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## *Cyclopoida siphonostoma* from Mauritius (Crustacea, Copepoda)

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Since nothing was known about the associated Copepoda of Mauritius, it seemed a good idea to try to fill at least part of this gap in our knowledge. On the suggestion of Dr. A. G. Humes, leader of the fieldbase at Nosy Bé of the U.S. Program in Biology of the International Indian Ocean Expedition, the author was enabled in the frame of this Program to pay a month's visit to Mauritius.

Although it soon became clear, that Mauritius, as so many remote islands, has a relatively poor fauna of associated copepods, several interesting samples could be obtained. Since the tides are rather feeble on Mauritius, all the collecting was done by diving, either without equipment or with air cylinders, in shallow waters, from 0 to 20 m. I am indebted to Dr. M. Pichon, staff member of the Centre d'Océanographie et des Pêches, Nosy Bé, Madagascar, for his companionship during the work in and under the water, and for his assistance in identifying several coral hosts.

I wish to express also my thanks to Professor Cl. Lévi, of the University of Strasbourg, France, who identified the sponge hosts, and to Dr. J. Th. Koster, Leiden, Holland, for the identification of a sample of algae. Dr. A. G. Humes helped us in various ways; without his assistance, preparations and knowledge of local circumstances, the fieldwork would have been virtually impossible.

The assistance with laboratory space, boat- and road transport, of the Fisheries Office, Le Réduit, Mauritius, and of the officers at the various branch offices at Pointe aux Sables, Rivière Noire and Trou d'Eau Douce, is acknowledged. Mr. Kennedy, of Port Louis, kindly arranged the refilling of the diving cylinders.

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TAXONOMIC PART

Ten species of siphonostome cyclopoids were found altogether. As was to be expected in a region so poorly explored for these tiny creatures, the greater part of these, viz. 8 species, were new to science. One belongs to a new genus. The two remaining species seem to have been previously described, one from the Mediterranean, and one from Australia.

The genera *Asterocheres*, *Asteropontius*, *Monocheres*, and *Acontiophorus* belong to the family Asterocheridae; the remaining genera, *Myzopontius*, *Bradypontius*, and *Pteropontius*, to the Artotrogidae.

Genus *Asterocheres* Boeck, 1859

More than 30 species belong to this genus. The systematics of these species are in a rather confused state, since (a) the characters in which they mutually differ are of a very refined nature; (b) several species are incompletely known (even such an essential character as the length of the siphon is not known in 5 species); and (c) nothing is known about the variability of key characters, such as the length of the siphon and the number of setae (2 or 3) in the distal part of the 5th leg.

Several European species have been refound on remote parts of the globe. In the present collection, *A. mucronipes* described only a few years ago from the western Mediterranean, turned up on Mauritius. I compared the Indian Ocean material with the types and I was unable to find any significant difference between them.

Four *Asterocheres* species were collected on Mauritius; all were associated with sponges.

***Asterocheres mucronipes* Stock, 1960. Fig. 1.**

*A. mucronipes* Stock, 1960, p. 224—228, figs. 4—5.

Material. — 19 ♀. From small flabby orange sponges, without skeleton, possibly a species of *Oscarella*. Chenal du Trou d'Eau Douce. In small "grottos" in the reef, at a depth of 6—10 m. Feb. 7, 1964. (ZMA Co. 100.955).

Remarks. — It was rather surprising to find back this species, recently described from the neighbourhood of Banyuls (French mediterranean coast), in a sample from Mauritius. The present material agrees in all details with the types. So, the mandibular stylet is 2-articulated, the legs have very peculiar beak-shaped spiniform processes, the  $A_2$  has a long outer branch, etc. The anterior maxilla differs slightly from what I described in 1960: the outer ramus consists of a gonfiate basal portion and a narrower, slender distal portion, armed with 1 thick and 1 very thin seta. In the original description the slender distal portion of the outer ramus was not mentioned. Since this distal portion is hardly discernible in some of my slides of Mauritian specimens (it is easily mistaken for the basal part of the thick terminal seta),

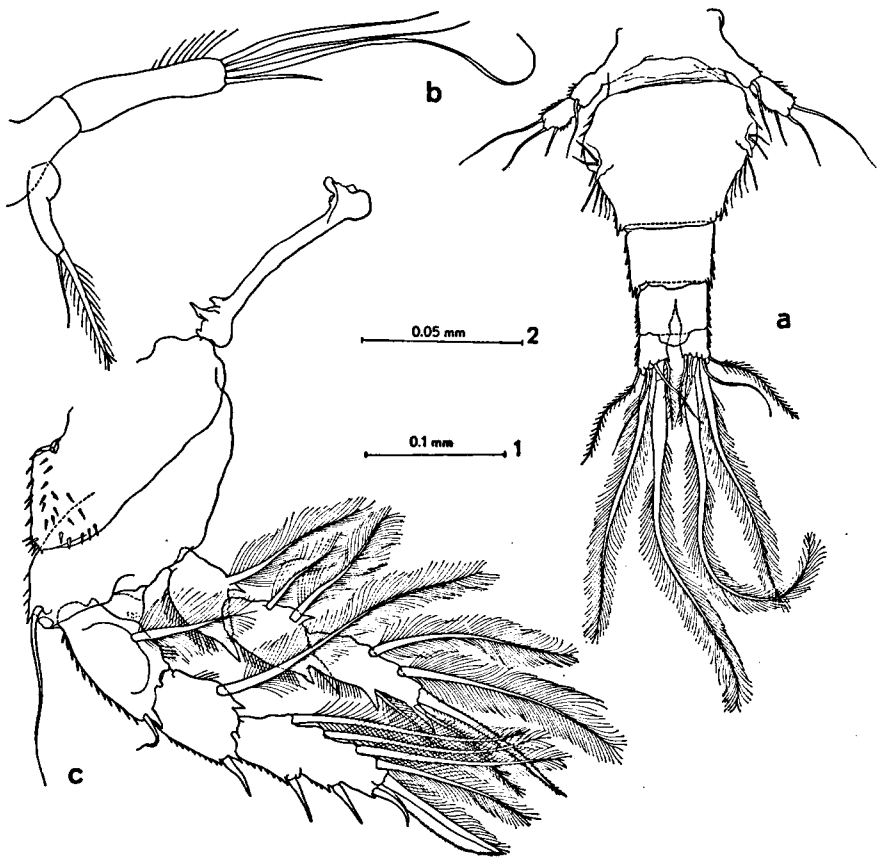


FIG. 1. *Asterocheres mucronipes* Stock, 1960. a, urosome, ventral (scale 1); b, anterior maxilla (plumosity of the setae on the inner lobe omitted) (2); c, fourth leg (1).

I am not certain any longer that the original description was correct on this point.

Another curious feature of *A. mucronipes*, the reduction of certain setae of  $P_4$  (fig. 1c) is also shown by the present material. Moreover, the lateral element of the first exopod segment is setiform (instead of spiniform, as in other *Asterocheres* species).

The Banyuls material, consisting of 4 females, was obtained in washings of an octocoral, called *E. verrucosa* (Pall.) in my 1960 paper, but which, as later investigations of Rossi (1960, Ann. Mus. civ. Storia nat., 71 : 203—225) showed, should more properly be named *E. stricta* (Bert.). Repeated search in recent years has not revealed any additional specimens of *A. mucronipes* on *Eunicella*. It seems not impossible, therefore, that the real host of this copepod is a sponge, as is clearly the case in the Mauritius sample.

The length, without furcal setae, of 6 Mauritius females is 564—664  $\mu$  (mean 598  $\mu$ ).

The live female copepod is opaque, slightly orange, with a red eye.

***Asterocheres halichondriae* n.sp. Figs. 2—5.**

Material examined. — 25 ♀, 3 ♂. From a sponge, *Halichondria symbiotica* Levi. Lagoon of Flic en Flacq, depth about 1 m. Feb. 13, 1964. 1 ♀ is made the holotype, 1 ♂ the allotype, the remaining specimens are paratypes. (ZMA Co. 100.951 a-c).

20 ♀. Same host, Black River Bay, depth 1.5 m. Jan. 24, 1964. (ZMA Co. 100.952).

2 ♀. Same host. Pointe aux Sables, depth about 1 m. Jan. 26, 1964. (ZMA Co. 100.953).

Description. — Female. Total length, excluding the furcal setae, 467—499  $\mu$  (mean 476  $\mu$ ), greatest width 257—290  $\mu$  (mean 274  $\mu$ ), all measurements based on 5 specimens.

The body is regularly cyclopoid (fig. 2a). The first pedigerous segment is incorporated in the cephalosome. The 2nd metasome segment is slightly narrower than the first; its posterior corners are subrectangular, but not produced. The 3rd metasome segment is much narrower than the 2nd. The urosome (fig. 3a) is 4-segmented, the lateral margins of all segments bear cilia or cuticular spinules, but are otherwise devoid of ornamentation. The genital segment is a trifle wider than long; its contour is regularly rounded in the usual way. The anal segment is about as long as the 3rd urosome segment. The ovisacs (fig. 2a) are small and contain but 2 or 3 eggs.

The caudal ramus (fig. 3a) is wider than long, somewhat trapezoidal in outline; there are 4 plumose terminal setae, the two central ones very robust; near the base of these two centralmost setae, the dorsal and the (so-called) lateral setae arise, both are smooth.

The anterior antenna (fig. 3b) is 19-segmented; the armature of the segments is as follows: segment I — 1 seta; II — 2 setae; III — 2 very unequal setae; IV — 2 setae; V — 2 setae; VI — 2 setae; VII — 2 setae; VIII — 2 setae; IX — 6 setae + 1 spinule; X — 1 spine + 1 seta; XI, XII, XIII, XIV, XV, XVI — each 2 setae; XVII — 2 setae + 1 aesthete; XVIII — 3 setae; XIX — 9 setae.

The posterior antenna (fig. 2c) has a 2-segmented protopod; the 1st protopod segment carries a row of cilia; the 2nd, the longest segment of the entire appendage, bears the 1-segmented exopod and the long endopod. The exopod is longer than wide and armed with 2 terminal setae. The 1st endopod segment bears a row of spinules; the 2nd segment is small, triangular and wedged in between the 1st and 3rd segments; it bears 1 setule; the 3rd segment bears a lateral row of spinules, a subterminal seta, and 2 terminal elements: a plumose seta and 1 long, feebly bent claw which is as long as endopod segments 1 and 2 together.

The oral siphon is distally produced into a short tubular part, which extends backward to the implantation of the maxillipeds (fig. 2b).

The mandible (fig. 2d) has a long stylet, distally finely toothed, and a rod-shaped, 2-segmented palp, armed terminally with 2 unequal setae, the largest of which reaches to the end of the stylet.

The anterior maxilla (fig. 3c) has a small outer lobe, whose length is only

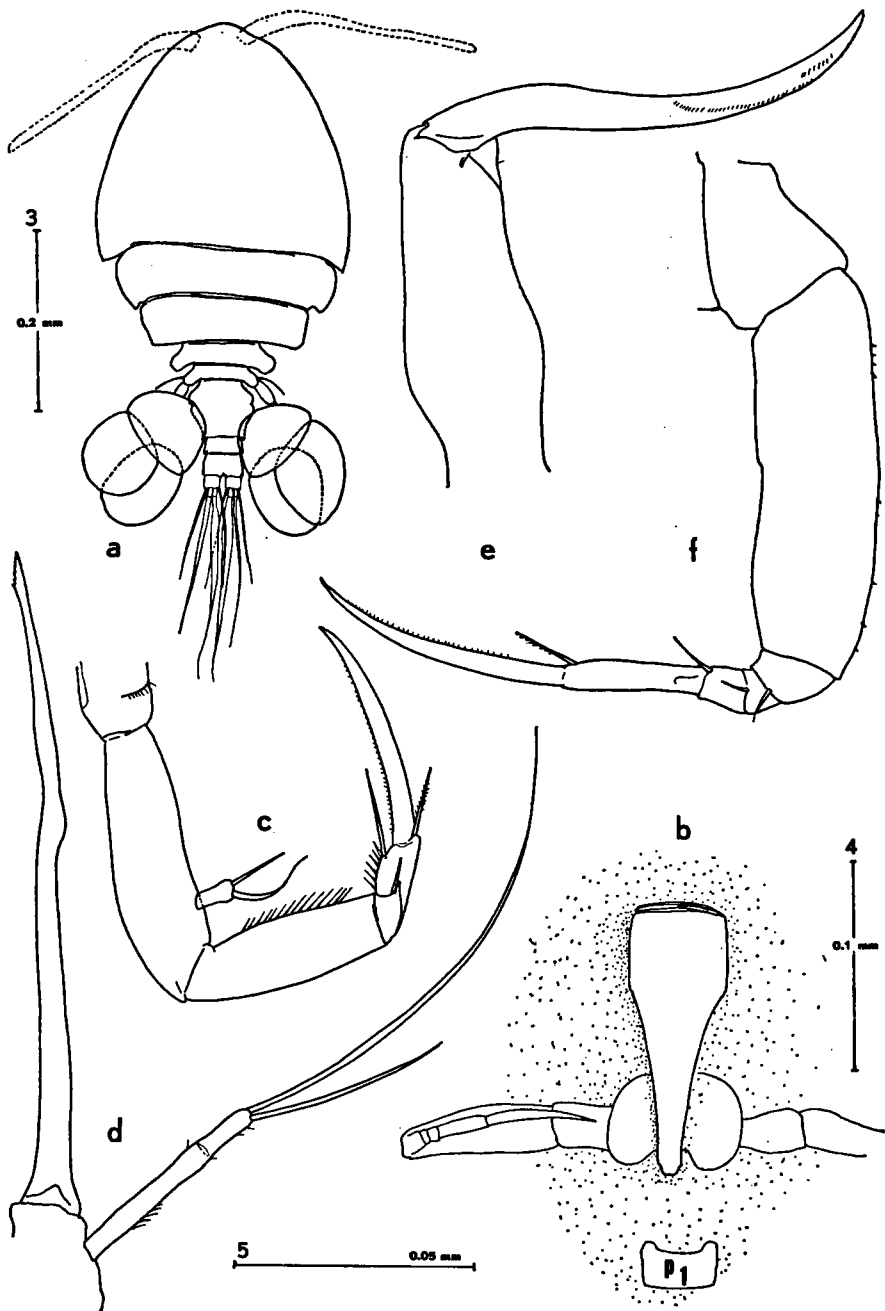


FIG. 2. *Asterocheres halichondriae* n.sp., female. a, dorsal view of ovigerous specimen (scale 3); b, siphon, ventral (4); c, posterior antenna (5); d, mandible (5); e, posterior maxilla (5); f, maxilliped (5).

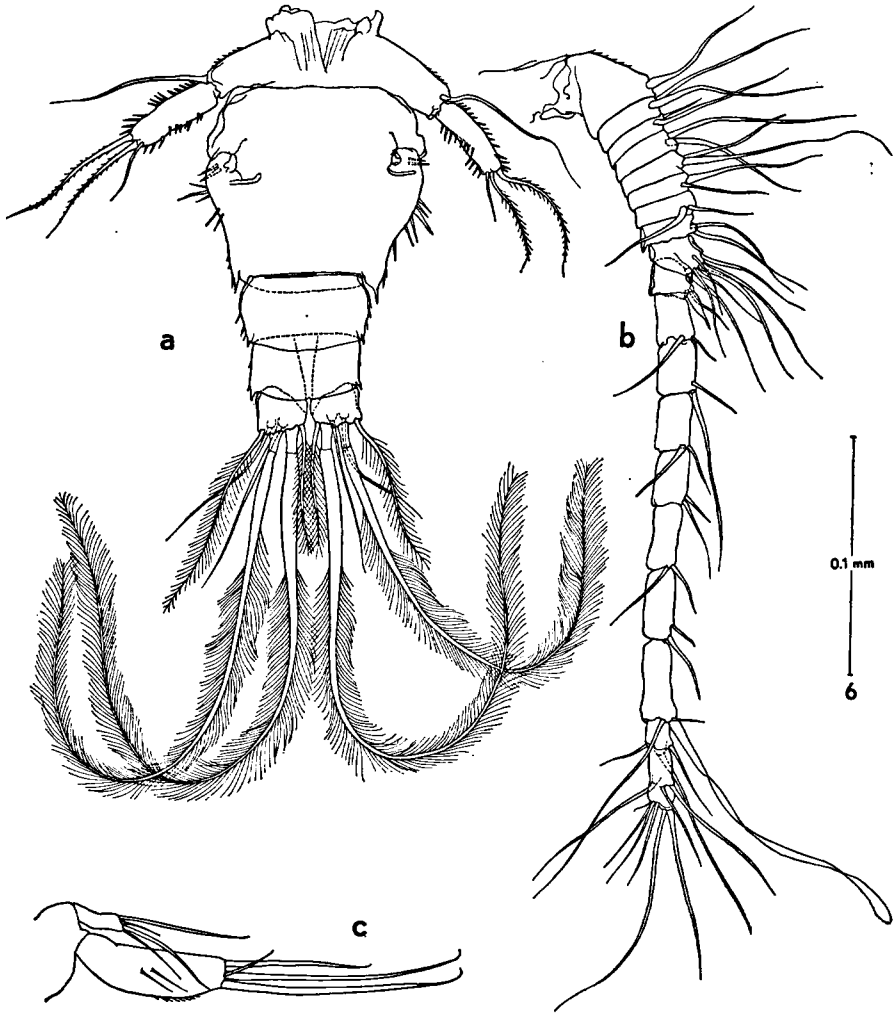


FIG. 3. *Asterocheres halichondriae* n.sp., female. a, urosome, ventral (scale 6); b, anterior antenna (6); c, anterior maxilla (2).

30% of that of the inner lobe. The latter is moreover  $2\frac{1}{2}$  times as wide as the former. Both lobes bear distally 4 setae.

The 2nd maxilla (fig. 2e) consists of a smooth basal segment and a gently curved claw, which bears 2 rows of spinules in its distal half.

The maxilliped (fig. 2f) has a 2-segmented "hand"; segment 1 carries 1 setule, segment 2 is unarmed. The claw is seemingly composed of 5 segments, the basal four of which each carry a seta. The distalmost segment is not very long; it is gently curved and provided with a row of very fine denticles along its inner margin; the spine on the penultimate segment is about  $\frac{1}{4}$  of the length of the terminal segment.

The legs 1 to 4 are biramous, each ramus being 3-segmented. The proto-pods are 2-segmented; intercoxal plates are present; the basipods are provided with a well-developed lateral seta; the coxopods bear a medial seta (plumose in legs 2 and 3).

The individual legs have the following peculiarities:

Leg 1 (fig. 4a) — The exopod segment 1 is laterally provided with setules of 2 sizes; the distal spine of this segment is very large, overreaching segment 2; the lateral spine of segment 2 is minute, not longer than the spiniform process arising distally of it; the lateral spines of segment 3 increase in size from proximal to distal, but are all small, the distalmost spine is conspicuously toothed. The endopod segments are relatively short, not much longer than wide.

Legs 2 and 3 (figs. 4b, 4c) are rather similar, except for the armature of the 3rd endopod segment.

Leg 4 (fig. 4d) has very feeble lateral exopod spines, especially on segments 2 and 3; the terminal exopod spine and the medial exopod setae are well-developed, with the exception of the seta on segment 1, which is rudimentary. The endopod setae are all rudimentary, the lateral ones even more than the medial ones; only the terminal endopod spine is well- (perhaps over-) developed.

The chaetotaxis formula of  $P_1$  to  $P_4$  is as follows:

$P_1$	{	exp.	I — 1 ;	(I) — 1 ;	(III) — 4
		enp.	0 — 1 ;	0 — 2 ;	1 — 5
$P_2$	{	enp.	I — 1 ;	I — 1 ;	III — I — 4
		exp.	0 — 1 ;	0 — 2 ;	1 — 5
$P_3$	{	exp.	I — 1 ;	I — 1 ;	III — I — 4
		enp.	0 — 1 ;	0 — 2 ;	2 — I — 3
$P_4$	{	enp.	I — (1);	(I) — 1 ;	(III) — I — 4
		exp.	0 — (1);	0 — (2);	(2) — I — (2)

Elements that are smaller in size than usual are placed in brackets.

The basal segment of the 5th leg (fig. 3a) is completely fused with the 1st urosome segment; it bears a long lateral seta; the free segment is elongately rectangular, nearly straight; it reaches beyond the genital openings; its distal armature consists of 2 long, plumose setae and a shorter smooth seta; the lateral and medial margins of the free segment are ornamented with spinules.

Two spinules near the genital openings probably represent the 6th leg.

Colour. — The live female is semi-opaque, creamy white or pale pink. The eggs have the same colour as the body.

Male. — Total length of 3 males, 386, 403 and 428  $\mu$ . The urosome (fig. 5a) is composed of 5 segments. The 2nd (or genital) segment is wider than long, rounded rectangular in outline; two good-sized setae near the pointed posterior corner of this segment probably represent the 6th leg.

Sexual dimorphism is moreover observed in  $A_1$ , mxp,  $P_2$ , and  $P_5$ .

The anterior antenna (fig. 5b) is prehensile; it is 17-segmented. The basal 10 segments are comparable with those of the female. Segments 11, 12, 13, and 14 are shorter than the homologous segments of the female, but similarly armed. Segment 15 ( $\delta$ ) is homologous with 15 + 16 ( $\varphi$ ), segment 16 ( $\delta$ ) with 17 + 18 ( $\varphi$ ). The distalmost segments of  $\varphi$  and  $\delta$  are comparable again.

The maxilliped (fig. 5c) differs only from that of the female in the presence of a rounded prominence on the basal half of segment 2.

The 2nd leg (fig. 5d) shows curious dimorphism in the distal endopod segment. The innermost spiniform process is transformed into a large tricuspidate structure, with moreover an additional tooth near its base.

The 5th leg (fig. 5a) is smaller than that of the female, but armed in the same way.

Remarks. — The species of the genus *Asterocheres* fall into four groups, already recognized by GIESBRECHT, 1899, p. 99. In three of these, the siphon is short and pear-shaped, in the fourth (Giesbrecht's group b) it is provided with a tubiform distal part. Of the other features of his various groups, not all are in agreement with more recently described species. So, as far as the siphon is concerned, the present species falls in group b; the armature of the legs and the structure of  $mx_1$  are in agreement with this classification, but the number of segments in  $A_1$   $\delta$  is not.

To group b (characterized in the first place by the tubiform siphon, and without taking the other features in consideration) belong, in addition to the new species described above, the following taxa:

(1) *A. siphonatus* Giesbrecht, 1897; (2) *A. stimulans* Giesbrecht, 1897; (3) *A. intermedius* Hansen, 1923; (4) *A. tenerus* Hansen, 1923; (5) *A. micheli* Gurney, 1927; (6) *A. boeckii* (Brady, 1880), non Giesbrecht, 1899; (7) *A. complexus* Stock, 1960; (8) *A. latus* (Brady, 1872); (9) *A. parvus* Giesbrecht, 1897; (10) *A. kervillei* Canu, 1898; (11) *A. orientalis* Sewell, 1949; (12) *A. mucronipes* Stock, 1960; (13) *A. canui* Giesbrecht, 1897; (14) *A. ventricosus* Brian, 1928.

The species (1) and (2) have a very long siphon (to  $P_5$  and  $P_3$ , respectively), and thus differ clearly from the present species.

*A. halichondriae* n.sp. differs from:

nrs. 3 and 4 in having the genital segment not longer than wide (instead of much longer than wide);

nr. 5 in having a 19-segmented  $A_1$  (instead of 18-segmented) and in having 4 setae on the outer lobe of  $mx_1$  (instead of 2 setae);

nr. 6 in being smaller, about 0.47—0.49 mm in  $\varphi$  (versus 0.90 mm), in having



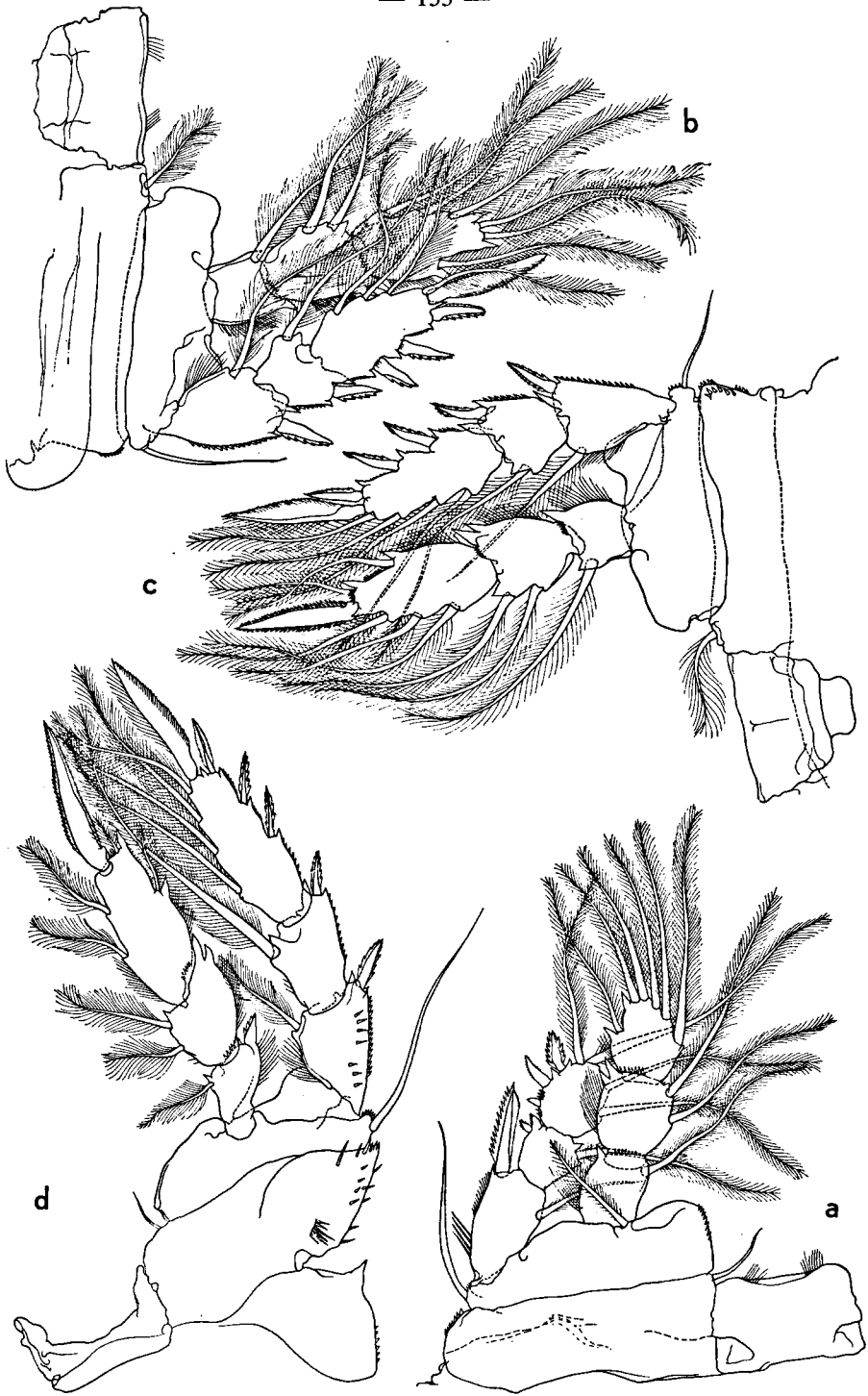


FIG. 4. *Asterocheres halichondriae* n.sp., female. a, leg 1 (scale 2); b, leg 2 (2); c, leg 3 (2); d, leg 4 (2).

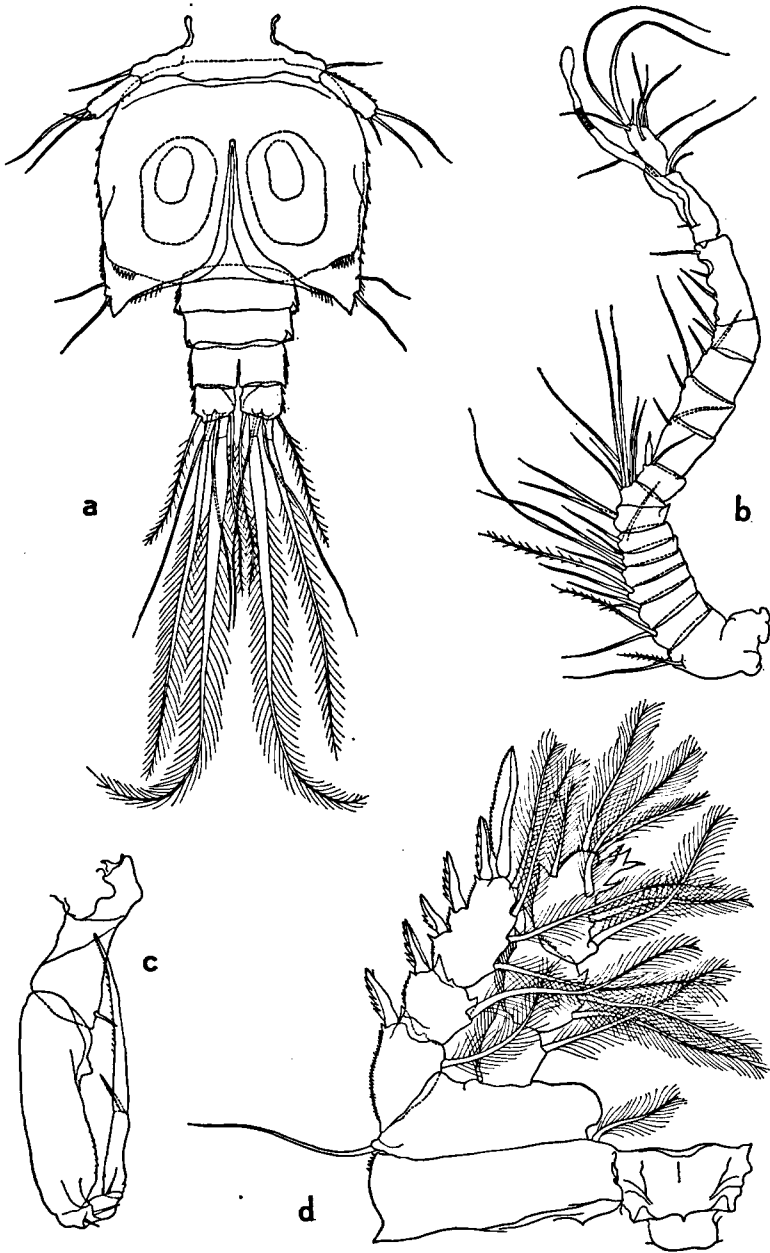


FIG. 5. *Asterocheres halichondriae* n.sp., male. a, urosome, ventral (scale 6); b, anterior antenna (6); c, maxilliped (2); d, second leg (2).

- 3 terminal setae on the 5th leg (instead of two), and in having a less slender 3rd endopod segment in  $P_1$ ;
- nr. 7 in having a more complex sexual dimorphism in the 3rd endopod segment of  $P_2$  ♂, and in lacking ventral rows of spinules on urosome segments 2 and 3;
- nrs. 8 and 9 in the shorter furca;
- nr. 10 in the shorter furca, and by differences in  $P_1$  and  $P_2$  ♂;
- nr. 11 in a longer and more slender siphon, and in being smaller (0.47—0.49 mm in ♀, versus 0.88 mm);
- nr. 12 in having much shorter spiniform processes on all legs;
- nr. 13 in having the endopod segments of  $P_1$  ♂ about as long as wide (instead of more elongate), and in having a straight (instead of curved) spine on the first exopod segment of  $P_1$  ♂;
- nr. 14 in having a "normal" genital segment (instead of widened and provided with lateral projections).

It is clear then, that *A. halichondriae* is different from all taxa described in *Asterocheres*. Its real relationships are more difficult to define, owing to the fact that in most species only one sex is known and that several descriptions are very wanting in details. At any rate it seems that *A. complexus* Stock, 1960 (= *A. boeckii* Giesbrecht non Brady) is closely related to the present form. Many structural details agree, e.g. the rudimentary condition of the setal elements on the endopod of  $P_4$  and the presence, in male, of a sexually dimorphic  $P_2$ .

#### ***Asterocheres genodon* n.sp. Figs. 6—8**

Material examined. — 8 ♀ (one of which is made the holotype). From a dull purple sponge, *Haliclona* sp. Chenal du Trou d'Eau Douce; reef; depth 6—10 m. Feb. 7, 1964. (ZMA Co. 100.956).

Description. — Female: Total length (without furcal setae) 805—934  $\mu$  (mean 869  $\mu$ ), greatest width of cephalosome 499—564  $\mu$  (mean 539  $\mu$ ), based on 7 specimens. The cephalosome, in which the first pedigerous segment is incorporated, is shorter than the rest of the body. Metasome segment 3 (= 4th pedigerous segment) is much smaller and distinctly narrower than metasome segment 2. Both metasome segments 2 and 3 have rounded posterolateral corners. The genital segment (fig. 6b) is slightly wider than long; it attains its greatest width near the genital openings. A slight notch in the lateral margin of the genital segment demarcates the position of these openings; behind this notch, a bunch of cilia is borne; further backward, the margin shows a distinct indentation, very characteristic for this species. Except for the usual lateral scale-like cuticular spinules, present on the posterior half of the genital segment, the two postgenital segments and the caudal rami, the urosome has no armature or ornamentation. The caudal rami (fig. 6b) are somewhat trapezoidal, in the sense that the inner margin is the shortest side, the lateral margin the longest side of the trapezium. There are 4 terminal setae: the relatively long lateral one is thin but plumose, the two long central

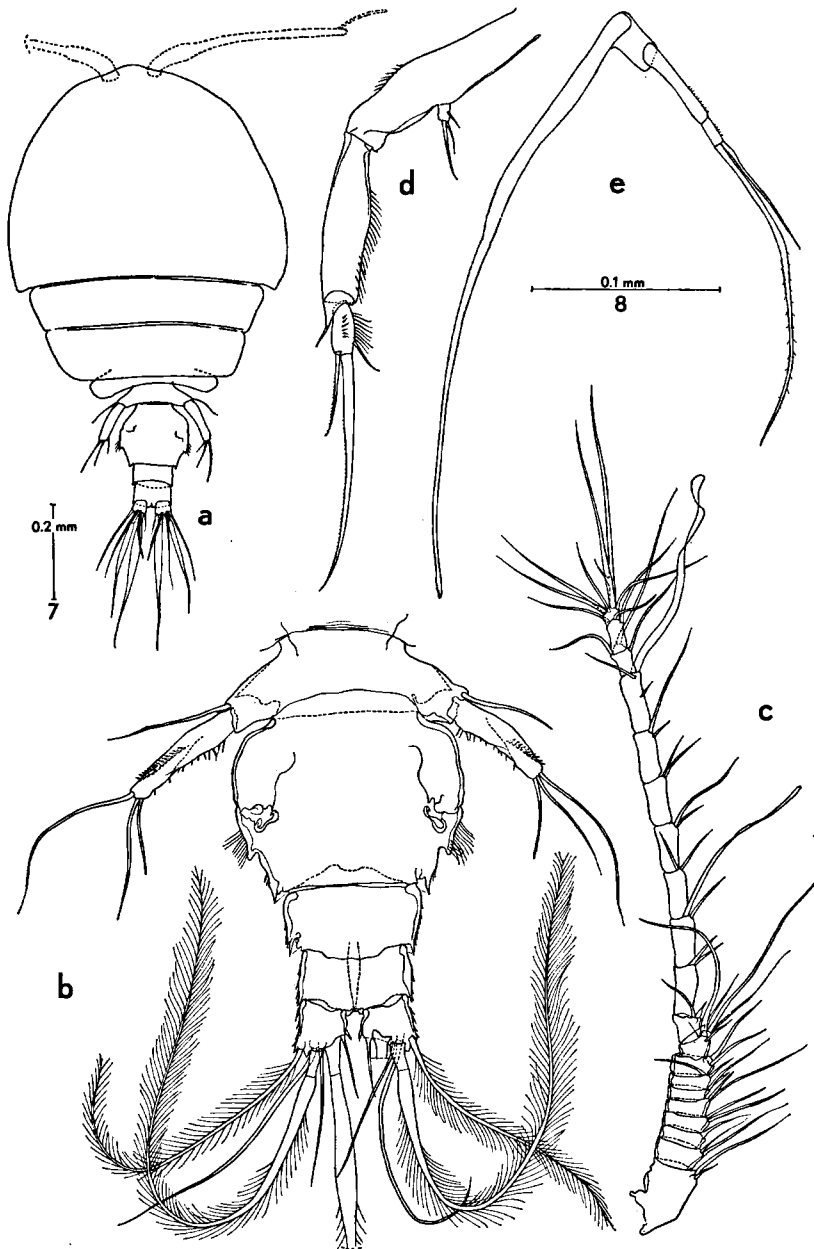


FIG. 6. *Asterocheres genodon* n.sp., female. a, dorsal view of entire animal (scale 7); b, urosome, ventral (1); c, anterior antenna (1); d, posterior antenna (8); e, mandible (8).

ones are gonflated and plumose, the median one is remarkably short and thin, and devoid of plumosity. A small spinule arises near the implantation of this rudimentary seta. The two dorsal furcal setae are smooth and implanted both near the basis of the most lateral gonflated seta.

The anterior antenna (fig. 6c) has a 10-segmented basal portion, and a 10-segmented distal portion. Distally of the aesthete, 3 segments are more or less clearly demarcated. The slenderness of the segments of the distal portion is noteworthy.

The posterior antenna (fig. 6d) has a very small exopod, which is scarcely longer than wide, but which is armed with 3 setae. The first endopod segment is slender, ciliated; the triangular 2nd endopod segment bears 1 short seta; the 3rd segment bears 2 rows of cilia, a lateral seta, and 2 very unequal distal

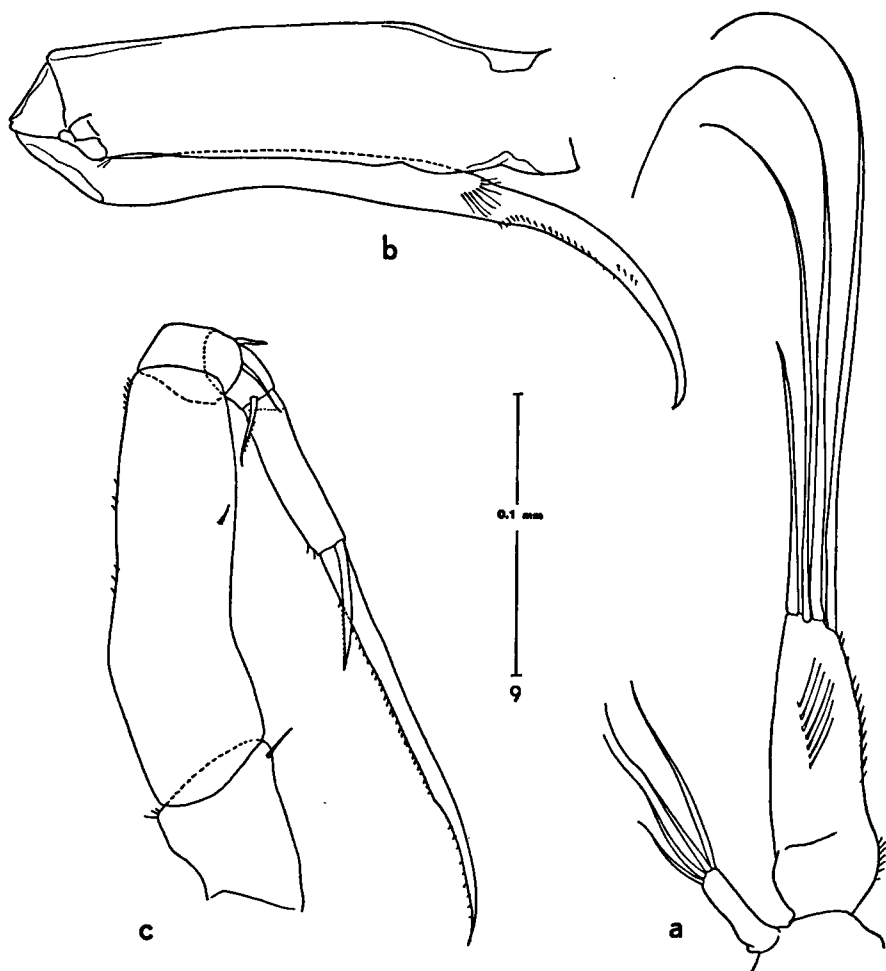


FIG. 7. *Asterocheres genodon* n.sp., female. a, anterior maxilla (scale 9); b, posterior maxilla (9); c, maxilliped (9).

setae (or "claws"); the longest of these "claws" is longer than all endopod segments together.

The siphon has a tubiform distal part, which reaches backward to the insertion of  $P_1$  or  $P_2$ . The mandible (fig. 6e) has a long stylet, distally finely toothed, and a 2-segmented palp. The first palp segment is the longest; there are 2 unequal setae at the tip of segment 2.

The anterior maxilla (fig. 7a) has a small and narrow outer lobe. The inner lobe is 3 times longer, and  $3\frac{1}{2}$  to 4 times wider than the outer one. Both lobes carry 4 distal setae, those of the smaller lobe do not attain completely the end of the larger lobe.

The posterior maxilla (fig. 7b) is rather slender; the curved claw is distally finely ornamented.

The maxilliped (fig. 7c) is also fairly slender. The penultimate claw segment is armed with a long spine, which attains nearly  $\frac{1}{3}$  of the length of the terminal claw segment.

The legs 1 to 4 (figs. 8a-d) are rather similar to those of *A. halichondriae*. Noteworthy are the longitudinal row of spinules on segment 2 of the 2nd exopod, and the reduction (to a conical spinule) of the medial coxopod element of  $P_4$ .

The 5th leg (fig. 6b) is long and slender; it attains the genital opening. The one margin is armed with coarser, the other with finer spinules; there are 2 shorter and 1 longer distal setae.

Colour. — The live female is white with yellowish ovaries. The eye is very pale.

Remarks. — The length of the siphon of this species, reaching backward to insertion of  $P_1$  or  $P_2$ , places it in the following group of species: (1) *intermedius* Hansen, 1923; (2) *tenerus* Hansen, 1923; (3) *micheli* Gurney, 1927; (4) *boeckii* (Brady, 1880); (5) *latus* (Brady, 1872); (6) *parvus* Giesbrecht, 1897; (7) *complexus* Stock, 1960; (8) *stimulans* Giesbrecht, 1897; (9) *halichondriae* Stock (vide supra).

Of these, nrs. 1 and 2 have an elongate genital segment, quite different from that of the present species. Nr. 3 is incompletely known, but has a different armature of the outer lobe of  $mx_2$  and a small  $P_5$ . Nr. 4 has only 2 setae on  $P_5$  and the genital segment does not bear a lateral tooth under the genital opening. Nrs. 5 and 6 have a longer caudal ramus. Nr. 7 is closely related to the present species, but has ventral rows of spines on the urosome, a different number of segments in  $A_1$ , a shorter  $P_5$ , and a differently shaped genital segment without lateral tooth. Nr. 8 differs also in the shape of the genital segment (without lateral tooth), whereas  $A_1$  segment 9 is wider and shorter, segments 11, 12 and 13 are less elongate, the mandibular stylet is distally unornamented (versus toothed), and the spine on the penultimate  $mxp$  claw segment is short ( $\frac{1}{3}$  as long as the claw in the present species). Nr. 9 is much smaller, has an untoothed genital segment, and shows several differences in the  $A_1$ .

Some other species share the toothed lateral margin of the genital segment

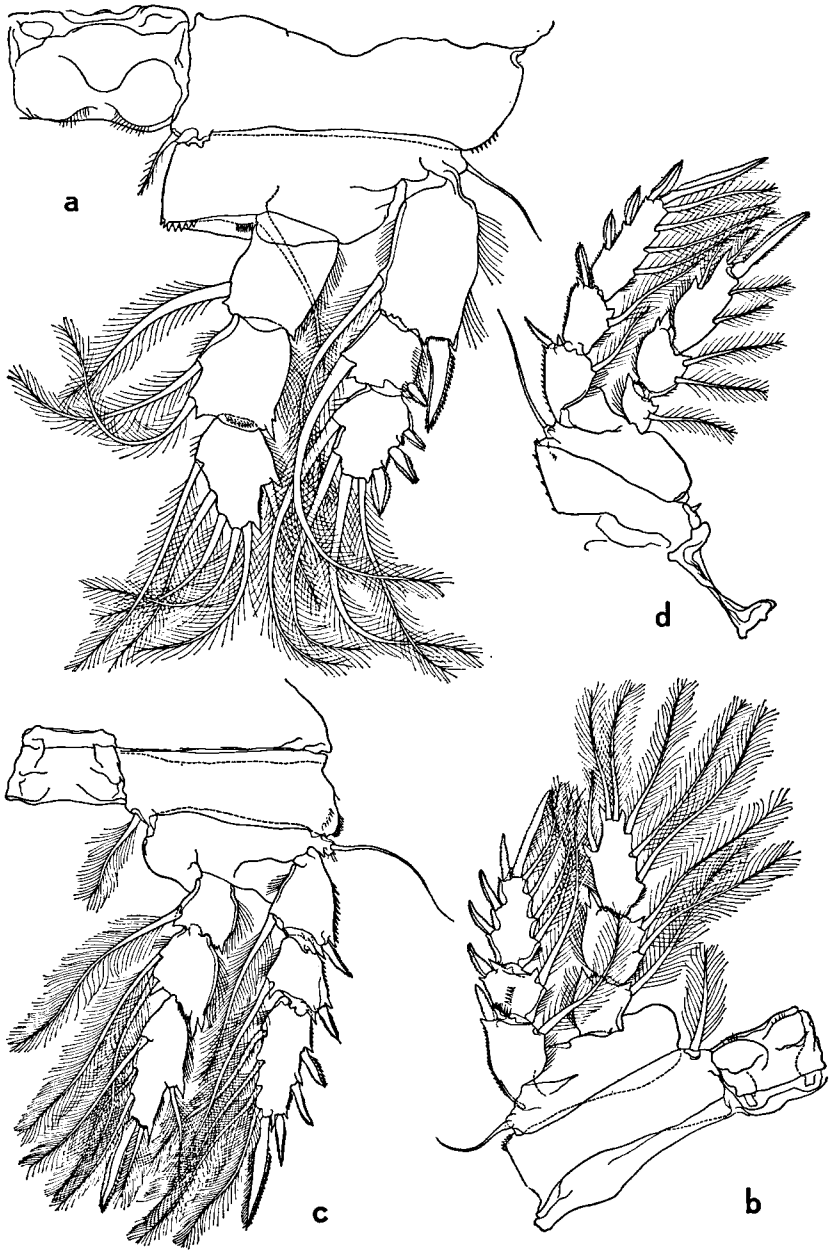


FIG. 8. *Asterocheres genodon* n.sp., female. a, leg 1 (scale 6); b, leg 2 (1); c, leg 3 (1); d, leg 4 (1).

with the new species, but have a short non-tubular siphon (as *A. dentatus*) or a very long one (reaching to  $P_5$  as *A. siphonatus*).

The proposed specific name, *genodon* (from  $\gamma\epsilon\nu\omicron\varsigma$  and  $\omicron\delta\omicron\upsilon\varsigma$ ) alludes to the toothed lateral margin of the genital segment.

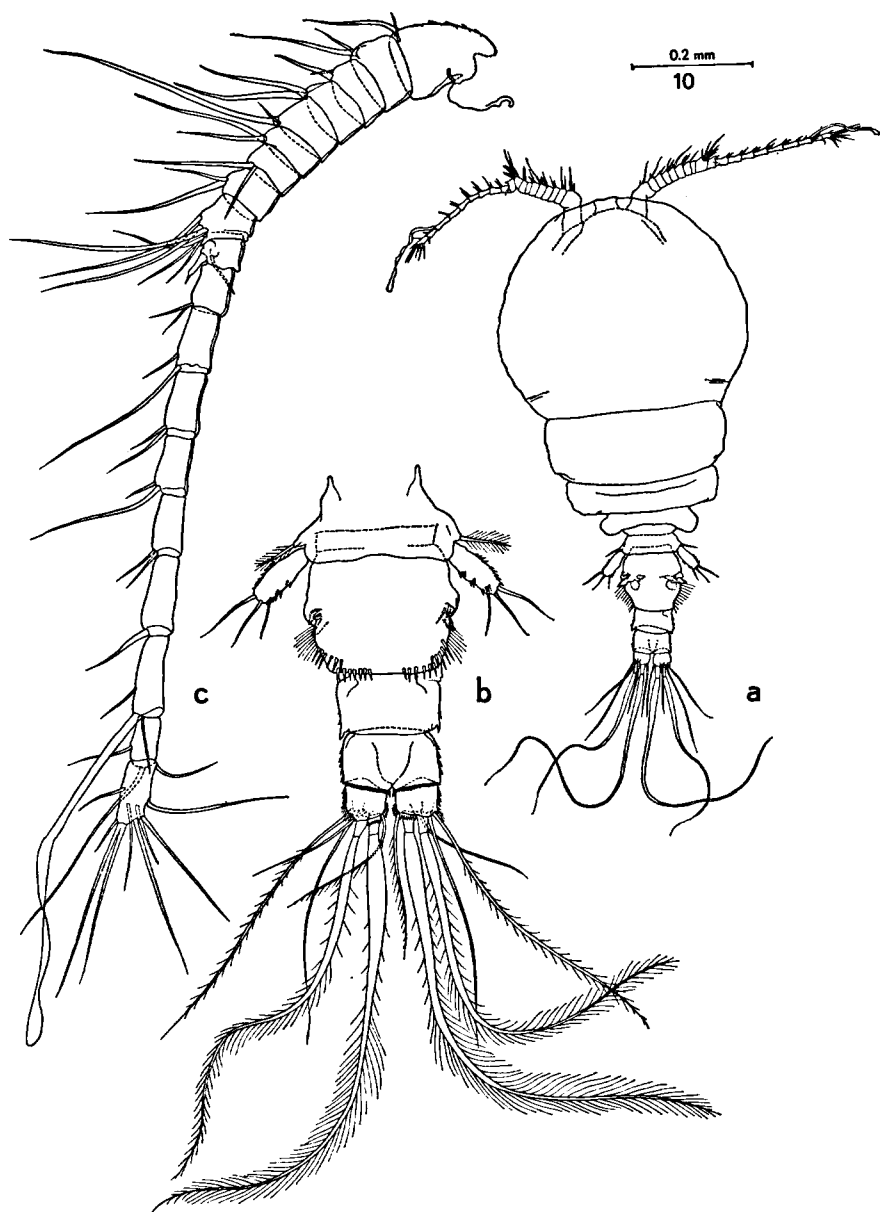


FIG. 9. *Asterocheres proboscideus* n.sp., female. a, entire animal, dorsal (scale 10); b, urosome, ventral (1); c, anterior antenna (6).

***Asterocheres proboscideus* n.sp. Figs. 9—11**

Material examined. — 7 ♀, one of which is made the holotype. From a calcareous sponge, *Pericharax heteroraphis* Polejaeff. 57° 21' E—20° 22' S, reef, depth 10—19 m. Feb. 10, 1964. (ZMA Co. 100.957).

Description. — Female. Total length, excluding furcal setae 644—821  $\mu$



(mean 741  $\mu$ ), greatest width, at the level of the cephalosome 322—403  $\mu$  (mean 370  $\mu$ ), all measurements based on 7 specimens.

The cephalosome is nearly circular in outline and occupies distinctly less than half of the entire body length (fig. 9a). Metasome segments 1 and 2 (carrying  $P_2$  and  $P_3$ ) diminish slightly in width, segment 3 is suddenly much narrower; all metasome segments have rounded posterior corners. The genital segment (figs. 9a, 9b) has its greatest width near the middle. The position of genital openings is marked by 2 setae (probably the rudiment of  $P_6$ ) and a notch in the lateral margin of the segment. Near this notch, a strong pointed process arises; the lateral margin caudally of the notch bears a row of long cilia, the posterior margin bears 2 parallel rows of strong spinules. The 3rd and 4th urosome segments are rectangular, about equal in size; their lateral margin is ornamented with a few cuticular spinules; the caudal margin of segment 4 bears a row of very fine spinules. The caudal ramus (fig. 9b) is wider than long; disto-medially and terminally it is armed with a hyaline, serrulated crest, laterally with fine spinules and cilia. The 4 terminal setae are plumose, the 2 central ones of these are swollen. The 2 dorsal setae are smooth and implanted close near each other.

The anterior antenna (fig. 9c) is 19-segmented. Segments 1 to 8 all bear 2 setae, segment 9 bears 6 setae, segment 10 one spine and one seta, segments 11 to 15 each 2 setae, segment 16 one seta, segment 17 one aesthete and 2 setae, segment 18 bears 2 setae, segment 19 bears 9 setae. Segments 11 to 17 gradually increase in length.

The posterior antenna (fig. 10a) has a 2-segmented protopod, which is slightly longer than the 3-segmented endopod. The basipod carries distally a row of cilia and laterally the elongate, unimerous exopod, whose terminal armature consists of 2 very unequal setae. The first endopod segment is long, only ornamented with cilia, the triangular 2nd segment bears a pointed projection and a seta, the 3rd segment is nearly 3 times as long as wide and carries a lateral row of cilia, a laterodistal seta, a terminal seta, and a very long terminal claw, distinctly longer than the entire endopod.

The oral siphon is, in undamaged specimens, very long. Its tubiform distal part extends beyond the caudal rami. In several specimens, the siphon projects at a nearly right angle to the body axis; the distal part of the siphon is usually curled.

The mandible palp (fig. 10b) is one-segmented; its terminal armature consists of 2 long setae.

The anterior maxilla (fig. 10c) has narrow outer lobe, which is about half as long as the wider inner lobe. The outer lobe bears 4 long plumose setae, the inner lobe 3 long plumose setae and 1 rudimentary setule.

The posterior maxilla (fig. 10d) is rather slender and has a long, curved claw.

The maxilliped (fig. 10e) is rather slender; the distal claw segment is as long as the 2nd segment; the spine of the penultimate claw segment is relatively short, less than  $1/5$  of the length of the last claw segment.

The chaetotaxis formula of the legs 1 to 4 is the usual one for the genus.

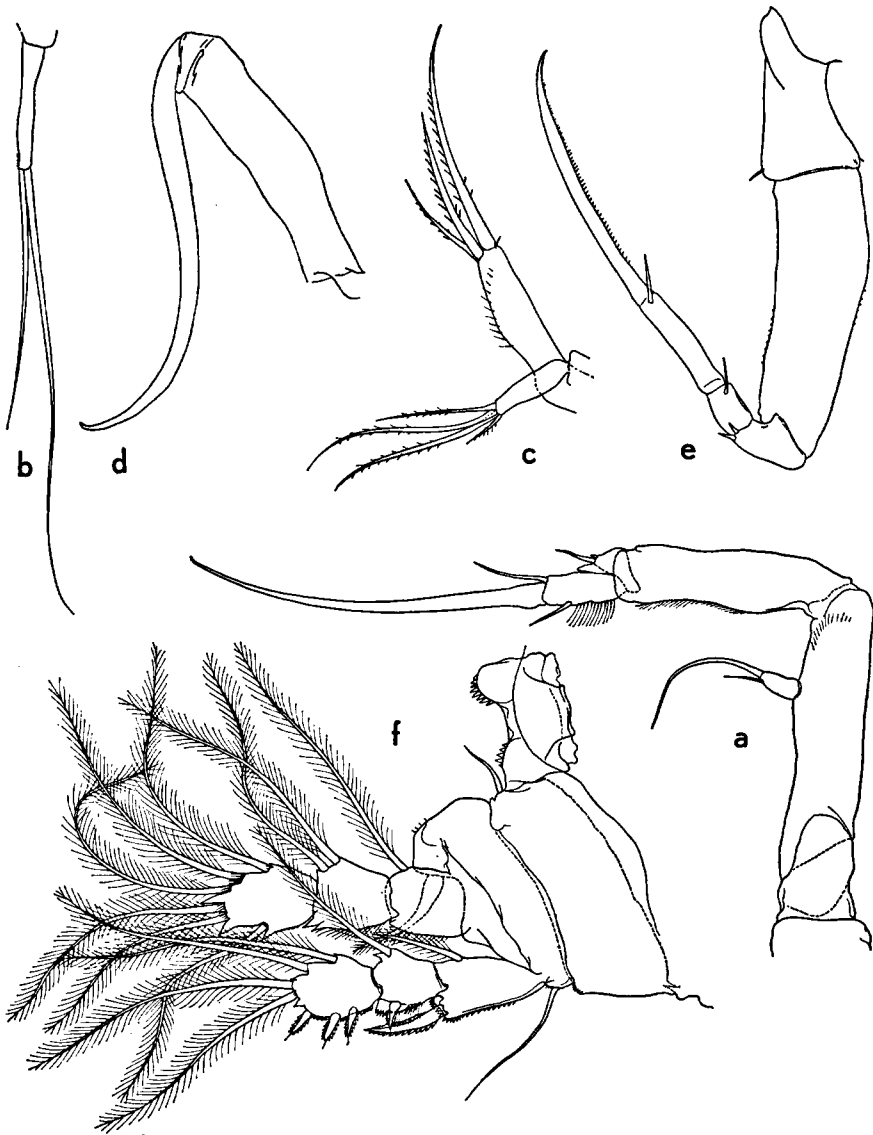


FIG. 10. *Asterocheres proboscideus* n.sp., female. a, posterior antenna (scale 2); b, mandible palp (6); c, anterior maxilla (6); d, posterior maxilla (8); e, maxilliped (6); f, first leg (6).

All legs have intercoxal plates; those of legs 2 and 3, but in particular that of leg 1, bear several spinules. The coxopods of legs 1, 2 and 3 have a medial seta; the basipods of all legs have a lateral seta; the basipod of leg 1 has moreover a robust medial seta.

The exopod of leg 1 (fig. 10f) is characterized by a large spine on segment

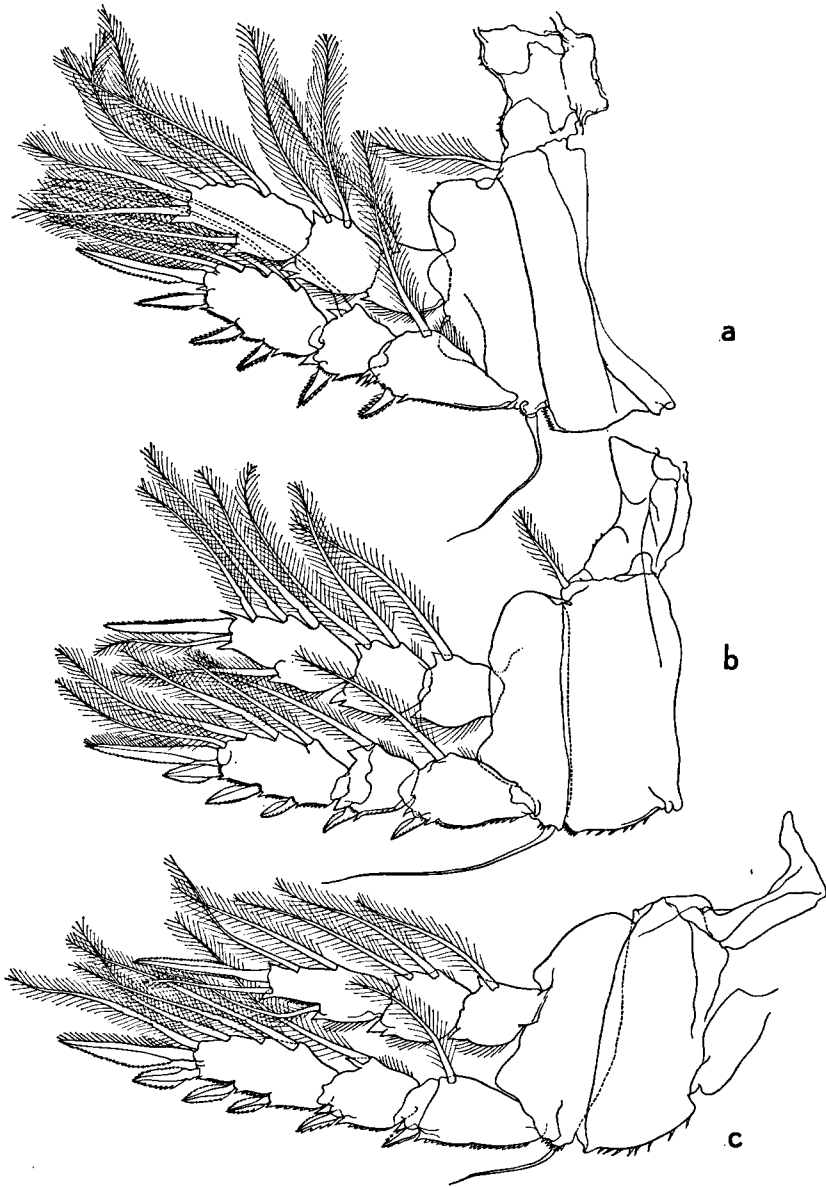


FIG. 11. *Asterocheres proboscideus* n.sp., female. a, leg 2 (scale 6); b, leg 3 (6); c, leg 4 (6).

1, and rows of spinules on the lateral margin of all segments; those on segment 2 assume the form of a crest. The 2nd exopod (fig. 11a) has likewise lateral rows of spinules, which form a curious quadricuspidate process on segment 1. The spinules on legs 3 and 4 are of normal proportions. The

terminal element on the endopod of leg 3 (fig. 11b) is spiniform. All elements on the endopod of leg 4 (fig. 11c) are well-developed: the setae of segment 3 are about as long as the long terminal spine.

Leg 5 (fig. 9b) is  $2\frac{1}{2}$  times as long as wide, thus not very slender; its lateral margin bears a row of spinules, its inner margin several groups of spinules; there are 3 distal setae.

Colour. — The live female is semi-transparent, whitish or yellowish; the eye is very pale.

Remarks. — Only 2 species within the genus *Asterocheres* have an exceedingly long siphon: *A. stimulans* Giesbrecht, 1897, and *A. siphonatus* Giesbrecht, 1897. In the former it attains the insertion of the 3rd legs, in the latter it reaches beyond the 5th legs. The present new species beats those previously known, in having the siphon extending beyond the caudal rami. So, the length of the siphon alone would be sufficient for the characterization of the new species, which is called for obvious reasons *proboscideus*. *A. proboscideus* is also characterized by the curious tooth-like process on the lateral margin of the genital segment, near the genital openings, by the ventral spinules on the genital and anal segments, by the distal armature of the inner lobe of the first maxilla, and certain details in the fine ornamentation of the exopods of  $P_1$  and  $P_2$ .

The 3 species mentioned, *stimulans*, *siphonatus*, and *proboscideus*, agree with each other not only in the great elongation of the siphon, but also in two other, rather unexpected, features: the mandible palp is one-segmented and the coxopod of  $P_4$  is devoid of a medial element.

#### Genus *Asteropontius* Thompson & Scott, 1903

No type-species has been designated to my knowledge for the genus *Asteropontius* Thompson & Scott, 1903. Since the specific name, *typicus*, gives an indication, and since *A. typicus* is the first of the two species attributed by Thompson & Scott to their new genus, I propose herewith to consider that species as the type of the genus.

*Asteropontius* is very closely related to *Asterocheres*. Its 5 known species differ possibly only, as UMMERKUTTY (1962) emphasized already, from *Asterocheres*, by the uniarticulate, reduced nature of the mandibular palp. I may point out to future workers on the genus that *Asteropontius corallophilus* has a somewhat more elaborate armature of the mandible blade than is usual in *Asterocheres*. Since no clear information on the mandible and its palp is available of *Asteropontius mycalei* Krishnaswamy, 1959, its generic position is based entirely upon the original designation. As a matter of fact, the mouth-parts of *A. mycalei* are dismissed of with the words "as in the other members of the genus" (KRISHNASWAMY, 1959, p. 25). A diagram (fig. 1c) of what seems to be a mandible (though the legend reads "maxillule") is neither a typical *Asteropontius* mandible (palp too long, with 3 long setae, instead of only 1 long seta), nor a typical *Asteropontius*  $mx_1$  (longest ramus without setal armature).

The species of this genus may be distinguished with the aid of the following key:

- 1a) Fourth exopod with 7 elements (formula III-I-3), fourth endopod with 4 elements (1-I-2). . . . . 2
- b) Fourth exopod with 8 elements (formula III-I-4), fourth endopod with at least 5 elements (usually 2-I-2). . . . . 3
- 2a) Caudal ramus  $2\frac{1}{2}$  times as long as wide. . . *A. attenuatus* Thompson & Scott, 1903
- b) Caudal ramus only slightly longer than wide. . . . . *A. nicobaricus* Sewell, 1949
- 3a) First exopod with formula IV-3. . . . . 4
- b) First exopod with formula II-4 or III-4. . . . . 5
- 4a) Greatest width of genital segment in its anterior third. Fourth pedigerous segment with lateral epimeral areas, and with deeply convex posterior margin.  $A_1$  20-segmented. . . . . *A. mycalei* Krishnaswamy, 1959
- b) Greatest width of genital segment near its middle. Fourth pedigerous segment without large epimeral areas and with straight posterior margin.  $A_1$  19-segmented. . . . . *A. sewelli* Ummerkutty, 1962
- 5a) Distal segments of  $A_1$ , from segment 11 onward, only slightly longer than wide. Endopod of  $P_4$  with setiform elements only. Mandibular stylet as long as the palp (including its terminal seta). . . . . *A. typicus* Thompson & Scott, 1903
- b) Distal segments of  $A_1$  much longer than wide. Endopod of  $P_4$  with both spiniform and setiform elements. Mandibular stylet much longer than the palp (including its terminal seta). . . . . *A. corallophilus* n.sp.

### **Asteropontius corallophilus** n.sp. Figs. 12—15

Material examined (all from Madreporaria). —

- 1) 3 ♀, 1 ♂. From *Pocillopora damicornis* (L.) and *P. damicornis* forma *favosa*. Pointe Lafayette, in exposed lagoon, depth 1—3 m. Feb. 2, 1964 (1 ♀ is made the holotype, 1 ♂ the allotype, the other 2 females are paratypes). (ZMA Co. 100.958).
- 2) 9 ♀, 5 ♂. From 3 different *Montipora* species. Lagoon near Flic en Flacq, depth 1—2 m. Feb. 3, 1964. (ZMA Co. 100.962—964).
- 3) 2 ♀. From *Stylophora* cf. *erythraea* von Marenzeller. Western entrance of Baie du Cap, in lagoon, depth 1—2 m. Feb. 1, 1964. (ZMA Co. 100.959).
- 4) 4 ♀. From *Stylophora pistillata* (Esper). Pointe Vacao (in the north of the island), in lagoon, depth about 2 m. Feb. 5, 1964. (ZMA Co. 100.960).
- 5) 1 ♀. From *Stylophora subseriata* (Ehrenberg). Chenal du Trou d'Eau Douce, reef, depth 6—10 m. Feb. 7, 1964. (ZMA Co. 100.961).
- 6) 1 ♀. From *Porites* spec. Baie du Tombeau, in lagoon on southern shore of the bay, depth about 1 m. Jan. 28, 1964. (ZMA Co. 100.965).

Description. — Female: The 3 females from *Pocillopora* have a length (without furcal setae) of 805, 853 and 854  $\mu$ , the greatest width, at the level of the cephalosome, is 515, 499 and 505  $\mu$ . Seven females from *Montipora* are 805—902  $\mu$  long (mean 853  $\mu$ ) and 467—547  $\mu$  (mean 489  $\mu$ ) wide. Six females from *Stylophora* are 757—871  $\mu$  long (mean 809  $\mu$ ) and 435—467  $\mu$  (mean 454  $\mu$ ) wide.

The cephalosome and metasome are rather wide and ovate in outline (fig. 12a). The first pedigerous segment is completely fused with the cephalic segment. Metasome segments 1 and 2 (which bear legs 2 and 3) are slightly narrower than the cephalosome. Metasome segment 3 is much narrower and is in its anterior half partially covered by the dorsally expanded posterior half of the metasome segment 2. The urosome (fig. 12b) consists of 4 segments. The first urosome segment carries the 5th leg. The second (or genital) segment is swollen in its anterior half, at the level of the genital pores; three

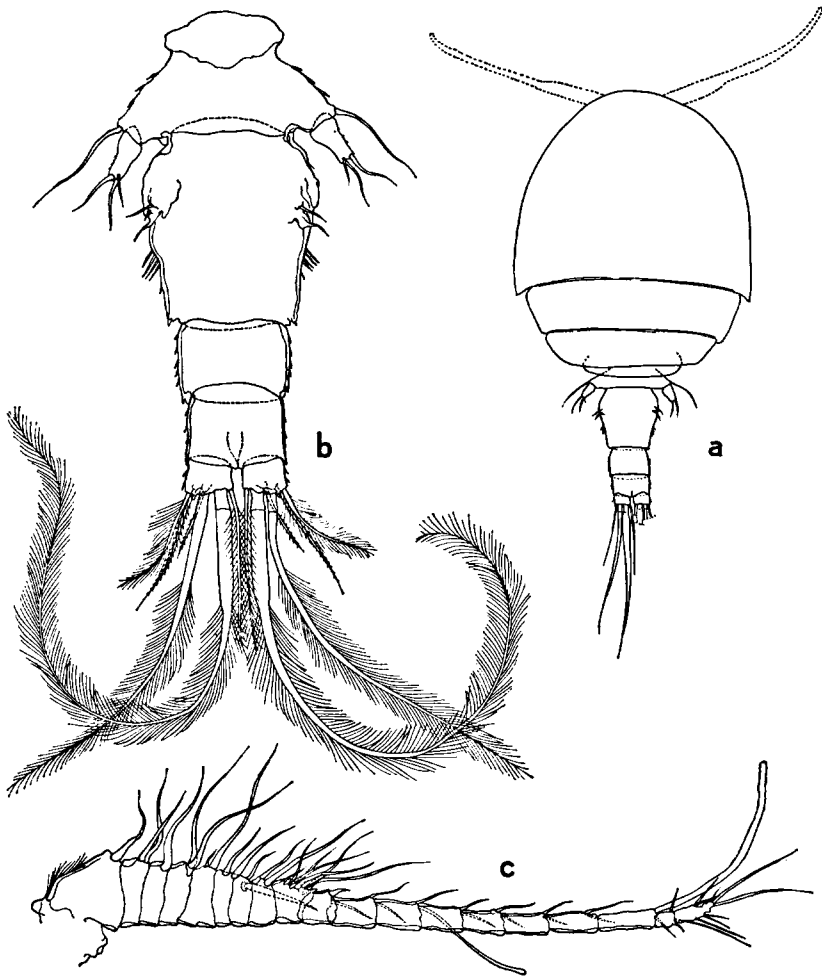


FIG. 12. *Asteropontius corallophilus* n.sp., female. a, entire animal, dorsal (scale 7); b, urosome, ventral (1); c, anterior antenna (1).

setae mark the position of these pores; where the segment narrows there is on each side a tuft of fine spinules. The two postgenital segments are provided with scale-like cuticular outgrowths on their lateral margins. These segments are rectangular, and wider than long. The caudal rami (fig. 12b) are less than half as long as the anal segment and over one-third wider than long. Their lateral margins bear also some scalelike outgrowths. The armature consists of 2 subterminal, dorsal setae (implanted just above the two largest terminal setae) and of 4 plumose terminal setae. The two central ones of these terminal setae are much longer and much thicker than the others, especially the most median of them.

The anterior antenna (fig. 12c) is 19- or 20-segmented (the number of segments depends on whether one wants to consider the distalmost segment

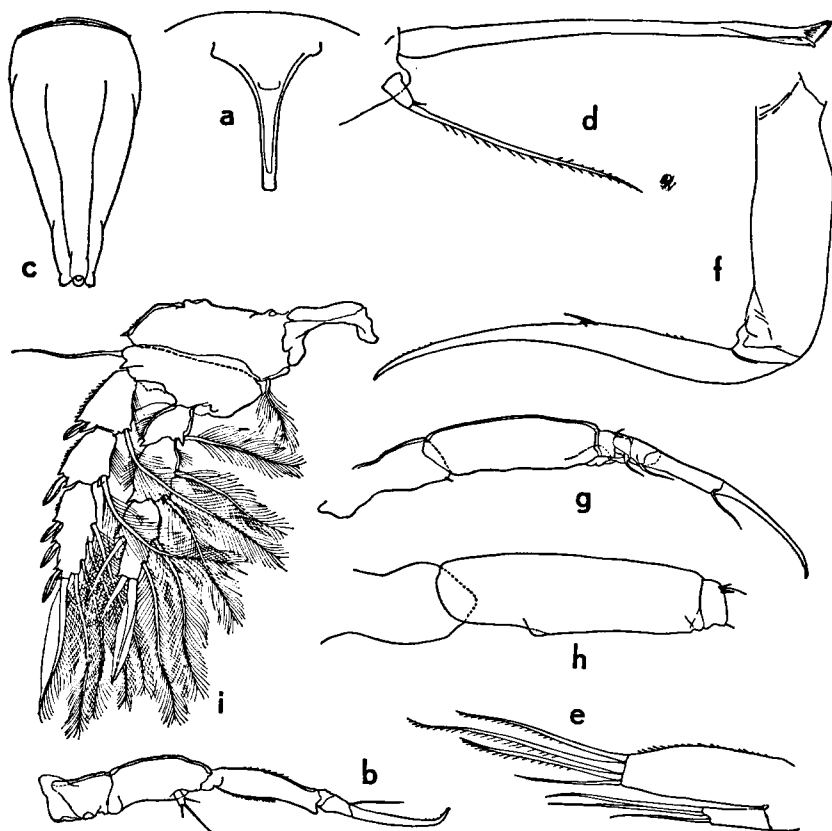


FIG. 13. *Asteropontius corallophilus* n.sp., all — except h — female. a, rostrum, ventral (scale 1); b, posterior antenna (1); c, siphon, ventral (1); d, mandible (6); e, anterior maxilla (6); f, posterior maxilla (6); g, maxilliped (1); h, maxilliped of the male (6); i, fourth leg (1).

subdivided or not). The basal segment is large; the segments 2 to 8 are all narrow; segment 9 is more richly armed than any of the others: it carries 7 setae and 1 spine (or spiniform projection); segment 10 bears 1 spine and 1 seta; segments 11 to 17 are elongate, especially segment 17; segment 12 is provided distally with a narrow aesthete-like element, segment 17 with a broad distinct aesthete; segment 18 is small, segment 19 is, judging from notches in its lateral margin and from the places of implantation of the elements, composed of 3 segments; but since no distinct articulation lines were visible it might be best to consider it a single segmented fusion-complex. The numbers of elements on each of the segments 1 to 19 are as follows: 1; 2; 1; 2; 2; 2; 2; 7 + I; I + 1; 2; 1 + 1 aesthete; 2; 2; 2; 2; 1 + 1 aesthete; 3; 8.

Between the bases of the anterior antennae, one observes the rostrum (fig. 13a), wide at the base but rapidly narrowing into a rod-shaped distal part.

The posterior antenna (fig. 13b) is of the usual form: The protopod

consists of 2 segments, the first (coxopod) is short, the second is elongate. The exopod is a rudimentary bud with 3 short setae. The endopod consists of 3 segments: a long basal segment with ciliated margins, a very short triangular segment without armature or ornamentation, and an acuminate 3rd segment carrying the slender curved claw (which is about  $\frac{2}{3}$  of the rest of the endopod) and a seta.

The siphon (fig. 13c) is elongately pear-shaped; there is no tubiform distal part. The upper lip is disto-laterally produced into 2 rounded, finely ciliated lobes; the lower lip is disto-medially produced into one smooth lobe.

The mandible (fig. 13d) consists of a one-segmented stylet, which is widened distally into a finely serrated cutting blade; another row of denticles occurs on lateral margin of the stylet near the distal end. The palp is one-segmented, very small, only twice as long as wide, and armed with 1 long plumose seta and 1 very small setule.

The anterior maxilla (fig. 13e) is composed of a small and narrow outer ramus and a broader and longer inner ramus; the outer ramus is less than half as wide and less than half as long as the inner one; the outer ramus bears 3 terminal setae, the inner one 4.

The posterior maxilla (fig. 13f) has a slender, unarmed basal segment and a curved claw, which is armed near the middle with a seta and a triangular projection.

The maxilliped (fig. 13g) is composed of a 2-segmented, unarmed "hand", and of a claw consisting of 4 segments. The short basal segment of the claw is armed with 2 spines and 1 seta, the short next segment with 1 seta; the two distalmost segments are elongate, the one bears a seta, the other a row of minute spinules.

The legs 1 to 4 (figs. 13i, 14) are biramous, each ramus being 3-segmented. Intercoxal plates are present. The coxopod bears a plumose inner seta. The basipod bears a lateral seta, and (in  $P_1$  only) a plumose seta at the implantation of the endopod. The lateral spine of exopod segment 1 of  $P_1$  is enlarged. Otherwise, the legs do not present striking points not visible from the figures. The chaetotaxis of the legs 1 to 4 is shown in the following formula:

$P_1$	{	exp.	I — 1;	I — 1;	III — 4
		enp.	0 — 1;	0 — 2;	1 — 5
$P_2$	{	exp.	I — 1;	I — 1;	III — I — 4
		enp.	0 — 1;	0 — 2;	1 — II* — 3
$P_3$	{	exp.	I — 1;	I — 1;	III — I — 4
		enp.	0 — 1;	0 — 2;	1 — I* — I — 3
$P_4$	{	exp.	I — 1;	I — 1;	III — I — 4
		enp.	0 — 1;	0 — 2;	1 — I* — I — 2

\*) Spiniform but feathered





FIG. 14. *Astero pontius corallophilus* n.sp., female. a, leg 1 (scale 6); b, leg 2 (6); c, leg 3 (6).

The fifth leg (fig. 12b) is implanted on a projecting portion of the first urosome segment; a long lateral seta is borne on this projecting portion; the free segment is tapering, a distinct medio-basal swelling is present. The terminal armature consists of 2 longer and 1 shorter setae.

Male. — Up to now, no males have been recorded for any of the described species of *Asteropontius*.

The total length of 5 males is 596—652  $\mu$  (mean 623  $\mu$ ), the greatest width — at the level of the cephalosome — is 290—306  $\mu$  (mean 299  $\mu$ ). In general shape, the male (fig. 15a) is more slender than the female; the cephalo- and metasome in particular are more elongately oval. The body segments show less tendency towards telescoping at the level of the fourth and fifth legs. The urosome consists of 5 segments (fig. 15b). The genital segment is about as long as wide, laterally convex and posteriorly produced into the two rounded “genital lobes”, which are in all probability the transformed sixth legs. These lobes are armed with 1 smooth subtermino-lateral seta, 1 plumose terminal seta, and a medial row of cilia. The 3 postgenital segments are rectangular, wider than long.

No sexual differences, except in absolute size, are visible in the furca,  $A_2$ , siphon, md,  $mx_1$ ,  $mx_2$ , and, curiously enough, in the legs 1 to 4. Sexual dimorphism is present in the  $A_1$ ,  $mxp$ , and  $P_5$ .

The anterior antenna (fig. 15c) consists of 15 segments. The differences from the  $A_1$  ♀ (which is 19-segmented) are achieved by a complex of fusions in the distal part of the appendage. The segments 1 to 10 are strictly comparable with the same segments in the female. Segment 11 (♂) is a fusion complex of segments 11, 12 and 13 (♀); segment 12 (♂) is homologous with segment 14 (♀); segment 13 (♂) is a fusion complex of segments 15 and 16 (♀); segment 14 (♂) is a fusion complex of segments 17 and 18 (♀); segment 15 (♂) is homologous with segment 19 (♀). As in female, there are 2 aesthetes: a small, inconspicuous one on segment 11, and a large, wide one on segment 14.

The male maxilliped (fig. 13h) differs from that of the female in the presence of a small, hyaline swelling on the inner margin of the 2nd segment.

The fifth leg (fig. 15b) is smaller, and more knoblike than in female.

Remarks. — The present species is a rather rare, but at the same time pretty constant associate of hard corals. It has not been found on other hosts, but it is rarely absent in washings from *Pocillopora*, *Stylopora* and *Montipora*. Its occurrence on *Porites* seems to be accidental; repeated search on this host has not revealed any additional specimens.

It may be borne in mind that the three genera of host corals on which *A. corallophilus* n.sp. (the specific name refers to this preference) is regularly found are taxonomically closely related. They are members of the families Seriatoporidae and Acroporidae, which form together the suborder Astrocoeniida.

The new species, *A. corallophilus*, turns out to be closely related to *A. typicus* Thompson & Scott, 1903. These two species differ from each other

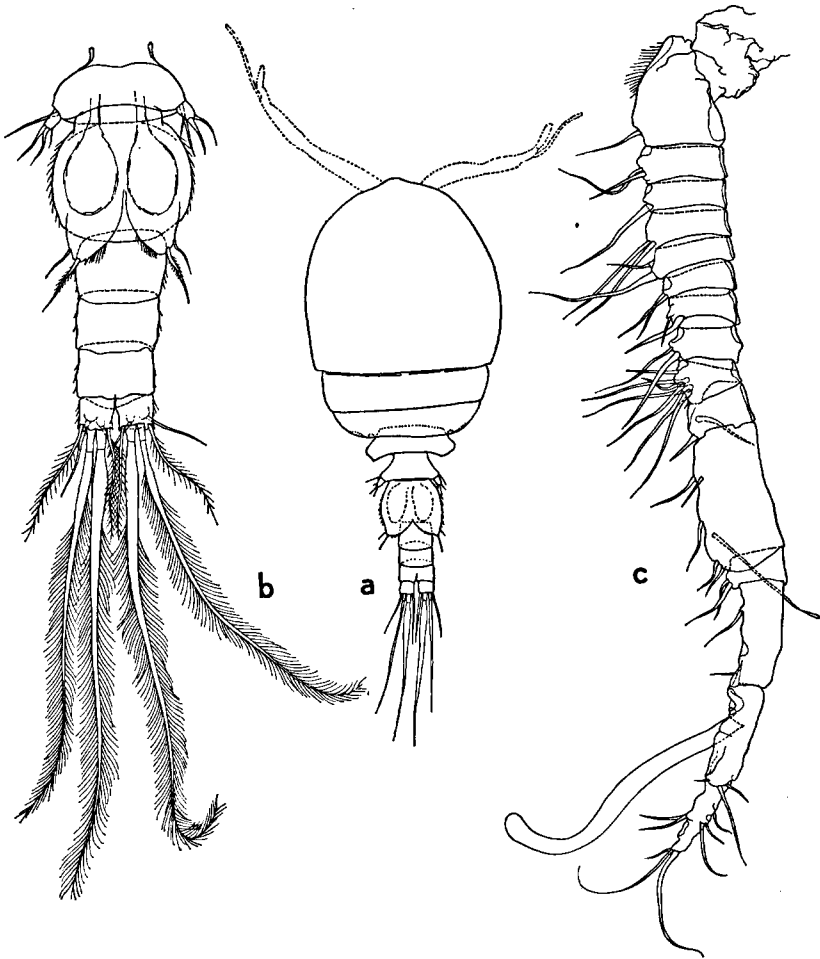


FIG. 15. *Astero pontius corallophilus* n.sp., male. a, entire animal, dorsal (scale 10); b, urosome, ventral (1); c, anterior antenna (6).

in the characters mentioned in the key, and moreover, in the dimensions of the postgenital segment (♀), which is longer than wide in *typicus*, wider than long in *corallophilus*.

The armature of the outer ramus of  $P_1$  might be another distinguishing feature, although THOMPSON & SCOTT's illustration (Pl. XIX fig. 8) is not entirely clear on this point. UMMERKUTTY (1962) supposes that the 3rd segment of that ramus carries 2 spines and 4 setae. In *corallophilus* there are 3 spines and 4 setae on this segment.

#### **Monocheres n. gen.**

Resembling *Asterocheres* in all particulars, except for the reduction of the fifth leg. This leg has no free segment any longer; it is reduced to a row

of spinules and a single seta, both arising directly from the first urosome segment.

Since in more than 35 described species of *Asterocheres* the basic pattern of the fifth legs is constant (consisting of a basal segment fused with the first urosome segment and armed with 1 seta, and of a free distal segment armed with 2 or 3 setae), it seems justifiable to isolate the present species because of its aberrant  $P_5$  in a special genus.

Type- and unique species: *M. mauritanus* n.sp. The etymology of the name *Monocheres* (gender: masculine) is comparable to that of *Monomolgus* Humes & Frost, 1964. The numeral "mono" alludes to reduction of the 5th leg to a single seta.

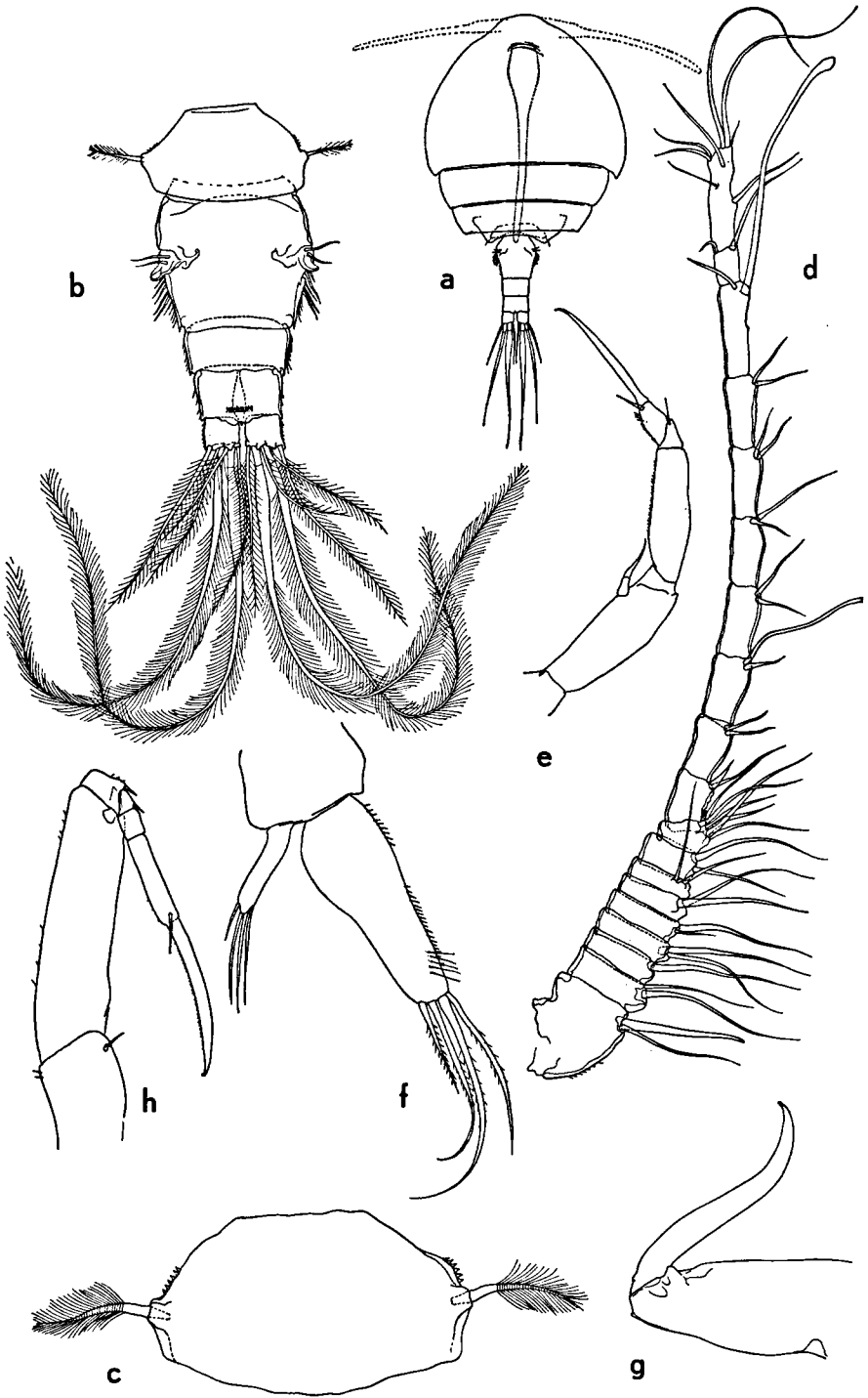
***Monocheres mauritanus* n.sp. Figs. 16—17.**

Material examined. — 1 ♀ (holotype). From a coral, *Pocillopora damicornis* (L.). Pointe Lafayette, in an exposed lagoon, depth 1—3 m. Feb. 2, 1964. (ZMA Co. 100.949).

Description. — Female (holotype). Total length (without the furcal setae) 628  $\mu$ ; greatest width (in the posterior half of the cephalosome) 419  $\mu$ . The cephalosome and metasome form together a rather wide, rounded shield, which is only slightly longer than wide (fig. 16a). The first pedigerous segment is incorporated in the cephalosome. Pedigerous segments 2 and 3 (= metasome segments 1 and 2) are still wide, though they diminish gradually in width. Pedigerous segment 4 is much narrower than and dorsally partially covered by pedigerous segment 3. The posterior margin of pedigerous segment 3 is nearly straight; its lateral corners are angular but not produced. The postero-lateral corners of pedigerous segment 4 are rounded and slightly produced backward. The urosome (fig. 16b) is 4-segmented, consisting of the 5th pedigerous segment, the genital segment, the postgenital segment, and the anal segment. The first urosome segment (= 5th pedigerous segment) is on the dorsal side entirely covered by the last metasome segment. The genital segment is longer than wide. The genital openings are situated near the widest part of the segment; they are marked by 2 setae and a chitinous projection. Behind the genital openings, the lateral margins of the genital segment bear numerous cilia. The lateral margins of the 3rd and 4th urosome segments and of the caudal rami are likewise ciliated. The caudal ramus is shorter than the anal segment and slightly wider than long. The terminal armature consists of 1 lateral and 1 medial seta, and two thick central setae. At the base of these two central setae, 2 smaller and thinner setae arise. All setae of the caudal ramus are plumose.

The anterior antenna (fig. 16d) is 19-segmented; the basal portion, consisting of 9 segments, is rather compact; the segments of the distal portion

FIG. 16. *Monocheres mauritanus* n.g. n.sp., female. a, entire animal, dorsal (scale 7); b, urosome, ventral (1); c, first urosome segment, with rudimentary fifth leg, ventral (6); d, anterior antenna (6); e, posterior antenna (6); f, anterior maxilla (2); g, posterior maxilla (6); h, maxilliped (6).



are slender. The armature of the segments is as follows: segment I — 2 setae; II — 2 setae; III — 1 seta; IV — 2 setae; V — 1 long + 1 short seta; VI — 2 setae; VII — 2 setae; VIII — 2 setae; IX — 6 setae + 1 spine; X — 2 setae; XI — 2 setae; XII — 1 seta + 1 aesthete-like element; XIII through XVI — each 2 setae; XVII — 1 seta + 1 aesthete; XVIII — 2 setae; XIX — 8 setae.

The posterior antenna (fig. 16e) consists of a slender basipod bearing a short, unimerous exopod and a well-developed endopod. The exopod is longer than wide and armed with a single, very thick, element. The first endopod segment is slightly shorter than the basipod; it is ornamented laterally with a row of minute spinules. The 2nd endopod segment is wedge-shaped, the 3rd is larger; both bear 1 seta. The terminal claw is nearly straight, more than twice as long as the sum of the segments 2 and 3 of the endopod.

The oral siphon (fig. 16a), somewhat swollen in its basal part, is produced into a long tubiform distal portion, which reaches to the anterior margin of the genital segment.

The mandible consists of the usual stylet and a 2-segmented, slender palp, carrying 2 unequal setae.

The anterior maxilla (fig. 16f) has a short and narrow outer lobe, which is more than 5 times as long as wide and distally armed with 4 short setae, and a wider and longer inner lobe, which, besides some rows of cilia, carries 4 long, plumose setae.

The posterior maxilla (fig. 16g) offers no special characters. The maxilliped has a slender "hand" (fig. 16h) but is further constructed normally.

The legs 1 to 4 (figs. 17a-d) are biramous, each ramus is 3-segmented. All legs have intercoxal plates, all coxopods bear a plumose medial seta, all basipods a lateral seta. In leg 1 (fig. 17a), the basipod bears moreover a plumose seta at the implantation of the endopod, and a row of denticles along its free medial margin. The 2nd exopod segment of  $P_1$  bears a serrated projection. Rows of denticles occur also on the 1st and 2nd endopod segments of all legs. The 2nd endopod segment bears moreover a bicuspidate projection. The 3rd endopod segment of  $P_4$  is lost in our unique specimen available. The remaining armature is as follows:

$P_1$	{	exp.	I — 1;	I — 1;	III — 4
		enp.	0 — 1;	0 — 2;	1 — 5
$P_2$	{	exp.	I — 1;	I — 1;	III — I — 4
		enp.	0 — 1;	0 — 2;	1 — 5
$P_3$	{	exp.	I — 1;	I — 1;	III — I — 4
		enp.	0 — 1;	0 — 2;	1 — 1 + I — 3
$P_4$	{	exp.	I — 1;	I — 1;	III — I — 4
		enp.	0 — 1;	0 — 2;	?

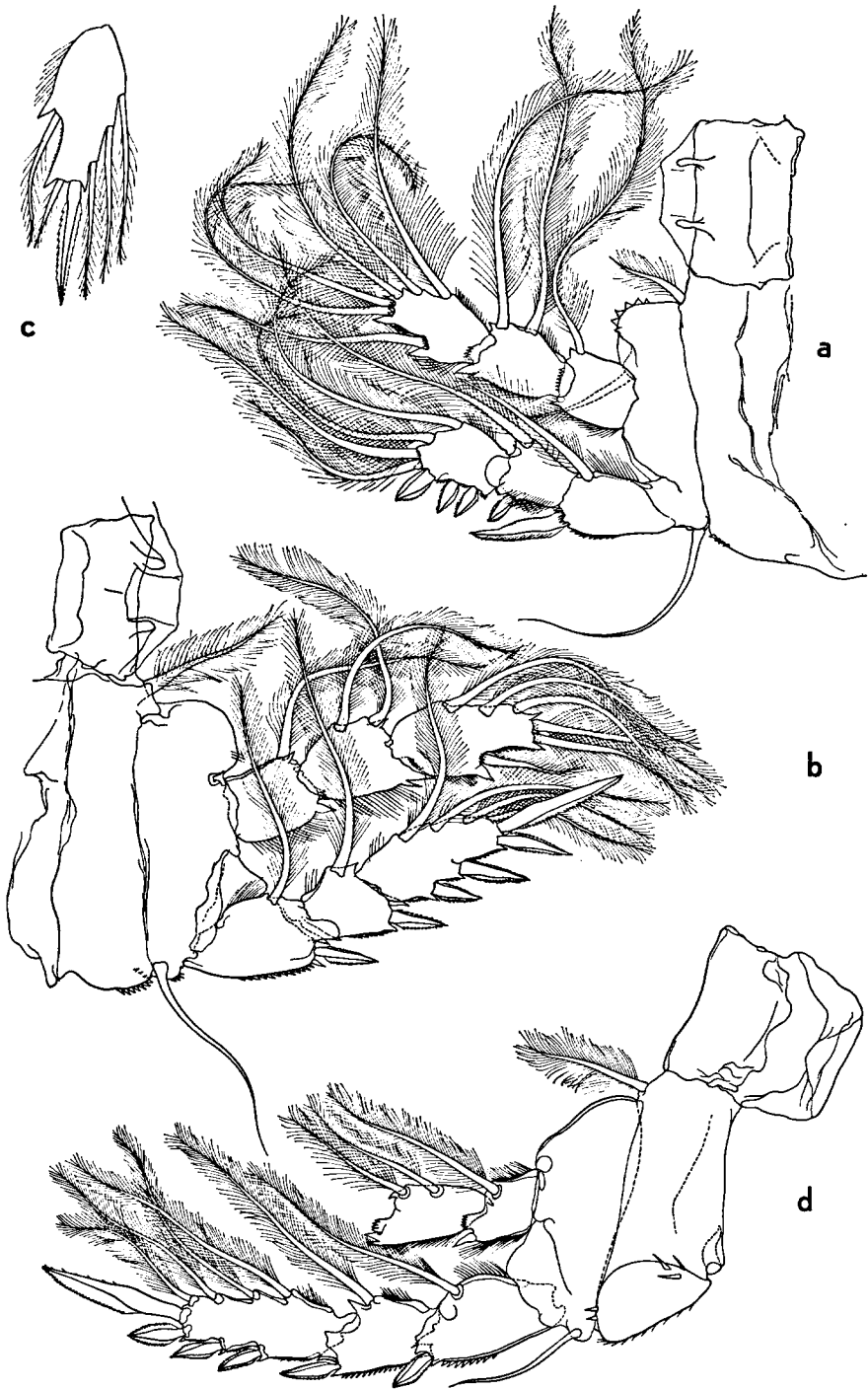


FIG. 17. *Monocheres mauritianus* n.g., n.sp., female. a, leg 1 (scale 6); b, leg 2 (6); c, distal endopod segment of leg 3 (6); d, leg 4 (6).

The fifth leg (fig. 16c) is strongly reduced and consists only of a row of about 6 triangular denticles and a slight projection bearing a long plumose seta. Both the denticles and the seta arise directly from the first urosome segment. There is no trace of a free segment.

Genus *Acontiophorus* Brady, 1880

As was recently demonstrated (STOCK & KLEETON, 1963), this genus belongs to the family Asterocheridae. There is no reason at all to separate it in a special family, as was proposed by Sars.

***Acontiophorus brevifurcatus* n.sp. Figs. 18—19.**

Material examined. — 1 ♀ (ovigerous, holotype). From a green sponge, *Halichondria symbiotica* Levi. Black River Bay, depth 1.50 m. Jan. 24, 1964. (ZMA Co. 100.947).

1 non-adult female. Same host. Lagoon of Flic en Flacq, depth about 1 m. Feb. 13, 1964. (ZMA Co. 100.954).

Description. — Female. Total length (without furcal setae) 757  $\mu$ . The cephalosome (fig. 18a) is the widest and longest segment; it accounts for about half of the total length. The first pedigerous segment is completely incorporated in the cephalosome. Metasome segments 1 and 2 diminish only very slightly in width; metasome segment 3 is much narrower. The postero-lateral corners of metasome segment 2 are produced into weak points; those of segment 3 are roundedly acute. The urosome (fig. 18b) is composed of 4 segments. The first urosome segment bears the 5th leg. The second urosome segment, or genital segment, is distinctly wider than long; its greatest width is situated at the level of the genital openings. The postero-lateral corners of urosome segments 2 and 3 are produced into pointed processes. The anal segment is nearly twice as wide as long. The caudal ramus is wider than long (fig. 18b); its outer and inner margins are ciliated; the two longest furcal setae are broken off, but it is clear that there were 4 terminal setae, 1 dorso-lateral seta and 1 dorso-medial seta (the latter implanted at the base of the innermost terminal seta). No spinules or other ornamentation are found on the urosome segments 2, 3 and 4.

The anterior antenna (fig. 18c) is 16-segmented. Segment 3 is only slightly longer than wide. Most of the setae on segments 1, 2 and 3 are plumose; those on the other segments (with the exception of 1 plumose seta on segment 9 and 1 on segment 11) are smooth. A very broad aesthete is borne on segment 13.

The posterior antenna (figs. 18d, 18e) has a short coxopod and an elongate basipod ornamented medio-distally with a tuft of hairs. The exopod is 1-segmented, over twice as narrow as the endopod, and more than  $3\frac{1}{2}$  times as long as wide. It is armed with a medial seta near the middle, and a long, plumose terminal seta. Distally, the exopod is ornamented with a fringe of cilia. The endopod is 2-segmented; segment 1 bears 1 plumose seta; segment 2 bears 3 terminal and subterminal elements, viz., 1 plumose seta, 1 ciliated shorter spine and 1 large spine, the latter being twice as long as the segment



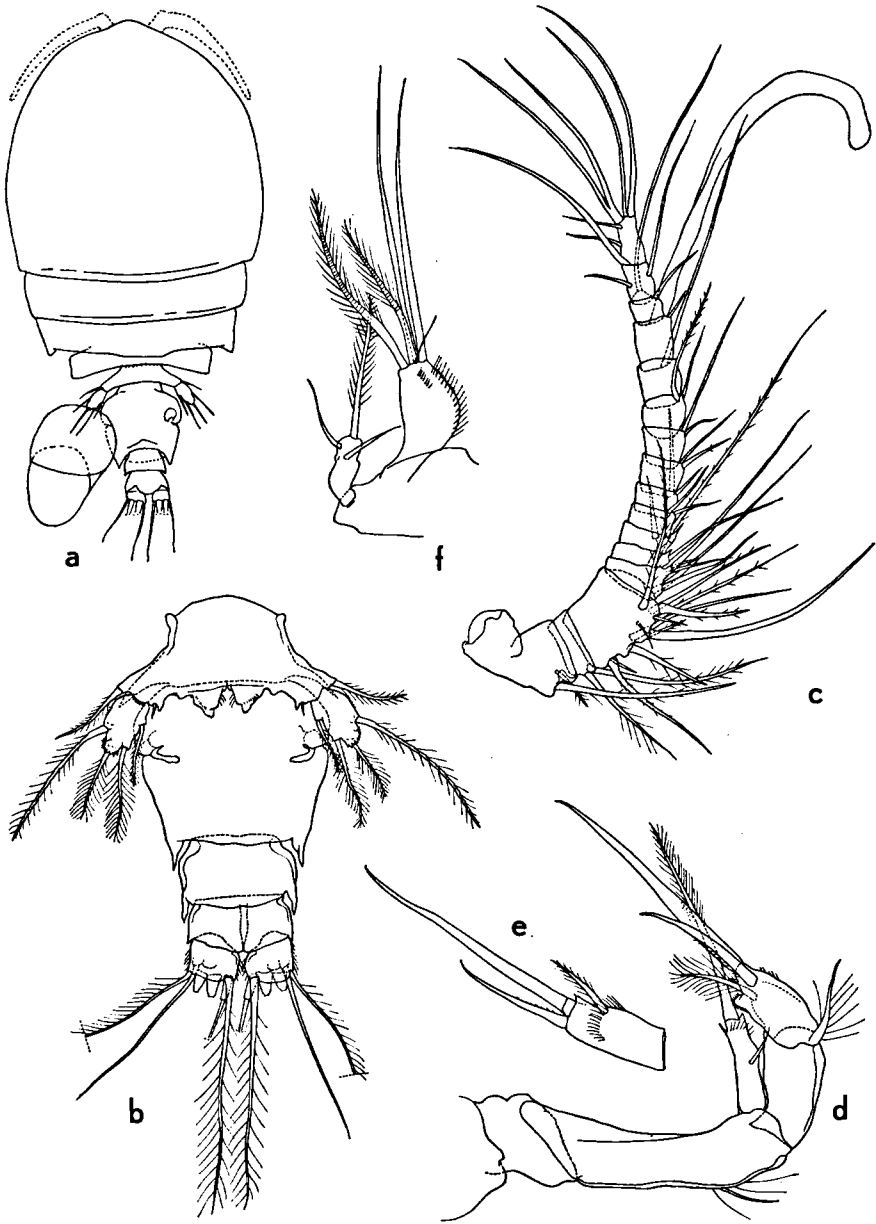


FIG. 18. *Acontiothorus brevifurcatus* n.sp., female. a, ovigerous specimen, dorsal (scale 10); b, urosome, ventral (1); c, anterior antenna (6); d, posterior antenna (2); e, distal endopod segment of the posterior antenna, seen under a different angle (2); f, anterior maxilla (6).

that carries it. Near the implantation of the plumose seta, the lateral margin of the segment is produced into a rounded, ciliated process, visible when seen under a certain angle only (compare figs. 18d and e).

The siphon is tubiform; it reaches to the implantation of the 2nd legs.

The mandible has a 1-segmented palp (fig. 19a), a tapering lobe, twice as long as wide, and armed with a short seta (which is, however, better developed than in most other members of the genus), and with a strong, robust, plumose seta.

The anterior maxilla (fig. 18f) consists of a feeble, short outer lobe, on which I could observe 3 setae only; and a wider, longer, curved inner lobe armed with 2 plumose setae, 2 smooth setae and 1 setule, and ornamented with 2 rows of cilia.

The posterior maxilla (fig. 19b) is made up of a slender unarmed basal segment, and a very slender and elongate curved claw, the latter armed near its middle with 1 long seta (which reaches nearly to the end of the claw) and 1 spinule, and furthermore ornamented with a row of closely set spinules.



FIG. 19. *Acontiphorus brevifurcatus* n.sp., female. a, mandible palp (scale 6); b, posterior maxilla (6); c, maxilliped (6); d, third leg (6).

The maxilliped (fig. 19c) consists of a 3-segmented "hand" and a 4-segmented "claw". The middle segment of the "hand" bears a plumose seta; of the claw, segment 1 bears 2 short setae, segments 2 and 3 each have one.

The legs 1 to 4 are biramous, each ramus being 3-segmented (figs. 19d, 20). Armature, ornamentation and structure of these legs differ little from those of *A. ornatus* (Brady & Robertson, 1876), as illustrated by Sars, 1921. The chaetotaxis formula of these legs is as follows:

$P_1$	{	coxopod	0—1		
		basipod	1—I		
		exopod	I—1;	I—1;	III—5
		endopod	0—1;	0—2;	1—5
$P_2$	{	coxopod	0—1		
		basipod	1—0		
		exopod	I—1;	I—1;	III—I—4
		endopod	0—1;	0—2;	1—1+I—3
$P_3$	{	coxopod	0—1		
		basipod	1—0		
		exopod	I—1;	I—1;	III—I—3
		endopod	0—1;	0—2;	1—I—3
$P_4$	{	coxopod	0—1		
		basipod	1—0		
		exopod	I—1;	I—1;	III—I—3
		endopod	0—1;	0—2;	1 (rudimentary)—I—2

The fifth leg (fig. 18b) is of a rather complicated structure. The free segment is egg-shaped, longer than wide, armed with 4 plumose setae (1 lateral, 1 terminal, and 2 medial) and ornamented with a terminal row of denticles. The original basal segment of  $P_5$  is now completely fused with the first urosome segment; it is marked by a plumose lateral seta and by a complexly bent margin between the two legs. The margin, from lateral to medial, bears a spinule, then shows a triangular projection, then a rounded hump, and finally a large, roughly triangular lobe, provided with 2 rows of spinules.

The ovisacs are small,  $190 \times 129 \mu$ , and contain but two eggs.

Live colour. — Opaque, whitish pink.

Remarks. — With the aid of the key of STOCK & KLEETON, 1963, this species can be followed down to couplet 5, where it keys out together with *A. maldivensis* Sewell, 1949 and *A. ornatus* (Brady & Robertson, 1876) (= *A. armatus* Brady, 1880)<sup>1)</sup>.

Except for the characters mentioned in that key, the Mauritius specimen agrees with *maldivensis* and *ornatus* also in the great elongation of the seta on the claw of the posterior maxilla (in the remaining species, this seta is short).

<sup>1)</sup> *Ascomyzon ornatum* Brady & Robertson, 1876, though used by several prominent subsequent authors, as GIESBRECHT, 1899, and SARS, 1921, is in fact only a nomen nudum. I am afraid that strict application of the Code of Nomenclature would make the use of the next available name, *armatus*, inevitable.

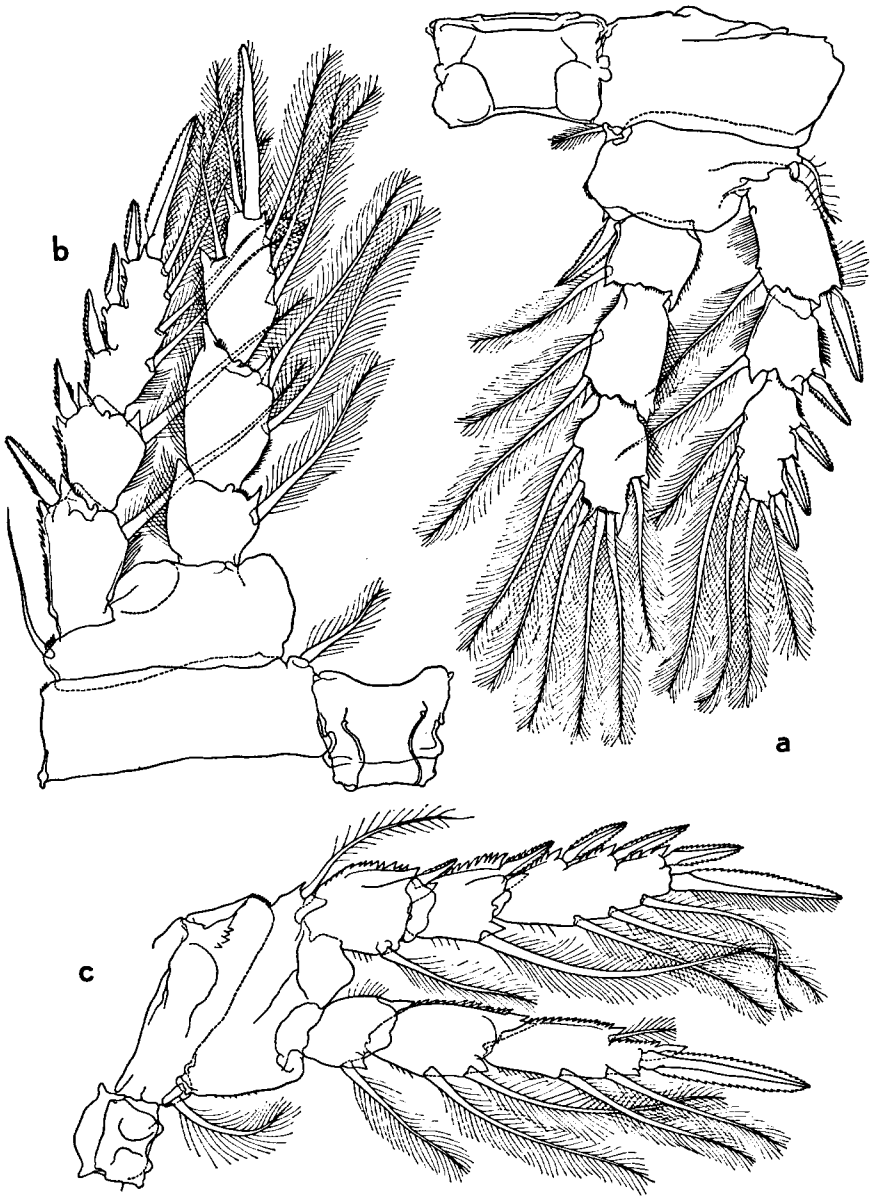


FIG. 20. *Acontiophorus brevifurcatus* n.sp., female. a, leg 1 (scale 6); b, leg 2 (6); c, leg 4 (6).

From *A. maldivensis*, the present species differs in a number of characters, such as (1) the much wider cephalosome and metasome; (2) the different lengths of both the 2nd endopod segment and terminal elements of  $A_2$ ; (3) the longer setae on the inner lobe of  $mx_1$ ; (4) the presence, on the distal end

of the 3rd endopod segment of  $P_4$ , of a strong spiniform process; (5) the more elongate free segment of  $P_5$ .

From *A. ornatus* it differs in the following points: (1) smaller size: 0.76 mm in *brevifurcatus*, against 1.0 mm (Sars, 1921) to 2.26 mm (Hansen, 1923) in *ornatus*; (2) the wider genital segment; (3) the caudal ramus which is, instead of longer than wide, wider than long; (4) the 2nd endopod segment of  $A_2$ , which possesses a lateral apophysis, absent in *ornatus*; (5) the 3rd segment of  $A_1$  is shorter and wider; (6) the maxilliped is less slender; (7) the  $P_5$  bears 4 setae on the free segment, against 5 in *ornatus*; (8) the basal portion of  $P_5$ , fused with the first urosome segment, is produced near the midline of the body, into a large triangular projection, which is lacking in *ornatus*.

Though there are numerous differences from the related species, it is felt that the taxonomic independence of the Mauritius material is not entirely assured. Both GIESBRECHT (1899, p. 16) and HANSEN (1923, p. 10) make mention of variations in the shape and armature of  $P_5$  and of variations in length of the caudal rami in various species of *Acontiophorus*. The two Mauritius specimens available do not show any variation mutually.

#### Genus *Myzopontius* Giesbrecht, 1895

A single specimen belonging to this genus is provisionally identified with *M. australis* Nicholls, 1944.

#### *Myzopontius australis* Nicholls, 1944. Figs. 21—22.

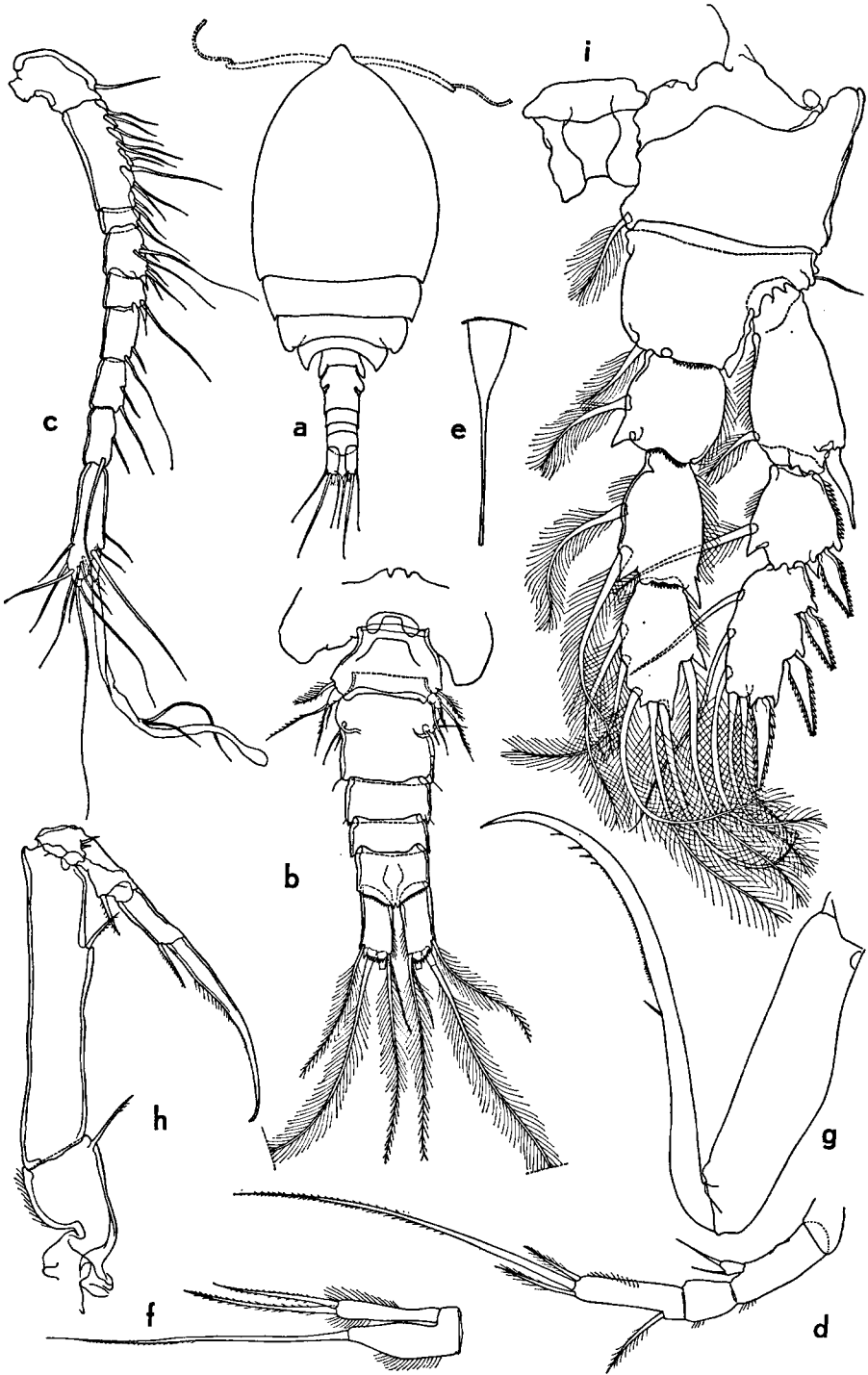
*M. australis* Nicholls, 1944, p. 22—23, fig. 9.

Material examined. — 1 ♀. In green-black algae, *Codium arabicum* Kütz. Flic en Flacq, entrance of lagoon, depth about 1 m. Jan. 30, 1964. (ZMA Co. 100.946).

Remarks. — Since Nicholls' description consists of only 9 lines, I thought it wise to illustrate a single female *Myzopontius* from Mauritius in detail.

The present female (fig. 21a) is 741  $\mu$  long (without furcal setae) and has a siphon of 272  $\mu$ , which is swollen in its basal part and tubiform distally. It reaches to the first leg. In the 9-segmented anterior antenna (fig. 21c), in the armature of the claw of the posterior maxilla (distally with 4 larger spinules, cf fig. 21g), and in the armature of the legs 1 to 4 (figs. 21i, 22), it agrees well with *M. australis*.

Differences can be observed in the caudal rami (slightly more slender in the Mauritius specimen), and in the armature or ornamentation of  $A_1$ ,  $A_2$ , and anal segment. The  $A_1$  is illustrated and described by NICHOLLS (1944, p. 23) "with comparatively few setae". In the Mauritius specimen, the  $A_1$  (fig. 21c) is normally, thus richly, armed with setae. If fresh material from Australia might show that the poor armature of the  $A_1$  in the type-specimen is a constant character, and not due to some accidental loss of setae prior to the examination, it will be necessary to consider the Mauritius material as a new species. As long as this is not proved, it seems better to attach no value



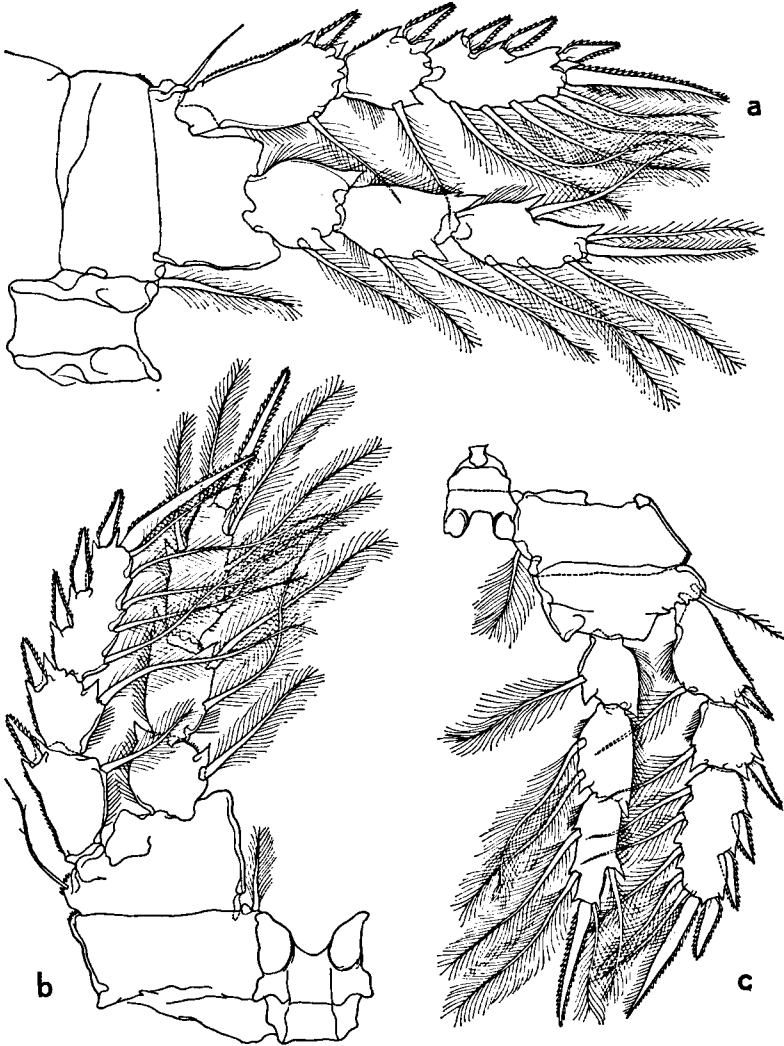


FIG. 22. *Myzopontius australis* Nicholls, 1944. a, leg 2 (scale 6); b, leg 3 (6); c, leg 4 (6).

to the poor setal armature of the type. Nicholls illustrates the exopod of the posterior antenna as a naked bud, whereas it carries 2 setae in the remaining species of *Myzopontius*. Here again, accidental loss of armature is not excluded. Finally, the Mauritius specimen has the distal margin of the anal

FIG. 21. *Myzopontius australis* Nicholls, 1944. a, entire animal, dorsal (scale 10); b, urosome ventral (1); c, anterior antenna (6); d, posterior antenna (2); e, siphon (10); f, anterior maxilla (6); g, posterior maxilla (6); h, maxilliped (6); i, first leg (2).

segment denticulated, whereas no such fine denticulation is shown in Nicholls' figure.

Genus *Bradypontius* Giesbrecht, 1895

Our collections contain a new species of this genus, which I propose to name *B. pichoni*, in honour of Dr. M. Pichon, of Nosy Bé, Madagascar, in recognition of his constant help during the fieldwork in Mauritius, and in acknowledgement of his identifications of the host corals.

*Bradypontius pichoni* n.sp. Figs. 23—24.

Material examined. — 1 ♀ (holotype). In washings of a coral (*Platygyra* sp.), on which several epibiontic algae and sponges. Pointe aux Sables, entrance of lagoon, reef, depth about 1 m. Jan. 26, 1964 (ZMA Co. 100.948).

Description. — Total length (without furcal setae) 918  $\mu$ ; greatest width of cephalosome 660  $\mu$ . The rounded cephalosome (fig. 23a) is very large, about as wide as long, and twice as long as the remaining part of the body. The first pedigerous segment is fully incorporated in the cephalosome. Its postero-lateral corners are slightly produced backward. The first metasome segment is narrower than the cephalosome, and has acutely produced hind corners. The 2nd metasome segment is slightly narrower, but longer, than segment 1; its hind corners are broadly triangular and reach slightly beyond the insertion of the genital segment. The 3rd metasome segment is not visible in dorsal view. The first urosome segment is, in dorsal view at least, very small and narrow; it carries the fifth legs on its ventral surface (fig. 23b). The total number of urosome segments is 5. Segment 2, or genital segment, consists of a wide anterior part, with a number of complex chitinous thickenings and projections, as well as 1 seta and 1 spine, at the level of the genital orifices; and of a narrower, rectangular, posterior part. Urosome segment 3 is narrower than the narrow part of segment 2, segment 4 is narrower again. Segments 3, 4, and 5 are rectangular and unornamented; they articulate in a telescoping way. The caudal ramus (fig. 23b) is a trifle wider than long, much shorter than the anal segment; it is armed with 4 terminal setae, 1 dorsal seta implanted proximally of the insertion of the largest terminal seta, and 1 lateral seta implanted proximally of the insertion of the shortest terminal seta.

The anterior antenna (fig. 23c) is 8-segmented. Segments 1 and 2 are elongate; segment 2 shows a trace of a proximal subdivision. The slender distal segment, which is 3 times as long as wide, is armed with 13 setae and one large, ribbon-like aesthete. The number of elements on segments 1 to 7 is as follows: 2; 2 + 10; 7; 2; 2; 2; 2.

The posterior antenna (fig. 23d) is made up of 2 unarmed protopod segments; the exopod is small, about twice as long as wide, and provided with 1 short lateral and 2 long terminal setae, which reach to the middle of the 2nd endopod segment. This exopod is thus, by its number of elements and by the great elongation of these, less rudimentary than in related species. The basipod segment is about twice as long as wide, longer than both the coxopod



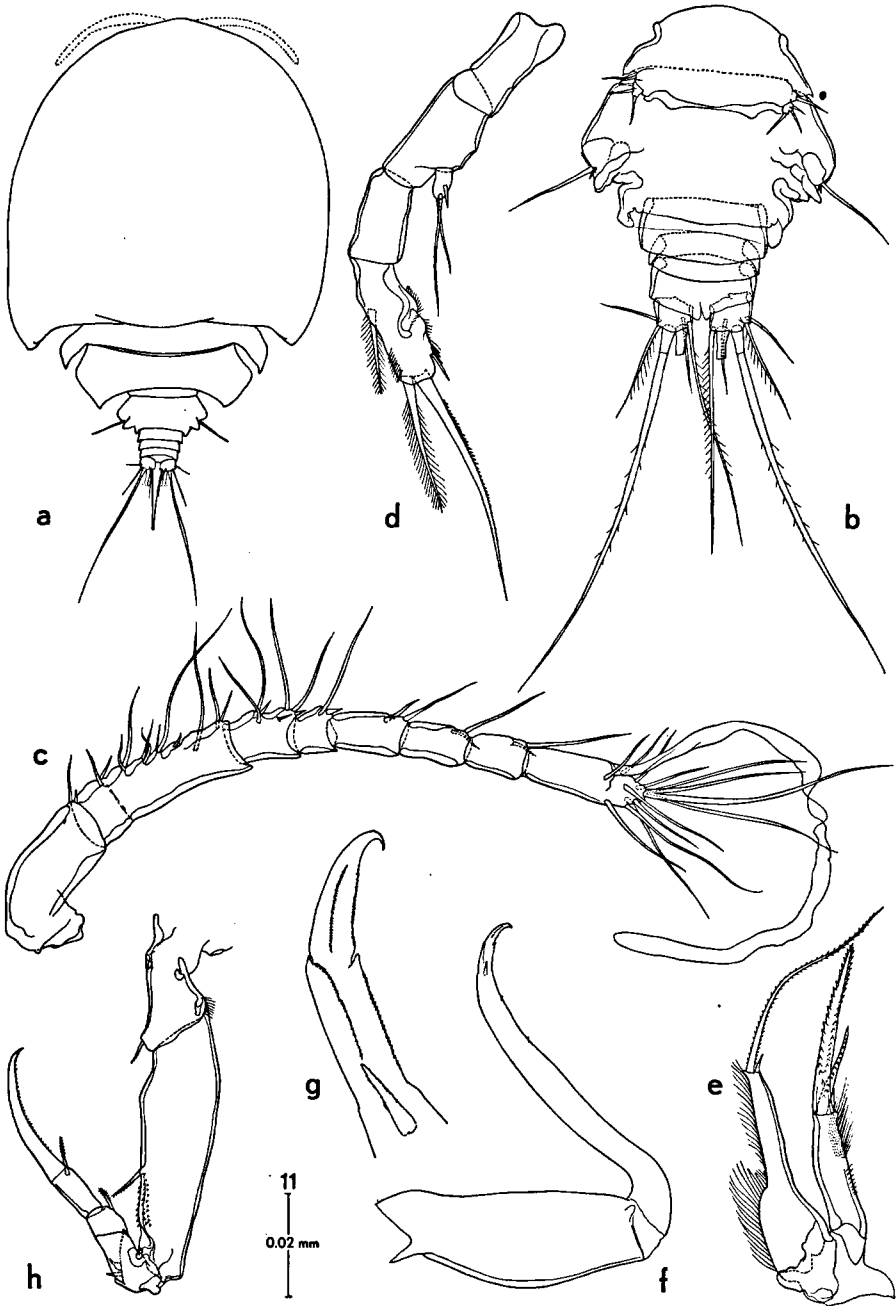


FIG. 23. *Bradypontius pichoni* n.sp., female. a, entire animal, dorsal (scale 7); b, urosome, ventral (1); c, anterior antenna (6); d, posterior antenna (2); e, anterior maxilla (6); f, posterior maxilla (1); g, tip of claw of posterior maxilla (11); h, maxilliped (6).

and the first endopod segment. The latter is unarmed. The 2nd endopod segment has a complexly bent, ciliated lateral margin; it is medially armed with 1 plumose seta, and terminally with 1 plumose seta and a long, denticulated spine.

The siphon is recurved at its tip; it is tubiform in its greater part and extends beyond the insertion of the maxillipeds.

The anterior maxilla (fig. 23e) has the outer lobe armed with 1 longer and 1 shorter denticulated spine; the inner lobe bears a minute spinule and a long plumose seta.

The posterior maxilla (fig. 23f) has a smooth basal segment and a slender, curved claw; the latter is distally complexly ornamented with 1 spiniform projection, and 4 rows of denticulations, separated by a notch in the margin of the claw (fig. 23g).

The maxilliped (fig. 23h) consists of a 2-segmented "hand" and a 4-segmented "claw". Both "hand" segments bear an inner seta (or spine); the 2nd segment bears moreover several rows of denticles implanted distally of the spine. "Claw" segments 1, 2, and 3 bear 2, 1, and 1 elements, respectively.

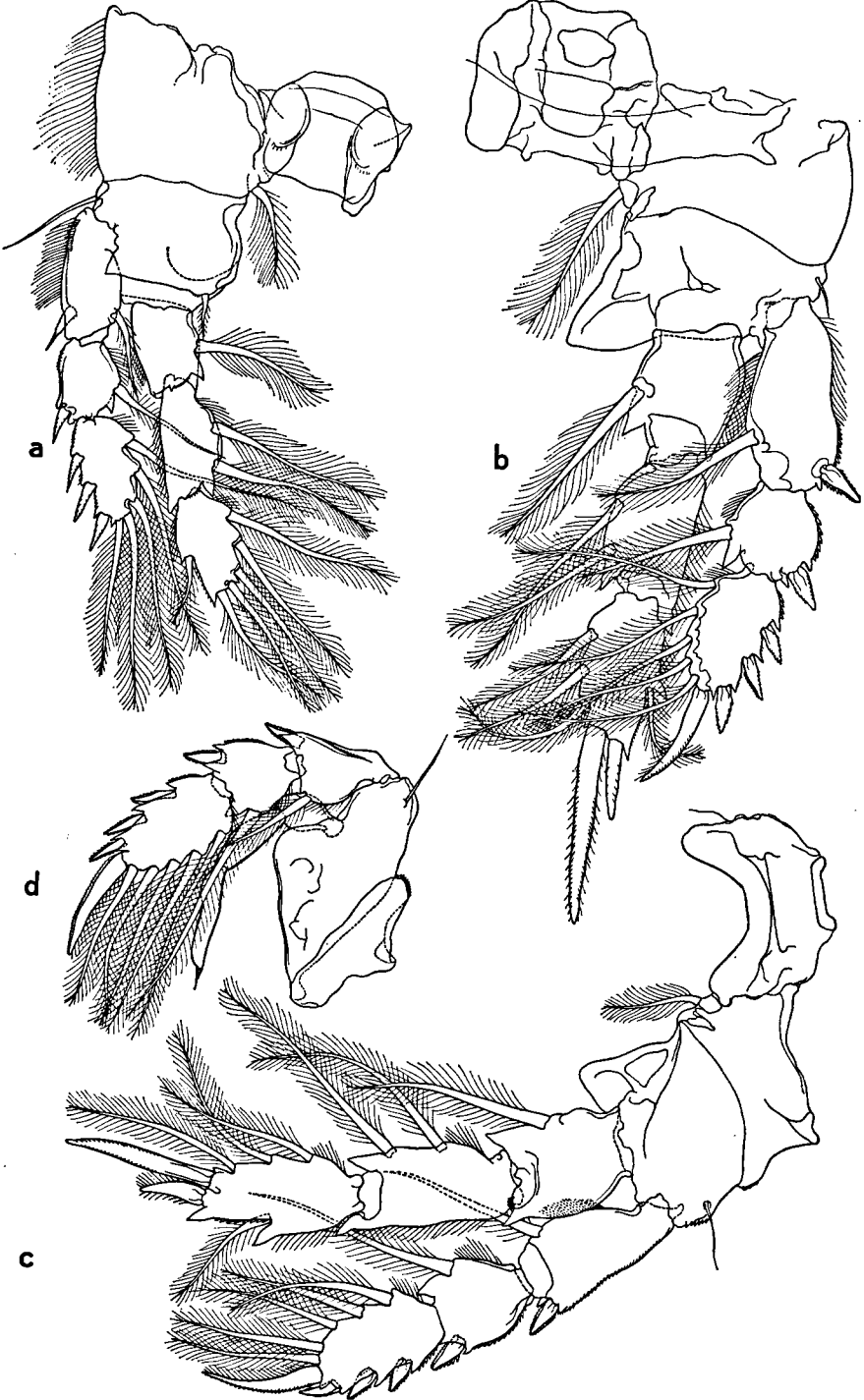
The legs 1 to 3 are biramous, each ramus being normally developed and 3-segmented (figs. 24a-d). The 4th leg has a normally built exopod, but a rudimentary endopod, which, though still 3-segmented, is very feebly built, and lacks any armature on segments 1 and 2, while segment 3 carries 2 minute distal setules only. Legs 1, 2, and 3 each have a plumose medial coxopod seta and a smooth lateral basipod seta. The coxopod of leg 4 is reduced in size and devoid of setae; the basipod of leg 4 possesses its lateral spine. Moreover, in leg 1 only, the basipod is provided with a plumose, though short, median seta.

The chaetotaxis formula of the rami of  $P_1 - P_4$  is as follows:

$P_1$	{	exp.	I — 1*);	I — 1;	III — 5
		enp.	0 — 1 ;	0 — 2;	1*) — 5
$P_2$	{	exp.	I — 1 ;	I — 1;	III — I — 5
		enp.	0 — 1 ;	0 — 2;	1*) — II — 3
$P_3$	{	exp.	I — 1 ;	I — 1;	III — I — 5
		enp.	0 — 1 ;	0 — 2;	1 — II — 3
$P_4$	{	exp.	I — 1*);	I — 1;	III — I — 5
		enp.	0 — 0 ;	0 — 0;	0 — 2*)

\*) reduced in length

FIG. 24. *Bradypontius pichoni* n.sp., female. a, leg 1 (scale 8); b, leg 2 (8); c, leg 3 (8); d, leg 4 (8).



The 5th legs are inserted on the ventral surface of the first urosome segment (fig. 23b); their basal segment is entirely fused with the urosome, and is chiefly indicated by a lateral seta. The free distal segment is minute; it bears 2 lateral and 1 terminal projections, each tipped with a seta.

The colour of the live female was opaquely brownish-green.

Remarks. — EISELT, 1962, attributes 16 species to this genus. Only two of these, *B. siphonatus* Giesbrecht, 1895, and *B. inermis* Nicholls, 1944, agree with the Mauritius material in having the caudal rami wider than long. The two species just mentioned have also the degree of reduction of the fourth endopod with *B. pichoni* n.sp. in common. A detailed comparison of the chitinous structures of the Mauritius material with the descriptions of *siphonatus* (in GIESBRECHT, 1899) and *inermis* has revealed so many small differences, that it was thought useful to create a new species for the present specimen.

This new species resembles *B. inermis* in having a siphon not reaching to the abdomen, in body shape, and in the number of segments of  $A_1$ . It differs from *inermis* in the following respects: (1) exopod of  $A_2$  with 3 long setae (versus 2 short ones); (2) siphon reaches to the mxp (versus to  $P_1$ ); (3) outer lobe of  $mx_1$  with 2 spiniform elements (versus 1 spine + 1 thin seta); (4) claw of the  $mx_2$  is differently ornamented; (5) 2nd segment of the mxp bears 1 good-sized spine (versus unarmed); (6) the 3rd endopod segment of  $P_1$  has 1—5 as chaetotaxis formula (versus 0—5); (7) fifth leg carries 3 setae on the free segment (versus 2).

*B. siphonatus* agrees with *B. inermis* (and consequently disagrees with *B. pichoni*) in the characters, 1, 4, and 5 of the above enumeration. *B. pichoni* differs moreover from it in the following features: (1) siphon reaches to the mxp (versus to the abdomen); (2) the cephalosome is much wider; (3) total length is 0.92 mm (versus 1.60—1.75 mm); (4) basipod segment of  $A_2$  is much less elongate.

#### Genus *Pteropontius* Giesbrecht, 1895

A single male specimen of a somewhat aberrant species was found on Mauritius. The specific name, *pediculus* (= with a small foot), alludes to the aberrant nature of the strongly reduced first legs.

#### *Pteropontius pediculus* n.sp. Figs. 25—26.

Material examined. — 1 ♂ (holotype). From the coral, *Echinopora lamellosa* (Esper). Baie du Tombeau, seaward side of the barrier reef. Depth about 3 m. Jan. 26, 1964 (ZMA Co. 100.950).

Description. — Male (holotype): Total length, without furcal setae, 676  $\mu$ . Greatest width (in the middle of the cephalosome) 354  $\mu$ . The cephalosome (fig. 25a) is longer than wide; it bears a middorsal, smooth crest over its entire length. The outer margins of the cephalosome and the margin of the crest show a peculiar papilla-like design, similar to that found in certain species of

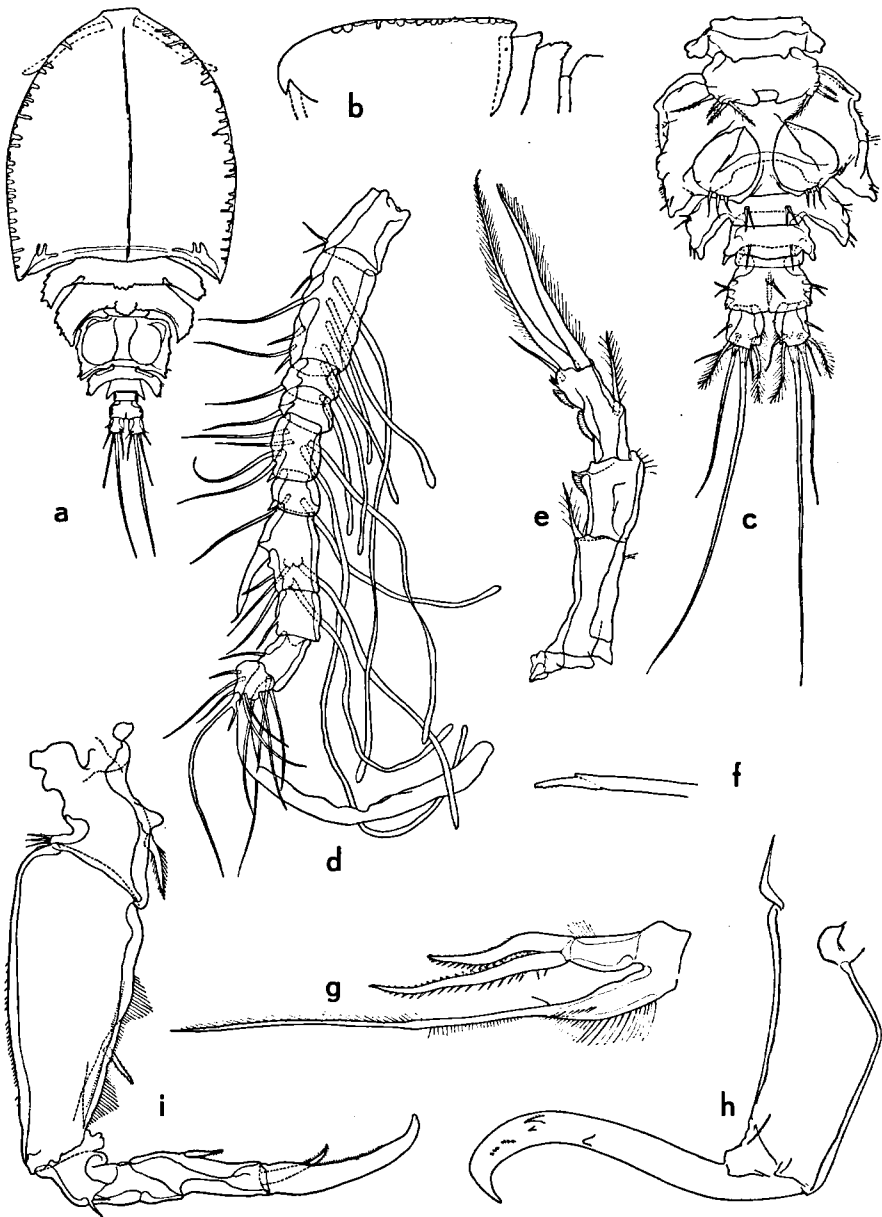


FIG. 25. *Pteropontius pediculus* n.sp., male. a, entire animal, dorsal (scale 10); b, contour of the dorsum of the cephalosome and metasome (10); c, urosome, ventral (1); d, anterior antenna (6); e, posterior antenna (2); f, tip of mandibular stylet (11); g, anterior maxilla (6); h, posterior maxilla (8); i, maxilliped (6).

*Artotrogus*, *Entomolepis*, and *Lepeopsyllus*. The posterior cephalosome margin is finely crenulated, the anterior margin is produced into a beak-shaped rostrum. The first pedigerous segment is incorporated in the cephalosome. The first metasome segment is carrying the  $P_2$ ; it has, like the 2nd metasome segment, projecting, sharply toothed, pleura. Both segments are provided with a middorsal elevation, a continuation of the cephalosome crest, which is, however, not smooth but serrulated (fig. 25b). The 3rd metasome segment, carrying  $P_4$ , is not visible in dorsal view; it is provided with (fig. 25c) small, tuberculate pleura.

The urosome (fig. 25c) is 6-segmented. The first is a very small and narrow segment, bearing ventrally the fifth legs. The next is the genital segment, wider than long, which lateral margin is provided with several tooth-like indentations. The 3rd urosome segment has well-developed pleura, which make it nearly as wide as the genital segment; these pleura are ornamented with two groups of spinules: on the central part of the segment, near the implantation of the next urosome segment, arises a left and a right group of 2 setae each. The 4th urosome segment has rudimentary pleura; it carries ventrally one seta left and one right. The 5th urosome segment is extremely short and narrower than both the preceding and following segment; it is unornamented. The 6th urosome, or anal, segment has a narrow anterior margin but widens gradually in the anterior half; its posterior half has parallel margins; on the boundary of the anterior and posterior part, two lateral setae are borne; moreover, the ventral surface carries one seta in the midline. The caudal ramus (fig. 25c) is slightly longer than wide, somewhat shorter than the anal segment; it carries 1 lateral setule (which is no doubt comparable with the setae on the urosome segments 3, 4, and 6), 4 terminal and 2 subterminal setae (which are homologous with the normal furcal setae). The lateral and medial terminal setae are plumose, the two longer, central setae are smooth.

The anterior antenna (fig. 25d) consists of 10 segments. The armature of these segments is as follows: segment I—2 setules; II—5 setae + 5 aesthetes; III—1 seta + 1 aesthete; IV—1 seta; V—4 setae + 1 spiniform process + 2 aesthetes; VI—1 seta + 1 spiniform process + 1 aesthete; VII—1 thick spine + 3 setae + 2 aesthetes; VIII—1 seta; IX—2 setae + 1 large aesthete; X—8 normal setae + 1 bifurcate seta.

The posterior antenna (fig. 25e) is 3-segmented. Segment 1, the longest, bears a short, plumose seta (possibly the rudiment of the exopod). Segment 2 is slightly longer than wide; it is provided with a lateral crest. The 3rd segment bears 1 medial plumose seta, 2 long plumose distal setae, a fine smooth latero-terminal seta, and 2 crestlike structures along the lateral margin. The siphon is  $216\ \mu$  long; its basal half is swollen,  $50\ \mu$  in diameter, its distal half is narrowly tubiform. The siphon reaches backward to about the maxillipeds.

The mandible has no palp. The distal portion of the stylet (fig. 25f) is clearly set off against the basal part; it is moreover medio-terminally denticulated.

The anterior maxilla (fig. 25g) consists of a short outer lobe, which is twice

as long as wide, and a narrower, longer inner lobe which is drawn out into a long seta-like filament. The outer lobe is terminally armed with 2 denticulated spines, the shortest of which is sickle-shaped.

The posterior maxilla (fig. 25h) has a smooth basal segment and a curved claw armed with 3 spinelike projections and a row of fine denticles.

The maxilliped (fig. 25i) has a 2-segmented "hand"; segment 1 bears medially 1 short plumose seta, laterally a group spinules; a small papilla, characteristic for the male sex, is present at the base of the plumose seta; segment 2 is tapering, its medial margin bears some groups of cilia and a spine. There are 4 claw segments; the basal three of these bear 2, 1, and 1 spines. The spine of segment 3 is longer than the comparable element in other *Pteropontius* species.

The first leg (fig. 26a) is extremely reduced, both in size and in structure. The coxopod is entirely fused with the basipod, but the median coxopod seta (plumose) as well as the lateral basipod seta (plumose) are still present. There is no intercoxal plate and the fused protopod complexes of left and right nearly touch each other in the midline of the body. Of the rami only one remains; I am unable to make out whether the remaining ramus is the endopod or exopod. This ramus is unimerous; its lateral margin is convex and bears some cilia; its medial margin is practically straight. The terminal armature consists of 2 larger setae and a shorter medial seta.

The 2nd (fig. 26b) and 3rd (fig. 26c) legs are biramous, each ramus being 3-segmented. Intercoxal plates are well-developed. The exopod spines are coarsely serrated. The 2nd endopod segment has 2 spiniform projections laterally, the 3rd has likewise 2. In  $P_3$  the 3rd endopod segment bears moreover a disto-medial, fingershaped projection of considerable length. The chaetotaxis formula of these legs is identical.

$$P_2, P_3 \quad \left\{ \begin{array}{lll} \text{exp.} & \text{I} - 1; & \text{I} - 1; & \text{III} - \text{I} - 5 \\ \text{enp.} & 0 - 1; & 0 - 2; & 1 - 5 \end{array} \right.$$

A noticeable difference between  $P_2$  and  $P_3$  is found in the protopod: in  $P_2$  it is still 2-segmented, the coxopod bears a medial plumose seta, the basipod a lateral smooth seta; in  $P_3$  coxo- and basipod are fused, and only the smooth lateral seta remains.

The fourth leg (fig. 26d) lacks the endopod entirely. Coxo- and basipod are fused to an elongate protopod, which bears a lateral smooth seta. The triangular median process on the protopod is probably homologous with the similar process on  $P_3$  or on the basipod of  $P_2$ . The intercoxal plate is very narrow, but present. The chaetotaxis formula is:

$$P_4 \quad \text{exp.} \quad \text{I} - 1; \quad \text{I} - 1; \quad \text{III} - \text{I} - 4$$

The fifth leg (fig. 25c) is practically completely fused with the ventral surface of the first urosome segment. Its setal armature is unaffected: 1

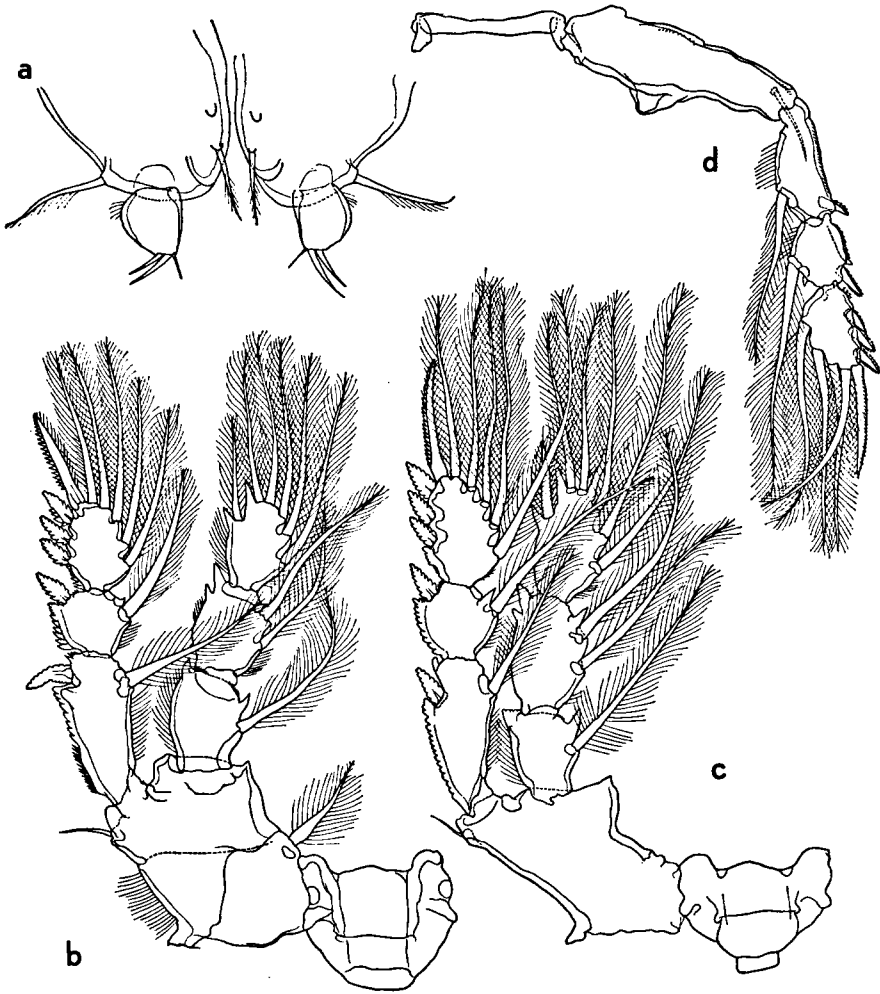


FIG. 26. *Pteropontius pediculus* n.sp., male. a, leg 1 (scale 2); b, leg 2 (6); c, leg 3 (6); d, leg 4 (6).

lateral seta represents no doubt the basipod seta, 3 more distal setae are those of the free segment.

A group of 3 setae at the posterior margin of the genital segment (fig. 25c) probably represents the 6th leg.

Colour of the live animal: opaque, greenish.

Remarks. — It is regrettable that only a male is available for study. This specimen exhibits such a remarkable and aberrant first leg, that it would be interesting to know whether this is a secondary sexual difference. GIESBRECHT (1899, p. 38), who described the male of *P. cristatus*, found only the



usual secondary sexual differences: "Das ♂ unterscheidet sich vom ♀ durch die geringere Länge und etwas gestrecktere Gestalt des Rumpfes, in dem Bau des Genitalsegmentes, der vorderen Antennen" (10- instead of 8-segmented), "ferner des Maxillipeden" (in ♂ with a small papilla on segment 1, lacking in ♀) "und des 2. und 3. Ruderfusses" (with more prominent spiniform processes on the 3rd endopod segment). These characters, which are very usually sexually dimorph in siphonostomes, are not used in the following key to the species. Apart from these key characters, *P. pediculus* differs from related species in a somewhat different segmentation of the basal part of the  $A_2$  and in the greater length of the spine on maxilliped claw segment 3.

KEY TO THE SPECIES OF *Pteropontius* (♀, ♂)<sup>2)</sup>

- 1a) Third exopod segment of  $P_3$  with chaetotaxis formula III—I—5. Third exopod segment of  $P_4$  with III—I—4 ..... 2
- b) Third exopod segment of  $P_3$  with chaetotaxis formula II—I—5. Third exopod of  $P_4$  with II—I—5 ..... *P. cristatus* Giesbrecht, 1895
- 2a) Dorsal crest absent. Postgenital urosome segments without pleura, of about a size ..... *P. quartus* Sewell, 1949
- b) Dorsal crest present. First (♀) or first and second (♂) postgenital segment with pleura; second (♀) or third (♂) postgenital segment much smaller and narrower than the preceding and following segments ..... 3
- 3a) Fifth leg consists of 1 seta. First leg biramous, each ramus 2-segmented. Third endopod segment of  $P_3$  with chaetotaxis formula 1—4. (Only ♀ known). ..... *P. barbarus* Nicholls, 1944
- b) Fifth leg consists of 4 seta. First leg uniramous, ramus 1-segmented. Third endopod segment of  $P_3$  with chaetotaxis formula 1—5. (Only ♂ known) ..... *P. pediculus* n.sp.

RÉSUMÉ

Dix espèces de Copépodes Cyclopoïdes siphonostomes ont été recueillies à l'Ile Maurice. Parmi ces espèces, huit sont nouvelles pour la science; un genre nouveau (*Monocheres*), appartenant à la famille des *Asterocheridae*, a été créé pour une de ces espèces (*M. mauritianus*). Les autres espèces nouvelles sont *Asterocheres halichondriae*, *A. genodon*, *A. proboscideus*, *Asteropontius corallophilus*, *Acontiophorus brevifurcatus*, *Bradyopontius pichoni* et *Pteropontius pediculus*. Deux espèces, *Asterocheres mucronipes* et *Myzopontius australis*, étaient déjà connues, la première de la Méditerranée occidentale, la deuxième de l'Australie.

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<sup>2)</sup> *Pteropontius scaber* Brady, 1910, has been transferred to *Neobradypontius* by EISELT, 1962.

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