

FIGURE 28.—*Astacilla regina*, new species: *a*, ovigerous ♀, dorsal view; *b*, ♂, lateral view; *c*, mandible; *d*, maxilla 2; *e*, maxilliped; *f*, maxilla 1; *g*, antenna 1.

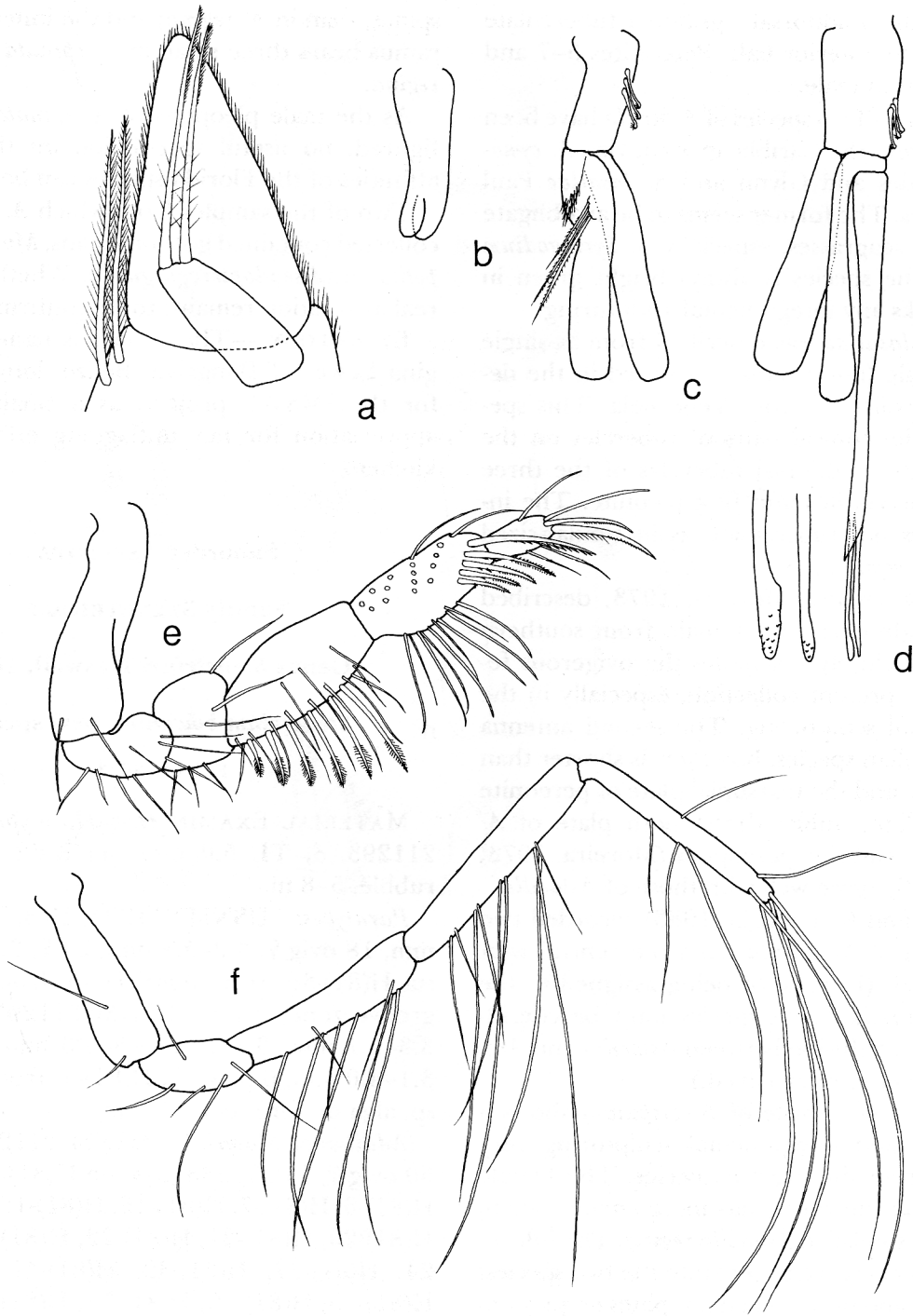


FIGURE 29.—*Astacilla regina*, new species: *a*, uropodal rami; *b*, penis; *c*, pleopod 1, ♂; *d*, pleopod 2, ♂, with apices of copulatory stylet enlarged; *e*, pereopod 1; *f*, pereopod 4.

riorly, with middorsal granular-tuberculate raised area in anterior half. Pereonites 5–7 and pleotelson as in male.

REMARKS.—Two species of *Astacilla* have been recorded from the Caribbean area, viz., *A. cymodocea* Menzies and Glynn and *A. lasallae* Paul and Menzies. The former seems to be an obligate epibiont of seagrasses, especially of *Syringodium filiforme*. The species is always bright green in life and lacks any integumental sculpturing.

*Astacilla lasallae* was described from a single juvenile male (not a female as stated in the description), collected from Venezuela. This species lacks the conical pairs of tubercles on the head and the middorsal tubercles of the three posterior pereonites and first pleonite. The integument is not tuberculate as in similar-sized males of *A. regina*.

*Arcturella sawayae* Moreira, 1973, described from a single ovigerous female from southern Brazil, very closely resembles the ovigerous female in the present collection, especially in the integumental sculpturing. The second antenna of the Brazilian species, however, is shorter than in *A. regina*, and the marsupial plate of pereonite 4 is granulate, unlike the smooth plate of *A. regina*. The anterior pereopods (Moreira, 1973, figs. 5 and 6) agree well with those of *Astacilla*.

Menzies and Kruczynski (1983) recorded two new species of *Arcturella* from the central west Florida shelf. (In spite of being assigned to the genus *Arcturella*, these species must be considered, as the confusion between *Astacilla* and *Arcturella* has yet to be resolved.)

The holotype female of *A. bispinata* shows a body form and integumental sculpturing very different from the present species. The female of *A. spinata*, however, has integumental sculpturing very similar to *Astacilla regina*. The following differences serve to separate the two species: the antero- and posteromedian spines on pereonite 4 of the female are much stronger in *A. spinata* than in *A. regina*; the inner ramus of maxilla 2 bears four stout setae in *A. spinata*, three in *A. regina*; the maxillipedal endite of *A. spinata* is distally more rounded and bears more fringed

spines, than in *A. regina*; and the inner uropodal ramus bears three setae in *A. spinata*, two in *A. regina*.

As the male pleopods of *A. spinata* were not figured, no useful speculation on the generic affinities of the Florida species can be made.

Two of the samples from which *A. regina* was collected contained gorgonaceans, *Muriceopsis* cf. *petila* and *Pseudopterogorgia* sp. Whether this is a real association remains to be confirmed.

ETYMOLOGY.—The species is named for Regina Lewis, of Dangriga, Belize, longtime cook for the IMSWE project, as a small token of appreciation for her unflagging efforts in the kitchen.

### Suborder ASELOTA

### Family STENETRIIDAE

### Genus *Stenetrium* Haswell, 1881

### *Stenetrium bowmani*, new species

FIGURES 30, 31

MATERIAL EXAMINED.—*Holotype*: USNM 211293, ♂, TL 5.0 mm, sta K-62, reef slope rubble, 5–8 m.

*Paratypes*: USNM 211294, 19 ♂, TL 3.8–6.0 mm, 18 ovig ♀, 3.2–5.2 mm, 24 ♀, 3.1–5.0 mm, sta H(81)-36, from *Agaricia* sp. from spur and groove zone, 9.1 m. USNM 211295, 9 ♂, TL 3.3–5.1 mm, 3 ovig ♀, 4.5–5.0 mm, 12 ♀, TL 3.1–4.0 mm, 6 juvs, sta H(81)-4, from *Halimeda* sp. alga on fore reef, 15.2 m.

*Additional Material*: USNM 211296, 120 ♂, 50 ovig ♀, 112 ♀, 238 juvs, sta H(81)-3, H(81)-5, H(81)-6, H(81)-7, H(81)-16, H(81)-18, H(81)-19, H(81)-20, H(81)-21, H(81)-22, H(81)-23, H(81)-24, H(81)-27, H(81)-39, H(81)-41, H(81)-42, H(81)-45, H(81)-49, H(81)-52, H(81)-53, H(81)-54, H(81)-55, from *Halimeda* sp. alga, and *Agaricia* sp. and *Porites* sp. coral in fore reef slope and spur and groove zone, 1–15.2 mm. USNM 211297, 34 ♂, 25 ovig ♀, 38 ♀, 46 juvs, sta H(80)-16, H(80)-26, H(80)-31, H(80)-32, H(80)-38,

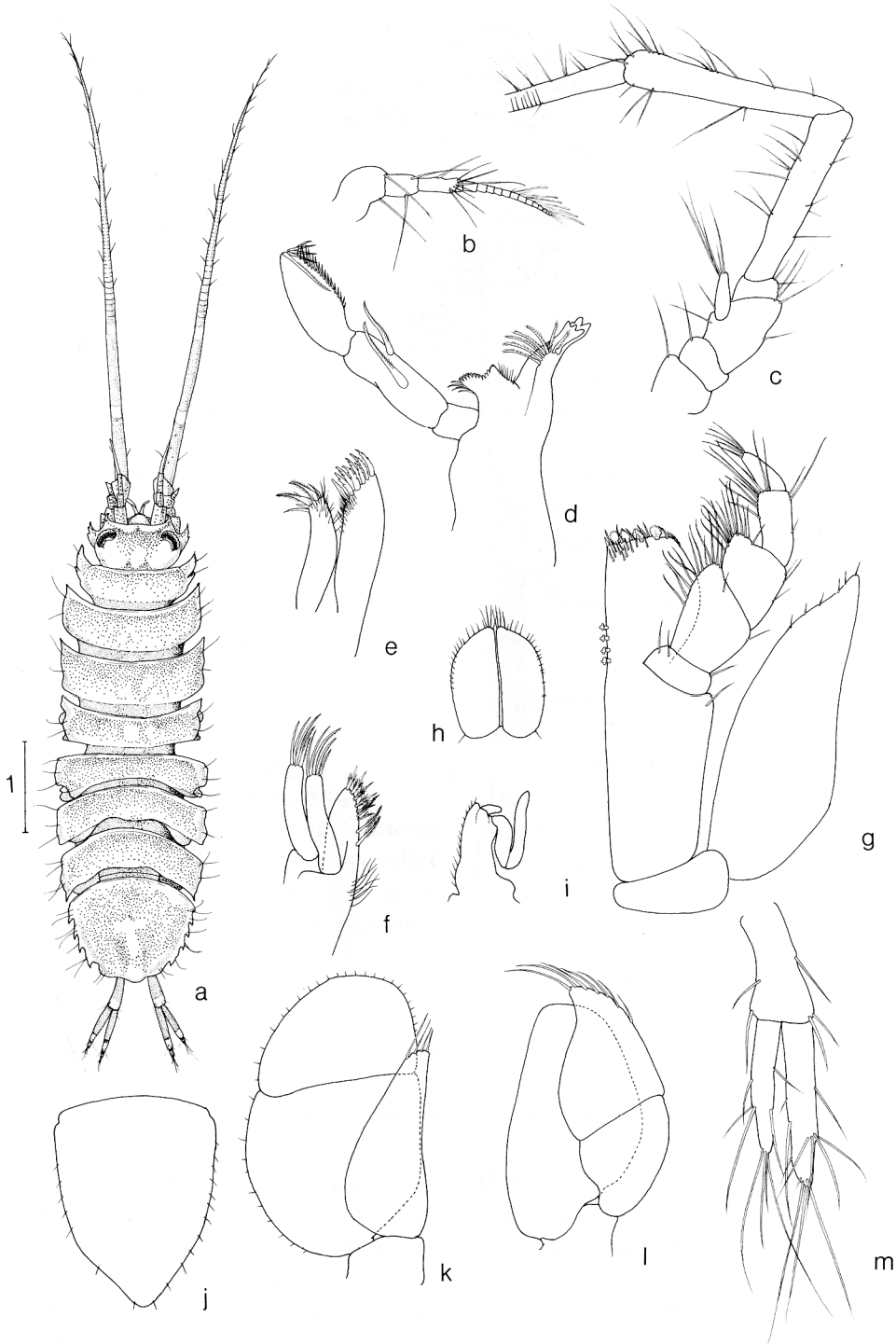


FIGURE 30.—*Stenetrium bowmani*, new species: *a*, whole animal, dorsal view; *b*, antenna 1; *c*, antenna 2, peduncle; *d*, mandible; *e*, maxilla 1; *f*, maxilla 2; *g*, maxilliped; *h*, pleopod 1, ♂; *i*, pleopod 2, ♂; *j*, operculum, ♀; *k*, pleopod 3, ♂; *l*, pleopod 4, ♂; *m*, uropod.

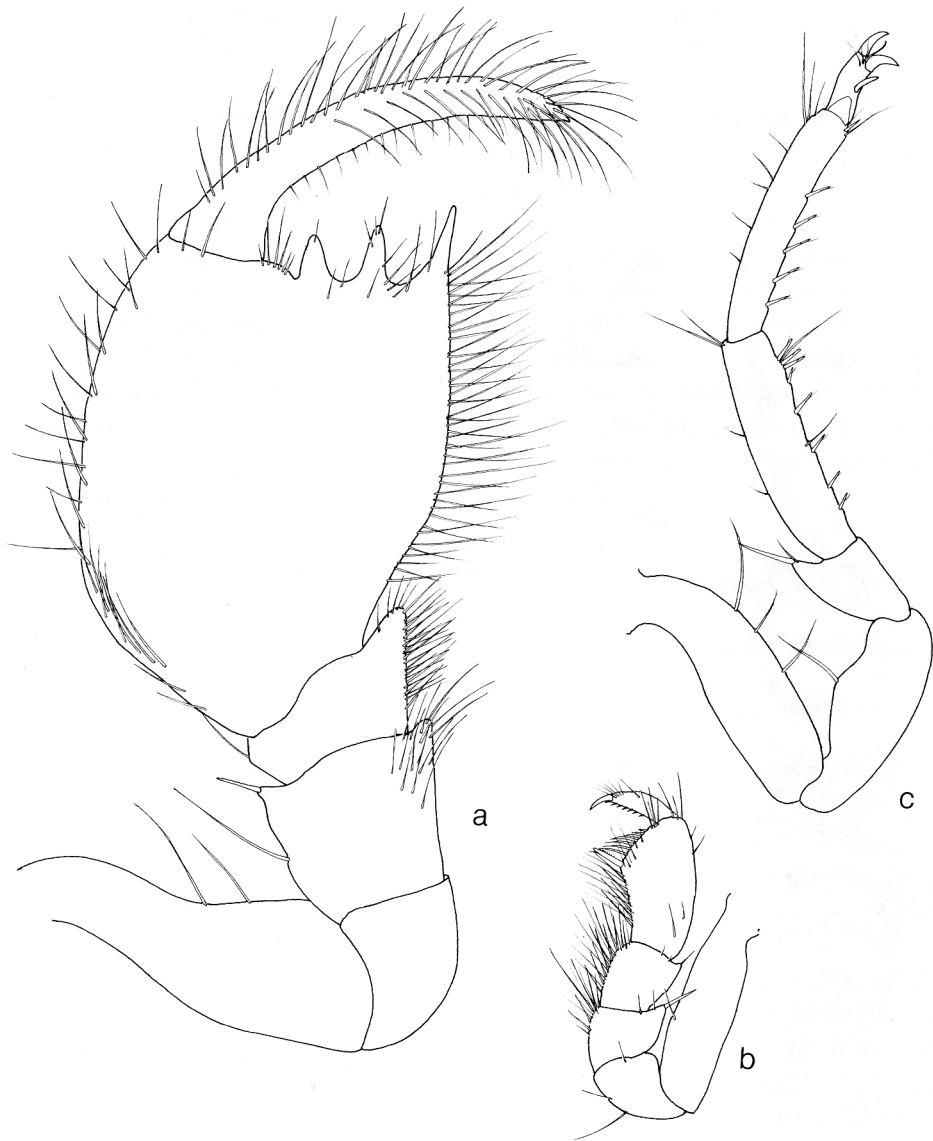


FIGURE 31.—*Stenotrium bowmani*, new species: a, pereopod 1, ♂; b, pereopod 1, ♀; c, pereopod 7.

H(80)-42, fore reef slope, 2–15 m. USNM 211298, 26 ♂, 16 ovig ♀, 18 ♀, 43 juvs, sta K-21, K-35, K-60, K-61, K-62, K-70, K-73, K-74, from rubble on outer reef slope, and on *Halimeda* sp. alga, 1–20 m. USNM 211299, 2 ♂, 1 ♀, sta CBC.4.5.74-3, from reef crest rubble, 0.5 m.

**DESCRIPTION.**—*Male*: Body about 3 times longer than wide, widest at pereonite 5. Head with dorsolateral eyes well pigmented, well raised above level of lateral margins; anterolateral lobes

of head acutely triangular, outer margins serrate; frontal margin between acute antennal spines straight; rostrum convex, with fine marginal teeth. Anterolateral lobes of pereonites 1–4 acute; posterodistal lobes of pereonites 5 and 6 rounded, of pereonite 7 acute. Pleotelson wider than long, lateral margins with 5 strong teeth; posterior margin between uropodal bases convex.

Antenna 1, basal segment broadest; elongate

simple setae on segments 1–3; flagellum of 14 articles, single aesthetasc on each of 9 distal articles. Antenna 2 slightly longer than total body length; 2 basal peduncle segments short; segment 3 longer than segments 1 and 2 together, bearing setose scale on outer margin; segment 4 about  $\frac{1}{4}$  length of segment 3; segments 5 and 6 elongate-cylindrical, segment 6 slightly longer than 5. Mouthparts typical of genus. Maxillipedal endite with 4 coupling hooks on mesial margin. Pereopod 1 large in mature male; merus slightly longer than carpus, posterodistal corner rounded, setose; carpus with fairly strong rounded setose posterodistal lobe; propodus expanded, slightly longer than broad, anterior margin strongly convex and setose, posterior margin with dense fringe of setae; palm with 3 strong conical teeth, posterodistal tooth longest, narrower than 2 inner teeth; dactylus curved, strongly setose, extending well beyond posterodistal palmar tooth. Pereopods 2–7 similar, meri triangular, with anterodistal lobe bearing slender spine; carpi elongate-rectangular, subequal in length to propodi, both armed with short sensory spines on posterior margins; dactyli biunguiculate, 2 ungui equally strong, curved; strong accessory spine on posterior margin. Pleopod 1 proximally parallel-sided, tapering for distal third to rounded apex; outer margin setose. Pleopod 2 typical of genus. Pleopod 3, outer ramus very broadly rounded, with transverse suture in distal half; inner ramus triangular, just reaching beyond suture of outer ramus, with 4 distal setae. Pleopod 4, outer ramus with transverse suture in proximal half, with row of 7 setae on outer distal margin, reaching apex of inner ramus; latter broadly oval. Uropod with basis shorter than rami; outer ramus shorter than inner, both with elongate simple setae.

*Female:* Pereopod 1 shorter than following pereopods, merus with strong spine at anterodistal angle, posterodistally setose; carpus slightly longer than merus, posterior margin strongly setose; propodus twice longer than wide; posterior margin strongly setose, junction of posterior margin and palm marked by strong fringed spine; palm almost straight, bearing row of finely

serrate spines; dactylus with row of tiny spines on posterior margin. Pleonal operculum longer than wide, distally rounded.

*Color:* Dorsal integument with small, scattered, red-brown chromatophores, with irregular open patches on head, pleon, and usually on pereonite 4; uropods with very fine chromatophores, and chalky-white patches at distal basis and apex of both rami.

**REMARKS.**—Of the six species of *Stenetrium* occurring at Carrie Bow Cay, only *S. serratum* Hansen and the present species possess a serrate pleotelson. Hansen's species has a very distinctive color pattern of very fine chromatophores, the double transverse band on the pleon being the most obvious feature. The more evenly scattered and larger chromatophores of *S. bowmani* are very different from *S. serratum*.

Pereopod 1 of the male in *S. serratum* has two spines (the outermost being the larger and curved) on the ill-defined propodal palm, whereas in *S. bowmani*, this appendage has a well-defined palm bearing three spines.

**ETYMOLOGY.**—The species is named for the late Henry Bowman, Jr., of Dangriga, Belize, whose assistance to the IMSWE project and to the author was invaluable.

### *Stenetrium minocule* Menzies and Glynn, 1968

FIGURE 32

*Stenetrium minocule* Menzies and Glynn, 1968:72, fig. 38A–E.

**MATERIAL EXAMINED.**—USNM 211290, 8 ♂, 15 ♀, 2 juvs, sta H(80)-7, H(80)-11, H(80)-18, H(80)-22, H(80)-32, H(80)-35, H(80)-41, from fore reef slope, 15–36 m, from *Thalassia* seagrass, 1–2 m. USNM 211291, 4 ♂, 4 ♀, sta K-21, K-22, K-35, K-36, rubble from fore reef slope, 11–20 m. USNM 211292, 1 ovig ♀, 10 ♀, sta RC-10, RC-96, RC-99, rubble from reef crest, 0.1 m.

**REMARKS.**—This species was described from the single female holotype (USNM 118355) taken from the intertidal of Laurel Reef, Puerto

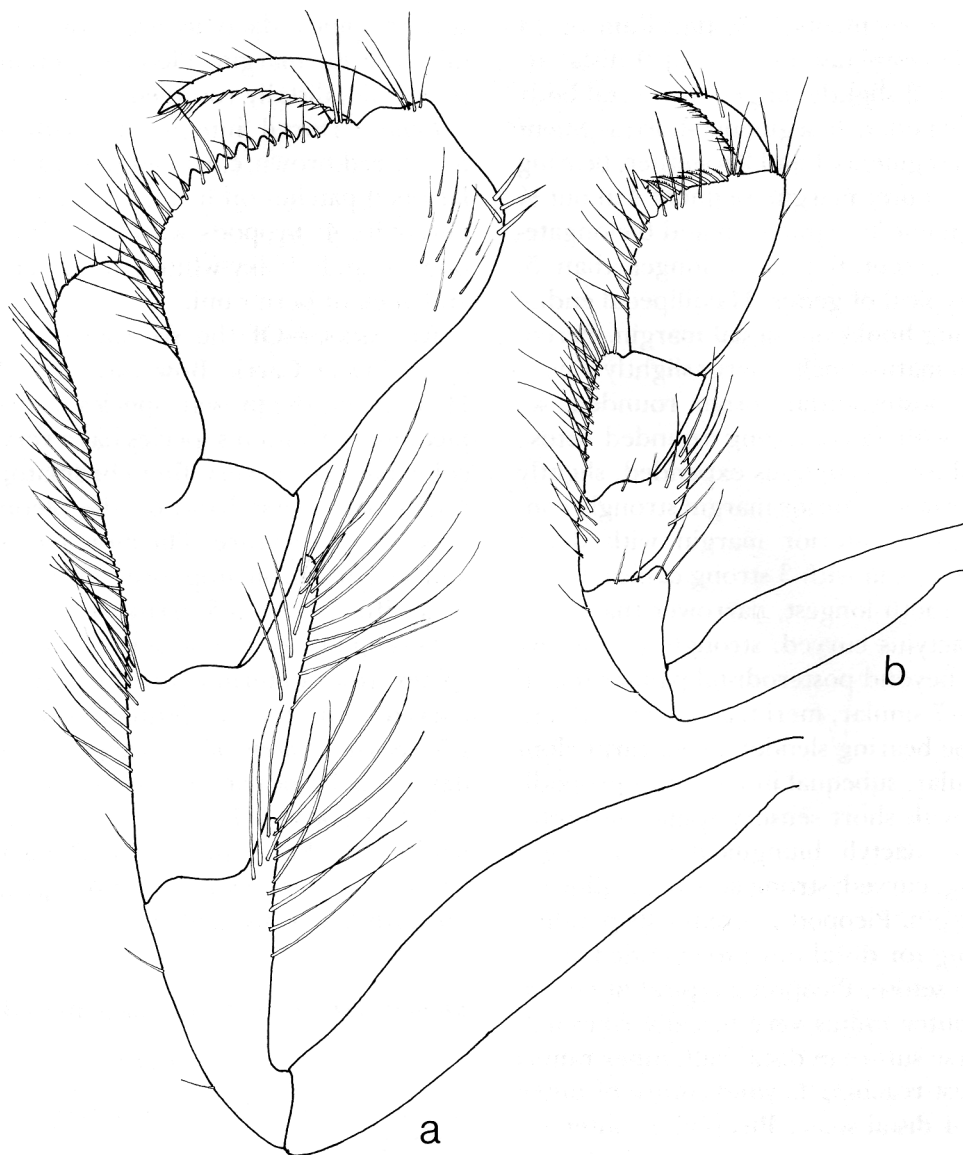


FIGURE 32.—*Stenetrium minocule* Menzies and Glynn: *a*, pereopod 1, ♂; *b*, pereopod 1, ♀.

Rico. With a large collection now available from Belize, it was felt desirable to figure the first pereopod of the male and female.

***Stenetrium patulipalma*, new species**

FIGURES 33, 34

**MATERIAL EXAMINED.**—*Holotype*: USNM 211284, ovig ♀, TL 2.7 mm, sta H(81)-35, from

*Agaricia* sp. coral in spur and groove zone, 9.1 m.

*Paratypes*: USNM 211285, 2 ♀, TL 2.0 mm, 2.1 mm, sta H(80)-11, H(80)-16, from fore reef slope, 27.4 m. USNM 211286, ♂, TL 2.0 mm, 2 ovig ♀, TL 1.9 mm, 2.0 mm, 3 ♀, TL 1.8–2.0 mm, sta H(81)-9, H(81)-11, H(81)-13, H(81)-32, from *Agaricia* sp., *Madracis* sp., and *Porites* sp. corals from fore reef slope, 9.1–15.2 m.

**DESCRIPTION.**—*Ovigerous Female*: Body 3–4

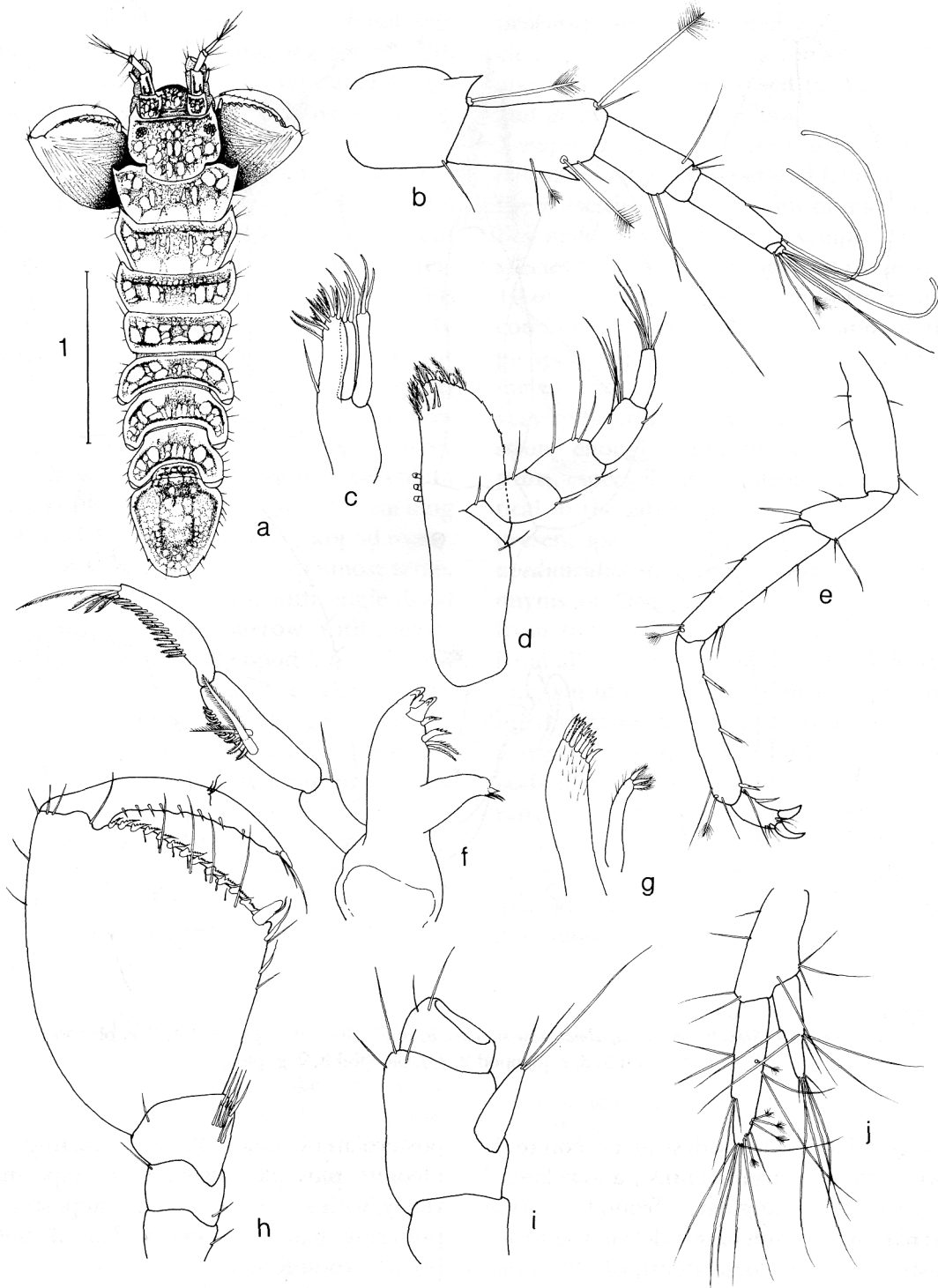


FIGURE 33.—*Stenetrium patulipalma*, new species: *a*, ♀, dorsal view; *b*, antenna 1; *c*, maxilla 2; *d*, maxilliped; *e*, pereopod 7; *f*, mandible; *g*, maxilla 1; *h*, pereopod 1, ♀; *i*, antenna 2, 3 basal segments; *j*, uropod.



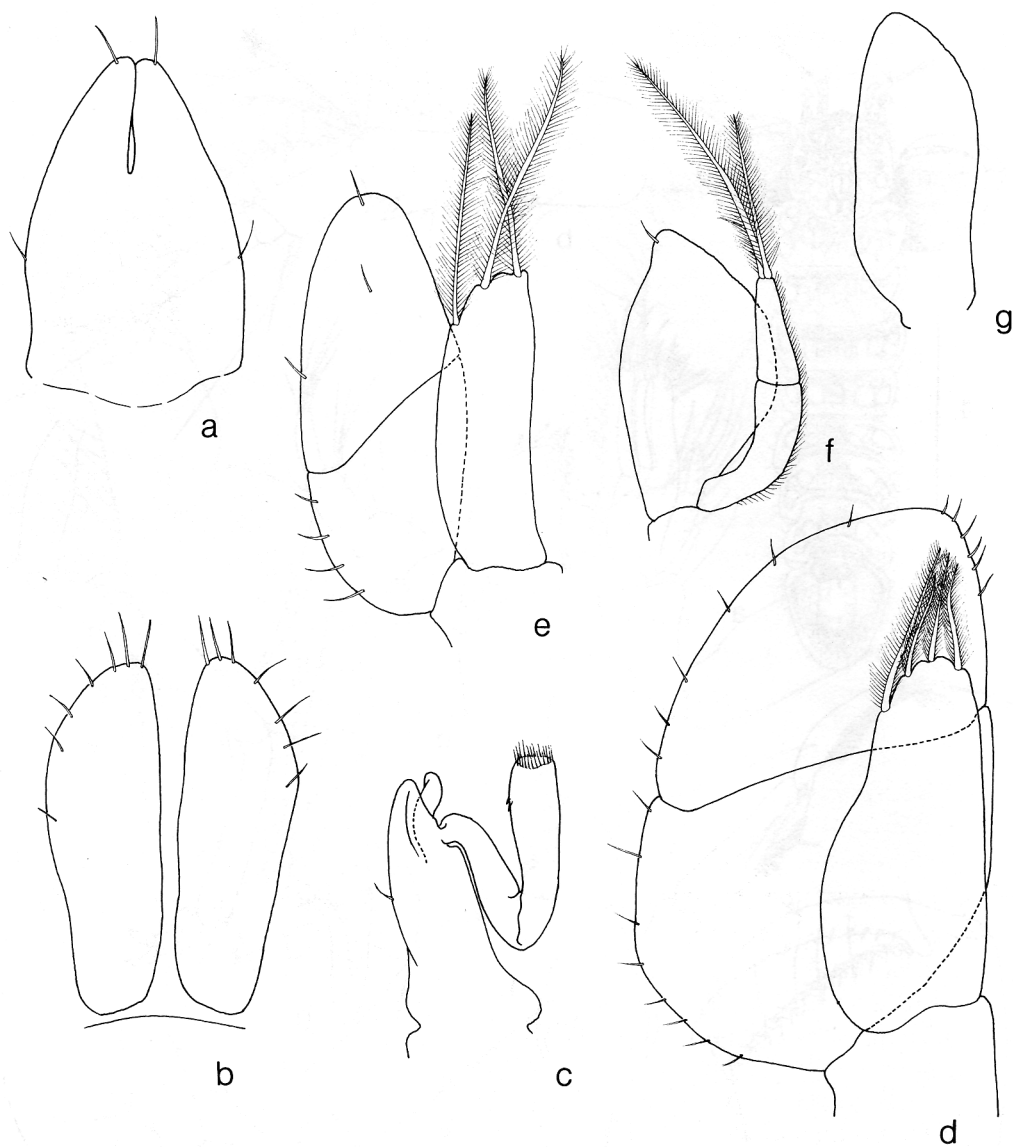


FIGURE 34.—*Stenetrium patulipalma*, new species: *a*, operculum, ♀; *b*, pleopod 1, ♂; *c*, pleopod 2, ♂; *d*, pleopod 3, ♂; *e*, pleopod 2, ♀; *f*, pleopod 3, ♀; *g*, pleopod 4.

times longer than wide, widest at pereonite 1. Head with lateral margins entire, anterolateral process acutely triangular, frontal margin straight; narrow rostrum barely defined, anterior margin straight; eyes dorsolateral, of 10 ommatidia. Pereonites 1 and 2 widest anteriorly, with acutely triangular anterolateral angle. Pereonites 3 and 4 with anterolateral angles rounded, 4 narrower than 3; pereonites 5–7 with rounded

posterolateral lobes. Pleon consisting of 1 free pleonite plus pleotelson; latter tapering posteriorly, with single lateral tooth at posterior third; posterior margin between lateral teeth very broadly rounded.

Antenna 1 of 6 articles, basal article with mediiodistal spine, article 2 with laterodistal spine; flagellum of 3 articles, 2 subterminal articles each with single aesthetasc, terminal article with 2

aesthetascs. Antenna 2 with only 3 basal segments present in all specimens; segment 2 with distally setose scale. Mouthparts typical of genus. Maxillipedal palp segments all relatively narrow; endite with 3 retinacula. Pereopod 1, carpus distally widened, with 3 irregular rows of spines on posterodistal margin; propodus very broad, widening distally, palm straight, bearing about 12 short blunt sensory spines; demarked posterodistally by strong blunt sensory spine; dactylus curved, narrow, with short unguis and 3 subapical setae; row of short spines on posterior margin. Pereopods 2-7, propodi elongate-rectangular, with 3 slender sensory spines on posterior margin; dactyli biunguiculate, with slender sensory spine on posterior margin. Operculum bluntly triangular, with mediobasal slit reaching back  $\frac{1}{3}$  of total length. Pleopod 3, exopod ovate, biarticulate; endopod with 3 distal plumose setae. Pleopod 4, exopod uniramous, with single distal seta; endopod biarticulate, narrow, with 2 elongate distal plumose setae. Pleopod 5 uniramous, elongate-ovate. Uropod, outer ramus shorter than inner, both rami bearing elongate setae.

*Male:* Single specimen lacking pereopod 1. Pleopod 1, sympod apparently indistinguishably fused with sternum; rami about 3 times longer than wide, widest at distal  $\frac{2}{3}$ , distal margin with few setae. Pleopod 2, inner ramus with 2 short spines near distal end of flexed tubular process. Pleopod 3 exopod very broad, biarticulate; endopod shorter than exopod, with 4 distal plumose setae.

*Color:* Upper lip, bases of antenna 1 and antenna 2, dorsal head, pereon, and pleon with red-brown reticulation of pigment; darker transverse line in anterior of pereonites 2 and 3 and posterior of pereonites 4-7.

**REMARKS.**—Schultz (1982) diagnosed two new genera in the Stenetriidae, *Tenupedunculus* and *Stenetrigus*, in addition to describing another species of *Protallocaloxa*. The latter has since been shown to be a true *Stenetrium* (Wilson, 1980). Many of the features used to separate *Tenupedunculus* from *Stenetrium* occur in the latter genus, e.g., lack of eyes, shape of the cephalic

processes, somewhat elongate antenna 2 peduncle articles, and general body shape. The male and female pleopods (used to diagnose families and genera in the Asellota; see Amar, 1957) in *Tenupedunculus* are identical to those of *Stenetrium*. *Stenetrigus* is separated from *Stenetrium* by the possession of eyes of few ommatidia, and the first male pleopod lacking a sympod. The present species (*Stenetrium patulipalma*) possesses eyes of 10 ommatidia, not in the reniform arrangement common in *Stenetrium*. The rami of the male pleopod 1 appear entirely separate and originating on the sternum. This probably indicates a very reduced sympod and does not constitute a strong enough reason for separation from *Stenetrium*, especially as the pleopodal pattern is identical to the latter genus. For these reasons, the present species is placed in *Stenetrium*, and *Tenupedunculus* and *Stenetrigus* are regarded as synonyms of *Stenetrium*. The species is separated from the other Caribbean species, and indeed from all other *Stenetrium*, by the following combination of characters: color pattern, poorly defined rostrum, very broad posterior pleotelsonic margin, relatively large and broad first pereopods in the female, and the non-reniform arrangement of ommatidia in the eye.

**ETYMOLOGY.**—The specific epithet is a combination of the Latin *patulus* (broad) plus *palma* (palm) and refers to the very broad propodus of pereopod 1.

### *Stenetrium spathulicarpus*, new species

FIGURES 35, 36, 37d

*Stenetrium occidentale*.—Menzies and Glynn, 1968:71, figs. 34, 35 [not Hansen, 1904].

**MATERIAL EXAMINED.**—*Holotype:* USNM 211274, ♂, TL 3.4 mm, sta H(81)-41, from *Agaricia* sp. coral from reef platform, 1-2 m.

*Allotype:* USNM 211275, ovig ♀, TL 4.1 mm, sta K-35, from rubble on outer reef slope, 20 m.

*Paratypes:* USNM 211276, 12 ♂, TL 3.9-4.1 mm, 5 ovig ♀, TL 2.8-3.8 mm, 7 ♀, 5 juvs, sta K-35, from rubble on outer reef slope, 20 m.

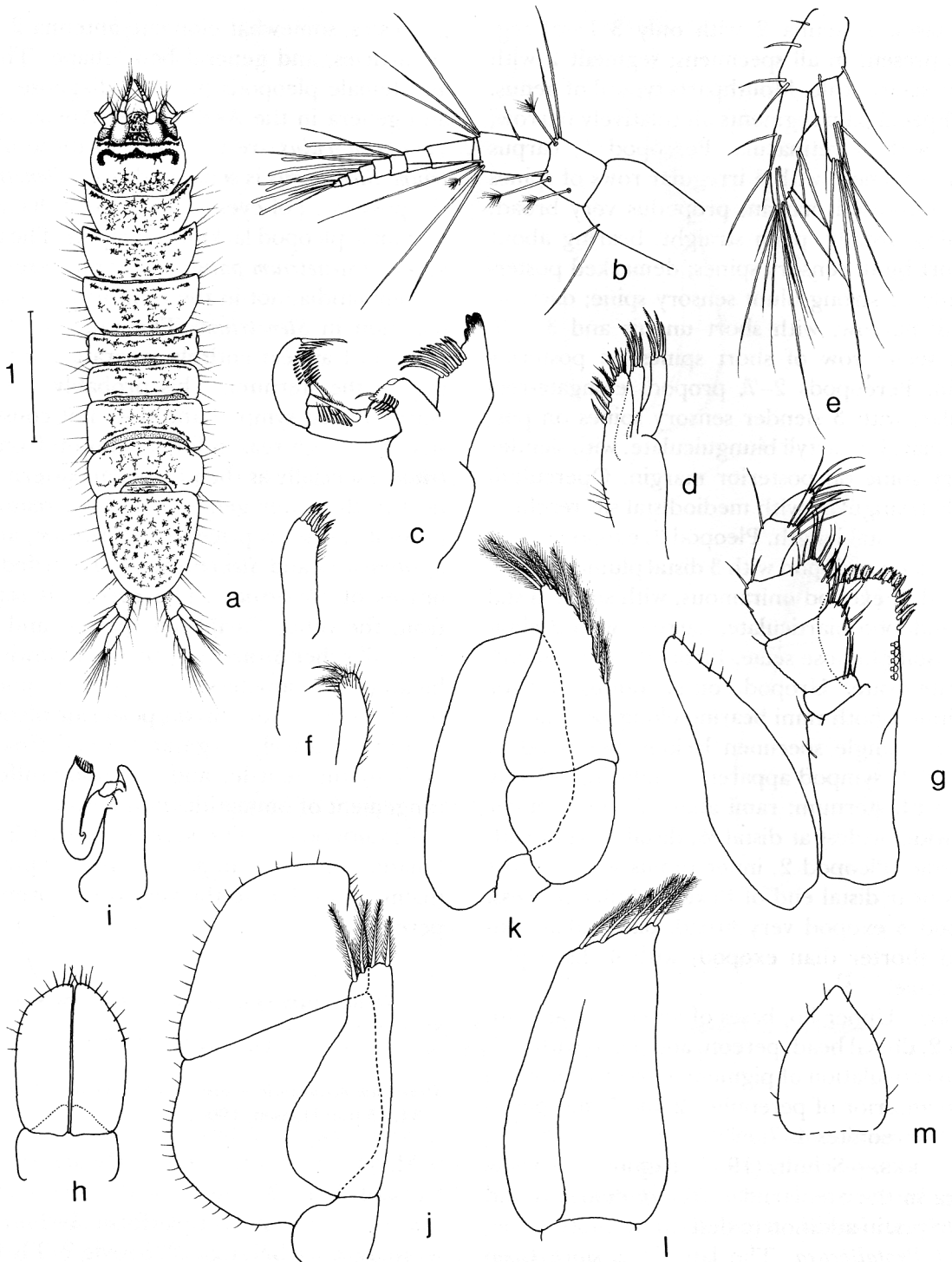


FIGURE 35.—*Stenetrium spathulicarpus*, new species: *a*, whole animal, dorsal view; *b*, antenna 1; *c*, mandible; *d*, maxilla 2; *e*, uropod; *f*, maxilla 1; *g*, maxilliped; *h*, pleopod 1, ♂; *i*, pleopod 2, ♂; *j*, pleopod 3, ♂; *k*, pleopod 4, ♂; *l*, pleopod 5, ♂; *m*, operculum, ♀.

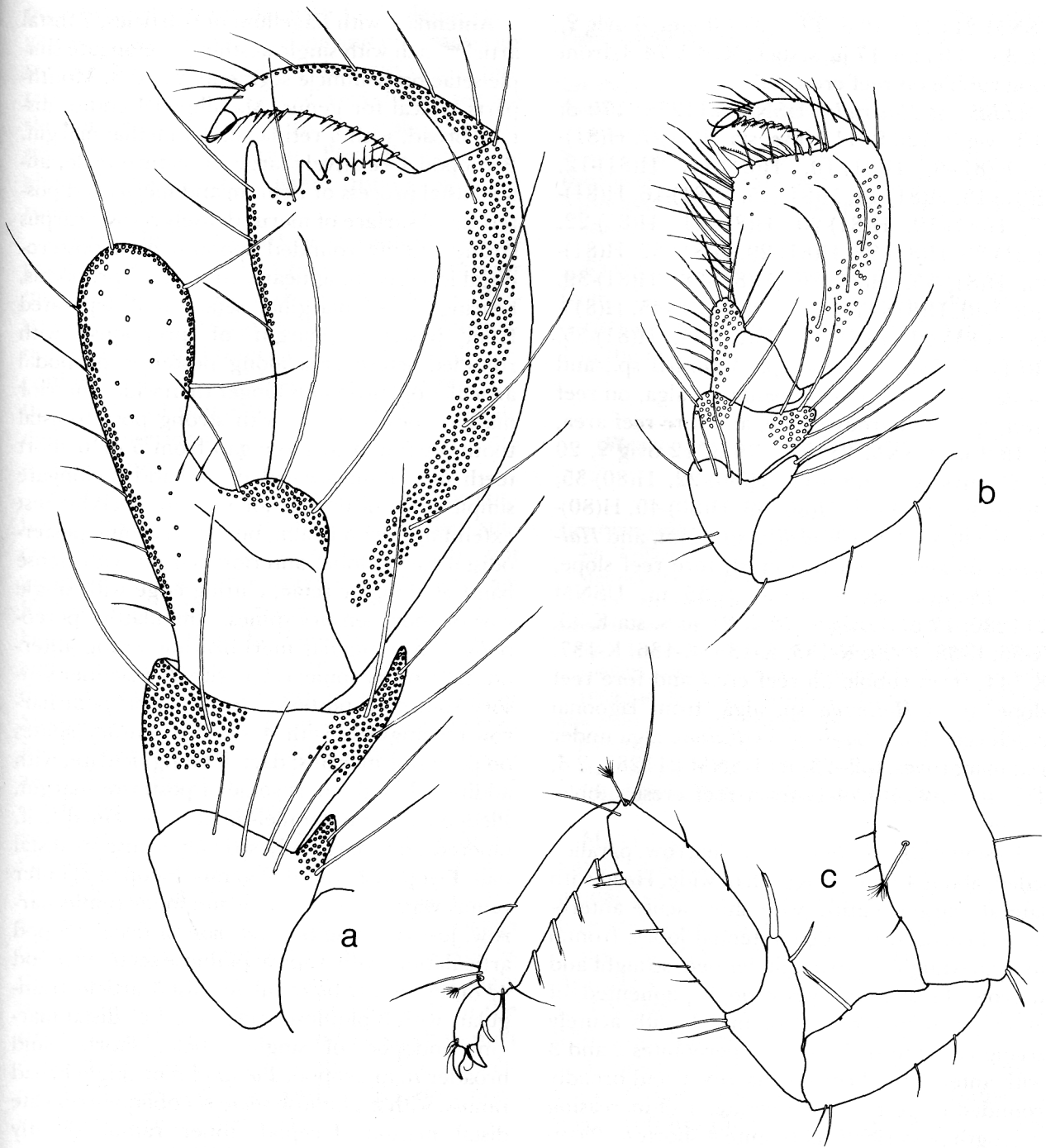


FIGURE 36.—*Stenetrium spathulicarpus*, new species: *a*, pereopod 1, ♂, majority of setae omitted; *b*, pereopod 1, ♀, some setae omitted; *c*, pereopod 7.

USNM 211277, 10 ♂, TL 3.3–4.0 mm, 6 ovig ♀, TL 3.0–3.9 mm, 17 juvs, sta CBC-4.5.74-3, from coral rubble on reef crest, 0.5 m.

*Additional Material:* USNM 211278, 170 ♂, 112 ovig ♀, 120 ♀, 117 juvs, sta H(81)-7, H(81)-8, H(81)-9, H(81)-10, H(81)-11, H(81)-12, H(81)-13, H(81)-14, H(81)-15, H(81)-16, H(81)-17, H(81)-19, H(81)-20, H(81)-21, H(81)-22, H(81)-26, H(81)-28, H(81)-29, H(81)-32, H(81)-33, H(81)-35, H(81)-36, H(81)-38, H(81)-39, H(81)-40, H(81)-41, H(81)-42, H(81)-45, H(81)-48, H(81)-49, H(81)-51, H(81)-54, H(81)-55, H(81)-57, from *Agaricia* sp., *Madracis* sp., and *Porites* sp. corals, and *Halimeda* sp. alga, on reef crest, spur and groove zone, and fore reef area, 1–15.2 m. USNM 211279, 19 ♂, 12 ovig ♀, 20 ♀, 25 juvs, sta H(80)-11, H(80)-22, H(80)-35, H(80)-36, H(80)-38, H(80)-39, H(80)-40, H(80)-41, H(80)-48, from *Madracis* sp. coral, and *Halimeda* sp. alga, from reef crest, fore reef slope, and *Thalassia* sp. seagrass, 1–36 m. USNM 211280, 17 ♂, 8 ovig ♀, 22 ♀, 21 juvs, sta K-35, K-36, K-38, K-99, K-133, K-135, K-136, K-137, K-144, from rubble on reef crest and fore reef slope, from *Halimeda* sp. alga, from lagoonal patch reef, from *Caulerpa verticillata* alga under red mangroves, 0.2–23, m. USNM 211281, 2 ♂, 1 ♀, sta CBC-7.5.74-1, from reef crest rubble, 0.2 m.

**DESCRIPTION.**—*Male:* Body narrow, parallel-sided, about 4 times longer than wide. Head with lateral margins entire, with short acute anterolateral corners, rounded antennal lobes; frontal margin straight, rostrum ill-defined, straight and narrow; dorsolateral eyes strongly pigmented, of about 16 ommatidia. Pereonite 1 with acutely triangular anterolateral lobe; pereonites 2 and 3 with anterolateral corners narrowly and broadly rounded respectively. Pereonites 1–3 increasing in length posteriorly; pereonite 4 shortest. Pleon consisting of very short free anterior pleonite plus pleotelson, latter about as long as wide, with very slight posterior taper, lateral margin entire except for single strong tooth in posterior half; posterior margin between lateral teeth semicircular.

Antenna 1 with flagellum of 9 articles, 7 distal articles each with single aesthetasc; elongate simple setae on peduncle segments 2 and 3. Mouthparts typical for genus. Maxillipedal endite distally broad, with 5 retinacula on medial margin. Pereopod 1 relatively large in mature male; anterodistal process of ischium and merus and posterodistal surface of merus densely setose; carpus strong distally rounded spoon-shaped posterodistal lobe reaching nearly to palm of propodus, bearing dense marginal setae, well separated from posterior margin of propodus, with rounded setose area along posterior propodal articulation; propodus longer than wide, anterior margin convex, palm with strong posterodistal tooth separated by large gap from 5 or 6 short teeth, medial surface with dense band of elongate simple setae near anterior margin; dactylus just extending beyond palm, but not reaching posterodistal carpal lobe; anterior margin with dense band of elongate setae, cutting edge with single row of short sensory spines. Ambulatory pereopods with triangular meri bearing strong anterodistal sensory spine; carpi with 2–3 slender sensory spines on posterior margins; propodi narrow-rectangular, with 4 slender sensory spines on posterior margins; dactyli biunguiculate, with additional single short spine or posterior margin. Pleopod 1, rami parallel-sided in proximal half, tapered and marginally sparsely setose in distal half. Pleopod 2 typical of genus. Pleopod 3, outer ramus very broad, biarticulate; inner ramus narrow, just reaching beyond base of distal exopod articulation, with 4 apical plumose setae. Pleopod 4, outer ramus biarticulate, distal article triangular, with 8 plumose setae on outer distal margin; endopod of single article, shorter and broader than exopod. Pleopod 5 of single broad ramus, with 5 plumose setae on oblique-truncate distal margin. Uropod, inner ramus slightly longer and broader than outer, both bearing very elongate distal setae.

*Ovigerous Female:* Pereopod 1 with dense clumps of simple setae on anterodistal and posterodistal part of merus and posterior margin of slightly produced and rounded carpal lobe; pro-

podus longer than wide, with fairly dense elongate setae on posterior margin and inner anterior surface; straight propodal palm with strong posterodistal spine and row of very finely serrate slender spines; dactylus with row of short serrate spines on cutting margin. Pleonal operculum about  $\frac{1}{3}$  longer than wide, distally narrowly rounded.

**Color:** Head with dark brown anteromedially pointed band of pigment between eyes; anterior margin with narrow dark marginal band. Rostrum and labrum bearing fairly dense reticulation of pigment. Posterior half of head, all pereonites, and pleon with scattered thin reticulation of dorsal pigment, sometimes forming ill-defined anterior and posterior transverse lines on pereonites.

**REMARKS.**—The present species could be confused with a complex of three West Indian species, especially if mature male material were not available. These three species are *S. stebbingi* Richardson, 1902 (from Bermuda), *S. occidentale* Hansen, 1904 (from St Thomas, West Indies), and *S. antillense* Hansen, 1904 (from West Indies, probably 100 fathoms). Re-examination of Menzies and Glynn's 1968 material from Puerto Rico shows it to be *S. spathulicarpus*. Menzies and Glynn did suggest that the three earlier species might be conspecific, along with *S. medipacificum* from Hawaii and *S. gilbertense* from the Gilbert Islands. The latter two species are almost certainly not closely related to the West Indian species. Examination of material of *S. stebbingi* (the name with priority) from Belize, as well as the types of the three earlier species, strongly suggests a single species, slightly variable in the structure of the male pereopod 1 (which in turn depends on the degree of maturity of the specimen). Menzies and Kruczynski (1983) do synonymize the three earlier species.

*Stenetrium spathulicarpus* may be separated from *S. stebbingi* on several features (see following tabulation), which may be thought to be unduly subtle, but which are fully as obvious as features used in the past to define species of *Stenetrium* (e.g. see Kensley, 1980).

	<i>S. stebbingi</i>	<i>S. spathulicarpus</i>
Pigment pattern	no band between eyes	strong band between eyes
Eye shape	bunched	narrow, curved
Carpal lobe of pereopod 1	apically acute	apically rounded
Propodal palm	barely defined	well defined
Dactylus of pereopod 1 in mature ♂	overreaching carpal lobe apex	not overreaching carpal lobe apex

**ETYMOLOGY.**—The specific epithet is derived from the Latin *spathula* (spoon) plus *carpus* (wrist) and refers to the carpal lobe of pereopod 1 in the male.

### *Stenetrium stebbingi* Richardson, 1902

FIGURE 37a-c

- Stenetrium stebbingi* Richardson, 1902:295, pl. 39: figs. 46-49; 1905:444, figs. 499-501.—Hansen, 1904:325.—Menzies and Glynn, 1968:71.—Schultz, 1969:240, fig. 377.—Menzies and Kruczynski, 1983:97, fig. 33.
- Stenetrium antillense* Hansen, 1904:326, pl. 20: fig. 3, pl. 21: fig. 1.—Richardson, 1905:446, fig. 502.—Wolff, 1962:25.—Menzies and Glynn, 1968:71.—Schultz, 1969:240, fig. 376.—Menzies and Kruczynski, 1983:97.
- Stenetrium occidentale* Hansen, 1904:324, pl. 20: fig. 2.—Richardson, 1905:441, fig. 498.—Wolff, 1962:25.—Menzies and Glynn, 1968:71, figs. 34, 35.—Schultz, 1969:239, fig. 375.—Menzies and Kruczynski, 1983:97.

**MATERIAL EXAMINED.**—*Syntypes*: USNM 24877, 4 ♂, Bermuda. USNM 24878, 3 ♀, Bermuda, 1-12 ft. USNM 211287, ♂, sta H(80)-22, fore reef slope, 36 m. USNM 211288, 2 ♂, 4 ♀, 1 juv, sta H(81)-33, H(81)-35, H(81)-36, from *Agaricia* sp. coral in spur and groove zone, 9.1 m. USNM 211289, 4 ♂, ovig ♀, 3 ♀, 4 juvs, sta K-136, from *Halimeda* sp. on patch reef, 6 m.

**Additional Material:** Lectotype ♂ of *S. antillense*, Copenhagen Museum, West Indies, in coral, 100 fms (50 m). Lectotype ♂ of *S. occidentale*, Copenhagen Museum, St. Thomas, West Indies, 12-15 fms (6-7.5 m).

**REMARKS.**—The distal part of pereopod 1 of a syntype male of *S. stebbingi* and of the lectotype male of *S. antillense* and *S. occidentale* are illustrated in Figure 37.

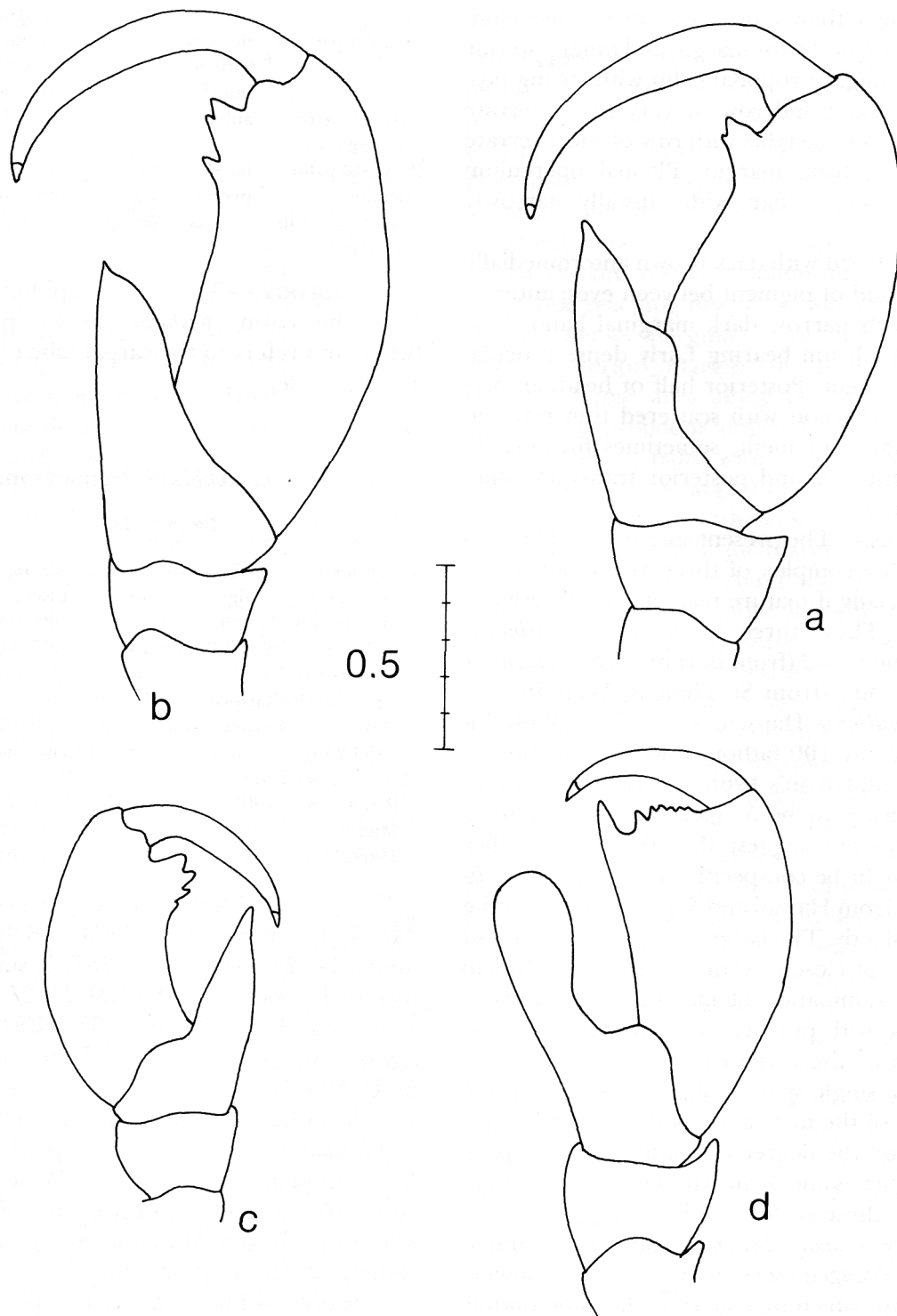


FIGURE 37.—*Stenetrium stebbingi* Richardson: *a*, pereopod 1, lectotype ♂ of *S. antillense*; *b*, pereopod 1, syntype of *S. stebbingi*; *c*, pereopod 1, lectotype ♂ of *S. occidentale*. *Stenetrium spathulicarpus*: *d*, pereopod 1, ♂. (Setae omitted on all figures.)

## Family JANIRIDAE

Genus *Bagatus* Nobili, 1906*Bagatus punctatus*, new species

FIGURES 38, 39

**MATERIAL EXAMINED.**—*Holotype*: USNM 211300, ♂, TL 2.1 mm, sta H(81)-49, from *Porites* sp. coral on reef flat, 1–2 m.

*Allotype*: USNM 211301, ovig ♀, TL 2.8 mm, sta H(81)-48, from *Porites* sp. coral on reef flat, 1–2 m.

*Paratypes*: USNM 211302, 2 ♂, TL 1.9–2.0 mm, 1 ovig ♀, TL 2.3 mm, sta H(81)-48, from *Porites* sp. coral on reef flat, 1–2 m. USNM 211303, ovig ♀, TL 2.2 mm, 2 ♀, 1.9–2.0 mm, sta H(81)-49, from *Porites* sp. coral on reef flat, 1–2 m. USNM 211304, ♂, TL 2.2 mm, sta H(81)-52, from *Porites* sp. coral on reef flat, 1–2 m. USNM 211305, 3 ♂, TL 2.0–2.2, 2 ovig ♀, TL 2.5–2.6 mm, sta CBC-15.1.76-2, rubble from reef crest, 0.1 m.

*Additional Material*: USNM 211306, 3 ♂, 2 ovig ♀, 1 ♀, sta RC-3, RC-18, RC-84, RC-97, reef crest rubble, 0.1 m. USNM 211307, 3 ovig ♀, 1 ♀, sta H(81)-9, H(81)-16, H(81)-50, from *Porites* sp. and *Agaricia* sp. corals on fore reef, 1–15.2 m. USNM 211308, 1 ♂, 3 ♀, sta H(80)-6, Glovers Reef, Belize, 0–3 m. USNM 211309, 1 ♂, 3 ♀, sta CBC-14.1.76-3, reef crest rubble, 0.1 m.

**DESCRIPTION.**—*Male*: Body 2.5 times longer than wide, widest at pereonite 6. Head with frontal margin gently convex; anterolateral corners rounded; lateral margins entire; well-pigmented dorsolateral eyes. Pereonites widening very slightly posteriorly; pereonite 1, anterolateral corner acute, all other pereonites rounded. Coxae visible on all pereonites. Pleotelson wider than long; lateral margins tapering posteriorly, concave at uropodal insertions, broadly rounded between uropods.

Antenna 1 of 7 articles, 2 distal articles each with single aesthetasc. Antenna 2 with short setose scale on peduncle segment 2, 3 proximal segments short, 2 distal segments elongate, seg-

ment 5 slightly longer than 4; flagellum of 24 setose articles. Mandibular palp, segment 2 bearing 3 distal fringed spines; terminal segment curved, with 11 spines, distal 5 becoming progressively longer; molar distally broadly truncate; incisor of 6 cusps; 6 spines in spine row. Maxilla 1, inner ramus with 4 simple spines; outer ramus with 10 serrate spines. Maxilla 2, inner ramus with dense simple and serrate spines; inner lobe of outer ramus with 3 spines, outer lobe with 4 spines. Maxillipedal endite with 2 retinacula on medial margin, distal margin with about 12 fringed setae; 3 basal palp segments broad, 2 distal segments narrow. Pereopod 1, carpus 1.5 times longer than wide, with strong posterodistal triangular process and strong rounded lobe on distal margin, numerous setae on posterior margin; propodus curved, longer than distal carpal margin, with 3 rounded processes on posterior margin; dactylus short, biunguiculate. Pereopods 2–7 similar, carpi and propodi with 2 and 3 sensory spines respectively on posterior margin; dactyli biunguiculate. Pleopod 1, outer lobe of ramus narrowly acute, extending well beyond broadly angular inner setose lobe. Pleopod 2, inner ramus narrowly tapering, reaching beyond broadly rounded outer ramus, latter bearing 7 distal setae. Pleopod 3, inner ramus about 3½ times width of outer ramus, with 3 strong distal plumose setae; outer ramus with 4 simple distal setae, outer margin densely setulose. Uropodal peduncle slightly shorter than outer ramus, latter slightly shorter than inner ramus; rami tapering, with elongate distal setae.

*Ovigerous Female*: Pereopod 1, carpus broadest at midlength, lacking free distal margin; posterior margin armed with about 12 strong sensory spines; propodus lacking armature on posterior margin except for single posterodistal sensory spine; dactylus biunguiculate. Operculum slightly broader than long, distal margin broadly bilobed, setose.

*Color*: Large dark-brown chromatophores on antennal peduncles, upper lip, and uropods. Entire dorsum of body with dense chromatophores in patchy and reticulate arrangement.



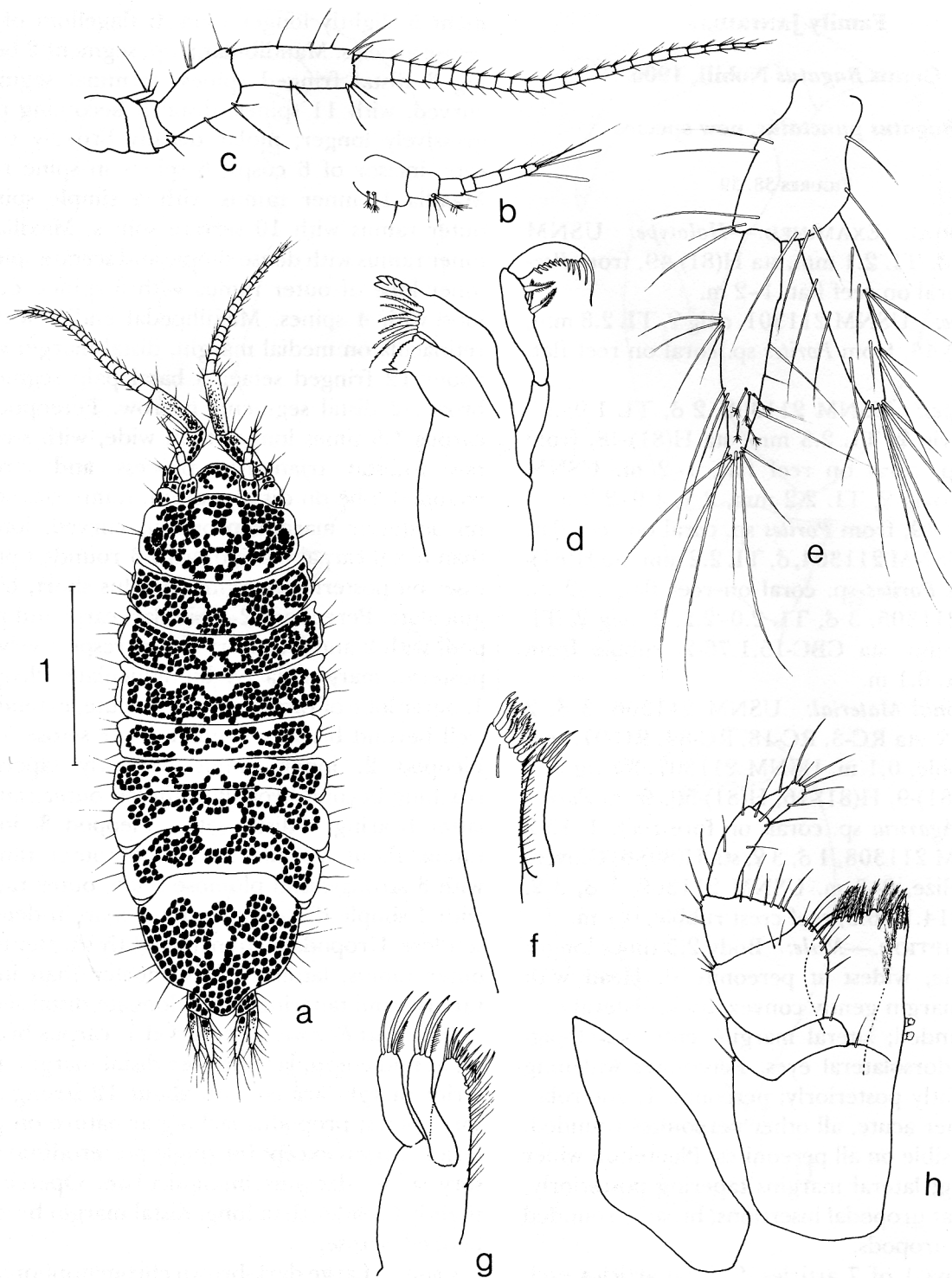


FIGURE 38.—*Bagatus punctatus*, new species: *a*, whole animal, dorsal view; *b*, antenna 1; *c*, antenna 2; *d*, mandible; *e*, uropod; *f*, maxilla 1; *g*, maxilla 2; *h*, maxilliped.

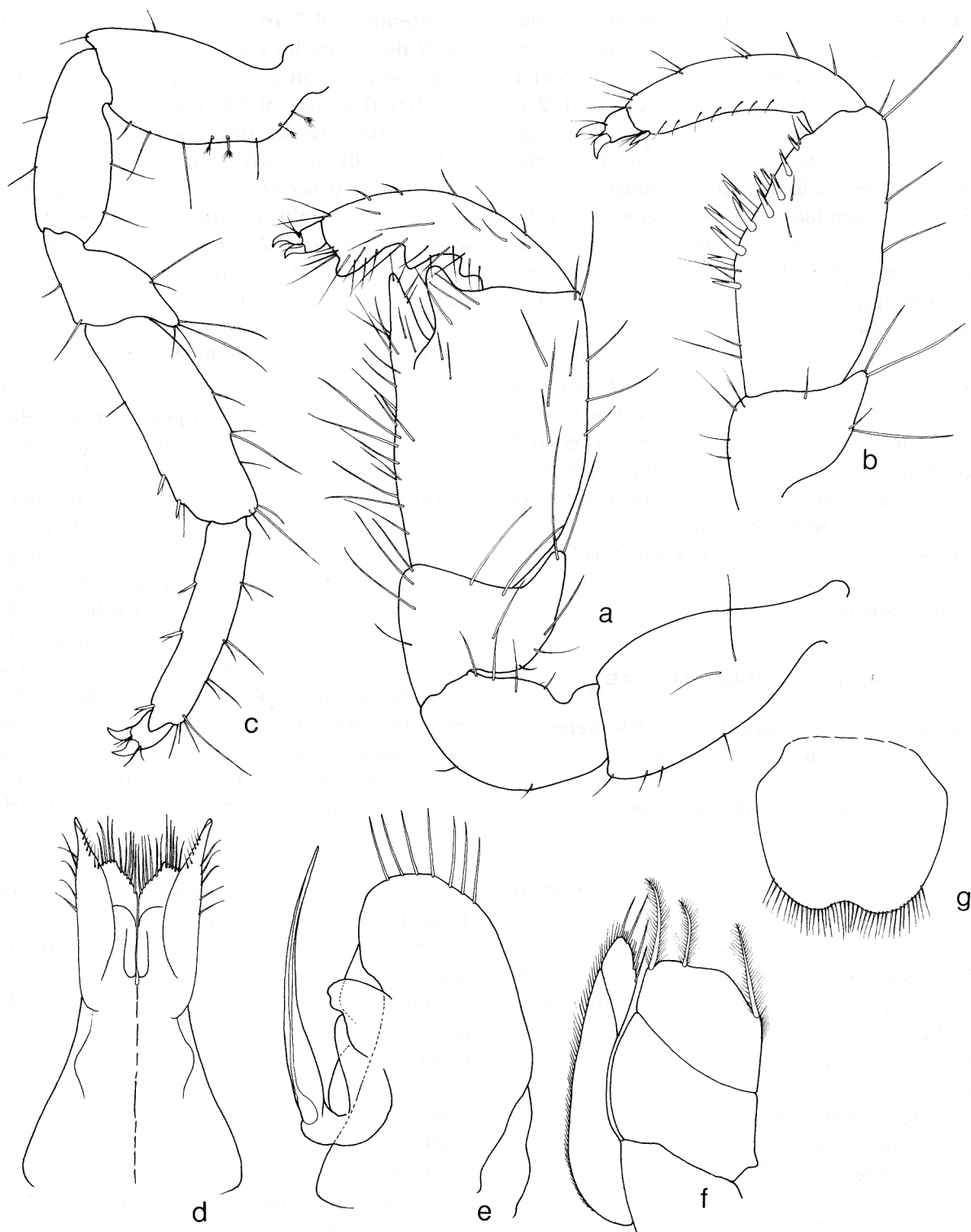


FIGURE 39.—*Bagatus punctatus*, new species: a, pereopod 1, ♂; b, pereopod 2; c, pereopod 7; d, pleopod 1, ♂; e, pleopod 2, ♂; f, pleopod 3, ♂; g, operculum, ♀.

REMARKS.—Pires (1982), in a revision of *Ba-gatus*, divided the 12 species into two groups based on the structure of the male pereopod 1 and pleopod 2. The sympod of pleopod 2 is setose, a feature of the "stylodactylus" group. Based on pereopod 1 structure, however, the present species falls into the "minutus" group and closely resembles *B. brucei* Monod, from the Indo-West Pacific. The two species can be separated by the pleotelson structure (posteriorly more strongly produced in *B. punctatus*), the male pereopod 1 (inner carpal tooth rounded in *B. punctatus*, acute in *B. brucei*; propodus with two teeth in *B. brucei*, three in *B. punctatus*), and pleopod 1 in the male (the inner distal lobe is barely demarked in *B. brucei*, well demarked and angular in *B. punctatus*). The latter bears little resemblance to any of the species previously recorded from the western Atlantic.

ETYMOLOGY.—The specific epithet refers to the large, dark-brown dorsal chromatophores of both the male and the female.

#### Family MICROPARASELLIDAE

#### Genus *Angliera* Chapuis and Delamere- Deboutteville, 1955

#### *Angliera psamathus*, new species

FIGURE 40

MATERIAL EXAMINED.—*Holotype*: USNM 211322, ♂, TL 1.0 mm, from interstitial water, intertidal sand bank, east side of Carrie Bow Cay.

*Paratypes*: USNM 211323, 8 ♂, TL 1.0 mm, 2 ovig ♀, TL 1.0 mm, 6 ♀, TL 1.0 mm, from interstitial water, intertidal sand bank, east side of Carrie Bow Cay.

DESCRIPTION.—*Male*: Body 7 times longer than wide, widest in anterior head region. Head with anterior margin faintly trilobed, about twice length of pereonite 1. Pereopodal insertions anterodorsal in pereonites 1–4, posterodorsal in pereonites 5–7. Pleon of 1 free segment,  $\frac{1}{4}$  mid-dorsal length of pleotelson; latter about  $1\frac{1}{3}$  times longer than wide; posterior margin with low mid-dorsal concavity.

Antenna 1 of 7 articles, articles 1 and 2 longest; 2 distal articles each with single aesthetasc. Antenna 2, peduncle of 5 articles, subequal in length to flagellum of 8 articles. Mandibular palp 3-articulate, articles decreasing in length and width distally; terminal article strongly hooked; masticatory processes directed mediolaterally, asymmetrical; right mandible with 2 outer fixed spinose teeth and 2 inner articulated spinose teeth; left mandible with 3 fixed and 1 mobile spinose teeth. Maxilla 1, inner lobe broadly oval, with 4 elongate simple setae medially and 9 shorter fringed setae mediolaterally; outer ramus with 10 sinuous distally pectinate spines, 1 simple, 1 fringed, and 1 distally pectinate spine near mediolateral angle. Maxilla 2, inner ramus basally curved, with 3 elongate fringed and 2 simple apical setae, 3 elongate fringed setae on medial margin; inner lobe of outer ramus somewhat longer than outer, both bearing 4 elongate fringed setae distally. Maxilliped with 4-articulate palp, basal article about twice longer than wide, with inner distal angle acute; article 2  $\frac{1}{3}$  length of 3; latter nearly 3 times longer than wide; distal article with broadly cylindrical proximal part and tapering curved spinulose distal part; endite broadly truncate, inner distal angle right-angled; medial margin with 2 coupling hooks, with single elongate fringed seta nearby, 5 more distal fringed setae; distal margin bearing 6 basally stout and distally whip-like fringed setae, and single distolateral slender seta. Pereopod 1 shorter than following legs; carpus with single sensory spine on posterior margin; propodus distally broader than proximally, with single posterodistal sensory spine; dactylus with 4 hooked ungui, distalmost longest. Pleopod 1 basally broad, fused with triangular medial structure, tapering somewhat, lobes distally broadly rounded. Pleopod 2 with outer ramus appearing distally hooded; inner ramus with fine whip-like distal part. Uropod biramous, inner (distal) ramus subequal in length to peduncle; outer lateral ramus  $\frac{2}{3}$  length of inner.

*Female*: Operculum  $1\frac{1}{3}$  wider than long, distally broadly bilobed.

REMARKS.—With Stock's (1977) description

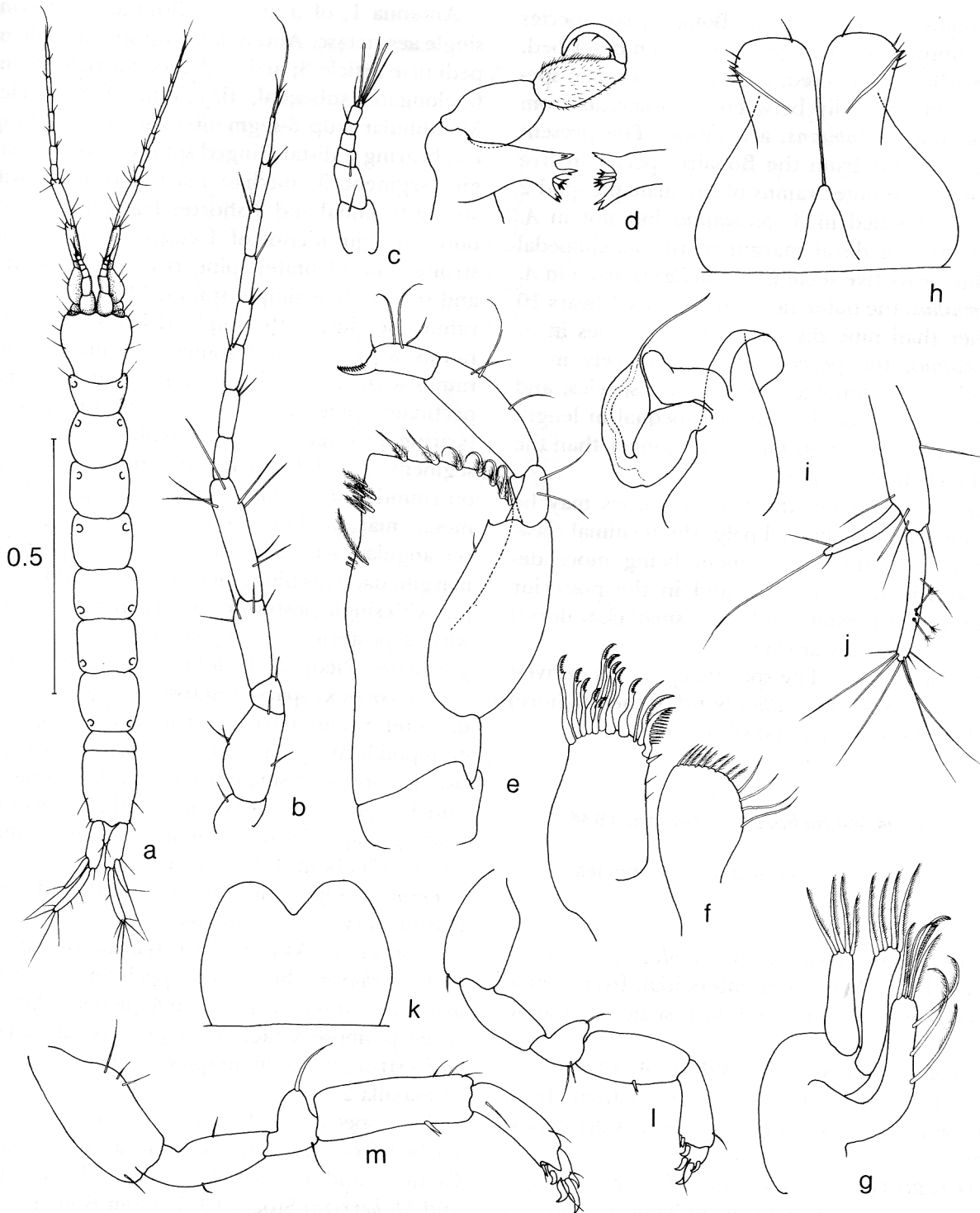


FIGURE 40.—*Angliera psamathus*, new species: *a*, whole animal, dorsal view; *b*, antenna 2; *c*, antenna 1; *d*, mandibles; *e*, maxilliped; *f*, maxilla 1; *g*, maxilla 2; *h*, pleopod 1, ♂; *i*, pleopod 2, ♂; *j*, uropod; *k*, operculum, ♀; *l*, pereopod 1; *m*, pereopod 7.