

FURTHER RECORDS OF MARINE ISOPOD CRUSTACEANS FROM THE CARIBBEAN

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Abstract.—Five species of isopods are described from Belize. The anthurid *Mesanthura bivittata*, new species, is characterized primarily by its double-barred dorsal color pattern. The idoteid *Miratidotea bruscai*, new genus and species, is characterized chiefly by possessing a pleon consisting of two complete and two incomplete pleonites plus pleotelson. The cirolanid *Anopsilana jonesi*, new species, can be distinguished by its non-projecting pentagonal frontal lamina and a color pattern having a dark central area on the pereonites. *Eurydice personata* (family Cirolanidae), often confused with *E. convexa* and *E. littoralis*, is characterized by the possession of a slender, lanceolate frontal lamina. The new cirolanid genus and species *Xylolana radiccicola*, taken from dead mangrove roots, features a fused rostrum and frontal lamina, a strongly projecting clypeus, an overlapping fourth pleonite, distally articulating copulatory stylet, and a produced uropodal sympod. The sphaeromatid *Paraleptosphaeroma glynni*, described from Pacific Panama, is recorded for the first time from the Caribbean.

Anyone following the literature on Caribbean marine isopods will have noted a series of my papers, appearing at irregular intervals, and often covering material from Belize. No doubt the question has been raised: why this dribble of short papers, instead of a single comprehensive work? In compiling a guide to the marine isopods of the Caribbean, I am attempting to deal with as many species as possible, and as new material becomes available, it has been necessary to publish new species before including them in the abovementioned guide. A further factor has contributed to this plethora of titles, viz. continued sampling in the area around Carrie Bow Cay, Belize, over the past nine years. With such concentrated sampling, it is inevitable that rarer species eventually are collected, and that as more and more specialized habitats are investigated, new species will be revealed. As an example of the latter case, see the description in this paper, of a new genus and species, collected less than one hundred meters from the field

laboratory on Carrie Bow Cay. This was the first time, however, that the root-mat of the seagrass *Syringodium* had been sampled. No doubt similar concentrated collecting in other areas of the Caribbean will reveal yet more undescribed forms, and this trickle of taxonomic papers will perforce continue.

Family Anthuridae

Mesanthura bivittata, new species

Figs. 1, 2

Material.—Holotype, USNM 221718, ovig. ♀ TL 7.8 mm. Paratypes, USNM 221719, 1 non-ovig. ♀ TL 7.8 mm, 2 ♂ 5.2 mm, 6 immature specimens 3.0-4.8 mm. Twin Cays, Belize, in red mangroves, 1-2 m, coll. G. Hendler 28 Mar 1980.

Description.—Non-ovigerous female: Proportions C < 1 = 2 > 3 < 4 = 5 = 6 > 7. Cephalon with low rounded rostrum; large well pigmented dorsolateral eyes. Articular hollow between pereonites 1 and 2, and 2 and 3. Pleonites 1-5 fused, subequal to per-

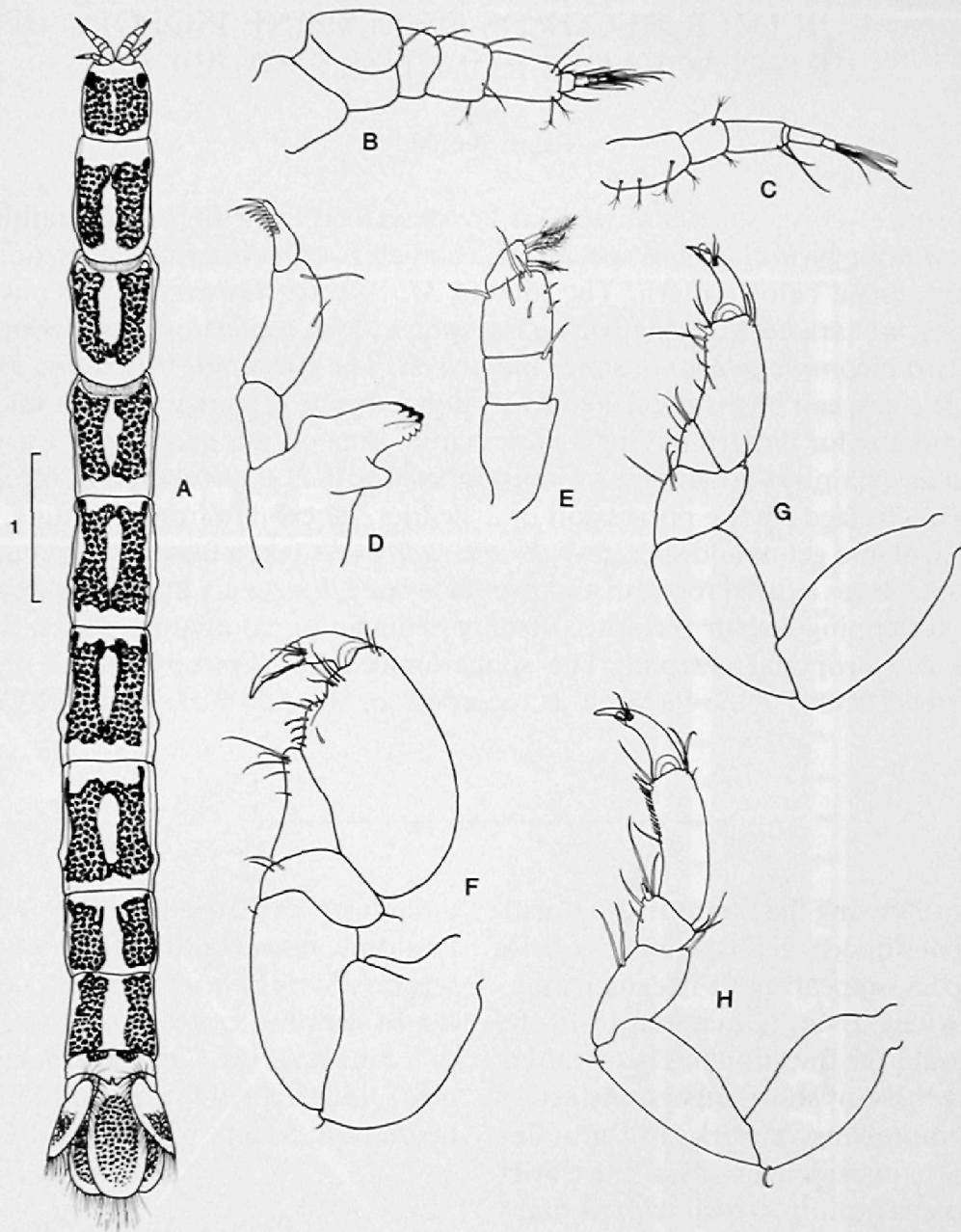


Fig. 1. *Mesanthura bivittata*, ovigerous female: A, Entire animal in dorsal view; B, Antenna; C, Antennule; D, Mandible; E, Maxilliped; F, Pereopod 1; G, Pereopod 2; H, Pereopod 7.

eonite 7 in length; pleonite 6 dorsally free, with small middorsal notch in posterior margin. Telson widest at midlength, posterior margin broadly rounded and bearing numerous elongate simple setae.

Antennular peduncle of 3 articles, basal article longest and broadest; flagellum of 3 articles, terminal article bearing 3 aesthetascs. Antennal peduncle of 5 articles; flagellum of 4 short setose articles. Mandibular palp of 3 articles, terminal article with 8 or

9 spines; incisor of 3 sclerotized cusps; lamina dentata with 4 serrations. Maxilliped lacking endite; palp of 3 articles, terminal article narrower than preceding article, bearing 3 stout fringed setae on medial margin. Pereopod 1, carpus distally rounded; propodus expanded, palm with rounded lobe in proximal half bearing few marginal setae; unguis subequal to rest of dactylus in length. Pereopod 2, carpus short, triangular, lacking free anterior margin; propodus not expand-

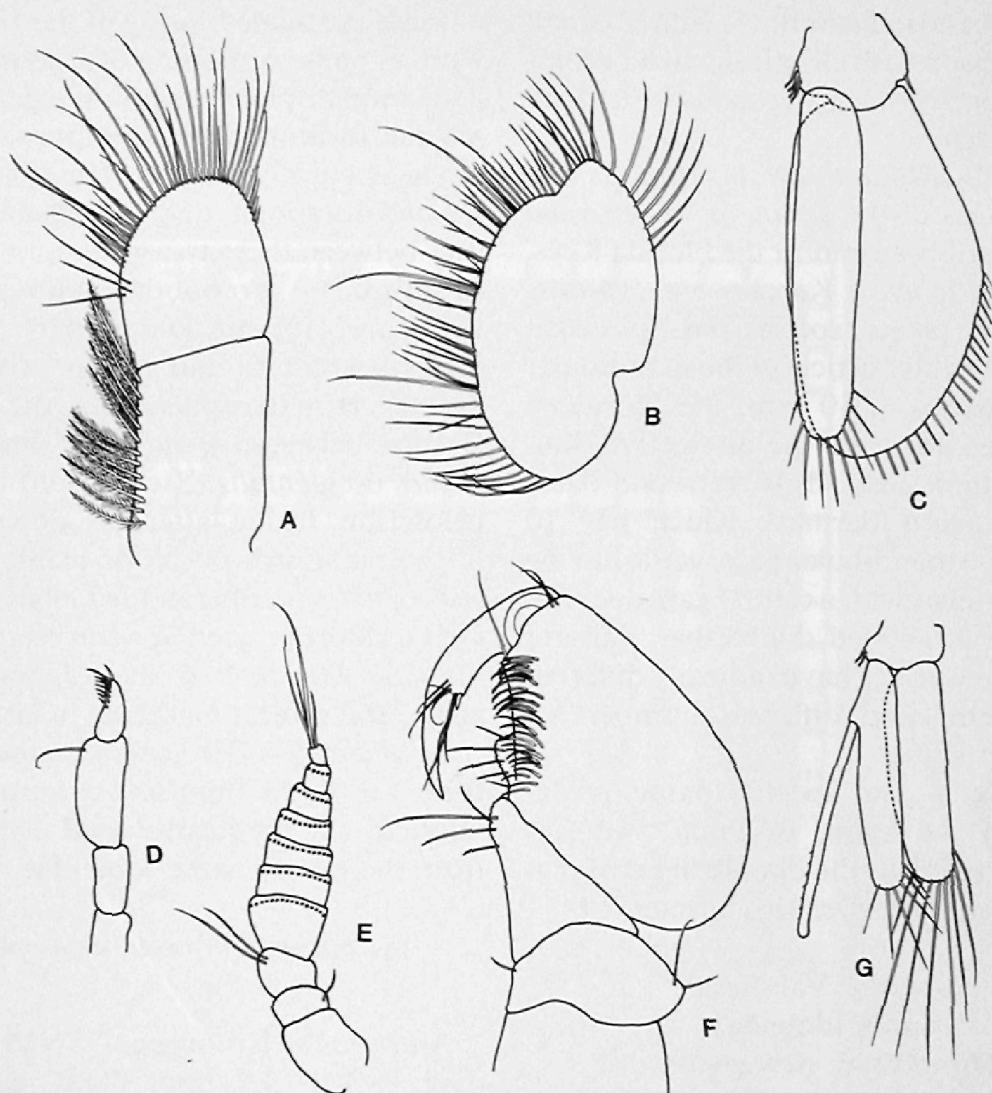


Fig. 2. *Mesanthura bivittata*, ovigerous female: A, Uropodal endopod and sympod; B, Uropodal exopod; C, Pleopod 1. Male: D, Mandible; E, Antennule, aesthetascs indicated by insertions only; F, Pereopod 1; G, Pleopod 2.

ed, bearing single short posterodistal spine. Pereopods 4–7, carpus with anterior margin shorter than posterior, latter with single sensory spine; propodus with row of short spinules in distal half of posterior margin plus single sensory spine. Pleopod 1, exopod operculiform, subequal in length but 3 times wider than endopod; latter with 10 distal plumose setae. Uropodal exopod with notch in distal margin; most of margin bearing elongate setae; endopodal distal margin broadly rounded, bearing numerous elongate setae.

Male: Antennular flagellum of 7 articles, first 6 bearing distal band of aesthetascs.

Mandible consisting of palp attached to short featureless basal structure. Pleopod 2, endopod with copulatory stylet articulating in proximal half, slender, cylindrical, distally rounded, reaching well beyond apex of ramus.

Color pattern.—Similar in male and female. Large dark-brown chromatophores arranged in broad patch on cephalon stretching from eyes to posterior margin, with narrow elongate gap along midline; pereonites 1–6 with 2 broad elongate bands separated by fairly wide gap, bands touching anteriorly and/or posteriorly; pereonite 7 and fused pleonites 1–6 each with 2 widely

separated bands. Pleonite 6 with 2 small patches. Telson with elliptical patch becoming posteriorly obsolete. Uropods with broad patch on each.

Remarks.—*Mesanthura bivittata* is the eighth species of the genus to be recorded from the Caribbean and/or the Florida Keys. *Mesanthura looensis* Kensley and Schotte, 1987, like the present species, possesses eight spines on the third article of the mandibular palp. Ovigerous at 10 mm, the Floridean species does not have the distinctive double-bar pattern seen in *M. bivittata*. *Mesanthura pulchra* Barnard, which has 10 spines on the mandibular palp, while having pigment patches with a central gap, does not have the well defined double-bar. The remaining five species have radically different color patterns and different numbers of mandibular spines.

Etymology.—The specific name is derived from the Latin, meaning 'two ribbons,' and refers to the double band of pigment that characterizes this species.

Suborder Valvifera

Family Idoteidae

Miratidotea, new genus

Diagnosis.—Antennal flagellum of single clavate article. Maxillipedal palp of 4 articles. Pleon consisting of 2 complete pleonites, 2 incomplete pleonites, plus pleotelson. Uropods uniramous.

Type species.—*Miratidotea bruscai*, new species. Gender: masculine.

Remarks.—Brusca (1984) placed the subfamily Idoteinae (to which the present genus and species clearly belong) on a sound taxonomic footing, with a phylogenetic analysis of the group. Using in particular the form of the pleon, this author presented a schematic plan (fig. 3) of the possible phylogenetic pathways that gave rise to the approximately 21 known genera of the subfamily. In this plan Brusca postulated several stages for which no forms are yet known. The present species clearly fits one

of these postulated forms in the Lineage A, with its pleon consisting of 2 complete and 2 incomplete pleonites plus pleotelson. This pleonal formula places the present species phylogenetically close to *Cleantioidea* Kensley and Kaufman, and indeed the similarities between these two genera, in antennal, mouthpart, pereopodal, and uropodal structure, are marked. Apart from the pleonal structure and minor proportional differences in the appendages, the main difference between *Miratidotea* and *Cleantioidea occidentalis* (Richardson) lies in the pleotelson. In the latter, the dorsal margin of the planiform posterior pleotelson consists of two broadly rounded lobes (in dorsal view), barely projecting when seen in lateral view. In *Miratidotea*, these lobes are subacute, and project markedly in lateral view.

Etymology.—The generic name derives from the Latin 'miratio,' a surprise, plus 'idotea,' the frequently-used suffix taken from the family name Idoteidae.

Miratidotea bruscai, new species

Figs. 3, 4

Material.—Holotype USNM 221720, ovig. ♀ TL 13.0 mm; paratypes USNM 221721, 2 ovig. ♀ TL 10.2 mm, 11.5 mm; Carrie Bow Cay, Belize, from root-mat of seagrass *Syringodium filiforme* in 1.5 m depth, coll. B. Kensley, 11 Dec 1986.

Description.—Ovigerous female: Body elongate-cylindrical, about 6 times longer than wide. Anterior margin of cephalon with tiny midline notch in dorsal view. Eyes dorsolateral, reniform. Sparsely scattered setae over most of dorsal integument, but dense on posterior margin of pereonite 7 and coxa 7, and anterolateral pleon. Pereonite 1 and coxa fused; coxae 2–4 about half lateral length of pereonite, elongate-oval in shape; coxae 5–7 produced posteriorly into triangular subacute lobe. Pleonites 1 and 2 complete, subequal, ventrally tapering to narrowly-rounded free margin; pleonite 3 incomplete, with narrowly-rounded free

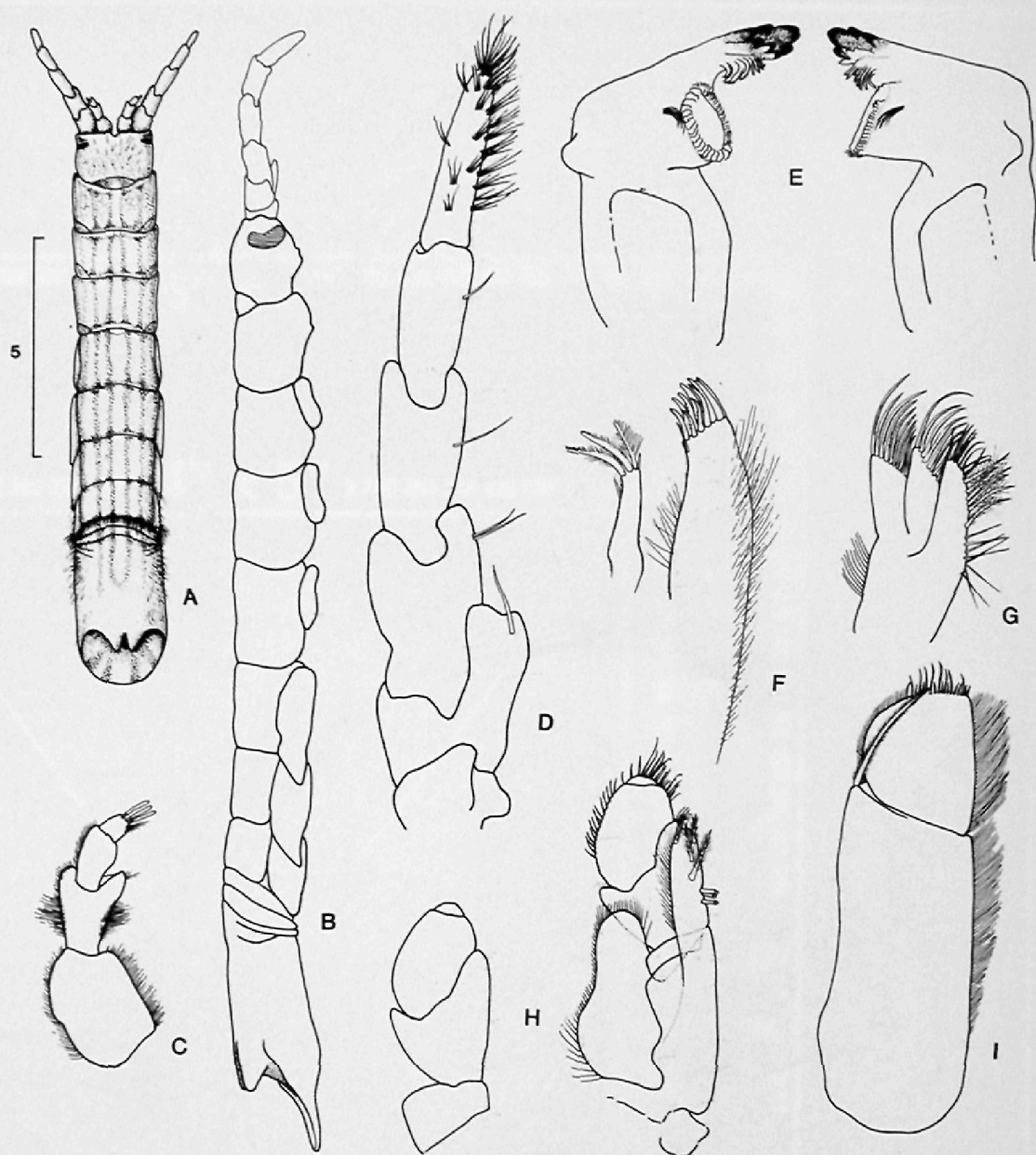


Fig. 3. *Miratidotea bruscai*, ovigerous female: A, Holotype in dorsal view; B, Whole animal in lateral view; C, Antennule; D, Antenna; E, Left and right mandibles; F, Maxilla 1; G, Maxilla 2; H, Maxilliped, with palp shown separately; I, Uropod.

ventral margin; pleonite 4 incomplete, lacking free ventral margin. Posterior planiform area of pleotelson with dorsal margin armed with 2 triangular submedian subacute posteriorly-directed lobes; ventral margin broadly rounded and forming posterior margin of pleotelson.

Antennule with 3-articled peduncle, basal article broadest and longest; article 2 triquestrous, distally hollowed for articulation of article 3; flagellum of single article about

half length of peduncle article 3, bearing 3 distal aesthetascs. Antenna with peduncle of 5 articles, article 2 produced ventrally into broad lobe; flagellum of single clavate article bearing numerous ventrodistal setae. Mandible lacking palp; incisor of 4 cusps; lacinia of 3-4 cusps; 8 spines in spine-row; molar stout, distally with flattened circular surface. Maxilla 1, inner ramus with 3 distal fringed setae; outer ramus with about 10 distal spines, some of which serrate. Maxilla

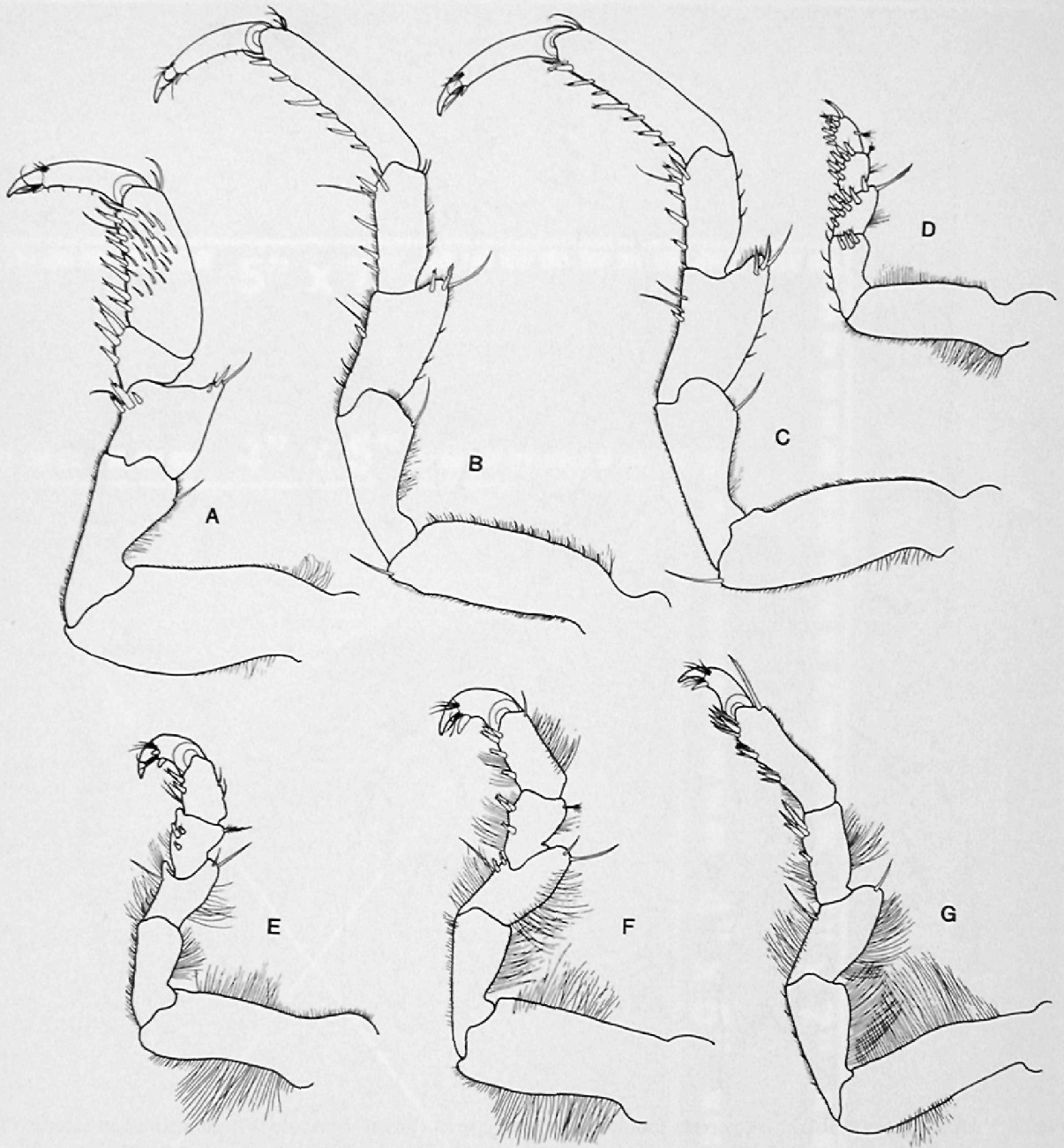


Fig. 4. *Miratidotea bruscai*, ovigerous female: A, Pereopod 1; B, Pereopod 2; C, Pereopod 3; D, Pereopod 4; E, Pereopod 5; F, Pereopod 6; G, Pereopod 7.

2, both lobes of outer ramus bearing numerous fringed spines; inner ramus with simple and sparsely fringed spines along mesial margin. Maxillipedal endite bearing 3 coupling hooks, several distal fringed spines; palp of 4 articles, article 2 longest and broadest, terminal article short. Pereopod 1, merus with 3 posterodistal spines; carpus triangular, with 4 posterodistal spines; propodus somewhat expanded, with 7 spines on posterior margin and numerous

smaller spines on mesial surface; unguis about half length of rest of dactylus. Pereopods 2 and 3 similar, longer than pereopod 1; merus with 2 anterodistal fringed spines; carpus roughly rectangular, with 5 sensory spines and one fringed spine on posterior margin; propodus elongate-rectangular, with 6 or 7 spines on posterior margin. Pereopod 4 short, equal in length to ischium and basis of pereopod 3; ischium with 3 distal spines; merus with 9 spines on posterodistal sur-

face; carpus with 8 spines on posterodistal surface; propodus with 7 spines on posterodistal surface; dactylus reduced to length of a spine but distally corneous. Pereopod 5, basis, ischium, and merus with elongate setules; carpus with 3 spines on posterior margin; propodus with 2 posterior spines; dactylus strongly hooked, approaching biunguiculate state. Pereopod 6 with elongate setules on basis, ischium, and merus; merus with 2 posterodistal spines; carpus with 4 posterodistal spines; propodus with 5 posterodistal spines; dactylus hooked, biunguiculate. Pereopod 7, elongate setules on basis, ischium, and merus; posterior margin of carpus with 2 separate, and clump of 4 spines on posterior margin; propodus with 3 clumps of spines on posterior margin; dactylus hooked, biunguiculate. Uropod with single ramus slightly less than half length of sympod, latter with elongate fringed seta at outer distal angle.

Color pattern.—Dorsal integument overall red-brown, with 6 darker longitudinal stripes running from pereonite 1 onto pleon. Cephalon with faint reticulation of color. Posteroventral area of pleotelson with 4 faint darker rays of brown.

Etymology.—The species is named for Dr. Richard C. Brusca, as a small recognition of his valuable contributions to isopod research.

Family Cirolanidae

Anopsilana jonesi, new species

Figs. 5, 6

Material.—Holotype, USNM 221722, ♂ TL 6.2 mm, paratypes, USNM 205679, 3 ♂ 5.6–6.7 mm, 5 non-ovig. ♀, 5.0–6.5 mm, 6 juvs. 2.2–4.5 mm, Sapodilla Lagoon, Sittee River, Belize, amongst red mangrove roots, coll. K. Fauchald, 9 Dec 1986.—Paratypes, USNM 205680, 2 ♂ 6.0–7.5 mm, 4 ovig. ♀ 5.4–6.0 mm, 17 juvs. 2.0–5.2 mm, Salt Creek, north of Dangriga, Belize, between red mangroves in 1 m, 31‰, 32°C, coll. M. Jones, 16 May 1977.—Paratypes,

USNM 205681, 4 ♂, 5.1–7.4 mm, 6 ♀, 5.0–7.0 mm, Anderson Lagoon, Sittee River, Belize, from amongst barnacles and mussels on red mangrove roots, coll. K. Fauchald, 11 Dec 1986.

Description.—Male: Body 2.6 times longer than wide, widest at pereonites 5 and 6. Cephalon somewhat sunken into pereonite 1, with small rostral point between antennular bases; eyes large, dorsolateral; three low dorsal tubercles near posterior margin; frontal lamina narrow-pentagonal, distal margin not projecting. Pereonite 1 with 4–6 low tubercles near posterior margin; pereonites 2–7 with several low submedian ridges. Coxae 2 and 3 narrow, posteriorly rounded; coxae 4–7 broader, posteroventrally somewhat produced to subacute apex. Pleonites 1–3 with free ventral margins rounded; pleonite 4 lacking free ventrolateral margins, with 2 low submedian tubercles on posterior margin. Pleotelson broadly triangular, posterior margin rounded, bearing 8–10 apical spines and numerous setae.

Antennular peduncle of 2 articles, basal article broader but slightly shorter than distal article; flagellum of 9–12 articles, distal 7–9 articles each bearing 1–3 aesthetascs. Antennal peduncle of 5 articles, 3 basal articles short, together equal in length to article 4, articles 4 and 5 subequal in length; flagellum of about 30 articles, reaching posteriorly to anterior of pereonite 5. Mandibular palp directed anteriorly, of 3 articles, article 2 longest, bearing about 12 fringed spines, article 3 with comb of about 16 spines on outer margin; incisor of 3 strong sclerotized cusps; lacinia having 5 cusps; 4 spines in spine-row; molar narrowly triangular, with row of short marginal spines. Maxilla 1, inner ramus with three stout setae; outer ramus with about 10 sclerotized spines, some of which spinulose, plus 1 central seta. Maxilla 2, 2 lobes of outer ramus short, outer bearing 4 spines, inner with 7–11 spines; inner ramus with 6 distal simple spines and 6–8 fringed proximal spines. Maxilliped, endite short, barely reaching beyond basal

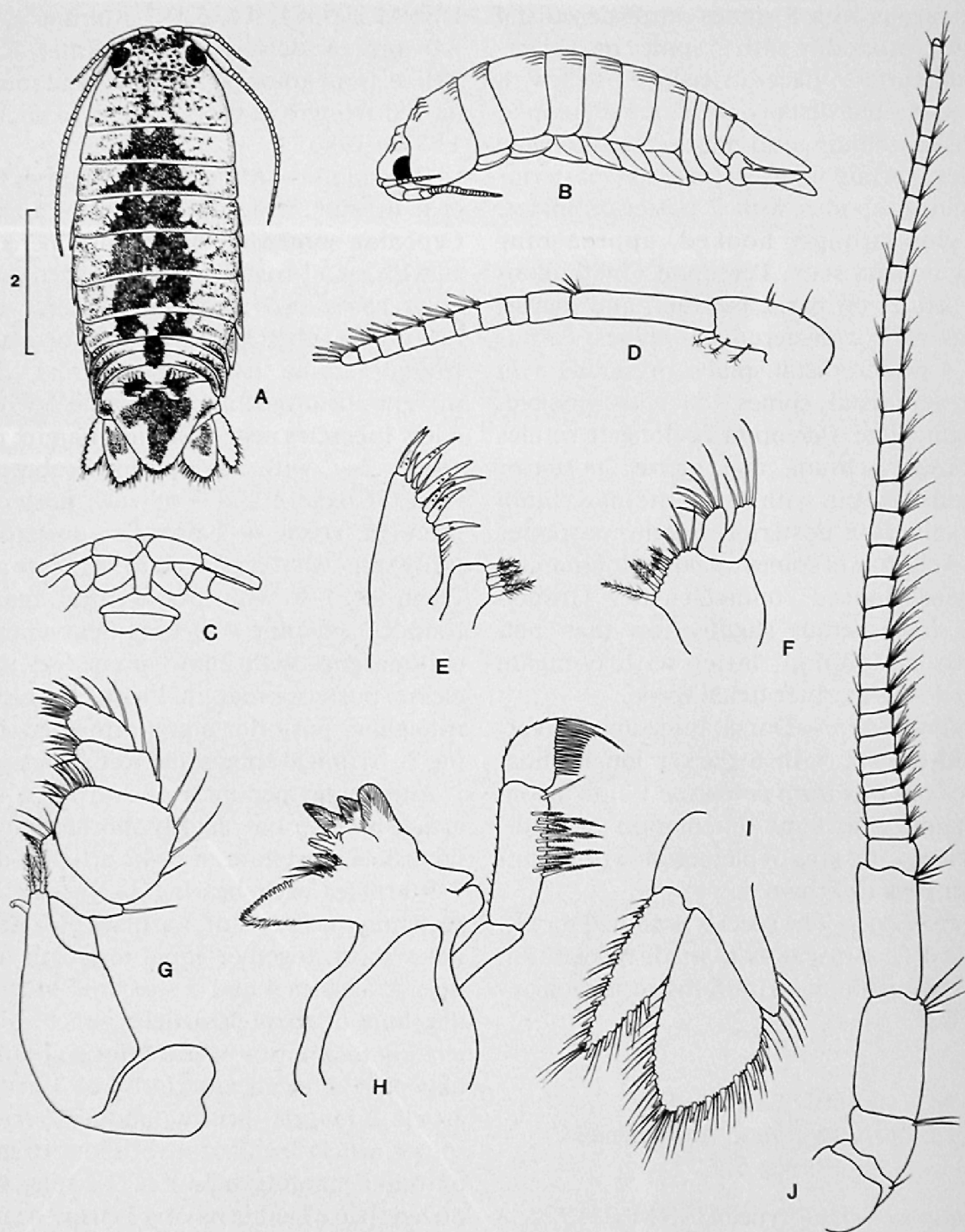


Fig. 5. *Anopsilana jonesi*, male: A, Entire animal in dorsal view; B, Entire animal in lateral view; C, Frontal lamina and clypeus; D, Antennule; E, Maxilla 1; F, Maxilla 2; G, Maxilliped; H, Mandible; I, Uropod; J, Antenna.

palp article, with 2-3 distal fringed setae and 1 or 2 coupling hooks; palp of 5 articles, article 3 longest and broadest; articles 3-5 each with group of mediobasal spines. Pereopods increasing in length posteriorly. Pereopod 1, merus with row of 6 blunt spines;

carpus short, with almost no free anterior margin, bearing single sensory spine posterodistally; propodus with spine at mid-length and single posterodistal spine. Pereopod 2 and 3 similar, ischium with 3 posterodistal spines and single large antero-