

MILLIPEDS FROM JAMAICAN CAVES¹

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ABSTRACT

Described from a collection of millipeds of Jamaican caves are a new species of *Caraibodesmus* and a new genus and species of the family Chytrodesmidae. Specimens of a genus and species (*Inodesmus jamaicensis*) not seen since originally diagnosed in 1896 allowed amplified description, and removal of two other species to a new genus. Young specimens were recognized as members of two families not previously recorded in Jamaica.

In the spring of 1968 a collection of arthropods was made in a number of Jamaican caves by Stewart B. Peck, Museum of Comparative Zoology, assisted by Alan Fiske, Harvard College student. The milliped portion of the collection was sent to me for determination and contained two undescribed species, one of a new genus. Also present were both sexes of the genotype species, *Inodesmus jamaicensis*, which O. F. Cook (1896) diagnosed very briefly in erecting the genus and which species has not been reported since. Comparison of males of this species with those of another from Panama, assigned to *Inodesmus* in 1964 and rediscovered by Peck in 1966, showed the latter to typify an undescribed genus. Two families not previously known in Jamaica were represented by specimens too young for identification or description, but they are further evidence of close relationship of the Jamaican milliped fauna with that of Central America rather than that of any West Indian islands. None of the species collected has modifications indicating restriction to cave life.

Holotypes of the new species have been deposited in the U. S. National Museum. Paratypes of them and specimens of the other two named species have been placed in the Florida State Collection of Arthropods, in Gainesville.

CHELODESMIDAE

Caraibodesmus Chamberlin

Caraibodesmus pictus spec. nov.

Holotype male, another male, and 4 females, Oxford Cave, Auchtembeddie, Manchester Parish, 4 & 8 April 1968.

DIAGNOSIS:—This is the largest Jamaican species and is closest to *C. bruesi* Chamberlin but is distinguished from it, as based on description of that species, by a median tooth on outer margin of keels 11 and 12; the large projecting tooth on each side of posterior margin of segments 2-15; and the much sturdier gonopods.

DESCRIPTION:—Males more slender than females with keels larger and more elevated, their posterior margin deeply concave in both sexes; largest male 30 mm long, 3.5 mm wide; largest female 32 mm long, 4 mm wide.

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Head with clypeal-labral region yellow; front and vertex dark brown; body elsewhere yellow and brown, as described for *bruesi*.

Segment 1 smooth and shining, the disk strongly convex with the nearly horizontal keels set off sharply from it, the junction marked by a fine furrow extending forward from the posterior margin.

On succeeding segments the surface of the metazonites, in front of the deep but indefinitely marked transverse depression, scattered with tiny, low, shining granules extending onto base of keels; surface behind depression somewhat granular, especially on sides; posterior margin of dorsum on anterior segments with four rounded tubercles between two large projecting teeth near base of keels; farther back the median tubercles increase to six or eight, and on segments 16-18 the projecting tooth on each side becomes as small as the intervening tubercles and barely exceeds margin; segment 19 without tubercles or projecting teeth. Keels from front of body to near its caudal end with basal portion having one or frequently two rounded tubercles plus small scattered granules. Anal valves with inner margins high and thin; inner surface with wrinkles nearly paralleling margins. Scale large, triangular, the two subapical setae well separated and rising from small rounded tubercles on the margin.

Gonopods as shown in Fig. 1 and 2. Sternum of third male legs with two transverse, conic, basally touching tubercles. Fourth sternum broadly swollen on each side.

CHYTODESMIDAE

Peckfiskia gen. nov.

TYPE SPECIES:—*Peckfiskia cavernicola* spec. nov.

DIAGNOSIS:—The distinct separation of the 10 anterior lobes of segment 1, and the caudally produced midjoint of the gonopods, immediately distinguish this genus from any other of the family.

DESCRIPTION:—Size small, not over 7 or 8 mm in length; dorsum moderately convex with rather narrow descending keels, their lobes separated by sublageniform sinuses; surface of metazonites and keels irregularly beset with small to tiny tubercles; only one row of three primary tubercles each side of middorsum, the tubercles and margins of lobes of keels minutely spiculate and retaining varying deposits of organic matter in mature animals, giving their nearly colorless bodies a more or less brownish coating.

Antennae rather long and slenderly clavate. Segment 1 with narrow anterior border of 10 separated lobes, the median four largest. Lobes of lateral keels of some segments tending to vary in number, even on the same segment. Pores in normal sequence, opening from a large swelling at middle of keels on usual segments, but on segment 19 the pores not elevated. Last segment bilobate behind, above the setose, conic apex.

Gonopods composed of three joints, the middle one large and greatly produced backward at apex. Anterior legs and sterna without unusual modifications.

Peckfiskia cavernicola spec. nov.

Holotype male, female, and 7 young, Coffee River Cave, 1.5 miles N Oxford, Auchtembeddie, Manchester Parish, 4 April 1968; posterior half

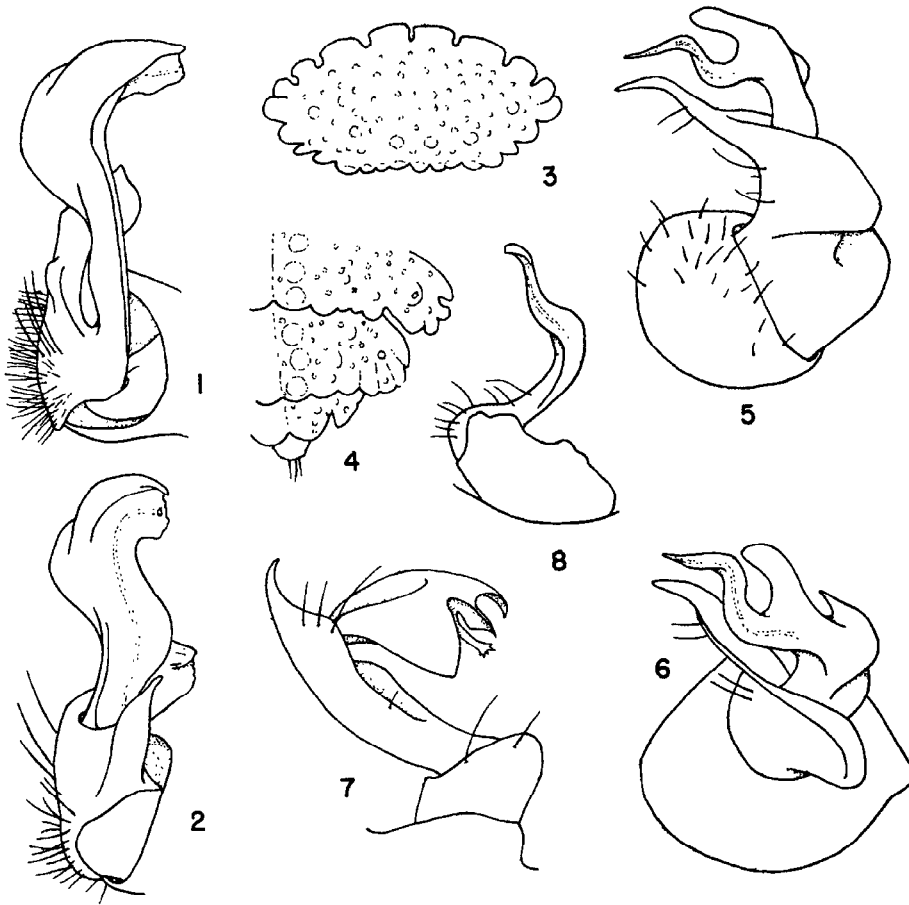


Fig. 1-2, *Caraibodesmus pictus*. 1, left gonopod, ventral view; 2, left gonopod, lateral view.

Fig. 3-6, *Peckfiskia cavernicola*. 3, segment 1; 4, right half of segments 18-20; 5, left gonopod, ventro-lateral view from slightly in front; 6, left gonopod, anteroventral view.

Fig. 7, *Inodesmus jamaicensis*, right gonopod, lateral view.

Fig. 8, *Hysoporus globulosus*, left gonopod, lateral view.

of young specimen, Oxford Cave, Aughtembeddie, Manchester Parish, 4 or 8 April 1968; 2 males, 3 females, 1 young, Windsor Great Cave, Windsor, 10 miles S Falmouth, Trelawney Parish, 5 April 1968.

DESCRIPTION:—Holotype 5.7 mm long, 1 mm wide; female 7 mm long, 1.2 mm wide; color light except for brownish material adhering to metazonites and in openings between marginal lobes.

Head smooth at crest of vertex, with a granular area in front beginning at top of interantennal space and widening behind; clypeal area continuous with labrum, surface almost uniformly hispid; interantennal space about twice diameter of a socket. Antennae long, slenderly clavate; joint 1 shortest, subequal joints 2, 4, 6, and 7 next, followed by joint 3, with

joint 5 about as long as 6 and 7 together; joints 5 and 6 with a fine seta, as long as joint 5, at outer distal third.

Segment 1 (Fig. 3) transversely suboval, moderately convex; anterior border short, with 10 separated lobes, the inner four largest; posterior border distinctly lobed each side, much less obviously so across middle; surface with small, scattered tubercles and six larger ones across posterior quarter; all tubercles and those of other segments spiculate; Succeeding segments with small scattered tubercles, a row of three larger ones each side of middle. Keels rather narrow; anterior ones descending at nearly same rate as dorsum but less so toward caudal end of body. Keels of segments 2, 3, 5, 6, 8, 11, and 14, 3-lobed; 4, 2- or rarely 3-lobed; 9, 17, 18, and 19, 4-lobed; other keels usually with 4 lobes but reduced to 3 on some keels; lobes separated by lageniform openings, except on segment 19, as shown in Fig. 4 which also shows last segment. Margins of anal valves raised, shining, in contrast to dull surface elsewhere. Preanal scale broad, the apex somewhat rounded between the two rather closely placed, submarginal, seta-bearing tubercles.

Gonopods as shown in Fig. 5 and 6.

COMODESMIDAE
Inodesmus Cook
Inodesmus jamaicensis Cook
Brandtia, p. 25, 1896

Over three dozen males and females, Windsor Great Cave, Windsor, 10 miles S of Falmouth, Trelawney Parish, 5 April 1968; male, 3 females, Drip Cave, 1.5 miles SSE of Stewart Town, Trelawney Parish, 2 April 1968.

The exceedingly brief description of this species, its type locality given merely as "a cave in Jamaica," failed to mention many of the following characters which are of importance.

Males with 19 segments, females with 20; body to 9 mm long. Segment 2 extending well below segment 1, directed somewhat forward on each side; posterior angle each side rounded, without a caudal projection. Prozonites considerably exposed, strongly convex, as are the metazonites, and separated from them by a deep constriction; surface conspicuously reticulated, the reticulations in the constriction largest. Metazonites notably higher than prozonites; dorsum densely beset with scattered, long, erect setae rising from distinct, shining, subconic tubercles; lower sides to base of legs with smaller, rounded, shining, and glabrous tubercles. Pores tiny and difficult to see, in the position Cook described but appearing to open from the surface rather than from a depression

Gonopods (Fig. 7) 3-jointed; outer joint complex, with a large lateral lobe and a sharp terminal branch plus three others along mesal edge, the two basal ones with slightly expanded, spiculate tips. In the figure the basal branch is hidden by the outer lobe but it is short, thick, with apex larger than on next branch. Second joint of gonopods with a large, acute, distal extension.

Hypsoporus gen. nov.

TYPE SPECIES:—*Inodesmus globulosus* Loomis

DIAGNOSIS:—This genus is distinguished from *Inodesmus* Cook by its smaller size, elevated pores, strong projection from the posterior angle each side of segment 2, and the simple 2-jointed gonopods. Males with 19 segments, females with 20.

Hypsoporus globulosus (Loomis)

Inodesmus globulosus Loomis. 1964. Fieldiana: Zoology, Chicago Nat. Hist. Mus. 47:30.

Two males, one broken, and many females, Chilibrillo Cave, Panama Province, Panama, 26 July 1966, Stewart B. Peck.

Comparison of the gonopods of these males (Fig. 8) with those of *I. jamaicensis* Cook leaves no doubt of the necessity of establishing the above genus. Although no males have been seen, the description and figure of *I. peduncularis* Loomis (Loomis 1934) suggest its transfer to *Hypsoporus* and, similarly, of retaining *Lasiodesmus carabicus* (Silvestri 1908) in *Inodesmus*, where I placed it in 1934, *loc. cit.*

Immature specimens of the following families were collected.

GLOMERIDESMIDAE

One specimen, Worthy Park Cave, St. Catherine Parish, 6 April 1968. Undoubtedly *Glomeridesmus* Gervais & Gould.

ONISCODESMIDAE

A 17-segmented specimen, Oxford Cave, Auchtembeddie, Manchester Parish, 4 or 8 April 1968. This appears to be of an undescribed genus.

TRICHOPOLYDESMIDAE

One specimen, St. Claire Cave, 1½ miles SW Ewarton, St. Catherine Parish, 7 April 1968; one specimen, Worthy Park Cave No. 2, Worthy Park, St. Catherine Parish, 6 April 1968. Both specimens appear to be of the same species, probably belonging to an undescribed genus.

LITERATURE CITED

- Cook, O. F. 1896. *Brandtia*. A series of occasional papers on Diplopoda and other Arthropoda. 1-75. Privately printed.
- Loomis, H. F. 1934. Millipeds of the West Indies and Guiana collected by the Allison V. Armour Expedition in 1932. *Smithsonian Misc. Coll.* 89(14):1-69, illus.
- Silvestri, F. 1908. Myriapoda from Porto Rico and Culebra. *Bull. Amer. Mus. Nat. Hist.* 24(28):563-578, illus.