

NEW RECORDS OF ISOPOD CRUSTACEA FROM THE CARIBBEAN, THE FLORIDA KEYS, AND THE BAHAMAS

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Abstract.—Fourteen species of marine isopods are recorded from Belize, the Bahamas, and the Florida Keys. These include a new genus and species of anthuridean, *Licranthura amyle*, resembling the genera *Eisothistos* and *Stellanthura*, and characterized mainly by the presence of antler-like processes on the antennae, and the following new species: *Mesanthura looensis* (Anthuridae), *Phycolimnoria clarkae* (Limnoriidae) (apparently the first record of the genus found in decaying wood), *Cirolana albidoida*, *Cirolana crenulitelson* (Cirolanidae), *Ancinus belizensis*, and *Cassidinidea mosaica* (Sphaeromatidae). Six species of *Limnoria* are recorded as co-occurring: *L. multipunctata*, *L. pfefferi*, *L. platycauda*, *L. tuberculata*, *L. indica*, *L. unicornis*. Of these, the latter two are recorded from the Caribbean for the first time. *Cirolana minuta* Hansen is redescribed, this being the second record of the species.

Since the appearance of the work by Menzies and Glynn (1968) on the isopod fauna of Puerto Rico (and which summarized knowledge of the Caribbean isopodan fauna), several papers have appeared dealing with aspects of the marine isopod fauna of the area. Careful, small-scale collecting aided by SCUBA have added considerably to the Caribbean faunal list (e.g., Kensley 1982, 1984), and will no doubt continue to do so, as witness this present paper. The surprising and unsuspected richness of the isopod fauna is well illustrated by the growing number of new species and records coming from a relatively small area around the Smithsonian Institution's field laboratory on Carrie Bow Cay, Belize.

Unless otherwise indicated, all material dealt with in this paper was collected by the authors.

Family Anthuridae *Licranthura*, new genus

Diagnosis.—Pleonites 1-5 short, free. Telson lacking statocysts. Tailfan cup-like, expanded, margins serrate, uropodal exo-

pod with spike-like lobe. Antennular flagellum of 3 articles, terminal article with 2 aesthetascs. Antennal peduncle article 3 with serrate triangular process, flagellum of 6 articles. Mandible lacking molar process. Maxilliped palp of 5 articles. Pleopod 1, rami separate, together forming operculum. Pereopod 1, propodus somewhat enlarged, larger than pereopods 2 and 3.

Remarks.—The lack of statocysts and a mandibular molar, the spike-like lobe on the uropodal exopod, the serrate tailfan margins, the free anterior five pleonites, the non-subchelate pereopod 1, the poorly developed opercular pleopod 1 with both rami contributing, all point to a similarity to two genera, *Eisothistos* Haswell, 1884, and *Stellanthura* Wägele, 1979. *Licranthura* differs from both in several aspects. *Eisothistos* possesses fused rami of pleopod 1, lacks a mandibular palp, and has pereopod 1 of about the same size as pereopods 2 and 3. *Stellanthura* possesses a mandibular palp, a reduced molar, and four articles in the maxillipedal palp. Neither of these genera possess the unusual serrate lobe of the third

peduncular article of the antenna. The function of these structures can only be speculated on: possibly it is related to some feeding behavior. The splayed and serrate tailfan would suggest that this species also preys on some tubicolous organism as does *Eisosthis*.

Etymology.—The generic name is derived from the Greek *likros*, an antler (referring to the structures on antennae), plus the commonly-used suffix “anthura.”

Licranthura amyle, new species

Figs. 1, 2

Material.—HOLOTYPE, USNM 211408, ♀ tl 3.2 mm; sta H-15, Carrie Bow Cay, Belize, from *Agaricia* coral in forereef crest, 15 m, 20 Apr 1981, coll. G. Hendler.

PARATYPES, USNM 211409, ♀ tl 3.8 mm; sta H-1, Twin Cays, Belize, *Caulerpa* alga around red mangrove roots, 0–2 m, 17 Apr 1981, coll. G. Hendler.—USNM 211410, manca tl 1.9 mm; sta H-7, off Glover's Reef, Belize, 15–21 m, 24 Mar 1980, coll. G. Hendler.—USNM 211411, ♀ tl 2.8 mm; sta H-8, Carrie Bow Cay, Belize, from *Madracis* coral on forereef crest, 15.2 m, 19 Apr 1981, coll. G. Hendler.—USNM 211412, 3 ♀ tl 3.1, 3.5, 3.6 mm; sta H-11, Carrie Bow Cay, Belize, from *Madracis* coral on forereef crest, 15.2 m, 19 Apr 1981, coll. G. Hendler.—USNM 211412, ♀ tl 2.8 mm; sta H-16, Carrie Bow Cay, Belize, from *Agaricia* coral on forereef crest, 15.2 m, 20 Apr 1981, coll. G. Hendler.—USNM 211414, ♀ tl 3.0 mm; sta H-41, Carrie Bow Cay, Belize, from *Agaricia* on reef platform, 1–2 m, 25 Apr 1981, coll. G. Hendler.—USNM 211415, manca tl 1.9 mm; sta H-49, Carrie Bow Cay, Belize, from *Porites* coral on reef flat, 1–2 m, 26 Apr 1981, coll. G. Hendler.—USNM 211416, 2 ♀ tl 2.5, 2.8 mm; sta H-85, Carrie Bow Cay, Belize, from coral rubble and algae on forereef dropoff, 24.4–27.4 m, 21 Apr 1981, coll. G. Hendler.—USNM 211417, 2 ♀ tl 2.8, 3.0 mm; sta K-101, Carrie Bow Cay, Belize, coral rubble

near drop-off, 25 m, 14 Apr 1981.—USNM 211418, ♀ tl 3.8 mm; sta K-142, Carrie Bow Cay, Belize, lower spur and groove zone, 11 m, 5 Dec 1982.—USNM 211419, ♀ tl 3.9 mm; sta K-162, between Carrie Bow Cay and South Water Cay, Belize, coral rubble from patch reef area, 6–8 m, 27 Nov 1985.

Description.—Female: Body slender, about 12 times longer than wide, widest at pereonite 1. Faint diffuse brown pigment most noticeable on dorsolateral margins of somites; cephalon with faint dorsal reticulation. Body proportions: $C < 1 > 2 = 3 < 4 = 5 > 6 > 7$. Pleonites short, similar in length. Telson thin, dorsally faintly concave, basally narrow, widening posteriorly to truncate or faintly bilobed serrate posterior margin.

Cephalon with small well pigmented eyes. Antennular peduncle of 3 articles, basal article longest and widest; flagellum of 3 articles, article 2 about 5 times length of terminal article, latter bearing 2 aesthetascs. Antennal peduncle with article 3 produced mediodistally into triangular process bearing 6 serrations on medial margin, process reaching distally beyond article 4, latter with medial margin flexed, resulting in article 5 and flagellum being borne at right angle to axis of body; flagellum of 6 setose articles. Mandibular palp of 3 articles, article 2 three times length of article 3, latter bearing 2 fringed spines distally; incisor of 3 blunt cusps directed anteriorly; lamina dentata of 5 marginal serrations; molar absent. Maxilla bearing 7 distal spines. Maxilliped with short endite tipped with 2 setules; palp of 5 articles, basal article very short, terminal article small, bearing 4 elongate setae.

Pereopod 1 larger than pereopods 2 and 3; dactylus articulating distally on propodus, with strong sclerotized unguis having smaller squat spine, thin-walled elongate spine, and 4 slender setae at its base; posterior margin having finely fringed ridges; propodus basally slightly broader than distally, having 2 fringed spines anterodistally and few elongate setae on posterior margin;

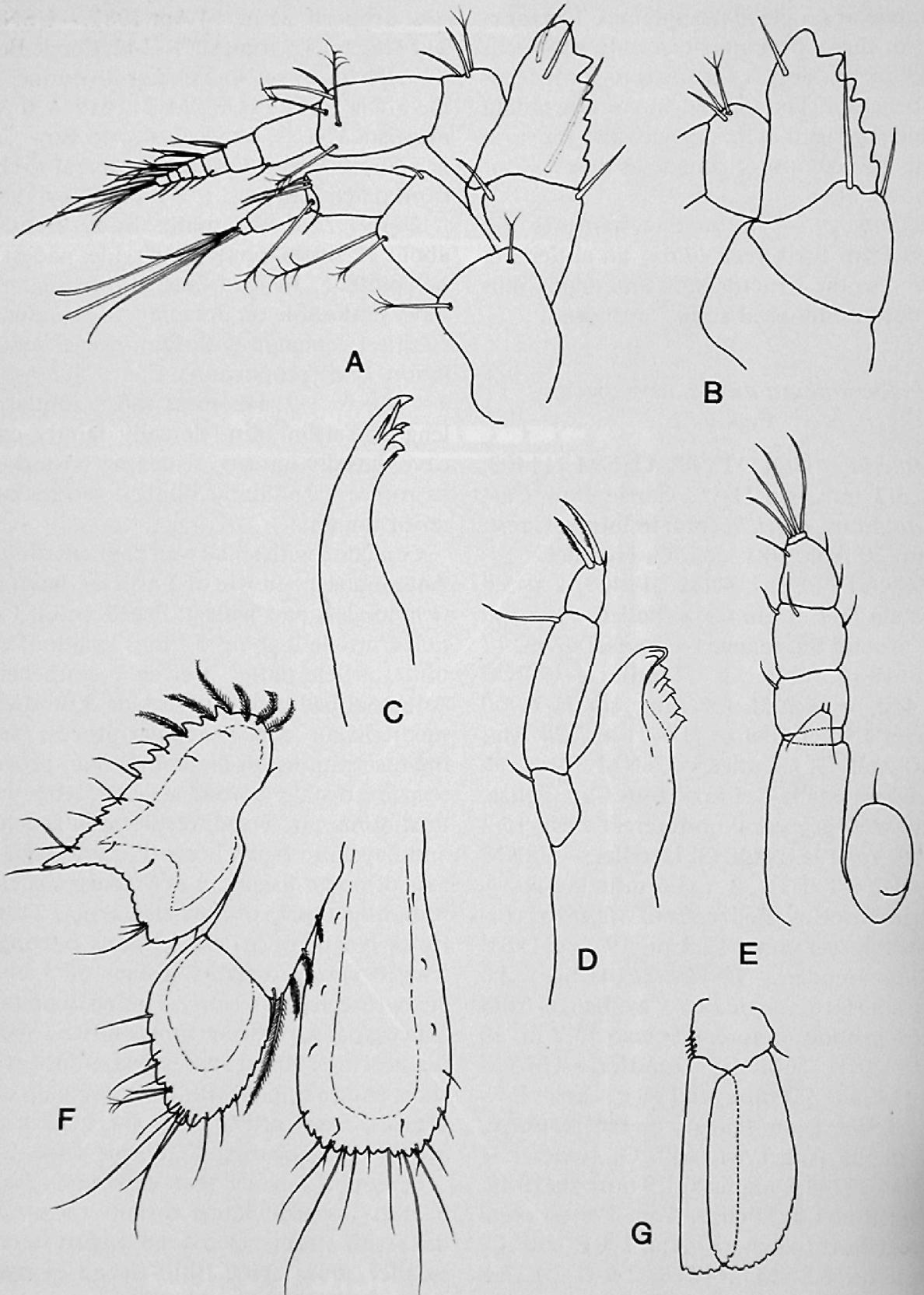


Fig. 1. *Licranthura amyle*, non-ovigerous ♀: A, Antennule and antenna; B, Antennal process enlarged; C, Maxilla; D, Mandible; E, Maxilliped; F, Uropod and telson; G, Pleopod 1.

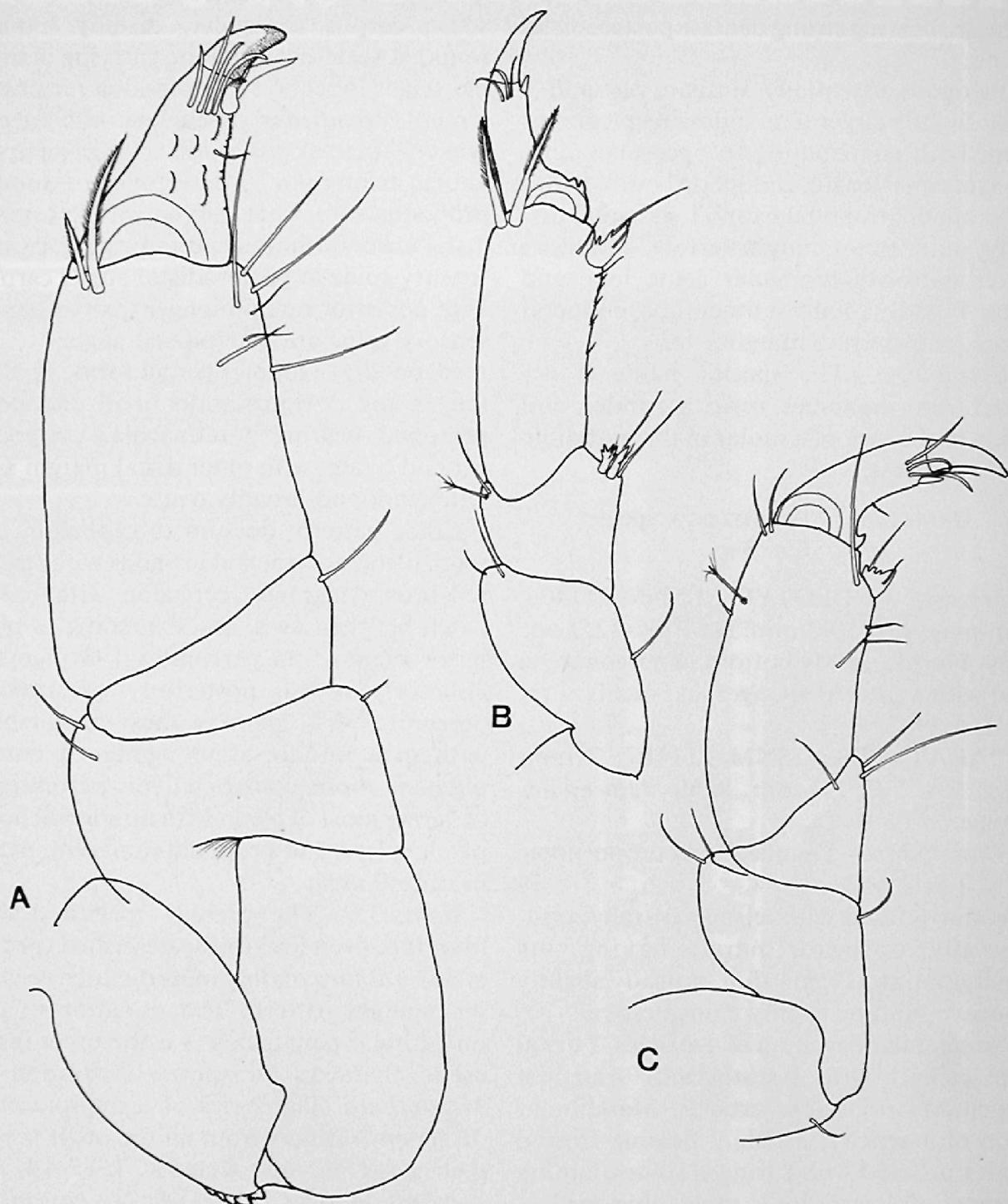


Fig. 2. *Licranthura amyle*, non-ovigerous ♀: A, Pereopod 1; B, Pereopod 7; C, Pereopod 2.

carpus short, with posterior margin longer than anterior; merus, ischium, and basis broad squat articles; basis having 4 or 5 broad serrations posterodistally. Pereopod 2, unguis about half length of remainder of dactylus, with small accessory spine at base; hook-like tooth present on posterior margin

near articulation with propodus; latter roughly rectangular, with squat dentate spine posterodistally. Pereopods 5-7, dactylus with 2 basal serrations; propodus rectangular, with strong dentate posterodistal spine, 2 anterodistal fringed spines; carpus with posterior margin longer than anterior

margin, bearing strong dentate posterodistal spine.

Pleopods essentially similar; pleopod 1 only slightly larger than following pleopods, rami both contributing to opercular function, of equal length, endopod about $\frac{2}{3}$ width of exopod. Uropodal exopod widening distally, outer (free) margin serrate, ending in outer narrowly triangular acute lobe and more broadly rounded inner lobe; endopod ovate, with serrate margin.

Etymology.—The specific name is derived from the Greek *myle*, a grinder, and refers to the lack of a molar in the mandible of this species.

Mesanthura looensis, new species

Fig. 3

Material.—HOLOTYPE, USNM 211406, non-ovig. ♀, tl 10.0 mm; sta FLK-22, Looe Key, Florida, sandy bottom in gorgonacean bed with scattered sponges and corals, 1 m, 26 Jan 1983.

PARATYPES, USNM 211407, 2 non-ovig. ♀, tl 7.0, 7.0 mm. Same data as holotype.

Description.—Female: Body proportions, C < 1 = 2 > 3 < 4 = 5 = 6 > 7 = Pl. Pleonite 6 fused with telson ventrally; middorsally, posterior margin having tiny emargination. Telson thin, dorsally slightly concave, outline evenly elongate-oval.

Antennular flagellum of 4 articles, 2 distal articles each with 2 aesthetascs. Antennal flagellum of 5 setose articles. Mandibular palp of 3 articles, article 2 bearing fringed scales; article 3 with 8 fringed spines; lamina dentata of 4 serrations; molar thin-walled, truncate. Maxilliped lacking endite; palp of 3 articles, terminal article semicircular in outline, with 2 fringed setae and 3 simple setae on medial margin.

Pereopod 1 subchelate, unguis slightly less than half length of remainder of dactyl; propodus expanded, palm with proximal rounded scale-bearing lobe armed with 6

setae; carpus triangular, distally having rounded scale-bearing lobe carrying 5 simple setae. Pereopod 2, propodus rectangular, not expanded or subchelate, with serrate sensory spine at posterodistal angle; carpus short, triangular. Posterior pereopods, propodus somewhat curved, with posterodistal series of short setae and strong serrate sensory spine at posterodistal angle; carpus with posterior margin longer than anterior, sensory spine at posterodistal angle.

Pleopod 1, exopod operculiform, slightly longer and 3 times wider than endopod; protopod bearing 5 retinacula. Uropodal exopod ovate, with outer distal margin sinuate; endopod broadly ovate.

Color pattern: dorsum of cephalon, pereon, pleon, telson, and uropods with strong red-brown pigment; cephalon with broad patch between eyes, and extending to posterior margin; on pereonites 1–3 pigment anteriorly broad, posteriorly constricted; pereonites 4–6 covering most of dorsum, with oval middorsal unpigmented patch; pigment more constricted on pereonite 7; covering most of pleon with middorsal open patch; telson and uropodal rami with patch in central area.

Remarks.—The present species differs from the seven previously described species of *Mesanthura* mainly in its distinctive dorsal pigment pattern. The spination of the mandibular palp article 3 is the other most useful character for species separation in *Mesanthura*. The series of eight spines in *M. looensis* differs from all the other seven species (*M. fasciata* Kensley, 1982–4, *M. hopkinsi* Hooker, 1985–4, *M. paucidens* Menzies & Glynn, 1968–6, *M. reticulata* Kensley, 1982–6, *M. punctillata* Kensley, 1982–7, *M. pulchra* Barnard, 1925–10, *M. floridensis* Menzies & Kruczynski, 1983–12–13).

Etymology.—The specific name is derived from the type locality, Looe Key, Florida.

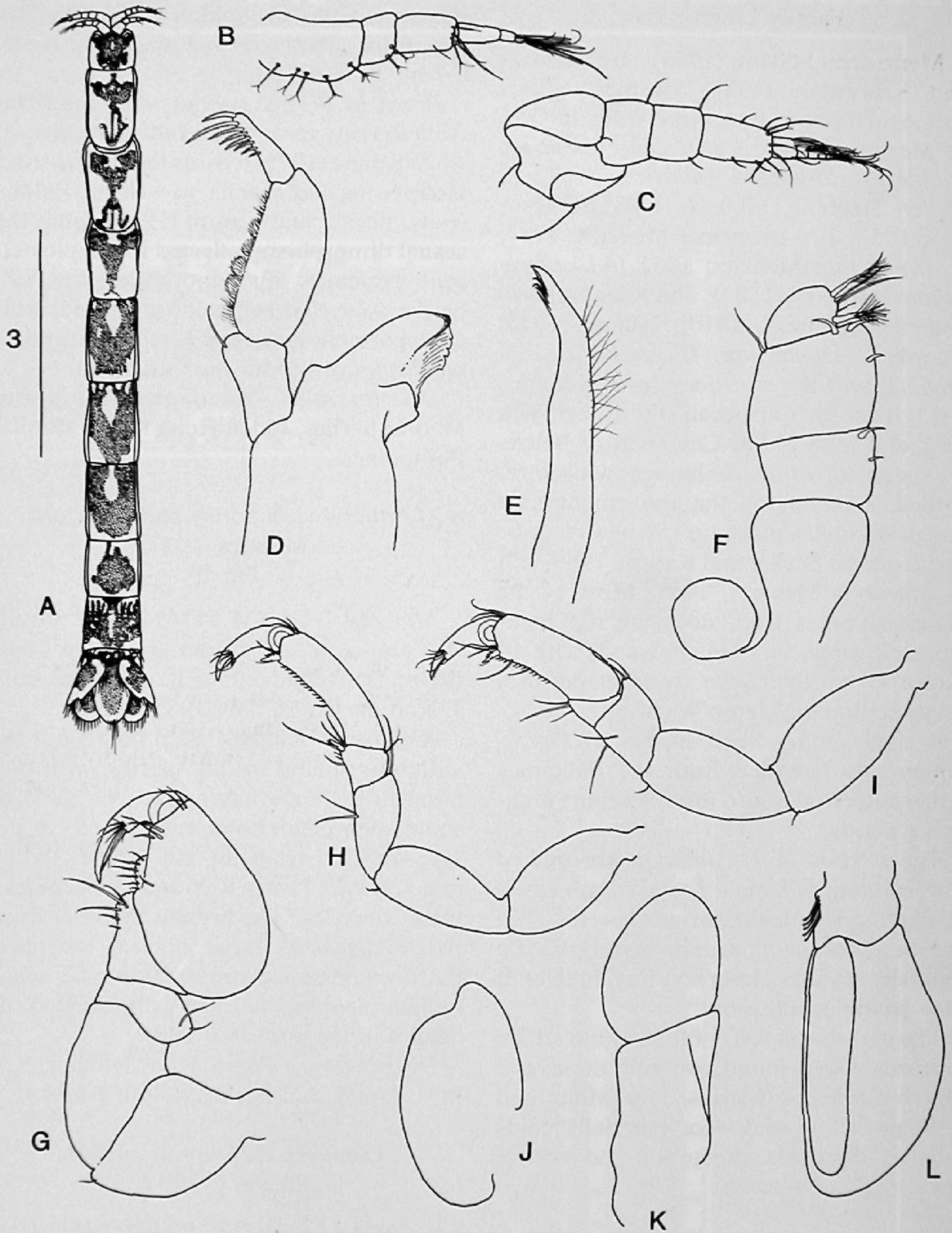


Fig. 3. *Mesanthura loeensis*, non-ovigerous ♀: A, Whole animal in dorsal view; B, Antennule; C, Antenna; D, Mandible; E, Maxilla; F, Maxilliped; G, Pereopod 1; H, Pereopod 7; I, Pereopod 2; J, Uropodal exopod; K, Uropodal endopod and basis; L, Pleopod 1.

Family Limnoriidae

Menzies and Glynn (1968), and Menzies and Kruczynski (1983) together list six species of limnoriids recorded from the Gulf of Mexico and the Caribbean. These are *Limnoria platycauda* Menzies, 1957, *L. pfefferi* Stebbing, 1904, *L. simulata* Menzies, 1957, *L. saseboensis* Menzies, 1957, *L. tripunctata* Menzies, 1951 (= *L. tuberculata* Sowinsky, 1884), and *Paralimnoria andrewsi* (Calman, 1910). Kühne (1975) records *L. tripunctata*, *L. saseboensis*, *L. pfefferi*, and *L. multipunctata* Menzies, 1957, from the Caribbean. From the Twin Cays and Man o'War Cay areas of Belize, six species of *Limnoria* have now been recorded, including all the abovementioned except *L. saseboensis*, plus two new records, viz. *L. indica* Becker and Kampf, 1959, and *L. unicornis* Menzies, 1957. Most of the material comes from decaying red mangrove (*Rhizophora mangle*) wood, with all except *P. multipunctata* co-occurring in a single station on Man o'War Cay.

A single undescribed species of *Phycolimnoria* is recorded from the Bahamas, rather surprisingly also from decaying mangrove wood.

The records of *L. simulata* are treated with caution, as female *L. indica* can easily be confused with the former species. The question of sexual dimorphism in *Limnoria* generally requires closer scrutiny, in light of such possible confusion.

The dark-green tests of folliculinid ciliate protozoans were found externally on several of the *Limnoria* species, (see Mohr and LeVeque 1948) and were especially common on the dorsal pleotelson and ventral coxae of *L. platycauda*.

Limnoria (Limnoria) indica
Becker and Kampf, 1959

Fig. 4

Limnoria indica Becker and Kampf, 1958: 3, figs. 2-4.—Kühne, 1975:546, figs. 3, 4.

Material.—USNM 211422, 56 speci-

mens, sta CBC K166, Man o'War Cay, Belize, from submerged red mangrove roots, 0.5 m, 29 Nov 1985.

Remarks.—This species was described from the east coast of the Indian Peninsula, while Kühne (1975) records the species from Hong Kong and Manila, as well as Madras, India. Becker and Kampf (1959) detail the sexual dimorphism reflected in the pleotelsonic structure; this dimorphism may well be the source of confusion in the identification of such species as *L. simulata* and *L. quadripunctata* from the Caribbean.

Distribution.—Mandapam Camp and Madras harbor, India; Hong Kong; Manila, Philippines.

Limnoria (Limnoria) multipunctata
Menzies, 1957

Fig. 5

Material.—USNM 211421, 4 ♂, 6 ovig. ♀, 3 non-ovig. ♀, 7 immature, Twin Cays, Belize, from dead red mangrove wood, coll. J. Kohlmeyer, 28 Nov 1985.

Remarks.—Kühne (1975) points out the variability found in this species, with material from Japan having the two pairs of submedian pleotelsonic tubercles as in the type material from the Kai Islands, while material from Puerto Rico and Jamaica lacks these tubercles. The present material from Belize also lacks these anterior tubercles, but does possess a strong middorsal longitudinal pleotelsonic ridge with rounded tubercles in the posterior half.

Distribution.—Puerto Rico; Jamaica; Koniya, Japan; Kai Islands (South Pacific).

Limnoria (Limnoria) pfefferi
Stebbing, 1904

Limnoria (Limnoria) pfefferi: Menzies, 1957:135, fig. 15.—Kühne, 1975: 547, fig. 7.

Material.—USNM 221621, 12 specimens, Twin Cays, Belize, under red mangroves, 24 Oct 1979.—USNM 221623, 7 specimens, sta H-6(80), Glover's Reef, Be-