short and broad, wider than long in ratio 5:3; each lateral margin slightly incurved or, rather, forming a very obtuse re-entrant angle; caudal margin wide and straight (Plate IV, Fig. 19).

Last legs consisting of seven articles. Coxae each with two large simple glands of which the anterior is completely covered and the posterior one covered excepting a small ectal portion. In the male the femur is thick and each succeeding joint is progressively less in diameter, the last one slender (Plate IV, Fig. 19).

Pairs of legs in male type, fifty-nine.

Length, 32 mm.

Colombia: Fundacion, one male taken "under bark of a log in the forest," August 14, 1913. Type, M.C.Z., 2184.

A species like *lesnei* Brölemann and Ribaut in having all ventral pore areas undivided, but differing in the presence of pores on the penult sternite. In having pores on the sternites from the second to the penult inclusive similar to the Brazilian species *perditus* Chamberlin and *bakeri* Chamberlin, but these species have the prebasal plate exposed, the head longer, the legs fewer, etc.

**Schendylurus labbanus**, sp. nov.

Plate IV, Figs. 20 and 21

Cephalic plate widest in front of middle, longer than wide in ratio 7:6. Anterior corners oblique. Anterior margin straight. Posterior margin straight or very weakly incurved, wider than the anterior margin.

Joints of antennae rather short, the fourth longer than wide nearly in ratio 7:6.

Prelabral region with setae few, only four, or possibly six, occurring in one series caudad of the postantennal pair, the arrangement thus being 1+1 and 2+2 or 3+3. The usual area of smaller polygonal reticulations between and near the median setae of the second series.

In contrast with the very wide median arch of the labrum of the preceding species, in the present form the median region is deep and comparatively short with the lateral pieces correspondingly long, as more usual in e.g., *Adenoschendyla*. The distance between ends of median arc about one fourth, or a little less, the total width of labrum. Median arc with thirteen teeth, each lateral portion with five or six teeth, these with more slender tips as usual (Plate IV, Fig. 21).

Dental plate of mandibles in three sections or blocks, these bearing respectively three, three, and four teeth, a total of ten.

The first maxillae seem quite distinctive in that the inner branch on each side is much thicker than the outer branch, with the distal end broad and rounded, whereas the slender outer branch is distally acuminate.

In the second maxillae the pleurosternal suture is clearly marked. The claw of the palpi long, completely pectinate.

For prehensors see Plate IV, Fig. 20.

Ventral pores on all sternites from the first to the penult inclusive, the area circular and all undivided.

Last ventral plate narrowed conspicuously caudad; caudal margin incurved.

Pores of last coxae two on each side, large and simple as usual.

Pairs of legs, forty-nine.

Length, about 12 mm.

British Guiana, Dunoon: clay jungle, by first landing on Labba Creek, one specimen taken under a log, August 12, 1914, F. M. Gaige. Type, M.C.Z., 2183.

Apparently nearest to *S. tropicus* Brölemann and Ribaut of French Guiana. It differs in having all ventral pore areas undivided, in the much fewer setae of the prelabral region, and in the characteristic form of the first maxillae, etc.

#### BALLOPHILIDAE

##### *Ityphilus guianensis*, sp. nov.

Plate V, Figs. 20, 23, and 24

General color in alcohol fulvous.

Head without frontal suture, short, a little wider than long, the ratio of width being about 19+ : 18. Anterior and posterior margins truncate, the latter much the longer (Plate IV, Fig. 22).

Antennae distally strongly clavate, geniculate. The enlarged subcylindrical distal portion embraces the last six articles of which the first is transitional, being narrow at base and strongly widening distad. Articles, excepting the ultimate, all wider than

long, those proportionately shortest and widest being the four immediately preceding the ultimate (Plate IV, Fig. 22).

Prelabral region with six setae, a postantennal series of 2+2 and two setae following, one behind the other, on the median line.

Labrum simple, non-chitinous.

Mandible with about eleven teeth of which the most ventral are largest.

Prosternum with chitinous lines present, these light. Anterior margin widely and evenly concave. Prehensors short, joints all unarmed, but claw serrate at base within (Plate V, Fig. 23).

Dorsal plates conspicuously roughened with transverse ridges or series of short rugae or tubercles which bear setae. Last dorsal plate shield-shaped, broad at base with sides convex and strongly converging to the narrowly rounded caudal end.

Ventral pores present in a circular area on all sternites from the first to the penult inclusive. Sternites with numerous long setae, these arranged in general in four longitudinal series, with five or six setae in each, and sometimes several irregularly placed setae. Presternites with setae in a transverse series. The pleurites also with straight setae.

Setae of legs similar to those of body, numerous.

Last ventral plate long, strongly narrowed caudad from middle in front of which the sides are subparallel; caudal margin short and straight (Plate V, Fig. 24).

Anal legs, in the male at least, strongly thickened, subconically narrowing from base to distal end. Setae straight and stiff, numerous, a longitudinal ventral series of somewhat larger special setae on each leg over its entire length as in *I. lilacinus* Cook. Coxopleural pores two on each side, these simple, with the posterior one typically considerably larger than the anterior (Plate V, Fig. 24).

Pairs of legs, forty-nine in one specimen and fifty-five in two. Length, 23 mm.



British Guiana, Dunoon: "east trail along river bank, in very damp clay beneath ground litter of rotten twigs and leaves," August 11; sand-hill forest, in rotten wood, August 18; and "second mourie," under dead leaves, August 19, 1914. One specimen from each locality. Type, M.C.Z., 2185.

*Ityphilus lilacinus* Cook, from Sugar Loaf Key, Florida, the only other known species of the genus, has a much larger number of legs, seventy-one pairs, and the anterior margin of the prosternum is more deeply and angularly excised, etc. In some respects, such as the form of the posterior region of the body, very similar to *Taeniolum setosum* Pocock, a small form from St. Vincent having forty-nine pairs of legs; but the antennae of this form are short and distally attenuated, much as in *Orphnaeus*, and the ventral pores are said to be transverse, so that the two species can scarcely be congeneric and quite likely do not belong to the same family. In several respects *Taeniolum* suggests *Diplethmus* of the family Schendylidae.

#### SOUTIGERIDAE

##### *Pselliodes*, gen. nov.

*Pselliophora* Verhoeff, *Sitzungs-Berichten der Ges-naturf. Freunde*, 1904, No. 10, 259 (name preoccupied by *Pselliophora* Osten-Sacken, Diptera, 1886).

Genotype.—*P. colombiana*, sp. nov.

##### *Pselliodes colombiana*, sp. nov.

Plate V, Fig. 25

Resembling *P. nigrovittata* (Meinert) and *P. cavicola* (Chamberlin), though readily distinguishable by differences in coloration. Dorsum black with a narrow median longitudinal stripe of orange, the stoma saddles dusky or fuscous, the color of the latter deepest bordering the stomata; with no continuous pale stripe along lateral margin of plates such as present in *nigrovittata*, this being at most represented by a small orange spot in each anterolateral corner. The median orange stripe on head narrow, its edges

well removed from eyes but a narrow tongue of the light color running from the median stripe obliquely cephaloectad to each eye. Legs much darker than in *nigrovittata*. Femur with a sub-basal cross-band of blackish beneath, not extending to upper surface, and a wider subdistal blackish annulus which is complete, the two annuli connected by a longitudinal dark stripe beneath, this extending distad beyond the second ring, the distal pale ring also more or less margined with dark. Tibiae fuscous excepting a narrow annulus of orange at proximal end, a similar annulus at middle, and a pale spot at distal end above. Metatarsi fuscous excepting a narrow light ring at distal end and a similar one a little proximad of middle. Tarsi proximally fuscous, becoming singularly paler distad, distally typically dark orange. Venter light brown.

Caudal margin of stoma-bearing tergites mesally only weakly indented or excised, not at all angularly produced at middle of depression, or the last plate alone vaguely obtusely angled at middle (Plate V, Fig. 25). Last tergite with caudal margin convexly rounded, not normally incurved as the West Indian *cubensis* (Chamberlin) and *pulchritarsus* (Verhoeff), at most obscurely notched.

First tarsus of seventh leg with eleven segments, the second with forty. First tarsus of twelfth leg with ten segments, the second with thirty-six. Articles of first flagellum of antennae about sixty-two.

Length, 28 mm.

Colombia: San Lorenzo. From stump in woods at 4,500 ft. elevation, July 5, 1913. One female. Type, M.C.Z., 2172.

***Pselliodes orphnia*, sp. nov.**

Plate V, Fig. 26

Much resembling *P. colombiana* in coloration. Dorsum similarly black with narrow mid-dorsal orange stripe; but the latter somewhat darkened over entire length as well as on saddles

excepting a narrow yellow border on each side adjacent to the black of the sides, the tips of the stoma fuscous as in the other species; there is also an obscure narrow light stripe along each side of tergites, an irregular bright spot occurring typically at anterior corner but also one near middle and one caudad. Venter brown.

Head marked as in *colombiana*, but median pale stripe crossed by a dark V-shaped mark at level of antennal sockets and a narrow dark line farther caudad. Femora black excepting a narrow light ring at base, an irregular and interrupted one at middle and one at distal end which is most distinct above, the dark areas becoming more extensive than in *colombiana*. Tibiae colored essentially as in *colombiana*; black excepting a narrow sub-basal ring, a similar submedian one and a light spot at distal end above with an obscurer light region between middle annulus and distal end. Metatarsi dark excepting a fulvous annulus at distal end and one proximad of middle.

Stoma saddles more strongly elevated, and clothed with more numerous hairs between spinules. Posterior margin of all stoma-bearing tergites deeply incised at middle with stoma projecting in median region of excavation in an acute angle (Plate V, Fig. 26).

First tarsus of seventh legs with eight segments as against eleven in *colombiana*, the second with thirty-eight. First tarsus of thirteenth legs with eleven segments, the second with thirty-eight. First tarsus of fourteenth legs with eleven segments, the second with forty-four. First flagellum of antennae in type with sixty-two articles.

Length, 24 mm.

Brazil: (W. M. Mann, Stanford Expedition, 1911). One male. Type, M.C.Z., 1455.

Most readily distinguished from the preceding species by the deep excavation of posterior border of tergites with the angular projection at bottom of each into which the stoma projects, the

coarser and more numerous prickles over the stoma-saddles, and the more widely separated spinules of the caudal margin with the intervening prickles which are lacking in *colombiana*.

**Pselliodes natalana**, sp. nov.

*Pselliophora nigrovittata* Chamberlin (nec Meinert), *Bull. M.C.Z.*, 58 (1914), p. 221.

Dorsum with a median longitudinal fulvous stripe as wide as or posteriorly wider than a black fuscous stripe each side of it, with a continuous narrower fulvous or orange stripe along the lateral borders of plates. Stoma saddles pale excepting tips of stoma which are fuscous. Head yellow above excepting an irregular narrow dark stripe each side of middle between and caudad of eyes and a broader dark stripe mesad of base of each antenna and down the clypeus across the lower part of which the two stripes are united. Venter fulvous. Legs in general yellow. Femora of legs not annulate but with two dark spots on caudal side of which proximal one is smaller or sometimes absent, otherwise clear yellow. Tibiae each with two annuli widely interrupted both above and below. Metatarsi a little darker on anterior and posterior faces at base.

First tarsus of seventh legs with eleven segments, the second with thirty-nine. First tarsus of ninth leg with fifteen segments, the second with thirty-three.

Caudal margin of ordinary tergites mesally weakly incurved. Last tergite clearly more strongly narrowed caudad than that of *colombiana*, the caudal margin strongly convex.

Length, 27 mm.

Brazil, Rio Grande del Norte: Natal. (W. M. Mann, Stanford Expedition, 1911.) Type, M.C.Z., 2171. Paratypes, M.C.Z., 1460, 1461, 1462, and 1453.

The types of this species were, as indicated above, originally referred to *P. nigrovittata* (Meinert), but further study shows them to be distinct. The two species are readily distinguished by the differences in markings of the legs, etc.



PLATE I

*Olocryptops ferrugineus inversus*, subsp. nov.

FIG. 1.—Anterior margin of prosternum with adjacent parts of prehensors of type,  $\times 18$ .

FIG. 2.—The same of paratype,  $\times 18$ .

*Olostigmus clavifer*, sp. nov.

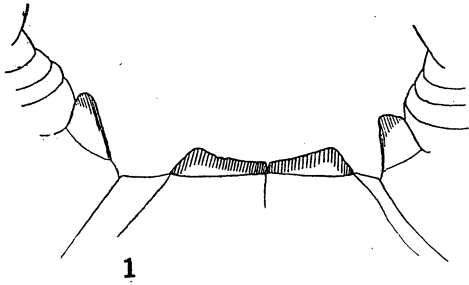
FIG. 3.—Femur of anal leg of male, dorsal view,  $\times 18$ .

*Olostigmus brunneus*, sp. nov.

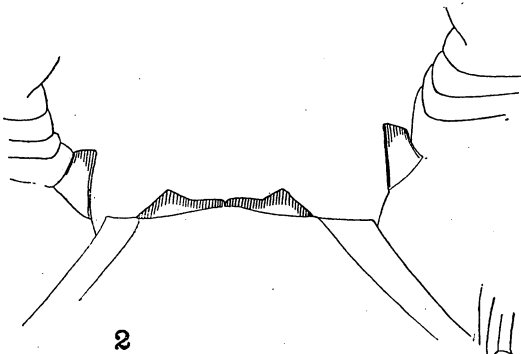
FIG. 4.—Femur of anal leg of male, dorsal view,  $\times 18$ .

*Tidops echinopus*, sp. nov.

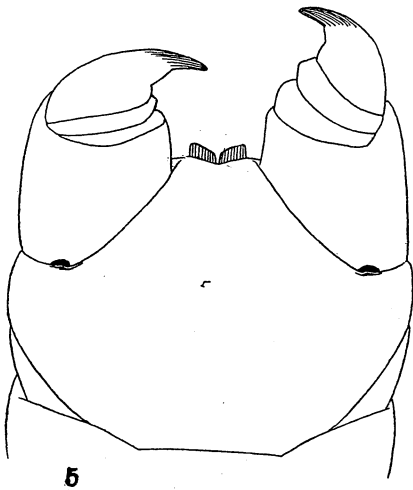
FIG. 5.—Prosternum and prehensors, ventral view, paratype,  $\times 46$ .



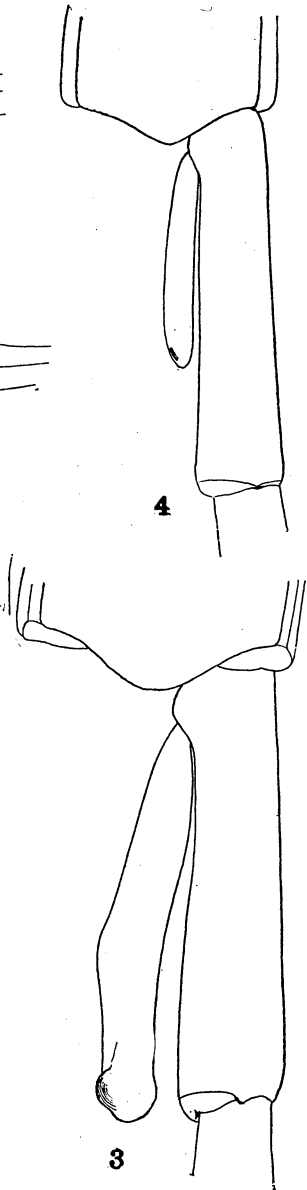
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4

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PLATE II

*Tidops echinopus*, sp. nov.

FIG. 6.—Right anal leg, mesal view, with distal tarsus omitted,  $\times 29$ .

FIG. 7.—Distal tarsus of same,  $\times 29$ .

*Newportia diagramma*, sp. nov.

FIG. 8.—Right anal leg excepting tarsus, mesal view,  $\times 13$ .

FIG. 9.—Tarsus of same,  $\times 13$ .

*Newportia (Newportides) unguifer*, sp. nov.

FIG. 10.—Right anal leg, mesal view,  $\times 45$ .



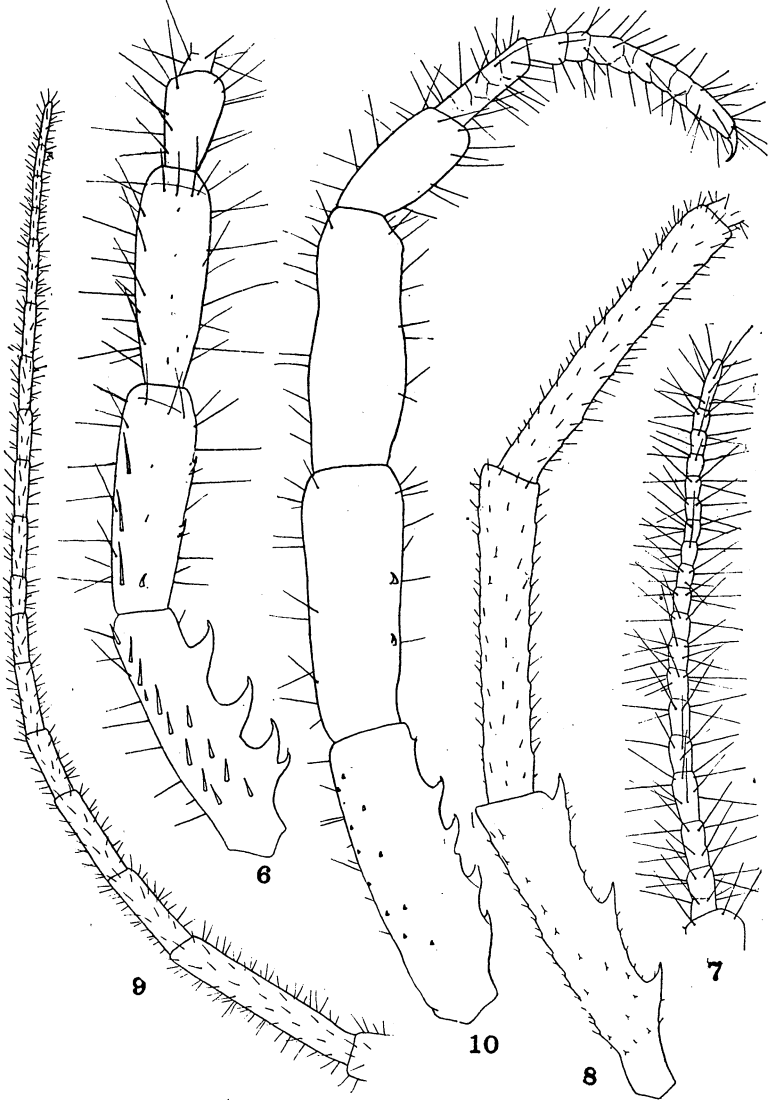


PLATE III

*Newportia lasia*, sp. nov.

FIG. 11.—Right anal leg, mesal view, end of tarsus omitted,  $\times 13$ .

*Adenošchendyla gagei*, sp. nov.

FIG. 12.—Head and prehensors, dorsal view,  $\times 35$ .

FIG. 13.—Prosternum and prehensors, ventral view,  $\times 35$ .

FIG. 14.—Labrum,  $\times 187$ .

*Schendylurus colombianus*, sp. nov.

FIG. 15.—Prehensors, ventral view,  $\times 57$ .

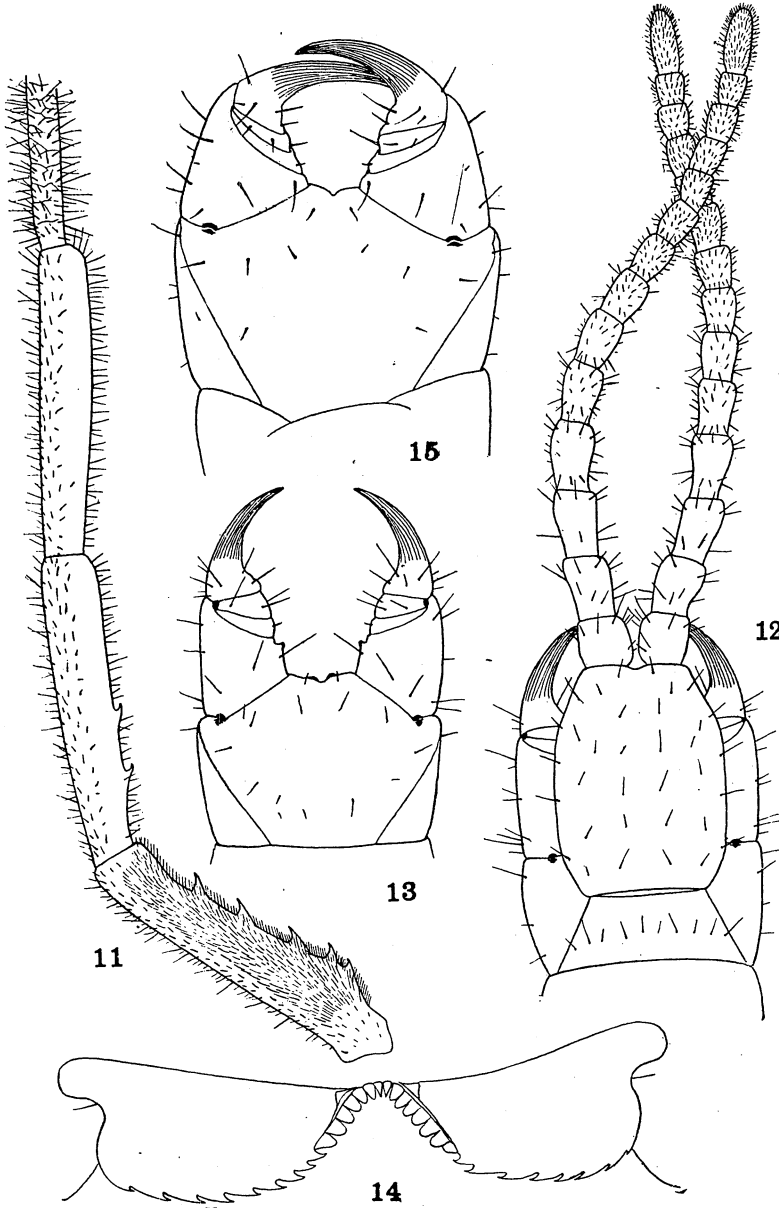


PLATE IV

*Newportia parva*, sp. nov.

FIG. 16.—Left anal leg, mesal view,  $\times 45$ .

*Adenoschendyla gaigei*, sp. nov.

FIG. 17.—Detail of coxosternum of second maxillae,  $\times 70$ .

*Schendylurus colombianus*, sp. nov.

FIG. 18.—Labrum,  $\times 310$ .

FIG. 19.—Caudal end of body, ventral view (hairs omitted),  $\times 57$ .

*Schendylurus labbanus*, sp. nov.

FIG. 20.—Prehensors,  $\times 72$ .

FIG. 21.—Labrum,  $\times 310$ .

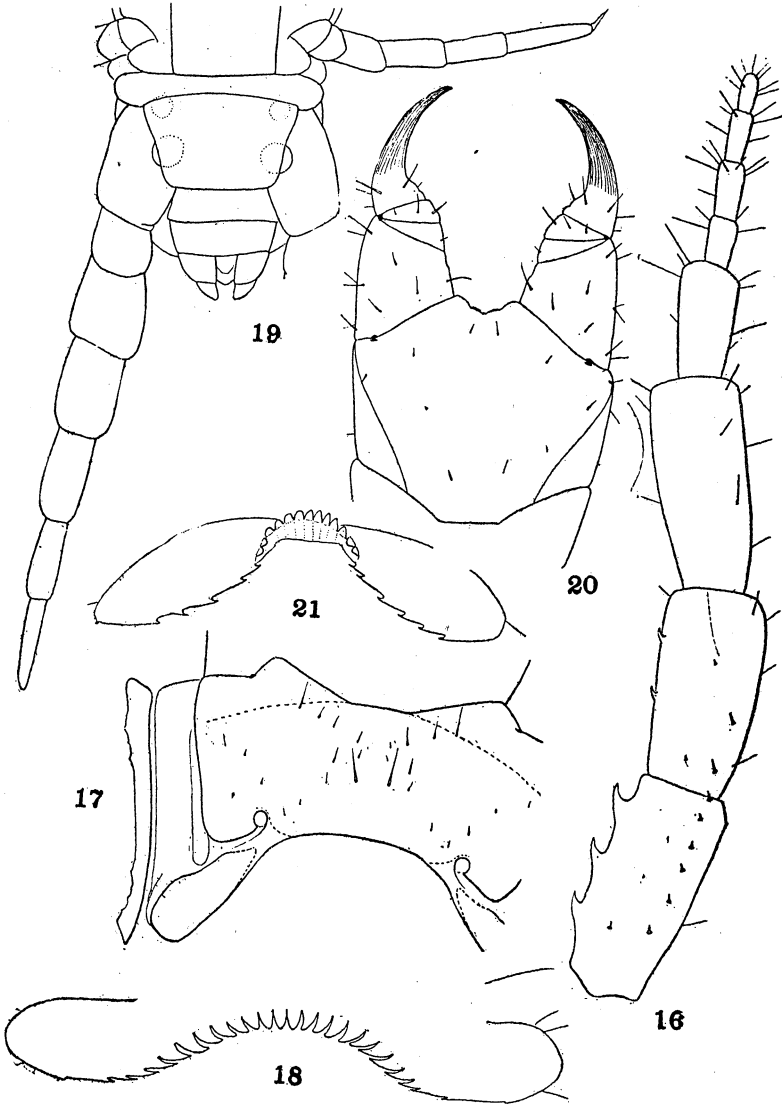


PLATE V

*Ityphilus guianensis*, sp. nov.

FIG. 22.—Head, dorsal view,  $\times 75$ .

FIG. 23.—Prehensors, ventral view,  $\times 117$ .

FIG. 24.—Caudal end of body, ventral view (hairs omitted),  $\times 112$ .

*Pseliodes colombiana*, sp. nov.

FIG. 25.—Stoma and caudal border of sixth tergite,  $\times 18$ .

*Pseliodes orphnia*, sp. nov.

FIG. 26.—Stoma and caudal border of sixth tergite,  $\times 18$ .

