

than proximal part. Pereopod 2 chelate. Pereopods 2-4 with flattened propodi. Pereopods 3 and 4 propodi (or at least 3) bearing single distal spiniform seta on lower margin. Epipods linear, reduced anteriorly; podobranchs rudimentary or absent; arthrobranchs various, present, reduced or lost; pleurobranchs absent. Male pleopod 1 absent. Appendix masculina fused to appendix interna (rarely separate). Pleopod 2 not modified, similar to pleopods 3-5; all foliaceous and with well developed appendix interna. Uropodal exopod without suture; endopod more or less ovate.

COMPOSITION

Crosniera Kensley *et* Heard, 1991; *Mictaxius* Kensley *et* Heard, 1991; *Thomassinia* de Saint Laurent, 1979.

REMARKS

The Thomassiniinae were originally described on the basis of a single species as a subfamily of the Callianassidae (de Saint Laurent 1979) and

implicitly elevated to family level by Manning & Felder (1991) in a review of American callianassid and ctenochelid genera. The Callianassidae *s.s.* as defined by Manning & Felder (1991) are characterised by pleopods 1 and 2 being sexually modified and pleopods 3-5 being broadened and similar. The Thomassiniidae differ in that pleopod 2 is not different from those that follow, and in having the lineae thalassinicae close together in such a way that there are no ocular lobes as in true callianassids. Further, the maxilla 2 scaphognathite bears a long posterior seta, absent from the callianassids, and there are usually pereopodal epipods present.

The three genera were included in Callianideidae as a single clade by Kensley & Heard (1991) and grouped as a family-level taxon by Sakai (1992). Poore (1994) showed that Thomassiniidae were the sister-taxon of Callianideidae and their similarity to Micheleidae more remote. Thomassiniidae and Callianideidae together were shown to be the sister-taxon of Callianassidae and Ctenochelidae.

KEY TO GENERA OF THOMASSINIIDAE

1. Maxilliped 3 with brush of stiff setae on ischium and merus; uropodal endopod with oblique transverse row of spiniform setae *Thomassinia*
- Maxilliped 3 without brush of stiff setae on ischium and merus; uropodal endopod without oblique transverse row of spiniform setae 2
2. Rostrum spike-like; maxillipedal 3 exopod as long as merus *Crosniera*
- Rostrum obsolete, maxillipedal 3 exopod vestigial or absent *Mictaxius*

Genus *Crosniera* Kensley *et* Heard, 1991

Crosniera Kensley *et* Heard, 1991: 500, 501.

TYPE SPECIES. — By original designation: *Callianassa minima* Rathbun, 1901.

DIAGNOSIS

Rostrum spike-like. Linea thalassinica incomplete. Eyestalk flattened. Antenna 1 scaphocerite minute and articulating. Maxilliped 1 exopod flagellate. Maxilliped 3: exopod as long as merus;

ischium and merus without brush of stiff setae. Pereopods 1 dissimilar. Pereopod 2 with moderately broad propodus. Pereopods 2-4 without setal-rows; abdominal somite 1 usually with setal-row; somites 2-5 with or without setal-rows; abdominal somite 6 typically with three setal-rows. Uropodal endopod without transverse row of short spiniform setae; exopod simply ovate. Male pleopod 1 present. Appendix masculina and appendix interna separate and elongate or fused; appendix masculina with stiff setae.

Branchial formula (r = rudimentary):

Thoracomere	1	2	3	4	5	6	7	8
Epipod	-	1	1	1	1	1	1	-
Podobranch	-	-	r	r	r	r	r-0	-
Arthrobranch	-	-	2	2	2	2	2	-

COMPOSITION

C. corindon n.sp.; *C. minima* (Rathbun, 1901);
C. panie n.sp.

REMARKS

The diagnosis of Kensley & Heard (1991) does not contradict that given here but it does include characters which are now considered of family status or variable. The spike-like rostrum is the most obvious diagnostic character. The genus is most easily distinguished from rostrate callianasids with which it might superficially be confused by the presence of an incomplete linea thalassinica beginning at the base of the eyestalks, absence of ocular lobes between the linea and the rostrum, similarity of pleopod 2 to pleopods 3-5, and the well developed appendices interna and masculina.

Crosniera is assigned to the Thomassiniidae rather than to the Callianideidae or Meticonaxiidae on the basis of the possession of a linea thalassinica commencing anteriorly near the eyestalks, broad asymmetrical chelipeds, and a single spiniform seta on the propodus of pereopod 3 of some species.

Two additional species belonging to this genus are herein described: *C. panie* n.sp. is very similar to the type species and *C. corindon* n.sp. is more remotely related. Two other specimens in poor condition are described as possible members of the genus.

***Crosniera corindon* n.sp.**
(Figs 28, 29A-H)

MATERIAL EXAMINED. — **Indonesia.** Makassar Strait (0°14.9'S - 117°51.7'E), 150 m, Okean grab (CORINDON 2, stn 207), 31.X.1980, MNHN Th-1217 (holotype, ♀, cl. 4.5 mm, tl. 14.8 mm).

ETYMOLOGY. — For the joint French-Indonesian CORINDON cruises in Indonesia.

DISTRIBUTION. — Indonesia; 150 m depth.

DESCRIPTION

Rostrum slender, acute, reaching as long as eyes. Cephalothorax without mid-dorsal keel; linea thalassinica reaching posteriorly for half of cephalothorax length; without setal-row near anterior margin; cervical groove absent. Abdominal somite 1 without pleuron; setal-row of two setae; somites 3-5 with setal-rows of ca. five, five and ten setae; somite 6 without setal-rows, unarmed.

Eyestalk flattened, with convex lateral margin, cornea weak. Antenna 1 with peduncle article 3 reaching beyond distal margin of antenna 2 article 4; scaphocerite an acutely-tipped scale. Epistome not setose. Mouthparts essentially as in *C. minima*. Maxilliped 3 ischium with weakly dentate ridge mesially, merus with one small tooth on lower margin, dactylus narrowly ovate, exopod not reaching distal margin of ischium.

Pereopods 1 dissimilar, right larger on holotype. Larger cheliped ischium and merus unarmed; propodus carinate along upper and lower margins; fixed finger one-third length of whole propodus, with lateral tooth at about one-third of cutting edge; dactylus unarmed. Smaller cheliped fixed finger and dactylus more elongate. Pereopods 2 and 3 much broader than in *C. minima*. Pereopod 3 propodus with distal spiniform seta on lower margin. Pereopod 4 unknown. Pereopod 5 subchelate, dactylus much longer than fixed finger.

Thoracic sternite 7 broad, coxae of pereopods 4 flattened and widely separate.

Pleopod 1 of female geniculate, 2-articulate. Pleopod 2 with short appendix interna. Pleopods of male unknown.

Uropodal rami marginally setose; endopod 1.5 times as long as wide, ovate; exopod 1.5 times as long as wide, irregularly ovate. Telson 0.8 times as long as wide, unarmed, tapering over distal two-thirds to rounded apex.

REMARKS

This specimen is placed in *Crosniera* on the basis of the general habitus, eyes, spine-like rostrum, pleopods, coxae 4, thoracic sternite 7, scaphocerite, telson and the broad larger cheliped. The main differences from the type species are the number of setal-rows on the cephalothorax, dactylus of pereopod 5 and the smaller cheliped.

Crosniera minima (Rathbun, 1901)

Callianassa minima Rathbun, 1901: 92, fig. 16. – Schmitt 1935: 5. – Biffar 1971: 651. – de Saint Laurent 1979: 1396. – de Saint Laurent & Le Loeuff 1979: 95. – Manning 1987: 397. – Manning & Felder 1991: 765.

Crosniera minima. – Kensley & Heard 1991: 496, 503-506, figs 5, 6. – Blanco Rambla & Liñero Arana 1994: 16-18, fig. 1.

MATERIAL EXAMINED. — **Puerto Rico**. Mayaguez Harbour, 45-35 m, U. S. Fisheries Commission (*Fish Hawk*, stn 6062), USNM 24668 (syntype, ♀, cl. 2.5 mm).

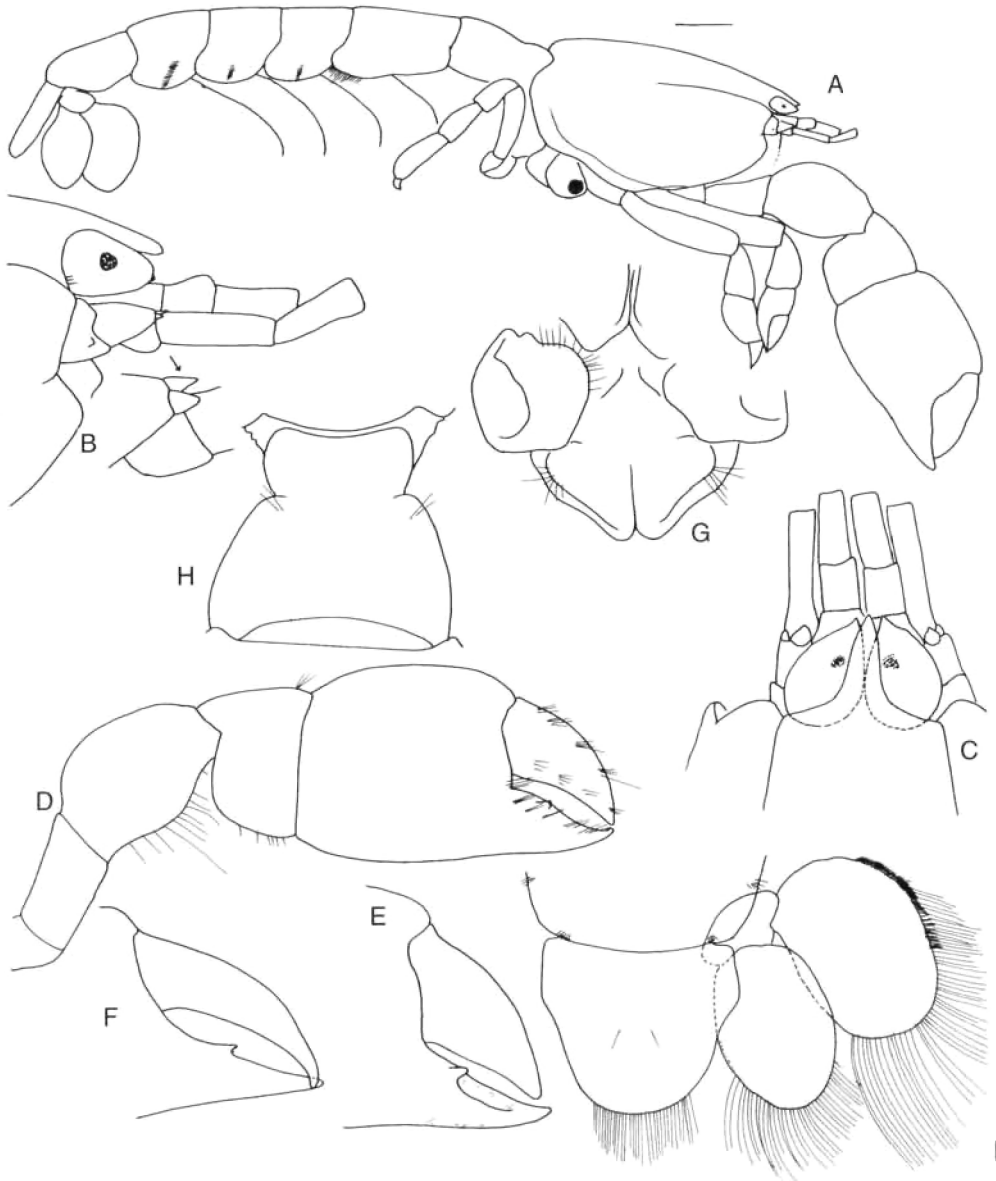


FIG. 28. — *Crosniera corindon* n.sp. A, habitus; B, C, anterior cephalothorax; D, right cheliped and E, fingers; F, fingers of left cheliped; G, sternum and coxa of pereopod 4; H, abdominal somite 1; I, abdominal somite 6, telson and uropod. All figures from holotype.

DISTRIBUTION. — Puerto Rico, Alabama, Venezuela; 35-75 m depth.

REMARKS

The numerous syntypes from Puerto Rico and off Alabama were listed by Kensley & Heard (1991) who described and figured this species in detail. Blanco Rambla & Liñero Arana (1994) recorded the species from Venezuela. The species is distinguished from *C. panie* by the weaker but more numerous spines on the telson, weaker dentition of smaller cheliped, separation of appendices interna and masculina, narrower pereopods, presence of setal-rows on abdominal somites 2-5, 2-articled pleopod 1, and the presence of propodal spines on pereopods 3 and 4.

Crosniera panie n.sp.
(Figs 29I-N, 30)

MATERIAL EXAMINED. — **New Caledonia**. East Lagoon, near Mt Panié (20°33.25'S - 164°49.3'E), 40 m, B. Richer de Forges (ORSTOM, stn 0877), 13.I.1987, MNHN Th-1218 (holotype, ♂, cl. 2.8 mm, tl. 8.5 mm).

ETYMOLOGY. — Mont Panié is the highest mountain in New Caledonia, very near the type locality (noun in apposition).

DISTRIBUTION. — New Caledonia; 40 m depth.

DESCRIPTION

Rostrum slender, acute, reaching just beyond eyes. Cephalothorax with faint mid-dorsal keel on posterior third; linea thalassinica reaching posteriorly for two-thirds of cephalothorax length; vertical setal-row of eleven setae near anterior margin; cervical groove very weak. Abdominal somite 1 with acute pleuron; setal-row of fifteen setae; somites 2-5 without setal-rows; somite 6 with three setal-rows and with small laterally-directed hook on lower margin.

Eyestalk flattened, with convex lateral margin, cornea weak. Antenna 1 with peduncle article 3 reaching distal margin of antenna 2 article 4; scaphocerite reduced to small scale. Epistome setose. Mouthparts essentially as in *C. minima*. Maxilliped 3 ischium with row of spines mesially, merus with two small teeth on lower margin, exopod not reaching distal margin of ischium.

Pereopods 1 dissimilar, left wider and longer than right. Larger cheliped ischium with two spines on lower margin; merus unarmed; propodus carinate along upper and lower margins; fixed finger one-third length of whole propodus, with tooth at about one-third of cutting edge; dactylus with irregular cutting edge. Smaller cheliped ischium with two spines; merus unarmed; propodus carinate; fixed finger with proximal tooth; dactylus widely gaping, narrow, evenly curved, unarmed. Pereopods 2 and 3 similar but slightly broader than in *C. minima*. Pereopod 3 propodus with distal spiniform seta on lower margin. Pereopod 4 propodus without distal spiniform seta on lower margin. Pereopod 5 chelate. Thoracic sternite 7 broad, coxae of pereopods 4 flattened and widely separate.

Pleopods of female unknown. Pleopod 1 of male a simple curved cylindrical article. Pleopod 2 of male with appendix masculina fused to appendix interna, represented only by long stiff setae.

Uropodal rami marginally setose; endopod with anterior margin straight and ending in sharp tooth; exopod subcircular, little longer than wide. Telson as long as wide, with one strong lateral tooth, distal margin narrowly convex.

REMARKS

The very similar species, *C. minima*, was described and figured in detail by Kensley & Heard (1991). Differences were noted above. One difference is more profound than the others, *i.e.*, the pleopod 1 of the male of the new species is simpler, and pleopod 2 has the appendices masculina and interna fused. This might be because the single specimen is a juvenile male rather than full-grown but so little is known of growth stages that this hypothesis cannot be tested.

A rudimentary podobranch on pereopod 4 was noted. This was reported as missing in *C. minima* by Kensley & Heard but may have been overlooked.

Crosniera sp. 1
(Fig. 31)

MATERIAL EXAMINED. — **Indonesia**. Sulu Archipelago (04°38.5'N - 119°49.43'E), 2570 m (ESTASE stn CP6), 5.XII.1984, MNHN Th-1225 (♂, cl. 5.7 mm, without pereopods).

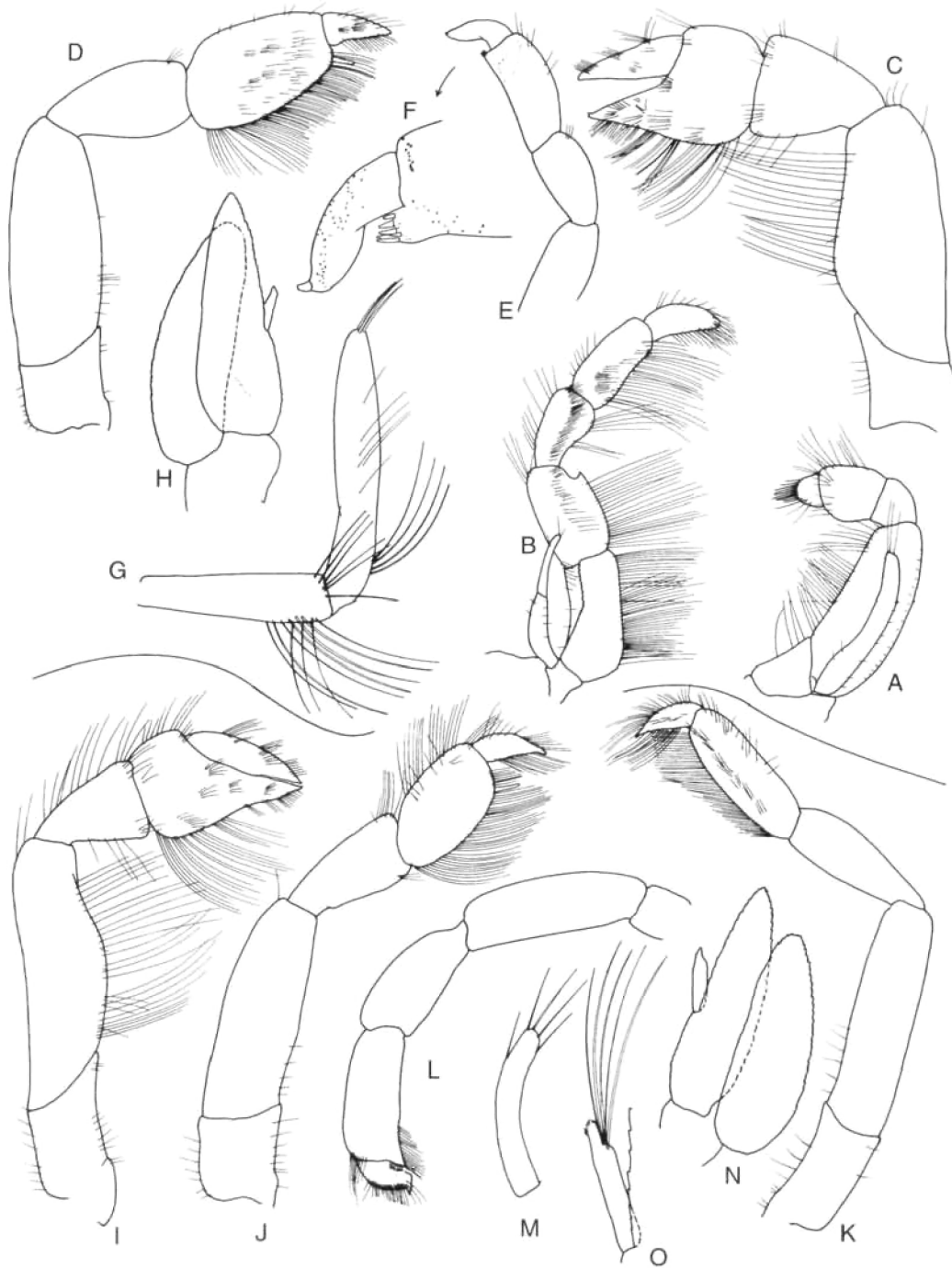


FIG. 29. — *Crosniera corindon* n.sp. A, maxilliped 2; B, maxilliped 3; C, left pereopod 2; D, right pereopod 3; E, right pereopod 5; F, details of fingers; G, ♀ pleopod 1; H, ♀ pleopod 2. All figures from holotype. *Crosniera panie* n.sp. I, right pereopod 2; J, right pereopod 3; K, left pereopod 4; L, left pereopod 5; M, ♂ pleopod 1; N, ♂ pleopod 2; O, fused appendices interna and masculina. All figures from holotype.



FIG. 30. — *Crosniera panie* n.sp. A, habitus; B, anterior cephalothorax; C, cephalothorax and abdominal somite 1; D, abdominal somite 1; E, maxilla 1; F, maxilla 2; G, maxilliped 2; H, maxilliped 3; I, left cheliped; J, right cheliped; K, sternum and coxae of pereopods 4 and 5; L, telson and uropod. All figures from holotype.

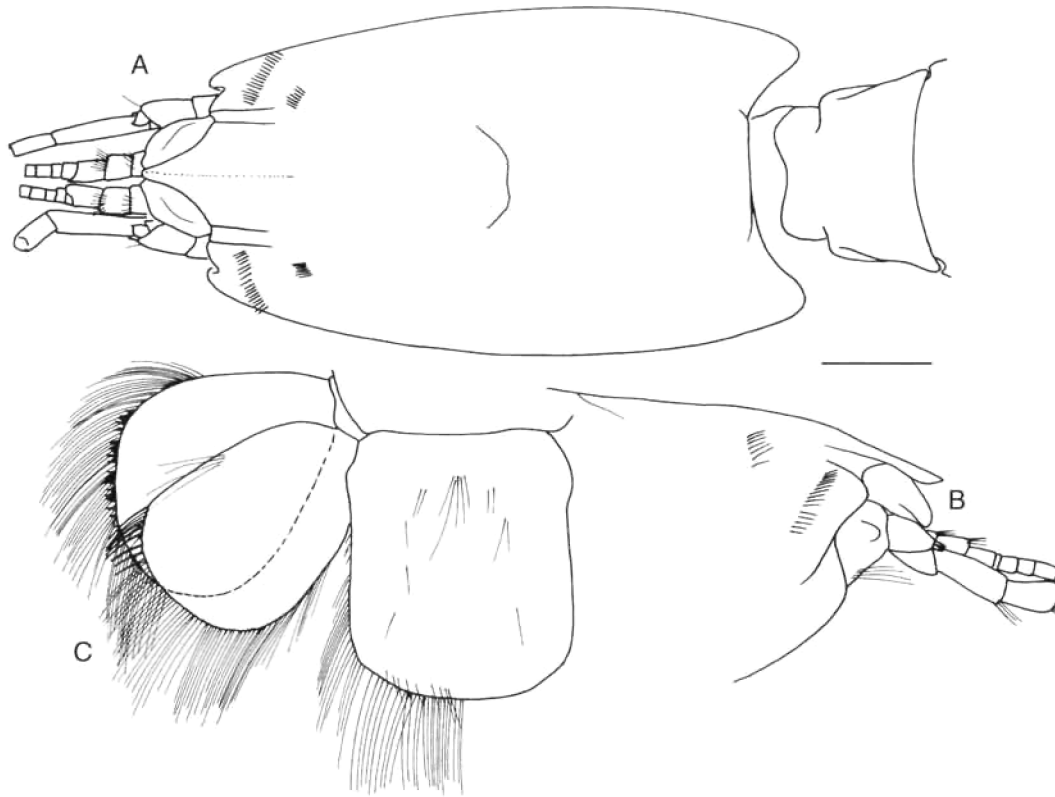


FIG. 31. — *Crosniera* sp. 1. **A**, cephalothorax and abdominal somite 1; **B**, anterior cephalothorax; **C**, telson and uropod. All figures from MNHN Th-1225.

DESCRIPTION

Rostrum broadly triangular, faintly carinate, reaching as far as eyes. Cephalothorax without mid-dorsal keel on posterior third; linea thalassinica very short, about one-tenth of cephalothorax length; vertical setal-row of fourteen setae near anterior margin, another of seven more posteriorly; cervical groove very weak. Abdominal somite 1 with pleuron weak, somite 2 with weakly overlapping pleuron and weak condyle; somites 1-5 without setal-rows; somite 6 with longitudinal setal-row.

Eyestalk flattened, tapering to distomesial lobe, cornea unpigmented. Antenna 1 with peduncle article 3 not reaching distal margin of antenna 2 article 4; scaphocerite a minute acutely-tipped scale. Epistome not setose. Mouthparts essentially as in *C. minima*. Maxillipeds 2 and 3 ischium exopods well developed.

Pereopods unknown.

Thoracic sternite 7 broad, with anteriorly directed hooks laterally, coxae of pereopods 4 flattened, with anterior hooks, and widely separate.

Pleopods of female unknown. Pleopod 1 of male a simple article. Pleopod 2 of male with appendix masculina and appendix interna fused at base (as in *C. minima*).

Uropodal rami marginally setose; endopod 1.4 times as long as greatest width; exopod little longer than wide. Telson rectangular, 1.2 times as long as wide, with distal margin convex.

Branchial formula:

Thoracomere	1	2	3	4	5	6	7	8
Epipod	-	1	1	1	1	1	1	-
Podobranch	-	-	1	1	1	1	1	-
Arthrobranch	-	1	2	2	2	2	2	-

REMARKS

The cephalothorax displays the rostrum (a little broader than in the other species), setal-row, eye, scaphocerite, and general shape of typical *Crosniera*. The linea thalassinica is in a similar position but does not extend far beyond the anterior margin. The male appendix interna and appendix masculina are the same as in *C. minima*. The telson is broader than in the named species of *Crosniera* and the epipods and podobranchs are better developed. There appears not to be a setal-row on abdominal somite 1. The generic placement of this specimen is tentative until the pereopods can be described but it seems best placed in *Crosniera* for the time being. The specimen comes from 2570 m depth, much deeper than for any other thomassiniid.

Crosniera sp. 2

MATERIAL EXAMINED. — **Mexico.** Angeles Bay, Gulf of California, 4 m (AHF stn 539.36), 3.III.1936, LACM (δ in very poor condition, cl. 3.3 mm).

REMARKS

The general habitus is similar to that of typical species of *Crosniera* in the possession of a spike-like rostrum, linea thalassinica close to eyestalks (short in this case), broad cheliped similar to the smaller one of *C. minima* and maxilliped 3 similar to *C. minima*. The propodi of pereopods 3 and 4 are slightly broadened (not lobate as in callianassids) and with distal spiniform setae. This is the only species with more than one distal spiniform seta on these propodi. The telson is rectangular rather than tapering, as in *Crosniera* sp. 1 and lacks the lateral spines seen in the type species.

The poor condition of the single specimen does not allow it to be described and its placement in *Crosniera* is tentative.

Genus *Mictaxius* Kensley et Heard, 1991

Mictaxius Kensley et Heard, 1991: 527.

TYPE SPECIES. — By original designation and monotypy: *Mictaxius thalassicola* Kensley et Heard, 1991.

DIAGNOSIS

Rostrum obsolete. Linea thalassinica usually complete. Eyestalks moderately flattened, cornea present. Antenna 1 scaphocerite minute and articulating. Maxilliped 1 exopod of one article. Maxilliped 3: exopod reduced or absent; ischium and merus without brush of stiff setae. Pereopods 1 dissimilar. Pereopods 2-4 with setal-rows, pereopod 3 propodus very broad; abdominal somites 1-5 with setal-rows; abdominal somite 6 with three setal-rows. Uropodal endopod without transverse row of short spiniform setae; exopod apically bilobed or twisted. Pleopod 1 of male absent. Appendices interna and masculina fused, appendix masculina with stiff setae.

Branchial formula (r = rudimentary):

Thoracomere	1	2	3	4	5	6	7	8
Epipod	-	1	1	1	1	1	r	-
Podobranch	-	-	r	r	r	r	-	-
Arthrobranch	-	-	2	2	2	2	2	-

COMPOSITION

M. arno n.sp.; *M. thalassicola* Kensley et Heard, 1991.

REMARKS

The new diagnosis differs from that of Kensley & Heard (1991) in the omission of family characters. Its species appear superficially like callianassids but are distinguished by the form of the linea thalassinica, absence of ocular lobes at the front of the cephalothorax, undifferentiated pleopod 2, the well developed appendix interna and fused appendix masculina.

The genus resembles *Crosniera* in the form of pleopods, antennae and thoracic sternite and coxae. Its differences from this genus are slight: the linea thalassinica is usually complete, the cornea is better developed, the uropodal exopod is twisted, the maxillipedal 3 exopod is absent, pereopods 2-4 are very broad and pereopod 5 is non-chelate, and the male pleopod 1 is absent. Kensley & Heard (1991) reported the uropodal exopod of *M. thalassicola* as "bilobed", implying similarity to callianassids. In the very similar species, *M. arno*, seen by me, the exopod is twisted so that the marginal setae are not in a single row, a situation different from that in callianassids.

Mictaxius arno n.sp.
(Figs 32, 33A-G)

MATERIAL EXAMINED. — **Marshall Islands.** Arno Atoll, SE of Arno lagoon, 36 m, J. W. Wells, 22.VII.1950 (USNM acc. No. 19015), USNM 95570 (holotype, ♂, cl. 4.1 mm, tl. 14.5 mm).

ETYMOLOGY. — For Arno Atoll, type locality (noun in apposition).

DISTRIBUTION. — Marshall Islands; 36 m depth.

DESCRIPTION

Cephalothorax with a short triangular rostrum. Linea thalassinica running full length of cephalothorax; antennal angle rounded; anterior setal-row of ten setae; cervical groove weakly marked. Abdominal somite 1 with triangular pleuron, with setal-row of six setae; somite 2

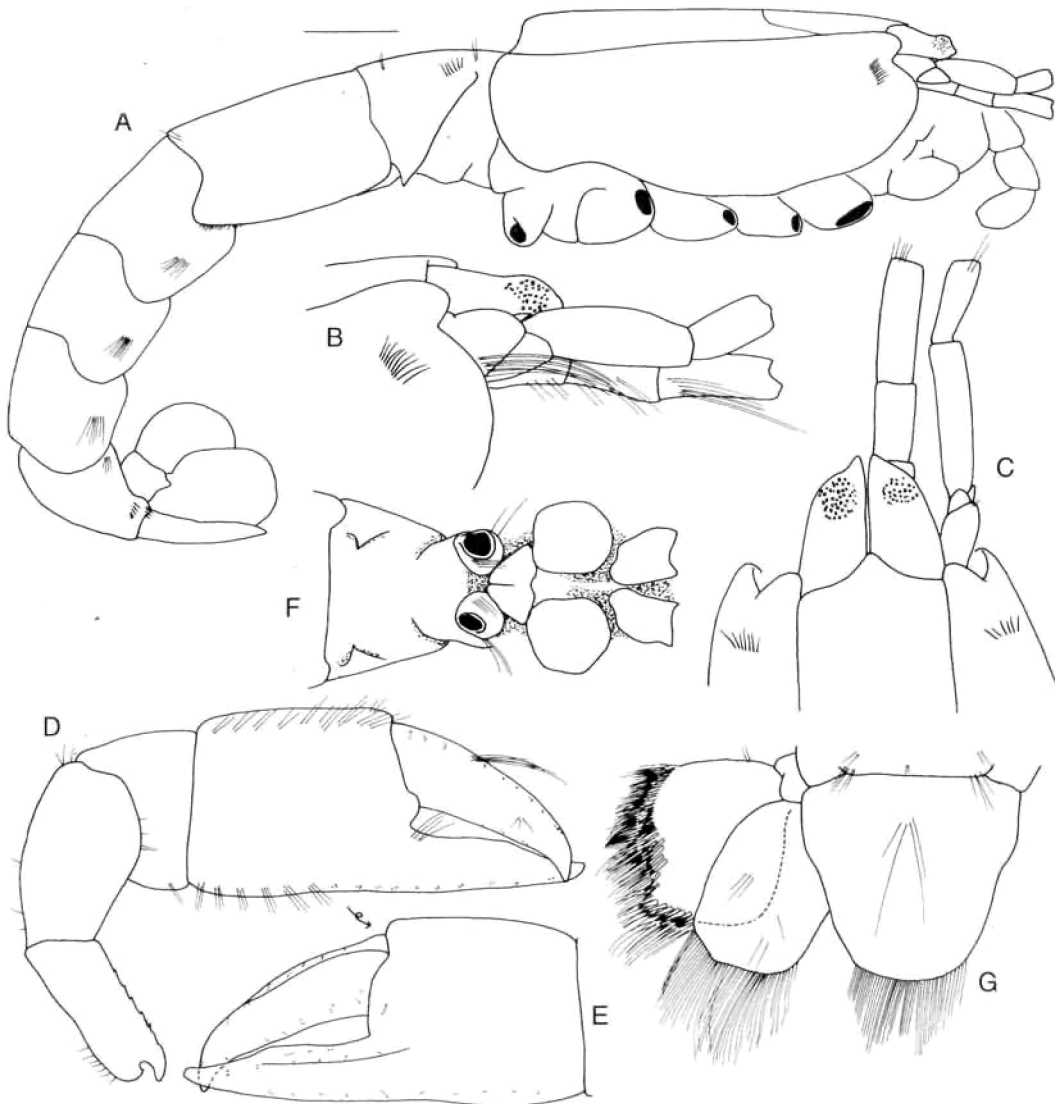


FIG. 32. — *Mictaxius arno* n.sp. A, habitus; B, C, anterior cephalothorax; D, left cheliped; E, propodus and dactylus of left cheliped; F, sternum, coxae of pereopods 3-5, abdominal somite 1; G, telson and uropod. All figures from holotype.

with broad pleuron; somites 2-5 without setal-rows; somite 6 with short setal-row.

Eyestalk tapering to narrowly rounded mediiodistal apex, cornea moderately pigmented, distal to midlength. Antenna 1 with peduncle article 3 longest. Antenna 2 peduncle as long as first; scaphocerite a small mobile semicircular scale. Epistome setose. Mouthparts as in *M. thalassicola*. Maxilliped 2 with well developed exopod. Maxilliped 3 ischium without crista dentata; ischium and merus unarmed; carpus-dactylus broad, as long as ischium-merus; exopod a small digitiform process.

Larger cheliped with ischium lower margin finely serrate; carpus with strongly convex lower margin; propodus flat, fixed finger 0.8 length of palm, with weak distal tooth on cutting edge; dactylus tapering. Smaller cheliped unknown. Pereopod 2 with setal-row of six setae on propodus. Pereopod 3 propodus about as long as wide, with one distal spiniform seta on lower margin, with setal-row of four setae. Pereopod 4 propodus 2.2 times as long as wide, with one distal spiniform seta on lower margin, with setal-row of four setae. Pereopod 5 not chelate, dactylus longer than fixed finger. Thoracic sternite 7 broad, coxae of pereopods 4 rounded and separate.

Pleopod 1 of male absent. Pleopod 2 of male with appendices masculina and interna totally fused, with three terminal stiff setae and apical hooks.

Uropodal endopod with more or less parallel sides, 1.4 times as long as wide, apex obtusely angled, setose; exopod as wide as long, twisted so that rows of marginal spiniform setae overlap. Telson as long as basal width, tapering to narrow rounded apex.

Branchial formula typical except for rudimentary arthropod 2 and poorly developed podobranchs and epipods.

REMARKS

The new species differs from *M. thalassicola* in the presence of a rudimentary arthrobranch 2, poorly developed podobranchs and epipods, longer and less rounded telson, uropodal exopod twisted rather than notched, endopod squarer, fewer setal-rows, and broader pereopods.

Mictaxius thalassicola

Kensley *et* Heard, 1991

Mictaxius thalassicola Kensley *et* Heard 1991: 497, 527-530, figs 22-24.

DISTRIBUTION. — Atlantic coast of Panama; shallow water.

REMARKS

No material of this species was examined but the presence of a linea thalassinica, the form of the chelipeds and numerous other characters require that it and the genus of which it is type species be placed in the Thomassiniidae rather than any other family.

cf. *Mictaxius* sp. 1
(Figs 33H-J)

MATERIAL EXAMINED. — **Tahiti**. Moorea I., Tiahura (17°30'S - 149°50'E), B. A. Thomassin (stn Tia 23), MNHN Th-1302 (♂ without pereopods, cl. 2.2 mm, tl. 8.0 mm; juvenile ♀ without pereopods, cl. 2.0 mm, dl. 7.2 mm).

DESCRIPTION

Cephalothorax 0.28 total length, about as deep as wide; rostrum a broadly based triangle, cervical groove visible only as transverse groove at 0.6 length of cephalothorax; linea thalassinica beginning at lateral margin of eyes, longitudinal and reaching cervical groove; dorsoposterior margin excavate, continuous with posterolateral margins; without setal-rows.

Abdominal somite 1 narrower than second, without anterolateral lobes, pleuron broadly rounded, without dorsolateral setal-rows. Abdominal somite 2 about as long as first, pleuron overlapping first somite. Abdominal somites 2-6 flattened, without setal-rows.

Eyestalks slightly flattened, adpressed, acute distoventrally, cornea distolateral.

Antenna 1 with article 1 shorter than eyestalk; article 2 shorter, 3 subequal to 1; flagella each of about eleven articles, longer than peduncle. Antenna 2 with minute acicle; article 4 reaching just beyond article 2 of antenna 1; article 5 half as long as 4.

Pleopod 1 of male absent. Pleopods 1 of juvenile female minute. Pleopod 2 endopod elongate-

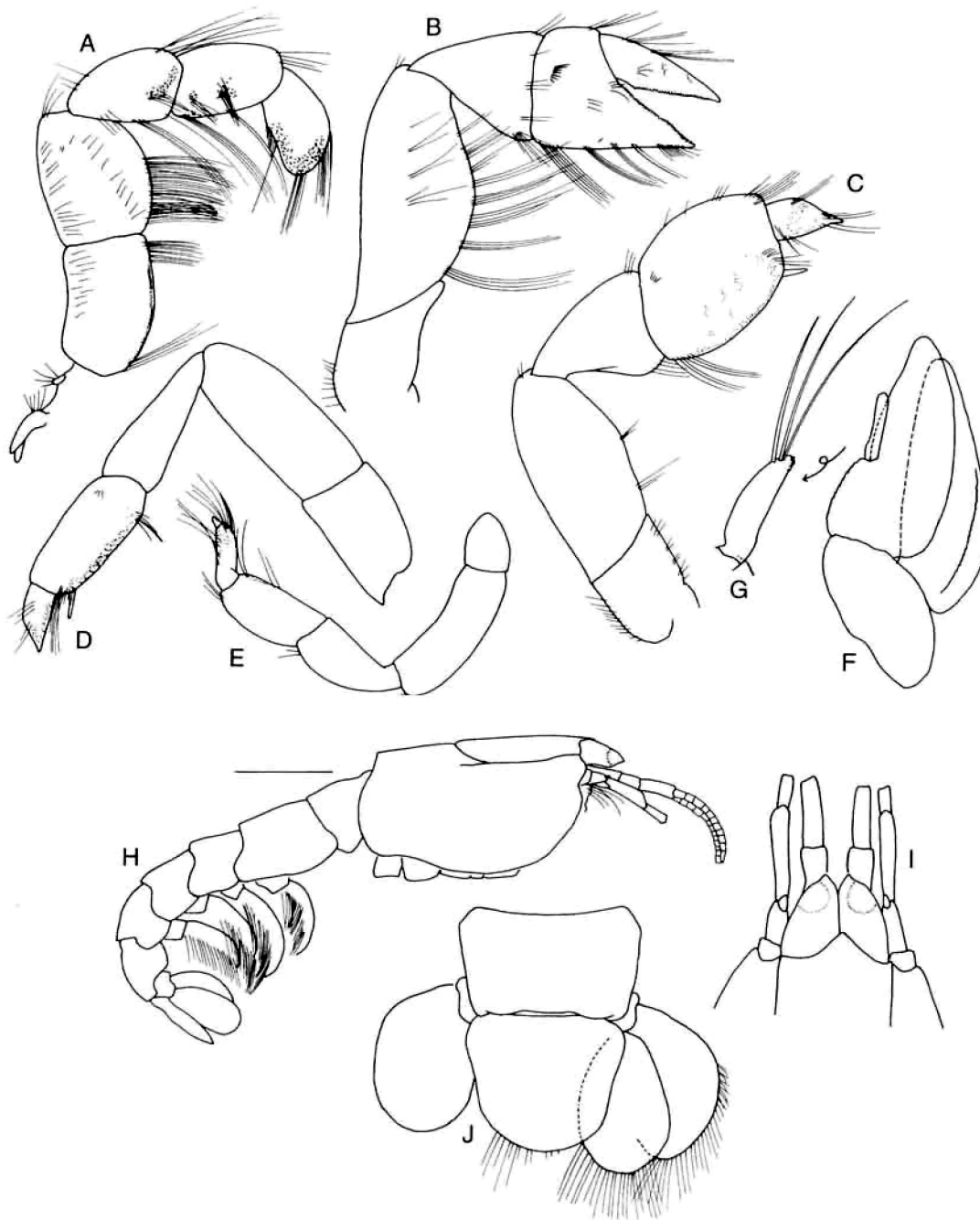


FIG. 33. — *Mictaxius arno* n.sp. **A**, maxilliped 3; **B**, right pereopod 2; **C**, right pereopod 3; **D**, left pereopod 4; **E**, right pereopod 5; **F**, pleopod 2; **G**, appendices interna and masculina. All figures from holotype. cf. *Mictaxius* sp. 1. **H**, habitus; **I**, anterior cephalothorax; **J**, abdominal somite 6, telson and uropod. All figures from MNHN Th-1302.

triangular, appendix interna 5 times as long as wide; appendix masculina represented by a ridge on anterior face of appendix interna; exopod 3 times as long as wide, triangular. Pleopods 3-5 essentially similar to pleopod 2.

Uropodal endopod ovate, 1.5 times as wide as long; exopod ovate, 1.5 times as long as wide, both setose. Telson length 0.8 times width, evenly tapering to rounded apex.

Branchial formula (r = rudimentary):

Thoracomere	1	2	3	4	5	6	7	8
Epipod	-	-	1	1	1	1	-	-
Podobranch	-	-	1	r	r	r	-	-
Arthrobranch	-	-	1	2	2	2	2	-

REMARKS

These specimens have a similar habitus, rostrum, eyestalk, antennae and telson to the two known species of *Mictaxius* but differ in several features. The linea thalassinica is incomplete, the uropodal exopod is not twisted or bilobed, and there are fewer arthrobranchs. While the species is represented by such incomplete specimens, its generic placement is uncertain.

These specimens were collected with *Thomassinia moorea* n.sp.

Genus *Thomassinia* de Saint Laurent, 1979

Thomassinia de Saint Laurent, 1979: 1396. — Kensley & Heard 1991: 528, 529.

TYPE SPECIES. — By original designation: *Thomassinia gebioides* de Saint Laurent, 1979.

DIAGNOSIS

Rostrum obsolete. Linea thalassinica almost complete. Eyestalks moderately flattened, contiguous, cornea distal. Antenna 1 scaphocerite absent. Maxilliped 1 exopod of one article. Maxilliped 3: exopod absent; ischium and merus with brush of stiff setae. Pereopods 1 unequal. Pereopod 3 propodus very broad. Pereopods 2-4 without setal-rows; abdominal somite 1 with setal-row; abdominal somites 2-5 without setal-rows; abdominal somite 6 with three setal-rows. Uropodal endopod with transverse

row of short spiniform setae; exopod ovate, not bilobed. Appendices masculina and interna fused, appendix masculina without stiff setae.

COMPOSITION

T. aimsae n.sp.; *T. gebioides* de Saint Laurent, 1979; *T. moorea* n.sp.

REMARKS

This diagnosis of *Thomassinia* is considerably expanded and modified over that of de Saint Laurent (1979). For a general habitus of the genus see figure 34 of *T. aimsae* but the type species is illustrated in greatest detail. The genus is most easily recognised by the unique form of maxilliped 3, which bears a thick brush of straight stiff setae on the merus and ischium. It was originally placed in its own subfamily within the Callianassidae but differs from members of this family in several ways. The form of the linea thalassinica, close to the base of the eyestalks, absence of ocular lobe, homogeneity of pleopods 2-5, and presence of epipods separate this genus (and others in the family) from the Callianassidae.

Thomassinia aimsae n.sp. (Figs 34, 35)

MATERIAL EXAMINED. — **Australia.** Queensland, Davies Reef (18°50'S - 147°39'E), 5 m, (AIMS site 2), NMV J21766 (holotype, ♀, cl. 4.0 mm, tl. 19 mm).

ETYMOLOGY. — For AIMS, the Australian Institute of Marine Science, Townsville, Queensland, which collected the only specimen.

DISTRIBUTION. — Great Barrier Reef, Australia; 5 m depth.

DESCRIPTION

Cephalothorax 0.2 total length, about as deep as wide; rostrum very weak, cervical groove visible only as transverse groove at 0.7 length of cephalothorax; linea thalassinica beginning at lateral margin of eyes, longitudinal and reaching two-thirds along cephalothorax; dorsoposterior margin excavate, continuous with posterolateral margins; submarginal vertical setal-row of about twenty-five setae.

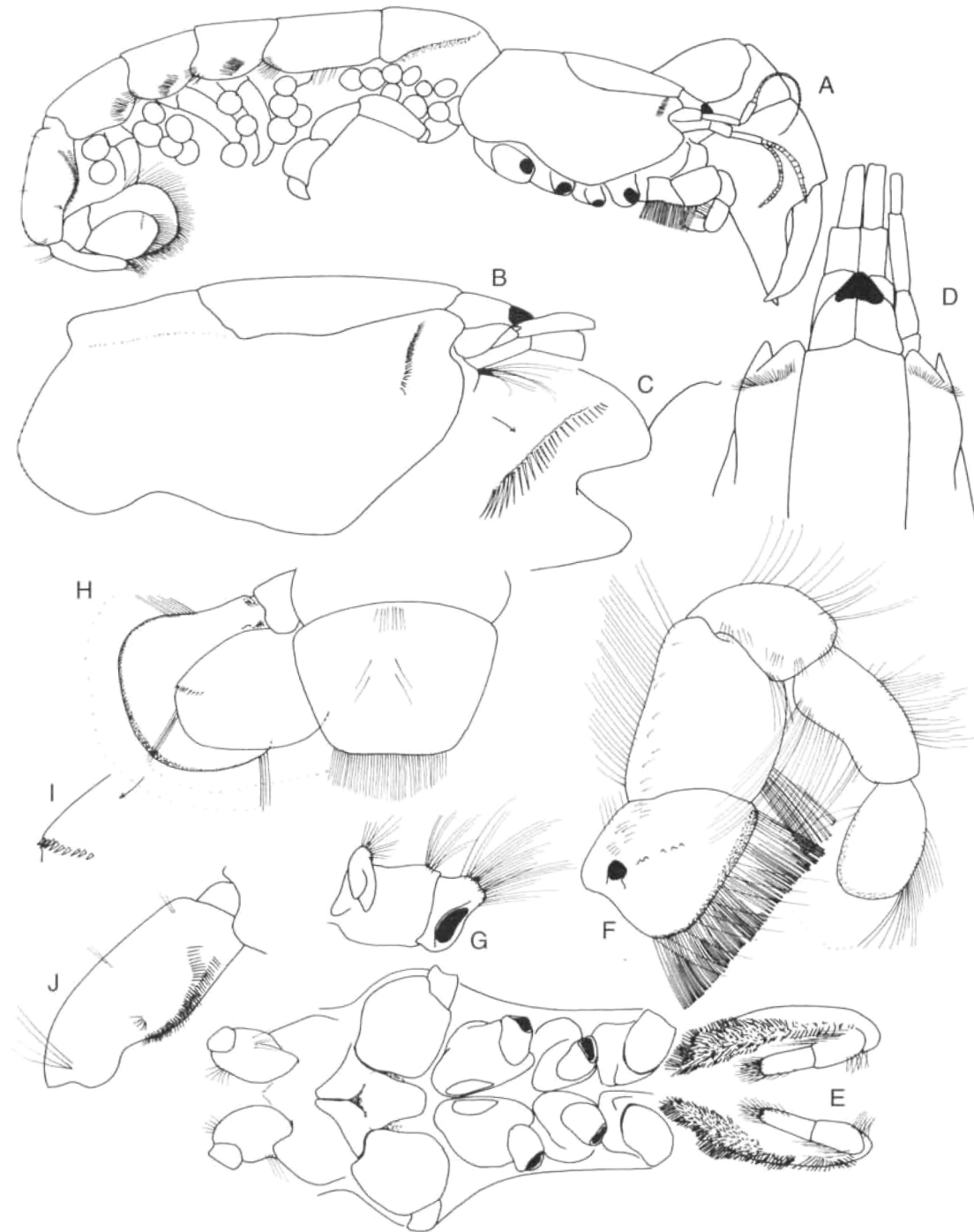


FIG. 34. — *Thomassinia aimsae* n.sp. A, habitus; B, cephalothorax; C, setal-row on anterior of cephalothorax; D, anterior cephalothorax; E, sternum, coxae and bases of peropods 1-5, maxillipeds 3; F, maxilliped 3; G, coxa and basis of maxilliped 3; H, telson and uropod; I, spiniform setae on uropodal endopod; J, right view of abdominal somite 6. All figures from holotype.

Abdominal somite 1 with dorsolateral setal-rows of five setae. Abdominal somites as in *T. gebioides*. Abdominal somite 6 with marginal setal-row of about thirty setae, oblique row of

thirty and transverse row of five setae. Eyestalks flattened, contiguous, acute mediodistally, cornea distal, weak. Antenna 1 with article 1 as long as eyestalk;

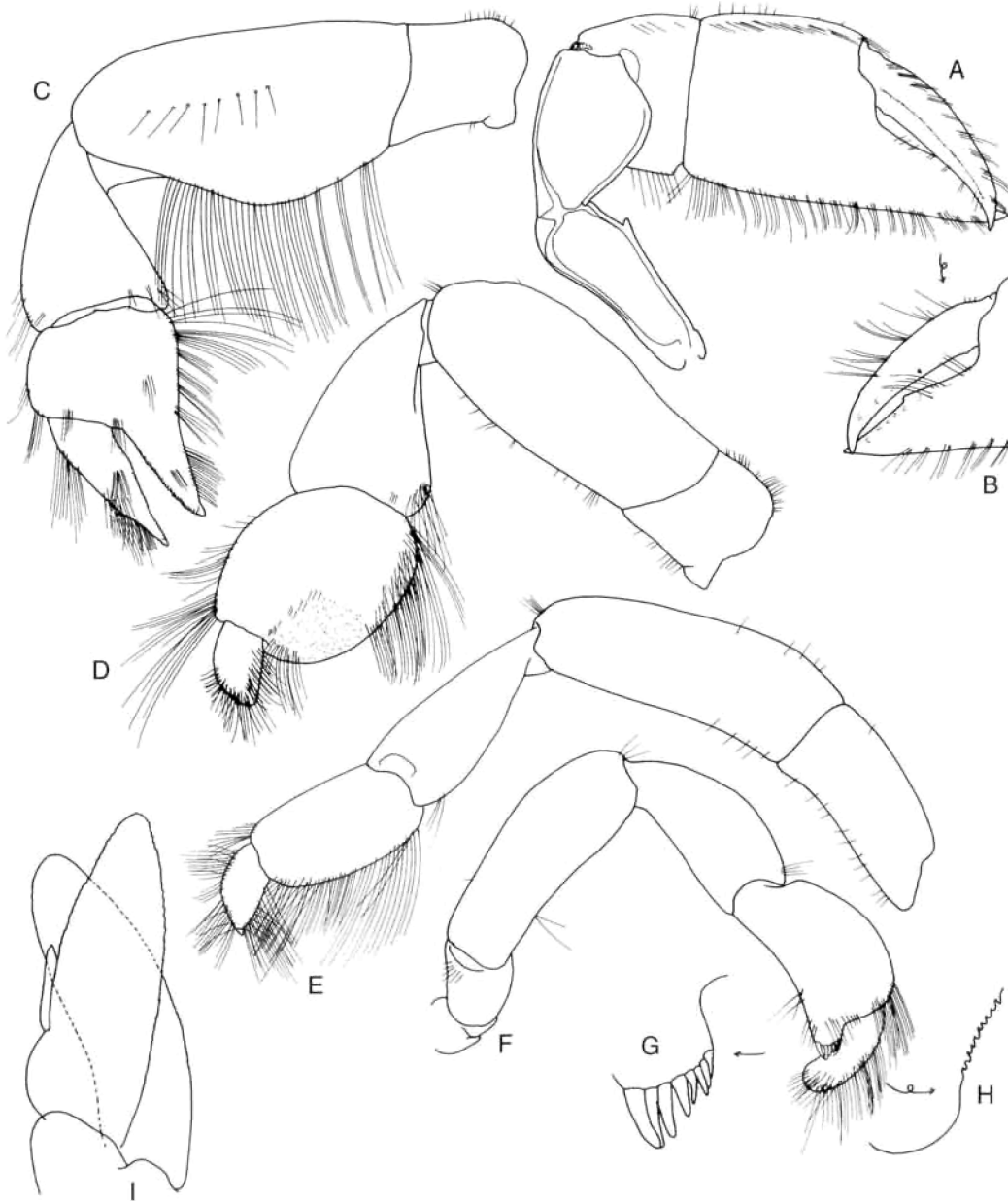


FIG. 35. — *Thomassinia aimsae* n.sp. A, left smaller cheliped; B, fingers; C, left pereopod 2; D, left pereopod 3; E, left pereopod 4; F, left pereopod 5; G, H, detail of fingers of pereopod 5; I, ♀ pleopod 2. All figures from holotype.

article 2 shorter, 3 subequal to 1; flagella each of twelve-fifteen articles, as long as peduncle. Antenna 2 without scaphocerite; article 4 reaching just beyond article 2 of antenna 1; article 5 half as long as 4; flagellum about as long as peduncle. Epistome with long setae.

Mouthparts as in *T. gebioides* except maxilliped 3 ischium with crista dentata of 5 minute teeth.

Only smaller cheliped known: ischium with weak lower tooth; merus 1.5 times as long as wide, with strongly convex lower margin, upper margin weakly convex; carpus unarmed; propodus broad, width half length; fixed finger half length of propodus, its cutting edge with obsolete tooth midway; dactylus cutting edge smooth, curved distally, equal to fixed finger.

Pereopods 2-5 similar to *T. gebioides* but propodus of 3 almost as wide as long and dactylus of 5 closing on eight spiniform setae.

Pleopods of male unknown. Pleopods of female as in *T. gebioides*.

Uropodal endopod triangular with broadly rounded lateral and mesial corners, with a transverse row of nine spiniform setae on anterolateral corner; exopod with anterolateral corner weakly produced, with dense marginal setae distally. Telson length 0.75 times width, evenly tapering to truncate apex.

Branchial formula (r = rudimentary):

Thoracomere	1	2	3	4	5	6	7	8
Epipod	-	r	r	r	r	r	-	-
Podobranch	-	r	r	r	r	-	-	-
Arthrobranch	-	1	2	2	2	2	2	-

REMARKS

There are only small differences between this, an Australian species, and the type species from Madagascar. This specimen is notable for the possession of minute denticles indicating a very weak crista dentata on maxilliped 3. The single cheliped is assumed to be the smaller on the basis of comparison with other species. Figure 34E shows the ventral arrangement of the limbs, in particular the separation of the coxae of pereopods 4 and the attitude of the brush of maxillipeds 3.

T. aimsae is the only species in the genus in

which pereopod 3 lacks a podobranch. The linea thalassinica is very indistinct posterior to the cervical groove.

The specimen was well preserved before dissection and exhibited the solid connection between the cephalothorax and abdomen. Only slight articulation seems possible here and the animal seems designed to walk about the surface of the sediment cleaning detritus with the maxillipedal brush. Pereopod 5 is compact and can be held against a lateral concavity on abdominal somite 1.

Thomassinia gebioides de Saint Laurent, 1979 (Figs 36, 37)

Thomassinia gebioides de Saint Laurent, 1979: 1396.

MATERIAL EXAMINED. — **Madagascar.** Tuléar, B. A. Thomassin, MNHN Th-819 (holotype, ♂, tl. 8 mm); MNHN Th-818, with slide of figured specimen (12 paratypes of which 1 ♀ and a pair of first chelipeds are figured); NMV J34097 (9 topotypes).

DESCRIPTION

Cephalothorax 0.2 total length, about as deep as wide; rostrum almost non-existent, cervical groove visible only as transverse groove at 0.6 length of cephalothorax; linea thalassinica beginning at lateral margin of eyes, longitudinal and reaching three-quarters along cephalothorax; dorsoposterior margin excavate, continuous with posterolateral margins; submarginal vertical setal-row of six setae.

Abdominal somite 1 narrow, waisted to accept folded pereopod 5 laterally, depressed anteriorly, without anterolateral lobes; pleuron broadly rounded; dorsolateral setal-rows of five setae. Abdominal somite 2 about as long as first, pleuron not overlapping first somite. Abdominal somites 2-5 flattened, with group of long setae on posterior margin of pleuron, without setal-rows. Abdominal somite 6 with marginal setal-row of about forty setae, oblique row of thirty and transverse row of five setae.

Eyestalks slightly flattened, adpressed, acute distoventrally, cornea distal, ommatidia scattered.

Antenna 1 with article 1 shorter than eyestalk; article 2 shorter, 3 subequal to 1; flagella each of twelve-fifteen articles, longer than peduncle. Antenna 2 without scaphocerite; article 4 rea-

ching just beyond article 2 of antenna 1; article 5 half as long as 4; flagellum about as long as peduncle. Epistome with long setae.

Mandible incisor process with irregularly toothed cutting edge. Maxilla 2 endopod shorter than most distal endite; scaphognathite with one long

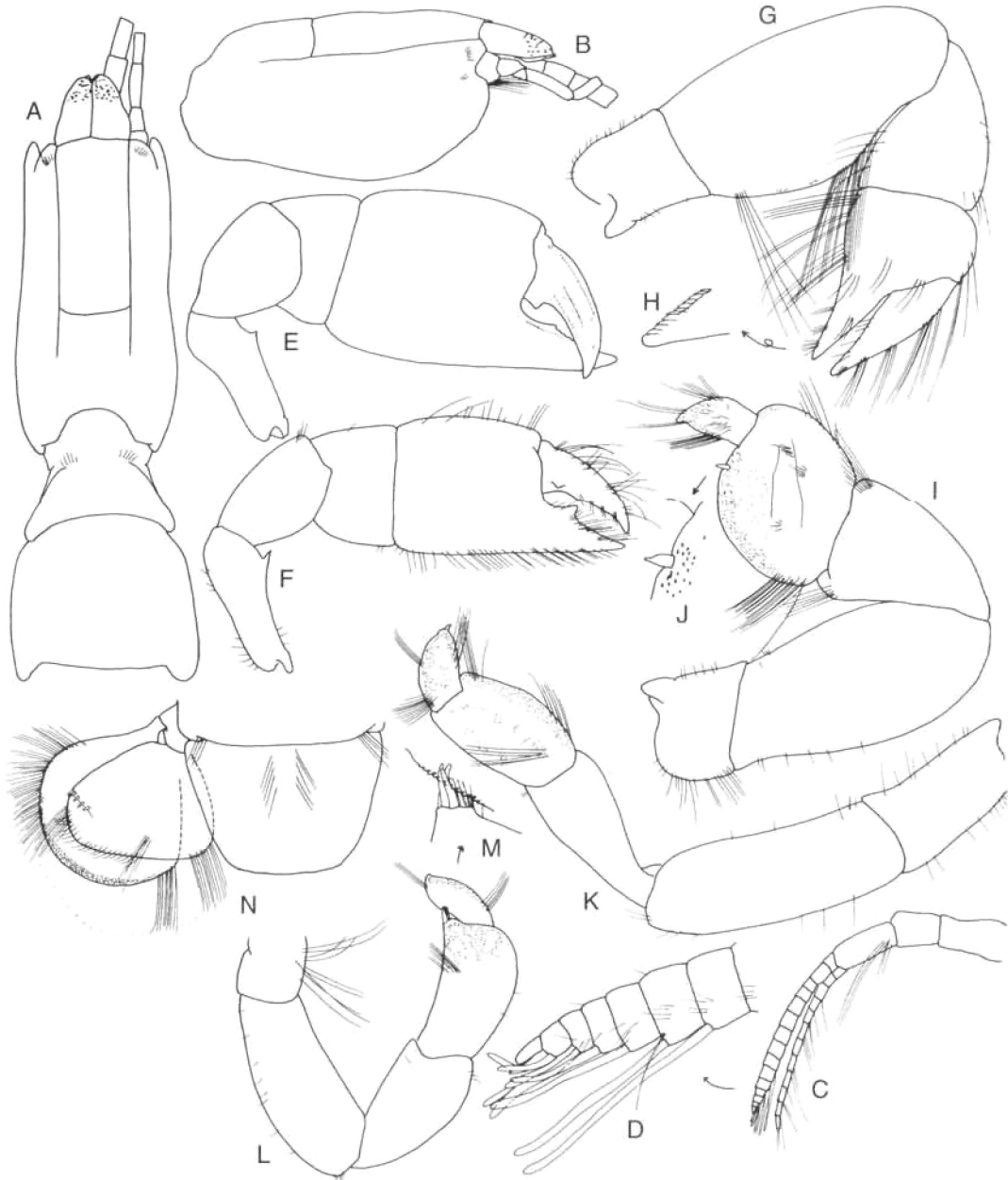


FIG. 36. — *Thomassinia gebioides* de Saint Laurent, 1979. A, cephalothorax and abdominal somites 1 and 2; B, cephalothorax; C, antenna; D, detail of tip of flagellum; E, left larger cheliped; F, left smaller cheliped; G, left pereopod 2; H, tip of dactylus; I, right pereopod 3; J, spiniform seta on propodus; K, left pereopod 4; L, right pereopod 5; M, detail of fingers; N, telson and uropod. Figures A-D, F, N from holotype; others from MNHN Th-818.

posteriorly-directed seta. Maxilliped 1 with endopod 2-articled, as long as basal endite, exopod broad, longer than endite, epipod with small narrow distal lobe and much longer proximal lobe. Maxilliped 2 exopod as long as endopodal merus; epipod broad, with podobranch. Maxilliped 3 ischium without crista dentata; merus about same length as ischium, without

mesial tooth; ischium-merus together broad, with dense brush of stiff setae along ischium and proximally on merus, each apically square rather than tapered; tapering setae elsewhere on all articles; carpus-dactylus about as long as ischium-merus, of similar width throughout; exopod absent; rudimentary epipod with rudimentary podobranch.

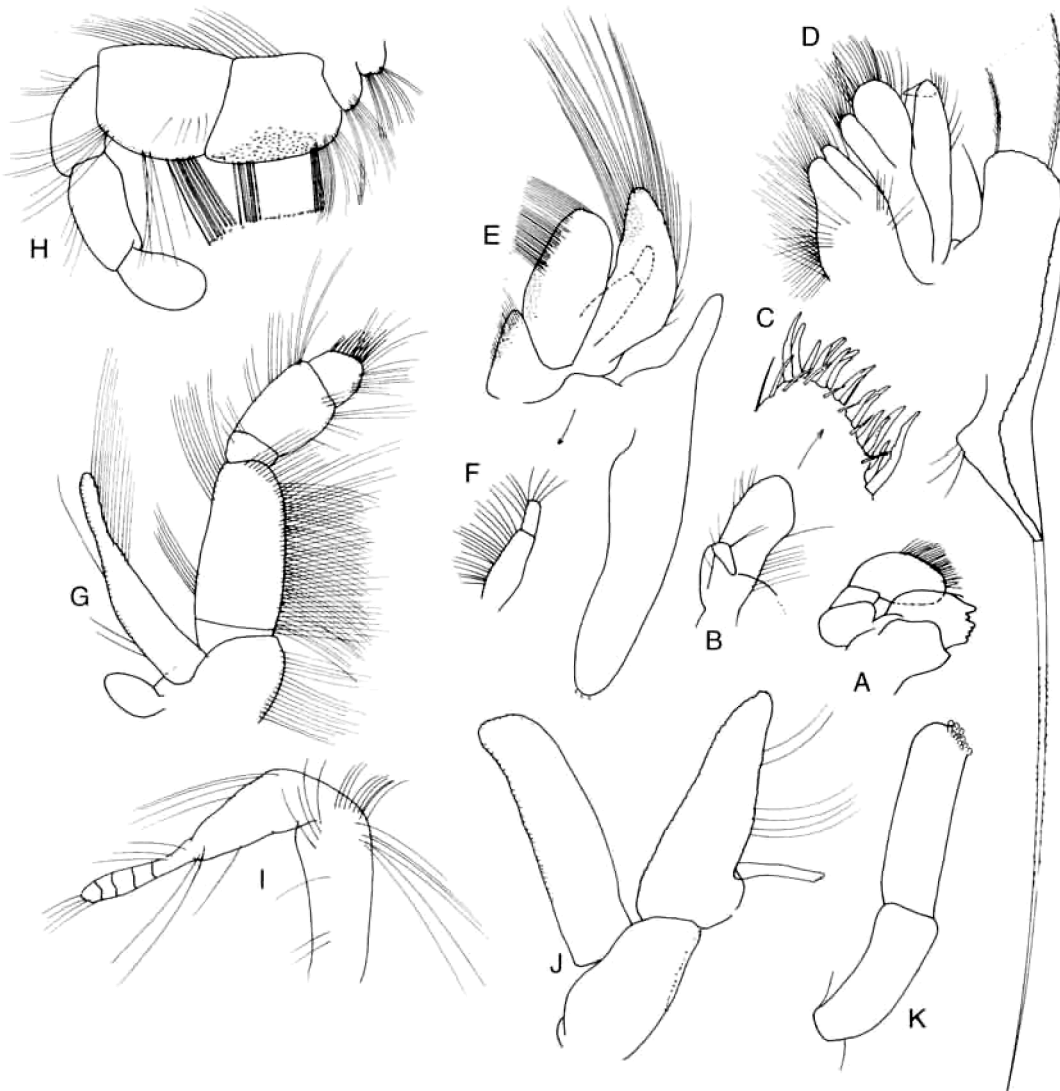


FIG. 37. — *Thomassinia gebioides* de Saint Laurent, 1979. A, mandible; B, maxilla 1; C, detail of tip of endite; D, maxilla 2; E, maxilliped 1; F, its endopod; G, maxilliped 2; H, maxilliped 3; I, ♀ pleopod 1; J, ♀ pleopod 2; K, ♂ appendices interna and masculina of pleopod 2. All figures from MNHN Th-818.

Chelipeds barely unequal. Larger cheliped ischium with weak lower tooth; merus 1.3 times as long as wide, with strongly convex lower margin, upper margin weakly convex; carpus unarmed; propodus broad, width 0.6 length; fixed finger third length of propodus, its cutting edge with obsolete tooth on proximal half; dactylus cutting edge with proximal tooth, curved distally, equal to fixed finger. Smaller cheliped with narrower merus, longer carpus, more elongate propodus, and with long marginal setae.

Pereopod 2 merus broad, twice as long as wide; carpus half as long as merus; propodus longer than carpus; fixed finger cutting edge finely toothed; dactylus as long as fixed finger, tip straight.

Pereopod 3 proximal articles broad; propodus wider than long, with spiniform seta on distal end of setose lower margin; dactylus much narrower than propodus.

Pereopod 4 coxa broad and flat, separated by broad anterior extension of sternal ridge, articles more linear than in pereopods 2 and 3; propodus 1.7 times as long as wide, setose; dactylus with apical spiniform seta.

Pereopod 5 compact, weakly chelate; dactylus finely serrulate, closing on three spiniform setae.

Thoracic sternite 7 especially broad, coxae of pereopods 4 well separated.

Pleopod 1 of male absent. Pleopods 1 of female geniculate. Pleopod 2 endopod triangular, appendix interna 5 times as long as wide; exopod 3.5 times as long as wide, strap-like. Pleopods 3-5 essentially similar to pleopod 2.

Uropodal endopod triangular with broadly rounded lateral and mesial corners, with a transverse row of five spiniform setae near lateral apex; exopod subcircular, anterolateral corner rounded evenly, with dense marginal setae distally. Telson length 0.8 times width, evenly tapering to rounded-truncate apex.

Branchial formula (r = rudimentary):

Thoracomere	1	2	3	4	5	6	7	8
Epipod	-	r	r	r	r	r	-	-
Podobranch	-	r	r	r	r	r	-	-
Arthrobranch	-	1	2	2	2	2	2	-

REMARKS

This is the first detailed description of this spe-

cies which is only subtly different from the other two species described here.

Thomassinia moorea n.sp. (Fig. 38)

MATERIAL EXAMINED. — **Tahiti.** Moorea I., Tiahura (17°30'S - 149°50'E), B. A. Thomassin (stn Tia 23), MNHN Th-1220 (holotype, ♂, tl. 11.3 mm).

ETYMOLOGY. — For Moorea I., the type locality (noun in apposition).

DISTRIBUTION. — Tahiti.

DIAGNOSIS

Eyestalks closely adpressed and with acute mesial apex, angled distolaterally. Cephalothorax with submarginal setal-row of about fifteen setae. Larger cheliped fixed finger 0.4 length of propodus. Smaller cheliped with very weak tooth on fixed finger which is half length of propodus. Uropodal endopod with transverse row of nine spiniform setae. Telson length 0.6 width, distal margin almost straight. Pereopod 3 with podobranch.

Branchial formula (r = rudimentary):

Thoracomere	1	2	3	4	5	6	7	8
Epipod	-	r	r	r	r	r	-	-
Podobranch	-	r	r	r	r	r	-	-
Arthrobranch	-	1	2	2	2	2	2	-

REMARKS

Only a short diagnosis is presented as the species is very similar to *T. gebioides*. The elongate fingers and shape of the merus on the smaller chelipeds are similar to those seen in *T. aimsae* but the shorter telson and presence of podobranch 6 distinguish it from this species.

Acknowledgements

Early stages of this work were completed while the author held a three-month appointment as Maître de Conférences at the Muséum national d'Histoire naturelle, Paris, in 1990. I thank Alain Crosnier (ORSTOM) for facilitating this visit and support while there. I also thank Michèle de Saint Laurent (MNHN) for making the extensive collections of the museum available and am