

MILLIPEDS OF ST. JOHN, U. S. VIRGIN ISLANDS, AND A NEW SPECIES FROM PUERTO RICO¹

H. F. LOOMIS²

5355 S.W. 92 St., Miami, Fla. 13356

ABSTRACT

Six species of millipeds are the first recorded from St. John, and include a new genus and species of the family Stylodesmidae, a new species of *Siphonophora*, and a second West Indian species of *Lophodesmus* from Puerto Rico. Keys to the West Indian genera of Stylodesmidae and species of *Siphonophora* are given.

In the latter part of May 1968, my wife and I visited St. John to collect millipeds, none previously having been reported from there. The results were not unusual as only one pselaphognath species and five helminthomorph species were found. The former, also common in Jamaica, appears to be undescribed; of the latter group, two are new, one representing a new genus. One of the three remaining species was described from the Orient but now is quite widely distributed in this hemisphere.

Although today St. John is almost wholly forested, its history of a century ago, and the ruins of past agricultural activity hidden in the undergrowth, tell of the extreme, if not complete, denudation of the forests for sugarcane planting during slave days. There is little doubt that the original milliped fauna of the island was much affected by this land clearing and has been materially reduced to those species surviving at present.

A second West Indian species of a widely distributed tropical genus is described from a Puerto Rican cave although it is not a true troglobite.

The three holotypes are deposited in the milliped collection of the U. S. National Museum, Washington, D. C., but all other specimens have been placed in the Florida State Collection of Arthropods in Gainesville.

PSELAPHOGNATHA: POLYXENIDAE

Alloproctinus sp.

Thirteen specimens from Centerline Road, Cinnamon Bay Trail and Annaberg, 24-26 May 1968, were identified by my colleague, Dr. Bruno Conde, University of Nancy, Nancy, France, as a probable new species he first saw from Jamaica but has not yet described.

HELMINTHOMORPHA: STYLODESMIDAE

Key to West Indian genera of Stylodesmidae

1. Pores on segments 5 and 7-18—*Prosopodesmus* Silvestri. Introduced.
- 1.' Pores in a much less continuous series 2.

¹Contribution No. 169, Bureau of Entomology, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Gainesville.

²Research Associate, Florida State Collection of Arthropods, Division of Plant Industry, Florida Department of Agriculture and Consumer Services.

2. Body with only 4 pores each side *Styraxodesmus* Chamberlin. Haiti.
- 2.' Body with 5 or more pores each side 3.
3. Segment 1 with 12 anterior lobes *Penteporus* Loomis. Haiti.
- 3.' Segment 1 with less than 12 anterior lobes 4.
4. Margins of keels with long setae usually incrustated with organic matter *Botrydesmus* Loomis. Trinidad.
- 4.' Margins of keels not setose 5.
5. Body with only 19 segments, segment 1 with 8 anterior lobes
..... *Poratioides* gen. nov. St. John.
- 5.' Body with 20 segments, segment 1 with 10 anterior lobes 6.
6. Body with 5 pores each side, on segments 5, 7, 10, 13, and 16.....
..... *Heteropente* Loomis. Cuba.
- 6.' Body with 7 or more pores each side 7.
7. Primary tubercles on surface of segment 1 very large *Dilophops*
..... Loomis. Haiti.
- 7.' Primary tubercles of segment 1 of moderate size 8.
8. All pores at midmargin of keels with a distinct lobe either side
..... *Darlingtoniella* Loomis. Cuba.
- 8' Most pores at posterior corner of keels 9.
9. Only segment 5 with a lobe each side of pore
..... *Gasatomus* Chamberlin. Trinidad.
- 9.' All pores at posterior corner of keels 10.
10. Segments 3-19 with outer margin of keels bilobed *Lophodesmus*
..... Pocock. Haiti, Puerto Rico.
- 10.' Segments 3-19 with 3 or 4 lobes 11.
11. Body loosely jointed, about 7 times as long as broad, strongly convex..
..... *Poratia* Cook & Cook. Haiti.
- 11.' Body relatively broader, flatter, and more compact 12.
12. Pores on only 7 segments:- 5, 7, 9, 10, 12, 13, and 15 *Fennellia*
..... Loomis. Haiti.
- 12.' Pore formula similar but an additional pore on segment 16
..... *Augesmus* Chamberlin. Haiti.

Lophodesmus bituberculatus spec. nov.

Male holotype collected in Cueva Pajita, Lares, Puerto Rico, 7 January 1967 by S. B. Peck.

Diagnosis: Obviously related to *L. caraibianus* (Chamberlin) of Haiti but relatively broader, dorsum more convex, midbody metazonites shorter, and the two middle rows of primary tubercles composed of only two tubercles on some segments.

Description: Length 5.5 mm, width 1.4 mm. Segment 1 with front margin low, horizontal, a little longer than in *caraibianus*, the 10 anterior scallops more distinct. Median surface very convex, with an anterior row of 4, and a posterior row of 6, large high tubercles. Succeeding segments with dorsum more greatly elevated than in above species and the metazonites of midbody region particularly, noticeably shorter, exposing more of the prozonites. On segments 11-15 there are only 2 primary tubercles in each submedian row, instead of 3 as on other segments and throughout those of *caraibianus*, and these are low, flat, or even apically indented.

Posterior view of left gonopod shown in Fig. 1. In vertical ventral view galeate coxal joint shorter and broader than in *caraibianus*. Sternum between fourth male legs elevated into a very high, slender tubercle, its apex sharply bent forward.

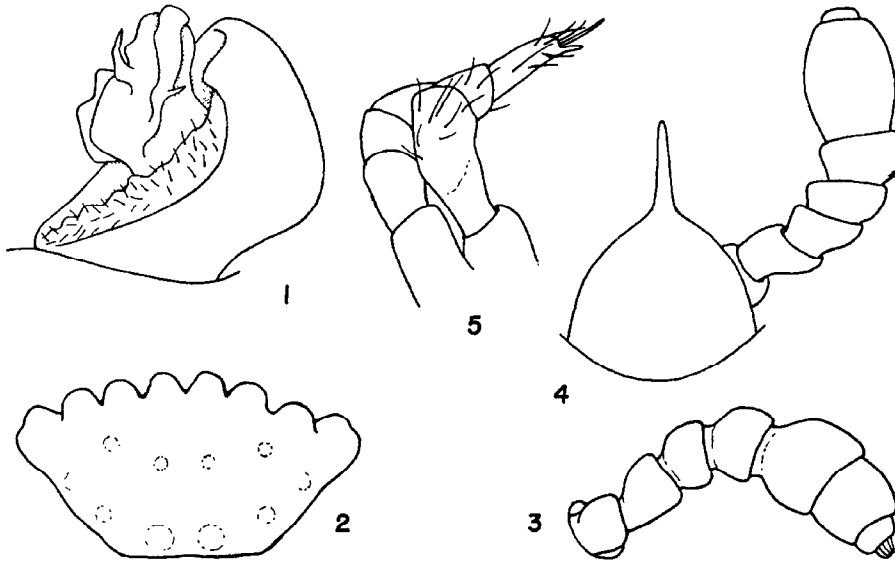


Fig. 1: *Lophodesmus bituberculatus*, left gonopod (anterior view).

Fig. 2-3: *Poratioides virginalis*. 2: segment 1; 3: antenna (anterior view).

Fig. 4-5: *Siphonophora albiceps*. 4 head and antenna (vertical view); the front margin of segment 1 showing in oblique anterior view; 5: left gonopods (lateral view).

Poratioides gen. nov.

Type species: *-Poratioides virginalis* spec. nov.

Diagnosis: Related to *Poratia* Cook & Cook, which it resembles in many particulars, but smaller, with only 19 segments; segment 1 shorter, the outer pair of lobes each side of front margin more completely united; keels of segments 16-18 with 3 instead of 4 lobes.

Description: Body small, with 19 segments; widest across anterior angles of segment 2 but thereafter narrowing very gradually to segment 16 or 17. Head much as in *Poratia* but antennae shorter, stouter, and with joints 2, 3, and 4 definitely more monilliform. Segment 1 about twice as wide as long; front margin with 6 well separated median lobes and a pair of almost completely united ones either side appearing as a single large lobe. Following segments with the 4 rows of primary tubercles poorly developed except on 1 or 2 preanal ones where they are strongly raised. Pore formula normal but ending on segment 15; pores preceded by a single marginal lobe; all nonporiferous keels, from second to penultimate, with 3 outer lobes. Last segment with 6 projecting, seta-bearing lobes, the apical pair much the largest. Anal valves considerably flattened; inner margins inconspicuously raised; scale short, broad, and quite definitely rounded behind.

Poratioides virginalis spec. nov.

Holotype female and 8 others, Hawksnest Bay area, 24 & 26 May 1968; fragment of immature male, Annaberg, 24 May 1968.

Description: Maximum length 4 mm, width 0.5 mm, narrowing very gradually from segment 2 to 16 or 17. Dorsum very convex, keels narrow and obliquely descending. Head with a high and thick tubercle in front of each antennal socket extending laterad; surface above antennae to crest of vertex densely set with rounded tubercles, those adjacent to basal joint of each antenna largest. Antennae (Fig. 3) short, with joints 2-4 more monilliform than in *Poratia digitata* (Porat), and joints 5 and 6 obviously shorter. Segment 1 (Fig. 2) twice as wide as long; anterior margin weakly curved, with 6 well separated median lobes and 2 others each side united and appearing as 1; median surface granular, with 10 poorly defined primary tubercles, median 2 near back margin largest. On succeeding segments primary tubercles of the 4 rows poorly developed to segment 17 where they become more distinct and considerably elevated; secondary tubercles represented by indistinct granules; primary tubercles of segment 18 large, strongly elevated, and bent caudad, the last 1 in each row much exceeding margin; no secondary tubercles on this segment. Segments 2-18 with a large rounded lobe on posterior margin where dorsum and keel meet. Pores opening from large tubercle near posterior corner of usual keels to segment 15; a single marginal lobe well in front of each tubercle; nonporiferous keels 3-lobed, the lobes quite deeply separated. Last segment without dorsal tubercles or granules but with 6 marginal lobes, the subapical pair much the largest. Preanal scale about 3 times as broad as long; posterior margin between the 2 conical seta-bearing tubercles rounded but only slightly more than its lateral portions.

Prosopodesmus jacobsoni Silvestri

Numerous specimens from Annaberg, Cinnamon Bay Trail, and Hawksnest Bay area, 24-26 May 1968. Originally described from Java, it has been found in other parts of the Orient, Brazil, Panama, Haiti, Puerto Rico, St. Eustatius, and at the writer's home in Florida.

STEMMIULIDAE

Prostemmiulus wheeleri (Silvestri)

Numerous specimens from Annaberg, Cinnamon Bay Trail, and Hawksnest Bay area, 24-26 May 1968. Originally described from the island of Culebra, it has also been reported from Tortola.

RHINOCRICIDAE

Rhinocricus arboreus (Saussure)

Found in all wooded parts of St. John where collecting was done. Originally described from St. Thomas, it has been reported from Puerto Rico, Culebra, Antigua, St. Croix, and Tortola.

SIPHONOPHORIDAE

Siphonophora Brandt

This predominantly tropical American genus is comprised of a large number of species, relatively few of which are adequately described or illustrated, making identification very difficult except with topotype specimens or comparison with the holotype. Study of the West Indian species leads me to believe that those thus far known are restricted to the island from which originally described, none having been reported from two or more islands. This condition, taken in conjunction with published characters and such illustrations as are available, has made it possible to prepare the following key.

Key to the West Indian species of Siphonophora

1. Body to 58 mm long; number of segments to 190; head narrowly triangular *millepeda* Loomis. Tobago.
- 1'. Body little over half as long; many fewer segments; head not narrowly triangular 2.
2. Body with about 106 segments; beak twice as long as head *tenuicornis* Pocock. St. Vincent.
- 2'. Body with less than 100 segments; beak shorter 3.
3. Antennae exceeding apex of beak by at least 3 1/2 joints *robusta* Chamberlin. Jamaica.
- 3'. Antennae exceeding apex of beak by fewer joints 4.
4. Anterior margin of segment 1 straight across; head and first 2 segments white, other segments dark *albiceps* new species St. John.
- 4'. Anterior margin of segment 1 slightly to deeply concave; head and segments almost concolorous 5.
5. Setae of last segment much longer than those on other segments *gracilior* Chamberlin. Haiti.
- 5'. Setae of last segment little different from others in length 6.
6. Antennae exceeding beak by 2 1/2 joints *tobagoana* Chamberlin. Tobago.
- 6'. Antennae exceeding beak by less than 2 1/2 joints 7.
7. Segment 1 three times as long as segment 2 *platops* Loomis. Dominican Republic.
- 7'. Segment 1 less than three times as long as segment 2 8.
8. Segment 1 shorter than the next 2 segments combined *proxima* Chamberlin. Haiti.
- 8'. Segment 1 still shorter 9.
9. Number of segments to 81 *manni* Chamberlin. Haiti.
- 9'. Number of segments less than 81 10.
10. Number of segments 71 or 72; body 20 mm long *portoricensis* Brant. Puerto Rico.
- 10'. Body much less than 20 mm long; number of segments reduced 11.
11. Body 7-8 mm long; beak longer than head *cubana* Karsch. Cuba.
- 11'. Body reaching only 6.2 mm long; beak only half as long as head *senaria* Loomis. Cuba.

Siphonophora albiceps spec. nov.

Holotype and two other males, 5 females, Cinnamon Bay Trail, 23 May; many other males and females, Annaberg, 24 May, and Hawksnest Bay area, 24 & 26 May 1968.

Diagnosis: The small stout body, its white anterior end in striking contrast to the darker color behind segment 2, and the enlarged intermediate joints of the first pair of legs of both sexes, are outstanding characters of this species.

Description: Largest specimen, a female, with 41 segments, 7 mm long, 0.8 mm wide; largest male (Holotype) with 42 segments; other mature specimens from 32 segments; males more slender than females. Body moderately convex from side to side, the metazonites rising sharply above prozonites and strongly convex longitudinally. Living animals with antennae, head, and next 1 or 2 segments white, in strong contrast to remainder of body which is mauve. Head (Fig. 4) short, subhemispherical, slightly less than twice as long as the slender, abruptly produced beak. Antennae unusually long and thick. In vertical view of segment 1 the anterior margin is straight across, the illustration of head drawn obliquely from in front, the anterior margin of this segment showing curvature of dorsum; lateral margins flaring outward behind; relative distances across anterior angles, posterior angles, front to back of dorsum, and across posterior angles of segment 4 are 6:8:3:9.5, showing rapid widening of front end of body. Surface of head, segment 1, and metazonites with quite a dense mixture of erect setae of variable length in subequal numbers, the longest approximating the length of the metazonites, shortest a fifth or sixth as long; small, shining, densely arranged granules are easily seen among or supporting the setae. Both sexes with intermediate joints of first pair of legs larger than those that follow. Gonopods (Fig. 5) with anterior pair more slender and leglike than in other species; posterior pair typical of genus.