

No. 5.— *The Chilopoda and Diplopoda of the West Indies.*

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INASMUCH as the present paper is preliminary to a more extended monograph on the West Indian myriopod fauna, it has seemed inadvisable to introduce any discussion of the problems of the distribution and origin. For the same reason, only preliminary diagnoses of the many new forms are given and illustrations of these are omitted. In addition to the fauna of the more strictly West Indian islands tabulated (p. 251-262) the forms known from Tobago, Trinidad, and Swan Island are also considered in the text.

CHILOPODA.

CRYPTOPIDAE.

1. CRYPTOPS BIVITTATUS Pocock.

Journ. Linn. soc. London, 1893, 24, p. 462.¹

Habitat.— ST. VINCENT.¹

2. CRYPTOPS MANNI Chamberlin.

Bull. M. C. Z., 1915, 59, p. 501.

Habitat.— HAITI: Milot (W. M. Mann).

3. CRYPTOPS CORNIFER, sp. nov.

Type.— M. C. Z. 2,094. *Paratype.*— M. C. Z. 2,095. Cuba: Trinidad, Loma del Marín. T. Barbour, W. S. Brooks.

Cephalic plate with paired sulci over entire length as in the Australian *C. haasei* Attems. First dorsal plate with transverse, evenly curved, semicircular sulcus; paired longitudinal sulci parallel forward to transverse sulcus. Prosternal margin doubly convexly

bowed; bristles 6 + 6 or 7 + 7. Anterior tarsi not distinctly divided. Most ventral plates with well-marked longitudinal sulcus in addition to the deeper, curved transverse one. Last ventral plate with sides distinctly converging caudad, trapeziform; caudal margin at middle slightly incurved. Coxopleurae not at all produced caudally, pores rather numerous. Prefemur of anal legs armed below and laterally with numerous long slender spines or spiniform setae, but with a median longitudinal area on ventral surface free from them; this area wider caudally than anteriorly and bearing a few long fine hairs; at the distal end of the prefemur above and on the mesal side there is a long, stout, acute spine curving caudad distally. Femur on ectal side of distal end above with a similar single large curved spine and the tibia with a similar spine and in addition one on the mesal side. Tibia ventrally with a series of ten teeth, and the first tarsal joint with three. Length 23 mm.

4. OTOCRYPTOPS FERRUGINEUS (Linné).

Scolopendra ferruginea Linné, Syst. nat., ed. 12, 1767, 1, pt. 2, p. 1063.

Scolopocryptops miersii Meinert (non Newport), Proc. Amer. philos. soc., 1886, 23, p. 181.¹

Scolopocryptops ferrugineus Pocock, Journ. Linn. soc. London, 1893, 24, p. 463.²

Habitat.—NEW PROVIDENCE: Nassau (G. M. Allen, T. Barbour, O. Bryant). CUBA²: Guantanamo (C. T. Ramsden), Los Hondones (C. T. Ramsden), Bolondron (W. M. Wheeler), Soledad, near Cienfuegos (T. Barbour). ISLE OF PINES: Sierra de Casas, La Ceiba (T. Barbour, W. S. Brooks). JAMAICA:² Mandeville (T. Barbour), Liguanea Plain (C. T. Brues), Blue Mt. Cinchona (C. T. Brues), Port Antonio (A. E. Wight), Kingston¹ (S. Garman, T. Barbour). HAITI: Grand Anse (Uhler),¹ Jeremie¹ (D. F. Wienland), Diquini, Port au Prince, Petionville (W. M. Mann). GUADELOUPE: Soufriere (G. K. Noble). DOMINICA (G. A. Ramage²). MARTINIQUE (S. Garman). ST. VINCENT (H. H. Smith).² GRENADA: Grand Etang (R. Thaxter).

5. OTOCRYPTOPS MELANOSTOMUS (Newport).

Scolopocryptops melanostoma Newport, Trans. Linn. soc. London, 1844, 19, p. 406.

Otocryptops melanostoma Pocock, Journ. Linn. soc. London, 1894, 24, p. 464.¹ Silvestri, Bull. Amer. mus. nat. hist., 1908, 24, p. 564.²

Habitat.—HAITI: Furey (W. M. Mann). PORTO RICO: Monte Mandios, Utuado (W. M. Wheeler).² ST. VINCENT (H. H. Smith).¹

6. *SCOLOPOCRYPTOPS MIERSII* Newport.

Trans. Linn. soc. London, 1844, **19**, p. 405; Meinert (in part min.), Proc. Amer. philos. soc., 1886, **23**, p. 181.¹

Habitat.—HAITI: Furey (W. M. Mann). MARTINIQUE.¹ TRINIDAD: Arima, Verdant Vale (R. Thaxter).

7. *NEWPORTIA ERNSTI* Pocock.

Ann. mag. nat. hist., 1891, ser. 6, **8**, p. 161.¹

Habitat.—HAITI: Diquini, Grand Riviere, Emery, Manneville, St. Marc, Milot, Cape Haitien, Jacmel, Petionville (W. M. Mann). ST. VINCENT (H. H. Smith).¹

8. *NEWPORTIA LONGITARSIS* (Newport).

Scolopocryptops longitarsis Newport, Trans. Linn. soc. London, 1844, **19**, p. 407, pl. 40, fig. 10.

Newportia longitarsis (Newport) Pocock, Journ. Linn. soc. London, 1893, **24**, p. 466;¹ Kraepelin, Revis. Scolop., 1903, p. 86.²

Habitat.—CUBA²: Guantanamo (C. T. Ramsden), Trinidad, Loma del Marín (T. Barbour, W. S. Brooks). HAITI: Petionville, Port au Prince, Furey, Manneville, Jacmel (W. M. Mann). ST. VINCENT (H. H. Smith).¹ GRENADA: Grand Etang (R. Thaxter).

9. *NEWPORTIA PUSILLA* Pocock.

Journ. Linn. soc. London, 1893, **24**, p. 468.¹

As suggested by Kraepelin (Revis. Scolop., 1903, p. 88), the type of this species may prove to be only a young individual of *N. longitarsis* (Newport).

Habitat.—ST. VINCENT (H. H. Smith).¹

10. NEWPORTIA CUBANA Chamberlin.

Bull. M. C. Z., 1915, 59, p. 497.

Habitat.—CUBA: Juan Guerra, Sagua de Tanamo, Guantanamo, Arroyo Hondo (C. T. Ramsden).

11. NEWPORTIA HETEROPODA, sp. nov.

Type.—M. C. Z. 1,872. Cuba: Belona Oriente, 16 January, 1914. C. T. Ramsden.

This species seems closely related to *N. longitarsis* but presents obvious differences. The two species are at once to be distinguished by differences in the anal legs. As in *N. longitarsis* the present species bears on the prefemur of the anal legs a series of four long, distally curved, spines shorter than the diameter of the article. The succeeding joint, however, differs in having in addition to the two small spines in line proximad of the middle also a third one distad of the middle. On the mesal side of the prefemur is a double series of short spinescent setae and such also occur, less strongly marked and more irregular, on the ectal surface. The tibia is slightly longer than the femur and of about the same thickness. The first joint of the tarsus is but half or little more than the length of the tibia than which it is but slightly more slender; it is gently clavately widened distad where it is obliquely truncate. A strongly marked characteristic of the species is that the following articles of the tarsus, which are distinctly separated and uniform and nine in number, are abruptly much more slender than the first one.

The paired sulci of the first tergite are simple, not forked anteriorly where they join the transverse sulcus. Transverse sulcus evenly semicircular, not free from the cephalic plate. On the second tergite on each side toward the anterior border a transverse sulcus or pale line parallel to the anterior margin and extending to the longitudinal sulcus.

Length 17 mm.

12. TIDOPS SIMUS Chamberlin.

Bull. M. C. Z., 1915, 59, p. 495.

Habitat.—GRENADA: Richmond Hill (C. T. Brues, G. M. Allen).

OTOSTIGMIDAE.

13. OTOSTIGMUS SPICULIFER Pocock.

Otostigma spiculiferum Pocock, Journ. Linn. Soc. London, 1893, **24**, p. 461.¹

Habitat.— ST. VINCENT (H. H. Smith).¹

14. OTOSTIGMUS OCCIDENTALIS Meinert.

Otostigma occidentale Meinert, Proc. Amer. phil. soc., 1886, **23**, p. 185.¹

Habitat.— HAITI: Grand Anse (Uhler).¹

15. OTOSTIGMUS CARAIBICUS Kraepelin.

Revis. Scolop., 1903, p. 130;¹ Silvestri, Bull. Amer. mus. nat. hist., 1908, **24**, p. 564.²

Habitat.— PORTO RICO: Utuado (W. M. Wheeler)². ST. THOMAS.¹

16. RHYSIDA LONGIPES (Newport).

Branchiostoma longipes Newport, Trans. Linn. soc. London, 1844, **19**, p. 411.

Branchiostoma gracile Kohlrausch, Archiv. naturg., 1881, **47**, p. 1, p. 66;

Meinert, Proc. Amer. philos. soc., 1886, **23**, p. 182; Myr. Mus. Haun., 1886, p. 18.¹

Habitat.— ST. CROIX.¹ ST. KITTS.¹

17. RHYSIDA CELERIS (Humbert and Saussure).

Branchiostoma celer Humbert et Saussure, Rev. mag. zool., 1876, ser. 2, **22**, p. 202.

Habitat.— NEW PROVIDENCE (C. J. Maynard). JAMAICA: Kingston (S. Garman).

18. RHYSIDA NUDA (Newport).

Branchiostoma nudum Newport, Trans. Linn. soc. London, 1844, **19**, p. 412.

Habitat.—CUBA: San Antonio de los Baños (T. Barbour, W. S. Brooks). HAITI: Milot, Diquini (W. M. Mann).

Not previously recorded from the West Indies.

19. RHYSIDA ASPERA Kraepelin.

Revis. Scolop., 1903, p. 149.¹

Habitat.—JAMAICA.¹

SCOLOPENDRIDAE.

20. CUIPIPES GULDINGI (Newport).

Cormocephalus guildingi Newport, Trans. Linn. soc. London, 1845, **19**, p. 425.

Cormocephalus impressus Porat, Bih. Svensk. vet.-akad. Handl., 1876, **4**, no. 7, p. 15.¹

Cupipes ungulatus Meinert (in part), Proc. Amer. philos. soc., 1886, **23**, p. 187.²

Cupipes guildingii Pocock, Journ. Linn. soc. London, 1894, **24**, p. 460.³

Cupipes impressus Kraepelin, Revis. Scolop., 1903, p. 181.⁴

?*Cupipes ungulatus* Silvestri, Bull. Amer. mus. nat. hist., 1908, **24**, p. 564.⁵

Habitat.—CAYMAN BRAC (W. W. Brown, Jr.). JAMAICA:³ Liguanea Plain (C. T. Brues). HAITI: Manneville, Diquini, Petionville, Momance (W. M. Mann), Grand Anse (P. R. Uhler),² Port au Prince (W. Wilson).² SANTO DOMINGO.¹ CULEBRA.⁵ ST. BARTHOLOMEW.¹ DOMINICA.³ ST. VINCENT.³ GRENADA: Grand Etang (C. T. Brues, G. M. Allen, R. Thaxter).

21. CUIPIPES LINEATUS (Newport).

Cormocephalus lineatus Newport, Trans. Linn. soc. London, 1845, **19**, p. 425.¹

Habitat.—ST. VINCENT (Guilding).¹

22. SCOLOPENDRA GIGANTEA Linné.

Syst. nat. ed. 10, 1758, **1**, p. 638;¹ Pocock, Journ. Linn. soc. London, 1893, **24**, p. 458.²

Scolopendra gigas Leach Meinert, Myr. Mus. Haun., 1886, **3**, p. 26.³

Habitat.—JAMAICA.^{1,2} ST. THOMAS.² TRINIDAD.³

23. *SCOLOPENDRA ANGULATA* Newport.

Ann. mag. nat. hist., 1884, **13**, p. 97; Pocock, Journ. Linn. soc. London, 1893, **24**, p. 458;¹ Kraepelin, Revis. Scolop., 1903, p. 234.²

Scolopendra prasina C. L. Koch Meinert, Proc. Amer. philos. soc., 1886, **23**, p. 192.³

Habitat.— ST. THOMAS.² ST. VINCENT (H. H. Smith).¹ TRINIDAD (Peter Gelliman).³

24. *SCOLOPENDRA VIRIDICORNIS* Newport.

Ann. mag. nat. hist., 1844, **13**, p. 97; Kraepelin, Revis. Scolop., 1903, p. 236.¹

Habitat.— ANTILLES (?).¹

A common species in South America; but I have not personally seen specimens of it taken in any of the West Indies.

25. *SCOLOPENDRA VIRIDIS* Say.

Proc. Acad. nat. sci. Phil., 1821, p. 110.

Habitat.— JAMAICA: Cinchona (C. T. Brues).

25a. *SCOLOPENDRA SANATILLAE* Bollman.

Bull. 46, U. S. N. M., 1893, p. 199.¹

Habitat.— SANATILLA.¹ SWAN ISLAND (Geo. Nelson).

26. *SCOLOPENDRA ALTERNANS* Leach.

Trans. Linn. soc. London, 1812, **11**, p. 383; Pocock, Journ. Linn. soc. London, 1893, **24**, p. 458.¹

Habitat.— NEW PROVIDENCE: Nassau (T. Barbour, O. Bryant, C. J. Maynard). Andros: Mangrove Cay (O. Bryant). GREAT INAGUA. CUBA: Maisi (Torre), Sierra de Caballos (T. Barbour, W. S. Brooks), San Antonio de los Baños (T. Barbour, W. S. Brooks), Guantanamo, La Cabrera (C. T. Ramsden), Los Negros in Jiguaní (T.

Barbour), Guantanamo, Monte Libano (C. T. Ramsden), Soledad, near Cienfuegos (T. Barbour), Bolondron (W. M. Wheeler), Trinidad, Loma del Marín (T. Barbour, W. S. Brooks). ISLE OF PINES: La Ceiba (T. Barbour, W. S. Brooks). HAITI: Diquini, Petionville, Manneville, Grand Riviere, Momance (W. M. Mann), Jeremie (D. F. Weinland), Cape Haitien. SANTO DOMINGO.¹ ST. THOMAS.¹ ST. CROIX.¹ ST. BARTHOLOMEW.¹ ST. EUSTATIUS.¹ ST. KITTS.¹ ANTIGUA.¹ MONTSERRAT.¹ GUADELOUPE: St. Rose (G. K. Noble). TOBAGO (W. E. Broadway).

27. SCOLOPENDRA HIRSUTIPES Bollman.

Bull. 46, U. S. N. M., 1888, p. 198.¹

Habitat.—WEST INDIAN fauna.¹
A somewhat uncertain species.

28. SCOLOPENDRA MORSITANS Linné.

Syst. nat. ed. 10, 1758, 1, p. 638.

Habitat.—NEW PROVIDENCE: Nassau (C. J. Maynard). HAITI: Jeremie (D. F. Weinland), Port au Prince (W. Wilson), Grand Anse (P. R. Uhler), St. Marc (W. M. Mann). PORTO RICO (M. Cardoze). ST. KITTS.

29. SCOLOPENDRA SUBSPINIPES Leach.

Trans. Linn. soc. London, 1814, 11, p. 383.

Habitat.—CUBA. JAMAICA: Kingston. HAITI: Jeremie (D. F. Weinland). PORTO RICO: Ponce (Helen Emery). ST. THOMAS (S. Garman). ST. CROIX.¹ ST. BARTHOLOMEW.² ST. KITTS: Basseterre (S. Garman). ANTIGUA.¹ MONTSERRAT.¹ GUADELOUPE.³ MARIE GALANTE.³ DOMINICA.¹ ST. VINCENT.¹ BARBADOS.¹ TRINIDAD.⁴

¹ Fide Pocock. ² Fide Porat. ³ Fide Gervais. ⁴ Fide Daday.

SCHENDYLIDAE.

30. PECTINIUNGUIS INSULANUS Brölemann and Ribaut.

Bull. Soc. ent. France, 1911, p. 219.¹

Habitat.—CUBA (P. Serre).¹

31. ADENOSCHENDYLA PAUPERATA (Silvestri).

Pectiniunguis pauperatus Silvestri, Mitt. Naturh. mus. Hamburg, 1907, 24, p. 247.¹

Habitat.—ANTILLES (imported to Hamburg).¹

32. PLEUROSCHENDYLA NESIOTES, sp. nov.

Type.—M. C. Z. 1,873. Haiti: Diquini. W. M. Mann.

This species agrees with the West African *P. chevalieri* in having the claws of the second maxillae completely pectinate, the median arc of the labrum armed with true stout teeth abruptly differentiated from the lateral ones, the pleurite of the second maxillary segment produced forward mesad of the segmental pore to the coxosternum with which it is fused, the pore being thus completely surrounded, the ventral pores arranged in a submedian circular area on the sternites, and in having the pores of the last coxopleuræ composite.

The teeth of the median arc in the type number fifteen as against twenty in *P. chevalieri*. The pleurite of the second maxillary somite is differently formed, extending farther caudolateral as a more distinctly separated lobe and with the tongue projecting forward on the mesal side of the pore narrower. The cephalic plate is proportionately longer, the length to width being as 5:4. The cephalic plate in the type extends over the edge of the basal plate, and the first tergite is drawn much forward over it, the exposed portion being very short. In a young paratype (M. C. Z., 1,874), however, the basal plate is wholly free and long and the prebasal plate is exposed. The femuroid of the prehensors is armed on the mesal side at the distal end with a stout, strongly chitinous tooth.

The last coxopleuræ are densely shortly hairy as in *P. chevalieri* but

the mesal angle is not so strongly produced caudad. The last ventral plate in the male has the caudal margin straight or but very slightly incurved, not deeply emarginate as in *P. chevalieri*. The last tergite is shorter though still long, not completely covering the genital segments from above.

Ventral pores occur from the first sternite, on which there are very few, to the penult inclusive instead of being absent from the first two and the last three. A conspicuous feature not mentioned in the description of *P. chevalieri* is in the pitting of the anterior face of the anterior sternites with the production of the caudal face of preceding sternites as triangular pegs fitting into the excavations.

Pairs of legs fifty-five.

Length 34 mm.

A small broken specimen from Jacmel, (M. C. Z. 1,875), was also collected by Dr. Mann.

ORYIDAE.

33. NOTIPHILIDES MAXIMILIANI (Humbert and Saussure).

Notiphilus maximiliani Humbert et Saussure, Rev. mag. zool., 1870, ser. 2, 5, p. 205.

Notiphilides maximiliani, (Humbert & Saussure) Pocock, Journ. Linn. soc. London, 1894, 24, p. 473.¹

Habitat.—GRENADA.¹

34. ORPHNAEUS BREVILABIATUS (Newport).

Geophilus brevilabiatus Newport, Trans. Linn. soc. London, 1844, 19, p. 436.

Orphnaeus brasiliensis (Humbert & Saussure) Bollman, Proc. U. S. N. M., 1888, 11, p. 337.¹

Habitat.—ANDROS: Mangrove Cay (O. Bryant). CUBA.¹ JAMAICA: Montego Bay (E. A. Andrews).

35. TITANOPHILUS MAXIMUS Chamberlin.

Bull. M. C. Z., 1915, 59, p. 502.

Habitat.—HAITI: Grand Riviere (W. M. Mann).

36. TITANOPHILUS FRATRELLUS Chamberlin.

Bull. M. C. Z., 1915, 59, p. 505.

Habitat.—HAITI: Petionville (W. M. Mann).

CHILENOPHILIDAE.

37. NESIDIPHILUS MARGINALIS (Meinert).

Geophilus marginalis Meinert, Proc. Amer. philos. soc., 1886, 23, p. 218.

Habitat.—NEW PROVIDENCE (C. J. Maynard). CUBA: Soledad, near Cienfuegos (T. Barbour). Trinidad, Loma del Marín (T. Barbour, W. S. Brooks). JAMAICA: Port Morant.

38. NESIDIPHILUS LATUS Chamberlin.

Bull. M. C. Z., 1915, 59, p. 512.

Habitat.—JAMAICA: Blue Mt. Peak.

39. NESIDIPHILUS MONTIS Chamberlin.

Bull. M. C. Z., 1915, 59, p. 513.

Habitat.—CUBA: Monte Verde.

40. NESIDIPHILUS JUVENIS, sp. nov.

Type.—M. C. Z. 1,877. Haiti: Petionville, November, 1912. W. M. Mann.

This is the only representative of the genus thus far known from Haiti.

The young type is yellow in color, with the head and prehensors orange.

Cephalic plate widest at level occupied by frontal suture when present, narrowing from there moderately caudad. Anterior and

caudal margins truncate, the corners rounded. Basal plate not free, proportionately short, shorter than in *N. latus*.

Anterior border of prosternum with median incision very narrowly v-shaped, an obtuse angle each side of the incision. Prehensors when closed surpassing the distal end of the first antennal article. Femuroid widest at base, not bulging above base as in *N. latus*, with at distal end a prominent acute black tooth. Tooth at base of claw also black, prominent and acute.

First legs small, the second intermediate. Anal legs much exceeding the penult as usual, with a minute transparent terminal appendage.

Last ventral plate broad, strongly narrowing caudad.

Pairs of legs forty-nine.

Body of the type, which is young, 12 mm. long, slender throughout.

41. *TELOCRICUS CUBAE* Chamberlin.

Bull. M. C. Z., 1915, 59, p. 517.

Habitat.—CUBA: Soledad, near Cienfuegos (T. Barbour), Trinidad, Loma del Marín (T. Barbour, W. S. Brooks).

42. *TELOCRICUS FRATER* Chamberlin.

Bull. M. C. Z., 1915, 59, p. 518.

Habitat.—CUBA: Monte Verde (Chas. Wright).

43. *TELOCRICUS MAJOR* Chamberlin.

Bull. M. C. Z., 1915, 59, p. 519.

Habitat.—CUBA: San Diego de los Baños.

44. *TELOCRICUS MULTIPES* Chamberlin.

Bull. M. C. Z., 1915, 59, p. 521.

Habitat.—HAITI: Manneville (W. M. Mann).

45. TELOCRICUS HYPER, sp. nov.

Type.—M. C. Z. 1,878. ♂. Cuba: Guantanamo, San Carlos. C. T. Ramsden.

The cephalic and basal plates and the prehensors are dilute chestnut. The remaining portion of the body and the legs are yellow, the antennae yellow with a vague chestnut tinge.

Cephalic plate formed as in *T. cubae*, the sides straight and slightly converging caudad and all corners oblique. Cephalic plate 1.6 + times longer than wide. The basal plate is narrower and longer than in *T. cubae* with the sides conspicuously incurved instead of straight and the exposed region of the plate only slightly more than twice (2.1) as wide as long as against three times wider in *T. cubae* and from four to five times wider in *T. major*, another Cuban species. The antennae are slightly more than three (3.1) times longer than the cephalic plate, being thus shorter than in *T. cubae* and decidedly longer than in *T. major*.

The prosternum is equal in length and breadth and is 1.7 $\frac{1}{2}$ times longer than the greatest height of the femuroid, the prehensors appearing obviously proportionately smaller than in *T. cubae*. The prosternal teeth are larger than in either *T. cubae* or *T. major* and the mesal edges slant more while the teeth are obviously farther apart and nearer to the prehensors.

The first four spiracles are very large, vertically elliptical, the fifth and following ones abruptly much smaller.

First legs much smaller than the second: Anterior legs obviously stouter than the posterior ones.

The general structure of the last pediferous segment as in other species of the genus. The coxopleurae less densely pilose than in *T. major*. The last ventral plate proportionately broader and shorter than in that species and anteriorly much wider and with sides much more strongly converging caudad than in *T. major*.

Legs greater in number than in the other Cuban species, one hundred and three pairs being present in the type.

Length, 65 mm.

46. LESTOPHILUS HAITIENSIS Chamberlin.

Bull. M. C. Z., 1915, 59, p. 526.

Habitat.—HAITI: Furcy (W. M. Mann).

47. *LESTOPHILUS NESIOTES* Chamberlin.

Bull. M. C. Z., 1915, **59**, p. 527.

Habitat.—HAITI: Petionville (W. M. Mann).

GEOPHILIDAE.

48. *PIESTOPHILUS TENUITARSIS* (Pocock).

Geophilus tenuitarsis Pocock, Ann. mag. nat. hist., 1888, ser. 6, **2**, p. 475, pl. 16, fig. c-c.¹

Habitat.—DOMINICA.¹

48a. *LEPTOPHILUS CARRIBEANUS* Chamberlin.

Bull. M. C. Z., 1915, **59**, p. 529.

Habitat.—SWAN ISLAND (G. Nelson).

49. *GEOPHILUS MUSTIQUENSIS* Pocock.

Journ. Linn. soc. London, 1893, **24**, p. 470.¹

Habitat.—MUSTIQUE (H. H. Smith).¹

50. *GEOPHILUS CULEBRAE* Silvestri.

Bull. Amer. mus. nat. hist., 1908, **24**, p. 564, fig. 1.¹

Habitat.—CULEBRA.¹

MECISTOCEPHALIDAE.

51. *MECISTOCEPHALUS GUILDINGI* Newport.

Trans. Linn. soc. London, 1844, **19**, p. 429;¹ Meinert, Naturh. tidsskr., 1870, ser. 3, **7**, p. 96;² Pocock, Journ. Linn. soc. London, 1893, **24**, p. 470.³
Mecistocephalus punctifrons (in part), Meinert Bollman, Proc. U. S. N. M., 1888, **11**, p. 337.⁴

Habitat.—CUBA.⁴ JAMAICA.³ Port Antonio (A. E. Wight). HAITI: Grand Riviere (W. M. Mann). ST. CROIX.² ST. VINCENT.¹

52. TAENIOLINUM SETOSUM Pocock.

Journ. Linn. soc. London, 1893, 24, p. 472.¹

Habitat.—ST. VINCENT (H. H. Smith).¹

Taeniolinum is too imperfectly known to be referred to with certainty to its family. It may possibly belong to the Ballophilidae, though not having the characteristic club-formed antennae of that group and apparently having the ventral pores different in position.

SCUTIGERIDAE.

GONETHELLA, gen. nov.

Articles of antennae very short, much wider than long. First and second division of the antennae very long, composed of numerous articles, the first typically of above ninety and the second of more than two hundred. First tarsal division of anterior legs within the neighborhood of sixteen or seventeen articles. No spines detected on tergites in type, though the specimen is considerably rubbed. Second article of the female gonopods separated by a true, transverse articulation characterized in having the free arms of the genital coxosternum very long and conspicuously diverging caudad with the distal article shorter than these, more strongly chitinized, and strongly uncate.

Genotype.—*G. nesiotes*, sp. nov.

53. GONETHELLA NESIOTES, sp. nov.

Type.—M. C. Z. 1,879. Cayman Brac, July, 1911. W. W. Brown, Jr.

Sides of dorsum dark, somewhat marbled. The usual median dorsal light stripe. This encloses no darker markings and widens on the caudal portion of each tergite about the stoma saddle. The legs at present are ochraceous, showing no distinct markings but there are vague indications of darker areas on the proximal articles which may have been bleached out.

First division of antenna consisting of about ninety-five articles the second of over two hundred and fifty-five.

First tarsus of first legs consisting of seventeen articles, that of the second of sixteen, with the second division embracing thirty-six.

Stoma in each case reaching the edge of the posterior emargination. Last principal tergite with caudal margin straight.

Length of type (female) about 16 mm.

GONETHINA, gen. nov.

Differing from *Gonethella* in the apparently more primitive antennae in which the three divisions are obvious with the first two of these unusually short and consisting in each case of less than half as many articles as in the other genus, in the type forty and seventy-five respectively. Articles very short. Joints of first and second tarsi much fewer, six to nine or ten in the first and twenty to twenty-six in the second. The tergites are wholly free from spines, bearing only fine short hairs. Gonopods as in *Gonethella*.

Genotype.—*G. grenadensis*, sp. nov.

54. GONETHINA GRENADENSIS, sp. nov.

Type.—M. C. Z. 1,880. ♀. Grenada: Grand Etang, September, 1910.

In this species the median dorsal light stripe is proportionately very wide, in the middle region exceeding the width of the dark stripe on each side of it. The dorsal surface of the head is light, the light area enclosing two dark areas behind and two in front, each pair of dark areas obscurely united. Legs dark, paler distad, the dark color more or less clearly broken into annuli by narrow pale bands; the annuli on the tibiae especially distinct, there being three light rings one of which is distal, one median, and one a little distad of the base; the first division of the tarsus with a brighter annulus at its distal end.

Stoma saddles moderately elevated. Stoma attaining caudal edge, its lips projecting into the emargination. Last tergite with caudal margin mesally conspicuously incurved.

Antennae showing three distinct divisions of which the first two are comparatively short. The articles, excepting the nodals, are very short and closely crowded. The first division in the type consists of

forty articles and the second of seventy-five while the number in the third is not ascertainable since it is broken off a little above its base, only about thirty-two articles being present.

First tarsus of first legs composed of nine or ten articles, the second tarsus of twenty-six. Second division of tarsus of eighth legs consisting of but twenty articles, the first of only six or seven.

The gonopods of general form of those in the *Gonethella nesiotis* but the second or free article longer. The second division strongly chitinous, dark, uncate.

Length, 9 mm.

55. *PSELLIOPHORA FLAVIPES* (Bollman).

Scutigera flavipes Bollman, Bull. 46, U. S. N. M., 1893, p. 200.¹

Habitat.—ANDROS: Mangrove Cay (O. Bryant). SAN SALVADOR¹ [WATLINGS].

56. *PSELLIOPHORA PULCHRITARSIS* Verhoeff.

Sitz. Gesellsch. nat. freunde Berlin, 1904, p. 279.¹

Habitat.—HAITI.¹

57. *PSELLIOPHORA CUBENSIS*, sp. nov.

Type.—M. C. Z. 1,881. Cuba: Guantanamo, 1912. *Paratypes*.—M. C. Z. 1,882, 1,883. Cuba: Rio Seco in San Carlos, 1914. C. T. Ramsden.

This is a large species of characteristic color markings by which it is separable at once from the related *P. pulchritarsis* of Haiti. The dorsum is on each side deep chocolate-brown, often vaguely marbled, a much narrower light median longitudinal stripe extending over the entire length of the body including the head. This median pale stripe embraces a dark stripe not quite so deep in color as the sides, this stripe occupying most of the width of the pale band; the included dark stripe over the middle somites may be geminate by a fine pale longitudinal line, and in all the band is geminate on the stoma saddles. The pale area on the head posteriorly occupies the entire width between

the eyes, narrowing forwards; it encloses a large dark area of similar shape but smaller which is geminate by a median longitudinal pale stripe the anterior sagittiform end of which is itself faintly geminate by a dark line. The sides of the head above about the eyes and antennae are chocolate-brown, the lower part pale. Sides greyish yellow and venter of body yellow. The legs are ochraceous and wholly without darker annuli, spots or other markings.

Number of segments in the second tarsi of legs seven to nine from thirty-five to forty-three, mostly above forty. In the eighth legs twenty segments in first tarsus as against eleven in *P. pulchritarsis* and in the fourth legs nineteen as against thirteen. First flagellum of antenna consisting in the type of eighty-two segments, the second flagellum of two hundred and nine *plus* as against sixty-two to sixty-four and one hundred and forty-six respectively in *P. pulchritarsis*.

The styoma saddles strongly elevated. Caudal margins of plates mesally not strongly excavated. The last dorsal plate with caudal margin only moderately concave with the median region of concavity not at all extended as in *P. pulchritarsis*.

A robust species. The type is 38 mm. long; with the antennae (not wholly complete) over 50 mm.

57a. PSELLIOPHORA CAVINCOLA, sp. nov.

Type.—M. C. Z. 1,884. *Paratype*.—M. C. Z. 1,885. Trinidad: Guacharo Cave, April 23, 1916. Taken on the wall of the cave, "far in." C. B. Williams and F. W. Urich.

A very large and robust species. The dorsum has on each side of broad stripe of deep chocolate to black color with a narrow marginal stripe and a clear median longitudinal stripe which encloses no such dark markings as occur in the preceding species and which extends across the head. The venter clear yellow. Legs yellowish with the prefemur and femur strongly marked with blackish or deep chocolate, the prefemur having above a distal dark annulus which is broken on the ventral side and a weaker subbasal one more widely broken ventrally. The femur above is dark over its distal half or this may be more or less segregated into a distal and a median band, the corresponding ventral subbasal dark band which shows more vaguely on the ventral side. The next joint or tibia shows three dark annuli which are more obscure; these are long in comparison with the light portions.

First flagellum of antenna with about seventy articles which are long. Total number in the second division uncertain. First joint of first tarsal division of legs very long. First tarsal division of fourth legs with nineteen joints; first division of eighth legs in type with but twelve joints.

Stoma saddles strongly elevated. Caudal margins of ordinary tergites mesally moderately emarginate. Last tergite with caudal end conversely rounded, not at all incurved as in *P. cubensis* and *P. pulehritarsis*.

Length near 36 mm.

58. *PSELLIOPHORA MINOR*, sp. nov.

Type.—M. C. Z. 1,887. Cuba: Guantanamo, San Carlos Estate, April 22, 1914. C. T. Ramsden.

This small species resembles *P. cubensis*, of which I at first suspected it of being the young, in having the median pale stripe covered excepting in a narrow line at each side by an enclosed dark stripe though the latter is deeper and more strongly marked than in the other species; on the head it has the characteristic form as in *P. cubensis*. The lateral edges of the tergites are pale, the light stripe very narrow and sharply limited and extending also along caudal margin. The dark bands deep chocolate colored. The coloration is strikingly different from that of *P. cubensis* in the case of the legs which are strongly marked with dark. The cross bars or annuli of femur and prefemur more or less confluent above, incomplete ventrally and more obviously separated. Tibia darkened in longitudinal stripes except for a conspicuous annulus at distal end which is bright whitish.

Unlike *P. cubensis* the last tergite is not posteriorly incurved but on the contrary is strongly obtusely produced, with the apex rounded.

Articles of first division of antenna about forty-eight, of the second one hundred and sixty or above. The articles in large part are exceptionally short, approaching the proportions of *Scutigera*.

The first division of the tarsus of the ninth legs is composed of only seven segments, the second of twenty-eight.

Length about 12.5 mm.

59. PSELLIOPHORA HAITIENSIS, sp. nov.

Type.—M. C. Z. 1,888. *Paratypes*.—M. C. Z. 1,701. Haiti: Grand Riviere: January, 1913. W. M. Mann. Four specimens of which two are immature.

In size and general appearance suggesting *P. minor*, but at once distinguished in having the last tergite with caudal margin mesally incurved. The dark stripe within the broader median dorsal pale stripe is much less marked, being obscure in front of the sternal region though prominent over the latter. The legs are not so distinctly annulate; most articles are obviously dusky over the ochraceous background. The prefemur with dark color relieved toward ends; the femur with a subdistal light annulus; the tibia dark excepting for a light ring at the distal end; tarsus dusky proximally, becoming clear yellowish distad.

Aside from the differences in color and size, this species differs from *P. pulchritarsis*, also from Haiti, also in having the caudal margins of sixth and seventh dorsal plates spinigerous. The concavity of the caudal border of the last plate is not mesally produced as in that species.

First division of antennae composed of forty-nine to fifty-six articles; the second of eighty-three to eighty-six with beyond this an incomplete third division in which, in the type, eighty additional articles are present and in a paratype one hundred and ninety. (In the right antenna of the type there is no distinct demarcation into major divisions).

Articles of first division of tarsi from seven to nine; of the second from twenty-three to thirty.

The gonopods of the usual general structure. The second article exceeding the proximal arm in length, immobile, being separated only by a suture, pale, finger-like, only slightly curved.

Length, 12.5 mm.

60. SCUTIGERA (?) GUILDINGI (Newport).

Cermatia guildingi Newport, Trans. Linn. soc. London, 1844, 19, p. 356.

Scutigera guildingi Pocock, Journ. Linn. soc. London, 1893, 24, p. 456.¹

Habitat.—ST. VINCENT.¹ (H. H. Smith).¹

The generic position of this and the following species cannot be determined from the descriptions. It is possible they may belong to *Pseliophora*.

61. SCUTIGERA (?) SUPERBA Meinert.

Vid. Medd. nat. foren., 1886, p. 104.¹

Habitat.— WEST INDIES.¹

DIPLOPODA.

GLOMERIDESMIDAE.

62. GLOMERIDESMUS MARMOREUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 476, pl. 37, f. 2-2m.¹

Habitat.— ST. VINCENT. (H. H. Smith).¹

63. GLOMERIDESMUS GRENADANUS, sp. nov.

Type.— M. C. Z. 4,297. Grenada: Grand Etang. November, 1912. *Paratypes.*— M. C. Z. 4,298, 4,299. Trinidad: Port of Spain. Roland Thaxter.

This form is very close in general appearance and structure to *G. marmoreus* Pocock, so far as may be judged from the description. It is separated because of a number of apparent differences, most obvious of which is the much greater size and different form of the penes. In Pocock's figure these are represented as shorter than the legs and as curving apart; in the present form the penes are nearly twice as long as the legs and much stouter. The inferior process of the penult tergite is proportionately shorter and is more slender and acute, while that of the preceding tergite is much narrower and more acute. Striation of tergites as in *G. marmoreus*. Color from somewhat dusky chestnut to nearly black, with symmetrical series of yellow marks along the dorsum and sides, these often becoming more obscure caudad, and in one specimen are obsolete throughout. The antennae are also blackish with a pale annulus about the proximal end of each article. Labrum and a stripe across vertex of head yellow as in *G. marmoreus*.

Length, 5-6 mm.

64. GLOMERIDESMUS CONCOLOR, sp. nov.

Type.— M. C. Z. 4,295. *Paratypes*, M. C. Z. 4,296. Haiti: Jacmel. December, 1912, W. M. Mann.¹

This species differs conspicuously in appearance from the preceding ones in lacking any distinct light markings, the color of the head and tergites being fuscous or blackish throughout, though under the microscope some individuals show very obscure traces of lighter markings arranged much as in the other species. Legs and under surface of the body yellowish. Antennae blackish, uniform. The impressed area above the base of each antenna is circular and sometimes yellow in color. The striations of the tergites are in general similar to those in the preceding species. The inferior processes of the posterior tergites are distinct; but they are throughout shorter and more obtuse than in the other species, the greater shortness and obtuseness being strikingly obvious in the case of the penult tergite.

Length, 4-6.5 mm.

SIPHONOPHORIDAE.

65. SIPHONOPHORA PORTORICENSIS Brandt.

Bull. Acad. imp. sci. St. Petersb., 1836, 4, p. 179.¹

Habitat.— PORTO RICO.¹

66. SIPHONOPHORA CUBANA Karsch.

Mitth. Münch. ent. verein, 1880, 4, p. 144.¹

Habitat.— CUBA.¹

67. SIPHONOPHORA TENUICORNIS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 479, pl. 37, f. 4.¹

Habitat.— ST. VINCENT.¹

68. SIPHONOPHORA PROXIMA, sp. nov.

Type.—M. C. Z. 4,300. *Paratype*.—M. C. Z. 4,301. Haiti. W. M. Mann.

Color yellow. Tergites densely clothed with moderately long stiff hairs which are of uniform length throughout. The first tergite is shorter than the two following ones together; anteriorly it is lightly concave; it is twice as wide as the head at base. Rostrum slender, distally decurved, shorter than the head. Antennae exceeding the rostrum by half the length of the sixth article, in addition to the seventh, or more. Antennae strongly clavate, thick; the fifth article, like the more proximal ones, wider than long.

Number of segments 79 to 86.

Length up to 25 mm.; width, 1 mm.

69. SIPHONOPHORA GRACILIOR, sp. nov.

Type.—M. C. Z. 4,302. *Paratype*.—M. C. Z. 4,303. Haiti: Petionville. W. M. Mann.

As compared with *S. proxima*, this is a more slender species which differs obviously also in the much shorter and finer hairs of the dorsum excepting those of the anal tergite which are abruptly much longer than the others instead of being uniform with them as they are in *S. proxima*. The first dorsal plate is longer, equalling or exceeding the combined length of the next two. The rostrum exceeds the head in length. The antennae are correspondingly longer, the sixth joint being proportionately longer, more evenly cylindrical and not narrowed distad as in the other species. The antennae exceed the rostrum by half the length of the sixth article as in *S. proxima*. The body is yellow below and along the sides; but along the dorsum it is darker and of an obscure reddish tinge.

Number of segments, ninety-six.

Length not accurately determined because of the strongly coiled condition of the type, but apparently between 20 and 30 mm.

70. SIPHONOPHORA MANNI, sp. nov.

Type.—M. C. Z. 4,304. Haiti: Grand Riviere. W. M. Mann.

This is at once separable from the two preceding Haitian species in having the rostrum much longer and in the longer antennae. The

rostrum reaches only to the proximal end of the sixth article of the antennae. This form is darker than the others, more brown, especially anteriorly. The antennae contrast sharply in color with the adjacent part of the body, being bright yellow. The body is broader and flatter than in the other two species described from Haiti, and the hair is shorter, uniform in length.

Number of segments, eighty-one.

Length, 23 mm.; width, 1.1 mm.

71. SIPHONOPHORA ROBUSTA, sp. nov.

Type.—M. C. Z. 4,305. *Paratypes*.—M. C. Z. 4,306-4,307. Jamaica: Liguanea Plain, 1911. C. T. Brues.

This is a shorter and proportionately much broader species than any one of the Haitian species above listed. The head is shorter and more globose. The antennae are relatively very long and stout, exceeding the rostrum by the last three and a half to nearly four articles. The dorsum is densely clothed as usual with very short straight hairs, these being of uniform length throughout. The body above is brownish.

The number of somites is, in the typical adults, from fifty-five to sixty-four. A small specimen apparently this same species has but forty-four somites; its antennae are proportionately shorter than in the others.

Length of type, 17 mm.; width, 1.3 mm.

71a. SIPHONOPHORA TOBAGOANA, sp. nov.

Type.—M. C. Z. 4,308. Tobago: King Bay, April, 1914. *Paratypes*.—M. C. Z. 4,309, 4,310. Tobago: near Richmond Bay. H. L. Clark.

An unusually thin species; flattened dorsoventrally. Head rather elongate, equalling or exceeding the rostrum. The antennae long, exceeding the rostrum by the seventh, sixth, and half or more of the fifth articles of the antennae. Sixth article of antennae long, cylindrical. First tergite moderately mesally incurved anteriorly. Dorsum clothed with very short hairs, those of the anal segment being somewhat longer than the others. Color yellow of a distinctly reddish or orange tinge.

Number of somites in four adult specimens from eighty-nine to

ninety-nine. The number in a small, immature specimen, is but sixty-four.

Length of type, 15 mm.

71b. SIPHONOCYBE HARTI (Pocock).

Siphonorhinus hartii Pocock, Ann. mag. nat. hist., 1895, ser. 6, 15, p. 375.¹

Habitat.—TRINIDAD¹: Arima, Verdant Vale. (R. Thaxter).

POLYZONIIDAE.

72. SIPHONOTUS PURPUREUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 479, pl. 37, f. 5.¹

Habitat.—HAITI: Emery, Grand Riviere, Cape Haitien (W. M. Mann). ST. VINCENT (H. H. Smith).¹ TOBAGO: near Plymouth. (H. L. Clark).

STEMMIULIDAE.

73. PROSTEMMIULUS COMPRESSUS (Karsch).

Stemmiulus compressus Karsch, Zeits. naturwiss., 1881, ser. 3, 6, p. 11¹; Pocock, Journ. Linn. soc. London, 1894, 24, p. 478.

Diopsiulus compressus Silvestri, Bull. Amer. mus. nat. hist., 1908, 24, p. 566, f. II (1-8)².

Habitat.—PORTO RICO¹: Utuado. (W. M. Wheeler).²

74. PROSTEMMIULUS WHEELERI Silvestri.

Diopsiulus wheeleri Silvestri, Bull. Amer. mus. nat. hist., 1908, 24, p. 568, f. III (1-8).¹

Habitat.—CULEBRA. (W. M. Wheeler).¹

75. PROSTEMMULUS CLARUS, sp. nov.

Type.—M. C. Z. 4,311. Haiti: Jacmel. *Paratypes*.—M. C. Z. 4,312–4,317. Haiti: Diquini, Grand Riviere, Furey, Manneville. W. M. Mann.

In this species there is a distinct, sharply marked median dorsal stripe of light color which is continuous throughout the length, or may be broken up into spots anteriorly as in *P. compressus*. There is a series of light spots along each side and a series of smaller light dots above this over the subdorsally placed repugnatorial pores. The under surface of the somites ectad of the legs is pale. Anal scutum and valves dark.

The body is robust. It is narrowed obviously both cephalad and caudad.

Ocelli strongly convex, the caudal one much the larger.

Collum strongly convex. Anterior margin mesally convex, slightly incurving on each side caudad of the antennae. Low down on each side two strong striae,—not presenting three keels as in *P. compressus*.

Anal scutum equalling the valves, bearing on each side three setiferous papillae and a median papilliform process as well. Anal valves with mesal margin considerably elevated, hirsute. Anal scale with caudal margin slightly emarginate at middle.

The male gonopods are obviously different from those of *P. compressus* and *P. wheeleri*. The mesal basal processes of the anterior gonopods are relatively much shorter than in *P. wheeleri* and are not distally acute and with tips curving ectad as in *P. compressus*. The intermediate process on each side curves caudoectad behind the principal plate and is curved at the tip. The principal plate is not concave along its distal margin as in *P. compressus*. Each posterior gonopod is much broader than in either of the other species mentioned and projects much beyond the first.

The male is much more slender than the female.

Length of female, 15 mm.; width 2 mm. Length of male type, about 12 mm.; width 1.2 mm. The maximum female is 20 mm. long.

76. PROSTEMMULUS CUBAE, sp. nov.

Type.—M. C. Z. 4,318. *Paratype*.—M. C. Z. 4,319. Cuba: Guantanamo. C. T. Ramsden.

This species differs strikingly in coloration from *P. compressus* and

P. clarus. The median dorsal stripe is much broader; it is ochraceous and is in part tinged with red. The upper part of the side of each somite is brown, the brown area enclosing a light, areolated spot about each repugnatorial pore and fading out ventrad, leaving most of the side as well as the venter of the body pale and immaculate. No distinctly separated second series of light dots below the upper one, though the spots of the upper series may be prolonged ventrad. Head and anterior somites paler than the following ones, typically having a dilute ochraceous cast. The antennae are dark, the legs yellowish.

Body narrowed toward both ends as usual, robust.

Ocelli of usual type; upper or caudal one much the larger; black.

The collum with anterior border margined below on each side.

A single striation toward each lower angle.

Anal scutum somewhat exceeded by the valves; with the usual six setigerous cones.

Number of segments, forty-three.

Length, 20 mm.; width, 2 mm.

77. PROSTEMMIULUS ROBUSTUS, sp. nov.

Type.—M. C. Z. 4,320. Cuba: Belona Oriente. C. T. Ramsden.

This is a much darker species than *P. cubae* with the median dorsal light stripe very much narrower, line-like, expanding into a small spot at anterior end of each tergite. Dorsum black on each side of the median pale line excepting along caudal border of each tergite, where the color is reddish or ferruginous; a small light spot about each repugnatorial pore. Sides lighter, brown or slightly chestnut with a distinct black stripe along the suture and another along the caudal border of each somite. In a number of the anterior segments following the first four the black extends continuously from the dorsum down the sides. First four segments and head pale ferruginous with vague dusky markings visible under lens; head blackish above and between the antennae, the area on vertex with numerous minute light dots. Legs yellow. Antennae blackish.

Ocelli black, strongly convex, the anterior proportionately larger than in *P. cubae*, the caudal one more posterior in position, obviously farther removed from the margin of the antennal socket.

Collum above lower end on each side with two deep striae above the margining sulcus and several shorter and weaker or obscure ones above these.

The other segments strongly striate, the striae running obliquely ventrocaudad and the two uppermost ones in the middle region of the body leaving a mid-dorsal triangular area on each somite with apex, which is anterior, a little truncate, each stria taking its origin on the front margin a little ectad of the median sulcus; striae not extending so high on first few segments while in the most caudal ones they meet at the middle, forming two or more triangles one outside the other.

Tubercles of anal scutum prominent, their setae long.

Number of segments, forty-four.

Length, near 27 mm.; depth, 2.8 mm.; width, 2.5 mm.

77a. *STEMMIULUS INSULANUS*, sp. nov.

Type.— M. C. Z. 4,321. Trinidad: near Port of Spain. Roland Thaxter. *Paratype*.— M. C. Z. 4,322 Trinidad: near Port of Spain. H. L. Clark.

In this species the head and the first three segments are light ferruginous without distinct darker markings. The following part of the body is abruptly darker. There is a very narrow mid-dorsal light line. Each average somite has the anterior half blackish, the posterior brownish of a pronounced purplish tinge, these two regions being separated by a narrow pale stripe which extends from the mid-dorsal stripe to the pale ventral region and expands in its course so as to produce two small dots of which there are thus two series. Legs yellow. Antennae dark. Last dorsal plate and anal valves ferruginous like the anterior region.

The body has the usual subfusiform shape but is especially strongly narrowed caudad.

Ocellus large, dark, strongly convex, situated immediately caudad of the antennal socket.

The collum is widely convex in front. The lower end is rounded, not truly angulate. Lower part crossed above margin by two sharp sulci below each of which the plate is ridged somewhat keel-like, with the posterior ends of these projecting as teeth or serrations.

Anal scutum caudally rounded, mesally emarginate, with the usual six setigerous cones additional to the median process. Anal valves a little exceeding the scutum.

Anterior gonopods of male excavated distally on the mesal side, strongly uncate, the apical region of each curving mesad and then

proximal and terminating in an acute process or mucron. From its base behind a stout blade curves ectad.

Number of segments, forty-five.

Length (male type), 18 mm.

NANNOLENIIDAE.

78. EPINANNOLENE DOMINICANA (Pocock).

Spirostreptus (Nodopyge) dominicanus Pocock, Ann. mag. nat. hist., 1888, ser. 6, 2, p. 478.¹

Habitat.—DOMINICA (G. A. Ramage).¹

79. EPINANNOLENE CUBENSIS (Bollman).

Nannolene cubensis Bollman, Proc. U. S. N. M., 1888, 11, p. 335.¹

Habitat.—CUBA.¹

This species is referred to *Epinannolene* only on the assumption that it is congeneric with the other known West Indian species of the family rather than with the Californian species *Nannolene burkei*, the type of *Nannolene*. The very brief account of *E. cubensis* does not supply the information needed for generic diagnosis.

80. EPINANNOLENE HAITIENSIS, sp. nov.

Type.—M. C. Z. 4,323. Haiti: Grand Riviere. *Paratypes.*—M. C. Z. 4,324, 4,325, 4,331. Haiti: Grand Riviere, Milot. W. M. Mann.

Banded with deep brown or almost black, the caudal portion of each segment from pale blue to nearly yellow. Anterior tergites above annulate in light. Other segments with a few simple lighter areas near the pore which are visible under the lens. Legs light brown to pale orange.

The ocelli more numerous than in *E. cubensis* and *E. dominicana*, numbering twenty or more, in four series in the lowermost of which the ocelli are very small: *c. g.*, 9, 7, 5, 3.

Unlike *E. dominicana* the collum shows a distinct though rounded

anterior corner separating anterior from lateral margins. Above the lower margining sulcus only two striae, of which the lower anteriorly curves dorsad and reaches the level of the eye.

In the other segments the depression along the sulcus is very weak and the anterior half not depressed. The striation weaker than in other species of the genus, in no case extending above the ventral surface and thus always far removed from the pores.

Number of segments, forty-nine.

Length near 30 mm.; width, 2 mm.

81. EPINANNOLENE ORNATA, sp. nov.

Type.—M. C. Z. 4,326. Haiti: Petionville. *Paratypes*.—M. C. Z. 4,327-4,329. Haiti: Petionville, Furcy, Port au Prince. W. M. Mann.

Readily distinguished from the other species in having a dilute ferruginous median longitudinal stripe along the dorsum, the tergites elsewhere being dark; each somite posteriorly brownish black with anterior border pale bluish. In young specimens the lower region of sides pale, more or less ferruginous yellow. First tergite and head ferruginous yellow excepting that in the latter there is a brown area between eyes and antennae embracing a clear spot just mesad of each antenna.

Ocelli in three series; *e. g.*, 9, 7, 5.

Collum margined as usual; on each side a very deep short sulcus running obliquely caudoventrad from near the lower level of eye, this joining at caudal end with a finer sulcus extending across the plate; two short sulci across caudal border below level of the deep oblique sulcus.

Segments not constricted. Strongly striate beneath, but the striae not extending up on the sides toward the pores as in *E. dominicana*.

Number of segments, forty-nine.

Length, about 23 mm.; width, 1.8 mm. A very large paratype from Furcy has a diameter of 2.6 mm.

82. EPINANNOLENE GRENADAЕ, sp. nov.

Type.—M. C. Z. 4,330. Grenada: Grand Etang. R. Thaxter.

This is a much more slender species than any of those listed above. The general color is brown to dusky above and flavous ventrally and over the lower portions of the sides and also in a band over the posterior borders of the somites and in a more narrow anterior band. In the anterior region of the body the brown portion of each somite encloses numerous light areas. The collum is thus areolate excepting in a band a little behind the anterior border where the dark color is solid. In the dark area between the eyes two small submedian light dots and also three light spots, two large and one much smaller and more mesal, just mesad of each antennal socket.

The antennae strongly clavate with the fifth and sixth articles clearly stoutest. Ocelli in two transverse (or subvertical) rows; *c. g.*, 7, 5.

The collum is evenly rounded below on each side.

The somites are very strongly constricted, the encircling furrow being deep and distinct, with the part of the annulus in front of it as high as that behind.

Number of segments, fifty-nine.

Length, about 18 mm.; width, 1 mm. or slightly less.

SPIROSTREPTIDAE.

83. ORTHOPORUS VENTRALIS (Porat).

Spirostreptus ventralis Porat, Bih. Svensk. vet.-akad. Handl., 1876, 4, no. 7, p. 42.¹

Habitat.—ST. THOMAS.¹

84. ORTHOPORUS SCULPTURATUS (Karsch).

Spirostreptus sculpturatus Karsch, Zeits. naturwiss., 1881, ser. 3, 6, p. 39.¹

Orthoporus sculpturatus Silvestri, Bull. Amer. mus. nat. hist., 1908, 24, p. 573, f. VII (1-5).²

Habitat.—PORTO RICO¹: Utuado, Santurce, and near Aibonito (W. M. Wheeler).²

85. ORTHOPORUS ABSTEMIUS (Karsch).

Spirostreptus abstemius Karsch, Zeits. naturwiss., 1881, ser. 3, 6, p. 36.¹

Habitat.— ?CUBA.¹

85a. ORTHOPORUS NITIDUS (Daday).

Spirostreptus nitidus Daday, Term. füzetek, 1891, 14, p. 137.¹

Habitat.— TRINIDAD¹: near Port of Spain. (R. Thaxter).

86. ORTHOPORUS ANTILLANUS (Pocock).

Spirostreptus antillanus Pocock, Journ. Linn. soc. London, 1894, 24, p. 483, pl. 38, f. 1-11.¹

Habitat.— ST. THOMAS.¹ ?GRENADA.¹

86a. ORTHOPORUS TOBAGOANUS, sp. nov.

Type.— M. C. Z. 4,334. *Paratypes.*— M. C. Z. 4,341. Tobago, 1916. W. E. Broadway.

This species may be distinguished from *O. nitidus* (Daday) of Trinidad, to which it is very close, in having the distal lateral process of the gonopod of male much shorter and more inconspicuous, as well as in various other minor details of the gonopod. The color is typically much lighter brown, and not so distinctly banded. Legs much lighter instead of being dark and almost concolorous with the body, yellow to ferruginous. One male appears somewhat mottled with lighter color along the sides. Antennae brown to chestnut. Sculpturing of somites similar but weaker.

Number of segments, fifty-seven or fifty-eight as against sixty or sixty-one in *O. nitidus*.

Smaller than *O. nitidus*, the length of the type, the largest of the specimens secured, being about 90 mm., with the diameter 6 mm.

87. ORTHOPORUS GRENADAЕ, sp. nov.

Type.—M. C. Z. 4,335. Grenada: Richmond Hill, August 25, 1916.

This species is close to *O. antillanus* and possibly was embraced under that name by Pocock who records it from Grenada as well as from St. Thomas. It differs from the form of which the gonopod is figured by Pocock in having the distal lateral process or spine much smaller and extending distad or a little mesad of distad instead of directly ectad; the funnels are also carried farther distad and closer to the principal part than indicated in the figure mentioned, with the tube more strongly bent; the median proximal piece is very similar, being less strongly arched, distally less angular. The coloration and sculpturing as in the latter species. The body is considerably more slender.

Number of segments (male), sixty.

Length near 100 mm.; width, 5.25 mm.

88. ORTHOPORUS HAITIENSIS, sp. nov.

Type.—M. C. Z. 4,336. Haiti: St. Marc, January, 1913. W. M. Mann.

A much smaller species than the two above described and than *O. nitidus* and *O. antillanus*. Near *O. ventralis* in structure though likewise much smaller than that form. Body strongly narrowed cephalad. Somites black about middle, the anterior and posterior borders ferruginous. Legs ferruginous. A dark band extending across face between eyes and antennae, this embracing a pale spot in each lower corner. Collum bordered all around with black.

Differing from *O. ventralis* in having the eyes smaller, composed of fewer ocelli, and separated by nearly twice their diameter instead of only once. Vertigial sulcus fine.

Collum in side view showing below two very deep sulci above the submarginal one, the upper one curving upward within the anterior margin. Not dilated below as in *O. ventralis*.

Striae of most segments falling much short of extending up to the pore.

Anal scutum caudally rounded; caudal portion depressed and roughened, coriaceous, the principal portion minutely subdensely punctate. Anal valves mesally strongly compressed and elevated.

Number of segments, fifty-five.

Length near 52 mm.; width, 4.2 mm.

89. ORTHOPORUS (?) INDUS (Pal. Beauvois).

Julus indus Pal. Beauvois, Ins. Afrique Amér., 1805, p. 154, pl. 6, f. 2;¹ Pocock, Journ. Linn. soc. London, 1894, 24, p. 506.

Julus beauvoisi Gervais, Ins. apter., 1847, 4, p. 191.²

Julus beauvoisi, proposed by Gervais as a substitute for *I. indus*, seems to have been extended incorrectly to the form described by that author from Martinique, as pointed out by Pocock (*Loc. cit.*, p. 507).

Habitat.—SANTO DOMINGO.^{1,2}

ANETHOPORUS, gen. nov.

Differing from Orthoporus in having the seminal style of the male gonopods wholly naked, not issuing from a vase-shaped lamina, and very long, curving behind the gonopods and ending on the opposite side, thus crossing the other style. The gonopod ends distally in an auriculiform membrane which is bent so as to be concave on the ectal side and presents a secondary smaller fold on the ectal side; between the two folds in the type is a short rod or styliiform process.

Genotype.—*A. clarki*, sp. nov.

89a. ANETHOPORUS CLARKI, sp. nov.

Type.—M. C. Z. 4,337. *Paratypes.*—M. C. Z. 4,338. Trinidad: Port of Spain, La Sieva Valley, April, 1916. H. L. Clark.

Color in general brown to testaceous with the posterior margin above bordered with a narrow stripe of dark brown to chestnut, the stripe narrowing down the sides. Collum with a dark band across anterior border just caudad of a narrow yellow margin, this dark stripe expanded near middle, and a narrower band along the caudal marginal yellow stripe, this also extended forward at the middle; the remaining portion of collum covered with a network of dark lines. Head dark, a sagittate tongue of dark color extending down between antennae outlined by a lighter area and above it, two small light dots; labrum bordered narrowly with ferruginous; vertex above with numerous light dots and also light along the sulcus. Anal scutum dark excepting caudally above and in a narrow marginal stripe on each side below. Valves dark or sometimes merely dusky over a lighter background, the

mesal margins light. Legs flavous. Antennae either the same or darker and with distal end light.

Sulcus evident only across vertex. Labral setiferous cones 2 + 2. Antennae short, sixth joint expanded, sensory cones four. Ocelli in each eye in five transverse series; thus, 10, 7, 7, 4, 2 (1).

Collum with lateral margin straight, corners narrowly rounded. Margined below and in front except dorsally. Above lower border a very deep oblique sulcus.

Pores beginning on somite six, very small, just caudad of suture. Suture deep and distinct. Segments caudad of suture deeply striate beneath, toward the pore becoming short and extending only a short distance from the suture. The overlapped anterior region of somite densely and very finely transversely striolate.

The anal valves very strongly compressed, the mesal margins being exceptionally elevated. Anal tergite triangularly produced caudally, much exceeded by the valves.

Number of somites, sixty and near that number.

Length up to 85 mm.; width to 5.1 mm.

89b. ANETHOPORUS GRACILIOR, sp. nov.

Type.—M. C. Z. 4,339. *Paratypes*.—M. C. Z. 4,340. Tobago: near Richmond and King Bays. H. L. Clark.

Readily distinguished from the other species in being very much smaller and more slender. General color brown, becoming light ferruginous in the anterior region. Each typical somite encircled by a dark band in front of the caudal, overlapping border, this band embracing an irregular light spot on each side, this spot with a network of dark lines and breaking through the stripe anteriorly; anterior border pale; the dark band extended farther forward on dorsum. Collum with dark anterior and posterior transverse stripes as in *A. clarki*, these within the borders and extended in the mid-dorsal region. Head with a fine meshwork of dark lines above; a dark band between the eyes, this band extended in a sagittate mark as in *A. clarki*, and also with a dark line extending ventrad just mesad of each antennal socket; the remaining portion of face light, much more so than in the other species. The anal valves dark. The anal scutum also of solid dark color excepting across proximal end where it shows a network of dark lines over a paler background.

Eyes smaller, with fewer ocelli in fewer series: *e. g.*, 5, 6, 3, 2.

Collum contrasting in running to an angle below on each side where it is narrowly rounded, the lateral margin not straight as in the other species. Strongly margined up side of anterior border.

Anal valves much exceeding the scutum, the mesal margins exceptionally elevated as in the type-species.

Number of segments fifty-six as against sixty in the other species.

Length (type), near 40 mm.; width, 2.2 mm. Specimens from King Bay with diameter up to 3.1 mm.

SPIROBOLOIDEA.

90. RHINOCRICUS RAMAGEI Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 489.¹

Habitat.— ST. LUCIA.¹ (G. A. Ramage).

91. RHINOCRICUS MANDEVILLEI Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 489.¹

Habitat.— JAMAICA: Mandeville¹ (T. D. A. Cockerell, T. Barbour).

92. RHINOCRICUS POLITUS Porat.

Ann. Soc. ent. Belg., 1889, **32**, p. 243; ¹ Pocock, Journ. Linn. soc. London, 1894, **24**, p. 488.

Habitat.— ANTIGUA.¹

93. RHINOCRICUS TOWNSENDI Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 505.¹

Habitat.— JAMAICA. (T. Townsend.)¹

94. RHINOCRICUS GOSSEI Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 490, pl. 38, f. 2.¹

Habitat.— JAMAICA. (P. H. Gosse.)¹

95. RHINOCRICUS RARIOR, sp. nov.

Type.—M. C. Z. 4,342. Haiti: Grand Riviere. W. M. Mann.

Belonging in that relatively small group of West Indian species having no scobina. It differs from the other Haitian species of the group, *R. mandevillei*, among other features, in having the suture dorsally obscure instead of deep and complete. The head and collum are ferruginous. The anal scutum is shining black with narrow flavous caudal border. The anal valves are dusky over a ferruginous ground. The other segments are black with narrow ferruginous caudal border which above does not extend to the suture but attains or extends beyond it down low on the sides. Legs and antennae ferruginous.

Collum widely rounded below. Weakly margined about the lower anterior corner. Failing much of attaining the lower margin of the second tergite which is not excavated below.

Sutures straight, not at all or only very weakly curved opposite the pores.

Number of segments, forty-seven.

Length about 45 mm.; width, 4 mm.

96. RHINOCRICUS EXCISUS Karsch.

Zeits. naturwiss., 1881, ser. 3, 6, p. 73; Pocock, Journ. Linn. soc. London, 1894, 24, p. 491.¹

Habitat.—JAMAICA.¹

97. RHINOCRICUS NEWTONIANUS, sp. nov.

Type.—M. C. Z. 4,343. *Paratypes*.—M. C. Z. 4,344. Jamaica: Newton, January, 1912. C. T. Brues.

This species is like *R. parvus* and *R. holomelanus* in having the posterior border of some of the anterior somites bisinuate above the scobina, but aside from being a very much smaller species differs strikingly in color as well as in structural details. In coloration it much resembles *R. heteroscopus*, having a series of black transverse bands across the dorsum, each band in front of the suture, on each side of which there is a sharply marked longitudinal pale stripe with below dark vertical stripes narrowing ventrad as in the species men-

tioned, the somites being elsewhere ferruginous. The collum in front of the middle has a transverse stripe of black which widens at the middle and sends an acute branch to the anterior margin; in front of this the border is yellow, with a disconnected mark of the same color above each lateral end; elsewhere the collum is ferruginous with over it a network of darker lines. The anal scutum is blackish, with each free lateral border narrowly margined with yellow. Anal valves dusky. Head ferruginous, with a conspicuous black mark in the form of an inverted Y.

Collum rounded below as usual, margined laterally. Not attaining lower edge of second tergite.

Pore in line with suture which curves strongly about it. Suture weak, or obliterated in some cases, above.

Anal scutum narrowly rounded caudally, much exceeded by the anal valves which in side view protrude strongly convexly.

Number of segments, forty-two.

Length, 31 mm.; width up to 4 mm., the species being proportionately stout.

98. RHINOCRICUS PARCUS Karsch.

Zeits. naturwiss, 1881, ser. 3, 6, p. 68; Pocock, Journ. Linn. soc. London, 1894, 24, p. 491.¹

Habitat.—PORTO RICO.¹

99. RHINOCRICUS ELECTUS, sp. nov.

Type.—M. C. Z. 4,345. Cuba: Guantanamo, Mal Paso "El Palmar," April 3, 1913. C. T. Ramsden.

A species like *R. parvus* and *R. holomelanus* in having the posterior margin of anterior somites above the scobina conspicuously bisinuate. It is like *R. holomelanus* in having the pores high above the middle, and has a similar habitus and general structure to that species but, aside from being smaller, is readily distinguishable in having the suture of the segments more strongly marked and traceable entirely across the dorsum. Also in contrast with that species the segments are annulate with flavoferruginous along the caudal border, these light bands becoming more obscure caudad but very sharply defined in the middle and anterior region. Collum black excepting for nar-

row light borders. Head dark. Anal scutum black at base, brown caudally. Anal valves brown.

Collum not at all or only obsolete margined below. Second tergite extending a little below it, indented or excavated beneath.

Anal scutum with surface highly coriarius, exceeded by the valves. Valves distinctly compressed.

Number of somites forty-seven.

Length, 50 mm.; width, 6.8 mm.

100. RHINOCRICUS MEDIATOR, sp. nov.

Type.—M. C. Z. 4,414. *Paratypes*.—M. C. Z. 4,415. Haiti: Furey. W. M. Mann.

This belongs with the scobinate species of *Rhinoericus* having but a single suture on the somites and the anal scutum not prolonged beyond the valves. In size it is smaller than *R. domingensis*, *R. maltzani*, *R. haitensis*, and so forth, and larger than *R. solitarius* and related new species above described. The suture in the anterior somites is strongly marked across the dorsum but in the middle and posterior regions is weak or obscure; it is distinctly sinuate about the pore. Scobina continuing to well caudad of middle region of body.

The collum is marginate along the anterior corner. The second tergite extends much below its level and is flattened or also somewhat excavated on anterior half.

The antennae are very short. Head smooth and shining. Sulcus distinct; interrupted near level of antennae.

Anal scutum shining; crossed toward caudal region by two or three weak wrinkles; narrowly rounded caudally. Much exceeded by the anal valves which are compressed.

The general color of the type is somewhat ferruginous. The somites are banded with black, or a somewhat olivaceous black, this dark color occurring along the anterior border and not extending back so far as the suture. Anal scutum and valves somewhat olivaceous black. Collum and head somewhat brownish ferruginous. Legs ferruginous.

It is distinguished in having the upper branch of the posterior gonopods lying close against the edge of the lower branch, long and very slender.

Length about 56 mm.; width 5 mm.

101. RHINOCRICUS GUADELOUPENSIS, sp. nov.

Type.—M. C. Z. 4,346. *Paratype*.—M. C. Z. 4,370. Guadeloupe: Soufriere, 1914. G. K. Noble.

This species resembles the Jamaican *R. holomelanus* in its uniform black color and in its general structure. Aside from its smaller size, however, it differs in numerous details. The legs are brown, in part of dilute ferruginous cast. The collum is distinctly margined below and a short distance up the anterior border; the surface is finely, weakly coriarius. The segmental sutures are very weak over the sides and obscure or missing above. No second suture. Segments in general smooth and shining above. Scobina extending farther caudad than in *R. holomelanus*, reaching to the twenty-ninth or thirtieth segment. Anal scutum obtusely angular with angle rounded; much surpassed by the valves which protrude strongly convexly.

Number of segments, forty-six or forty-seven.

Length, up to 80 mm.

102. RHINOCRICUS HOLOMELANUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 492.¹

Habitat.—JAMAICA¹: Liguanea Plain (C. T. Brues), near Port Antonio (A. E. Wight), Kingston (T. Barbour), Mandeville (T. Barbour), Bath (O. Bangs).

103. RHINOCRICUS CHAZALIEI Brolemann.

Mem. Zool. soc. France, 1900, 13, p. 93, pl. 6, f. 8-13.¹

Habitat.—MARTINIQUE (De Dalmas).¹

104. RHINOCRICUS LIPARUS, sp. nov.

Type.—M. C. Z. 4,355. *Paratypes*.—M. C. Z. 4,356. Martinique: Mont Rouge, February 3, 1879. Samuel Garman.

This species is a proportionately exceptionally stout form composed of only forty-one or forty-two somites. The sulcus of the somites is

deep and sharply defined entirely across the dorsum. The longitudinal sulcus just above the pore is also deeply impressed. The second tergite extends below the collum. The collum is widely rounded below and is margined laterally and up along the anterior corner; on each side it is marked with a fine but clearly defined longitudinal sulcus extending across the plate at the level of the eye, this being ordinarily curved by a vertical sulcus in front of the middle of plate and another one behind the middle. Eyes three and a fourth or more their longest diameter apart; ocelli thirty to forty-five in mostly even series, less commonly in six or eight. The vertigial sulcus weak. Antennae very short, sensory cones, numerous. Scobina present caudad to the thirty-fifth segment. Anal valves strongly compressed, much exceeding the scutum which is angular but narrowly rounded behind. Median plate of anterior gonopods of male strongly narrowed distad with sides distally concave, proximally convex and more strongly diverging, not straight as in *R. chazalici*. Outer distal division of posterior gonopods thin, broadly clavately widened, distal margin strongly convex and incised toward the ends, thus bearing a tooth at each end; inner process shorter than the outer, slender and distally acute, not lamellate. The general color is bluish black. The somites tend to ferruginous in a narrower stripe along caudal border and are often but not always paler low on the sides than above. Labrum ferruginous, the head elsewhere ordinarily dark, with above between the eyes a deeper black subquadrate area with the angles extended sublaterad in acutely pointed processes or lines. Anal scutum and valves typically blue-black, narrowly margined caudally with pale. Legs yellowish to ferruginous.

Length up to about 55 mm.; diameter up to 5.2 mm.

105. RHINOCRICUS SOLITARIUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 496, pl. 38, f. 6.¹

Habitat.—JAMAICA (T. D. A. Cockerell).¹

106. RHINOCRICUS PARVIOR, sp. nov.

Type.—M. C. Z. 4,357. *Paratypes*.—M. C. Z. 4,358. Jamaica: Liguanea Plain, 1911, C. T. Brues.

In coloration and general appearance resembling *R. mandevillei* but,

aside from the obviously smaller size, it differs in various details, important among which is the presence of scobina. The posterior borders of the somites are flavous only part way to the suture instead of all the way. The suture is dorsally weaker. The anterior portion of somites of more deep color. The suture is curved distinctly away from the pore (*i. e.*, the convexity is caudad). Striae only below, extending much less high up than in *R. mandevillei*.

Number of somites, forty.

Length near 29 mm.; width, 3.2 mm.

107. RHINOCRICUS FURCIANUS, sp. nov.

Type.—M. C. Z. 4,359. *Paratype*.—M. C. Z. 4,360. Haiti: Furcy. W. M. Mann.

A small species like the Jamaican *R. solitarius* which it resembles in structure. It is like that species in having but forty-three or forty-four segments. It differs in having the second tergite extended much below the collum and not flattened or excavated below. The anterior portion of the somites is not obviously transversely striolate, and the longitudinal striae below and in front of the sulcus are strictly longitudinal like those caudad of the suture, not directed obliquely upwards as in *R. solitarius*. The pore is in line with the suture which curves about it. The suture disappears above in a slight or obsolete furrow as in *R. solitarius*. Anal valves not at all or but very slightly compressed, not at all margined, exceeding the anal scutum which is smooth and shining like the valves.

The head is light chestnut-brown with a black mark on the face something in form like an inverted Y. Collum colored like the head excepting a black band along the anterior border. Anal scutum and valves shining black. Other segments in front of the suture black, including numerous minute light dots on each side below level of pore which are evident under magnification; behind the suture light brown or somewhat ferruginous with a narrow stripe along the posterior border above the level of the pores a brighter yellow or nearly white.

Number of segments, forty-three or forty-four.

Length, about 34 mm.; width, 3.3 mm.

108. RHINOCRICUS DOMINGENSIS Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 495.¹

Julus haitensis Saussure (non Gervais), Mém. Soc. phys. hist. nat., 1860, **15**, p. 363.

Habitat.—SANTO DOMINGO (HAITI).¹

109. RHINOCRICUS MALTZANI Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 495, pl. 38, f. 5-5b.¹

Habitat.—HAITI: Furey, Grand Riviere, Milot, Jacmel. (W. M. Mann). SANTO DOMINGO: Cape Haitien.¹

110. RHINOCRICUS HAITENSIS (Gervais).

Julus haitensis Gervais, Ins. Apter., 1847, **4**, p. 191.¹

Habitat.—SANTO DOMINGO (HAITI).¹

111. RHINOCRICUS SUPRENANS sp. nov.

Type.—M. C. Z. 4,699. *Paratypes.*—M. C. Z. 4,700. Cuba: Baracoa. W. O. Crosby.

A species evidently close to *R. duvernoyi*, another similarly large Cuban species. The present form has a strongly marked color-pattern at once differentiating it from *R. duvernoyi* which is ordinarily shining brown. It is deep olive-black with the caudal borders of the annuli ferruginous, the light band very narrow; the collum similarly bordered with ferruginous all the way around. Legs and antennae olivaceous.

The collum is rounded below; it is notched on caudal side above the lateral end; not striate; failing much of attaining the lower margin of the second tergite which is not excavated.

A marked difference from *R. duvernoyi* is that, whereas in the latter the suture is very distinct throughout, in *R. suprenans* the suture is obscure above and is weak even laterally.

Number of segments forty-six or forty-seven (fifty or more in *R. duvernoyi*).

Length up to 180 mm.; width 16 mm.

112. RHINOCRICUS DUVERNOYI Karsch.

Zeits. naturwiss., 1881, sev. 3, 6, p. 77.¹

Habitat.—CUBA:¹ Santiago de las Vegas (C. F. Baker), Guan-
tanamo (T. Barbour), Pinar del Rio (T. Barbour).

113. RHINOCRICUS CURTIOR, sp. nov.

Type.—M. C. Z. 4,371. *Paratypes*.—M. C. Z. 4,372. Haiti:
Grand Riviere. W. M. Mann.

Apparently related to *R. solitarius* Poc. It differs in coloration. The collum, last scutum, and anal valves are black, all narrowly bordered with ferruginous. Segments in front of suture blackish brown, the dark color extending caudad of the suture dorsally and the stripe narrowing ventrad to a point below middle; the segments elsewhere more or less ferruginous. Head with vertex dusky, a thick black mark bifurcate below extending ventrad from vertex; clypeus ferruginous.

Eyes about four times their diameter apart.

Second tergite not flattened or excavated below.

Unlike *R. solitarius* the suture is deep and very sharply defined entirely across the dorsum.

Segments forty-eight or forty-nine as against forty-four in *R. solitarius*.

Length near 38 mm.; width, 4.5 mm.

114. RHINOCRICUS HETEROSCOPIUS, sp. nov.

Type.—M. C. Z. 4,373. *Paratype*.—M. C. Z. 4,374. Jamaica:
Liguanea Plain, 1911. C. T. Brues.

Similar in general structure to *R. solitarius*. Differing in color in having a mid-dorsal series of transverse black stripes, each of which is broadly trapeziform and occupies the space in front of the suture. On each side of the black marks a longitudinal reddish or ferruginous band. Below this on each somite a black stripe in front of suture which near the pore occupies the entire space between suture and anterior margin but narrows ventrad leaving a caudal ferruginous border. Anal scutum black. Collum mostly obscure ferruginous, darker along anterior border. Legs and antennae ferruginous.

Collum broadly rounded laterally; distinctly margined. Second somite extending much below it, not flattened or excavated as in *R. solitarius*. Sutures single, becoming obscure dorsally in anterior and middle region of body especially.

Anal scutum caudally rounded, much exceeded by the anal valves.

Median plate of male gonopods with sides nearly evenly concave, not sinuate as in *R. solitarius*, distally subacute, not widely rounded. The inner process with the two distal prongs long and slender.

Number of somites, forty-eight.

Length (male type) near 37 mm.; width 3.3 mm.

115. RHINOCRICUS NIGRESCENS, sp. nov.

Type.—M. C. Z. 4,375. *Paratypes*.—M. C. Z. 4,376. Haiti: Furcy. W. M. Mann.

Apparently near *R. solitarius* but differing from this and closely allied species in having the body not distinctly banded, the color being a nearly uniform shining brownish black, excepting for a number of small pale dots visible under the legs over the anterior region of each somite, and obscurely lighter caudal border below pores. In some specimens, however, the caudal border of each somite below the longitudinal sulcus at level of pore is bright, white to ferruginous, the light stripe being narrow. The collum is lighter over the median region, but the border all around is deep black, the anterior black band widest. Anal scutum and valves deep shining black. Legs ferruginous.

Collum distinctly margined along the anteroinferior corner. Extending ventrad to near the lower border of the second tergite, the latter being flattened or a little excavated below.

The sutures obscure or essentially absent above; also weak laterally excepting low down on the sides.

Anal scutum caudally narrowly rounded, not free, a little surpassed by the valves which are evenly convex, not at all compressed or margined.

Number of segments, forty-eight.

Length near 34 mm.; width, 3.1 mm.

116. RHINOCRICUS SOCIUS, sp. nov.

Type.—M. C. Z. 4,377. *Paratypes*.—M. C. Z. 4,378. Grenada: Grand Etang. Roland Thaxter.

Allied in general structure to *R. solitarius* of Jamaica but readily distinguished by differences in the male gonopods. The median plate is distally very acute, not widely rounded as in *R. solitarius*, and the sides are not sinuate as in that species. The intermediate (posterior gonopods) processes in the type protrude beyond the other pieces; each at the tip is bifurcate with one branch expanded at distal end into a transparent piece with double curved or sinuate distal margin and the other slender, distally sinuate or somewhat apically coiled and acute, lying against the tip of the other which it equals in length.

Color above shining black. Each segment on the sides with caudal border brown, the brown stripe widening ventrad and above the feet often embracing all or nearly all of the segment. Legs flavous to light ferruginous. Anal scutum not pale caudally.

Sulcus on head continuous across venter and down the median line of face but weaker and sometimes in part nearly obliterated at level of antennal sockets. Collum widely rounded on each side; narrowly marginate laterally and around the anterior corner; not striate. Second tergite extending well below the first about the lower end of which it curves to near its middle, not at all flattened below. Segments with no trace of a second suture, and the ordinary one usually weak or obsolete dorsally. Surface of segments in general smooth and shining. Anal scutum caudally rounded, smooth and shining, exceeded by the anal valves. Scobina present, extending much behind middle of body, to about the forty-third segment.

Number of segments, forty-seven.

Length to near 54 mm.; diameter to 4.8 mm. (Female).

117. RHINOCRICUS GRACILIPES Karsch.

Zeits. naturwiss., 1881, ser. 3, 6, p. 71.¹

Habitat.—CUBA.¹

118. RHINOCRICUS GRENADENSIS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 498, pl. 38, f. 11.¹

Habitat.—GRENADA (H. H. Smith).¹

119. RHINOCRICUS ARBOREUS (Saussure).

Linnaea ent., 1859, **13**, p. 331.¹

Spirobolus (Rhinoericus) arboreus Karsch, Zeits. naturwiss., 1881, ser. 3, **6**, p. 8.²

Rhinoericus arboreus Pocock, Journ. Linn. soc. London, 1894, **24**, p. 493, pl. 38, f. 4;³ Silvestri, Bull. Amer. mus. nat. hist., 1908, **24**, p. 569.⁴

Habitat.—PORTO RICO:² Rio Piedras (R. Catton). CULEBRA (W. M. Wheeler).⁴ ST. THOMAS;^{1, 3} (Hassler Exped.). SANTA CRUZ [St. Croix] (A. Newton).³ ANTIGUA.³

120. RHINOCRICUS ARBOREUS GUNDLACHI Karsch.

Zeits. naturwiss., 1881, ser. 3, **6**, p. 8;¹ Silvestri, Bull. Amer. mus. nat. hist., 1908, **24**, p. 569.²

Habitat.—PORTO RICO:¹ Vega Baja (W. M. Wheeler),² Ribonito (R. T. Cotton).

121. RHINOCRICUS ARBOREUS KRUGII Karsch.

Zeits. naturwiss., 1881, ser. 3, **6**, p. 8.¹

Habitat.—PORTO RICO.¹

122. RHINOCRICUS MACROPUS Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 493,¹ pl. 38, f. 3.

Habitat.—ST. VINCENT (H. H. Smith).¹

123. RHINOCRICUS LEPTOPUS Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 503.¹

Habitat.—ST. LUCIA (G. A. Ramage).¹

124. RHINOCRICUS BARBOURI, sp. nov.

Type.—M. C. Z. 4,383. Isle of Pines: Sierra de Caballos. T. Barbour.

A large species much suggesting in size, coloration, arrangement, and form of scobina *R. duvernoyi* of Cuba. It is similarly very dark, almost blackish brown with the caudal borders deepest. The anal valves and scutum are concolorous instead of being abruptly and obviously lighter excepting the dark tip as in specimens of *R. duvernoyi* studied. The new form is at once separated from the Cuban species by its strongly marked sculpturing, giving it a rougher, less shining appearance, and especially by the presence of a second deep suture in front of the ordinary one. The lateral ends of the collum are narrower. Also the collum shows a deep transverse sulcus in front of the caudal margin, this curving forward below on each side to middle of plate. The head shows on the lower part of the frons a conspicuous depression from the edges of which radiate short impressed lines. The apical portion of the anal scutum is depressed and more strongly set off from the basal part and at the same time is more roughened than in *R. duvernoyi*.

Number of segments, fifty-two.

Length near 142 mm.; width, 14.5 mm.

125. RHINOCRICUS THOMASIANUS, sp. nov.

Type.—M. C. Z. 4,384. ♂. St. Thomas. Hassler Exped.

Similar in size and in having a second segmental suture in front of the first one to *R. barbouri*. From that species readily distinguished in the much smoother surface. It lacks the transverse sulcus on the collum present in *R. barbouri* though presenting in front of the position of the latter on each side a wider shallow transverse depression. The collum is more broadly rounded below at each lateral end; distinctly margined laterally and for a short distance inferiorly in front. Lacking the pit-like depression on the front of the head present in *R. barbouri*. The tip of the anal scutum, obviously exceeded by the anal valves, is not abruptly depressed or set off from the proximal region. Scobina extending to within a few segments of caudal end, thus differing from *R. barbouri*; very deep. The general color of the type at present is light brown; the caudal margin of segments

more reddish, somewhat chestnut to ferruginous. A series of small dark dots along each side corresponding to the pores.

Number of segments, fifty-two.

Length about 145 mm.; width, 13.5 mm.

126. RHINOCRICUS MARTINIQUENSIS, sp. nov.

Type.— M. C. Z. 4,411. *Paratype*.— M. C. Z. 4,385. Martinique: Mont Rouge. S. Garman, 1879.

This species is separated from the Dominican *R. leucostigma* with considerable doubt and may ultimately have to be merged with that form. It agrees with the latter quite closely in structure and coloration. It presents the two well-defined sulci on the somites with the anterior of these taking its origin well below the pore and the three longitudinal rows of flavous spots as in *R. leucostigma*. The anal valves are in most cases wholly ferruginous but may be in part dusky. The anal scutum is bordered posteriorly by ferruginous, the extent of this color varying. Perhaps the most important difference noted is that in the Martinique form the anal tergite, while sometimes slightly free at the tip, is in all cases much exceeded by the strongly protruding anal valves, whereas in *R. leucostigma*, according to Pocock's statement, the tergite is "produced into an acutely angular, blunt process, which just surpasses the valves." Typically the collum is crossed longitudinally at the level of the eye by a sulcus which in turn is crossed by two vertical sulci as in *R. liparus*. Legs ferruginous. Antennae the same or brown.

Number of segments up to forty-seven.

Length up to 45 mm.; diameter to 5 mm.

127. RHINOCRICUS LEUCOSTIGMA Pocock.

Journ. Linn. soc. London, 1894, 24, p. 500, pl. 38, f. 8.¹

Rhinocricus paraensis Pocock (non Humb. & Sauss.), Ann. mag. nat. hist., 1888, ser. 6, 2, p. 479.

Habitat.— ST. LUCIA (G. A. Ramage).¹

128. RHINOCRICUS MONILICORNIS (Porat).

Spirobolus monilicornis Porat, Bih. Svensk. vet.-akad. Handl., 1876, 4, no. 7, p. 31.

Rhinocricus monilicornis Pocock, Journ. Linn. soc. London, 1894, 24, p. 499.¹

Habitat.—HAITI: Grand Riviere (W. M. Mann). SANTO DOMINGO: Cape Haitien.¹ BARBADOS (H. W. Feilden).¹ TRINIDAD: Port of Spain, Esperanza Sugar Estate (R. Thaxter). TOBAGO: Milford Bay, Richmond Bay, King Bay, Plymouth, Scarboro (H. L. Clark).

129. RHINOCRICUS JXTUS, sp. nov.

Type.—M. C. Z. 4,397. Grenada: Grand Etang. Roland Thaxter.
Paratypes.—M. C. Z. 4,398–4,401. Grenada: Arima, Verdant Vale, St. Georges. R. Thaxter.

This species is nearest *R. consociatus* from Union Island; but it is a larger species, the length being up to 60 mm., with diameter 5.2 mm., instead of only up to 35 mm. with maximum diameter 3 mm. The number of segments is forty-seven or forty-eight instead of forty-four. The two sutures are dorsally complete and distinct from the third to the penult segment inclusive; on the second somite the posterior sulcus is almost obliterated and the anterior one is interrupted at frequent intervals. The collum is much exceeded by the second tergite which curves below it ventrally and fits against its edge. Collum distinctly margined below and in front excepting the dorsal region. A large shallow depression on lower part of frons; toward the middle of this depression a pair of smaller pits across and ectad from each of which extend two distinct sulci. The tip of the anal scutum is free but does not exceed the valves. General color, when dry, olive-black; in alcohol more green, especially above toward anterior border. Caudal border of each ordinary segment flavo-ferruginous, the light band above extending somewhat less than half way to the suture but widening moderately below on each side. The collum narrowly bordered all around by the flavoferruginous. Tip of scutum weakly light-colored. Legs ferruginous to chestnut.

130. RHINOCRICUS CONSOCIATUS Pocock.

Journ. Linn. soc. Zool., 1894, 24, p. 500, p. 38, f. 7.¹

Habitat.—UNION.¹

130a. RHINOCRICUS TOBAGOENSIS, sp. nov.

Type.—M. C. Z. 4,402. *Paratypes*.—M. C. Z. 4,403. Tobago: near Milford Bay, March, April, 1916. H. L. Clark.

This species is near *R. consociatus* from Union Island, and *R. juxtus* from Grenada. It is a much smaller species than the latter, has fewer segments, and differs in color-pattern as well as in various structural details. It agrees with *R. consociatus* in size. It differs clearly in the form of the male gonopods, the median plate, for example, being differently formed, its sides convex proximally and incurved distally instead of straight throughout. The inner (posterior) piece projects distally beyond the others; it presents two slender distal prongs of which one is expanded and narrowly laminate distally.

In color it differs decidedly from both the species mentioned. The general ground color is brown; each segment dorsally is narrowly bordered with black, the stripe narrowing laterad on each side and disappearing in a point near the level of the pore. Below the level of the pore in front of the suture and extending a varying distance dorsad, the somites are dusky to nearly black, embracing lighter areolations below. The anal scutum dark with caudal tip ferruginous and a narrow light border below on each side. Anal valves dark. Legs ferruginous.

Sulcus of head sharply defined, scarcely interrupted. Antennae very short; sensory cones numerous.

Second tergite extending much below the collum, not flattened or excavated. On somites, excepting first and last, two sutures present, these sharply defined entirely across dorsum. The posterior suture sharply bent about the pore. The anterior one taking its origin near the level of the pore excepting in the most anterior segments on which it extends below that level.

The anal scutum free for a short distance at caudal end but not surpassing the valves, either equalling them or falling a little short.

Number of segments forty-six.

Length, up to 35 mm.; width, to 3 mm.

131. RHINOCRICUS ANGUINUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 502.¹

Habitat.—ST. LUCIA (G. A. Ramage).¹

132. RHINOCRICUS GRAMMOSTICTUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 501.¹

Habitat.—ST. LUCIA (G. A. Ramage).¹

132a. RHINOCRICUS MIMETICUS, sp. nov.

Type.—M. C. Z. 4,404. Tobago: near Plymouth, April, 1916.
H. L. Clark.

Like *R. vincenti* in having two sutures of which the posterior one is obsolete across the dorsum but easily distinguished from that species in having the anal scutum surpassing the valves. In coloration suggesting *R. monilicornis*. On each ordinary somite there is a dark encircling stripe just in front of the posterior suture, this band narrowing down each side and ending some distance from the legs. Dorsally, there is a narrow, dark stripe in front of the caudal border, and on some segments, especially in posterior region, a dark caudal mark below the level of the pore. The collum is dark, narrowly margined with pale. Head dark. Anal valves dark. The anal scutum dark proximally, becoming lighter, flavoferruginous distally. Legs ferruginous.

Collum weakly margined below and a short distance up the front. Widely rounded below. Much surpassed ventrally by the second tergite.

Posterior suture conspicuously angled at level of pore. Anterior suture in anterior region arising below pore, elsewhere near its level, sharply defined throughout its length, the posterior one obsolete dorsally.

Anal scutum conspicuously produced, exceeding the valves, distally strongly rounded. Anal valves mesally elevated and compressed, but without margining sulci.

Number of segments, forty-seven.

Length, near 34 mm.; width, 2.6 mm.

133. RHINOCRICUS VINCENTI Pocock.

Journ. Linn. soc. London, 1894, 24, p. 503, pl. 38, f. 10.¹

Habitat.—ST. VINCENT (H. H. Smith).¹

134. RHINOCRICUS BRUESI, sp. nov.

Type.—M. C. Z. 4,405. Jamaica. C. T. Brues.

This species is characterized in having two sutures both of which on most segments are obliterated dorsally, the two being laterally about equally developed.

Each segment with an encircling median band which is brownish in color or sulcus across the dorsum in posterior region a distinctly bluish tinge, the band becoming paler down each side where it is areolated with small light dots. Anterior and posterior borders light ferruginous. Last tergite dark, anal valves ferruginous.

Collum laterally widely rounded, narrowly margined. Second somite extending much below collum, not excavated.

Scobina well developed. Pores back of middle of somites. Suture curving opposite pore. Anterior beginning a little above the level of the pore.

Last tergite much exceeded by the valves.

Number of segments, forty-eight.

Length, near 34 mm.; width, 3 mm.

135. RHINOCRICUS COCKERELLI Pocock.

Journ. Linn. soc. London, 1894, 24, p. 505.¹

Habitat.—JAMAICA: Mandeville (T. D. A. Cockerell),¹ Cinchona, Liguanea Plain (C. T. Brues).

136. RHINOCRICUS SABULOSUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 504, pl. 38, f. 12.¹

Habitat.—JAMAICA: Mandeville (T. D. A. Cockerell).¹

NESOBOLUS, gen. nov.

In this genus the gonopods differ from those of *Rhinocricus* in having the two prongs of the posterior gonopods both slender much as in *Dinematocricus*, a genus abundant in the East Indies, etc., with the ventral, or principal one, much the longer and drawn out to a fine tip,

and the shorter one more blade-like, and bearing the seminiferous duct which in *Dinematocricus* opens between the two branches.

Antennae short; sensory cones four.

Collum broad and rounded laterally.

Pores in front of suture; beginning on sixth somite. Scobina present.

Genotype.—*N. toroanus*, sp. nov.

137. NESOBOLUS TOROANUS, sp. nov.

Type.—M. C. Z. 4,412. Cuba: Guantanamo. C. T. Ramsden.

Paratypes.—M. C. Z. 4,413, 4,420–4,422. Cuba: Mt. Toro, Nimfilas, Ramona el Mono, San Felipe, Los Hondones, Belona. C. T. Ramsden.

Color behind suture on a typical somite is dark brown, the color near and below the level of the pore is lighter from the inclusion of aggregations of numerous light dots as seen under the lens, a narrow marginal light stripe also often evident across the dorsum. Collum with a blackish stripe across anterior border and a narrower one along the caudal, the median area of the plate being covered with a network of dark lines. Anal scutum and valves black, the former narrowly margined with flavous or light ferruginous and embracing minute light dots proximally. Legs flavous or light ferruginous.

Eyes in a subcircular to somewhat triangular area, about twenty-five in number in five series.

Collum margined laterally and around and just above the anterior corner. Second tergite extending below it but more or less flattened beneath. Suture of segments strongly marked throughout, single, gently sinuate at level of pore.

Anal valves much exceeding the last tergite; strongly convex, not compressed, nor margined.

In this species the median plate of the male gonopods is inversely T-shaped, the median piece being long, slender, and parallel; sides distally subacutely narrowed, and in the type-species constricted proximally; the paired outer (anterior) gonopods are almost wholly exposed in front view. The posterior (inner) gonopods are slender, and distally bifurcate with the prongs long and slender, the upper seminiferous one short and slenderly blade-like, distally curved and subacute, the other very much longer and running out to a fine point.

Number of segments, forty-seven to forty-nine.

Length up to about 43 mm.; width, to 3 mm.

138. THYROPROCTUS TOWNSENDI Pocock.

Journ. Linn. soc. London, 1894, 24, p. 506, pl. 37, f. 6-6c.¹

Habitat.—JAMAICA. (T. Townsend).¹

139. THYROPROCTUS CINCHONIANUS, sp. nov.

Type.—M. C. Z. 4,416. *Paratypes*.—M. C. Z. 4,417. Jamaica: Cinchona, 5,000 feet. January, 1912. C. T. Brues.

This, the second known species of this interesting genus, may be distinguished from *T. townsendi* at once by the strikingly different coloration. It presents along the mid-dorsum a continuous black band composed of rather narrow trapezoidal marks, one on each segment. Each side of the median black stripe there is a series of smaller ferruginous or red dots while below these the side is dark brown to black in front of the suture, this region embracing numerous small light dots or areolations, while the color caudad of the suture is solid but lighter, commonly ferruginous. There is a black mark between the eyes and extending down the labrum suggesting that on the face of *Rhinoericus cockerelli*. Legs flavous. Anal tergite black excepting for a narrow flavous border. Anal valves also black excepting narrow flavous margin. Collum with a black mark on anterior border.

The head differs from that of *T. townsendi* in having the sulcus clearly marked and extending to the margin of the labrum excepting for an interruption near the level of the antennae.

Collum weakly margined below, not attaining lower edge of second tergite. With a single stria on each side at level of eye.

Posterior suture obscure above pore; the anterior suture very deep, curving widely opposite the pore considerably below which it takes its origin as in *T. townsendi*. Posterior border of segments elevated as in that species.

The anal scutum convexly though only rather weakly bowed caudad, being obviously longer at the middle than at the sides. Anal sternite strongly elongate transversely, thickened, the anterior and posterior margins parallel.

Number of segments, thirty-seven or thirty-eight.

Length, 30 mm.; width, 3.2 mm.

CUBOBOLUS, gen. nov.

Unlike *Microspirobolus* and *Cairibolus* the median plate in the male gonopods is relatively narrow, and is distally acute or very narrowly rounded, leaving the paired gonopods much exposed at the sides in front view. The anterior pieces of the first gonopods are broad and bifurcate distally, the anterior branch wide and thin, the posterior extending mesad behind the telopodite which it thus embraces. The inner or posterior gonopod distally expanded into a plate-like body which is distally excised and bears above the notch a thin subacute process; from near the base of the expanded end piece arises a slender, distally acute, process or style which lies close to the end-piece and terminates near the tip of the latter.

Articles of antennae all short, none specially enlarged; sensory cones four in number. Labial pores 2 + 2.

Pores beginning on sixth somite, situated in front of sutures. No scobina.

Anal valves not compressed or margined.

Genotype.—*C. beliganus*, sp. nov.

140. CUBOBOLUS BELIGANUS, sp. nov.

Type.—M. C. Z. 4,418. *Paratype*.—M. C. Z. 4,419. Cuba: Oriente Province, Belig, near Cape Cruz. O. Tollin.

General color brownish, when in full color chestnut or red caudad of the suture on each somite, and the area in front of the suture embracing numerous light dots as viewed under the lens. The anal scutum and valves in the type are a dull dark yellowish color. The labrum light below excepting a narrow marginal stripe below which is dark. Head elsewhere darker excepting across vertex at base. Legs flavous or light brown.

Ocelli about thirty-two in number in each eye, these in six transverse and somewhat curved series.

Collum widely rounded laterally, only vaguely margined below. Second tergite extending much below it, not flattened or excavated beneath.

The segmental sutures deep and distinct entirely across dorsum, either straight or but slightly curved at level of pore, the latter close to the longitudinal suture which is distinct.

Anal segment long.

Anal scutum exceeded by the valves, which bulge convexly caudad and are evenly convex, not margined or compressed, smooth.

Number of somites, forty-four.

Length, 45 mm.; width, 4 mm., nearly.

141. *MICROSPIROBOLUS MARMORATUS* Silvestri.

Bull. Amer. mus. nat. hist., 1908, 24, p. 10, f. VI (1-6).¹

Habitat.—PORTO RICO: Utuado (W. M. Wheeler).¹

142. *MICROSPIROBOLUS INSULARIS* Silvestri.

Bull. Amer. mus. nat. hist., 1908, 24, p. 572, f. VII (1-2).¹

Habitat.—PORTO RICO: Utuado (W. M. Wheeler).¹

143. *MICROSPIROBOLUS BELONANUS*, sp. nov.

Type.—M. C. Z. 4,423. *Paratypes*.—M. C. Z. 4,424, 4,425. Cuba: Belona Oriente. C. T. Ramsden.

Most of the somites are black above in a band at middle extending from anterior nearly to caudal border but narrowing down the side to level of pore; the caudal region at middle yellow but just above pore on each side reddish; region immediately below pore dark, the sides below this light, dominantly yellowish or dilute orange. First tergite yellow in a band across anterior border and in a narrower band along caudal border. Head black above level of antennae, the dark above eyes and in a smaller area mesoventrad of each eye in a close network over a yellow ground, elsewhere solid; below antennae yellowish.

Ocelli strongly developed; arranged in five transverse series, *e. g.*, 8, 8, 7, 5, 4, a total of thirty-two. Antennae short, articles short, the second and third longest, the sixth much thickened above a slender base; sensory cones four. Labial pits 4 + 4.

Collum or first tergite narrowed considerably at each side but much less so than in *Trigoniulus*, the lower end strongly rounded; margined laterally and in front.

Repugnatorial pores in line with suture which closely embraces it; beginning on sixth somite. Suture obsolete across dorsum. Scobina none.

Anal scutum not exceeding the valves, though sometimes free at apex; caudally somewhat narrowly but strongly rounded. Anal valves mesally margined.

In the gonopods of the male the median triangular plate is distally broadly rounded, apex not mesally truly incised.

Telopodites of first gonopods equalling this in length. The posterior, seminiferous, gonopods extending normally conspicuously beyond these, each in form of very broad thin plate with edges in subvertical plane; the distal region expanded and bearing two slender, acute, and widely diverging prongs the lower of which, the seminiferous, is curved at tip; above the lower branch a distally rounded lobe which ends at the beginning of the curve.

Number of segments, forty-six.

Length, about 25 mm.; width, 2.1 mm.

144. MICROSPIROBOLUS FONTIS, sp. nov.

Type.—M. C. Z. 4,426. Cuba: San Diego de los Baños, April, 1900. Palmer and Riley, April, 1900.

A stouter species than *M. belonanus* from which it differs conspicuously in its darker color and the absence of the series of red spots. The general color is dark brown with the segments bordered equally with pale. Anal valves and scutum dark. Collum with a dark transverse band behind the pale anterior border.

The species is characterized by exceptionally small eyes, in which the ocelli are few, small and pale, contrasting strongly with the eyes, *e. g.*, of *M. belonanus*.

The collum extends a little below the level of the second tergite.

The segments are considerably constricted, the caudal region more elevated. At the bottom of the constriction of segments especially in anterior region a sharply defined encircling sulcus.

Anal valves exceeding the scutum.

Number of segments forty-one.

145. MICROSPIROBOLUS LINEATUS, sp. nov.

Type.—M. C. Z. 4,427. *Paratypes*.—M. C. Z. 4,428. Haiti: Diquini. W. M. Mann.

This form is black along the sides with a continuous median dorsal stripe of the same color which may be at intervals constricted so as to present a beaded appearance but in no observed case broken into distinct dots. Each side of the mid-dorsal black stripe a bright yellow or orange stripe. Lower part of sides and venter also yellow or orange. First two segments completely yellow or orange as is also the head excepting above the level of the antennae where it is black.

Head smooth. Pores 2 + 2. Eyes widely separated; ocelli arranged in five or six transverse series, *e. g.*, 6 + 5 + 5 + 4 + 2 and 4 + 5 + 6 + 5 + 3 + 2.

Lower margin of collum on each side substraight, but corners rounded; lower part of anterior border and ventral border margined. Not striate. Transverse sulci complete dorsally though weaker than laterally and ventrally. Scobina none.

Anal scutum subtriangularly extended but strongly rounded caudally. Anal valves mesally rather weakly margined.

Number of segments, thirty-eight to forty-four.

Length, (female) 22 mm.; width, 2.2 mm. Male smaller.

CAIRIBOLUS, gen. nov.

Resembling *Microspirobolus*. Median plate of male gonopods similarly elongate and broadly expanded distally, but distal margin truncate, not mesally incised. Anterior gonopods more slender, particularly the telopodites. Inner or posterior gonopod flattened and plate-like as in the other genus but wholly lacking the two prongs or hastate processes, being merely narrowly incised on the mesal side with at most a short tooth at upper angle of incision. Labral pores only 2 + 2. Collum narrowed at the sides. Scobina none. Anal valves strongly marginate, the elevated borders limited by deep and wide grooves.

Type.—*C. antonianus*, sp. nov.

146. CAIRIBOLUS ANTONIANUS, sp. nov.

Type.—M. C. Z. 4,429. Jamaica: Port Antonio. In cocoanut tree stump, November 24, 1905. A. E. Wight. Jamaica: Kingston, 1909. T. Barbour. *Paratypes*.—M. C. Z. 4,430–4,432.

A dark species, the somites being black or nearly so excepting a narrow ferruginous band along the caudal border, this widening ventrad. Legs and antennae ferruginous.

Head essentially smooth but under magnification seen to be very minutely impressed punctate and shortly lineate. Sulcus evident across vertex and again below level of antennae. Eyes separated by more than their diameter. Antennae very short.

Collum conspicuously narrowed down the sides, the sides below being excavated in front. Not attaining lower edge of second tergite. Margined distinctly lateral, and in front except mesally. Not striate.

Other segments strongly striate beneath. Pore in front of suture or at times nearly in line with it. The latter distinct across dorsum, strongly impressed punctate. Surface otherwise essentially smooth.

Anal scutum caudally obtusely triangular but apex narrowly rounded, a little exceeded by the valves. Anal valves strongly margined, convex.

Number of somites, forty-eight.

Length up to about 45 mm.; width to 3.1 mm.

147. CAIRIBOLUS LEIOSUTURUS, sp. nov.

Type.—M. C. Z. 4,433. *Paratypes*.—M. C. Z. 4,434. Porto Rico.

Aside from differences in the male gonopods, such as in details of inner (posterior) processes, the narrower tongue of the median plate, and so forth, this species may be distinguished from *C. antonianus* in having the suture clear-cut and straight, not marked with a series of deep punctae, the plate elsewhere, however, being subdensely impressed punctate. The pore more distinctly removed from the suture, but the latter often weakly sinuate opposite it. The coloration is similarly dark with ferruginous caudal borders, though the ferruginous bands are usually broader and better defined and the dark portion commonly includes numerous light dots or areolations. The legs are a lighter ferruginous, almost yellow. The collum is

similarly narrowed laterally but the lower corners in the male are distinctly more angular, the posterior one in particular being acute and somewhat produced caudad. The processes of the sternites in the male are similar, the fifth one bearing the two conspicuous, corneous lobes projecting forward over the fourth, but the sixth sternite obviously lower, not at all lobate or elevated into prominences.

Number of segments, fifty.

Length up to about 54 mm.; width to 3.6 mm.

148. TRIGONIULUS LUMBRICINUS (Gerstaecker).

Spirobolus lumbricinus Gerst., Gliederthier-fauna Sansibar, 1873, p. 516.

Spirobolus goësi Porath, Bih. Svensk. vet.-akad. Handl., 1876, 4, no. 7, p. 36.¹

Spirobolus dominicae Pocock, Ann. mag. nat. hist., 1888, ser. 6, 2, p. 481-483, pl. 16, f. 7.²

Spirobolus sanctae-luciae Bollman, Proc. U. S. N. M., 1888, 11, p. 214.³

Habitat.—HAITI:² Port au Prince, Grand Riviere, Diquini, Petionville, Emery. (W. M. Mann). PORTO RICO: Rio Piedras. (R. T. Cotton). ST. BARTHOLOMEW.¹ DOMINICA.² ST. LUCIA.³ TRINIDAD: Esperanza Sugar Estate, December, 1912. R. Thaxter.

148a. TRIGONIULUS FRATER, sp. nov.

Type.—M. C. Z. 4,445. Tobago: near Richmond Bay. H. L. Clark.

A decidedly smaller species than *T. lumbricinus* from which it differs also conspicuously in color. A typical somite is encircled with a broad dark brown to blackish band in front as well as caudad of which there is a border of flavous or light brown color then becoming dilute ferruginous in the anterior region. The dark band narrows ventrad and above in the anterior part of body especially embraces light areas. Anal scutum and valves dark brown or blackish. Legs light ferruginous.

The lower wing of the collum on each side broader than in any one of the other species, not incurved on the caudal side; the margin elevated on each side and up the front well toward the dorsum; a strong longitudinal sulcus a little above the inferior end of the plate.

The surface of the somites obviously smoother than in the two species mentioned, lacking wholly or nearly so the characteristic circular and crescentic impressions.

The anal valves exceedingly strongly compressed, much more so than in *T. lumbricinus* and not narrowly margined as in *T. garmani*.

Number of segments, fifty-five.

Width, (male type) 3.1 mm.; length near or a little over 40 mm.

149. TRIGONIULUS GARMANI, sp. nov.

Type.— M. C. Z. 4,446. *Paratype*.— M. C. Z. 4,447. Martinique: Mont Rouge, February, 3, 1879. Samuel Garman.

At once distinguished from *T. lumbricinus* in its obviously smaller size and much darker color. In place of the ordinarily brick-red color of *T. lumbricinus* the present species is a dark slate-blue with the segments narrowly bordered behind with reddish. The collum is black, narrowly bordered both in front and behind with reddish. Head also dark, becoming paler toward labrum. Anal tergite and valves also blackish, narrowly margined with reddish.

The sculpturing is clearly different from that in *T. lumbricinus*, the surface caudad of the suture being much smoother while that in front is more coarsely but much less densely impressed, the impressions along to suture being of the same characteristic circular, semicircular or crescent form but elsewhere coarsely punctate or wholly lineate.

The anal scutum very nearly equals the valves. The latter, in contrast with those in *T. lumbricinus*, which are widely compressed, are narrowly and sharply margined, the margining grooves deep.

The male gonopods differ much.

Number of segments, fifty or fifty-one.

Length (female) about 38 mm.; width, 3.5 mm.; length of male near 32 mm.; width, 3 mm.

149a. TRIGONIULUS REMOTUS, sp. nov.

Type.— M. C. Z. 4,448. Swan Island, April, 1913. George Nelson.

In coloration approaching *T. frater* more closely than any one of the West Indian species. The main part of each typical somite is blackish, lighter on the sides from the inclusion of light areas; the extreme caudal margin is narrowly bordered with flavous and adjoining this is a wider annulus of brown which shows often a distinct reddish tinge and does not extend to the suture; the anterior border of the somite is flavous, this color encroaching a variable distance caudad upon the black and more so above than laterally. The anal scutum black

excepting a very narrow stripe on the caudal margin and the anal valves also black. The head is dorsally crossed with a close network in black, a similarly marked area also existing mesad of the lower part of each eye; elsewhere the head is dusky or black excepting the labrum. Legs and antennae flavous.

The somites caudad of the suture are essentially smooth. In front of the suture above they are sparsely punctate while on the sides and adjacent to the furrow in which the suture lies there are the characteristic circular and semicircular, fine impressions, while away from the furrow these are only obscurely indicated. Across the dorsum in the furrow is a series of coarse punctae and impressed lines.

The collum strongly narrowed down each side as usual. Caudal margin incurved a little above the lower end. Strongly margined in front and below, the sulcus below somewhat double.

The anal valves are mesally margined but are not nearly so strongly elevated and compressed as in *T. frater*, while the margining sulcus is more distinct than in any of the other West Indian species.

In the male gonopods, aside from the important differences presented in details of the posterior pair, the median plate is at once seen to be conspicuously different from that of *T. lumbricinus*, for instead of presenting a triangular distal region this part is oblong, and distally broad and truncate or slightly convex.

Number of segments, forty-eight.

Diameter, 3 mm.

150. SPIROSTROPHUS NARESI (Pocock).

Spirobolus naresei Pocock, Ann. mag. nat. hist., 1893, ser. 6, 11, p. 252, pl. 16, f. 4-4b.

Trigoniulus naresei Brölemann, Mem. Zool. soc. France, 1900, 13, p. 94, pl. 6, f. 14.¹

Habitat.—GUADELOUPE: Basse Terre, Feb. 16, 1895 (De Dalmas).¹

This is an East Indian species and was probably introduced with timber.

NEMASOMIDAE.

150a. NEMASOMA TRINIDADENSE, sp. nov.

Type.—M. C. Z. 4,449. Trinidad: Guacharo Cave. "In nest material." F. W. Urich and C. B. Williams. *Paratypes*.—M. C. Z. 4,450, 4,451. Trinidad: Port of Spain. R. Thaxter.

This is a lighter colored species than the common North American species, *N. minutum*, being mostly of a dilute ferruginous brown color with some darker markings especially in the anterior region, the dark areas commonly embracing many light spots or forming a network; in some a series of small dark dots over the repugnatorial glands may be traced over the anterior region of the body.

The body is longer and proportionately more slender than in *N. minutum*. The somites are much more obviously constricted along the suture, the encircling furrow being conspicuous.

The eye-patch is more narrowly oblong, the length being subvertical. The ocelli are arranged typically in but three vertical, slightly curved series: *e. g.*, 9 + 8 + 6 to 7 + 4 + 1.

Length, up to 16 mm.

The specimens from Port of Spain (Roland Thaxter) are darker than those from the Cave.

151. JULUS CURIOSUS Karsch.

Zeits. naturwiss., 1881, ser. 3, 6, p. 15.¹

In this species the repugnatorial pores lie in front of the transverse sutures and the anal tergite does not surpass the valves. Collum widely rounded. Sulci deep. Striate behind sutures, smooth in front. Pores scarcely above middle.

Number of somites forty-seven.

Length 36 mm.

Habitat.— PORTO RICO.¹

The generic or even family position of this and the following form cannot be determined with entire certainty until the types have been restudied or the species found again. They are not congeneric.

152. JULUS CAESAR Karsch.

Zeits. naturwiss., 1881, ser. 3, 6, p. 18.¹

In this form the repugnatorial pores lie caudad of the transverse sutures and the caudate anal tergites surpass the valves a little. Collum angularly rounded. Segments striate on both sides of suture. Pores high above middle.

Number of segments, sixty.

Length, 70 mm.

Habitat.— PORTO RICO.¹

CYCLODESMIDAE.

153. CYCLODESMUS PORCELLANUS Pocock.

Journ. Linn. soc. London, 1894, 24, p. 509, pl. 39, f. 1, 1a.¹

Habitat.—JAMAICA.¹

154. CYCLODESMUS HUBBARDI Cook.

Brandtia, 1896, p. 28.¹

Habitat.—JAMAICA: Mandeville, in a "small damp cave" (H. G. Hubbard).¹

155. CYCLODESMUS HAITIANUS, sp. nov.

Type.—M. C. Z. 4,452. Haiti: Diquini. *Paratypes.*—M. C. Z. 4,453, 4,454. Haiti: Petionville. W. M. Mann.

This is a large robust species somewhat resembling *C. porcellanus* in the character of the keels of the third segment which similarly extend forward over those of the second, but which are rather less expanded. In *C. porcellanus* the keel of the fourth somite on each side is distally acute with the anterior margin convex and the posterior slightly concave, in the present species this keel is distally conspicuously rounded and is bent caudad, showing also a slight notch on the caudal side a little proximad of the tip. The present species lacks the notches on the caudal side of the keels in the posterior region of the body, the caudal margins, on the contrary, being straight or the last few bent moderately caudad; although the last two keels show a very small and obscure notch close to the caudal angle.

Yellowish. Obscure darker marks on the sides and a darker mid-dorsal line showing more distinctly in the caudal region.

Maximum length near 13 mm.; width, 4.8 mm.

156. CYCLODESMUS BRUESI, sp. nov.

Type.—M. C. Z. 4,455. *Paratypes.*—M. C. Z. 4,456. Jamaica: Liguanea Plain, 1911. C. T. Brues.

This is a larger and more robust species than either of the other

two species known from Jamaica. It is at once separable from *C. porcellanus* in lacking the conspicuous notch in the posterior margin of the keels of the posterior portion of the body as well as very obviously in the form of the keels of the third segment, these remaining of the same length as the median portion of the tergite, not expanding and extending forwards over the keels of the preceding somite. The second keels parallel the third, the two on each side closely contiguous. The keels of the fourth somite distally strongly rounded, much less acute than in *C. porcellanus*.

The general color is yellowish, somewhat darker in an oblique area beginning at base of each keel and in a mid-dorsal line.

Length of about 12 mm.; width 3.5 mm. A paratype is larger, near 16 mm. in length.

PLATYRACHIDAE.

157. PLATYRACHUS LUCIAE Pocock.

Journ. Linn. soc. London, 1894, **24**, p. 511, pl. 39, f. 3-3d.¹

Habitat.— ST. LUCIA: Fond de Jaques (G. A. Ramage).¹

158. PLATYRACHUS (?) MACULATUS Bollman.

Stenobia maculata Bollman, Proc. U. S. N. M., 1888, **11**, p. 336.¹

Habitat.— CUBA (F. Poey).¹

CHYTODESMIDAE.

159. DOCODESMUS VINCENTI (Pocock).

Cryptodesmus vincentii Pocock, Journ. Linn. soc. London, 1894, **24**, p. 510, pl. 39, f. 2-2d.¹

Habitat.— ST. VINCENT (H. H. Smith).¹

160. DOCODESMUS HAITIENSIS, sp. nov.

Type.— M. C. Z. 4,464. Haiti: Diquini. *Paratypes*.— M. C. Z. 4,465-4,470, 4,481. Haiti: Emery, Petionville, Furcy, Jacmel. W. M. Mann.

The general color of the mid-dorsal region is brown, but there is a median longitudinal light stripe of which the part pertaining to each tergite is subtriangular in outline with the apex caudad; the keels are also pale with the lateral portion transparent. The antennae and legs are light yellow.

The body in the male is typically about four times longer than the greatest width. The keels are horizontal and broad as usual; but the feet when extended laterad show beyond the margins of the keels. The first tergite has the semicircular anterior and lateral margin moderately elevated so that the border above is somewhat concave; border crossed by the usual transparent radial lines or sulci dividing it into twelve areas. The keels in general are bent moderately forward, with the anterior margin gently convex and smooth or very vaguely crenulate though the emarginations are shallow and correspond to the ends of sulci crossing the posterior border of the keel and dividing it into areas. The posterior border of the tergite between the keels is also crossed by similar sulci which are shorter and closer together, the posterior margin correspondingly but more weakly crenulate. Anterior corners of keels slightly obtuse, well rounded, the posterior corners more angular, subrectangular, in the eighteenth and nineteenth produced strongly caudad as usual, in the others in going forwards progressively less so. Lateral borders of keels divided by cross sulci as usual into areas, each of which is represented by a low convexity or crenation at the margin. On the keels of the second to sixth somites inclusive there are three lateral crenations; on the seventh four, and also four on all others excepting the eighth and eleventh. An exceedingly small repugnatorial pore is present on the usual keels (V, VII, IX, X, XII and the succeeding ones), while what appears to be the duct leading to it may be seen more distinctly in some specimens by transmitted light. The tubercles arranged as usual, those of the submedian rows and one on each side near bases of the keels being larger than the others. The last tergite is much less distinctly trilobed than in *D. vincenti*, the lateral lobes being represented by a projecting tubercle of moderate size toward the base; plate distally subtruncate, being slightly rounded.

The basal lobe of the male gonopods is very large and rounded with the processes springing from the mesal side of each and being in part concealed thereby in lateral view. The posterior process on each side is a short subcylindrical process about half as long as the anterior one and mucronate at tip; much more conspicuous than in *D. vincenti*. The anterior process is a thinner, more chitinous blade bifur-

cate to its base into two slender, distally acute processes of which the caudal one is weakly bent toward the tip and the anterior one, which contains the seminal duct, bent more strongly mesocaudad toward the tip. *In situ* these principal, distally geniculate, processes cross in the middle line.

Length, 16 mm.

161. *DOCODESMUS PARVIOR*, sp. nov.

Type.—M. C. Z. 4,471. Haiti: Furcy. W. M. Mann.

This is a very much smaller form than *D. haitiensis* above described and it is also much darker brown, color nearly uniform. The keels but little lighter than the mid-dorsum. The number of crenulations on the lateral margins of the keels is as in that species; but the emarginations between the crenuli are deeper and more acute. The border of the head is more abruptly concavely depressed contiguously to the elevated median region and the free edge is more elevated. Lateral tubercles of anal tergite small, the latter not appearing trilobate. The caudolateral processes of the penult somite projecting a little mesad of caudad, thus a little converging, narrowly rounded at tip.

Length about 8.5 mm.; width, 2 mm.

162. *DOCODESMUS GRENADAE*, sp. nov.

Type.—M. C. Z. 4,482. *Paratypes*.—M. C. Z. 4,472, 4,473. Grenada: Grand Etang. Roland Thaxter.

This species is a much darker brown than *D. haitiensis* and lacks the median dorsal light stripe, the keels also maintaining the same dark color.

A smaller species than *D. haitiensis* but with similar relative proportions. The keels in general slightly bent forwards in the middle region, with the anterior margins straight while the posterior margins are slightly convex. The crenations on the posterior margins of the keels much more pronounced than in *D. haitiensis*, the emarginations deep. Crenations on lateral margins also stronger but the emarginations not so deep as those of the caudal margin. In the last tergite the median lobe decidedly smaller in comparison with the lateral lobes or tubercles than in *D. haitiensis*, more rounded.

In the male gonopods the basal lobes are smaller than in *D. haitiensis*

and the principal processes are attached more distad. The posterior process is a mere rounded tubercle at the base of the anterior. The anterior consists on each side of two slender chitinous needles as in the preceding species. The posterior of these is much more slender, straight throughout and is shorter, the tip reaching only to near the distal geniculation of the seminiferous branch. The latter toward the distal end is geniculate as usual, with no spur such as is present in *vincenti*, the tip banding caudomesad and, *in situ*, crossing that of the opposite gonopod.

Length up to 12.8 mm.

162a. *DOCODESMUS TRINIDADENSIS*, sp. nov.

Type.—M. C. Z. 4,474. Trinidad: Port of Spain. Roland Thaxter.

This species has much the general appearance and structure of *D. grenadae*; but it is proportionately longer and has the dorsum obviously more elevated and convex, with the keels more depressed. The crenulations on the caudal margins of the keels are clearly more acute and tooth-like. The coloration is somewhat similarly dark but is more reddish, and a lighter geminate median dorsal stripe is traceable though obscure excepting between the plates proper, where it is very distinct. The last tergite has the lateral lobes proportionately much larger, with the median one short and much broader with the distal margin wide, slightly convex.

Length, about 13.2 mm.

163. *CHYTODESMUS LAQUEATUS* (Karsch).

Cryptodesmus laqueatus Karsch, Mitth. Münch. ent. ver., 1880, 4, p. 142.¹

Habitat.—CUBA.¹

164. *TRIDESMUS SECTILIS* Cook.

Brandtia, 1896, p. 21.¹

Habitat.—PORTO RICO.¹

165. TRIDESMUS PORTORICENSIS Silvestri.

Bull. Amer. mus. nat. hist., 1908, **24**, p. 577, f. XII (1-3), XI (1-2).¹

Habitat.—PORTO RICO: Utuado (W. M. Wheeler).¹

166. IOMUS INCISUS Cook.

Proc. U. S. N. M., 1911, **40**, p. 458, f. 4.¹

Habitat.—PORTO RICO: Mayaguez.¹

167. IOMUS PLATANUS Cook.

Proc. U. S. N. M., 1911, **40**, p. 459.¹

Habitat.—PORTO RICO: Barrio Plata.¹

168. IOMUS OBLIQUUS Cook.

Proc. U. S. N. M., 1911, **40**, p. 460.¹

Habitat.—PORTO RICO: near Bayamon.¹

PYRGOESMIDAE.

169. TRESELOBUS CARAIBIANUS, sp. nov.

Type.—M. C. Z. 4,475. *Paratype*.—M. C. Z. 4,476. Haiti: Manneville, December, 1912. W. M. Mann.

Color brown, uniform. Head yellow, excepting the frontal region which is brown. Venter yellow, as are the antennae and legs. Body slender, with the dorsum exceptionally strongly arched, hemicylindrical, the keels depressed.

Tergites above with four longitudinal series of large tubercles forming along the dorsum four conspicuous serrate ridges, the dorsum elsewhere closely crowded with lower tubercles which are flatter and less sharply marked on the keels. All tubercles covered with numer-

ous dark points. Median region of first tergite strongly elevated, the tubercles of the four principal rows exceptionally large; border turned up along the free margin, deeply radially furrowed, lobes ten. Anal tergite with margin divided into six lobes of which the middle one on each side is largest; dorsum with the two submedian rows of large tubercles represented by two continuous, straight edged ridges or keels. First tergite with each margin three lobed; the other non-poriferous keels with lateral margin two lobed, the single indentation occurring caudad of the middle; in the poriferous keels the caudal lobe is bifid, the lobes small, with the paler poriferous process projecting obliquely caudoectad between them at the caudolateral corner. Pores on fifth, seventh, ninth, twelfth, thirteenth, fifteenth, and sixteenth segments as usual. The caudal margin of each lateral keel proper with a single lobe between its base and the caudolateral corner lobe.

Length, 6.5 mm.; width 1.1 + mm.

170. *TRESEOLOBUS GRANULOFRONS*, sp. nov.

Type.—M. C. Z. 4,477. *Paratypes*.—M. C. Z. 4,478. Haiti: Jacmel, December, 1912. W. M. Mann.

This species is paler throughout than *T. caraibianus*, yellow of a weak reddish brown tinge above. The head in front and dorsally above the level of the antennal sockets distinctly tuberculate, not smooth as in the preceding species. The border of the first tergite divided by radial sulci into ten primary lobes but the caudal one on each side distinctly divided again, giving a total of twelve lobes. The other tergites bearing only the two submedian rows of stronger tubercles, the lateral one present on each side in *T. caraibianus* not developed in the present form. In the keels bearing pores the posterior lateral lobe is not strongly reduced and retracted as in *T. caraibianus*, the anterior of its divisions remaining as a prominent lateral lobe.

Length of type about 5 mm.

171. *CYNEDESMUS ORNAMENTATUS* (Karsch).

Cryptodesmus ornamentatus Karsch, Mitth. Münch. ent. ver., 1880, 4, p. 142.¹

Habitat.—CUBA.¹

STYRAXODESMUS, gen. nov.

Differentiated from *Lophodesmus* by having the penult tergite strongly prolonged caudad as two stout submedian processes which much exceed the last tergite. The last tergite is reduced and covered from above by the penult; lobed, tuberculate.

Pore tubercles on dorsal side of edge, extending upward, occurring only on somites five, ten, thirteen, and sixteen, this pore arrangement distinguishing the genus from *Urodesmus* Porath and *Cryptogonodesmus* Silvestri.

Genotype.—*S. furcatus*, sp. nov.

172. STYRAXODESMUS FURCATUS, sp. nov.

Type.—M. C. Z. 4,479. Haiti: Jacmel, December, 1912. W. M. Mann.

Strongly, hemicylindrically arched above, with the keels depressed. Brownish over a yellow ground. With two submedian ridges or combs formed of larger tubercles as in species of *Treseolobus* and *Lophodesmus*. Of these large tubercles there are three in each row on each tergite excepting in the anterior four or five when there are but two. The upper surface of the keels is finely granular. Free border of first tergite emarginate at the middle line in front; divided by radial ridges into ten lobes of which those adjoining the median line are shortest. Lateral margin of second tergite two-lobed with the caudal of these more weakly again divided. Lateral margin in other keels weakly bilobed, the emargination abrupt, narrow.

Length about 4 mm.

HOMODESMUS, gen. nov.

This genus is like *Treseolobus* and *Styraxodesmus* in having the first tergite extended forward so as to conceal the head. Antennae short, almost wholly concealed in a groove beneath the edge of the first tergite. The free margin of the first tergite is crenate and the border is crossed by sulci defining twelve corresponding lobes. The first and second tergites wider than the following ones. The dorsal surface of all tergites densely and closely covered with rather large tubercles which are of nearly uniform size, with no trace of the larger

series present in *Treseolobus*, and so forth; the tubercles on each ordinary tergite form three transverse rows. The last tergite is large, freely exposed, tuberculate above and with the free margin crenulate or lobed. The keels are high on the sides, depressed. The genus is readily differentiated from the related ones in bearing the porigerous cones or processes on somites V, VII-XVIII (XIX).

Genotype.—*H. parvus*, sp. nov.

173. *HOMODESMUS PARVUS*, sp. nov.

Type.—M. C. Z. 4,480. Haiti: Manneville, December, 1912. W. M. Mann.

The general color is yellowish brown, uniform. The dorsum is strongly arched, high. The keels much depressed. Head above labrum strongly roughened with ridges and tubercles. First tergite high, the free border but little depressed below the general level, covered with about five transverse rows of tubercles uniform in size and even in arrangement. The second tergite anteriorly a little wider than the second but narrowing caudad, with the anterior lateral border clearly more elevated than the posterior lateral. The second somite, especially the keels, much longer than those immediately following. The keels of the fourth and following segments have each a single distinctly projecting lobe or tubercle on its caudal margin; the lateral margin is trilobate in all. The porigerous process extends obliquely caudolaterad between the most caudal lateral lobe and the caudal one. The anal tergite with eight or ten marginal crenations; the anterior row of tubercles elongate, much exceeding the more caudal ones in size.

In the male gonopods the basal lobe is subconical with the side against the segment and the tip cephalad, curving mesad, and touching the edge of the sixth segment. The principal distal process arises on its mesoventral side, runs forward against it to its anterior end and then evenly curves freely ventrad; from near the base of each blade, which is wide and somewhat concave, arises a short, transparent, ventrally directed lobe which is distally subtruncate.

Length, up to 6 mm.; width, .7+ mm.

CHELODESMIDAE.

AMPHELICTOGON, gen. nov.

Differing from *Leptodesmus* Saussure (type *L. carneus*) primarily in the character of the male gonopods which bear at the end of the principal (caudal or ventral) branch a long and slender semiferous style which is more or less coiled; the upper or anterior branch ends in a narrower flattened blade which is also somewhat coiled, curving proximad and ordinarily crossing the one of the opposite side. All have one or two teeth on the caudal margin of the keels. With few exceptions the legs and antennae are reddish in whole or in part.

Genotype.—*A. cubanus*, sp. nov.

174. AMPHELICTOGON CUBANUS, sp. nov.

Type.—M. C. Z. 4,484. *Paratypes*.—M. C. Z. 4,485. Cuba: Guantanamo, Bayate de Guantanamo, 1913. C. T. Ramsden.

Differentiated from *A. couloni* in having the style coiled in the reverse direction at the base, its course running mesad and then ventrad, ectad and around, the free distal portion running in tangent to the lower inner side of the coil instead of to the upper. The shoulder on the distal side of dorsal branch much smaller than in *A. couloni*.

Second, third, and fourth articles of antennae not much differing in length, long and slender; sixth article thickest; seventh hemispherically rounded.

Anterior and lateral margins of keels evenly and continuously rounded, smooth, thickened progressively more and more in going to the caudal angle. Caudal angles broad, only little produced as usual in species of *Leptodesmus*. The caudal margin of each keel presents two nodular thickenings projecting as weak rounded teeth of which the more ectal is the larger. Dorsal surface of metazonites divided into three transverse rows of polygonal areas of which those of the anterior row are largest and in going caudad become more vaguely separated. Dorsum only slightly convex, the keels horizontal. Anal tergite subtriangular, sides concave, tip truncate.

Sternites without processes or that of the fourth somite with a longitudinal furrow forming a slight ridge on each side which continues forward as a slight low cone.

When in full color the dorsum is dark chocolate-brown to black with

the lateral margins of the keels yellow and the caudal margin of the metazonites narrowly margined with yellow, the light stripe widening at the middle and extending forward and also caudad along the following prozonite. The black of prozonite extends down the sides nearly to the legs, the pleurae appearing dark, often black like dorsum. The venter, legs, and antennae yellow with the legs and antennae decidedly pinkish over the distal joints. Labrum and lower sides of head also pale and of pinkish tinge.

Length of type, a male, 31 mm.; width, 4.1 mm.

175. AMPHELICTOGON RUBRIPES, sp. nov.

Type.—M. C. Z. 4,485. Cuba: Oriente Province, Belona, June 16, 1914. C. T. Ramsden.

The general appearance is strongly characterized by the red legs and antennae, the red being much deeper than in *A. cubanus*, and the presence of a median longitudinal stripe of yellow which is continuous from the second tergite to the caudal end of the body and in some also extends across the first plate. The first tergite is marked with a yellow spot on the median line in front or the mark may cross to the caudal margin in dumb-bell form. The lateral borders of the keels are also yellow. The dorsum elsewhere black. Head black excepting the labrum and lower sides which are yellow of a slight pinkish tinge. Legs yellow proximally. Face with numerous long hairs below level of antennae.

The dorsal surface of the tergites smooth and shining, a few obscure granules toward each side, in the posterior somites densely finely granular; with no polygonal area, like those of *A. cubanus*, at all indicated. Excepting the posterior ones, the caudal corners of keels but slightly produced, narrowly rounded. Caudal margin of keel with a slight obtusely angular projection, the margin there with a nodular thickening; sometimes a second smaller nodular thickening at extreme mesal end.

The gonopods in the male have the typical general structure. The basal loop of the style brings the free portion over from above and at the anterior edge of the loop, the free portion strongly curving sigmoidally, the tip running cephalad. The terminal blade of the dorsal branch curves in a semicircle, smaller than usual, with the apex extending ectad close to the branch below origin of the blade.

Length, (female paratype), 42 mm.; width, 5.5 mm.

Mr. C. T. Ramsden, also collected this species in the Oriente Province at Ojo de Agua de Filipinas.

176. AMPHELICTOGON OBSCURUS, sp. nov.

Type.— M. C. Z. 4,489. Cuba: Guantanamo, La Cabrera, April 9, 1913, under stones. *Paratypes*.— M. C. Z. 4,490, 4,491. Cuba: El Ocuja, October 13, 1913. C. T. Ramsden.

In size and general appearance suggesting *A. pallidipes*; but when in full color the legs and antennae are bright red excepting the proximal joints of legs and the tarsal tips. The dorsum is deep blackish or chocolate-brown, paler over keels but not clear yellow, lightest at the margin; the caudal border also obscurely lighter, the lighter stripe widening at middle.

Teeth of caudal margin of keels in usual position, the outer one of moderate size, acute but broad across base, much larger than the inner one. Processes of nineteenth keels very short, narrow, and subacute distally.

Easily distinguished by the structure of the male gonopods. The projecting angle on the ectal side of the dorsal branch near the distal end of the length is longer, more slender and more acute than in the other species. Style very characteristic; this from its origin runs cephalad and then curves ventrad, back caudad and then dorsad to complete a circle, thereafter running mesad and toward the end coiling in corkscrew manner. Terminal blade of upper (anterior) branch long and slender, running mesad or a little ventrad of mesad, then caudad and curving dorsad and back a little cephalad, widely crossing that of the opposite gonopod.

Length (male type), about 25 mm.; width, 3 mm.

177. AMPHELICTOGON DENTATUS, sp. nov.

Type.— M. C. Z. 4,492. *Paratype*.— M. C. Z. 4,493. Cuba: Alto de La Union, Mt. Libano, May 18, 1913. Under stones. C. T. Ramsden.

In the color-markings this species much resembles *A. cubanus*; but the yellow lateral border of the keels is obviously broader as is also the stripe along the caudal edge of the metazonites. The latter stripe is similarly extended at the middle, the yellow spots on the middle of the prozonites being especially conspicuous. The first tergite is bordered with yellow all around. The head is yellow adjacent to the first tergite and, as usual, over the labrum and lower side of head and

about antennal sockets. Head and dorsum elsewhere shining black. Venter and lower part of sides yellow. Upper part of pleurae blackish. Legs yellow, weakly tinged with pink, the antennae more strongly so.

The species is easily separated from *A. cubanus* in presenting at the middle of the caudal edge a large angular tooth much more conspicuous than in that species and more acute and less nodule-like. The dorsal surface of the metazonites shows no distinct polygonal areas. In the anterior region the metazonites are smooth excepting at the sides; but caudad the entire surface becomes densely finely granular or has a finely appearance under magnification. The caudal produced angles of the nineteenth tergite are much more acute than in *A. cubanus*.

Length of female type, 38 mm.; width, 5.5 mm.

178. AMPHELICTOGON ZYGETHUS, sp. nov.

Type.—M. C. Z. 4,494. *Paratype*.—M. C. Z. 4,495. Cuba: Guantanamo, San Carlos, March 20, 1914. C. T. Ramsden.

The first tergite is black excepting for a narrow border of yellow all around. A few following somites are similarly black excepting the keels and a narrow stripe along caudal margin which are yellow. In the other regions the prozonites above are black excepting a yellow spot at the middle; the metazonites have a dark, reddish brown to black, area at the middle while laterally they are unevenly diluter brown over a yellow ground, the dark color denser in a spot at the base of each keel; keels and caudal margin clear yellow. Head black excepting for the labrum and lower sides of head as usual. Venter and lower part of sides yellowish. Legs proximally yellow, distally, excepting extreme tips, strongly reddish, the red much denser than in *A. cubanus* and *A. dentatus* and approaching the condition in *A. rubripes*.

The dorsal surface of the tergites in general smooth and shining, not obviously tubercular and with no definite polygonal areas. Caudal corners of keels in anterior and middle regions but little produced, apically rounded, broad; in the last few plates more strongly produced caudad, broad, distally narrowly rounded. The processes of the nineteenth keels less prolonged and acute than in *A. dentatus*. On the caudal margin of each keel one, and in the middle and anterior region, two teeth or angular projections, the outer one of these conspicuous as in *A. dentatus*.

Length, (female type), about 33 mm.; width, 5 mm.

179. AMPHELICTOGON PALLIDIPES, sp. nov.

Type.—M. C. Z. 4,496. Cuba: Guantanamo, Mt. Libano, Las Termopilas, March 30, 1913, under stones in damp woods. C. T. Ramsden.

Differing in general appearance from the other species, in wholly lacking the red coloring in the legs and antennae, these being uniform yellow. The dorsum is from deep brown to nearly black, excepting the keels and a narrow line or stripe along the caudal margin of each somite, which are yellow; the caudal stripe widens and extends angularly forward at the middle. The prozonites show no light area above. The head has the usual color-pattern.

The dorsal surface under the microscope appears strongly though finely roughened, granulate. Caudal corners of keels less produced than usual, more angular. Caudal margin of keels with the usual dentiform processes; of these the outer one is much broader across base than in any of the other species. Processes of nineteenth segment short, distally rounded.

The gonopods of the male resemble most those of *A. subterreanus* (Saussure) as figured by Carl, (Rev. Suisse zool., 1903, 11, pl. 16, fig. 14) but the terminal blade of the upper branch is longer and more strongly coiled, with a number of stout teeth springing from its caudal edge. The lower branch lacks the tooth on the mesal side just proximad of the origin of the style which is present in *A. subterreanus*; the style at base is coiled into a nearly complete circle instead of being simply bent in U-form and it is also distally more coiled. There are various other differences in details.

Length (male type), 30 mm.; width, 3.5 mm.

180. AMPHELICTOGON GUANTANAMANUS, sp. nov.

Type.—M. C. Z. 4,497. Cuba: Guantanamo. *Paratypes*.—M. C. Z. 4,498, 4,499. Cuba: Oriente Province, Belig, near Cape Cruz. C. T. Ramsden.

Readily distinguished by the structure of the male gonopods. The terminal blade of the upper branch curves mesoventrad, then proximad (caudad) and then back dorsoectad and somewhat distad (cephalad). The two blades touching at middle line but not crossing. The style from its base curves mesoventrad, then ventrad and proximad,

next running dorsad and then mesad above the blade of the upper branch.

The general color-pattern is as in *A. dentatus* but the black of the latter species is replaced with chocolate-brown and the caudal yellow line of the metazonites does not widen or extend forward at the middle. The yellow area is present on the prozonites as in that species. The antennae and legs tinged with red as in that species, but the color obviously deeper on the legs.

The teeth on the caudal margin of the keels are distinct but obviously less produced than in *A. dentatus*. The caudal processes of the nineteenth keels are shorter and much more rounded than in that species.

The species is also clearly more slender than *A. dentatus*.

Length (female paratype), about 37 mm.; width, 4.5 mm.

181. AMPHELICTOGON FLAVIPES, sp. nov.

Type.—M. C. Z. 4,500. *Paratypes*.—4,501. Cuba: Guantánamo, Mt. Toro, subida á la "Hembrita." C. T. Ramsden.

Differentiated at once from the species previously described by its bright yellow legs and antennae which show no trace of red. Dorsum deep chocolate to black. Keels yellow, the inner edge of the light area running obliquely caudomesad from the anterior edge on each keel, the areas smaller in posterior region. Posterior borders of tergites vaguely and very narrowly lighter, obscurely reddish. Head black above, the black area extending between antennae and expanding in a small subcircular area below. Labrum and lower sides of face pale as usual.

Principal process on caudal margin of keel low, very broad and obtuse, commonly rounded, often inconspicuous except as a weak angulation of the margin.

The gonopods of the male are very distinctive. The blade of the upper branch curls strongly ventrad and proximad and then again dorsad and distad, crossing that of the opposite gonopod. The style curls in a similar manner close against the distal end of the ventral branch, its distal portion curving back distad behind the blade of the upper branch. The outer "shoulder" or angular projection of the dorsal branch is much less pronounced than in *A. pallidipes* and is farther proximad.

* Length (male type), about 29 mm.; width, 4.3 mm.

182. AMPHELICTOGON JUVENIS, sp. nov.

Type.—M. C. Z. 4,502. Cuba: Guantanamo, Belona Oriente, January 16, 1914. C. T. Ramsden.

The dorsum in the middle and caudal regions dull yellow of a light brownish cast, the brown pronounced in the anterior region, particularly at the sides, leaving a lighter median stripe. The middle and posterior regions showing a dark median longitudinal stripe.

The head shows a deeply impressed vertical sulcus.

First plate with keels high, giving plate appearance of being nearly horizontal, the median region being but weakly convex: anterior and lateral margins forming an even semicircle. Lateral serrations sharp and distinct from the second keels caudad to the eighteenth inclusive, the teeth of the middle region especially large. Tooth on caudad margin of keel distinct, low and obtuse anteriorly, but acute and conspicuously projecting in posterior region (*e. g.*, on fourteenth, fifteenth, and sixteenth keels). Anterior keels in general high, insertion becoming progressively lower in going caudad. Legs more slender than usual.

Process of anal tergite widely surpassing the strongly marginate anal valves.

Length near 16 or 17 mm.; width, 2.9 mm.

While the type of this species is not mature, consisting of but nineteen segments, it is sufficiently distinguishable, particularly because of the strong lateral tooth on all keels from second to eighteenth inclusive, a feature not shared by any other species.

183. AMPHELICTOGON MACULATUS, sp. nov.

Type.—M. C. Z. 4,503. *Paratypes*.—M. C. Z. 4,504. Cuba: Los Hondones, October 25, 1914. C. T. Ramsden.

This species presents a seemingly very characteristic color-pattern which is uniform in the several specimens, all of which are unfortunately females. In the middle and posterior regions of the body the metazonites are pale, dilute brown or chocolate over a yellow ground with the keels and mid-dorsal region clear yellow, but on each prozonite each side of the middle dorsally there is a transversely elongate spot of deep chocolate and on the side below the level of the keels an entirely separated similar spot. The first dorsal plate has two dark

spots or these may be confluent mesally. The head is pale across the base but adjacently shows a dark area which runs to a point between the antennae below which it does not descend, the head elsewhere yellow.

Lateral teeth on keels from second to eighth. Tooth of caudal margin of keel is in part acute, of moderate size. Caudal processes of eighteenth keels equalling or a little exceeding those of the seventeenth.

Length (female type), 26 mm.; width, 4.5 mm.

184. AMPHELICTOGON MANNI, sp. nov.

Type.—M. C. Z. 4,505. Haiti: Diquini. W. M. Mann.

In coloration much resembling *A. maculatus* of Cuba; but in addition to the chocolate colored areas on the prozonites above, there is a similarly colored and distinct stripe across the anterior border of each metazonite, and the marks on the sides of the prozonites are less spot-like, being much more extended ventrad in the form of narrow stripes. A distinct dark mark under each keel but this obviously smaller than that of the prozonite. Head yellow excepting for a triangular chocolate-colored area above of which the apex extends between the antennae. Legs and antennae yellow.

Teeth of second, third, and fourth keels each with a minute lateral tooth.

The cauda is obviously shorter than in *maculatus* and is straighter.

A less robust species than *A. maculatus*.

Length (female type), about 22 mm.; width, 3.8 mm.

185. AMPHELICTOGON BAHAMIENSIS, sp. nov.

Type.—M. C. Z. 4,506. Andros: Mangrove Cay, August, 1904. O. Bryant.

This species is clearly distinct in the character of the gonopods. The blade of the upper branch curves across the end of the lower branch with the convexity cephalad; it crosses that of the other gonopod and is distally strongly narrowed, acuminate. Proximad of the base of the style on the mesal side there is an acute tooth similar to that of *A. subterreanus* but much longer. The style from

its origin coils ventrad and then proximad against the distal end of the branch, then running mesad and curving into a loop at the end.

The general color of the poorly preserved type is brownish above, with the keels lighter.

The keels are but little extended with the caudal process in posterior region unusually small.

The size is small, the exact length not being ascertainable. Width (male type), 2.2 mm.

186. AMPHELICTOGON COULONI (Humbert and Saussure).

Polydesmus couloni Humbert et Saussure, Rev. mag. zool., 1869, p. 151.¹

Habitat.—CUBA.¹

187. AMPHELICTOGON SUBTERREANEUS (Saussure).

Polydesmus subterreaneus Saussure, Linn. ent., 1869, 13, p. 323.¹

Habitat.—CUBA.¹

CARAIBODESMUS, gen. nov.

This genus covers in part the ground of *Odontopeltis* as used by Pocock in his treatment of the West Indian polydesmoids. But Pocock proposes *Odontopeltis* as a substitute for the preoccupied name *Rachophorus* Koch, the type of which, *Polydesmus conspersus* Perty, is a Brazilian species of uncertain position but certainly not congeneric with the West Indian species.

This genus is readily distinguished by the structure of the male gonopods. In this the lower or principal seminiferous branch is a rather broad simple blade, sometimes bent and often expanded at the distal end but produced into a style or other elongate slender process. The accessory upper branch is in comparison very short; it may be double but is not produced into a slender blade or process; it commonly lies close against the upper surface of the lower branch.

Antennae long and slender.

Metazonites commonly crossed by a furrow caudad of which there

are some elevated areas or tubercles commonly not crowded and sometimes projecting as dentiform angles at the caudal margin; more sparse areas or tubercles on anterior part of plate may be present. Keels high, the dorsum low, much as in *Polydesmus*.

Pores normal, occurring on somites five, six, nine, ten, twelve, thirteen, and fifteen to nineteen.

Last tergite triangular, with narrowed cauda posteriorly. Anal valves mesally margined.

Genotype.—*C. bruesi*, sp. nov.

188. CARAIBODESMUS BRUESI, sp. nov.

Type.—M. C. Z. 4,507. Jamaica: Liguanea Plain, November-December, 1911. C. T. Brues.

In coloration nearly the same as *C. verrucosus*, the prozonites being dark chocolate-brown as are also the metazonites in a band across their anterior border but extending only on the proximal portion of the keels, the metazonites elsewhere yellow. Head chocolate-colored above level of antennae, a narrowed pointed tongue of the same color extending down between the antennae, and a dark tongue also on each side extending from the ectal side of the antenna a short distance mesoventrad. Head elsewhere yellowish. Legs yellow and antennae brownish yellow. Venter yellow.

At once separable from *C. verrucosus* in having no lateral marginal serrations on the keels of the eleventh and twelfth somites whereas there are prominent teeth in the latter as well as in a quite different tuberculation of the dorsal surface, the areas outlined caudad of the suture being large and low, not projecting as distinct caudal teeth, and the surface elsewhere not densely finely tuberculate.

The gonopods differ from those of *C. verrucosus* at a glance in that the principal branch is much more slender, slightly narrowing distad rather than expanding and curving strongly ectad at the distal end. Toward the distal end of the femoral region expanded mesad and then in contact with the other gonopod. The lesser branch arises mesodorsad of the principal one and extends distad to the middle of its expanded femoral region.

Length, 26 mm.; width, 3.25 mm.

189. CARAIBODESMUS INSIGNIS, sp. nov.

Type.—M. C. Z. 4,508. *Paratypes*.—M. C. Z. 4,509. Haiti: Furey. W. M. Mann.

This species is strikingly colored. The prozonites are black above and down the sides to the level of the legs. The metazonites in general are red excepting along the anterior border of all, which is blackish, while in the middle and posterior region of body the black also is present along the caudal border and often extends forward as a lunate or semicircular area. Last tergite black across the base, elsewhere reddish. Legs dilute brown to yellow. Antennae, in full color, chestnut. Head black above; immediately below antennae red in a transverse area, while the labrum is flavous.

A single serration on lateral margin of keels from second to fifth, or a slight one also on sixth, none on the others. The entire surface of metazonites densely tubercular and nodular, the tubercles being of varying sizes and form but many of them extended longitudinally; a series of longer low ridge-like, elevations along the caudal margin, of which one or two on each side near base of keel are largest and project freely caudad as short obtuse teeth. In some cases the ridge-like folds are traceable forward nearly entirely or else entirely across the metazonite.

Length of type (female), near 26 mm.; width, 3.6 mm.

190. CARAIBODESMUS PELLUS, sp. nov.

Type.—M. C. Z. 4,510. Jamaica: Liguanea Plain, 1911. C. T. Brues.

Very dark in color above, the metazonites dark chocolate, the prozonites more blackish, the keels above paler. Entire head blackish, the labrum above slightly lighter. Legs yellow. Antennae dark like the head. Venter plae as usual.

In its dark color resembling *C. mammatus*; but the sculpturing of the plates much more extensive. Along border of metazonites caudad of the sulcus in the anterior six, in the others seven or eight, areas are outlined, each of which is strongly granulate or finely tubercular and bears one larger tubercle projecting caudad as a prominent tooth. In the anterior region a row of four densely finely tubercular areas is present, on each a larger rounded tubercle; while between the an-

terior and posterior row on each side are two intermediate areas each with a central large tubercle. The twelfth keels have each two large distinct serrations as against four in *C. mammatus*, the eleventh having also two with weak indication of a very obtuse third one as against the four small, sharp serrations in the second species.

Length, near 18 mm. (female type).

191. CARAIBODESMUS TUBERCULATUS (Attems).

Odontopeltis tuberculatus Attems, Denkr. kais. akad. wissens. Wien, 1900, p. 403.¹

Habitat.—JAMAICA.¹

192. CARAIBODESMUS MORANTUS (Karsch).

Polydesmus (Rhacophorus) morantus Karsch, Arch. nat., 1881, 47, p. 39.¹

Habitat.—JAMAICA.¹

193. CARAIBODESMUS VERRUCOSUS (Pocock).

Odontopeltis verrucosus Pocock, Journ. Linn. soc. London, 1894, 24, p. 516, pl. 39, f. 6-6d.¹

Habitat.—JAMAICA (T. D. A. Cockerell, T. Townsend).¹

194. CARAIBODESMUS FORMOSUS (Pocock).

Odontopeltis formosus Pocock, Journ. Linn. soc. London, 1894, 24, p. 517, pl. 39, f. 7.¹

Habitat.—JAMAICA: Mandeville (T. D. A. Cockerell).¹

195. CARAIBODESMUS MAMMATUS (Pocock).

Odontopeltis mammatus Pocock, Journ. Linn. soc. London, 1894, 24, p. 518, pl. 39, f. 8-8b.¹

Habitat.—JAMAICA: Mandeville (T. D. A. Cockerell).¹

196. CARAIBODESMUS (?) SALLEI (Saussure).

Polydesmus sallei Saussure, Faun. Myr. Mex., 1860, p. 42, pl. 2, f. 8.¹

Odontopeltis sallei (Saussure), Pocock, Journ. Linn. soc. London, 1894, **24**, p. 512.²

Leptodesmus sallei (Saussure) Silvestri, Bull. Amer. mus. nat. hist., 1908, **24**, p. 575.³

Habitat.— ANTILLES.¹ HAITI.² SANTO DOMINGO.² PORTO RICO: Utuado, Monte Mandios (W. M. Wheeler).³

This and the two following leptodesmoid forms cannot be placed with certainty but are evidently close to the species above included in *Caraibodesmus* and may prove to be wholly congeneric with them.

197. CARAIBODESMUS (?) MAGNUS (Bollman).

Rhacophorus magnus Bollman, Proc. U. S. N. M., 1888, **11**, p. 337.¹

Habitat.— CUBA (F. Poey).¹

198. CARAIBODESMUS (?) MAURITI (Brandt).

Polydesmus mauriti Brandt, Bull. sci. St. Petersb., 1839, **5**, p. 311.¹

Habitat.— PORTO RICO.¹

ANTILLODESMUS, gen. nov.

Related to *Caraibodesmus* but the dorsal surface of metazonites wholly smooth and the male gonopods of very different form. Each gonopod is stout proximally and distally presents three slender and acute prongs subequal in length.

Genotype.— *A. grenadanus*, sp. nov.

199. ANTILLODESMUS GRENADANUS, sp. nov.

Type.— M. C. Z. 4,511. *Paratypes.*— M. C. Z. 4,512. Grenada: Grand Etang, November, 1912. R. Thaxter.

Above deep chocolate colors excepting the yellow keels and a yellow

central area on each metazonite, this area subquadrate in outline and completely enclosed, not triangular and lying against the caudal margin as in *A. vincenti*. The eighteenth and nineteenth tergites either solid black or deep chocolate, or the eighteenth with a much smaller central light dot. The last tergite deep colored excepting the process which is yellow. The head is solid black or deep chocolate between the antennae excepting for a germinate light spot; the upper surface of head closely areolated in dark over a paler ground. Legs yellow, the antennae somewhat darker.

In the gonopods of the male the proximal division is much broader, subtriangularly narrowed distad as seen from below. The middle process narrowly blade-like, curving distomesad and crossing at the tip the one from the other gonopod. Dorsal prong much more slender than the others.

Length (male type), 22.5 mm.; width, 2.8 mm. The females much more robust, an average female paratype measuring 25 mm. in length and 4 mm. in breadth.

200. ANTILLODESMUS VINCENTI (Pocock).

Odontopeltis vincenti Pocock, Journ. Linn. Soc. Lond., 1894, 24, p. 514, pl. 39, f. 4-4d.¹

Habitat.—ST. VINCENT (H. H. Smith).¹

CUBODESMUS, gen. nov.

In this genus the upper or anterior branch of the male gonopods is strongly narrowed from near the middle distad and ends in a slender blade which may be straight or weakly curved but not coiled. The principal or lower branch is curved ectad or even subgeniculate above the distinctly separated femoral division; it bears distally three short and often spiniform processes, two of which are suberect while the most dorsal curves more or less mesad.

Dorsum smooth. Keels high, with caudal angles broad and, excepting the most caudal, subrectangular or but slightly produced. Caudal margins smooth.

Anal tergite triangular, tip more or less decurved and narrowly truncate.

Genotype.—*C. ramsdeni*, sp. nov.

201. CUBODESMUS RAMSDENI, sp. nov.

Type.—M. C. Z. 4,513. *Paratypes*.—M. C. Z. 4,514. Cuba: Guantanamo, San Carlos on Rio Seco, in rotten wood, April 22, 1914. C. T. Ramsden.

In this form the upper (anterior) branch of the gonopods widens a little near its middle and then narrows strongly distad; midway between widest median region and the apex it is geniculate, the distal arm moderately curving, acute. The lower or caudal branch distad of the short stout and subcylindrical femoral division is evenly curved, the convexity being ectad; the apical region, flattened and slightly twisted, bears three slender and short processes, an erect, only slightly curved, acute median distal one, below this a stouter and larger, weakly sigmoidally flexed, and also suberect one and above it a process that curves caudad of mesad, is of uniform width throughout and is rounded at its apex.

The dorsum is chestnut with the keels yellow. In some a darker median dorsal line is manifest in the posterior region. Head chestnut excepting labrum and lower sides of face which are yellow. Venter and entire pleural region, as well as the legs and antennae, yellow.

The dorsum is smooth. Keels high, the posterior area somewhat more depressed than the anterior and median ones. Posterior angles of keels broad, the first ones subrectangular, the others slightly produced excepting the most caudal ones which are more extended as usual; those of the nineteenth somite, short, submucronate, much smaller than those of the eighteenth, those of the seventeenth largest. Caudal margins of keels smooth throughout. The lateral margins also wholly smooth excepting in the fourth to ninth somites inclusive on each lateral margin of which there is a small serration toward the anterior corner.

Tip of anal tergite conspicuously decurved.

The genital cones of the second coxae in the male are low and rounded. The sternite between the third legs bears a pair of low rounded eminences each of which bears a small slender, mammilliform process. The next sternite bears four low, rounded eminences, and the succeeding one two. Other sternites without processes.

Length (male type), about 40 mm.; width, 6 mm.

202. CUBODESMUS LATIOR, sp. nov.

Type.—M. C. Z. 4,515. Cuba: Guantanamo, La Hembrita, Mt. Toro. *Paratype*.—M. C. Z. 4,516. Cuba: Los Hondones, La Union, Mt. Libano. C. T. Ramsden.

This is a larger species than the preceding. It is readily distinguished from that species in the uniformly rectangular caudal corners of the keels of all excepting the last few somites in which they are produced as usual. In contrast with *C. ramsdeni*, the processes of the eighteenth tergite are longest and much more strongly exceed those of the nineteenth. A lateral tooth occurs on each side of only the second to fourth tergites inclusive, those of the second minute, the others distinct. In a paratype all lateral teeth obsolete. Cauda less decurved.

Type, which is not in full color, with yellow keels, the dorsum brown elsewhere. Ventral and pleural regions and appendages yellow.

A paratype from Los Hondones has the dorsum deep black excepting the keels and a pale stripe along caudal borders of tergites. The black of head continues between antennae and widens but little below as a small circular area.

The terminal processes of the third sternite similar to those in *C. ramsdeni*, but more conical.

In the male gonopods the femoral division is longer and proportionately more slender.

The principal or ventral (caudal) branch is much more strongly bent ectad at base; geniculate. The terminal processes are somewhat similar but the erect distal one is shorter, while the principal or dorsal one instead of remaining of uniform width with the tip rounded and straight, is strongly narrowed, with the tip acute or very narrowly rounded and strongly curved ventrad.

Length (male type), about 42 mm.; width close to 7 mm.

203. CUBODESMUS PROXIMUS, sp. nov.

Type.—M. C. Z. 4,517. Cuba: Guantanamo, Mt. Toro, Ramon el Moro, Nimflas, May 2, 1914. C. T. Ramsden.

This species is very close in general structure to *C. latior*, but differs in details of the male gonopods. The central distal process of the principal branch and the lower (seminiferous) process are shorter and

less slender and are distinctly uncate at tip in contrast with the condition in *C. latior*, which may show a slight uncation of the inferior process only. These two processes are much more nearly parallel, less divergent, than in *C. latior*. The dorsal process is of nearly uniform width throughout and is broadly rounded at the tip as in *C. ramsdeni* but is much longer than in that species, not strongly curved distally as in *C. latior*, this being apparently an easy mark of recognition.

The lateral margin of each third keel bears a weak serration, that of fourth a distinct one, that of fifth and sixth weak ones again, the others none. The angulation of the keels as in *latior*.

The dorsum in general black excepting for the yellow keels; a reddish yellow stripe along the caudal border of each tergite which is somewhat widest at the middle. Anterior half of each prozonite also light in color. In a few of the most caudal tergites (*e. g.*, nineteenth, eighteenth, and seventeenth) the caudal border black with a light stripe between this and the main black area of the plate. First tergite bordered all around with light and a light median longitudinal line dividing the dark central area more or less into two halves. Head black excepting below as usual.

This is a proportionately more slender species than *C. latior*.

Length (male type), near 46 mm.; width, 6.8 mm.

It is possible that the differences shown by the type-specimen may not be sufficient to maintain this form as distinct from *C. latior*; but until ample material allows this to be definitely determined, it seems better to maintain this as a separate species.

204. CUBODESMUS PELOPLEURUS, sp. nov.

Type.—M. C. Z. 4,519. ♂. *Paratypes*.—M. C. Z. 4,520 ♀. Cuba: Oriente Province, Belona, January 16, 1914. C. T. Ramsden.

In coloration this species is seen at a glance to differ conspicuously from the others here described in having the black color of the prozonites continued ventrad nearly to the level of the legs. The metazonites are also dark below the keels, though not black. Dorsum black excepting the keels which are yellow. The tergites are either not at all, or else only very narrowly margined with lighter color along caudal edge. The prozonites are lighter in a very narrow line along anterior margin. The first tergite is yellow over the keels and in a narrow anterior line but not along the decidedly incurved caudal margin. The black of head extending between antennae and expand-

ing laterally below them. Labrum and lower sides yellow. Only the process of anal plate yellow.

Processes of nineteenth tergite very small; those of the eighteenth abruptly larger but not nearly so large as in *C. latior*, being smaller than those of the seventeenth. Dorsum smooth. A single serration on each side in the usual position on somites three to seven inclusive.

In the gonopods of the male an obvious difference from the other species lies in the more broadly expanded middle region of the dorsal branch, the two being contiguous in the region and diverging from this level both proximad and distad. The distal or median process of the principal branch is exceptionally short, distally rounded, and even obliterated on right gonopod of type; the dorsal process is long, not much narrowed distad, distally rounded, not at all or but slightly curved, crossing the one from the opposite gonopod.

Length (male type), 41 mm.; width, 5.7 mm.

Thus considerably more slender than the previously described species.

205. CUBODESMUS PRINCEPS, sp. nov.

Type.—M. C. Z. 4,521. Cuba: Guantanamo, Mt. Libano, La Union, under stones in woods, March 23, 1913. C. T. Ramsden.

This is the largest of the known species. The dorsum is black with the keels paler, obscure yellow, the light area narrower than usual. The last tergite is dark throughout, or but obscurely paler distad, in strong contrast with the other species. The first tergite is obscurely paler only at the caudal corners of carinae, elsewhere solid black. No trace of light marginal cross stripes. Pleural and ventral regions brown. Anal scale with distal portion characteristically black. Head black above, the dark area extending between antennae below which it again widely expands nearly to the lateral margin. Labrum and sides of face obscurely lighter. Legs proximally brown, distally yellow. Antennae yellow.

Caudal angles of keels in general less rectangular than in *C. latior*, most being weakly produced. Last processes small as usual, those of the eighteenth keels somewhat smaller than those of the seventeenth. Lateral teeth showing on fourth, fifth, and sixth tergites, obscurely also on next two.

206. CUBODESMUS LIMONEUS, sp. nov.

Type.—M. C. Z. 4,522. *Paratypes*.—M. C. Z. 4,523, 4,524. Cuba: Guantanamo, El Palmar, Mal Paso, Mt. Toro, subida á la "Hembrita." C. T. Ramsden.

This species differs strikingly in appearance from all the others in having the keels of a lemon-yellow color with each light area extending a considerable distance upon the dorsum proximal of the keel. Process of anal tergite light. Black of head expanding widely below antennae. Labrum yellowish, of reddish tinge adjacent to the dark area. Prozonites blackish, the dark color extending ventrad to level of legs as in *C. pelopleurus*. Venter and legs and antennae lemon-yellow.

Slight lateral serrations on third and fourth tergites only. Caudal angles in general but weakly extended. Processes of last tergites in general as usual; those of the nineteenth a little longer than those of seventeenth but narrower across base.

Length (female paratype), 43 mm.; width, 7 mm.

Male gonopods of usual type. Distal blade of upper branch short and slender, strongly curving in a half circle. Upper process of upper branch nearly straight, slender.

ELLIPODESMUS, gen. nov.

Body composed of head and but nineteen segments.

Antennae long and slender.

Dorsum low, only slightly convex, and wholly smooth throughout.

First dorsal plate with anterior lateral margins and forming an evenly convex curve; narrowed subacutely at each side; equalling the succeeding ones in width.

Keels strongly developed throughout; margins thickened.

Pores on somites five, seven, nine, ten, twelve, thirteen, and fifteen to eighteen inclusive; opening on moderate marginal thickenings, the aperture looking subdorsad.

Pores of anal scutum narrow, at tip narrowly truncate. Anal valves mesally strongly margined.

Genotype.—*E. simplex*, sp. nov.

207. ELLIPODESMUS SIMPLEX, sp. nov.

Type.—M. C. Z. 4,526 ♀. Haiti: Jacmel, December, 1912. W. M. Mann.

Metazonites chocolate-brown, paler on keels and lateral region of caudal borders or entirely across the latter, but with a black transverse band between keels across anterior third to half. Also blackish along caudal border in some of posterior segments. Prozonites lighter chocolate-brown with a yellow median dorsal line which expands at the ends in hour-glass manner. This mid-dorsal yellow mark much broader in anterior prozonites. Prozonites also dark colored between level of keels and legs but the color obviously more reddish than above. Head pale across base of vertex and below level of antennae, the remaining area above antennae chocolate-colored, the dark area extending as angular tongue at middle to below level of antennae. Antennae and legs yellowish.

First tergite narrowing subacutely to each lateral end; caudal margin moderately incurved at the middle.

The keels in general are widely extended from pleurae; anterior and lateral margin forming an even, wide curve back to the caudal corner, or this slightly laterally emarginate on porigerous somites; margin without serrations excepting a small one on second, third, or fourth keels. Keels with caudal corners slightly bent caudad, the production increasing going caudad.

Cauda widely surpassing the anal valves.

Length, about 22 mm.; width, 3.6 mm.

TOMODESMUS, gen. nov.

This genus is characterized primarily by having the first dorsal plate with its anterolateral region deeply excised, the excision sub-rectangular.

Antennae long and slender.

Dorsum high, strongly arched, and wholly smooth. Keels arising low down; very weakly developed except in most anterior segments, but the pores borne on prominent, subcylindrical processes.

Anal scutum produced into a narrow cauda which exceeds the valves. Anal valves mesally strongly margined.

Repugnatorial pores on fifth, seventh, ninth, tenth, twelfth, thirteenth, and fifteenth to penult segments.

Genotype.—*T. thaumastus*, sp. nov.

208. TOMODESMUS THAUMASTUS, sp. nov.

Type.—M. C. Z. 4,527. ♀. Cuba: Guantanamo, Mt. Libano, Las Termopilas, March 30, 1913. C. T. Ramsden.

Body pale green throughout excepting that the prozonites across anterior ends above may show a rust-brown coloring. Legs and antennae yellowish.

First dorsal plate deeply subrectangularly excised on each side of the convex middle region in front, the lateral wings comparatively narrow antero-caudally, their anterolateral corner rounded convexly.

Third, fourth, fifth, sixth, and seventh keels with a distinct single lateral serration toward anterior corner. Keels in front of porigerous cylinders becoming lower and more obscure caudad. Porigerous processes of eighteenth somite much smaller than the preceding ones.

Mesal borders of anal valves strongly elevated. Process of last tergite much exceeding the valves, moderately decurved.

Type-specimen consisting of but nineteen segments in addition to the head but perhaps not fully mature.

Length, about 34 mm.; width, 5 mm.

ZIGWADESMUS, gen. nov.

In this genus the keels in the middle and posterior regions are exceedingly slight, occurring only as weak ridges excepting the process bearing the pores which is distally obliquely truncate, the section being long elliptic and bearing the pore near its center. The first few keels are nearly normal. Keels inserted low down, near middle of height. The dorsum high and strongly arched, wholly smooth.

Anal scutum produced into a narrow caudal process which at the distal end bears two slender conical processes giving it a characteristically furcate appearance. The anal valves are strongly margined and elevated along the mesal edge.

Repugnatorial pores on fifth, seventh, ninth, tenth, twelfth, thirteenth, and fifteenth to nineteenth somites.

Antennae of moderate length, slender.

Genotype.—*Z. brunneus*, sp. nov.

208a. ZIGWADESMUS BRUNNEUS, sp. nov.

Type.—M. C. Z. 4,528. ♀. *Paratype*.—M. C. Z. 4,529. Trinidad: near Port of Spain. Roland Thaxter.

The general color above is dull brown, becoming somewhat darker in going cephalad. The keels and an area immediately above them are pale, while a light spot occurs a little higher on each side of the prozonite. The pleural region also brownish, darker below each keel and along caudal border of segment. Head brown, uniform or nearly so, or vertex a little lighter, the labrum not pale. Legs light brown, the antennae somewhat darker.

Anterior margin of first plate almost evenly convex, slightly flattened caudad of each antenna; caudal margin trisinate, the plate subacutely narrowed at each side.

A slight lateral serration detectable on second, third, and fourth keels near anterior end. Keels from fifth caudad much reduced. Caudal processes of nineteenth plate very small, almost mucro-like; those of two preceding plates moderate, subconical and acute, equal or nearly so.

The cauda much exceeds the anal valves, its ventral edge nearly straight, the apical cones extending ventrad of caudad.

Length (female type), about 35 mm.; width, 4.5 mm.

STRONGYLOSOMIDAE.

209. ORTHOMORPHA COARCTATA (Saussure).

Polydesmus coarctata Saussure, Mem. Soc. phys. Geneve, 1860, p. 39, f. 18.

Strongylosoma poeyi Bollman, Ent. Amer., 1887, 3, p. 82.¹

Strongylosoma coarctatum Pocock, Journ. Linn. soc. London, 1894, 24, p. 512.²

Habitat.—CUBA:¹ Havana (W. M. Wheeler). SIERRA DE CABALLOS (T. Barbour, W. S. Brooks). GRAND CAYMAN. JAMAICA: Liguanea Plain (C. T. Brues), Port Antonio (A. E. Wight). HAITI: Port au Prince, Momance, Cape Haitien, Grand Riviere, Emery, Manneville, Jacmel, Petionville, Diquini (W. M. Mann). PORTO RICO: Rio Piedras (R. Cotton). DOMINICA (G. A. Ramage).² GRENADA: St. Georges. BARBADOS.² UNION.² TOBAGO: Richmond Bay, near Plymouth (H. L. Clark). TRINIDAD: Port of Spain (R. Thaxter).

210. *STRONGYLOSOMA SEMIRUGOSUM* (Pocock).

Ann. mag. nat. hist., 1888, ser. 6, 2, p. 477, pl. 16, fig. d.¹

Habitat.—DOMINICA (G. A. Ramage).¹

211. *LASIODESMUS CARAIBICUS* Silvestri.

Bull. Amer. mus. nat. hist., 1908, 24, p. 576, f. IX (1-5).¹

Habitat.—PORTO RICO: Utuado (W. M. Wheeler).¹

POLYDESMIDAE.

BELONODESMUS, gen. nov.

Body composed of head and twenty somites. Antennae long and slender, distally enlarged, the second and fourth articles longest, the sixth somewhat abruptly thickest.

First tergite narrower than head with mandibles, wider than head without; surface smooth or weakly granular, pilose. Keels well developed, high, marginally elevated, all with strongly produced spiniform caudal angles, these more elevated; laterally serrate and teeth also along caudal margin of most, the teeth setiferous. All tergites excepting the first (cervical) bearing series of tubercles which are more numerous on the middle and caudal ones, the tubercles more or less laterally compressed, elongate and cariniform, setigerous. Excepting first three plates, tergites with a strong transverse sulcus, behind which in most segments there are two rows of tubercles with three or four in front. Prozonites very long, not telescoped in preceding somites, the keels widely separated.

Anal tergite subtriangular, strongly tubercular.

Repugnatorial pores opening near the margin of the keels on the dorsal side; occurring on the fifth, seventh, ninth, tenth, twelfth, thirteenth, and fifteenth to nineteenth segments.

Legs very long.

In the male gonopods the coxae bear chitinous hooks as usual. The distal division segmented, the distal or tarsal division branched in type.

Processes of second coxae in male low.

Genotype.—*B. thaxteri*, sp. nov.

211a. *BELONODESMUS THAXTERI*, sp. nov.

Type.—M. C. Z. 4,530. *Paratypes*.—M. C. Z. 4,531. Trinidad: Port of Spain. Roland Thaxter.

Body above reddish brown, or in large part cherry-red. Pleural and ventral regions a duller brown. Antennae and legs light brown or distally yellow.

Head with a well-marked vertigial sulcus. Antennae separated by a distance greater than the length of the first article but much less than that of the second. Second article longest; third, fourth, fifth, and sixth not much differing in length; the sixth strongly clavately thickened, the seventh thickened at base and narrowing subconically distad.

First tergite semicircular, with true but narrow lateral keels the caudal angle of which is moderately produced; surface minutely sparsely granular, pilose. Second tergite with three rows of strongly developed tubercles; each keel with two lateral teeth in front of the caudal spine, the caudal margin with none, the anterior convex and smooth. Third and fourth with three lateral teeth on each side in front of the caudal process, with three rows of tubercles. Fifth somite on each side with three lateral teeth and four rows of tubercles, the sixth with four lateral teeth, the following pore-bearing segments with three, the number of rows of tubercles increasing. On the most posterior tergites the tubercles undergo reduction in size, on the eighteenth and nineteenth being very small, almost granule-like, on the seventeenth intermediate.

Anal tergite narrowly truncate at tip. The first marginal tubercle proximad of the tip on each side elongate, much longer than the others.

In the male the third joint of the second legs of the sixth somite is more crassate than in other legs, is bowed, and bears at the proximal end from the ventral side a short, uncate process.

Distal division of phallopod in male with a shorter process anteromesal in position and outer longer and more slender process which runs proximad along the phallopod, curving then first ectad and then distad (cephalad).

Length of type, a male, 16.5 mm.; width about 1.5 mm. The female is more robust.

MESETHODESMUS, gen. nov.

In general appearance resembling *Scytonotus* but composed of head and twenty somites instead of nineteen.

Antennae moderately long, strongly clavate to the sixth article. Articles excepting those at the ends constricted at base, strongly thickened distally.

First tergite somewhat narrower than head inclusive of mandibles. All tergites (metazonites), including the first and anal, strongly tubercular; the tubercles arranged mostly in six or more transverse series, each bearing a long setose process and those along the caudal margin, particularly in the posterior region, projecting as teeth or serrations as in *Peridontdesmus* but not serrate anteriorly. Keels with caudal corners rounded, not at all produced, more angular in posterior somites.

Repugnatorial pores occurring on the fifth, seventh, ninth, tenth, twelfth, thirteenth, and fifteenth to nineteenth segments. The pores in general on the dorsal side of the keel on a rounded or conical elevation which in the anterior region is median in position but in the posterior somites is toward the caudolateral corner. Anal plate large, triangular, pointed behind, densely tuberculate. Anal scale trapeziform, with two widely separated setigerous tubercles.

Type.—*M. haitianus*, sp. nov.

212. MESETHODESMUS HAITIANUS, sp. nov.

Type.—M. C. Z. 4,532. ♀. *Paratypes*.—M. C. Z. 4,533. ♀. Haiti: Furcy. W. M. Mann.

General color above light brown, the caudal row of tubercles commonly pale. First tergite with a large yellowish area on each side. Head yellow. Antennae yellow proximally, dilute brownish distally. Venter and legs yellow.

Head above very finely granular, with numerous very short, fine hairs. Antennae strongly thickened distad; the sixth article especially enlarged elevated on the dorsal side, those proximad of this elevated progressively less in going toward the base.

First tergite somewhat semicircular, the caudal margin slightly convex on each side, mesally emarginate; scarcely narrower than the head with mandibles, broader than head without; obviously narrower

than the second tergite. The second and immediately succeeding somites also on caudal border emarginate toward middle, the median length obviously shorter than that toward the sides. Caudal corners much rounded in anterior tergites, but becoming quadrate in the posterior ones. Tubercular setae very long.

Length, 6.5 mm.; width .8—mm.

EURYURIDAE.

212a. APHELIDESMUS DIVERGENS sp. nov.

Type.—M. C. Z. 4,534. Trinidad: Arima, Verdant Vale. Roland Thaxter. *Paratypes*.—M. C. Z. 4,535–4,540. Tobago: Milford Bay, Richmond Bay, King Bay, Plymouth, Scarborough. H. L. Clark.

This species seems to be readily separable from those previously described, all from Central America and northern South America, in the structure of the male gonopods. These are segmented as usual; the distal division is geniculate toward its base with the plate-like division thin and nearly transparent, subcircularly expanded or broadly oblong and distally rounded, concave on the dorsal side; from its base on the ectal side a much more slender branch which is bidentate at tip; on the mesal side of the proximal end of the tarsal or distal division a membranous extension or sheath by which the seminal style is protected. A short rounded process on ectal side near origin of style.

The prozonites are dusky chestnut or chocolate-brown, the metazonites black in individuals in full color, excepting the keels which are bright yellow. Head also deep black of weak chestnut cast excepting the labrum and a triangular elevated region extending dorsal between the antennae, this region being light brown. Legs and antennae pale brown.

Head smooth. Vertigial sulcus distinct as usual. Sixth article of antennae longest, the second, third, fourth, and fifth nearly equal to each other.

Anterolateral corners of keels widely rounded. Lateral margin emarginate at level of pores, not toothed.

Last tergite broad and plate-like, narrowed caudad with the caudal margin widely convex, mesally emarginate as in *A. glaphyros* and *A. hermaphroditus*.

Length of the type (male), 32 mm.; width, 5.6 mm.

212b. POLYLEPISCUS RORERI, sp. nov.

Type.—M. C. Z. 4,576. Trinidad: Mt. Tucutche. In a bromeliad. J. B. Rorer.

This is the first representative of the Central American *Polylepiscus* to be recorded from the West Indies. In comparison with the Central American species it falls with the forms under 65 mm. in length and agrees with *P. stolli* in having the polygonal areas wholly smooth. From that species it may be distinguished, *e. g.* in having the keels of the tenth and eleventh plates much less strongly produced caudad.

It is apparently a much darker species. The prozonites black above and down the sides, becoming light brown ventrally. The anal valves are also black as is also the anal scutum excepting across its distal end. The metagonites are black over the keels and in a narrow stripe along the anterior edge, elsewhere being dilute ferruginous brown. The antennae are fuscous, the legs dilute yellowish brown. Head and first tergite black or nearly so, the former paler across labrum and the latter along caudal border.

While the collum is nearly smooth in the median region, it is strongly sculptured on the sides; short longitudinal sulci outline a row of areas along the caudal border, while areas along the anterior border are less distinctly outlined. On subsequent tergites the polygonal areas are outlined entirely across but on the first ones are much more strongly developed down the sides and over the keels than on mid-dorsal region, the areas becoming more sharply defined caudad. Keels with anterior angles rounded, anterior margin smooth, not at all serrulate as in *P. stolli*; the caudal margin weakly and irregularly crenulate; the posterior processes similar to those of *stolli* but shorter, this being especially noticeable on the segments of the median region. Processes of eighteenth and nineteenth segments spiniform, acute, those of the latter not apically blunt as they are in *P. stolli*. Pores of nineteenth segment more strictly lateral than those of preceding somite.

Length (♀), about 55 mm.; width, 7.5 mm.

Distribution.

	West Indies	New Providence	Andros	Wallings	Great Inagua	Antilles	Cuba	Isle of Pines	Grand Cayman	Cayman Brac	Jamaica	Haiti & S. Domingo	Porto Rico	Culebra	St. Thomas	St. Croix	St. Bartholomew	St. Eustatius	St. Kitts	Antigua	Montserrat	Guadeloupe	Martinique	St. Lucia	St. Vincent	Mustique	Grenada	Barbados	Union
CHILOPODA																													
<i>Cryptops bivittatus</i>																													
<i>manni</i>																													
<i>cornifer</i>																													
<i>Otocryptops ferrugineus</i>																													
<i>melanostomus</i>																													
<i>Scolopocryptops miersii</i>																													
<i>Newportia ernsti</i>																													
<i>longitarsis</i>																													
<i>pusilla</i>																													
<i>culbana</i>																													
<i>heteropoda</i>																													
<i>Tidops sinus</i>																													
<i>Otostigmus spiculifer</i>																													
<i>occidentalis</i>																													
<i>carabicus</i>																													
<i>Rhysida longipes</i>																													
<i>cederis</i>																													

— = Record. + = M. C. Z. ⊕ = M. C. Z. Type.

Distribution — Continued.

Orthoporus grenadae	Union	
haitiensis	Barbados	
?indus	Grenada	⊕
	Martinique	
	St. Vincent	
	St. Lucia	|
	Martinique	|
	Dominica	⊕
	Martinique	|
	Marie Galante	
	Guadeloupe	⊕
	Montserrat	
	Antigua	
	St. Kitts	|
	St. Eustatius	
	St. Bartholomew	
	St. Croix	
	St. Thomas	
	Culebra	
	Porto Rico	|
	Haiti & S. Domingo	⊕ |
	Jamaica	⊕
	Cayman Brac	+
	Grand Cayman	+
	Ile of Pines	
	Cuba	⊕
	Antilles	
	Great Inagua	
	Wallings	
	Andros	
	New Providence	
	West Indies	
Rhinocricus ramagei		
mandevillei		
politus		
townsendi		
gosseli		
rarior		
excisus		
newtonianus		
parvus		
cleetus		
mediator		
guadeloupcensis		
holomelanus		
chazaliei		
liparus		
solitarius		
parvior		

Distribution — Continued.

Rhinocricus furcians	West Indies	
domingensis	New Providence	
maltzani	Andros	
haitiensis	Walings	
suprenans	Great Inagua	
duvernoyi	Antilles	
curtior	Cuba	+
heteroscopus	Isle of Pines	+
nigrescens	Grand Cayman	
socius	Cayman Brae	
gracilipes	Jamaica	+
grenadensis	Haiti & S. Domingo	+
arboreus	Porto Rico	|
gundlachi	Culebra	|
krugii	St. Thomas	|
macropus	St. Croix	|
leptopus	St. Bartholomew	
barbouri	St. Eustatius	
thomsonianus	St. Kitts	
martiniquensis	Antigua	
leucostigma	Montserrat	
	Guadeloupe	
	Marie Galante	
	Dominica	
	Martinique	+
	St. Lucia	|
	St. Vincent	|
	Mustique	
	Grenada	+
	Barbados	
	Union	

Distribution — Continued.

West Indies	.	.	.	.
New Providence	.	.	.	.
Andros	.	.	.	.
Wallings	.	.	.	.
Great Inagua	.	.	.	.
Antilles	.	.	.	.
Cuba	⊕	+	.	.
Isle of Pines	.	.	.	.
Grand Cayman	.	+	.	.
Cayman Brac	.	.	.	.
Jamaica	.	+	.	.
Haiti & S. Domingo	⊕	+	.	.
Porto Rico	.	.	|	.
Culebra	.	.	.	.
St. Thomas	.	.	.	.
St. Croix	.	.	.	.
St. Bartholomew	.	.	.	.
St. Eustatius	.	.	.	.
St. Kitts	.	.	.	.
Antigua	.	.	.	.
Montserrat	.	.	.	.
Guadeloupe	.	.	.	.
Marie Galante	.	.	.	.
Dominica	.	|	.	.
Martinique	.	.	.	.
St. Lucia	.	.	.	.
St. Vincent	.	.	.	.
Musique	.	.	.	.
Grenada	.	|	.	.
Barbados	.	|	.	.
Union	.	|	.	.
Tomodesmus thaumastus	.	.	.	.
Orthomorpha coarctata	.	.	.	.
Strongylosoma semirugosum	.	.	.	.
Lastodesmus caribicus	.	.	.	.
Mesethodesmus haitianus	.	.	.	.