

**Crustacea Decapoda: Species of the genera
Crosnierita Macpherson, 1998, *Munida* Leach, 1820,
and *Paramunida* Baba, 1988 (Galatheidae)
collected during the MUSORSTOM 9 cruise
to the Marquesas Islands**

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ABSTRACT

During the MUSORSTOM 9 cruise (August-September 1997) to the Marquesas Islands, galatheids belonging to the genera *Crosnierita* Macpherson, 1998 (one species), *Munida* Leach, 1820 (4 species, one of which is new) and *Paramunida* Baba, 1988 (one new species) were collected. The two new species, *Munida glabella* and *Paramunida echinata*, are described and illustrated. *M. glabella* is close to *M. pusiola* Macpherson, 1993 from the Philippines. It belongs to the group of small size species that have five spines on the lateral borders of the carapace posterior to the cervical groove, no spines on the second abdominal somite and the distolateral spine of the basal antennal segment shorter than the distomesial spine. *P. echinata* is close to *P. labis* Macpherson, 1996 from the Wallis and Futuna Islands. It is characterised by the absence of ridges on the thoracic sternites and the presence of a spinous process on the distomesial spine of the second antennal segment.

RÉSUMÉ

Crustacea Decapoda : Espèces des genres *Crosnierita* Macpherson, 1998, *Munida* Leach, 1820, et *Paramunida* Baba, 1988 (Galatheidae) récoltées durant la campagne MUSORSTOM 9 aux îles Marquises.

Lors de la campagne MUSORSTOM 9 (août-septembre 1997) aux îles Marquises, des galathéides appartenant aux genres *Crosnierita* Macpherson, 1998 (1 espèce), *Munida* Leach, 1820 (4 espèces dont 1 nouvelle) et *Paramunida* Baba, 1988 (1 espèce nouvelle) ont été récoltées. Les deux espèces nouvelles, *Munida glabella* et *Paramunida echinata*, sont décrites

et illustrées. *M. glabella* est proche de *M. pusiola* Macpherson, 1993, des Philippines et appartient au groupe d'espèces de petite taille ayant cinq épines sur les bords latéraux de la carapace en arrière du sillon cervical, le deuxième segment abdominal sans épines, et l'épine distolatérale du segment antennulaire basal plus courte que la distomesiale. *P. echinata* est proche de *P. labis* Macpherson, 1996, des îles Wallis et Futuna; elle se caractérise par les sternites thoraciques sans stries et l'épine distomesiale du second segment antennaire avec un processus épineux.

INTRODUCTION

The species of the genus *Munida* Leach, 1820 and related genera from the Central Pacific are poorly known, although a few publications have been published in the last decades (BABA, 1981; ZARENKOV & KHODKINA, 1981; TITGEN, 1987; MACPHERSON & DE SAINT LAURENT, 1991; MACPHERSON, 1996; BABA & DE SAINT LAURENT, 1996; POUPIN, 1996). During the MUSORSTOM 9 cruise to the Marquesas Islands (RICHER DE FORGES *et al.*, 1999) in August-September 1997, some galatheids of the genera *Crosnierita* Macpherson, 1998, *Munida* Leach, 1820 and *Paramunida* Baba, 1988 were collected. The study of these specimens revealed the presence of one species of *Crosnierita*, four species belonging to the genus *Munida*, including a new species, and one new species of the genus *Paramunida*.

The types of the new species and other material have been deposited in the collections of the Muséum national d'Histoire naturelle, Paris (MNHN) and National Museum of Natural History, Washington (USNM). The samples without any registration are kept at the Muséum national d'Histoire naturelle, Paris.

Measurements given are of carapace length, excluding rostrum, and the terminology used mainly follows that used in previous publications (ZARIQUIEY ÁLVAREZ, 1952; MACPHERSON & DE SAINT LAURENT, 1991; MACPHERSON, 1994; BABA & DE SAINT LAURENT, 1996). Colour notes are taken from slides by P. LABOUTE.

COMBINED LIST OF STATIONS AND OF SPECIES OBTAINED PER STATION

- Stn CP 1146. — 22.08.1997, 09°18.8'S, 140°06.2'W, 200 m: *C. yante*, *P. echinata*.
 Stn CP 1148. — 22.08.1997, 09°18.9'S, 140°06.3'W, 300 m: *M. plexaura*, *P. echinata*.
 Stn CP 1154. — 23.08.1997, 07°58.5'S, 140°43.7'W, 102 m: *P. echinata*.
 Stn CP 1172. — 25.08.1997, 08°44.8'S, 140°15.3'W, 300-302 m: *P. echinata*.
 Stn CP 1176. — 25.08.1997, 08°45.8'S, 140°14.5'W, 260 m: *P. echinata*.
 Stn CP 1177. — 25.08.1997, 08°45.1'S, 140°14.1'W, 108-112 m: *M. glabella*.
 Stn CP 1190. — 26.08.1997, 08°46.3'S, 140°07.2'W, 350 m: *P. echinata*.
 Stn CP 1201. — 28.08.1997, 09°50.6'S, 139°09.2'W, 275-300 m: *P. echinata*.
 Stn CP 1208. — 28.08.1997, 09°48.9'S, 139°09.5'W, 117 m: *M. glabella*.
 Stn CP 1237. — 31.08.1997, 09°41.9'S, 139°03.6'W, 95-305 m: *C. yante*.
 Stn CP 1238. — 31.08.1997, 09°41.4'S, 139°03.8'W, 280-370 m: *C. yante*, *P. echinata*.
 Stn CP 1262. — 03.09.1997, 09°19.8'S, 140°08.3'W, 850-905 m: *M. typhle*.
 Stn CP 1268. — 04.09.1997, 07°55.8'S, 140°42.6'W, 285-320 m: *M. tuberculata*.
 Stn CP 1269. — 04.09.1997, 07°56.3'S, 140°43.3'W, 420-430 m: *M. tuberculata*, *P. echinata*.
 Stn CP 1278. — 05.09.1997, 07°52.1'S, 140°38.6'W, 1000 m: *M. typhle*.
 Stn CP 1282. — 07.09.1997, 07°51.7'S, 140°30.6'W, 416-460 m: *C. yante*, *M. plexaura*, *M. tuberculata*.
 Stn CP 1287. — 07.09.1997, 07°54.5'S, 140°40.2'W, 163-245 m: *M. plexaura*.

SYSTEMATIC ACCOUNT

Genus *CROSNIERITA* Macpherson, 1998*Crosnierita yante* (Macpherson, 1994)*Munida yante* Macpherson, 1994: 555, figs 62, 97.*Crosnierita yante* - MACPHERSON, 1998: 353.

MATERIAL EXAMINED. — **Marquesas Islands.** MUSORSTOM 9: stn 1146, 200 m: 1 ov. ♀ 8.2 mm (MNHN-Ga 4352). — Stn 1237, 95-305 m: 7 ♂ 5.8 to 10.3 mm; 3 ov. ♀ 8.2 to 8.4 mm; 8 ♀ 5.0 to 6.4 mm (MNHN-Ga 4353). — Stn 1238, 280-370 m: 1 ♂ 10.3 mm; 3 ov. ♀ 7.5 to 9.3 mm; 1 ♀ 6.7 mm (USNM). — Stn 1282, 416-460 m: 2 ♂ 7.5 and 9.7 mm; 1 ov. ♀ 7.5 mm; 1 ♀ 7.4 mm (MNHN-Ga 4354).

REMARKS. — At first, the species was originally known from the female holotype collected in New Caledonia from 400 m (MACPHERSON, 1994). A second specimen was collected later during the SMIB 8 cruise (unpublished data) in 310-460 m depth. The specimens collected in the Marquesas Islands agree well with these two specimens.

DISTRIBUTION. — New Caledonia from 310-460 m. The specimens from Marquesas Islands were collected in 95-460 m.

Genus *MUNIDA* Leach, 1820*Munida glabella* sp. nov.

Fig. 1

MATERIAL EXAMINED. — **Marquesas Islands.** MUSORSTOM 9: stn 1177, 108-112 m: 1 ov. ♀ 3.6 mm (MNHN-Ga 4355). — Stn 1208, 117 m: 1 ♂ 3.3 mm (MNHN-Ga 4373); 1 ov. ♀ 3.4 mm (MNHN-Ga 4356).

TYPES. — The ovigerous female of 3.4 mm (MNHN-Ga 4356) from stn 1208 (09°48.9'S, 139°09.5'W, 117 m) has been selected as the holotype, the other specimens are paratypes.

ETYMOLOGY. — From the Latin diminutive of *glaber*, smooth, in reference to the smooth surface of the carapace and the small size of the species.

DESCRIPTION. — Carapace slightly longer than wide. Transverse ridges mostly interrupted, with dense, very short, non-iridescent setae and few long, iridescent setae. Main transverse striae on posterior part of carapace interrupted in cardiac region. Few scales and secondary striae between main striae. Scales on intestinal region absent. Gastric region with 5 pairs of epigastric spines. One parahepatic and one postcervical spine on each side. Frontal margins transverse. Lateral margins slightly convex. Anterolateral spine short, at anterolateral angle, not reaching level of sinus between rostrum and supraocular spines. Second marginal spine before cervical groove two times smaller than preceding one. Branchial margins with five spines. Rostrum spiniform, half as long as remaining carapace, slightly sinuous and horizontal. Supraocular spines reaching midlength of rostrum and not overreaching end of corneas, parallel, directed upwards.

Thoracic sternites smooth, without striae, granules or carinae. Anterior part of fourth sternite slightly narrower than third. Transverse ridges between fifth, sixth and seventh sternites obtuse, feebly granulated.

Second abdominal somite unarmed. Second and third somites each with one transverse stria. Fourth abdominal somite without stria.

Eyes moderately large, maximum corneal diameter about one-third distance between bases of anterolateral spines.

Basal segment of antennule (distal spines excluded), about one quarter carapace length, elongate, slightly overreaching corneae, with two distal spines, mesial spine slightly longer than lateral spine; two spines on lateral margin, proximal one short, located at midlength of segment, distal one long, overreaching distolateral spine.

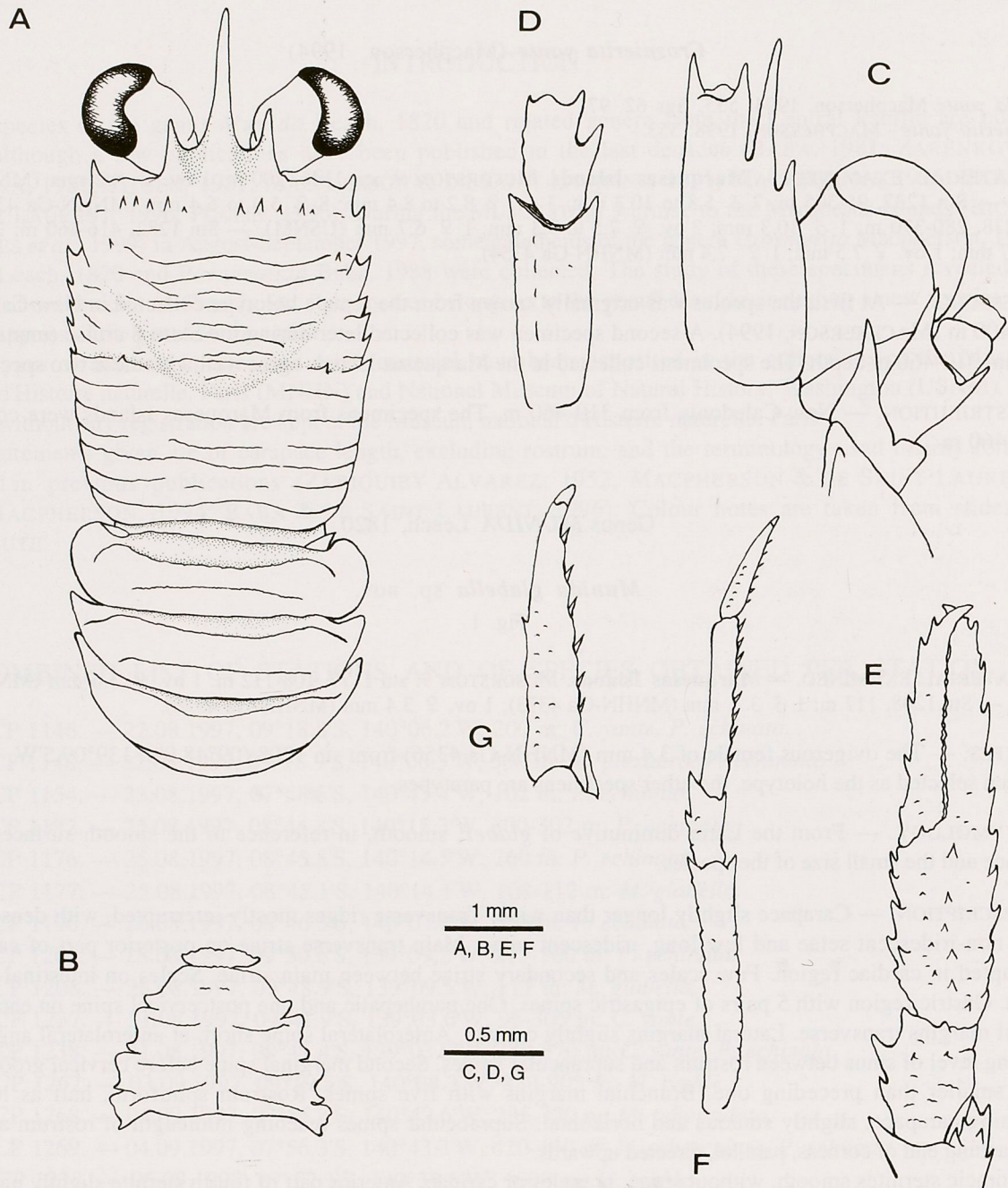


FIG. 1. — *Munida glabella* sp. nov., ov. ♀ 3.4 mm, holotype from stn 1208: **A**, carapace, dorsal view; **B**, sternal plastron; **C**, ventral view of cephalic region, showing antennula and antennal peduncles; **D**, right third maxilliped, lateral view; **E**, left cheliped, dorsal view; **F**, right first walking leg, lateral view; **G**, dactylus of right first walking leg, lateral view.

First segment of antennal peduncle with one distal spine on mesial margin nearly reaching end of second segment; second segment with two distal spines, mesial spine slightly longer than lateral spine, overreaching penultimate segment, although not overreaching antennal peduncle; penultimate segment unarmed.

Ischium of third maxilliped about 1.5 times length of merus measured along dorsal margin, distoventrally bearing spine. Merus of third maxilliped with two well developed spines on flexor margin, distal smaller; extensor margin with small distal spine.

Chelipeds subequal, squamous, with numerous short uniramous setae denser on mesial borders of articles. Palm slightly shorter than fingers. Merus armed with some spines, strongest spine on distal border short, not overreaching proximal quarter of carpus. Carpus with several spines on dorsal side and several spines scattered on mesial and ventral sides. Palm with several spines scattered on mesial and dorsal sides and one row of lateral spines, continuing onto along fixed finger. Fingers distally curving and crossing, ending in a sharp point; movable with some spines along mesial border; cutting edges with small teeth of different sizes.

Second pereiopod about twice carapace length; merus shorter than carapace, about 6 times as long as high, about 3 times carpus length and 1.5 times as long as propodus; propodus 5.5 times as long as high, about 1.5 times dactylus length. Merus with small spines on dorsal border, increasing in size distally, ventral margin with one long distal spine. Carpus with few dorsal spines and one distoventral spine. Propodus with 8-10 movable ventral spines. Dactylus with dorsal margin slightly convex on proximal half, slightly curving distally, with 6-7 movable spinules along entire ventral margin. Third pereiopod similar to second; fourth pereiopod shorter than second and third. Merus of fourth pereiopod $2/3$ length of second pereiopod. Epipods absent from all pereiopods.

REMARKS. — *Munida glabella* belongs to the group of small species having five spines on the lateral margins of the carapace behind the cervical groove, moderately large eyes, an unarmed second abdominal somite, lateral parts of the posterior thoracic sternites without granules or carinae, spiniform rostrum, the distolateral spine of the basal antennular segment shorter than the distomesial, and the dactylus of the walking legs bearing movable spinules along the entire ventral border. The new species is closely related to *M. pusiola* Macpherson, 1993, from the Philippines (MACPHERSON, 1993).

However, the two species are distinguished by several characters:

- The frontal margins are clearly more oblique in *M. pusiola* than in the new species.
- The distal spines of the basal segment of the antennular peduncle are subequal in *M. pusiola*, whereas the distomesial spine is longer than the distolateral spine in the new species.
- The dactylus of the walking legs are as long or slightly shorter than the propodus in *M. pusiola*, but are about $2/3$ propodus length in the new species.

Munida plexaura Macpherson & de Saint Laurent, 1991

Munida plexaura Macpherson & de Saint Laurent 1991: 396, fig. 7, pl. 1E. — POUPIN, 1996: 24, pl. 11a.

MATERIAL EXAMINED. — **Marquesas Islands.** MUSORSTOM 9: stn 1148, 300 m: 1 ♂ 6.1 mm; 1 juv. 5.0 mm (MNHN-Ga 4357). — Stn 1282, 416-460 m: 5 ♂ 8.8 to 13.2 mm; 1 juv. 6.0 mm (MNHN-Ga 4358). — Stn 1287, 163-245 m: 1 ♂ 12.6 mm (USNM).

DISTRIBUTION. — Previously known from French Polynesia: Tuamotu (Fakarava and Mururoa) and Tubuai (Raevavae) Islands in 350-398 m. The present material was collected from 163-460 m.

Munida tuberculata Henderson, 1885

Munida tuberculata - MACPHERSON, 1996: 408 (references); 1999: 424.

MATERIAL EXAMINED. — **Marquesas Islands.** MUSORSTOM 9: stn 1268, 285-320 m: 1 ov. ♀ 3.8 mm (MNHN-Ga 4359). — Stn 1269, 420-430 m: 1 ov. ♀ 6.8 mm (MNHN-Ga 4360). — Stn 1282, 416-460 m: 2 ♂ 4.3 and 5.0 mm (MNHN-Ga 4361).

DISTRIBUTION. — The species has previously been reported from Fiji, Vanuatu, New Caledonia, Matthew and Hunter Islands, Wallis and Futuna area, between 420 and 650 m. The material studied here was collected from 285-460 m.

Munida typhle Macpherson, 1994

Munida typhle Macpherson 1994: 549, fig. 60; 1999: 425.

MATERIAL EXAMINED. — **Marquesas Islands.** MUSORSTOM 9: stn 1262, 850-905 m: 1 ♀ 8.3 mm (MNHN-Ga 4362). — Stn 1278, 1000 m: 4 ♂ 4.5 to 5.7 mm; 2 ov. ♀ 5.4 and 6.7 mm; 3 ♀ 5.0 to 5.5 mm (MNHN-Ga 4363).

REMARKS. — The specimens from Marquesas Islands agree with the types and the material reported earlier from New Caledonia and Vanuatu. However, the small spines situated along the anterior ridge of the second abdominal somite may be absent in the specimens from Marquesas Islands (present in the type material).

DISTRIBUTION. — Previously known from New Caledonia and Vanuatu, between 1210 and 1470 m. The specimens from Marquesas Islands were collected from 850-1000 m.

Genus *PARAMUNIDA* Baba, 1988

Paramunida echinata sp. nov.

Fig. 2

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 9: stn 1146, 200 m: 17 ♂ 5.6 to 11.7 mm; 5 ov. ♀ 9.1 to 12.6 mm; 2 ♀ 7.8 and 8.5 mm (MNHN-Ga 4364). — Stn 1148, 300 m: 4 ♂ 9.3 to 10.6 mm; 3 ♀ 7.4 to 11.6 mm (USNM). — Stn 1154, 102 m: 1 ♂ 13.3 mm (MNHN-Ga 4365). — Stn 1172, 300-302 m: 3 ♂ 11.4 to 12.2 mm (MNHN-Ga 4366). — Stn 1176, 260 m: 17 ♂ 10.8 to 13.4 mm; 13 ov. ♀ 10.8 to 12.7 mm; 1 ♀ 9.1 mm (MNHN-Ga 4367). — Stn 1190, 350 m: 1 ♂ 15.5 mm (MNHN-Ga 4368). — Stn 1201, 275-300 m: 1 ♂ 13.4 mm (MNHN-Ga 4369). — Stn 1238, 280-370 m: 1 ♂ 6.8 mm (MNHN-Ga 4370). — Stn 1268, 285-320 m: 33 specimens (MNHN-Ga 4371). — Stn 1269, 420-430 m: 1 ♀ 6.9 mm (MNHN-Ga 4372).

TYPES. — The male 13.3 mm (MNHN-Ga 4365) from the stn 1154 has been selected as the holotype, the other specimens are paratypes.

ETYMOLOGY. — From the Latin *echinatus*, spiny, in reference to the presence of numerous spinules on the carapace and abdomen.

DESCRIPTION. — Carapace, excluding rostrum, as long as broad. Dorsal surface covered with numerous spinules. Gastric region with 3 well developed spines in midline. Cervical groove distinct. Cardiac region slightly circumscribed, with a median row of 3 well-developed spines, first slightly thicker than the others. Frontal margin transversal. Lateral margins convex, with some spines and iridescent setae on anterior half. Anterolateral spine well developed. Rostrum triangular; supraocular spines half as long and more slender than rostrum.

Fourth thoracic sternite with few arcuate striae; fifth to seventh smooth.

Abdomen with two median well-developed spines and one smaller lateral spine on each side on anterior and posterior ridges on second and third somites. Fourth abdominal somite similar to preceding, but posterior ridge with distinct single median spine. Some small spines and spiniform tubercles between median and lateral spines.

Eye large, maximum corneal diameter about 1/3 distance between bases of external orbital spines.

Basal segment of antennule (distal spines excluded) exceeding corneae, with distomesial spine shorter than distolateral. Anterior prolongation of first segment of antennal peduncle clearly overreaching antennular peduncle by about 1/4 of its length; second segment (spines excluded) about 2 times length of third segment and about 2 times longer than wide, distomesial spine slightly exceeding third segment, distally mucronated, distolateral spine not reaching end of third segment; third segment slightly longer than wide and unarmed.

Chelipeds and walking legs long and slender. First walking leg with propodus about 10 times as long as wide and more than 1.5 times dactylus length.

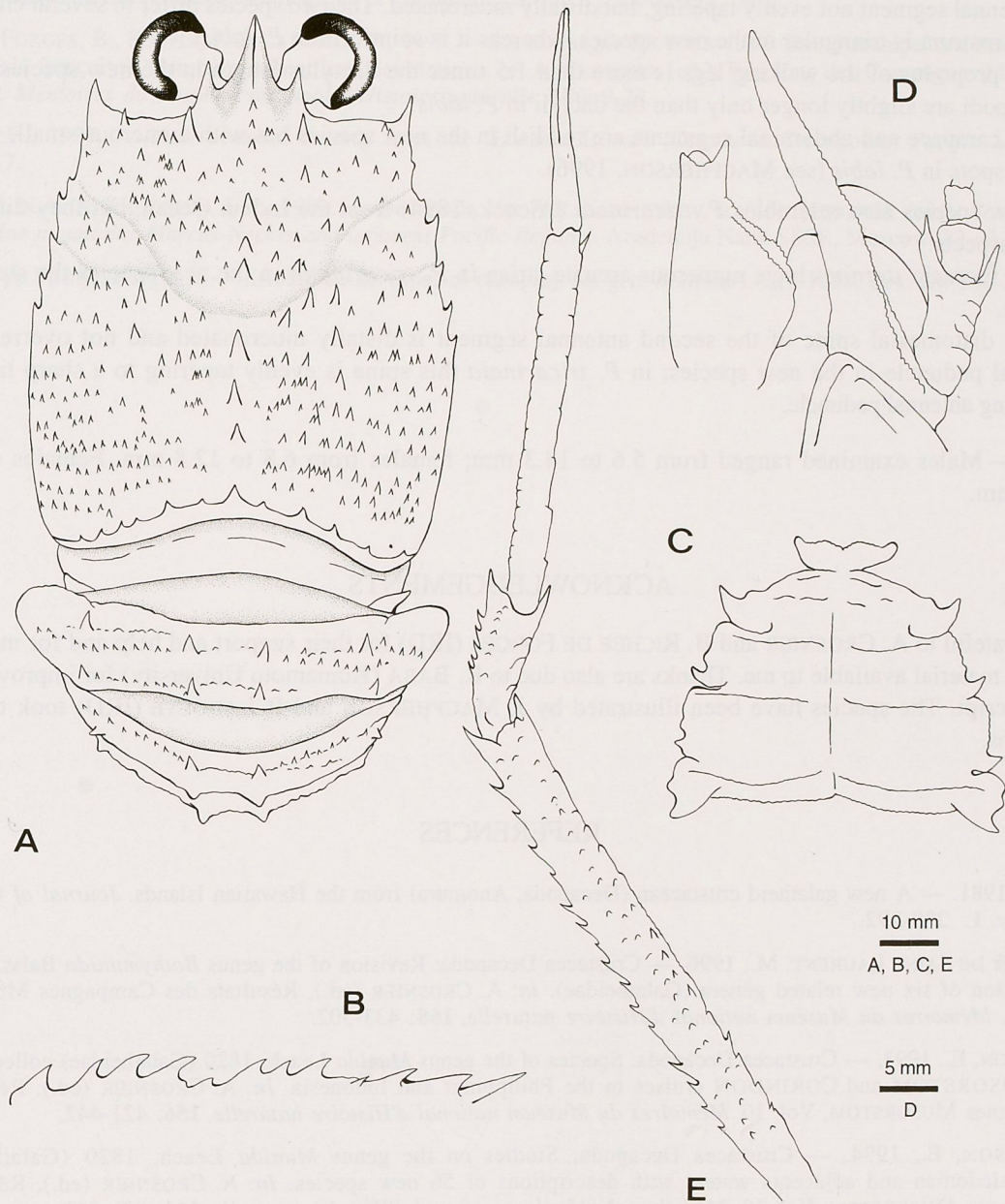


FIG. 2. — *Paramunida echinata* sp. nov., ♂ 13.3 mm, holotype from stn 1154: **A**, carapace, dorsal view; **B**, upper margin of carapace and rostrum, lateral view; **C**, sternal plastron; **D**, ventral view of cephalic region, showing antennula and antennal peduncles; **E**, right first walking leg, lateral view.

COLOUR. — Carapace and abdominal segments reddish; transverse rows of spinules red, with several white spots on cervical groove. Pereiopods whitish with numerous small red and white spots; chelipeds with reddish band on articulation of merus-carpus, carpus-propodus and hand-fingers. One specimen with a large transverse whitish band on gastric and anterior branchial regions.

REMARKS. — *Paramunida echinata* is closely related to *P. labis* Macpherson, 1996 from Wallis and Futuna Islands. Both species are characterized by having a rostral spine that is larger than the supraocular spines, the median gastric region bearing a row of 3-4 spines, the thoracic sternites smooth and the distomesial spine on the second antennal segment not evenly tapering, but distally mucronated. The two species differ in several characters:

- The rostrum is triangular in the new species, whereas it is spiniform in *P. labis*.
- The propodus of the walking legs is more than 1.5 times the dactylus length in the new species, whereas the propodi are slightly longer only than the dactyli in *P. labis*.
- The carapace and abdominal segments are reddish in the new species but with numerous small, white and yellow spots in *P. labis* (see MACPHERSON, 1996).

The new species also resembles *P. tricarinata* (Alcock, 1894) from the Indian Ocean, but they differ in the following aspects:

- The thoracic sternites have numerous arcuate striae in *P. tricarinata*; in the new species the sternites are smooth.
- The distomesial spine of the second antennal segment is distally mucronated and not overreaches the antennal peduncle in the new species; in *P. tricarinata* this spine is evenly tapering to a sharp tip, clearly exceeding antennal peduncle.

SIZE. — Males examined ranged from 5.6 to 14.3 mm; females from 6.8 to 12.8 mm. Females ovigerous from 9.1 mm.

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