

**Crustacea Decapoda : Studies on the genus  
*Munida* Leach, 1820 (Galatheidae)  
in New Caledonian and adjacent waters  
with descriptions of 56 new species**

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ABSTRACT

A large collection of species of the genus *Munida* has been examined and found to contain 56 undescribed species. The specimens examined were caught mainly off New Caledonia, Chesterfield Islands, Loyalty Islands, Matthew and Hunter Islands. Several samples from Kiribati, the Philippines and Indonesia have also been included. The specimens were collected between 6 and 2 049 m. Some species previously known in the area (*M. gracilis*, *M. haswelli*, *M. microps*, *M. spinicordata* and *M. tuberculata*) have been illustrated. These results point up the high diversity of this genus in the region and the importance of several characters in species identification (e.g., size and number of lateral spines on the carapace, ornamentation of the thoracic sternites, size of antennular and antennal spines, colour pattern).

RÉSUMÉ

**Crustacea Decapoda : Le genre *Munida* Leach, 1820 (Galatheidae) dans les eaux néo-calédoniennes et avoisinantes. Description de 56 espèces nouvelles.**

Une collection comprenant 76 espèces du genre *Munida* dont 56 sont nouvelles, récoltée principalement autour de la Nouvelle-Calédonie, les îles Chesterfield, Loyauté, Matthew et Hunter, entre 6 et 2049 m de profondeur, est étudiée ici. Outre les espèces nouvelles, on a illustré quelques espèces déjà connues de la région : *M. gracilis*, *M. haswelli*, *M. microps*, *M. spinicordata* et *M. tuberculata*. Cette étude montre la grande diversité du genre *Munida* dans la région et l'importance de certains caractères morphologiques pour l'identification des espèces (par exemple, la taille et le nombre des épines latérales de la carapace, l'ornementation des sternites thoraciques, la taille des épines antennulaires et antennaires, la coloration).

## INTRODUCTION

Relatively few studies exist on galatheid crustaceans in the Southwestern Pacific, and of those that do exist, only a small number deal with the genus *Munida*, e.g., MIERS (1874, 1884), HENDERSON (1885, 1888), WHITELEGGE (1900), HALE (1927, 1941), HEALY & YALDWYN (1970), HAIG (1973, 1974), BABA (1974, 1986a). Fourteen species have been reported in the region, including : *M. gregaria* (Fabricius, 1793); *M. japonica* Stimpson, 1858; *M. spinulifera* Miers, 1884; *M. gracilis* Henderson, 1885; *M. spinicordata* Henderson, 1885; *M. tuberculata* Henderson, 1885; *M. incerta* Henderson, 1888; *M. normani* Henderson, 1885; *M. haswelli* Henderson, 1885; *M. militaris* Henderson, 1885; *M. microps* Alcock, 1894; *M. elegantissima* de Man, 1902; *M. chathamensis* Baba, 1974; and *M. soelae* Baba, 1986.

Since the early 1980s a number of expeditions carried out off New Caledonia and in adjacent waters have produced a large number of specimens of the genus *Munida*, resulting in the discovery of numerous new species. This material, together with recent work by BABA (1988, 1990), MACPHERSON & DE SAINT LAURENT (1991), MACPHERSON (1991, 1993), TIRMIZI & JAVED (1992), and MACPHERSON & BABA (1993) in the Pacific and Indian oceans, is indicative of the high diversity of this genus.

The present paper examines specimens collected off New Caledonia, Chesterfield Islands, Loyalty Islands and Matthew and Hunter Islands (RICHER DE FORGES, 1990), including some samples from the Philippines, Indonesia, Kiribati and some from adjacent waters (e.g., Fiji, Australia, New Zealand) for which there have been few additional drawings or illustrations since the original descriptions. Material on species that have also been recorded in other areas (e.g., Philippines) has also been included in this paper. A key has been constructed, encompassing all the species present in the Southwestern Pacific, with the exception of *M. gregaria* and *M. chathamensis*, for which comparative material was unavailable (for *M. japonica* see MACPHERSON & BABA, 1993). However, these species are readily differentiable from the species considered herein. Three species collected in the area : *M. inornata* Henderson, 1885, *M. sacksi* Macpherson, 1993 and *M. magniantennulata* Baba & Türkay, 1992, have only been included in the key (see BABA & TÜRKAY, 1992; MACPHERSON, 1993; MACPHERSON & BABA, 1993).

A number of workers (e.g., CHACE, 1942; ZARIQUIEY ALVAREZ, 1952; RICE & DE SAINT LAURENT, 1985; BABA, 1988; MACPHERSON & DE SAINT LAURENT, 1991) have referred to the importance of certain characters in species identification (e.g., number of lateral spines on the carapace, ornamentation of the thoracic sternites, corneal diameter, size of antennular and antennal spines, colour pattern). This study also contemplates the spinulation on the second abdominal segment. This character may present certain variation, and specimens belonging to the same species may have no spines or up to 1-2 spines on each side of the anterior ridge. So, species bearing spines along the entire anterior ridge may also include individuals that have spines only on the sides. However, this character is extremely constant in the material collected off New Caledonia. Consequently, species were readily subdivided into two groups on the basis of this character : (1) those with spines all along the anterior ridge of the second segment or in the centre of the segment; (2) those without spines or bearing spines only along the sides of the anterior ridge. All closely related species can be differentiated by other characters as well as by the spinulation on the abdomen. Therefore, because of its ease of use, this character has been included in the key to the species. Given the variability referred to above, the key should be applied with caution to specimens from other areas.

The number of spines on the lateral margins of the carapace behind the cervical groove is constant and is very useful in separating species. However, in certain of the species considered (e.g., *M. barangei*) these spines were quite small, and it was difficult to tell whether four or five spines, the common numbers for the species in question, were present. In this paper species with tiny spinelets were assumed to have five spines.

As in previous papers (e.g., MACPHERSON & BABA, 1993) and in order to avoid needless repetition in the descriptions, the definition of each species includes only the distinctive characters, on the assumption that most of the other characters will be readily apparent from the illustrations. Furthermore, the colour patterns of the different species are based upon colour slides.

Lastly, as reported previously by MACPHERSON & DE SAINT LAURENT (1991), some species have one pair of male gonopods, while others have two pairs, which is suggestive of the existence of two separate genera. In the present paper both groups have been included in the genus *Munida*, together with two species with a deep orbit (*Munida urizae* and *M. yante*), that probably belong to another genus. In the light of the diversity of the genus *Munida* and of closely related genera (*Paramunida* and *Bathymunida*), an analysis of these genera is distinctly called for, with a view of establishing the relationships among them and the proper classification of some of certain forms that have recently been described.

The types of the new species and other specimens are deposited in the collections of the Muséum national d'Histoire naturelle de Paris (MNHN), except for duplicates which each time it was possible have been deposited in the collections of the National Museum of Natural History in Washington (USNM). The other abbreviations for the institutions whose collections were used in this study are : The Natural History Museum, London (BM) and the Zoological Laboratory, Kyushu University (ZLKU). The measurements given are the carapace length, excluding rostrum. The terminology used follows previous papers (see ZARIQUIEY ALVAREZ, 1952; MACPHERSON & DE SAINT LAURENT, 1991).

#### LIST OF SPECIES

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|--|--|
| <i>M. abelloi</i> sp. nov.             | <i>M. leviantennata</i> Baba, 1988                 |
| <i>M. acantha</i> sp. nov.             | <i>M. lineola</i> sp. nov.                         |
| <i>M. alonsoi</i> sp. nov.             | <i>M. magniantennulata</i> Baba & Türkay, 1992 (*) |
| <i>M. amblytes</i> sp. nov.            | <i>M. marini</i> sp. nov.                          |
| <i>M. andrewi</i> sp. nov.             | <i>M. masi</i> sp. nov.                            |
| <i>M. armilla</i> sp. nov.             | <i>M. microps</i> Alcock, 1894                     |
| <i>M. barangei</i> sp. nov.            | <i>M. militaris</i> Henderson, 1885                |
| <i>M. bellior</i> Miyake & Baba, 1967  | <i>M. moliae</i> sp. nov.                          |
| <i>M. brachytes</i> sp. nov.           | <i>M. normani</i> Henderson, 1885                  |
| <i>M. callirrhoe</i> sp. nov.          | <i>M. notata</i> sp. nov.                          |
| <i>M. callista</i> sp. nov.            | <i>M. ocyrhoe</i> sp. nov.                         |
| <i>M. clinata</i> sp. nov.             | <i>M. olivarae</i> sp. nov.                        |
| <i>M. cornuta</i> sp. nov.             | <i>M. pagesi</i> sp. nov.                          |
| <i>M. distiza</i> sp. nov.             | <i>M. pontoporea</i> sp. nov.                      |
| <i>M. eclepsis</i> sp. nov.            | <i>M. proto</i> sp. nov.                           |
| <i>M. elachia</i> sp. nov.             | <i>M. psamathe</i> sp. nov.                        |
| <i>M. elegantissima</i> de Man, 1902   | <i>M. pseliophora</i> sp. nov.                     |
| <i>M. eminens</i> Baba, 1988           | <i>M. psylla</i> sp. nov.                          |
| <i>M. erato</i> sp. nov.               | <i>M. rhodonia</i> sp. nov.                        |
| <i>M. gordoae</i> sp. nov.             | <i>M. rogeri</i> sp. nov.                          |
| <i>M. gracilis</i> Henderson, 1885     | <i>M. rosula</i> sp. nov.                          |
| <i>M. gutttata</i> sp. nov.            | <i>M. rufiantennulata</i> Baba, 1969               |
| <i>M. haswelli</i> Henderson, 1885     | <i>M. runcinata</i> sp. nov.                       |
| <i>M. hyalina</i> sp. nov.             | <i>M. sabatesae</i> sp. nov.                       |
| <i>M. idyia</i> sp. nov.               | <i>M. sacksi</i> Macpherson, 1993 (*)              |
| <i>M. incerta</i> Henderson, 1885      | <i>M. sao</i> sp. nov.                             |
| <i>M. inornata</i> Henderson, 1885 (*) | <i>M. semoni</i> Ortmann, 1894                     |
| <i>M. javieri</i> sp. nov.             | <i>M. soelae</i> Baba, 1986                        |
| <i>M. laurentae</i> sp. nov.           | <i>M. sphecia</i> sp. nov.                         |
| <i>M. leagora</i> sp. nov.             | <i>M. spilota</i> sp. nov.                         |
| <i>M. leptitis</i> sp. nov.            | <i>M. spinicordata</i> Henderson, 1885             |
| <i>M. leptosyne</i> sp. nov.           | <i>M. squamosa</i> Henderson, 1885                 |

<i>M. stia</i> sp. nov.	<i>M. tyche</i> sp. nov.
<i>M. stigmatica</i> sp. nov.	<i>M. typhle</i> sp. nov.
<i>M. taenia</i> sp. nov.	<i>M. urizae</i> sp. nov.
<i>M. thoe</i> sp. nov.	<i>M. yante</i> sp. nov.
<i>M. tiresias</i> sp. nov.	<i>M. zebra</i> sp. nov.
<i>M. tuberculata</i> Henderson, 1885	<i>Munida</i> sp.

(\*) only included in the key.

### LIST OF STATIONS

The abbreviations of the gears used are : DC = Charcot dredge; DW = Waren dredge; DE = Epibenthic sledge; CP = Beam trawl; CC = Otter trawl (shrimps); D = Dredge.

#### R.V. "Vauban" (several cruises). New Caledonia and Loyalty Islands.

Station CB 34. — Loyalty Isl., Sandal Bay, 05.03.1977, 400 m : *M. callirrhoe*, *M. eminens*, *M. squamosa*.

Station CB 37. — 400 m : *M. callista*.

Station CB 79. — 400 m : *M. erato*.

Station without n°. — 22°49'S, 167°12'E, 390 m : *M. zebra*.

Station without n°. — 2°54'S, 167°12'E, 395-410 m : *M. zebra*.

Station without n°. — 13.04.1978, Ile des Pins, 400 m : *M. sphecia*.

Station CB 105. — 13.04.1978, 22°48'S, 167°09'E, 360 m : *M. sphecia*.

Station D 3. — 23-28.05.1978, 22°17'S, 167°12'E, 390 m : *M. callirrhoe*.

Station D 4. — 23-28.05.1978, 22°17'S, 167°13'E, 400 m : *M. callirrhoe*, *M. sphecia*.

Station without n°. — 06.06.1979, 22°33.2'S, 166° 25'E, 290-350 m : *M. squamosa*.

Station without n°. — 06.06.1979, 22°32.3'S, 166°25.8'E, 350-420 m : *M. leviantennata*.

#### LAGON. New Caledonia.

Station 190. — 19.09.1984, 22°02'S, 165°57'E, 135-150 m : *M. tyche*.

Station 342. — 28.11.1984, 22°51'S, 166°47'E, 55 m : *M. clinata*.

Station 364. — 29.11.1984, 22°41'S, 167°00'E, 49 m : *M. clinata*.

Station 370. — 30.11.1984, 22°38'S, 167°06'E, 127 m : *M. tyche*.

Station 378. — 21.01.1985, 22°40'S, 167°11'E, 70-72 m : *M. clinata*.

Station 387. — 22.01.1985, 22°39'S, 167°07'E, 318 m : *M. notata*.

Station 391. — 22.01.1985, 22°28'S, 167°13'E, 65 m : *M. clinata*.

Station 392. — 22.01.1985, 22°48.2'S, 167°02.3'E, 80 m : *M. clinata*.

Station 418. — 24.01.1985, 22°42'S, 167°11'E, 318 m : *M. notata*.

Station 433. — 25.02.1985, 18°06'S, 162°52'E, 40-67 m : *M. olivarae*.

Station 493. — 03.03.1985, 19°01.6'S, 163°08.8'E, 500-535 m : *M. squamosa*.

Station 495. — 03.03.1985, 19°04'S, 163°06'E, 80 m : *M. olivarae*.

Station 537. — 06.03.1985, 19°07'S, 163°22'E, 200 m : *M. sao*.

Station 538. — 06.03.1985, 19°07'S, 163°21'E, 195 m : *M. sao*.

Station 539. — 06.03.1985, 19°05'S, 163°17'E, 240 m : *M. sao*.

Station 583. — 18.07.1985, 22°45'S, 167°29'E, 44 m : *M. clinata*, *M. sao*.

Station 640. — 07.08.1986, 21°54.8'S, 166°45.8'E, 50-80 m : *M. elegantissima*.

Station 836. — 11.01.1987, 20°46.4'S, 165°15.7'E, 57 m : *M. clinata*.

Station 837. — 11.01.1987, 20°45'S, 165°13.9'E, 28-36 m : *M. clinata*.

Station 904. — 26.04.1988, 21°00.8'S, 164°36'E, 250-300 m : *M. pagesi*.

Station 933. — 27.04.1988, 22°44.9'S, 164°14.9'E, 90-100 m : *M. clinata*.

Station 937. — 29.04.1988, 20°39'S, 164°15.4'E, 50-55 m : *M. clinata*.

Station 993. — 02.05.1988, 20°15'S, 163°52.8'E, 375-400 m : *M. pagesi*.

Station 1062. — 05.05.1988, 20°14.9'S, 163°53'E, 300-320 m : *M. leviantennata*.

Station 1140. — 27.10.1989, 19°24.3'S, 163°44.2'E, 44 m : *M. clinata*.

Station 1146. — 28.10.1989, 19°08.3'S, 163°30.9'E, 185 m : *M. sao*, *M. tyche*.

- Station 1147. — 28.10.1989, 19°07'S, 163°30.4'E, 210 m : *M. sao*.  
 Station 1148. — 28.10.1989, 19°06.5'S, 163°30.1'E, 220 m : *M. sao*.  
 Station 1152. — 29.10.1989, 18°58'S, 163°23.9'E, 335 m : *M. notata*.  
 Station 1153. — 29.02.1989, 18°58.4'S, 163°23.0'E, 330 m : *M. urizae*.

#### BIOCAL. New Caledonia.

- Station DW 8. — 12.08.1985, 20°34.35'S, 166°53.90'E, 435 m : *M. armilla*, *M. rufiantennulata*, *M. thoe*,  
*M. tuberculata*.  
 Station CP 26. — 28.08.1985, 22°39.66'S, 166°27.41'E, 1618 m : *M. tiresias*.  
 Station CP 30. — 29.08.1985, 23°08.44'S, 166°40.83'E, 1140 m : *M. tiresias*.  
 Station CP 31. — 29.08.1985, 23°07.26'S, 166°50.45'E, 850 m : *M. eminens*.  
 Station CP 32. — 29.08.1985, 23°06.98'S, 166°51.20'E, 825 m : *M. eminens*, *M. rosula*.  
 Station DW 33. — 29.08.1985, 23°09.71'S, 167°10.27'E, 675 m : *M. rosula*.  
 Station DW 36. — 29.08.1985, 23°08.64'S, 167°10.99'E, 650 m : *M. alonsoi*.  
 Station DW 38. — 30.08.1985, 22°59.74'S, 167°15.31'E, 360 m : *M. acantha*, *M. sphecia*, *M. stia*.  
 Station CP 40. — 30.08.1985, 22°55.32'S, 167°23.30'E, 650 m : *M. incerta*.  
 Station CP 42. — 30.08.1985, 22°45.14'S, 167°12.12'E, 380 m : *M. callirrhoe*.  
 Station DW 44. — 30.08.1985, 22°47.30'S, 167°14.30'E, 440 m : *M. stia*.  
 Station CP 45. — 30.08.1985, 22°47.34'S, 167°14.80'E, 430 m : *M. laurentae*, *M. sphecia*, *M. squamosa*,  
*M. zebra*.  
 Station DW 46. — 30.08.1985, 22°53.05'S, 167°17.08'E, 570 m : *M. alonsoi*, *M. amblytes*, *M. laurentae*.  
 Station CP 47. — 30.08.1985, 22°53.02'S, 167°16.77'E, 550 m : *M. laurentae*.  
 Station CP 52. — 31.08.1985, 23°05.79'S, 167°46.54'E, 600 m : *M. amblytes*, *M. incerta*, *M. laurentae*.  
 Station CP 54. — 01.09.1985, 23°10.30'S, 167°42.98'E, 1000 m : *M. amblytes*.  
 Station CP 61. — 02.09.1985, 24°11.67'S, 167°31.37'E, 1070 m : *M. microps*.  
 Station CP 62. — 02.09.1985, 24°19.06'S, 167°48.65'E, 1395 m : *M. typhle*.  
 Station DW 65. — 03.09.1985, 24°47.90'S, 168°09.09'E, 275 m : *M. rogeri*.  
 Station DW 66. — 03.09.1985, 24°55.43'S, 168°21.67'E, 515 m : *M. laurentae*, *M. rufiantennulata*, *M. stia*,  
*M. zebra*.  
 Station CP 67. — 03.09.1985, 24°55.44'S, 168°21.55'E, 500 m : *M. armilla*, *M. callista*, *M. elachia*,  
*M. laurentae*, *M. leagora*, *M. marini*, *M. ocythoe*, *M. psylla*, *M. thoe*, *M. zebra*.  
 Station CP 68. — 03.09.1985, 24°00.30'S, 168°07.03'E, 1430 m : *M. tiresias*, *M. typhle*.  
 Station CP 75. — 04.09.1985, 22°18.65'S, 167°23.30'E, 825-860 m : *M. eminens*, *M. rosula*.  
 Station DW 77. — 05.09.1985, 22°15.32'S, 167°15.40'E, 440 m : *M. leagora*, *M. squamosa*.  
 Station CP 78. — 05.09.1985, 22°16.28'S, 167°14.86'E, 445 m : *M. callirrhoe*, *M. callista*, *M. leagora*,  
*M. squamosa*.  
 Station DW 81. — 05.09.1985, 20°29.31'S, 166°46.56'E, 430 m : *M. laurentae*.  
 Station DW 82. — 06.09.1985, 20°30.65'S, 166°50.30'E, 440 m : *M. callista*, *M. leagora*, *M. leptitis*,  
*M. rufiantennulata*.  
 Station DW 83. — 06.09.1985, 20°35.07'S, 166°53.99'E, 460 m : *M. thoe*.  
 Station CP 84. — 06.09.1985, 20°43.49'S, 167°00.27'E, 150-210 m : *M. distiza*, *M. notata*, *M. tyche*.  
 Station CP 105. — 08.09.1985, 21°30.71'S, 166°21.72'E, 335 m : *M. callirrhoe*, *M. moliae*.  
 Station CP 108. — 09.09.1985, 22°02.55'S, 167°05.68'E, 335 m : *M. callirrhoe*, *M. notata*, *M. pagesi*,  
*M. semoni*.  
 Station CP 109. — 09.09.1985, 22°10.03'S, 167°15.22'E, 495 m : *M. incerta*, *M. leviantennata*, *M. pagesi*,  
*M. squamosa*.  
 Station CP 110. — 09.09.1985, 22°12.38'S, 167°06.43'E, 275 m : *M. notata*, *M. sao*.

#### MUSORSTOM 4. New Caledonia.

- Station CP 148. — 14.09.1985, 19°23.40'S, 163°31.90'E, 59 m : *M. acantha*, *M. notata*, *M. sphecia*.  
 Station DW 149. — 14.09.1985, 19°07.60'S, 163°22.7'E, 165 m : *M. sao*.  
 Station DW 150. — 14.09.1985, 19°07.5'S, 163°22.1'E, 110 m : *M. clinata*.  
 Station DW 151. — 14.09.1985, 19°07.0'S, 163°22.0'E, 200 m : *M. sao*.  
 Station CP 152. — 14.09.1985, 19°04.7'S, 163°21.6'E, 228 m : *M. sao*, *M. tyche*.  
 Station CP 153. — 14.09.1985, 19°04.2'S, 163°21.2'E, 235 m : *M. tyche*.

- Station CP 155. — 15.09.1985, 18°52.8'S, 163°19.5'E, 500-570 m : *M. laurentae*, *M. moliae*, *M. sabatesae*.  
 Station DW 156. — 15.09.1985, 18°54'S, 163°18.8'E, 530 m : *M. incerta*, *M. moliae*, *M. thoe*.  
 Station CP 158. — 15.09.1985, 18°49.3'S, 163°15.0'E, 620 m : *M. armilla*, *M. incerta*.  
 Station DW 159. — 15.09.1985, 18°45.9'S, 163°15.6'E, 600 m : *M. incerta*, *M. sp.*  
 Station DW 162. — 16.09.1985, 18°35.0'S, 163°10.3'E, 535 m : *M. moliae*, *M. sabatesae*.  
 Station DW 163. — 16.09.1985, 18°33.8'S, 163°11.5'E, 350 m : *M. acantha*.  
 Station DW 164. — 16.09.1985, 18°33.20'S, 163°13'E, 250 m : *M. acantha*.  
 Station DW 167. — 16.09.1985, 18°35.8'S, 163°06.4'E, 575 m : *M. moliae*, *M. sabatesae*.  
 Station DC 168. — 16.09.1985, 18°48.20'S, 163°10.80'E, 720 m : *M. militaris*.  
 Station CP 169. — 17.09.1985, 18°54.03'S, 163°11.2'E, 600 m : *M. incerta*.  
 Station CP 170. — 17.09.1985, 18°57.0'S, 163°12.6'E, 485 m : *M. callirhoe*, *M. idyia*, *M. incerta*, *M. moliae*,  
*M. squamosa*.  
 Station CP 172. — 17.09.1985, 19°01.20'S, 163°20'E, 275-330 m : *M. notata*.  
 Station CC 173. — 17.09.1985, 19°02.5'S, 163°18.8'E, 250-290 m : *M. masi*.  
 Station CP 178. — 18.09.1985, 18°56.3'S, 163°12.9'E, 520 m : *M. incerta*, *M. notata*.  
 Station CP 179. — 18.09.1985, 18°56.6'S, 163°13.7'E, 480 m : *M. incerta*, *M. squamosa*.  
 Station CP 180. — 18.09.1985, 18°56.8'S, 163°17.7'E, 450 m : *M. callirhoe*, *M. leagora*, *M. moliae*,  
*M. sabatesae*, *M. squamosa*.  
 Station DW 182. — 18.09.1985, 18°59.3'S, 163°24'E, 310 m : *M. stigmatica*.  
 Station DW 183. — 18.09.1985, 19°01.8'S, 163°25.8'E, 280 m : *M. acantha*, *M. guttata*, *M. javieri*, *M. notata*.  
 Station DW 184. — 18.09.1985, 19°04'S, 163°27'E, 260 m : *M. guttata*, *M. notata*, *M. sao*.  
 Station DW 186. — 19.09.1985, 19°07.2'S, 163°29.7'E, 205 m : *M. sao*, *M. tyche*.  
 Station DW 187. — 19.09.1985, 19°08.3'S, 163°29.3'E, 65-120 m : *M. sao*.  
 Station CP 189. — 19.09.1985, 19°07.5'S, 163°29'E, 215 m : *M. sao*.  
 Station CP 190. — 19.09.1985, 19°06.3'S, 163°29.5'E, 215 m : *M. tyche*.  
 Station CP 191. — 19.09.1985, 19°02.4'S, 163°28.3'E, 255 m : *M. guttata*.  
 Station CP 192. — 19.09.1985, 18°59.3'S, 163°25'E, 320 m : *M. runcinata*.  
 Station CP 193. — 19.09.1985, 18°56.3'S, 163°23.2'E, 430 m : *M. acantha*, *M. sabatesae*, *M. sphecia*, *M. zebra*.  
 Station CP 194. — 19.09.1985, 18°52.8'S, 163°21.7'E, 550 m : *M. incerta*, *M. laurentae*, *M. moliae*,  
*M. ocyrhoe*, *M. sabatesae*, *M. thoe*.  
 Station CP 195. — 19.09.1985, 18°54.8'S, 163°22.2'E, 470 m : *M. callirhoe*, *M. laurentae*, *M. moliae*,  
*M. runcinata*, *M. sabatesae*, *M. squamosa*, *M. thoe*.  
 Station DW 196. — 20.09.1985, 18°55.0'S, 163°23.7'E, 460 m : *M. acantha*, *M. moliae*, *M. sabatesae*.  
 Station DW 197. — 20.09.1985, 18°51.3'S, 163°21.0'E, 560 m : *M. incerta*, *M. zebra*.  
 Station CP 198. — 20.09.1985, 18°49.4'S, 163°18.8'E, 590 m : *M. andrewi*, *M. incerta*, *M. normani*,  
*M. ocyrhoe*, *M. rhodonia*, *M. rosula*.  
 Station CP 199. — 20.09.1985, 18°50.0'S, 163°14.5'E, 600 m : *M. incerta*.  
 Station CP 200. — 20.09.1985, 18°53.8'S, 163°14.1'E, 545 m : *M. incerta*, *M. sp.*  
 Station CC 201. — 20.09.1985, 18°55.8'S, 163°13.8'E, 500 m : *M. incerta*, *M. squamosa*.  
 Station CC 202. — 20.09.1985, 18°58.0'S, 163°10.5'E, 580 m : *M. incerta*, *M. rhodonia*, *M. squamosa*, *M. sp.*  
 Station DW 204. — 27.09.1985, 22°37.0'S, 167°05.7'E, 120 m : *M. clinata*.  
 Station DW 207. — 28.09.1985, 22°39.0'S, 167°07.4'E, 220-235 m : *M. spilota*, *M. tyche*.  
 Station DW 210. — 28.09.1985, 22°43.7'S, 167°09.3'E, 340-345 m : *M. notata*.  
 Station DW 212. — 28.09.1985, 22°47.4'S, 167°10.5'E, 375-380 m : *M. sphecia*, *M. taenia*.  
 Station CP 213. — 28.09.1985, 22°51.3'S, 167°12.0'E, 405-430 m : *M. sabatesae*, *M. sphecia*, *M. zebra*.  
 Station CP 214. — 28.09.1985, 22°53.8'S, 167°13.9'E, 425-440 m : *M. sphecia*, *M. zebra*.  
 Station CP 215. — 28.09.1985, 22°55.7'S, 167°17.0'E, 485-520 m : *M. laurentae*, *M. ocyrhoe*, *M. sphecia*,  
*M. zebra*.  
 Station CP 216. — 29.09.1985, 22°59.5'S, 167°22.0'E, 490-515 m : *M. alonsoi*, *M. ocyrhoe*, *M. thoe*.  
 Station DW 220. — 29.09.1985, 22°58.5'S, 167°38.3'E, 505-550 m : *M. alonsoi*.  
 Station DW 221. — 29.09.1985, 22°58.6'S, 167°36.8'E, 535-560 m : *M. incerta*, *M. sp.*  
 Station DW 222. — 30.09.1985, 22°57.6'S, 167°33.0'E, 410-440 m : *M. barangei*, *M. sphecia*, *M. zebra*.  
 Station DW 223. — 30.09.1985, 22°57.0'S, 167°30.0'E, 545-560 m : *M. incerta*.  
 Station DW 226. — 30.09.1985, 22°47.2'S, 167°21.6'E, 395 m : *M. notata*, *M. sphecia*.  
 Station DW 227. — 30.09.1985, 22°46.0'S, 167°20.0'E, 320 m : *M. guttata*, *M. notata*, *M. taenia*.

- Station DW 228. — 30.09.1985, 22°47'S, 167°18.2'E, 420 m : *M. zebra*.  
 Station DW 229. — 30.09.1985, 22°51.6'S, 167°13.5'E, 445-460 m : *M. squamosa*.  
 Station DW 234. — 02.10.1985, 22°15.5'S, 167°08.3'E, 350-365 m : *M. notata*, *M. taenia*.  
 Station DC 235. — 02.10.1985, 22°13.0'S, 167°12.0'E, 405-415 m : *M. callirrhoe*, *M. notata*.  
 Station CP 236. — 02.10.1985, 22°11.3'S, 167°15.0'E, 495-550 m : *M. incerta*, *M. leviantennata*, *M. pagesi*,  
*M. rufiantennulata*, *M. squamosa*.  
 Station CP 238. — 02.10.1985, 22°13.0'S, 167°14.0'E, 500-510 m : *M. incerta*, *M. leagora*, *M. ocyrhoe*,  
*M. rhodonia*, *M. rufiantennulata*, *M. sp.*  
 Station CP 239. — 02.10.1985, 22°14.8'S, 167°15.7'E, 470-475 m : *M. incerta*, *M. leagora*, *M. leviantennata*,  
*M. pagesi*, *M. squamosa*, *M. sp.*  
 Station CP 240. — 02.10.1985, 22°16.5'S, 167°16.5'E, 475-500 m : *M. barangei*, *M. incerta*, *M. ocyrhoe*,  
*M. rhodonia*.  
 Station CP 241. — 03.10.1985, 22°09.0'S, 167°12.2'E, 470-480 m : *M. incerta*, *M. leviantennata*, *M. pagesi*,  
*M. sp.*  
 Station CP 242. — 03.10.1985, 22°05.8'S, 167°10.3'E, 500-550 m : *M. incerta*, *M. pagesi*, *M. psamathe*, *M. sp.*  
 Station CP 243. — 03.10.1985, 22°02.8'S, 167°07.7'E, 435-450 m : *M. leviantennata*, *M. squamosa*.  
 Station CC 245. — 03.10.1985, 22°07.0'S, 167°11.0'E, 415-435 m : *M. marini*.  
 Station CC 246. — 03.10.1985, 22°08.5'S, 167°11.5'E, 410-420 m : *M. callirrhoe*, *M. leviantennata*, *M. pagesi*.  
 Station CC 247. — 04.10.1985, 22°09.0'S, 167°13.3'E, 435-460 m : *M. callirrhoe*, *M. incerta*, *M. leviantennata*,  
*M. pagesi*, *M. squamosa*.  
 Station CC 248. — 04.10.1985, 22°09.5'S, 167°10.0'E, 380-385 m : *M. callirrhoe*, *M. runcinata*.

#### SMIB 1. New Caledonia.

- Station DW 2. — 05.02.1986, 22°51.9'S, 167°13'E, 415 m : *M. sphecia*.  
 Station DW 7. — 06.02.1986, 22°55.5'S, 167°15.9'E, 500 m : *M. laurentae*, *M. zebra*.  
 Station DW 9. — 06.02.1986, 22°55'S, 167°14.7'E, 450 m : *M. sphecia*, *M. zebra*.  
 Station DW 10. — 07.02.1986, 22°55'S, 167°12'E, 395-410 m : *M. sphecia*.

#### SMIB 2. New Caledonia.

- Station DW 1. — 17.09.1986, 22°52.7'S, 167°12.6'E, 444 m : *M. zebra*.  
 Station DW 2. — 17.09.1986, 22°54.9'S, 167°14.2'E, 448 m : *M. zebra*.  
 Station DW 3. — 17.09.1986, 22°56.0'S, 167°14.8'E, 428 m : *M. sphecia*, *M. zebra*.  
 Station DW 5. — 17.09.1986, 22°56.3'S, 167°14.4'E, 410 m : *M. sphecia*, *M. zebra*.  
 Station DW 6. — 17.09.1986, 22°56.2'S, 167°15.9'E, 460 m : *M. acantha*, *M. sphecia*, *M. zebra*.  
 Station DW 9. — 18.09.1986, 22°53.9'S, 167°15.4'E, 500 m : *M. sphecia*.  
 Station DW 10. — 18.09.1986, 22°55.2'S, 167°16.3'E, 495 m : *M. barangei*, *M. ocyrhoe*.  
 Station DW 11. — 18.09.1986, 22°52.1'S, 167°15.4'E, 500 m : *M. incerta*.  
 Station DW 12. — 18.09.1986, 22°52.6'S, 167°14.0'E, 460 m : *M. barangei*.  
 Station DW 18 b. — 19.09.1986, 22°58.0'S, 167°20.4'E, 535 m : *M. alonsoi*.  
 Station DC 26. — 21.09.1986, 22°59.3'S, 167°23.0'E, 535 m : *M. ocyrhoe*, *M. thoe*.

#### CHALCAL 2. New Caledonia.

- Station CC 1. — 28.10.1986, 24°54.96'S, 168°21.91'E, 500-580 m : *M. armilla*, *M. laurentae*, *M. marini*,  
*M. ocyrhoe*, *M. thoe*, *M. zebra*, *M. sp.*  
 Station CC 2. — 28.10.1986, 24°55.48'S, 168°21.29'E, 500-610 m : *M. armilla*, *M. laurentae*, *M. marini*,  
*M. ocyrhoe*, *M. sabatesae*, *M. thoe*, *M. zebra*.  
 Station CH 4. — 27.10.1986, 24°44.31'S, 168°09.94'E, 253 m : *M. urizae*.  
 Station CP 18. — 27.10.1986, 24°47.00'S, 168°09.43'E, 274 m : *M. rogeri*, *M. urizae*.  
 Station CP 19. — 27.10.1986, 24°42.85'S, 168°09.73'E, 271 m : *M. distiza*, *M. guttata*, *M. stigmatica*,  
*M. urizae*.  
 Station CP 20. — 27.10.1986, 24°44.60'S, 168°09.30'E, 230-300 m : *M. distiza*, *M. urizae*.  
 Station CP 21. — 28.10.1986, 24°54.00'S, 168°21.61'E, 500 m : *M. armilla*, *M. gordoae*, *M. laurentae*,  
*M. leagora*, *M. marini*, *M. thoe*, *M. zebra*.  
 Station CP 25. — 30.10.1986, 23°38.60'S, 167°43.12'E, 418 m : *M. barangei*, *M. zebra*.  
 Station CP 26. — 31.10.1986, 23°18.15'S, 168°03.58'E, 296 m : *M. taenia*, *M. urizae*.

- Station CP 27. — 31.10.1986, 23°15.29'S, 168°04.55'E, 289 m : *M. taenia*, *M. urizae*.  
 Station DW 72. — 28.10.1986, 24°54.50'S, 168°22.30'E, 527 m : *M. armilla*, *M. laurentae*.  
 Station DW 73. — 29.10.1986, 24°39.90'S, 168°18.10'E, 573 m : *M. alonsoi*, *M. armilla*, *M. elachia*,  
*M. laurentae*, *M. psamathe*, *M. psylla*, *M. thoe*, *M. sp.*  
 Station DW 74. — 29.10.1986, 24°40.36'S, 168°38.38'E, 650 m : *M. alonsoi*, *M. amblytes*, *M. armilla*,  
*M. elachia*, *M. ocyrhoe*, *M. psamathe*, *M. soelae*, *M. tuberculata*, *M. sp.*  
 Station DW 75. — 29.10.1986, 24°39.31'S, 168°39.67'E, 600 m : *M. alonsoi*, *M. amblytes*, *M. armilla*,  
*M. laurentae*, *M. marini*, *M. psamathe*, *M. soelae*, *M. thoe*, *M. tuberculata*, *M. sp.*  
 Station DW 76. — 30.10.1986, 23°40.50'S, 167°45.20'E, 470 m : *M. alonsoi*.  
 Station DW 78. — 30.10.1986, 23°41.30'S, 167°59.60'E, 233-360 m : *M. guttata*, *M. stigmatica*, *M. taenia*.  
 Station DW 79. — 30.10.1986, 23°40.50'S, 168°00.6'E, 260 m : *M. guttata*.  
 Station DW 80. — 31.10.1986, 23°26.70'S, 168°01.80'E, 80-160 m : *M. clinata*.  
 Station DW 81. — 31.10.1986, 23°19.60'S, 168°03.40'E, 311 m : *M. acantha*, *M. taenia*.  
 Station DW 82. — 31.10.1986, 23°13.68'S, 168°04.27'E, 304 m : *M. laurentae*, *M. sphecia*.  
 Station DW 83. — 31.10.1986, 23°20.30'S, 168°05.50'E, 200 m : *M. guttata*, *M. notata*, *M. taenia*.  
 Station DW 84. — 31.10.1986, 23°23.80'S, 168°07.10'E, 170 m : *M. gordoae*, *M. guttata*.

#### BIOGEOCAL. New Caledonia.

- Station CP 214. — 09.04.1987, 22°43.09'S, 166°27.19'E, 1665-1590 m : *M. tiresias*.  
 Station CP 232. — 12.04.1987, 21°33.81'S, 166°27.07'E, 760-790 m : *M. eminens*, *M. microps*, *M. rosula*.  
 Station CP 253. — 16.04.1987, 21°31.75'S, 166°28.73'E, 310-315 m : *M. hyalina*.  
 Station DW 291. — 27.04.1987, 20°34.47'S, 166°54.33'E, 510-520 m : *M. thoe*.  
 Station DW 292. — 27.04.1987, 20°28.23'S, 166°48.45'E, 465-470 m : *M. rosula*.  
 Station CP 297. — 28.04.1987, 20°38.64'S, 167°10.77'E, 1230-1240 m : *M. microps*.  
 Station DW 307. — 01.05.1987, 20°35.38'S, 166°55.25'E, 470-480 m : *M. armilla*.  
 Station DW 308. — 01.05.1987, 20°40.07'S, 166°58.05'E, 510-590 m : *M. callista*, *M. sp.*

#### SMIB 3. New Caledonia.

- Station DW 1 — 20.05.1987, 24°55.70'S, 168°21.80'E, 520 m : *M. armilla*, *M. eclipsis*, *M. laurentae*,  
*M. leagora*, *M. thoe*, *M. zebra*.  
 Station DW 2. — 20.05.1987, 24°53.40'S, 168°21.70'E, 530 m : *M. armilla*, *M. laurentae*, *M. psamathe*,  
*M. soelae*, *M. thoe*.  
 Station DW 3. — 20.05.1987, 24°55.00'S, 168°21.70'E, 513 m : *M. armilla*, *M. laurentae*, *M. moliae*, *M. thoe*,  
*M. zebra*.  
 Station CP 4. — 20.05.1987, 24°54'S, 168°21.5'E, 530 m : *M. armilla*, *M. thoe*, *M. zebra*.  
 Station DW 5. — 21.05.1987, 24°54.9'S, 168°21.6'E, 502 m : *M. thoe*, *M. zebra*.  
 Station DW 6. — 21.05.1987, 24°56.40'S, 168°21.20'E, 505 m : *M. zebra*.  
 Station DW 7. — 21.05.1987, 24°54.60'S, 168°21.30'E, 505 m : *M. armilla*, *M. laurentae*.  
 Station DW 8. — 21.05.1987, 24°45.20'S, 168°08.00'E, 233 m : *M. armilla*.  
 Station DW 12. — 22.05.1987, 23°37.70'S, 167°41.50'E, 470 m : *M. alonsoi*, *M. barangei*, *M. laurentae*,  
*M. ocyrhoe*.  
 Station DW 13. — 22.05.1987, 23°37.50'S, 167°41.60'E, 448 m : *M. alonsoi*.  
 Station DW 14. — 22.05.1987, 23°40.10'S, 167°59.70'E, 246 m : *M. guttata*.  
 Station DW 18. — 23.05.1987, 23°41.50'S, 167°59.40'E, 338 m : *M. stigmatica*.  
 Station DW 21. — 24.05.1987, 22°59.20'S, 167°19.00'E, 525 m : *M. amblytes*, *M. incerta*, *M. rufiantennulata*.  
 Station DW 22. — 24.05.1987, 23°03.00'S, 167°19.10'E, 503 m : *M. laurentae*.  
 Station DW 23. — 24.05.1987, 22°58.00'S, 167°20.00'E, 530 m : *M. amblytes*.

#### SMIB 4. New Caledonia.

- Station DW 34. — 07.03.1989, 24°55.0'S, 168°22.0'E, 515 m : *M. armilla*, *M. eclipsis*, *M. laurentae*,  
*M. leagora*, *M. marini*, *M. ocyrhoe*, *M. thoe*, *M. zebra*, *M. sp.*  
 Station DW 36. — 07.03.1989, 24°55.6'S, 168°21.7'E, 530 m : *M. armilla*, *M. laurentae*, *M. rufiantennulata*,  
*M. sphecia*, *M. zebra*.  
 Station DW 37. — 07.03.1989, 24°54.5'S, 168°22.3'E, 540 m : *M. armilla*, *M. laurentae*, *M. thoe*, *M. zebra*.



- Station DW 38. — 07.03.1989, 24°54.5'S, 168°22.0'E, 510 m : *M. leagora*, *M. marini*, *M. ocyrhoe*, *M. thoe*, *M. zebra*.
- Station DW 39. — 07.03.1989, 24°56.2'S, 168°21.5'E, 560 m : *M. armilla*, *M. laurentae*, *M. ocyrhoe*, *M. thoe*.
- Station DW 41. — 07.03.1989, 24°44.0'S, 168°08.6'E, 235 m : *M. guttata*.
- Station DW 42. — 08.03.1989, 24°45.7'S, 168°08.4'E, 320 m : *M. javieri*, *M. spilota*.
- Station DW 44. — 08.03.1989, 24°46.0'S, 168°08.2'E, 300 m : *M. distiza*, *M. javieri*, *M. urizae*.
- Station DW 51. — 09.03.1989, 23°41.3'S, 168°00.6'E, 260 m : *M. guttata*.
- Station DW 55. — 09.03.1989, 23°21.4'S, 168°04.5'E, 260 m : *M. armilla*, *M. laurentae*, *M. taenia*, *M. thoe*, *M. zebra*.
- Station DW 56. — 09.03.1989, 23°20.6'S, 168°05.2'E, 260 m : *M. taenia*.
- Station DW 57. — 09.03.1989, 23°21.5'S, 168°04.6'E, 260 m : *M. guttata*.
- Station DW 58. — 10.03.1989, 22°59.8'S, 167°24.2'E, 560 m : *M. laurentae*.
- Station DW 62. — 10.03.1989, 23°00.4'S, 167°21.8'E, 540 m : *M. ocyrhoe*.
- Station DW 65. — 10.03.1989, 22°55.3'S, 167°14.5'E, 420 m : *M. zebra*.
- Station DW 66. — 10.03.1989, 22°56.3'S, 167°14.6'E, 430 m : *M. sphecia*.
- Station DW 68. — 10.03.1989, 22°55.0'S, 167°16.0'E, 440 m : *M. sphecia*.
- Station DW 69. — 10.03.1989, 22°55.8'S, 167°14.3'E, 405 m : *M. laurentae*.

#### SMIB 5. New Caledonia.

- Station DW 70. — 07.09.1989, 23°40.6'S, 168°01.1'E, 260-270 m : *M. taenia*.
- Station DW 76. — 07.09.1989, 23°41.2'S, 168°00.5'E, 240-280 m : *M. guttata*.
- Station DW 78. — 07.09.1989, 23°40.8'S, 168°00.2'E, 235-248 m : *M. guttata*.
- Station DW 80. — 07.09.1989, 23°41.9'S, 168°00.4'E, 270-300 m : *M. guttata*.
- Station DW 81. — 09.09.1989, 22°38.2'S, 167°34.8'E, 110 m : *M. clinata*.
- Station DW 82. — 09.09.1989, 22°31.7'S, 167°32.4'E, 155 m : *M. clinata*.
- Station DW 84. — 13.09.1989, 22°20.8'S, 168°43.1'E, 290 m : *M. stigmatica*.
- Station DW 86. — 13.09.1989, 22°19.8'S, 168°42.8'E, 320 m : *M. brachytes*, *M. sphecia*, *M. stigmatica*.
- Station DW 87. — 13.09.1989, 22°18.17'S, 168°41.3'E, 335-370 m : *M. acantha*, *M. stigmatica*.
- Station DW 88. — 13.09.1989, 22°18.6'S, 168°40.2'E, 350 m : *M. sphecia*.
- Station DW 90. — 13.09.1989, 22°19.1'S, 168°41.6'E, 340 m : *M. urizae*.
- Station DW 91. — 13.09.1989, 22°18.4'S, 168°41.1'E, 335-340 m : *M. moliae*, *M. notata*.
- Station DW 94. — 13.09.1989, 22°19.6'S, 168°42.8'E, 260-275 m : *M. guttata*, *M. notata*.
- Station DW 96. — 14.09.1989, 23°00.0'S, 168°18.7'E, 245 m : *M. clinata*.
- Station DW 97. — 14.09.1989, 23°01.1'S, 168°18.0'E, 300 m : *M. acantha*, *M. sphecia*, *M. stigmatica*.
- Station DW 98. — 14.09.1989, 23°01.7'S, 168°16.1'E, 320-335 m : *M. zebra*.
- Station DW 99. — 14.09.1989, 23°24.7'S, 168°05.4'E, 58 m : *M. clinata*.
- Station DW 100. — 14.09.1989, 23°22.9'S, 168°05.2'E, 120 m : *M. clinata*.
- Station DW 101. — 14.09.1989, 23°21.2'S, 168°04.9'E, 225-270 m : *M. taenia*.
- Station DW 102. — 14.09.1989, 23°19.6'S, 168°04.7'E, 290-305 m : *M. taenia*.
- Station DW 103. — 14.09.1989, 23°17.4'S, 168°04.8'E, 300-315 m : *M. taenia*.
- Station DW 104. — 14.09.1989, 23°14.3'S, 168°04.5'E, 305-335 m : *M. acantha*, *M. sphecia*, *M. taenia*.

#### AZTÈQUE. New Caledonia.

- Station CH 3. — 13.02.1990, 23°39.2'S, 168°01.3'E, 290-400 m : *M. laurentae*.
- Station CH 6. — 14.02.1990, 23°40.4'S, 167°45.4'E, 425-470 m : *M. laurentae*.
- Station CH 11. — 15.02.1990, 22°52.3'S, 167°32.1'E, 340-360 m : *M. sphecia*.

#### SMIB 6. New Caledonia.

- Station DW 106. — 02.03.1990, 19°08.1'S, 163°30.7'E, 165-195 m : *M. sao*, *M. tyche*.
- Station DW 107. — 02.03.1990, 19°07.6'S, 163°30.2'E, 195-205 m : *M. sao*.
- Station DW 108. — 02.03.1990, 19°06.9'S, 163°30.1'E, 210-220 m : *M. sao*.
- Station DW 110. — 02.03.1990, 19°04.9'S, 163°29.8'E, 225-230 m : *M. sao*.
- Station DW 112. — 02.03.1990, 19°05.6'S, 163°30.2'E, 220-225 m : *M. sao*.
- Station DW 116. — 02.03.1990, 18°59.3'S, 163°26.2'E, 290-300 m : *M. notata*.

- Station DW 118. — 03.03.1990, 18°58.5'E, 163°26.3'E, 290-300 m : *M. acantha*.  
 Station DW 120. — 03.09.1990, 18°58.5'S, 163°25.6'E, 310-325 m : *M. notata*.  
 Station DW 124. — 03.03.1990, 18°56.2'S, 163°24.5'E, 360-405 m : *M. notata*, *M. sabatesae*.  
 Station DW 125. — 03.03.1990, 18°57.4'S, 163°23.5'E, 335-350 m : *M. notata*.  
 Station DW 126. — 03.03.1990, 18°59.1'S, 163°22.7'E, 320-330 m : *M. notata*.  
 Station DW 127. — 04.09.1990, 19°08.8'S, 163°22.6'E, 190-205 m : *M. sao*.  
 Station DW 128. — 04.09.1990, 19°06.2'S, 163°22.4'E, 205-215 m : *M. sao*.  
 Station DW 130. — 04.09.1990, 19°04.9'S, 163°21'E, 190-295 m : *M. tyche*.

#### MUSORSTOM 6. Loyalty Islands.

- Station DW 391. — 13.02.1989, 20°47.35'S, 167°05.70'E, 390 m : *M. leagora*, *M. notata*, *M. rufiantennulata*,  
*M. runcinata*.  
 Station DW 393. — 13.02.1989, 20°48.29'S, 167°09.54'E, 420 m : *M. laurentae*.  
 Station DW 398. — 13.02.1989, 20°47.19'S, 167°05.65'E, 370 m : *M. notata*.  
 Station DW 399. — 14.02.1989, 20°41.80'S, 167°00.20'E, 282 m : *M. guttata*, *M. notata*.  
 Station CP 401. — 14.02.1989, 20°42.15'S, 167°00.35'E, 270 m : *M. gordoae*.  
 Station DW 406. — 15.02.1989, 20°40.65'S, 167°06.80'E, 373 m : *M. notata*, *M. sphecia*, *M. zebra*.  
 Station DW 407. — 15.02.1989, 20°40.70'S, 167°06.60'E, 360 m : *M. zebra*.  
 Station CP 408. — 15.02.1989, 20°41.10'S, 167°07.45'E, 380 m : *M. callirrhoe*, *M. leagora*.  
 Station DW 411. — 15.02.1989, 20°40.65'S, 167°03.35'E, 424 m : *M. callirrhoe*.  
 Station DW 412. — 15.02.1989, 20°40.60'S, 167°03.75'E, 437 m : *M. callirrhoe*.  
 Station DW 413. — 15.02.1989, 20°40.10'S, 167°03.50'E, 463 m : *M. marini*.  
 Station CP 415. — 15.02.1989, 20°40.20'S, 167°03.95'E, 461 m : *M. callirrhoe*, *M. squamosa*.  
 Station DW 418. — 16.02.1989, 20°41.75'S, 167°03.35'E, 283 m : *M. gordoae*.  
 Station CP 419. — 16.02.1989, 20°41.65'S, 167°03.70'E, 283 m : *M. bellior*, *M. distiza*, *M. notata*,  
*M. pseliophora*.  
 Station CP 427. — 17.02.1989, 20°23.35'S, 166°20.00'E, 800 m : *M. eminens*.  
 Station DW 428. — 17.02.1989, 20°23.54'S, 166°12.57'E, 420 m : *M. leagora*.  
 Station DW 430. — 17.02.1989, 20°21.17'S, 166°07.25'E, 30 m : *M. olivarae*.  
 Station DW 431. — 18.02.1989, 20°22.25'S, 166°10.00'E, 21 m : *M. leptitis*.  
 Station DW 436. — 18.02.1989, 20°20.27'S, 166°07.49'E, 33 m : *M. olivarae*.  
 Station CP 437. — 18.02.1989, 20°20.14'S, 166°08.12'E, 31 m : *M. olivarae*.  
 Station CP 438. — 18.02.1989, 20°23.00'S, 166°20.10'E, 780 m : *M. eminens*, *M. rosula*.  
 Station DW 441. — 19.02.1989, 20°53.76'S, 167°16.86'E, 80 m : *M. leptosyne*.  
 Station CP 455. — 20.02.1989, 21°00.65'S, 167°26.08'E, 260 m : *M. rogeri*.  
 Station DW 457. — 20.02.1989, 21°00.42'S, 167°28.71'E, 353 m : *M. notata*.  
 Station DW 460. — 21.02.1989, 21°01.72'S, 167°31.45'E, 420 m : *M. callirrhoe*, *M. leagora*, *M. sphecia*.  
 Station CP 464. — 21.02.1989, 21°02.30'S, 167°31.60'E, 430 m : *M. callirrhoe*, *M. sphecia*, *M. runcinata*,  
*M. zebra*.  
 Station CP 465. — 21.02.1989, 21°03.55'S, 167°32.25'E, 480 m : *M. callirrhoe*, *M. squamosa*.  
 Station CP 466. — 21.02.1989, 21°05.25'S, 167°32.20'E, 540 m : *M. incerta*, *M. laurentae*, *M. rhodonia*, *M. sp.*  
 Station CP 467. — 21.02.1989, 21°05.13'S, 167°32.11'E, 575 m : *M. callirrhoe*, *M. laurentae*, *M. squamosa*.  
 Station DW 469. — 21.02.1989, 21°03.64'S, 167°34.67'E, 630 m : *M. incerta*.  
 Station CC 470. — 21.02.1989, 21°04.40'S, 167°33.20'E, 560 m : *M. incerta*, *M. laurentae*, *M. rhodonia*.  
 Station DW 472. — 22.02.1989, 21°08.60'S, 167°54.70'E, 300 m : *M. acantha*, *M. sphecia*.  
 Station DW 473. — 22.02.1989, 21°08.80'S, 167°55.30'E, 236 m : *M. gordoae*, *M. guttata*.  
 Station DW 474. — 22.02.1989, 21°08.80'S, 167°55.50'E, 260 m : *M. rogeri*.  
 Station DW 477. — 22.02.1989, 21°07.98'S, 167°54.69'E, 550 m : *M. notata*.  
 Station DW 478. — 22.02.1989, 21°08.96'S, 167°54.28'E, 400 m : *M. leagora*.  
 Station DW 480. — 22.02.1989, 21°08.50'S, 167°55.98'E, 380 m : *M. distiza*, *M. psylla*.  
 Station CP 481. — 23.02.1989, 21°21.85'S, 167°50.30'E, 300 m : *M. marini*, *M. notata*, *M. proto*.  
 Station DW 482. — 23.02.1989, 21°21.50'S, 167°46.80'E, 375 m : *M. moliae*.  
 Station DW 483. — 23.02.1989, 21°19.8'S, 167°47.8'E, 600 m : *M. pagesi*.  
 Station DW 485. — 23.02.1989, 21°23.48'S, 167°59.33'E, 350 m : *M. armilla*.  
 Station DW 487. — 23.02.1989, 21°23.30'S, 167°46.40'E, 500 m : *M. runcinata*.

Station DW 488. — 24.02.1989, 20°49.20'S, 167°06.44'E, 800 m : *M. eminens*.

#### VOLSMAR. Matthew and Hunter Islands.

- Station DW 5. — 01.06.1989, 22°25.9'S, 171°46.5'E, 700 m : *M. armilla*, *M. psamathe*.  
 Station DW 6. — 01.06.1989, 22°27.2'S, 171°44.5'E, 480 m : *M. rufiantennulata*.  
 Station DW 7. — 01.06.1989, 22°26'S, 171°44.1'E, 400 m : *M. distiza*, *M. spilota*, *M. stigmatica*.  
 Station DW 8. — 08.06.1989, 22°21.6'S, 168°43.1'E, 420 m : *M. laurentae*.  
 Station DW 39. — 08.06.1989, 22°20.5'S, 168°43.5'E, 305 m : *M. urizae*.  
 Station DW 48. — 04.07.1989, 21°00.1'S, 170°03.5'E, 200 m : *M. gordoae*.  
 Station DW 50. — 04.07.1989, 20°59.1'S, 170°03.5'E, 425 m : *M. rufiantennulata*, *M. javieri*.  
 Station DW 51. — 04.07.1989, 20°58.5'S, 170°03.4'E, 450 m : *M. armilla*, *M. thoe*, *M. tuberculata*.  
 Station DW 52. — 04.07.1989, 20°59.1'S, 170°02.7'E, 510 m : *M. tuberculata*.  
 Station DW 60. — 05.07.1989, 20°59.3'S, 170°03.4'E, 190 m : *M. olivarae*.

#### CHALCAL 1. Chesterfield Islands.

- Station DC 2. — 13.07.1984, 21°14.41'S, 162°16.27'E, 80-120 m : *M. belior*, *M. clinata*, *M. gordoae*.  
 Station DC 3. — 13.07.1984, 21°14.00'S, 162°16.40'E, 120-150 m : *M. gordoae*, *M. notata*.  
 Station DC 5. — 14.07.1984, 20°57.98'S, 161°45.36'E, 400 m : *M. moliae*, *M. notata*.  
 Station DC 14. — 16.07.1984, 19°26.90'S, 158°35.41'E, 246 m *M. notata*.  
 Station DC 29. — 18.07.1984, 19°30.60'S, 158°31.10'E, 100 m : *M. leptosyne*.  
 Station DC 30. — 18.07.1984, 19°31.10'S, 158°30.60'E, 150-180 m : *M. gordoae*, *M. tyche*.  
 Station DC 31. — 18.07.1984, 19°33.30'S, 158°30.30'E, 230 m : *M. notata*.  
 Station DC 32. — 19.07.1984, 19°43.22'S, 158°33.19'E, 350 m : *M. notata*, *M. taenia*.  
 Station CP 38. — 19.07.1984, 19°43.80'S, 158°35.25'E, 348 m : *M. sphecia*, *M. taenia*.  
 Station DC 43. — 23.07.1984, 20°41.50'S, 158°38.40'E, 78 m : *M. clinata*.  
 Station DC 55. — 25.07.1984, 21°23.90'S, 158°59.60'E, 55 m : *M. clinata*.  
 Station DC 56. — 25.07.1984, 21°24.40'S, 159°08.80'E, 60 m : *M. clinata*.  
 Station DC 67. — 28.07.1984, 22°34.80'S, 159°09.40'E, 277 m : *M. stigmatica*.

#### MUSORSTOM 5. Chesterfield Islands.

- Station DW 250. — 07.10.1986, 25°02.20'S, 159°59.90'E, 850 m : *M. notata*.  
 Station DW 255. — 07.10.1986, 25°15.40'S, 159°54.80'E, 280-295 m : *M. notata*.  
 Station DW 258. — 08.10.1986, 25°32.8'S, 159°46.10'E, 300 m : *M. pseliophora*.  
 Station DW 263. — 08.10.1986, 25°21.3'S, 159°46.44'E, 150-225 m : *M. notata*.  
 Station CP 267. — 08.10.1986, 25°23.60'S, 159°47.20'E, 285 m : *M. pseliophora*.  
 Station CP 268. — 09.10.1986, 24°44.70'S, 159°39.20'E, 280 m : *M. notata*.  
 Station CP 269. — 09.10.1986, 24°47.00'S, 159°37.30'E, 270-250 m : *M. notata*.  
 Station DW 273. — 09.10.1986, 24°43.02'S, 159°43.26'E, 290 m : *M. stigmatica*.  
 Station DW 274. — 09.10.1986, 24°44.83'S, 159°41.00'E, 285 m : *M. proto*, *M. pseliophora*.  
 Station CP 276. — 09.10.1986, 24°48.90'S, 159°40.90'E, 269-258 m : *M. rogeri*.  
 Station CP 278. — 10.10.1986, 24°10.80'S, 159°38.10'E, 265 m : *M. leagora*.  
 Station DW 280. — 10.10.1986, 24°09.99'S, 159°35.75'E, 270 m : *M. rogeri*, *M. sabatesae*, *M. stigmatica*.  
 Station DW 282. — 10.10.1986, 24°11.55'S, 159°32.22'E, 226-230 m : *M. proto*.  
 Station CP 287. — 10.10.1986, 24°05.40'S, 159°36.30'E, 270 m : *M. rogeri*.  
 Station CP 288. — 10.10.1986, 24°04.80'S, 159°36.80'E, 270 m : *M. rogeri*.  
 Station CP 289. — 10.10.1986, 24°01.50'S, 159°38.40'E, 273 m : *M. notata*, *M. rogeri*.  
 Station DC 291. — 11.10.1986, 23°07.70'S, 159°28.40'E, 300 m : *M. rogeri*.  
 Station DW 299. — 11.10.1986, 22°47.70'S, 159°23.70'E, 360-390 m : *M. rogeri*, *M. stigmatica*.  
 Station DW 300. — 11.10.1986, 22°48.27'S, 159°23.94'E, 450 m : *M. callista*, *M. leagora*, *M. notata*,  
*M. rufiantennulata*, *M. sphecia*.  
 Station DW 301. — 12.10.1986, 22°06.90'S, 159°24.60'E, 487-610 m : *M. leagora*, *M. notata*, *M. rufiantennulata*, *M. stia*, *M. urizae*.  
 Station DW 302. — 12.10.1986, 22°10.00'S, 159°23.30'E, 345-360 m : *M. stigmatica*.  
 Station DW 304. — 12.10.1986, 22°10.34'S, 159°25.51'E, 385-420 m : *M. notata*.

- Station DW 305. — 12.10.1986, 22°09.27'S, 159°24.42'E, 430-440 m : *M. javieri*, *M. leagora*, *M. stia*.  
 Station DW 306. — 12.10.1986, 22°07.66'S, 159°21.40'E, 375-415 m : *M. laurentae*, *M. leagora*, *M. sphecia*.  
 Station CP 315. — 13.10.1986, 22°25.32'S, 159°27.40'E, 330-335 m : *M. bellior*.  
 Station CP 323. — 14.10.1986, 21°18.52'S, 157°57.62'E, 970 m : *M. eminens*, *M. microps*.  
 Station CP 324. — 14.10.1986, 21°15.01'S, 157°51.33'E, 970 m : *M. eminens*, *M. microps*.  
 Station DW 328. — 15.10.1986, 20°22.80'S, 158°43.60'E, 355-340 m : *M. notata*.  
 Station DW 329. — 15.10.1986, 20°22.90'S, 158°46.60'E, 320 m : *M. notata*.  
 Station CP 332. — 15.10.1986, 20°17.44'S, 158°48.86'E, 400 m : *M. leagora*, *M. notata*, *M. sphecia*.  
 Station DW 338. — 15.10.1986, 19°51.60'S, 158°40.40'E, 540-580 m : *M. laurentae*, *M. leagora*.  
 Station DW 339. — 16.10.1986, 19°53.40'S, 158°37.90'E, 380-395 m : *M. stia*, *M. taenia*.  
 Station DW 341. — 16.10.1986, 19°45.90'S, 158°43.37'E, 630-620 m : *M. incerta*.  
 Station DC 345. — 16.10.1986, 19°39.70'S, 158°32.40'E, 305-310 m : *M. notata*, *M. rogeri*.  
 Station DW 348. — 17.10.1986, 19°36.00'S, 158°31.70'E, 260 m : *M. gordoae*, *M. notata*.  
 Station DW 349. — 17.10.1986, 19°34.45'S, 158°34.48'E, 275 m : *M. notata*.  
 Station DW 354. — 18.10.1986, 19°31°06'S, 158°42.56'E, 420-450 m : *M. erato*.  
 Station DW 355. — 18.10.1986, 19°36.43'S, 158°43.41'E, 580 m : *M. ocyrhoe*.  
 Station DC 358. — 18.10.1986, 19°38.39'S, 158°47.17'E, 680-700 m : *M. incerta*.  
 Station CP 359. — 18.10.1986, 19°39.00'S, 158°49.00'E, 700-720 m : *M. hyalina*, *M. incerta*.  
 Station DC 361. — 19.10.1986, 19°52.50'S, 158°38.10'E, 400 m : *M. taenia*, *M. stia*.  
 Station DC 362. — 19.10.1986, 19°52.90'S, 158°40.00'E, 410 m : *M. stia*.  
 Station CP 363. — 19.10.1986, 19°47.90'S, 158°44.30'E, 700-685 m : *M. incerta*.  
 Station CP 364. — 19.10.1986, 19°45.30'S, 158°46.50'E, 675 m : *M. incerta*.  
 Station CC 365. — 19.10.1986, 19°42.82'S, 158°48.00'E, 710 m : *M. incerta*.  
 Station DC 368. — 20.10.1986, 19°52.30'S, 158°32.80'E, 305 m : *M. rogeri*.  
 Station DC 375. — 20.10.1986, 19°52.20'S, 158°29.70'E, 300 m : *M. notata*.  
 Station DC 378. — 20.10.1986, 19°53.74'S, 158°38.30'E, 355 m : *M. sphecia*, *M. taenia*.  
 Station CC 383. — 21.10.1986, 19°40.85'S, 158°46.10'E, 615-600 m : *M. incerta*.  
 Station DC 385. — 22.10.1986, 20°53.60'S, 160°49.40'E, 745-750 m : *M. andrewi*.  
 Station CP 386. — 22.10.1986, 20°56.21'S, 160°51.12'E, 770-755 m : *M. andrewi*, *M. rosula*.  
 Station CP 387. — 22.10.1986, 20°53.41'S, 160°52.14'E, 650-660 m : *M. andrewi*, *M. incerta*, *M. leviantennata*,  
*M. rosula*.  
 Station DC 388. — 22.10.1986, 20°45.35'S, 160°53.29'E, 500-510 m : *M. laurentae*, *M. marini*.  
 Station CP 389. — 22.10.1986, 20°44.95'S, 160°53.67'E, 500 m : *M. incerta*.  
 Station CC 390. — 22.10.1986, 21°00.90'S, 160°50.30'E, 745-825 m : *M. andrewi*, *M. eminens*.

## CORAIL 2. Chesterfield Islands.

- Station DW 3. — 20.07.1988, 20° 50.42'S, 161°34.19'E, 58 m : *M. clinata*.  
 Station CP 7. — 20.07.1988, 20°51.97'S, 161°36.94'E, 64 m : *M. leptosyne*.  
 Station DE 13. — 21.07.1988, 21°02.77'S, 160°55'E, 700-705 m : *M. andrewi*, *M. rhodonia*, *M. rosula*.  
 Station DE 14. — 21.07.1988, 21°00.69'S, 160°57.18'E, 650-660 m : *M. alonsoi*, *M. andrewi*.  
 Station DE 15. — 21.07.1988, 20°50.72'S, 160°55.25'E, 580-590 m : *M. andrewi*, *M. incerta*.  
 Station DE 16. — 21.07.1988, 20°47.75'S, 160°55.87'E, 500 m : *M. incerta*, *M. marini*.  
 Station CP 17. — 21.07.1988, 20°48.14'S, 160°57.14'E, 500 m : *M. incerta*, *M. marini*.  
 Station DW 93. — 27.08.1988, 19° 05.92'S, 158°53'E, 58-60 m : *M. clinata*.  
 Station DW 114. — 28.08.1988, 19°24.67'S, 150°37.78'E, 217 m : *M. notata*.  
 Station DW 129. — 29.08.1988, 19°27.74'S, 158°34.31'E, 215 m : *M. notata*, *M. thoe*, *M. tyche*.  
 Station CP 131. — 29.08.1988, 19°25.49'S, 158°37.96'E, 215-217 m : *M. notata*, *M. tyche*.  
 Station DW 141. — 30.08.1988, 19°33.95'S, 158°27.34'E, 95 m : *M. gordoae*.  
 Station CP 162. — 01.09.1988, 19°46.24'S, 158°25.67'E, 203-208 m : *M. pontoporea*.

## MUSORSTOM 1. Philippines.

- Station CP 40. — 24.03.1976, 13°57.4'N, 120°27.8'E, 265-287 m : *M. incerta*.  
 Station CP 50. — 25.03.1976, 13°49.2'N, 120°01.8'E, 415-510 m : *M. incerta*, *M. leviantennata*.  
 Station CP 51. — 25.03.1976, 13°49.4'N, 120°04.2'E, 170-200 m : *M. incerta*.  
 Station CP 57. — 26.03.1976, 13°53.1'N, 120°13.2'E, 96-107 m : *M. clinata*, *M. elegantissima*.

- Station CP 62. — 27.03.1976, 13°59.5'N, 120°15.6'E, 179-194 m : *M. distiza*, *M. elegantissima*.  
 Station CP 63. — 27.03.1976, 14°00.8'N, 120°15.8'E, 191-195 m : *M. distiza*.

#### MUSORSTOM 2. Philippines.

- Station CP 8. — 21.11.1980, 13°55'N, 120°20'E, 85-90 m : *M. elegantissima*.  
 Station CP 17. — 22.11.1980, 14°00.0'N, 120°17.1'E, 174-193 m : *M. distiza*.  
 Station CP 36. — 24.11.1980, 13°31.4'N, 121°23.9'E, 569-595 m : *M. rufiantennulata*.  
 Station CP 40. — 25.11.1980, 13°07.7'N, 122°39.1'E, 280-440 m : *M. incerta*.  
 Station CP 47. — 26.11.1980, 13°33.0'N, 122°10.1'E, 81-84 m : *M. clinata*, *M. elegantissima*.  
 Station CP 51. — 27.11.1980, 13°59.3'N, 120°16.4'E, 170-187 m : *M. distiza*, *M. rufiantennulata*.  
 Station CP 56. — 28.11.1980, 13°53.7'N, 119°56.3'E, 970 m : *M. microps*.  
 Station CP 75. — 01.12.1980, 13°50.5'N, 120°30.3'E, 300-330 m : *M. incerta*.  
 Station CP 83. — 02.12.1980, 13°55.2'N, 120°30.5'E, 318-320 m : *M. incerta*.

#### MUSORSTOM 3. Philippines.

- Station CP 116. — 03.06.1985, 12°32.2'N, 120°46.4'E, 804-812 m : *M. eminens*.  
 Station DR 117. — 03.06.1985, 12°31.2'N, 120°39.3'E, 92-97 m : *M. clinata*, *M. elegantissima*.  
 Station CP 119. — 03.06.1985, 11°59.7'N, 121°12.7'E, 320-337 m : *M. incerta*.  
 Station CP 121. — 03.06.1985, 12°08.3'N, 121°17.3'E, 73-84 m : *M. clinata*.  
 Station CP 123. — 04.06.1985, 12°10.6'N, 121°45'E, 700-702 m : *M. incerta*.  
 Station CP 133. — 05.06.1985, 11°57.8'N, 121°52.25'E, 334-390 m : *M. incerta*, *M. rufiantennulata*.  
 Station CP 134. — 05.06.1985, 12°01.1'N, 121°57.3'E, 92-95 m : *M. clinata*.  
 Station DR 137. — 06.06.1985, 12°03.5'N, 122°05.8'E, 56 m : *M. clinata*.  
 Station CP 144. — 07.06.1985, 12°01.6'N, 124°04.2'E, 379-383 m : *M. rufiantennulata*.

#### CORINDON 2. Indonesia.

- Station CH 229. — 04.11.1980, 0°02.2'N, 119°49.8'E, 445-411 m : *M. leviantennata*.  
 Station CH 240. — 05.11.1980, 0°37.6'S, 119°33.5'E, 675 m : *M. eminens*.

## SYSTEMATIC ACCOUNT

### Key to the species of *Munida* from New Caledonia and adjacent waters

1. Fourth abdominal segment armed with dorsal spines ..... 2
- Fourth abdominal segment spineless ..... 17
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- First and second antennal segments armed with spines ..... 3
3. Fourth abdominal segment lacking spine on posterior ridge ..... 4
- Fourth abdominal segment with spine on posterior ridge ..... 7
4. Two spines on posterior transverse ridge of carapace ..... 5
- No spines on posterior transverse ridge of carapace ..... 6
5. Extensor margin of merus of third maxilliped with distal spine .....
- ..... *M. laurentae* (p. 483)
- Extensor margin of merus of third maxilliped unarmed .....
- ..... *M. ocyrhoe* (p. 503)
6. Three spines on lateral margins of carapace behind cervical groove. Second abdominal segment armed with 6 dorsal spines ..... *M. sphecia* (p. 531)
- Four spines on lateral margin of carapace behind cervical groove. Second abdominal segment armed with 4 dorsal spines ..... *M. sabatesae* (p. 525)

7. First antennal segment with unusually prolonged process ..... 8  
 — First antennal segment with moderate process ..... 12
8. Cardiac spines absent ..... 9  
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 — Distomesial spine longer than distolateral on basal antennular segment. Carapace with numerous secondary striae ..... *M. incerta* (p. 748)
10. Median mesogastric spines absent ..... *M. eminens* (p. 466)  
 — Median mesogastric spine present ..... 11
11. Distomesial spine longer than distolateral on basal antennular segment. Thoracic sternites with numerous striae ..... *M. callirrhoe* (p. 453)  
 — Distomesial spine shorter than distolateral on basal antennular segment. Thoracic sternites with few striae ..... *M. marini* (p. 492)
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 — No protogastric spines ..... 13
13. Median spine on metagastric region ..... *M. urizae* (p. 551)  
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 — Carpus of third maxilliped unarmed. Epipods absent on all pereopods ..... 21
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22. Lateral parts of seventh thoracic sternite with small granules. Distomesial spine on basal antennular segment shorter than distolateral. Distomesial spine on basal antennular segment well developed, reaching end of second segment ..... *M. hyalina* (p. 477)  
 — Lateral parts of seventh thoracic sternite without granules. Distal spines on basal antennular segment subequal. Distomesial spine on basal antennular segment short, not reaching end of second segment ..... 23

23. External orbital spine on carapace long, situated at anterolateral angle. Carapace with numerous secondary striae and scales ..... *M. callista* (p. 454)  
 — External orbital spine on carapace small, situated on frontal margin between supraocular spine and anterolateral angle. Carapace with few secondary striae ..... *M. javieri* (p. 480)
24. Lateral parts of posterior thoracic sternites with granules or carinae ..... 25  
 — Lateral parts of posterior thoracic sternites without granules or carinae ..... 28
25. Lateral parts of posterior thoracic sternites with distinct carinae .....  
 ..... *M. rufiantennulata* (p. 523)  
 — Lateral parts of posterior thoracic sternites with granules ..... 26
26. Lateral parts of thoracic sternites 6 and 7 with many small granules .....  
 ..... *M. rogeri* (p. 518)  
 — Lateral parts of thoracic sternite 7 with some coarse granules ..... 27
27. Distomesial spine on basal antennular segment longer than distolateral .....  
 ..... *M. leptosyne* (p. 489)  
 — Distomesial spine on basal antennular segment shorter than distolateral .....  
 ..... *M. gordoae* (p. 469)
28. Distomesial spine on basal antennular segment distinctly shorter than distolateral. Fingers of cheliped unarmed ..... *M. psamathe* (p. 513)  
 — Distal spines on basal antennular segment subequal or slightly different in size. Fixed finger of cheliped with spines along lateral border ..... 29
29. Distal half of ventral border of dactylus of walking legs unarmed ..... *M. masi* (p. 495)  
 — Dactylus of walking legs with movable spinules along entire ventral border ..... 30
30. Antennular peduncle exceeding cornea ..... *M. erato* (p. 466)  
 — Antennular peduncle ending at same level of cornea ..... *M. zebra* (p. 556)
31. Eye small, cornea barely wider than eyestalk. Maximum corneal diameter less than 1/5 length of anterior border of carapace between external orbital spines ..... 32  
 — Eye large, cornea dilated. Maximum corneal diameter equal to or greater than 1/4 length of anterior border of carapace between external orbital spines ..... 34
32. Distomesial spine on basal antennal segment well developed, reaching end of second segment ..... *M. typhle* (p. 549)  
 — Distomesial spine on basal antennal segment very small, distinctly not reaching end of second segment ..... 33
33. External orbital and second lateral spines on carapace before cervical groove small, subequal; first spine much mesial than second. .... *M. tiresias* (p. 545)  
 — External orbital spine on carapace well developed, distinctly longer than second lateral spine and situated at anterolateral angle ..... *M. magniantennulata*
34. Abdominal segments unarmed or with spines on each side of anterior ridge on second tergite ..... 35  
 — Abdominal segments with median pair of spines or with spines along anterior ridge of second tergite ..... 52
35. Lateral parts of seventh thoracic sternite with granules ..... *M. stigmatica* (p. 538)  
 — Lateral parts of seventh thoracic sternite without granules ..... 36
36. Distal spines on basal antennular segment subequal ..... 37  
 — Distal spines on basal antennular segment of different length ..... 43
37. Extensor margin of merus of third maxilliped with distal spine ..... 38  
 — Extensor margin of merus of third maxilliped unarmed ..... 41

38. Frontal margins distinctly oblique ..... *M. clinata* (p. 457)  
 — Frontal margins transverse ..... **39**
39. Dorsal carapace surface armed only with epigastric spines ..... *M. runcinata* (p. 525)  
 — Dorsal carapace surface armed with other spines, in addition to epigastric spines. .... **40**
40. Dactylus of walking legs with spines along entire ventral border. Thoracic sternites with few striae ..... *M. spilota* (p. 533)  
 — Dactylus of walking legs unarmed on terminal third of ventral margin. Thoracic sternites with numerous striae ..... *M. sao* (p. 436)
41. Distomesial spine on second antennal segment not exceeding antennal peduncle .....  
 ..... *M. brachytes* (p. 450)  
 — Distomesial spine on second antennal segment distinctly exceeding antennal peduncle ....  
 ..... **42**
42. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines ..... *M. leagora* (p. 485)  
 — Eye small, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines ..... *M. pseliophora* (p. 515)
43. Distomesial spine on basal antennular segment longer than distolateral ..... **44**  
 — Distomesial spine on basal antennular segment shorter than distolateral ..... **48**
44. Extensor margin of merus of third maxilliped with distal spine ..... **45**  
 — Extensor margin of merus of third maxilliped unarmed ..... **47**
45. Frontal margins distinctly oblique ..... *M. olivarae* (p. 505)  
 — Frontal margins transverse ..... **46**
46. Distomesial spine on basal antennal segment distinctly exceeding antennal peduncle. Dactylus of walking legs with spines along entire ventral border ... *M. acantha* (p. 440)  
 — Distomesial spine on basal antennal segment not exceeding antennal peduncle. Terminal third of ventral margin of dactylus of walking legs unarmed ..... *M. notata* (p. 500)
47. Eye large, maximum corneal diameter more than 1/3 length of anterior border of carapace between bases of external orbital spines. Antennular peduncle not exceeding cornea .....  
 ..... *M. moliae* (p. 499)  
 — Eye moderately large, maximum corneal diameter less than 1/3 length of anterior border of carapace between bases of external orbital spines. Antennular peduncle distinctly exceeding cornea ..... *M. abelloi* (p. 438)
48. Rostrum as long as remaining carapace ..... *M. barangei* (p. 449)  
 — Rostrum shorter than remaining carapace ..... **49**
49. Fixed finger of cheliped unarmed ..... *M. alonsoi* (p. 443)  
 — Fixed finger of cheliped with spines along lateral border ..... **50**
50. Chelipeds and walking legs long and slender. First walking leg about 2.5 times carapace length ..... *M. proto* (p. 509)  
 — Chelipeds and walking legs short. First walking leg about 2 times carapace length ... **51**
51. Dactylus of walking legs with spines along nearly entire ventral border. Cheliped movable finger with only basal spine ..... *M. leptitis* (p. 487)  
 — Terminal third of dactylus of walking legs unarmed. Cheliped movable finger with spines along mesial border ..... *M. stia* (p. 537)
52. Lateral parts of posterior thoracic sternites with granules ..... **53**  
 — Lateral parts of posterior thoracic sternites without granules ..... **60**



53. Lateral parts of thoracic sternites 6 and 7 with granules ..... 54  
 — Lateral parts of thoracic sternite 7 with some coarse granules ..... 58
54. Lateral parts of thoracic sternites covered with many small granules ..... 55  
 — Lateral parts of thoracic sternites with a few coarse granules ..... 57
55. Extensor margin of merus of third maxilliped with distal spine. Antennular peduncle not exceeding cornea ..... *M. taenia* (p. 541)  
 — Extensor margin of merus of third maxilliped unarmed. Antennular peduncle distinctly exceeding cornea ..... 56
56. Granules on thoracic sternites 6 and 7 forming lines. Distal spines on basal antennular segment subequal ..... *M. lineola* (p. 491)  
 — Granules on thoracic sternites 6 and 7 homogeneously scattered. Distomesial spine on basal antennular segment longer than distolateral ..... *M. pontoporea* (p. 509)
57. Distomesial spine on basal antennal segment slightly longer than distolateral. One basal and one distal spines on mesial margin of cheliped movable finger .... *M. idyia* (p. 477)  
 — Distal spines on basal antennal segment subequal. Several spines along proximal half of mesial border of cheliped movable finger ..... *M. tyche* (p. 549)
58. Extensor margin of merus of third maxilliped with distal spine .... *M. guttata* (p. 471)  
 — Extensor margin of merus of third maxilliped unarmed ..... 59
59. One row of spines along mesial margin of cheliped movable finger. Distomesial spine on basal antennular segment longer than distolateral ..... *M. distiza* (p. 459)  
 — One basal spine on mesial margin of cheliped movable finger. Distomesial spine on basal antennular segment shorter than distolateral..... *M. armilla* (p. 446)
60. Rostrum laterally compressed ..... 61  
 — Rostrum spiniform ..... 62
61. Thoracic sternites with numerous striae. Second abdominal segment with numerous transverse striae ..... *Munida* sp. (p. 558)  
 — Thoracic sternites smooth, striae nearly absent. Second abdominal segment with few transverse striae ..... *M. cornuta* (p. 459)
62. Basal antennal segment without distomesial spine ..... *M. amblytes* (p. 443)  
 — Basal antennal segment with well developed distomesial spine ..... 63
63. Antennal peduncle small ..... *M. tuberculata* (p. 547)  
 — Antennal peduncle well developed ..... 64
64. Distal spines on basal antennular segment subequal ..... 65  
 — Distal spines on basal antennular segment differing in length ..... 70
65. Two median spines on anterior border of second abdominal segment ..... *M. inornata*  
 — Six or more spines along anterior border of second abdominal segment ..... 66
66. Terminal third of ventral margin of dactylus of walking legs unarmed .....  
 ..... *M. semoni* (p. 530)  
 — Dactylus of walking legs with spines along entire ventral margin ..... 67
67. Fingers of cheliped with subterminal spines only and, if present, one basal spine on fixed finger ..... 68  
 — Fingers of cheliped with several spines in addition to subterminal spines ..... 69
68. Carapace with few secondary striae between main striae. Chelipeds moderately long and slender ..... *M. rosula* (p. 521)

- Carapace with numerous secondary striae between main striae. Chelipeds short and massive ..... *M. rhodonia* (p. 517)
- 69. Second abdominal segment with one transverse stria. Dactylus of walking legs long, slightly shorter than propodus ..... *M. elachia* (p. 465)
- Second abdominal segment with numerous transverse striae. Dactylus of walking legs short, half as long as propodus ..... *M. thoe* (p. 542)
- 70. Distolateral spine on basal antennular segment longer than distomesial ..... 71
- Distolateral spine on basal antennular segment shorter than distomesial ..... 75
- 71. Terminal third of ventral border of dactylus of walking legs unarmed ..... 72
- Dactylus of walking legs with spines along entire ventral border ..... 73
- 72. Second abdominal segment with numerous transverse striae. Fourth and fifth thoracic sternites with numerous short arcuate striae. .... *M. pagesi* (p. 507)
- Second abdominal segment with 2 striae. Thoracic sternites smooth, without striae ..... *M. sacksi*
- 73. Fixed finger of cheliped with a row of spines along lateral margin ..... *M. ecleipsis* (p. 463)
- Fixed finger of cheliped unarmed or with only one spine in addition to subterminal spines ..... 74
- 74. Antennular peduncle not exceeding cornea. Eye large, maximal corneal diameter 1/2 length of anterior border of carapace between bases of external orbital spines ..... *M. militaris* (p. 496)
- Antennular peduncle distinctly exceeding cornea. Eye moderately large, maximal corneal diameter 1/4 length of anterior border of carapace between bases of external orbital spines . ..... *M. microps* (p. 496)
- 75. Merus of third maxilliped with extensor margin armed with distal spine. Third abdominal segment unarmed ..... *M. haswelli* (p. 474)
- Merus of third maxilliped with extensor margin unarmed. Third abdominal segment with dorsal spines ..... *M. gracilis* (p. 471)

*Munida abelloi* sp. nov.

Fig. 1

MATERIAL EXAMINED. — Kiribati. 400 m, 04.1987 : 1 ♂ 16.6 mm, holotype (MNHN-Ga 2528).

ETYMOLOGY. — This species is dedicated to P. ABELLÓ, of the Instituto de Ciencias del Mar, Barcelona, for his support in my works on crustaceans.

DESCRIPTION. — Carapace with secondary striae. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few striae; fifth to seventh smooth. Abdominal segments unarmed. Second and third segments with several transverse striae. Two pairs of gonopods present on first and second abdominal segments. Eye moderately large, maximum corneal diameter less than 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) distinctly exceeding cornea, distomesial spine longer than distolateral. Distomesial spine on first segment of antennal peduncle reaching end of third segment; distomesial spine on second segment slightly exceeding antennal peduncle. Extensor border of merus of third

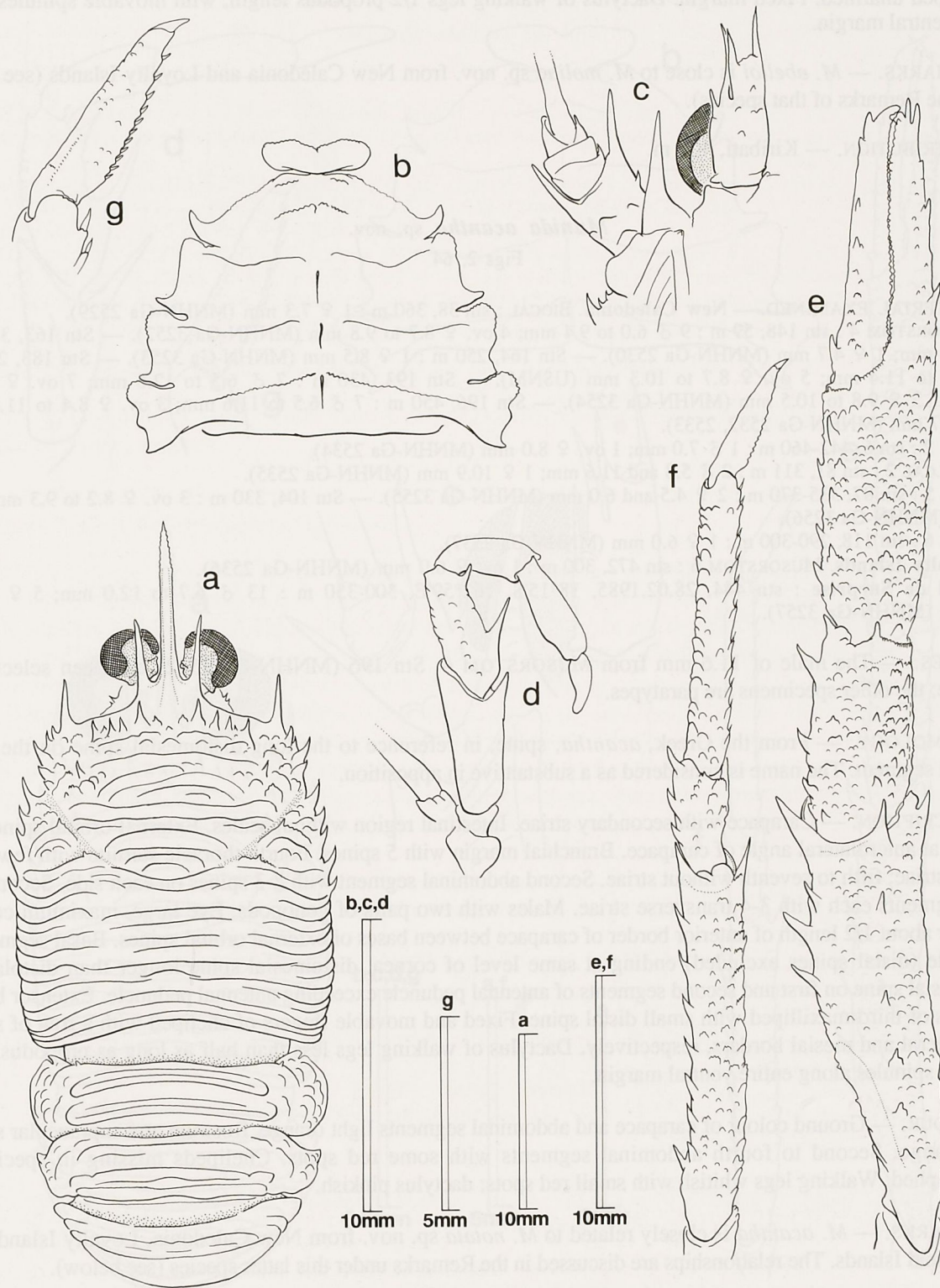


FIG. 1. — *Munida abelloi* sp. nov., ♂ 16.6 mm, holotype from Kiribati : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

maxilliped unarmed. Fixed margin. Dactylus of walking legs 1/2 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. abelloi* is close to *M. moliae* sp. nov. from New Caledonia and Loyalty Islands (see below under the Remarks of that species).

DISTRIBUTION. — Kiribati, 400 m.

*Munida acantha* sp. nov.

Figs 2, 64

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 38, 360 m : 1 ♀ 7.3 mm (MNHN-Ga 2529).

MUSORSTOM 4 : stn 148, 59 m : 9 ♂ 6.0 to 9.4 mm; 4 ov. ♀ 8.7 to 9.8 mm (MNHN-Ga 3252). — Stn 163, 350 m : 1 ♂ 5.9 mm; 1 ♀ 4.7 mm (MNHN-Ga 2530). — Stn 164, 250 m : 1 ♀ 8.5 mm (MNHN-Ga 3253). — Stn 183, 280 m : 6 ♂ 7.0 to 11.4 mm; 5 ov. ♀ 8.7 to 10.3 mm (USNM). — Stn 193, 430 m : 7 ♂ 6.5 to 12.6 mm; 7 ov. ♀ 7.6 to 10.4 mm; 3 ♀ 9.8 to 10.5 mm (MNHN-Ga 3254). — Stn 196, 450 m : 7 ♂ 6.5 to 11.6 mm; 3 ov. ♀ 8.4 to 11.0 mm; 1 ♀ 10.7 mm (MNHN-Ga 2532, 2533).

SMIB 2 : stn 6, 442-460 m : 1 ♂ 7.0 mm; 1 ov. ♀ 8.0 mm (MNHN-Ga 2534).

CHALCAL 2 : stn 81, 311 m : 2 ♂ 5.8 and 11.6 mm; 1 ♀ 10.9 mm (MNHN-Ga 2535).

SMIB 5 : stn 87, 335-370 m : 2 ♀ 4.5 and 6.0 mm (MNHN-Ga 3255). — Stn 104, 330 m : 3 ov. ♀ 8.2 to 9.3 mm; 1 ♀ 6.0 mm (MNHN-Ga 3256).

SMIB 6 : stn 118, 290-300 m : 1 ♀ 6.0 mm (MNHN-Ga 2537).

**Loyalty Islands.** MUSORSTOM 6 : stn 472, 300 m : 1 ov. ♀ 6.0 mm (MNHN-Ga 2536).

**Atoll de Surprise** : stn 444, 28.02.1985, 18°15'S, 162°59'E, 300-350 m : 13 ♂ 6.7 to 12.0 mm; 5 ♀ 5.0 to 10.0 mm (MNHN-Ga 3257).

TYPES. — The male of 11.6 mm from MUSORSTOM 4, Stn 196 (MNHN-Ga 2532) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *acantha*, spine, in reference to the long distomesial spine on the basal antennal segment. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with secondary striae. Intestinal region without scales. External orbital spine long situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh without striae. Second abdominal segment with 2-3 spines on each side. Second and third segments each with 3-4 transverse striae. Males with two pairs of gonopods. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) ending at same level of cornea, distomesial spine longer than distolateral. Distomesial spine on first and second segments of antennal peduncle exceeding antennal peduncle. Extensor border of merus of third maxilliped with small distal spine. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial borders, respectively. Dactylus of walking legs less than half as long as propodus, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments light orange. Rostrum and supraocular spines light orange. Second to fourth abdominal segments with some red spots. Chelipeds missing in specimens photographed. Walking legs whitish with small red spots; dactylus pinkish.

REMARKS. — *M. acantha* is closely related to *M. notata* sp. nov. from New Caledonia, Loyalty Islands and Chesterfield Islands. The relationships are discussed in the Remarks under this latter species (see below).

SIZE. — The males examined ranged between 5.8 and 12.6 mm, females between 4.5 and 11.4 mm; ovigerous females from 6.0 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Atoll de Surprise, between 59 and 460 m.

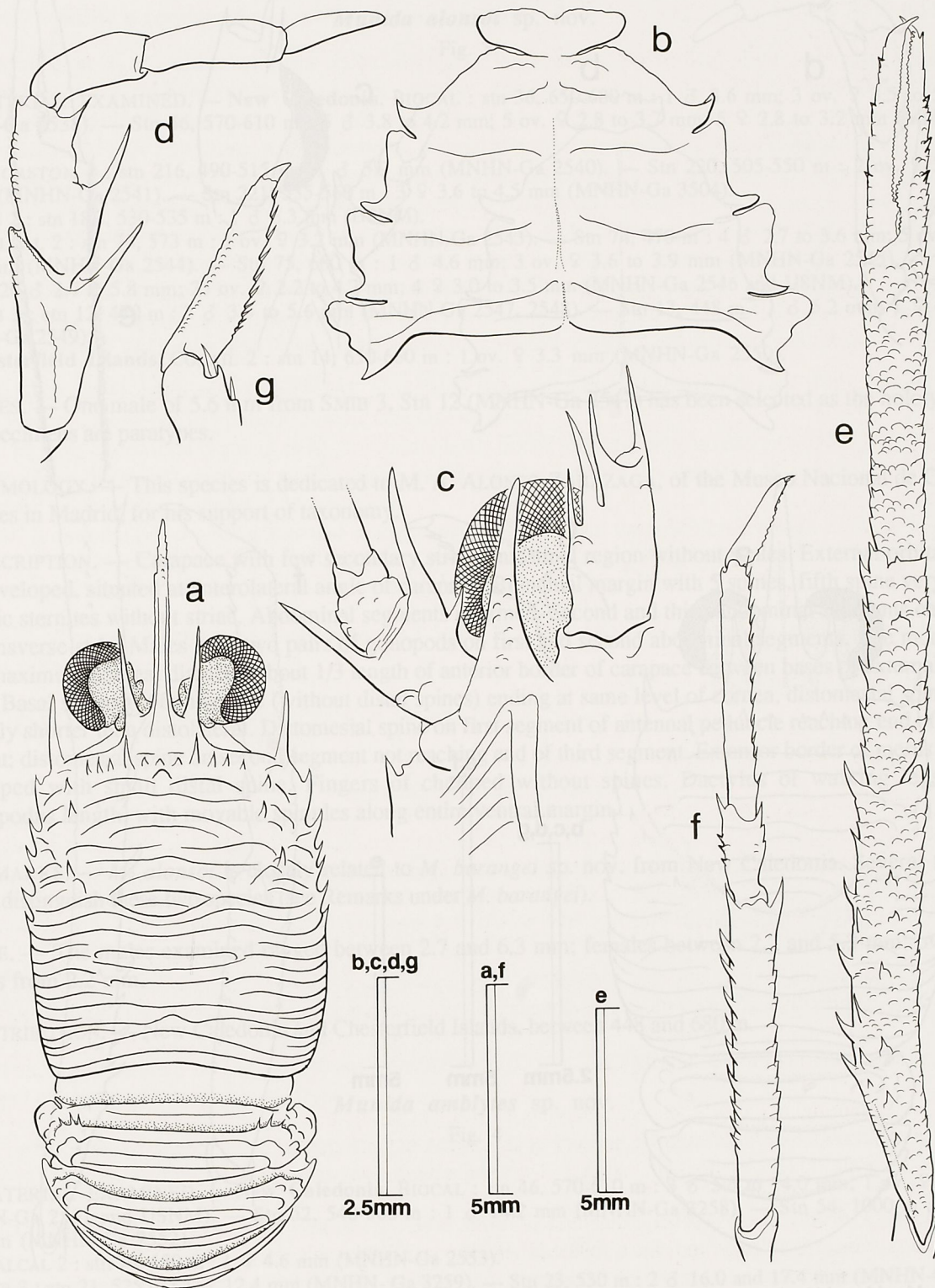


FIG. 2. — *Munida acantha* sp. nov., ♂ 11.6 mm, holotype from Stn 196 (MUSORSTOM 4): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

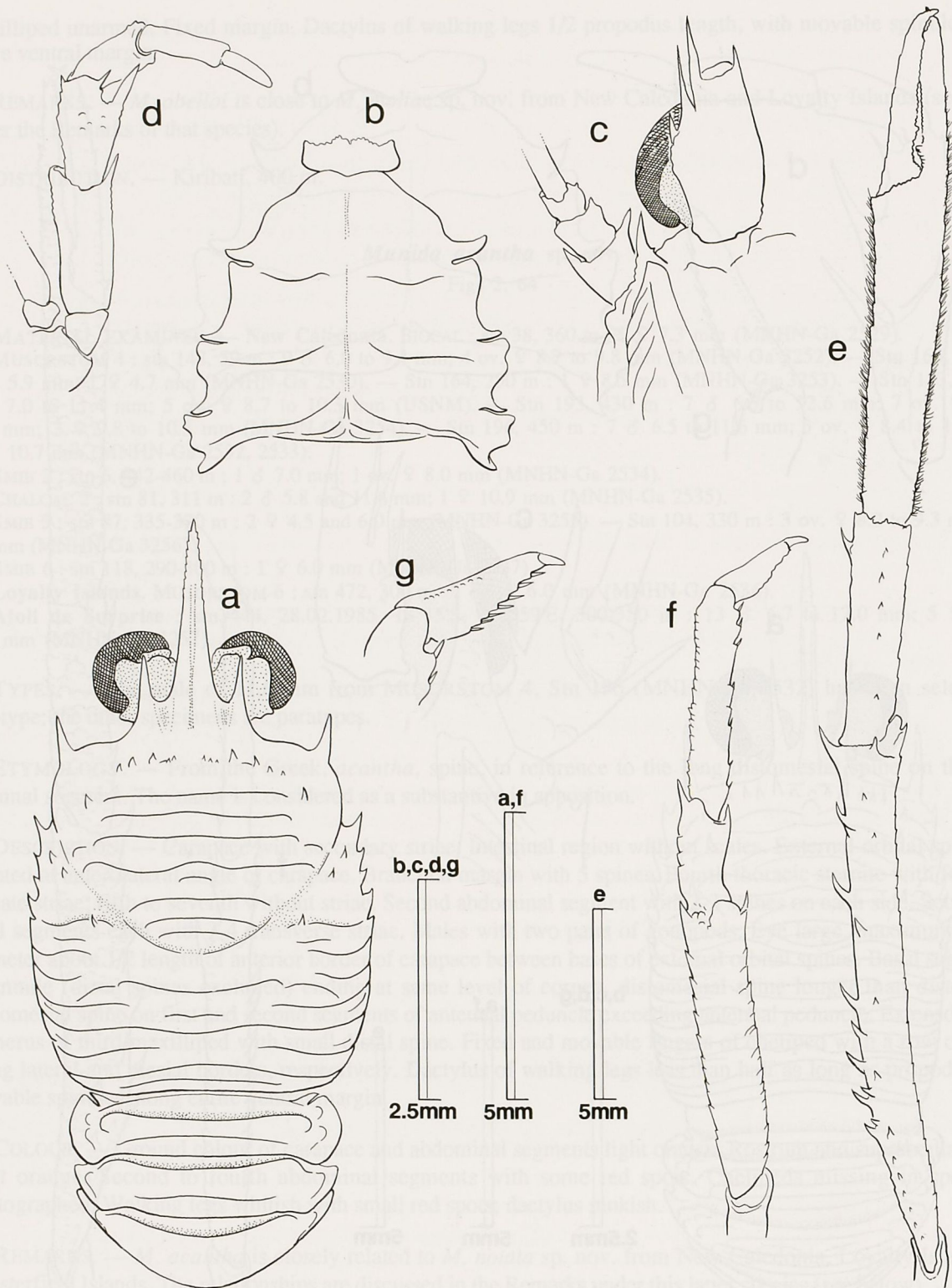


FIG. 3. — *Munida alonsoi* sp. nov., ♂ 5.6 mm, holotype from Stn 12 (SMIB 3): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

*Munida alonsoi* sp. nov.

Fig. 3

**MATERIAL EXAMINED.** — **New Caledonia.** BIOCAL : stn 36, 650-680 m : 1 ♂ 3.6 mm; 3 ov. ♀ 3.5 to 5.3 mm (MNHN-Ga 2538). — Stn 46, 570-610 m : 5 ♂ 3.8 to 4.2 mm; 5 ov. ♀ 2.8 to 3.7 mm; 5 ♀ 2.8 to 3.2 mm (MNHN-Ga 2539).

MUSORSTOM 4 : stn 216, 490-515 m : 1 ♂ 5.9 mm (MNHN-Ga 2540). — Stn 220, 505-550 m : 2 ov. ♀ 3.7 and 4.5 mm (MNHN-Ga 2541). — Stn 221, 535-560 m : 3 ♀ 3.6 to 4.5 mm (MNHN-Ga 3504).

SMIB 2 : stn 18B, 530-535 m : 1 ♂ 6.3 mm (USNM).

CHALCAL 2 : stn 73, 573 m : 1 ov. ♀ 3.2 mm (MNHN-Ga 2543). — Stn 74, 470 m : 4 ♂ 2.7 to 3.6 mm; 5 ov. ♀ 2.7 to 4.0 mm (MNHN-Ga 2544). — Stn 75, 600 m : 1 ♂ 4.6 mm; 3 ov. ♀ 3.6 to 3.9 mm (MNHN-Ga 2545). — Stn 76, 470 m : 26 ♂ 2.7 to 5.8 mm; 25 ov. ♀ 2.2 to 4.2 mm; 4 ♀ 3.0 to 3.5 mm (MNHN-Ga 2546 and USNM).

SMIB 3 : stn 12, 470 m : 3 ♂ 3.3 to 5.6 mm (MNHN-Ga 2547, 2548). — Stn 13, 448 m : 1 ♂ 5.2 mm; 1 ♀ 4.9 mm (MNHN-Ga 2549).

**Chesterfield Islands.** CORAIL 2 : stn 14, 650-660 m : 1 ov. ♀ 3.3 mm (MNHN-Ga 2550).

**TYPES.** — One male of 5.6 mm from SMIB 3, Stn 12 (MNHN-Ga 2547) has been selected as the holotype; the other specimens are paratypes.

**ETYMOLOGY.** — This species is dedicated to M. A. ALONSO-ZARAZAGA, of the Museo Nacional de Ciencias Naturales in Madrid, for his support of taxonomy.

**DESCRIPTION.** — Carapace with few secondary striae. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines, fifth spine very small. Thoracic sternites without striae. Abdominal segments unarmed. Second and third abdominal segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (without distal spines) ending at same level of cornea, distomesial spine small distinctly shorter than distolateral. Distomesial spine on first segment of antennal peduncle reaching end of second segment; distomesial spine on second segment not reaching end of third segment. Extensor border of merus of third maxilliped with small distal spine. Fingers of cheliped without spines. Dactylus of walking legs short, 1/2 propodus length, with movable spinules along entire ventral margin.

**REMARKS.** — *M. alonsoi* is closely related to *M. barangei* sp. nov. from New Caledonia. Several features readily distinguish these two species (see Remarks under *M. barangei*).

**SIZE.** — The males examined ranged between 2.7 and 6.3 mm; females between 2.2 and 5.3 mm; ovigerous females from 2.2 mm.

**DISTRIBUTION.** — New Caledonia and Chesterfield Islands, between 448 and 680 m.

*Munida amblytes* sp. nov.

Fig. 4

**MATERIAL EXAMINED.** — **New Caledonia.** BIOCAL : stn 46, 570-610 m : 3 ♂ 5.5 to 14.0 mm; 1 ov. ♀ 8.6 mm (MNHN-Ga 2551 and USNM). — Stn 52, 540-600 m : 1 ♂ 14.2 mm (MNHN-Ga 3258). — Stn 54, 1000 m : 1 ov. ♀ 12.7 mm (MNHN-Ga 2552).

CHALCAL 2 : stn 74, 650 m : 1 ♀ 4.6 mm (MNHN-Ga 2553).

SMIB 3 : stn 21, 525 m : 1 ♂ 12.4 mm (MNHN-Ga 3259). — Stn 23, 530 m : 2 ♂ 16.0 and 17.4 mm (MNHN-Ga 2554, 2555).

**TYPES.** — The male of 16.0 mm from SMIB 3, Stn 23 (MNHN-Ga 2554) has been selected as holotype; the other specimens are paratypes.

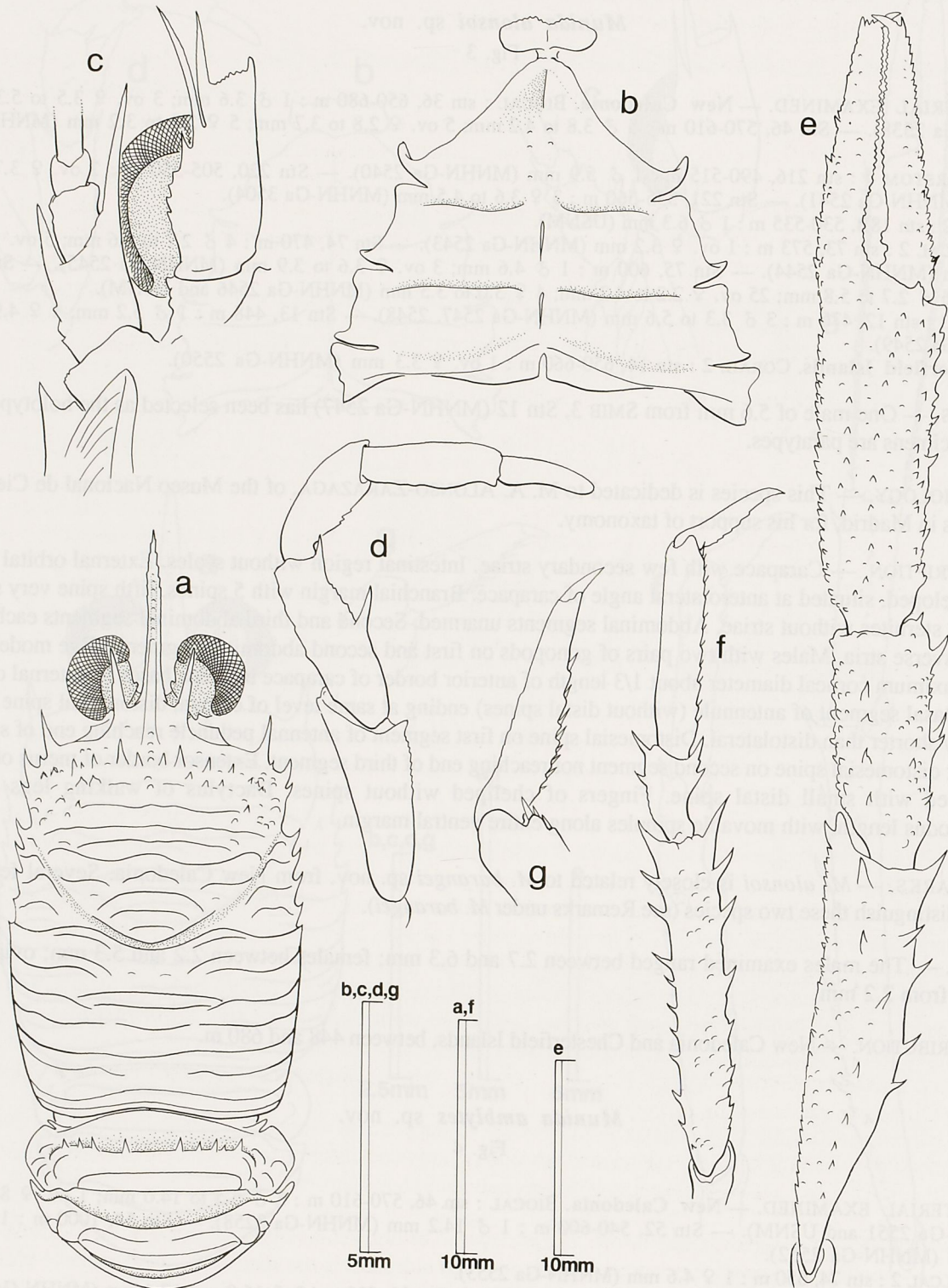


FIG. 4. — *Munida amblytes* sp. nov., ♂ 16.0 mm, holotype from Stn 23 (SMIB 3) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



ETYMOLOGY. — From the Greek, *amblytes*, blunt, in reference to the absence of spines on the basal antennal segment. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae, anterior-mesially hollowed; fifth to seventh sternites smooth. Second abdominal tergite with a row of 8-10 spines on anterior ridge. Second and third abdominal segments each with 1-2 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding cornea, distomesial spine shorter than distolateral. First segment of antennal peduncle unarmed; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor margin of merus of third maxilliped unarmed. Movable finger of cheliped with one basal and one distal spine on mesial border; fixed finger with a row of spines along lateral margin. Dactylus of walking legs about 1/2 length of propodus, with movable spinules along ventral margin, terminal third unarmed.

REMARKS. — *M. amblytes* is close to *M. prominula* Baba from the Philippines (BABA, 1988; MACPHERSON, 1993). The two species differ in the following constant features :

- The third abdominal segment in *M. prominula* bears dorsal spines which are absent in *M. amblytes*.
- Both the distal two spines on the basal antennular segment are well developed in *M. prominula*, whereas the distomesial spine is very reduced in *M. amblytes*.
- *M. prominula* has the basal antennal segment with a distomesial spine, which is absent in the new species.
- The movable finger of the cheliped bears several spines on the proximal half of the mesial border in *M. prominula*, whereas *M. amblytes* has only one basal spine.

SIZE. — The males examined ranged between 5.5 and 17.4 mm, females between 4.6 and 12.7 mm; ovigerous females from 8.6 mm.

DISTRIBUTION. — New Caledonia, between 525 and 1000 m.

### *Munida andrewi* sp. nov.

Fig. 5

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 198, 590 m : 1 ♂ 7.8 mm (MNHN-Ga 2929).

**Chesterfield Islands.** MUSORSTOM 5 : stn 385, 745-750 m : 1 ♂ 12.3 mm; 2 ♀ 12.1 and 13.4 mm (MNHN-Ga 2933). — Stn 386, 755-770 m : 7 ♂ 13.5 to 14.5 mm; 3 ♀ 14.0 to 16.4 mm (MNHN-Ga 2934, 2935). — Stn 387, 650-660 m : 1 ♂ 15.0 mm; 1 ♀ 14.4 mm (MNHN-Ga 2936). — Stn 390, 745-825 m : 14 ♂ 12.1 to 16.4 mm; 11 ♀ 12.6 to 17.4 mm (MNHN-Ga 2937).

CORAIL 2 : stn 13, 700-705 m : 11 ♂ 12.4 to 17.3 mm; 1 ov. ♀ 15.4 mm; 1 ♀ 11.0 mm (MNHN-Ga 2930). — Stn 14, 650-660 m : 1 ♀ 8.0 mm (MNHN-Ga 2931). — Stn 15, 580-590 m : 1 ov. ♀ 12.3 mm (MNHN-Ga 2932).

TYPES. — One male of 14.4 mm from MUSORSTOM 5, Stn 386 (MNHN-Ga 2934) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to Andrew I. L. PAYNE, of the Sea Fisheries Research Institute, Cape Town, for his continuous support in my research work.

DESCRIPTION. — Carapace with pair of epigastric spines behind supraoculars. Transverse striae conspicuous, secondary striae nearly absent. Three spines in a row on each branchiocardiac boundary, anteriormost postcervical, larger than remainder. External orbital spine pronounced, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Fourth thoracic sternite with several short arcuate striae; fifth to seventh sternites smooth. Second, third and fourth abdominal segments each with 4 equal sized spines on anterior transverse ridge; posterior ridge of fourth segment with strong median spine. Gonopods in males absent from first abdominal segment. Eye dilated, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital

spines. Basal antennular segment (distal spines excluded) not exceeding eye, distolateral spine larger than distomesial. Distomesial prolongation of first antennal segment well developed, reaching rostral tip; second segment with 2 distal small spines; third segment unarmed. Flexor margin of merus of third maxilliped with median spine; small distal spine on extensor border. Fingers of cheliped unarmed; fixed finger bifid distally. Dactylus of walking legs half as long as propodus, with small median spinules on ventral border.

REMARKS. — *Munida andrewi* is closely related to *M. incerta* Henderson, 1888, from the Indian and West Pacific waters (see above and BABA, 1988, 1990). Both species are easily differentiated by several characters:

— The carapace and abdomen have numerous secondary striae in *M. incerta*. These striae are nearly absent in the new species. The principal striae are very conspicuous in the new species, whereas in *M. incerta* they are quite similar to secondary striae.

— The thoracic sternites bear numerous striae in *M. incerta*, these striae are practically absent in *M. andrewi*.

— The distomesial spine on the basal antennular segment is much longer than the distolateral in *M. incerta*; this spine is small and distinctly shorter than the distolateral spine in *M. andrewi*.

— The second antennal segment has one small median spine on the mesial border in *M. incerta*. This spine is always absent in *M. andrewi*.

— The chelipeds and walking legs are slender and less squamate in the new species than in *M. incerta*.

SIZE. — The males examined ranged between 7.8 and 17.3 mm, females between 8.0 and 17.4 mm; ovigerous females from 12.3 mm.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, from 580 to 825 m.

### *Munida armilla* sp. nov.

Figs 6, 65

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 8, 435 m : 1 ov. ♀ 7.0 mm (MNHN-Ga 2556). — Stn 67, 500 m : 1 ♂ 11.6 mm (MNHN-Ga 3260).

MUSORSTOM 4 : stn 158, 625 m : 1 ♂ 8.0 mm (MNHN-Ga 2557).

CHALCAL 2 : stn 1, 500 m : 17 ♂ 10.6 to 14.7 mm; 3 ov. ♀ 7.9 to 13.8 mm; 1 ♀ 10.7 mm (MNHN-Ga 2558, 2559). — Stn 2, 500 m : 4 ♂ 7.7 to 11.4 mm; 2 ov. ♀ 8.0 and 9.8 mm (MNHN-Ga 2560). — Stn 21, 500 m : 22 ♂ 6.4 to 11.3 mm; 8 ov. ♀ 6.3 to 12.2 mm; 2 ♀ 6.1 and 6.6 mm (MNHN-Ga 3261). — Stn 72, 527 m : 33 ♂ 6.8 to 11.7 mm; 15 ov. ♀ 7.1 to 9.3 mm; 1 ♀ 5.7 mm (MNHN-Ga 2561). — Stn 73, 573 m : 10 ♂ 5.8 to 11.1 mm; 4 ov. ♀ 5.6 to 7.3 mm; 1 ♀ 7.0 mm (MNHN-Ga 2562). — Stn 74, 650 m : 32 ♂ 4.6 to 11.0 mm; 5 ov. ♀ 6.6 to 7.3 mm; 10 ♀ 3.2 to 8.8 mm (MNHN-Ga 2563). — Stn 75, 600 m : 5 ♂ 4.7 to 8.8 mm; 5 ov. ♀ 6.4 to 9.3 mm; 2 ♀ 5.0 and 6.0 mm (MNHN-Ga 2564 and USNM).

SMIB 3 : stn 1, 520 m : 10 ♂ 5.5 to 13.5 mm; 11 ov. ♀ 7.4 to 10.0 mm (MNHN-Ga 2565). — Stn 3, 530 m : 8 ♂ 7.0 to 10.3 mm; 2 ov. ♀ 8.5 and 10.7 mm; 1 ♀ 7.2 mm (MNHN-Ga 2566). — Stn 4, 530 m : 2 ♂ 8.1 and 8.6 mm; 4 ov. ♀ 7.6 to 9.3 mm (MNHN-Ga 3263). — Stn 7, 505 m : 3 ♂ 9.6 to 13.4 mm; 4 ov. ♀ 8.0 to 12.0 mm (MNHN-Ga 3262). — Stn 8, 233 m : 1 ♂ 8.8 mm; 1 ov. ♀ 10.0 mm (MNHN-Ga 2567).

BIOGEOCAL : stn 307, 470-480 m : 1 ov. ♀ 6.9 mm (MNHN-Ga 2568).

SMIB 3 : stn 2, 530 m : 7 ♂ 7.1 to 10.2 mm; 5 ov. ♀ 7.1 to 11.9 mm; 1 ♀ 8.0 mm (MNHN-Ga 3267).

SMIB 4 : stn 34, 515 m : 7 ♂ 9.7 to 13.3 mm; 2 ♀ 10.0 and 11.3 mm (MNHN-Ga 2569). — Stn 36, 530 m : 2 ♂ 7.4 and 10.5 mm (MNHN-Ga 3264). — Stn 37, 540 m : 8 ♂ 9.5 to 14.0 mm; 6 ♀ 9.1 to 15.8 mm (MNHN-Ga 3265). — Stn 39, 560 m : 9 ♂ 9.4 to 12.0 mm; 6 ♀ 9.7 to 11.0 mm (MNHN-Ga 2570 and USNM). — Stn 55, 260 m : 8 ♂ 10.3 to 14.5 mm; 3 ♀ 10.6 to 11.0 mm (MNHN-Ga 3266).

**Matthew and Hunter Islands.** VOLSMAR : stn 5, 700 m : 2 ♂ 9.4 and 10.5 mm (MNHN-Ga 2571). — Stn 51, 450 m : 1 ♂ 7.2 mm; 2 ov. ♀ 5.4 and 7.1 mm; 1 ♀ 3.4 mm (MNHN-Ga 2572).

TYPES. — The male of 13.0 mm from CHALCAL 2, Stn 1 (MNHN-Ga 2558) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Latin, *armilla*, bracelet, in reference to the colour pattern. The name is considered as a substantive in apposition.

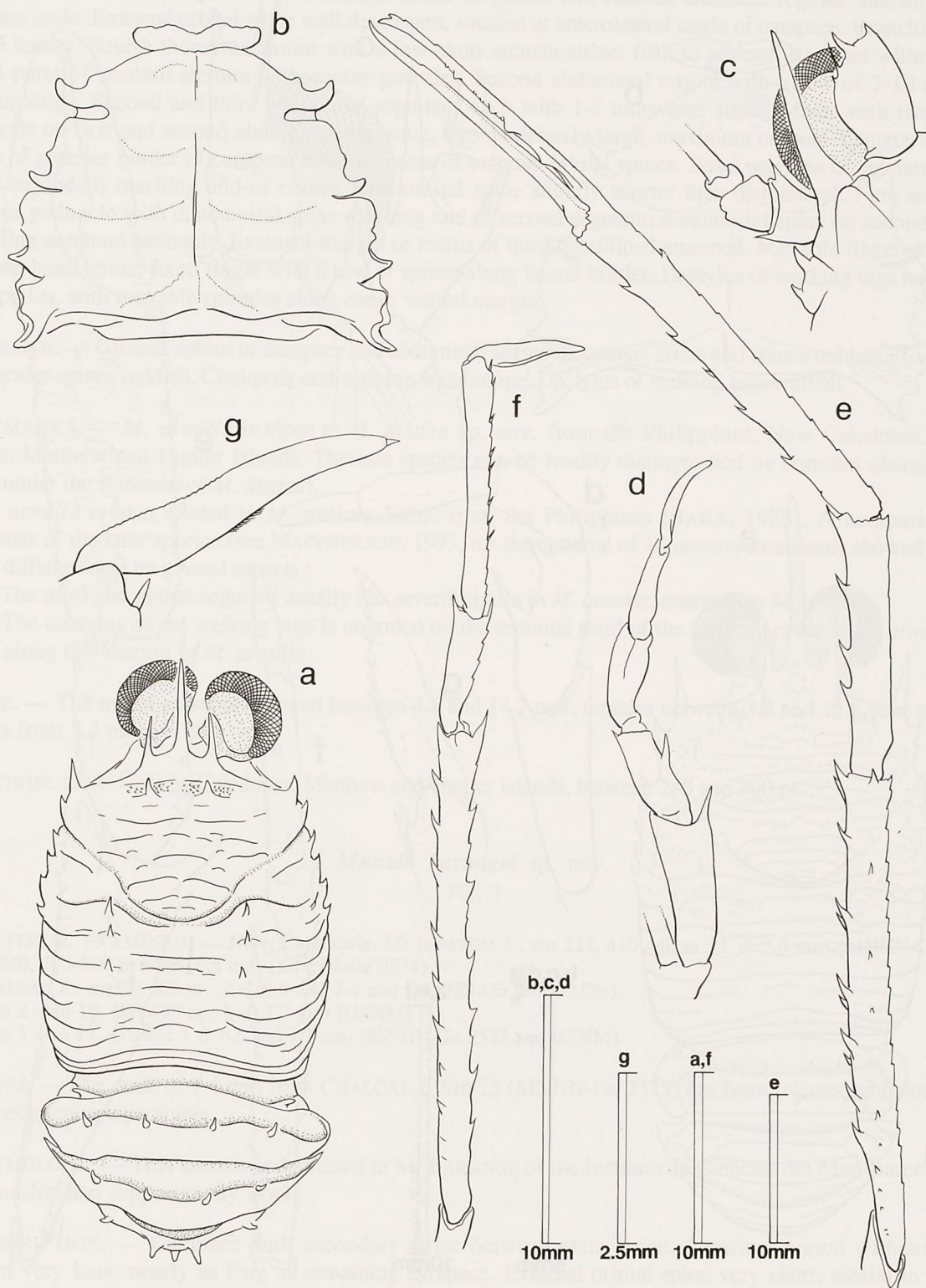


FIG. 5. — *Munida andrewi* sp. nov., ♂ 14.4 mm, holotype from Stn 386 (MUSORSTOM 5): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

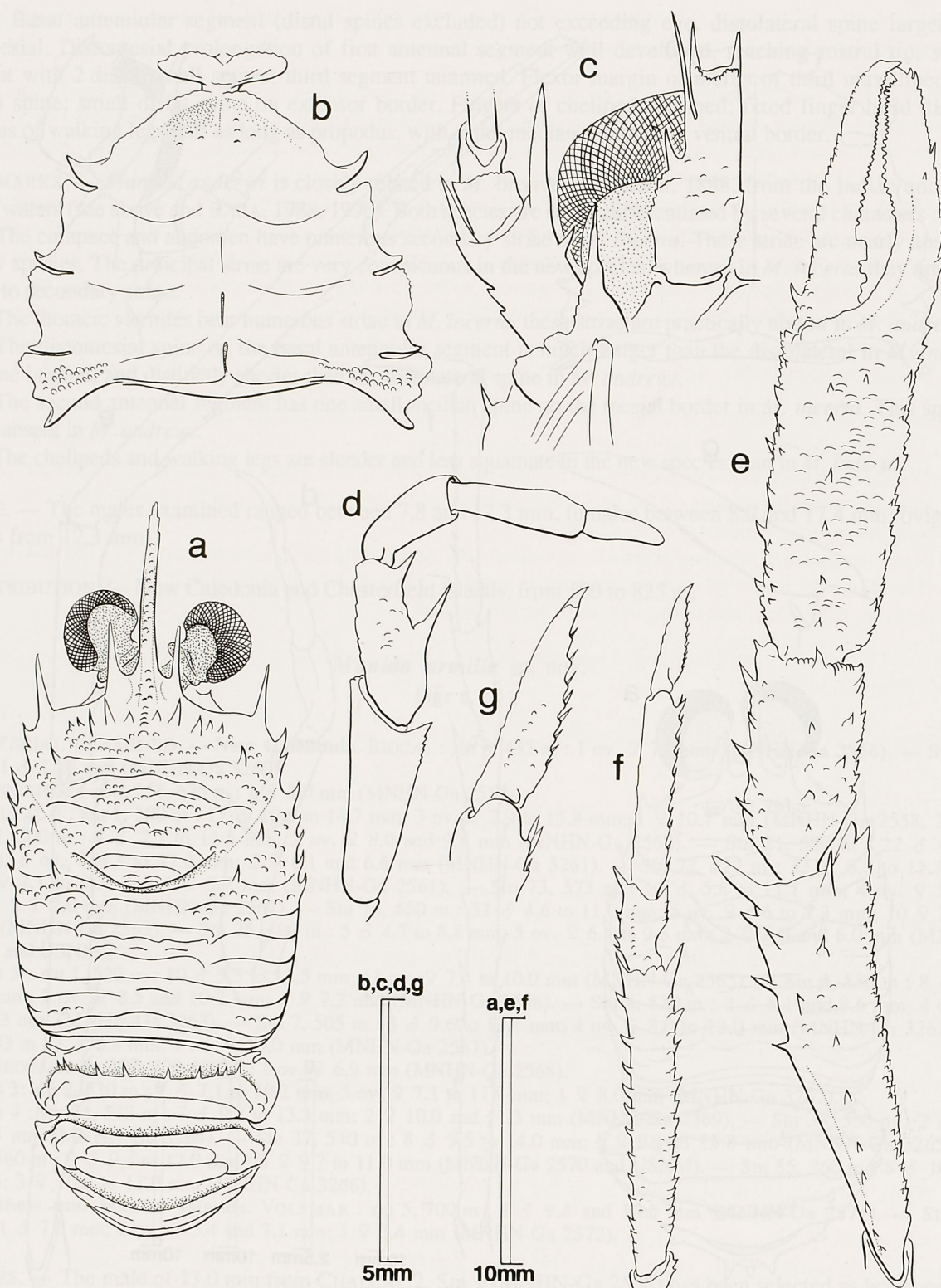


FIG. 6. — *Munida armilla* sp. nov., ♂ 13.0 mm, holotype from Stn 1 (CHALCAL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

DESCRIPTION. — Carapace with numerous scales on gastric and anterior branchial regions. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with a few short arcuate striae; fifth to seventh sternites without striae; lateral parts of seventh sternite with coarse granules. Second abdominal tergite with a row of 7-10 spines on anterior ridge. Second and third abdominal segments each with 1-2 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, distomesial spine slightly shorter than distolateral. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment exceeding antennal peduncle. Extensor margin of merus of third maxilliped unarmed. Movable finger of cheliped with one basal spine; fixed finger with a row of spines along lateral border. Dactylus of walking legs half as long as propodus, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments orange, striae and spines reddish. Rostrum and supraocular spines reddish. Chelipeds and walking legs orange. Dactylus of walking legs whitish.

REMARKS. — *M. armilla* is close to *M. distiza* sp. nov. from the Philippines, New Caledonia, Loyalty Islands, Matthew and Hunter Islands. The two species can be readily distinguished by constant characters (see below under the Remarks of *M. distiza*).

*M. armilla* is also related to *M. armata* Baba, from the Philippines (BABA, 1988). A comparison with specimens of the later species (see MACPHERSON, 1993, for the material of *M. armata* examined) showed that they can be differentiated by several aspects :

— The third abdominal segment usually has several spines in *M. armata*, unarmed in *M. armilla*.

— The dactylus of the walking legs is unarmed on the terminal third of the ventral border in *M. armata*, with spines along this margin in *M. armilla*.

SIZE. — The males examined ranged between 4.6 and 14.7 mm, females between 3.2 and 15.8 mm; ovigerous females from 5.4 mm.

DISTRIBUTION. — New Caledonia, Matthew and Hunter Islands, between 233 and 700 m.

### *Munida barangei* sp. nov.

Fig. 7

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 222, 410-440 m : 1 ♂ 5.6 mm (MNHN-Ga 2573).  
— Stn 240, 475-500 m : 1 ♂ 6.5 mm (MNHN-Ga 2574).

CHALCAL 2 : stn 25, 425 m : 2 ♂ 6.6 and 7.4 mm (MNHN-Ga 2575, 2576).

SMB 2 : stn 10, 490-495 m : 1 ♂ 7.2 mm (USNM).

SMB 3 : stn 12, 470 m : 3 ♂ 6.6 and 7.2 mm (MNHN-Ga 2577 and USNM).

TYPES. — The male of 7.4 mm from CHALCAL 2, Stn 25 (MNHN-Ga 2575) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to M. BARANGE of the Instituto de Ciencias del Mar, Barcelona, for his friendship and support in my work.

DESCRIPTION. — Carapace with secondary striae between main striae. Intestinal region without scales. Rostrum very long, nearly as long as remaining carapace. External orbital spine very short, mesial to level of lateral margin. Branchial margin with 5 small spines, fifth spine sometimes undiscernible. Thoracic sternites smooth, without striae. Second abdominal segment unarmed. Second to fifth segments each with 3-4 transverse continuous striae. Males with gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of

antennule (distal spines excluded) reaching end of cornea, distolateral spine longer than distomesial. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment slightly exceeding third segment. Extensor margin of merus of third maxilliped unarmed. Fingers of cheliped unarmed; in large specimens 2 distal spines on fixed finger; small specimens with small spines along lateral and mesial borders of fixed and movable fingers, respectively. Dactylus of walking legs half as long as propodus with movable spinules along ventral margin, distal third unarmed.

REMARKS. — *M. barangei* is closely related to *M. alonsoi* sp. nov. from New Caledonia and Chesterfield Islands. They differ in the following aspects :

- The rostrum is as long as the remaining carapace in *M. barangei*, about 1/2 in *M. alonsoi*.
- The external orbital spine in *M. barangei* is more distinctly reduced in size and more mesial to the level of the lateral margin of the carapace than in *M. alonsoi*.
- The second and third abdominal segments have 3-4 striae in *M. barangei*, one in *M. alonsoi*.
- The maximum corneal diameter is about 1/2 the distance between the external orbital spines in *M. barangei*, being about 1/3 in *M. alonsoi*.
- The distomesial spine on the second antennal segment not exceeds the third antennal segment in *M. alonsoi*, whereas it exceeds this segment in *M. barangei*.
- The extensor margin of the merus of the third maxilliped is unarmed in *M. barangei*; with a small distal spine in *M. alonsoi*.
- The dactylus of the walking legs with spines along the entire ventral margin in *M. alonsoi*, whereas the terminal third is unarmed in *M. barangei*.

SIZE. — The males examined ranged between 5.6 and 7.4 mm, no females were caught.

DISTRIBUTION. — New Caledonia, between 410 and 500 m.

*Munida bellior* Miyake & Baba, 1967

Fig. 66

*Munida bellior* Miyake & Baba, 1967b : 216, figs 3, 4. — BABA, 1988 : 82 (key), 90.

MATERIAL EXAMINED. — **Loyalty Islands.** MUSORSTOM 6 : stn 419, 285 m : 1 ov. ♀ 12.3 mm (MNHN-Ga 2578).

**Chesterfield Islands.** CHALCAL 1 : stn 2, 80-120 m : 1 ♂ 5.2 mm (MNHN Ga-3502).

MUSORSTOM 5 : stn 315, 330 m : 1 ♂ broken (MNHN-Ga 2579).

REMARKS. — According to MIYAKE and BABA (1967b) the colouration in preservative (formalin) is : the anterior portion of the carapace is coloured reddish brown, one broad V-shaped reddish-brown band on the posterior half of the carapace; the abdomen is reddish brown; the chelipeds and walking legs have reddish brown bands.

The colour pattern of the specimens examined did not conform to the description of MIYAKE & BABA. The specimens displayed red and white bands on the carapace, abdomen, chelipeds and walking legs. This colour pattern is closer to that of *M. elegantissima* (see BABA, 1969b) than to that of *M. bellior*. However, the morphological characters of the specimens agree quite well with the description and illustrations of *M. bellior* (see also Remarks of *M. elegantissima*). These discrepancies suggest the need for the revision of the material on these two species from the different localities in order to clarify the differences and variations in these two interesting species.

DISTRIBUTION. — Sagami Bay and Philippines, 80-209 m. Loyalty Islands and Chesterfield Islands, 80-330 m.

*Munida brachytes* sp. nov.

Fig. 8

MATERIAL EXAMINED. — **New Caledonia.** SMIB 5 : stn 86, 320 m : 1 ♂ 3.7 mm, holotype (MNHN-Ga 2580).

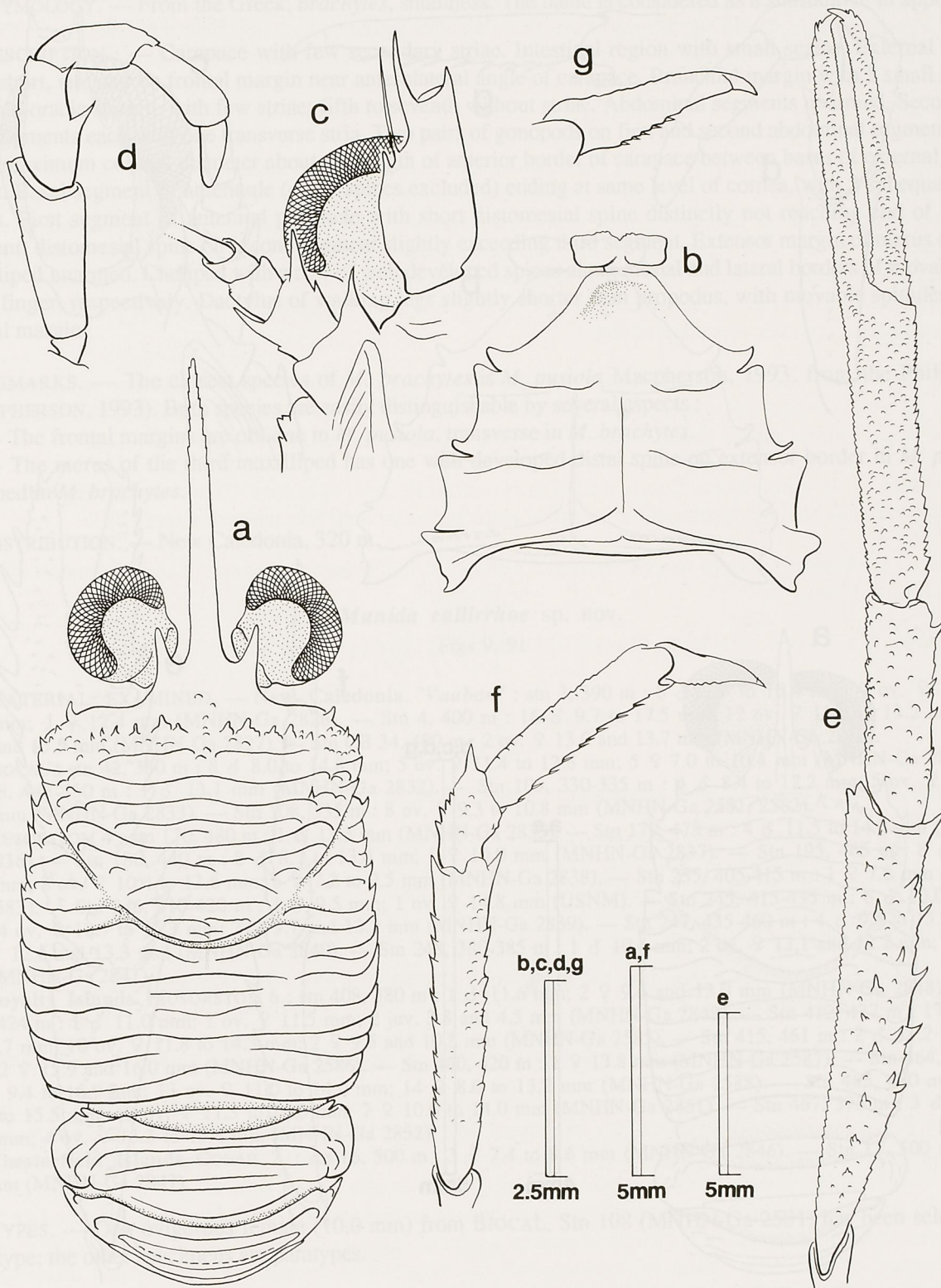


FIG. 7. — *Munida barangei* sp. nov., ♂ 7.4 mm, holotype from Stn 25 (CHALCAL 2) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

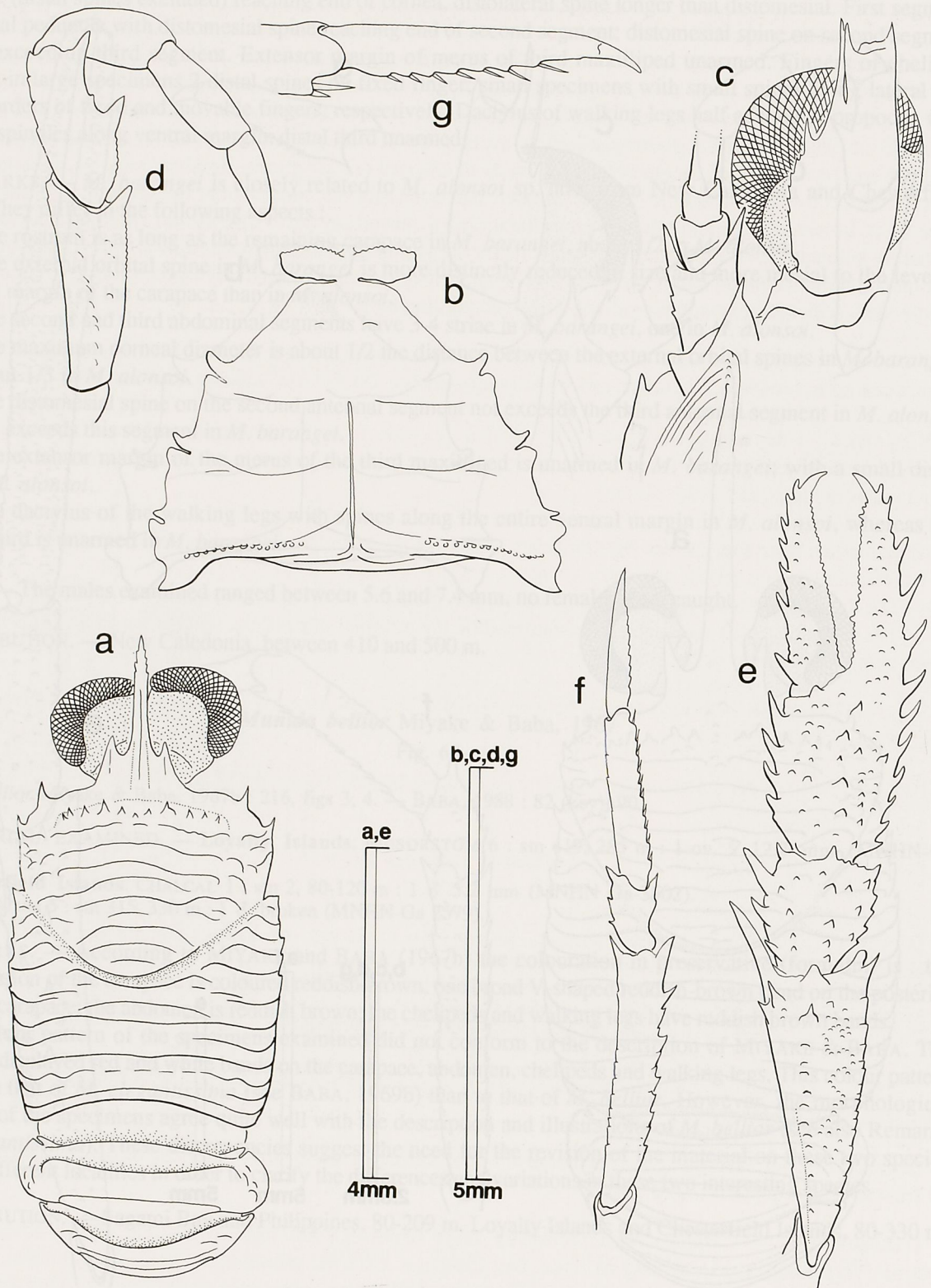


FIG. 8. — *Munida brachytes* sp. nov., ♂ 3.7 mm, holotype from Stn 86 (SMIB 5) : **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.



ETYMOLOGY. — From the Greek, *brachytes*, smallness. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region with small scales. External orbital spine short, situated on frontal margin near anterolateral angle of carapace. Branchial margin with 5 small spines. Fourth thoracic sternite with few striae; fifth to seventh without striae. Abdominal segments unarmed. Second and third segments each with one transverse stria. Two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) ending at same level of cornea, with 2 subequal distal spines. First segment of antennal peduncle with short distomesial spine distinctly not reaching end of second segment; distomesial spine on second segment slightly exceeding third segment. Extensor margin of merus of third maxilliped unarmed. Cheliped with a row of well developed spines along mesial and lateral borders of movable and fixed finger, respectively. Dactylus of walking legs slightly shorter than propodus, with movable spinules along ventral margin.

REMARKS. — The closest species of *M. brachytes* is *M. pusiola* Macpherson, 1993, from the Philippines (MACPHERSON, 1993). Both species are easily distinguishable by several aspects :

- The frontal margins are oblique in *M. pusiola*, transverse in *M. brachytes*.
- The merus of the third maxilliped has one well developed distal spine on extensor border in *M. pusiola*, unarmed in *M. brachytes*.

DISTRIBUTION. — New Caledonia, 320 m.

*Munida callirrhoe* sp. nov.

Figs 9, 91

MATERIAL EXAMINED. — **New Caledonia.** "Vauban" : stn 3, 390 m : 8 ♂ 12.0 to 16.4 mm; 9 ov. ♀ 11.3 to 13.6 mm; 1 ♀ 12.4 mm (MNHN-Ga 2826). — Stn 4, 400 m : 16 ♂ 9.7 to 17.5 mm; 12 ov. ♀ 11.0 to 13.2 mm; 2 ♀ 11.8 and 13.3 mm (MNHN-Ga 2827). — Stn CB 34, 400 m : 2 ov. ♀ 13.0 and 13.7 mm (MNHN-Ga 2828).

BIOCAL : stn 42, 380 m : 8 ♂ 8.0 to 14.8 mm; 5 ov. ♀ 11.4 to 12.6 mm; 5 ♀ 7.0 to 10.4 mm (MNHN-Ga 2829). — Stn 78, 445-450 m : 1 ♂ 13.1 mm (MNHN-Ga 2832). — Stn 105, 330-335 m : 4 ♂ 8.4 to 12.2 mm; 5 ov. ♀ 10.1 to 12.2 mm (MNHN-Ga 2833). — Stn 108, 335 m : 8 ov. ♀ 9.3 to 10.8 mm (MNHN-Ga 2581, 2582).

MUSORSTOM 4 : stn 170, 480 m : 1 ♂ 13.3 mm (MNHN-Ga 2835). — Stn 179, 475 m : 4 ♂ 11.5 to 14.0 mm (MNHN-Ga 2836). — Stn 180, 440 m : 8 ♂ 8.7 to 13.4 mm; 1 ♀ 10.0 mm (MNHN-Ga 2837). — Stn 195, 465 m : 8 ♂ 5.3 to 13.7 mm; 8 ov. ♀ 10.4 to 13.6 mm; 6 ♀ 7.2 to 9.5 mm (MNHN-Ga 2838). — Stn 235, 405-415 m : 1 ♀ 7.8 mm (MNHN-Ga 2583). — Stn 246, 410-420 m : 1 ♂ 9.5 mm; 1 ov. ♀ 14.8 mm (USNM). — Stn 245, 415-435 m : 6 ♂ 10.0 to 16.5 mm; 4 ov. ♀ 12.7 to 15.3 mm; 2 ♀ 9.7 and 13.2 mm (MNHN-Ga 2839). — Stn 247, 435-460 m : 4 ♂ 9.5 to 13.5 mm; 2 ov. ♀ 12.6 and 13.3 mm (MNHN-Ga 2840). — Stn 248, 380-385 m : 1 ♂ 10.4 mm; 2 ov. ♀ 12.1 and 12.2 mm; 1 ♀ 9.5 mm (MNHN-Ga 2841).

**Loyalty Islands.** MUSORSTOM 6 : stn 408, 380 m : 1 ♂ 11.6 mm; 2 ♀ 9.6 and 13.0 mm (MNHN-Ga 2848). — Stn 411, 424 m : 1 ♂ 11.0 mm; 1 ov. ♀ 11.5 mm; 2 juv. 3.8 and 4.5 mm (MNHN-Ga 2849). — Stn 412, 437 m : 17 ♂ 10.3 to 15.7 mm; 10 ov. ♀ 11.8 to 14.3 mm; 2 ♀ 9.6 and 10.8 mm (MNHN-Ga 2585). — Stn 415, 461 m : 2 ♂ 11.2 and 15.0 mm; 2 ♀ 15.9 and 16.0 mm (MNHN-Ga 2586). — Stn 460, 420 m : 1 ♀ 13.8 mm (MNHN-Ga 2587). — Stn 464, 430 m : 28 ♂ 9.4 to 16.9 mm; 13 ov. ♀ 11.0 to 14.0 mm; 14 ♀ 8.0 to 13.2 mm (MNHN-Ga 2588). — Stn 465, 480 m : 13 ♂ 10.1 to 15.5 mm; 12 ov. ♀ 11.3 to 16.0 mm; 7 ♀ 10.0 to 14.0 mm (MNHN-Ga 2851). — Stn 467, 575 m : 3 ♂ 14.5 to 15.5 mm; 4 ov. ♀ 13.3 to 15.8 mm (MNHN-Ga 2852).

**Chesterfield Islands.** CORAIL 2 : stn 16, 500 m : 3 ♀ 7.4 to 8.6 mm (MNHN-Ga 2846). — Stn 17, 500 m : 1 ♂ 9.0 mm (MNHN-Ga 2847).

TYPES. — One ovigerous female (10.0 mm) from BIOCAL, Stn 108 (MNHN-Ga 2581) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — The name refers to one of the Oceanids of the Greek mythology (Callirrhoe).

DESCRIPTION. — Carapace with numerous secondary striae between principal striae, with two epigastric spines directly behind supraoculars, each accompanied behind by smaller protogastric spine (absent in several specimens).

Four spines in a row on dorsal midline : first anterior mesogastric, second directly behind cervical groove, third on cardiac transverse ridge, fourth on posterior ridge. Two-five more spines on each branchiocardiac boundary. External orbital spine pronounced, situated at anterolateral angle of carapace. Branchial margin with 2-4 spines. Thoracic sternites with numerous arcuate striae. Second, third and fourth abdominal segments each with 4 equal-sized spines on anterior transverse ridge; posterior ridge of fourth segment with median spine. Males with one pair of gonopods. Eye moderately large, maximum corneal diameter more than 1/3 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) exceeding cornea, distolateral spine shorter than distomesial. Distomesial prolongation of first antennal segment well developed, nearly reaching rostral tip; second segment with one distomesial spine reaching end of antennal peduncle, with small spine on its base (not illustrated on Fig. 9); third segment unarmed. Merus of third maxilliped with one spine on flexor margin; one small distal spine on extensor border. Fixed finger of cheliped bifid distally, movable finger with small spine near tip (not illustrated on Fig. 9). Dactylus of walking legs weakly curved, half as long as propodus, without spinules on ventral border.

**COLOUR.** — Ground colour of carapace and abdomen orange, yellow spots on epigastric and metagastric regions, center of cardiac region and center of second and third abdominal segments. Chelipeds and walking legs with transverse whitish and red bands; fingers of chelipeds reddish; dactylus of walking legs whitish.

**REMARKS.** — *M. callirrhoe* is closely related to *M. marini* sp. nov. from New Caledonia, Loyalty Islands and Chesterfield Islands but both species differ in several respects (see the Remarks under that species).

**SIZE.** — The males examined ranged between 5.3 and 17.5 mm, females between 7.0 and 16.0 mm; ovigerous females from 9.3 mm.

**DISTRIBUTION.** — New Caledonia, Chesterfield Islands and Loyalty Islands, from 335 to 575 m.

### *Munida callista* sp. nov.

Figs 10, 67

**MATERIAL EXAMINED.** — **New Caledonia.** "Vauban" : stn CB 37, 03.03.1977, 400 m : 2 ♂ 14.2 and 15.1 mm; 1 ♀ 15.0 mm (MNHN Ga 2942).

**BIOCAL** : stn 67, 500-510 m : 2 ♂ 7.9 and 10.0 mm; 1 ♀ 4.4 mm (MNHN-Ga 2938). — Stn 78, 445-450 m : 1 ♂ 18.1 mm; 1 ov. ♀ 17.6 mm (MNHN-Ga 2939, 2940). — Stn 82, 440-460 m : 1 ♂ 18.5 mm (MNHN-Ga 2941).

**BIOGEOCAL** : stn 308, 510-590 m : 1 ♀ 14.8 mm (MNHN- Ga 3268).

**BATHUS 3** : stn 814, 23°48'S, 168°17'E, 444-530 m, 28.11.1993 : 1 ♂ 11,7 mm (MNHN-Ga 3556).

**Chesterfield Islands.** MUSORSTOM 5 : stn 300, 450 m : 1 ♀ 8.5 mm (MNHN-Ga 2943).

**TYPES.** — The male of 18.1 mm, from BIOCAL, Stn 78 (MNHN-Ga 2940) has been selected as holotype; the other specimens are paratypes.

**ETYMOLOGY.** — From the Greek, *kallistos*, most beautiful, in reference of the nice coloration of the species.

**DESCRIPTION.** — Carapace with numerous secondary striae. Hepatic, anterior branchial and intestinal regions squamate. Posteriormost major stria medially interrupted. External orbital spine well developed, situated on frontal border near anterolateral angle of carapace and exceeding sinus between rostrum and supraocular spines. Branchial margin with 3 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh sternites smooth. Abdominal segments unarmed. Two pairs of gonopods present on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines. Distomesial spine on first segment of antennal peduncle short, distinctly not reaching end of second segment; distomesial spine on second segment reaching end of antennal peduncle. Extensor margin of merus of third maxilliped unarmed. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial margin, respectively. Dactylus of walking legs about 1/2 propodus length, with movable spinules along entire ventral margin.

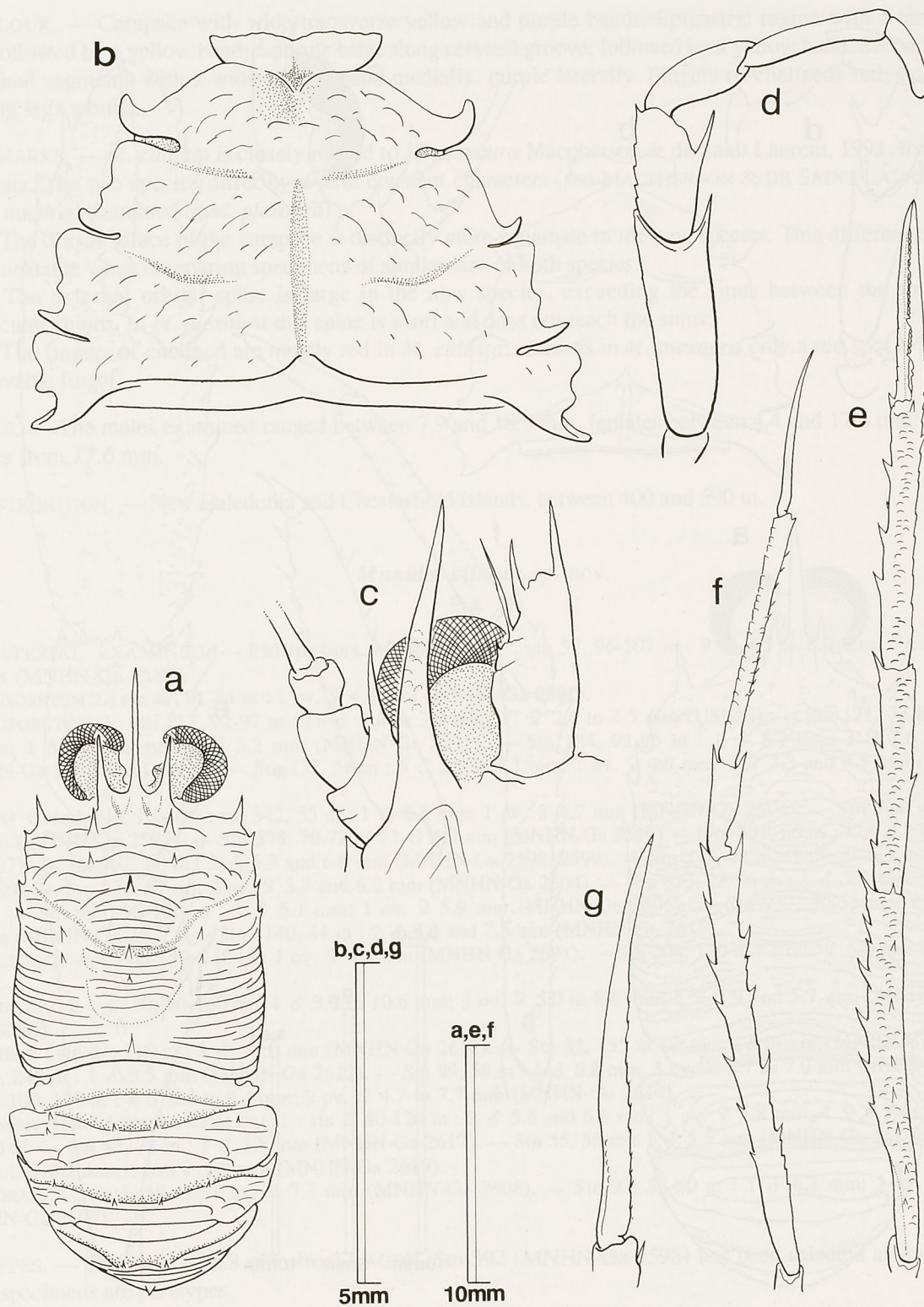


FIG. 9. — *Munida callirrhoe* sp. nov., ov. ♀ 10.0 mm, holotype from Stn 108 (BIOCAL): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

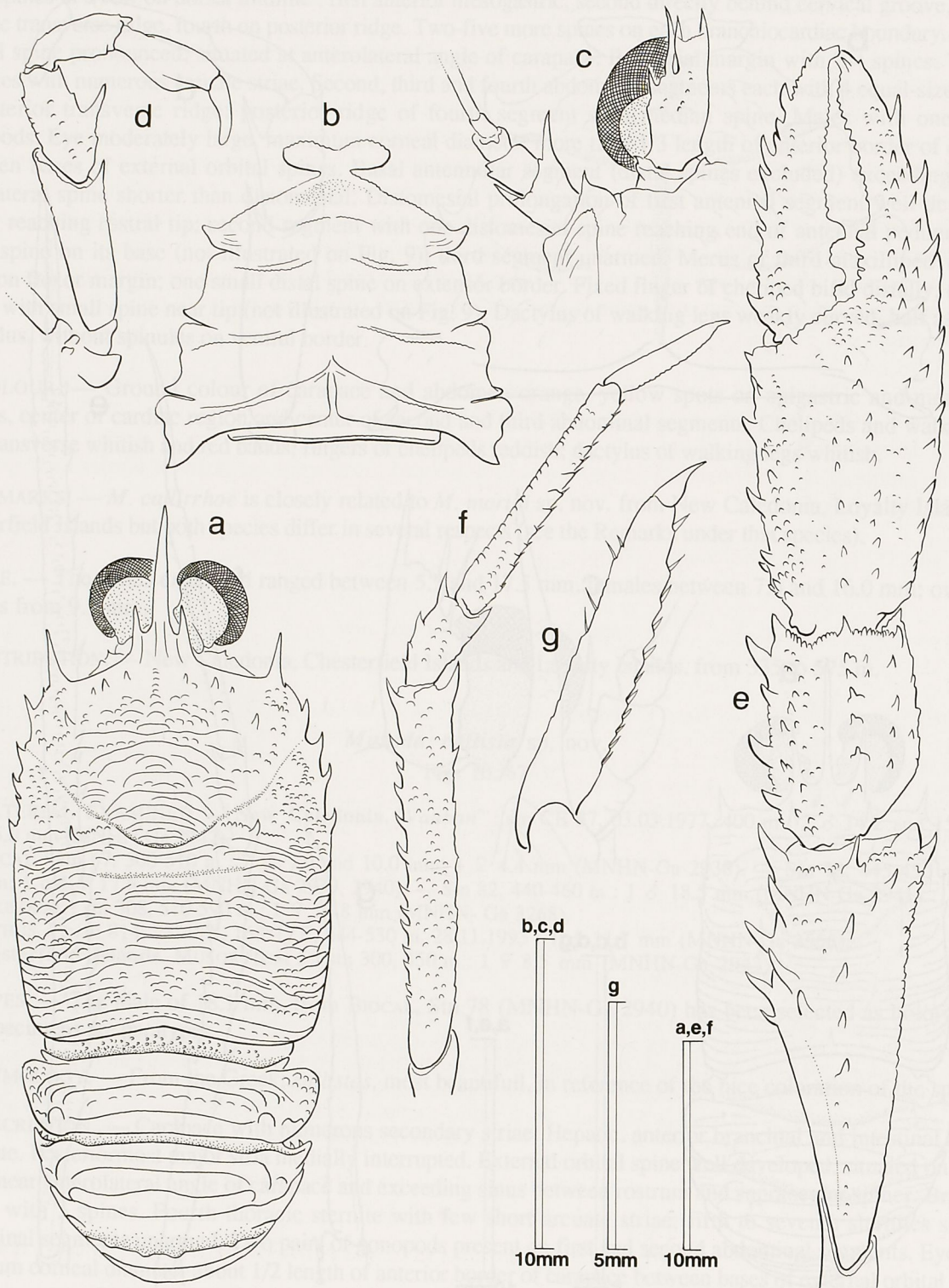


FIG. 10. — *Munida callista* sp. nov., ♂ 18.1 mm, holotype from Stn 78 (BIOCAL): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

COLOUR. — Carapace with wide transverse yellow and purple bands. Epigastric region with a large purple band, followed by a yellow band; a purple band along cervical groove, followed by a yellow band. Second to fourth abdominal segments with a wide yellow band medially, purple laterally. Fingers of chelipeds red, tips whitish. Walking legs whitish.

REMARKS. — *M. callista* is closely related to *M. plexaura* Macpherson & de Saint Laurent, 1991, from French Polynesia. The two species differ in several constant characters (see MACPHERSON & DE SAINT LAURENT, 1991 for the material examined of *M. plexaura*):

— The dorsal surface of the carapace is distinctly more squamate in the new species. This difference is clearly distinguishable when comparing specimens of similar size of both species.

— The external orbital spine is large in the new species, exceeding the sinus between the rostrum and supraocular spines. In *M. plexaura* this spine is short and does not reach the sinus.

— The fingers of cheliped are mostly red in *M. callista*; whereas in *M. plexaura* only a red spot is present on the movable finger.

SIZE. — The males examined ranged between 7.9 and 18.5 mm, females between 4.4 and 17.6 mm; ovigerous females from 17.6 mm.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, between 400 and 590 m.

*Munida clinata* sp. nov.

Fig. 11

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 1 : stn 57, 96-107 m : 9 ♂ 3.5 to 8.0 mm; 5 ov. ♀ 3.7 to 7.3 mm (MNHN-Ga 2589).

MUSORSTOM 2 : stn 47, 81-84 m : 1 ov. ♀ 4.3 mm (MNHN-Ga 2590).

MUSORSTOM 3 : stn 117, 92-97 m : 16 ♂ 2.6 to 3.0 mm; 17 ♀ 2.4 to 4.5 mm (USNM). — Stn 121, 73-84 m : 1 ♂ 4.0 mm; 1 ov ♀ 3.6 mm; 1 ♀ 3.2 mm (MNHN-Ga 2591). — Stn 134, 92-95 m : 1 ♂ 8.7 mm; 3 ♀ 7.6 to 8.4 mm (MNHN-Ga 2592 and USNM). — Stn 137, 56 m : 6 ♂ 2.6 to 6.1 mm; 1 ov. ♀ 4.9 mm; 2 ♀ 3.3 and 4.5 mm (MNHN-Ga 2593).

**New Caledonia.** LAGON : stn 342, 55 m : 1 ♂ 6.8 mm; 1 ov. ♀ 4.7 mm (MNHN-Ga 2594). — Stn 364, 49 m : 1 ♂ 6.7 mm (MNHN-Ga 2595). — Stn 378, 70-72 m : 1 ♂ 6.7 mm (MNHN-Ga 2596). — Stn 391, 65 m : 1 ♂ 8.2 mm (MNHN-Ga 2597). — Stn 392, 80 m : 2 ♂ 5.3 and 6.8 mm (MNHN-Ga 2598, 2599). — Stn 583, 44 m : 1 ov. ♀ 6.3 mm (MNHN-Ga 2600). — Stn 836, 57 m : 2 ov. ♀ 5.7 and 6.2 mm (MNHN-Ga 2604). — Stn 837, 28-36 m : 1 ♂ 7.7 mm (MNHN-Ga 2605). — Stn 933, 90-100 m : 1 ♂ 5.1 mm; 1 ov. ♀ 5.9 mm (MNHN-Ga 2606). — Stn 937, 50-55 m : 2 ♂ 7.8 and 8.0 mm (MNHN-Ga 2607). — Stn 1140, 44 m : 2 ♂ 7.2 and 7.5 mm (MNHN-Ga 2615).

MUSORSTOM 4 : stn 150, 110 m : 1 ov. ♀ 7.4 mm (MNHN-Ga 2601). — Stn 204, 120 m : 1 ov. ♀ 6.2 mm (MNHN-Ga 2602).

CHALCAL 2 : stn 80, 80-160 m : 4 ♂ 3.9 to 10.6 mm; 3 ov. ♀ 5.0 to 8.6 mm; 2 ♀ 3.9 and 5.7 mm (MNHN-Ga 2603 and USNM).

SMIB 5 : stn 81, 110 m : 1 ♂ 10.0 mm (MNHN-Ga 2610). — Stn 82, 155 m : 1 ov. ♀ 8.9 mm (MNHN-Ga 2611). — Stn 96, 245 m : 1 ♂ 9.5 mm (MNHN-Ga 2612). — Stn 99, 58 m : 1 ♂ 6.8 mm; 3 ov. ♀ 6.7 to 7.0 mm (MNHN-Ga 2613). — Stn 100, 120 m : 4 ♂ 5.8 to 8.4 mm; 9 ov. ♀ 4.7 to 7.7 mm (MNHN-Ga 2614).

**Chesterfield Islands.** CHALCAL 1 : stn 2, 80-120 m : 2 ♂ 5.6 and 6.6 mm; 1 ov. ♀ 5.8 mm; 1 ♀ 6.5 mm (MNHN-Ga 2616). — Stn 43, 78 m : 1 ♂ 7.8 mm (MNHN-Ga 2617). — Stn 55, 55 m : 1 ♂ 5.5 mm (MNHN-Ga 2618). — Stn 56, 60 m : 1 ♂ 6.2 mm; 1 ov. ♀ 5.2 mm (MNHN-Ga 2619).

CORAIL 2 : stn 3, 58 m : 1 ov. ♀ 7.3 mm (MNHN-Ga 2608). — Stn 93, 58-60 m : 1 ♂ 6.3 mm; 1 ov. ♀ 6.2 mm (MNHN-Ga 2609).

TYPES. — The male of 6.8 mm, from LAGON, Stn 392 (MNHN-Ga 2598) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Latin, *clinatus*, slope, in reference to the frontal margins of the carapace.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. Frontal margin distinctly oblique. External orbital spine well developed, situated on frontal border near anterolateral angle of

carapace. Branchial margin with 5 spines. Fourth thoracic sternite with several short arcuate striae; fifth to seventh without striae. Abdominal segments unarmed. Second and third segments each with 2-4 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of

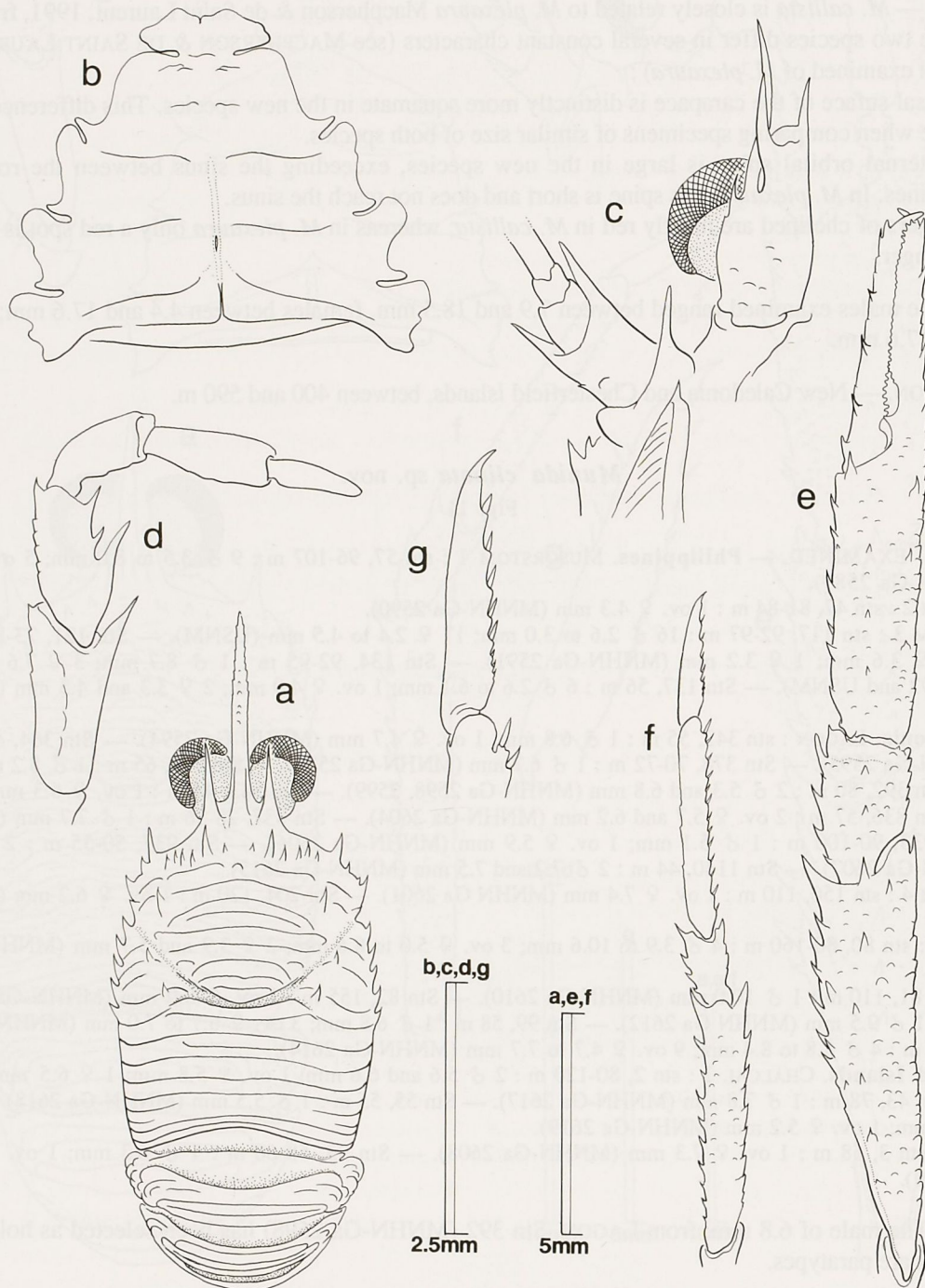


FIG. 11. — *Munida clinata* sp. nov., ♂ 6.8 mm, holotype from Stn 392 (LAGON): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

antennule (distal spines excluded) slightly exceeding cornea, with 2 subequal distal spines. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment slightly exceeding antennal peduncle. Extensor border of merus of third maxilliped with distal spine. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial margin, respectively. Dactylus of walking legs 2/3 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. clinata* is closely related to *M. olivarae* sp. nov. from New Caledonia, Loyalty Islands, Matthew and Hunter Islands and *M. roshanei* Tirmizi, 1966, from the Red Sea, Gulf of Aden and Gulf of Oman (TIRMIZI, 1966). The three species are easily differentiable by several characters (see Remarks under *M. olivarae*). The specimens of *M. roshanei* cited by BABA (1988) in the Philippines, probably belong to *M. clinata*.

SIZE. — The males examined ranged between 2.6 and 10.6 mm, females between 2.4 and 8.6 mm; ovigerous females from 3.6 mm.

DISTRIBUTION. — Philippines, New Caledonia and Chesterfield Islands, between 28 and 245 m.

*Munida cornuta* sp. nov.

Figs 12, 13c

MATERIAL EXAMINED. — Kiribati. 600 m, 04.1987 : 1 ♂ 11.7 mm, holotype (MNHN-Ga 2620).

ETYMOLOGY. — From the Latin, *cornus*, horn, in reference to the rostrum.

DESCRIPTION. — Carapace with secondary striae. Intestinal region without scales. External orbital spine short situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh sternites smooth. Second abdominal tergite with a row of 9 spines on anterior ridge. Second and third segments each with 3 transverse striae. Two pairs of gonopods present on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines. First segment of antennal peduncle with short distomesial spine reaching end of second segment; distomesial spine on second segment exceeding end of antennal peduncle. Extensor border of merus of third maxilliped unarmed. Cheliped with movable finger unarmed; fixed finger with one subdistal spine. Dactylus of walking legs 3/4 length of propodus, with movable spinules along ventral margin, terminal third unarmed.

REMARKS. — *M. cornuta* is closely related to *M. compressa* Baba from the Philippines (BABA, 1988). These species have the rostrum compressed laterally. However a comparison with specimens from the Philippines (see MACPHERSON, 1993) shows that they differ in the following constant characters:

— The rostrum is shorter and more upwardly directed in *M. cornuta* than in *M. compressa*.

— The carapace and abdominal segments have numerous secondary striae in the new species. In *M. compressa* these striae are scarce and the second abdominal segment has only one transverse stria.

— The terminal third of the dactylus of the walking legs is unarmed in *M. cornuta*, whereas in *M. compressa* the spines are along the entire ventral margin. On the other hand, the dactylus of the walking legs of *M. cornuta* is less curved than in the other species.

*M. cornuta* is also close to *Munida* sp. from New Caledonia and Loyalty Islands (see below).

DISTRIBUTION. — Kiribati, 600 m.

*Munida distiza* sp. nov.

Figs 14, 68, 69

MATERIAL EXAMINED. — Philippines. MUSORSTOM 1 : stn 62, 179-194 m : 1 ♂ 16.6 mm (MNHN-Ga 2621). — Stn 63, 191-195 m : 1 ♂ 13.7 mm (MNHN-Ga 2622).

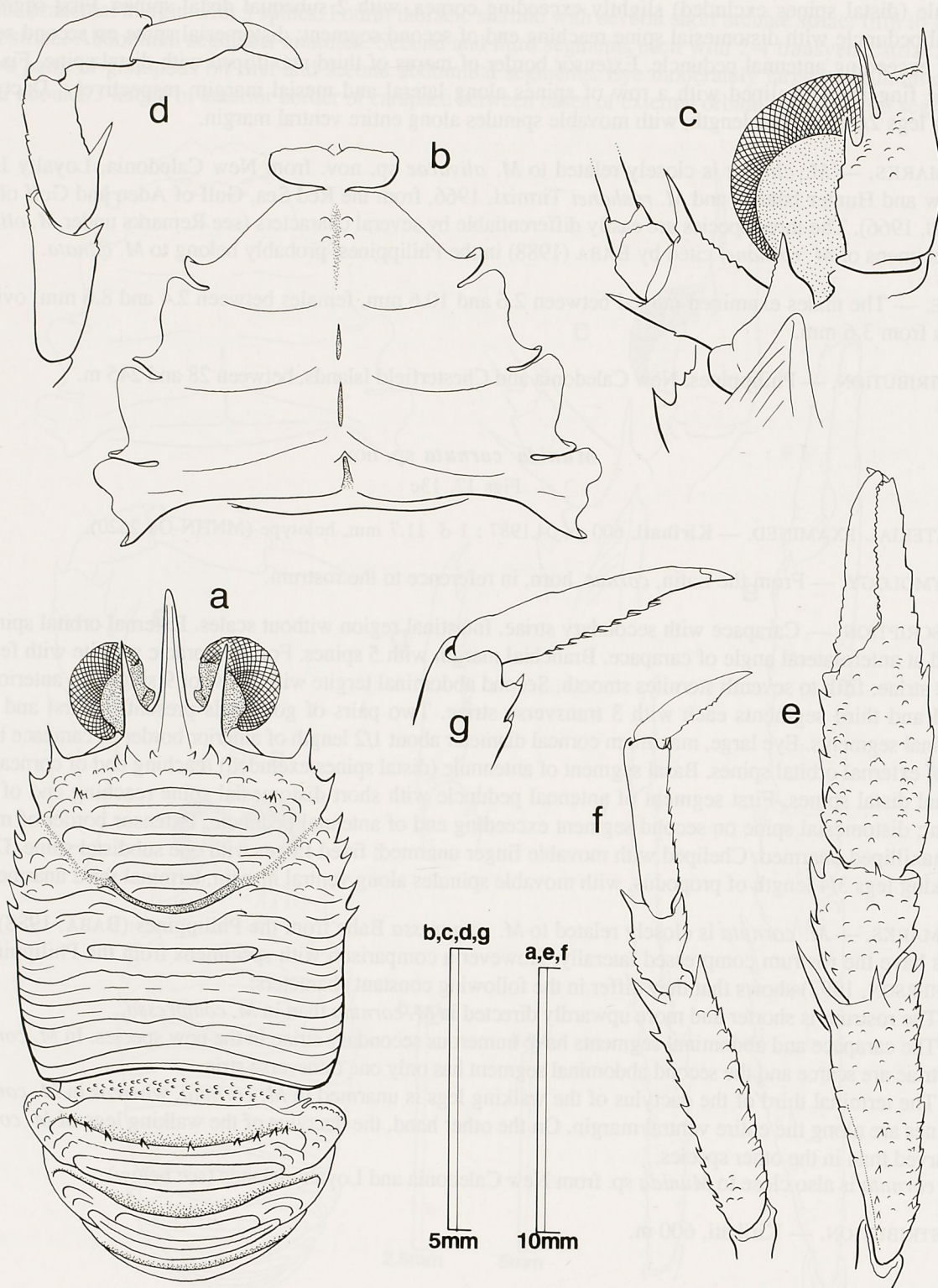


FIG. 12. — *Munida*<sup>♂</sup> *cornuta* sp. nov., ♂ 11.7 mm, holotype from Kiribati : **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.



MUSORSTOM 2 : stn 17, 174-193 m : 1 ov. ♀ 16.0 mm (MNHN Ga 2623). — Stn 51, 170-187 m : 1 ♂ 11.9 mm; 2 ♀ 11.1 and 11.6 mm (MNHN-Ga 2624).

**New Caledonia.** BIOCAL : stn 84, 150-210 m : 1 ov. ♀ 10.5 mm (MNHN-Ga 3269).

CHALCAL 2 : stn 19, 271 m : 2 ♂ 9.4 and 13.9 mm; 1 ♀ 9.7 mm (MNHN-Ga 2625, 2626). — Stn 20, 230-300 m : 1 ov. ♀ 13.8 mm (MNHN-Ga 2627).

SMIB 4 : stn 44, 300 m : 1 ♀ 8.4 mm (USNM).

**Loyalty Islands.** 21.02.1977, 400 m : 1 ♂ 18.7 mm (MNHN-Ga 3270).

MUSORSTOM 6 : stn 419, 283 m : 1 ♂ 8.2 mm (MNHN-Ga 2628). — Stn 480, 380 m : 1 ♀ 10.0 mm (USNM).

**Matthew and Hunter Islands.** VOLSMAR : stn 7, 400 m : 1 ♂ 11.6 mm (MNHN-Ga 2631).

**TYPES.** — The male of 13.9 mm from CHALCAL 2, Stn 19 (MNHN-Ga 2625) has been selected as holotype; the other specimens are paratypes.

**ETYMOLOGY.** — From the Greek, *stizo*, stain, in reference to the large red spot on the sternal plastron.

**DESCRIPTION.** — Carapace with numerous secondary striae. Intestinal with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth and fifth thoracic sternites with some short arcuate striae; sixth and seventh sternites smooth; lateral parts of seventh sternite with coarse granules. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second and third segments each with 4-5 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding end of cornea, distomesial spine longer than distolateral. Distomesial spine on first segment of antennal peduncle exceeding second segment; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Movable and fixed fingers of cheliped with a row of spines along mesial and lateral borders, respectively. Dactylus of walking legs about half as long as propodus, with movable spinules along entire ventral margin.

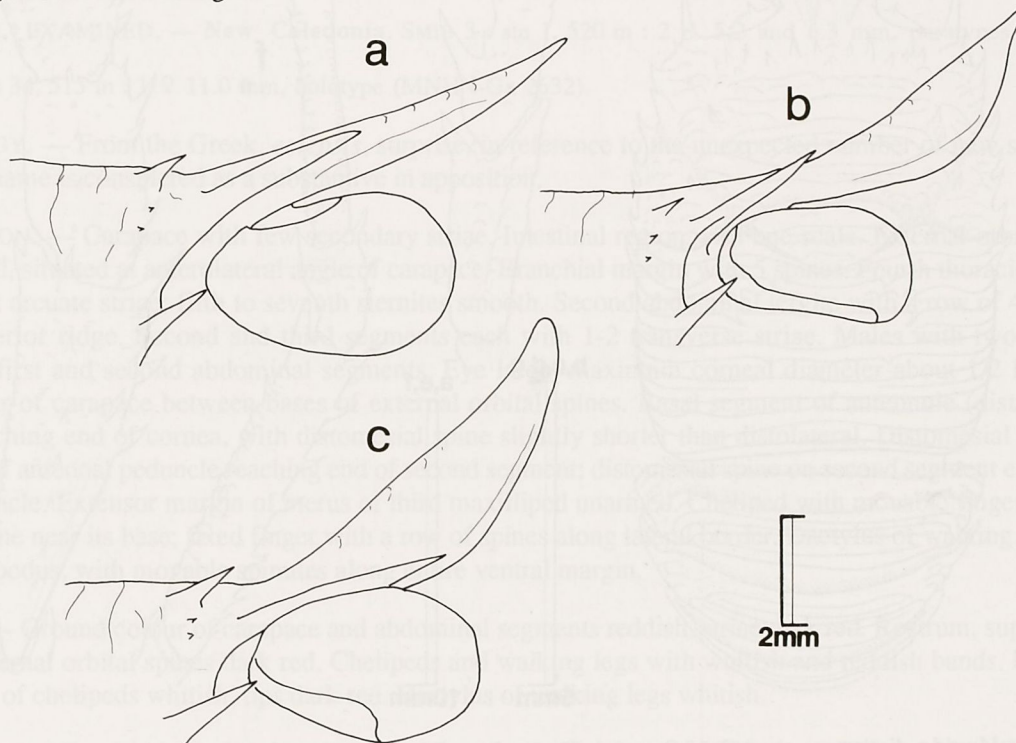


FIG. 13. — Anterior part of carapace, lateral view : a, *Munida rhodonia* sp. nov., ♂ 11.5 mm, holotype from Stn 198 (MUSORSTOM 4); b, *Munida* sp., ♂ 10.5 mm, Stn 239 (MUSORSTOM 4); c, *Munida cornuta* sp. nov., ♂ 11.7 mm, holotype from Kiribati.

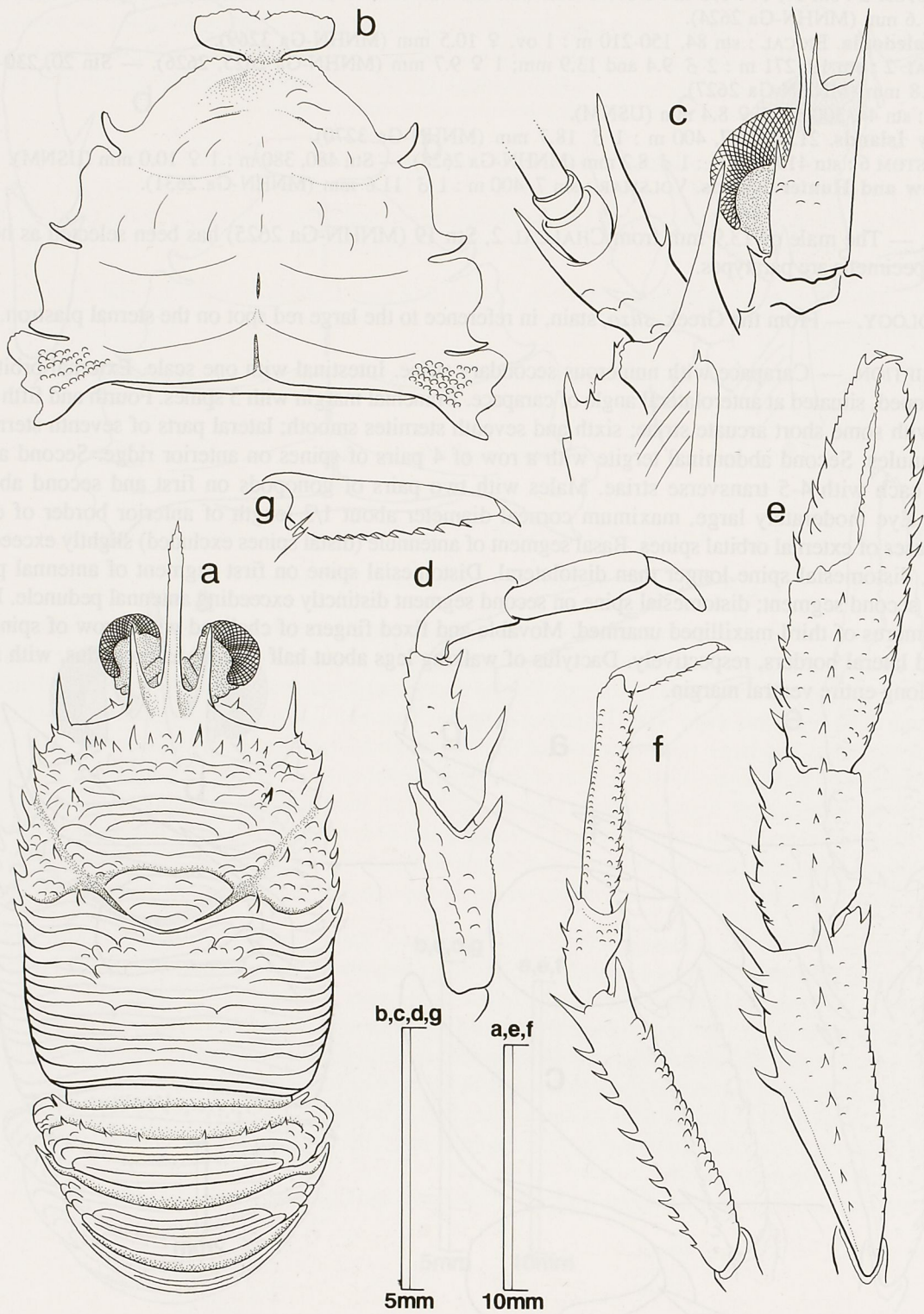


FIG. 14. — *Munidā distiza* sp. nov., ♂ 13.9 mm, holotype from Stn 19 (CHALCAL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

COLOUR. — Ground colour of carapace and abdominal segments orange, striae reddish. Rostrum and supraocular spines orange. Chelipeds and walking legs with transverse whitish and orange bands. Merus of cheliped with red spot on distolateral portion. Distal part of chelipeds and dactylus of walking legs whitish. Thoracic sternites red.

REMARKS. — *M. distiza* is closely related to *M. armilla* sp. nov. from New Caledonia, Matthew and Hunter Islands. They differ in the following aspects :

— The second and third abdominal segments have more transverse striae in *M. distiza* than in *M. armilla*.

— The distomesial spine on the basal antennular segment is longer than the distolateral in *M. distiza*, whereas is shorter in *M. armilla*.

— The movable finger of the cheliped in *M. distiza* has one a row of spines along the mesial margin, whereas *M. armilla* has only one spine near its base.

— The colour patterns are different in both species (see Figs 65 and 68, 69).

*M. distiza* is also close to *M. guttata* sp. nov. from New Caledonia and Loyalty Islands. The two species can be easily distinguished by several constant characters (see below under the Remarks of *M. guttata*).

SIZE. — The males examined ranged between 8.2 and 18.7 mm, females between 8.4 and 16.0 mm; ovigerous females from 10.5 mm.

DISTRIBUTION. — Philippines, New Caledonia, Loyalty Islands, Matthew and Hunter Islands, between 170 and 400 m.

*Munida eclepsis* sp. nov.

Figs 15, 70

MATERIAL EXAMINED. — New Caledonia. SMIB 3 : stn 1, 520 m : 2 ♂ 5.2 and 6.3 mm, paratypes (MNHN-Ga 3271).

SMIB 4 : stn 34, 515 m : 1 ♀ 11.0 mm, holotype (MNHN-Ga 2632).

ETYMOLOGY. — From the Greek, *eclipsis*, surprise, in reference to the unexpected number of new species in the area. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh sternites smooth. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second and third segments each with 1-2 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with distomesial spine slightly shorter than distolateral. Distomesial spine on first segment of antennal peduncle reaching end of second segment; distomesial spine on second segment exceeding antennal peduncle. Extensor margin of merus of third maxilliped unarmed. Cheliped with movable finger bearing one mesial spine near its base; fixed finger with a row of spines along lateral border. Dactylus of walking legs half as long as propodus, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments reddish, striae dark red. Rostrum, supraocular spines and external orbital spines dark red. Chelipeds and walking legs with whitish and reddish bands. Proximal half of fingers of chelipeds whitish, tips dark red. Dactylus of walking legs whitish.

REMARKS. — *M. eclepsis* is closely related to *M. militaris* Henderson, 1885, from Fiji and New Caledonia (see below).

DISTRIBUTION. — New Caledonia, 515-520 m.

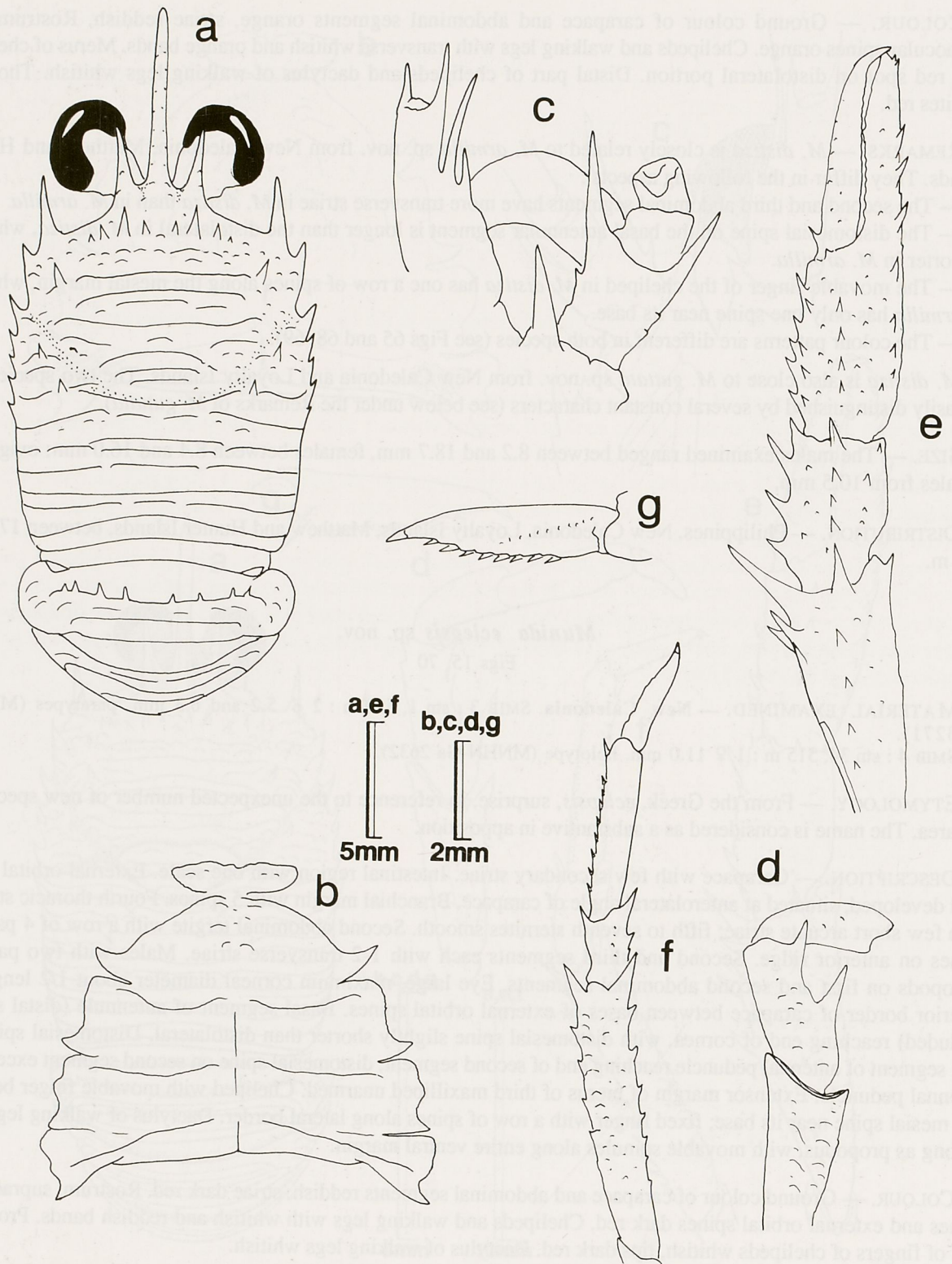


FIG. 15. — *Munida ecleipsis* sp. nov., ♀ 11.0 mm, holotype from Stn 34 (SMIB 4): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, left first walking leg, lateral view; **g**, dactylus of left first walking leg, lateral view.

*Munida elachia* sp. nov.

Figs 16, 71

MATERIAL EXAMINED. — **New Caledonia.** CHALCAL 2 : stn 73, 573 m : 2 ♂ 4.7 and 6.5 mm; 2 ♀ 4.4 and 5.0 mm (MNHN-Ga 2633, 2634, USNM). — Stn 74, 650 m : 1 ♀ 4.3 mm (MNHN-Ga 2635).

TYPES. — The female of 4.4 mm from CHALCAL 2, Stn 73 (MNHN-Ga 2633) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *elachys*, small.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine short, situated at anterolateral angle of carapace. Branchial margin with 5 small spines. Thoracic sternites smooth, without striae. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second and third segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding end of cornea, with 2 subequal distal spines. Distomesial spine on first segment of antennal peduncle distinctly not reaching end of second segment; distomesial spine on second segment exceeding third segment. Extensor margin of merus of third maxilliped unarmed. Cheliped with movable finger bearing one mesial spine near its base; fixed finger with a row of spines along lateral border. Dactylus of walking legs about 2/3 propodus length, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments orange, anterior half of carapace reddish. Rostrum and supraocular spines red; distal half of rostrum white, tip red. Chelipeds and walking legs with transverse white and orange bands. Fingers of chelipeds and dactylus of walking legs whitish.

REMARKS. — *M. elachia* is closely related to *M. thoe* sp. nov. from New Caledonia, Matthew and Hunter Islands, and *M. semoni* Ortmann, 1894, from Indonesia and New Caledonia (see below for the differences between these species).

SIZE. — The males examined measured 4.7 and 6.5 mm, females ranged between 4.3 and 5.0 mm; no ovigerous females were caught.

DISTRIBUTION. — New Caledonia, between 573 and 650 m.

*Munida elegantissima* de Man, 1902

*Munida elegantissima* - BABA, 1988 : 82 (key), 94 (references); 1989 : 131.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 1 : stn 57, 96-107 m : 1 ♂ 4.9 mm; 2 ov. ♀ 7.2 and 7.3 mm; 1 ♀ 2.6 mm (MNHN-Ga 2636). — Stn 62, 179-194 m : 1 ♀ 3.7 mm (MNHN-Ga 2637).

MUSORSTOM 2 : stn 8, 85-90 m : 1 ♂ 8.4 mm; 1 ov. ♀ 9.3 mm (MNHN-Ga 2638). — Stn 47, 81-84 m : 1 ♂ 5.3 mm; 2 ov. ♀ 9.0 and 9.8 mm (USNM).

MUSORSTOM 3 : stn 117, 92-97 m : 1 ♂ 4.5 mm; 1 ♀ 2.9 mm (MNHN-Ga 2640).

**New Caledonia.** LAGON : stn 640, 50-80 m : 1 ov. ♀ 9.3 mm (MNHN-Ga 2642).

**Bellona Islands.** CORAIL 1 : without position : 1 ov. ♀ 12.2 mm (MNHN-Ga 2641).

REMARKS. — *Munida elegantissima* de Man, 1902, and *M. bellior* Miyake & Baba, 1967, are the unique among known species of the genus in having epipods on the pereopods and a distal spine on the flexor border of the carpus of the third maxilliped. *Munida bellior* is characterized by the dorsal surface of the carapace bearing long setae and 4 spinelets on the ventral margin of the propodus of the first walking leg. In *M. elegantissima* the carapace has long setae and the propodus of the first walking leg has 8-9 ventral spines. From the descriptions and illustrations provided by MIYAKE & BABA (1967b) and BABA (1969b), other differences between both species are :

(1) the presence of a distolateral spine on the third segment of the antennal peduncle and (2) a distal spine on the extensor border of the merus of the third maxilliped in *M. elegantissima*, both spines are absent in *M. bellior*.

The specimens collected in the Philippines, Bellona Islands and New Caledonia have the carapace with long setae and the number of ventral spines on the propodus of the first walking legs ranges between 4 and 6. Considering that in all the specimens examined the spinulation of the antennal peduncle and the third maxilliped are constant and agree with the definition of *M. elegantissima*, I consider that these characters are specific and can be used to differentiate both species.

The colour pattern is also different in both species (see Remarks for *M. bellior*).

SIZE. — The males examined ranged between 4.5 and 8.4 mm, females between 2.9 and 12.2 mm; ovigerous females from 7.2 mm.

DISTRIBUTION. — Previously known from Eastern Indian Ocean, Malay Archipelago, Indonesia, Philippines, Japan and Western and Eastern Australia, between 20 and 200 m (BABA, 1988). The specimens examined here were collected in the Philippines, New Caledonia and Bellona Islands, between 50 and 194 m.

### *Munida eminens* Baba, 1988

Fig. 72

*Munida eminens* Baba, 1988 : 82 (key), 95, fig 35.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn 116, 804-812 m : 1 ♂ 11.1 mm (MNHN-Ga 2643).

**Indonesia.** CORINDON 2 : stn 240, 675 m : 2 ♀ 12.3 and 17.1 mm (MNHN-Ga 2644).

**New Caledonia.** BIOCAL : stn 31, 850 m : 2 ♂ 12.6 mm and 15.0 mm (MNHN-Ga 2645). — Stn 32, 825 m : 1 ♀ 9.3 mm (MNHN-Ga 2646). — Stn 75, 825-860 m : 1 ♂ 7.0 mm; 1 ♀ 4.8 mm (MNHN-Ga 2648).

BIOGEOCAL : stn 232, 760-790 m : 1 ♂ 10.0 mm; 1 ov. ♀ 17.8 mm; 1 ♀ 6.0 mm (USNM).

**Loyalty Islands.** MUSORSTOM 6 : stn 427, 800 m : 1 ♂ 7.4 mm; 1 ov. ♀ 16.4 mm (MNHN-Ga 2651). — Stn 438, 780 m : 5 ♂ 7.8 to 14.7 mm; 2 ov. ♀ 14.4 and 17.3 mm (MNHN-Ga 2652). — Stn 488, 800 m : 1 ♀ 6.0 mm (MNHN-Ga 2653).

**Chesterfield Islands.** MUSORSTOM 5 : stn 323, 970 m : 4 ♂ 9.3 to 10.0 mm; 2 ♀ 7.4 and 11.7 mm (USNM). — Stn 324, 970 m : 1 ♂ 10.6 mm; 2 ♀ 7.0 and 9.2 mm (MNHN-Ga 2656). — Stn 390, 745-825 m : 8 ♂ 12.0 to 18.1 mm; 11 ♀ 7.4 to 19.4 mm (MNHN-Ga 2657).

COLOUR. — Ground colour of carapace and abdomen orange. Rostrum and spines on carapace and abdomen reddish. Chelipeds and walking legs with red and whitish bands; terminal part of fingers of chelipeds and dactylus of walking legs red.

REMARKS. — The specimens examined agree quite well with the original description and figures provided by BABA (1988). Usually, the specimens examined have 2 branchiocardiac spines on each side (3 in the types) and the second cardiac spine is absent (present in the types).

SIZE. — The males examined ranged between 7.0 and 18.1 mm, females between 4.8 and 19.4 mm; ovigerous females from 14.4 mm.

DISTRIBUTION. — The material examined has been collected in the Philippines, Indonesia, New Caledonia, Loyalty Islands and Chesterfield Islands, between 675 and 970 m. BABA (1988) described the species from specimens captured in the Philippines, between 564 and 686 m.

### *Munida erato* sp. nov.

Fig. 17

MATERIAL EXAMINED. — **New Caledonia.** "Vauban" : stn 79, 400 m : 1 ♂ 14.0 mm, holotype (MNHN-Ga 2658).

**Chesterfield Islands.** MUSORSTOM 5 : stn 354, 420-450 m : 1 ♀ 8.3 mm, paratype (MNHN-Ga 2659).

ETYMOLOGY. — The name refers to one of the Nereids of Greek mythology (Erato).

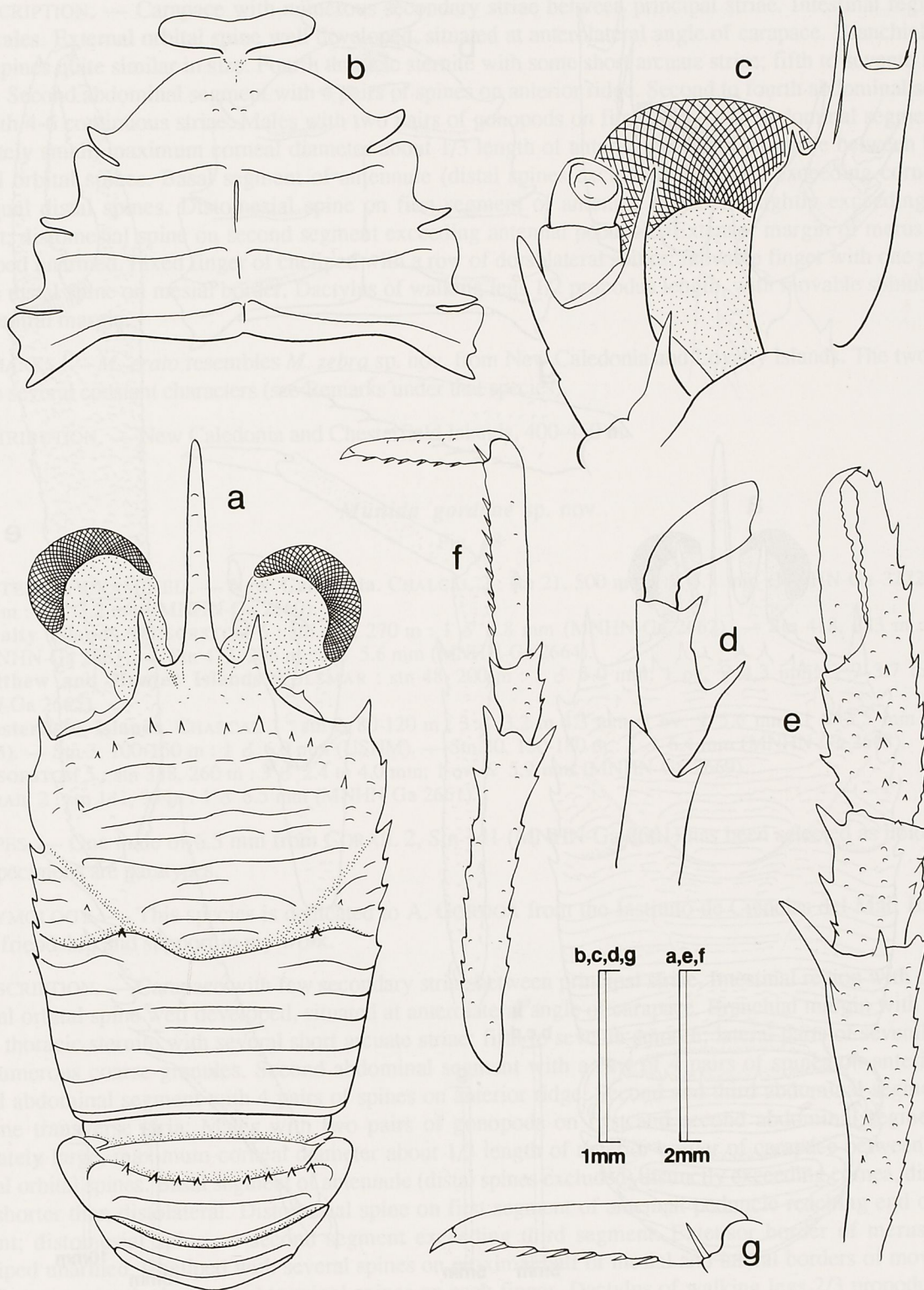


FIG. 16. — *Munida elachia* sp. nov., ♀ 4.4 mm, holotype from Stn 73 (CHALCAL 2): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, left first walking leg, lateral view; **g**, dactylus of left first walking leg, lateral view.

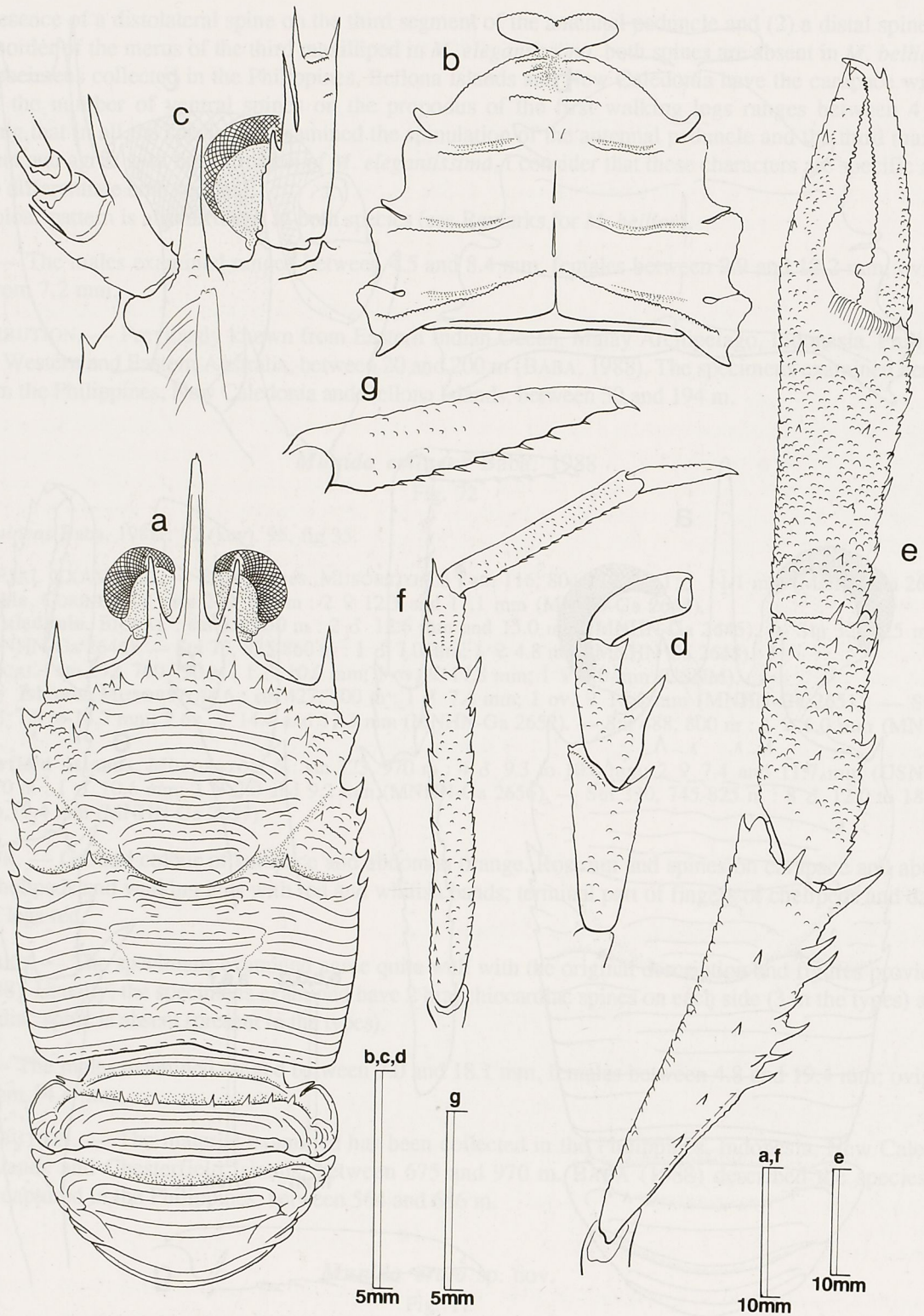


FIG. 17. — *Munida erato* sp. nov., ♂ 14.0 mm, holotype from Stn 79 ("Vauban"): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



DESCRIPTION. — Carapace with numerous secondary striae between principal striae. Intestinal region with small scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines quite similar in size. Fourth thoracic sternite with some short arcuate striae; fifth to seventh sternites smooth. Second abdominal segment with 4 pairs of spines on anterior ridge. Second to fourth abdominal segments each with 4-6 continuous striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately small, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) distinctly exceeding cornea, with 2 subequal distal spines. Distomesial spine on first segment of antennal peduncle slightly exceeding second segment; distomesial spine on second segment exceeding antennal peduncle. Extensor margin of merus of third maxilliped unarmed. Fixed finger of cheliped with a row of dorsolateral spines; movable finger with one proximal and one distal spine on mesial border. Dactylus of walking legs 1/2 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. erato* resembles *M. zebra* sp. nov. from New Caledonia and Loyalty Islands. The two species differ in several constant characters (see Remarks under that species).

DISTRIBUTION. — New Caledonia and Chesterfield Islands, 400-450 m.

*Munida gordoae* sp. nov.

Fig. 18

MATERIAL EXAMINED. — **New Caledonia.** CHALCAL 2 : stn 21, 500 m : 1 ♀ 5.7 mm (MNHN-Ga 3272). — Stn 84, 170 m : 1 ♂ 3.2 mm (MNHN-Ga 2660).

**Loyalty Islands.** MUSORSTOM 6 : stn 401, 270 m : 1 ♂ 3.8 mm (MNHN-Ga 2662). — Stn 418, 283 m : 1 ♂ 4.9 mm (MNHN-Ga 2663). — Stn 473, 236 m : 1 ♂ 5.6 mm (MNHN-Ga 2664).

**Matthew and Hunter Islands.** VOLSMAR : stn 48, 200 m : 1 ♂ 5.0 mm; 1 ov. ♀ 4.3 mm; 3 ♀ 3.7 to 5.9 mm (MNHN-Ga 2665).

**Chesterfield Islands.** CHALCAL 1 : stn 2, 80-120 m : 3 ♂ 3.2 to 4.3 mm; 1 ov. ♀ 5.6 mm; 1 ♀ 3.5 mm (MNHN-Ga 2666). — Stn 3, 100-150 m : 1 ♂ 6.0 mm (USNM). — Stn 30, 150-180 m : 1 ♂ 6.4 mm (MNHN-Ga 2668).

MUSORSTOM 5 : stn 348, 260 m : 3 ♂ 2.4 to 4.0 mm; 1 ov. ♀ 5.9 mm (MNHN-Ga 2669).

CORAIL 2 : stn 141, 95 m : 1 ♂ 6.5 mm (MNHN Ga 2661).

TYPES. — One male of 6.5 mm from CORAIL 2, Stn 141 (MNHN-Ga 2661) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to A. GORDOA from the Instituto de Ciencias del Mar, Barcelona, for his friendship and support in my work.

DESCRIPTION. — Carapace with few secondary striae between principal striae. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Fourth thoracic sternite with several short arcuate striae; fifth to seventh smooth; lateral parts of seventh sternite with numerous coarse granules. Second abdominal segment with a row of 4 pairs of spines on anterior ridge. Second abdominal segment with 4 pairs of spines on anterior ridge. Second and third abdominal segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) distinctly exceeding cornea, distomesial spine shorter than distolateral. Distomesial spine on first segment of antennal peduncle reaching end of second segment; distomesial spine on second segment exceeding third segment. Extensor border of merus of third maxilliped unarmed. Cheliped with several spines on proximal half of mesial and lateral borders of movable and fixed finger, respectively, two subterminal spines on each finger. Dactylus of walking legs 2/3 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. gordoae* is closely related to *M. leptosyne* sp. nov., from Loyalty Islands and Chesterfield Islands described below (see Remarks under that species).

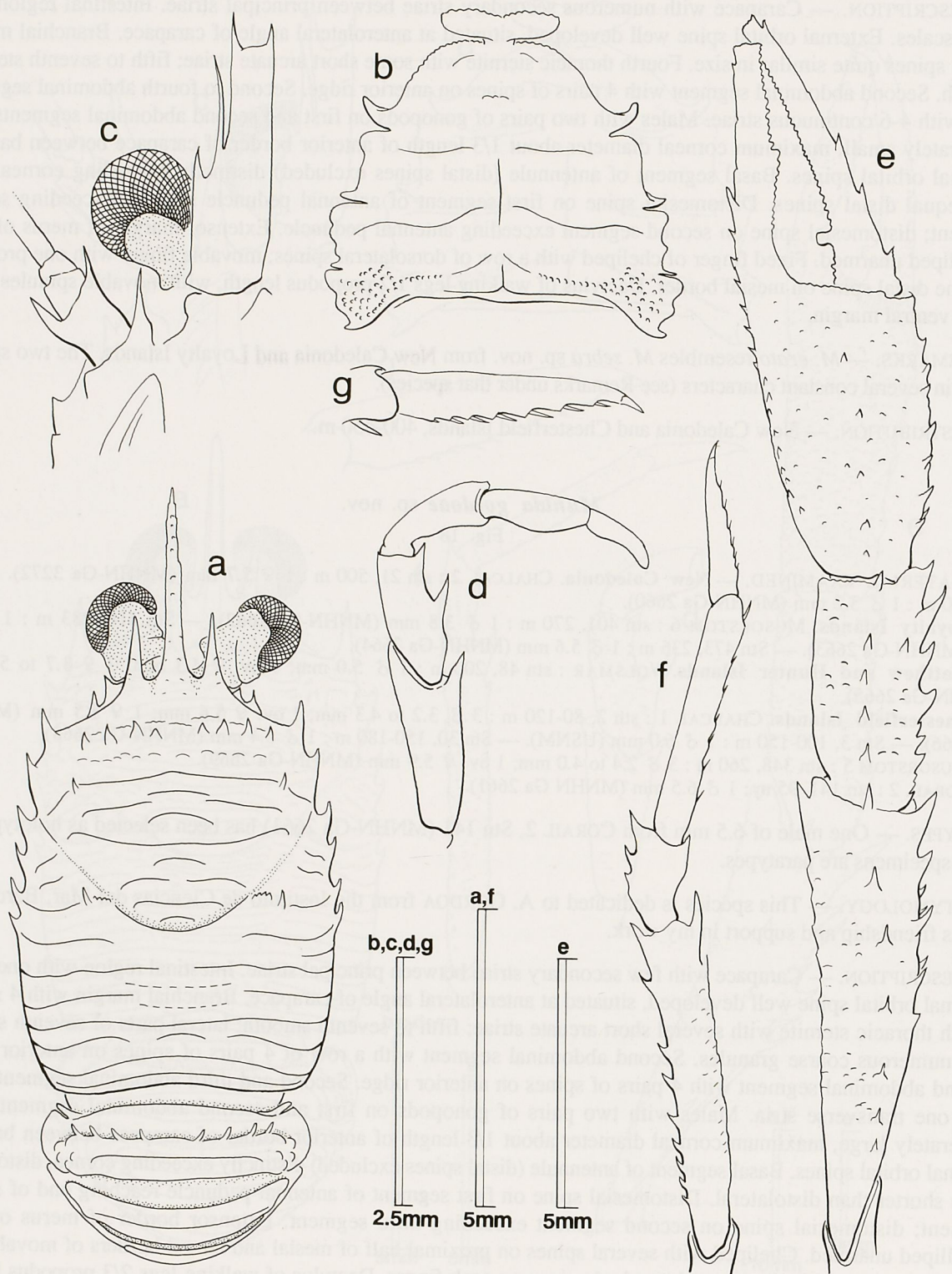


FIG. 18. — *Munida gordoae* sp. nov., ♂ 6.5 mm, holotype from Stn 141 (CORAIL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

SIZE. — The males examined ranged between 2.4 and 6.5 mm, females between 3.5 and 5.9 mm; ovigerous females from 4.0 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands, Chesterfield and Matthew and Hunter Islands, between 80 and 283 m.

*Munida gracilis* Henderson, 1885

Fig. 19

*Munida gracilis* Henderson, 1885 : 412; 1888 : 143, pl. 15, fig. 4.

MATERIAL EXAMINED. — **New Zealand.** "Challenger" : stn 166, 23.06.1874, 38°50'S, 169°20'E, 503 m : 1 ♂ 5.5 mm; 1 ♀ 6.8 mm, types (BM).

REMARKS. — This species has been only cited off New Zealand. In order to improve the knowledge of this interesting species, and considering the proximity of the type locality with New Caledonia, a brief diagnosis and an illustration is provided.

DESCRIPTION. — Carapace with few secondary striae, pair of protogastric spines behind largest epigastric spines. Frontal margin oblique. Branchial margin with 5 spines. Fourth thoracic sternite with few short striae, fifth to seventh smooth. Abdominal tergites with 8 spines on second segment, 4 spines on third segment. Second and third segments with 1 and 2 continuous striae, respectively. Eye large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennular peduncle (distal spines excluded) reaching end of cornea; distomesial spine longer than distolateral. Distomesial spine on basal segment of antennal peduncle reaching end of second segment. Distomesial spine on second segment exceeding peduncle. Merus of third maxilliped with extensor margin unarmed. Cheliped with movable finger armed with one basal and one distal spine; fixed finger with one distal spine. Dactylus of walking legs slightly shorter than propodus, terminal third of ventral margin unarmed.

DISTRIBUTION. — New Zealand, 503 m.

*Munida guttata* sp. nov.

Figs 20, 73

MATERIAL EXAMINED. — **New Caledonia.** 01.09.1978, 200 m : 1 ♂ 15.8 mm; 1 ov. ♀ 13.7 mm (MNHN-Ga 3278).

MUSORSTOM 4 : stn 183, 280 m : 1 ♂ 10.8 mm; 1 ♀ 11.4 mm (MNHN-Ga 2670). — Stn 184, 260 m : 2 ♂ 6.0 and 7.7 mm; 1 ov. ♀ 8.3 mm; 2 ♀ 10.3 and 10.5 mm (MNHN-Ga 3273). — Stn 191, 250 m : 1 ov. ♀ 10.0 mm (MNHN-Ga 2671). — Stn 227, 320 m : 1 ♂ 5.7 mm (MNHN-Ga 2672).

CHALCAL 2 : stn 19, 271 m : 1 ♂ 13.5 mm; 1 ov. ♀ 11.0 mm (MNHN-Ga 2673, 2674). — Stn 78, 233-360 m : 1 ♂ 5.8 mm; 2 ov. ♀ 12.1 and 12.3 mm (USNM). — Stn 79, 243-260 m : 1 ♂ 10.8 mm (MNHN-Ga 2676). — Stn 83, 200 m : 1 ov. ♀ 11.2 mm (MNHN-Ga 3401). — Stn 84, 170 m : 1 ♂ 8.4 mm (MNHN-Ga 2677).

SMIB 3 : stn 14, 246 m : 2 ♀ 5.8 and 8.7 mm (MNHN-Ga 2678).

SMIB 4 : stn 41, 235 m : 1 ov. ♀ 14.5 mm (MNHN-Ga 2680). — Stn 51, 260 m : 1 ov. ♀ 13.6 mm (MNHN-Ga 2681). — Stn 57, 260 m : 1 ♂ 9.0 mm (MNHN-Ga 3274).

SMIB 5 : stn 76, 240-280 m : 1 ♂ 14.7 mm (MNHN-Ga 3275). — Stn 78, 245 m : 1 ov. ♀ 9.0 mm (MNHN-Ga 3276). — Stn 80, 270-300 m : 2 ♂ 8.5 and 16.5 mm (MNHN-Ga 2818). — Stn 94, 275 m : 1 ♀ 9.8 mm (MNHN-Ga 3277).

**Loyalty Islands.** MUSORSTOM 6 : stn 399, 282 m : 3 ♂ 8.7 to 11.0 mm (MNHN-Ga 2821). — Stn 473, 236 m : 1 ♂ 11.3 mm; 1 ♀ 12.5 mm (MNHN Ga 2679).

TYPES. — The male of 13.5 mm from CHALCAL 2, Stn 19 (MNHN-Ga 2673) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Latin, *guttatus*, spotted, in reference to the colour pattern of the species.

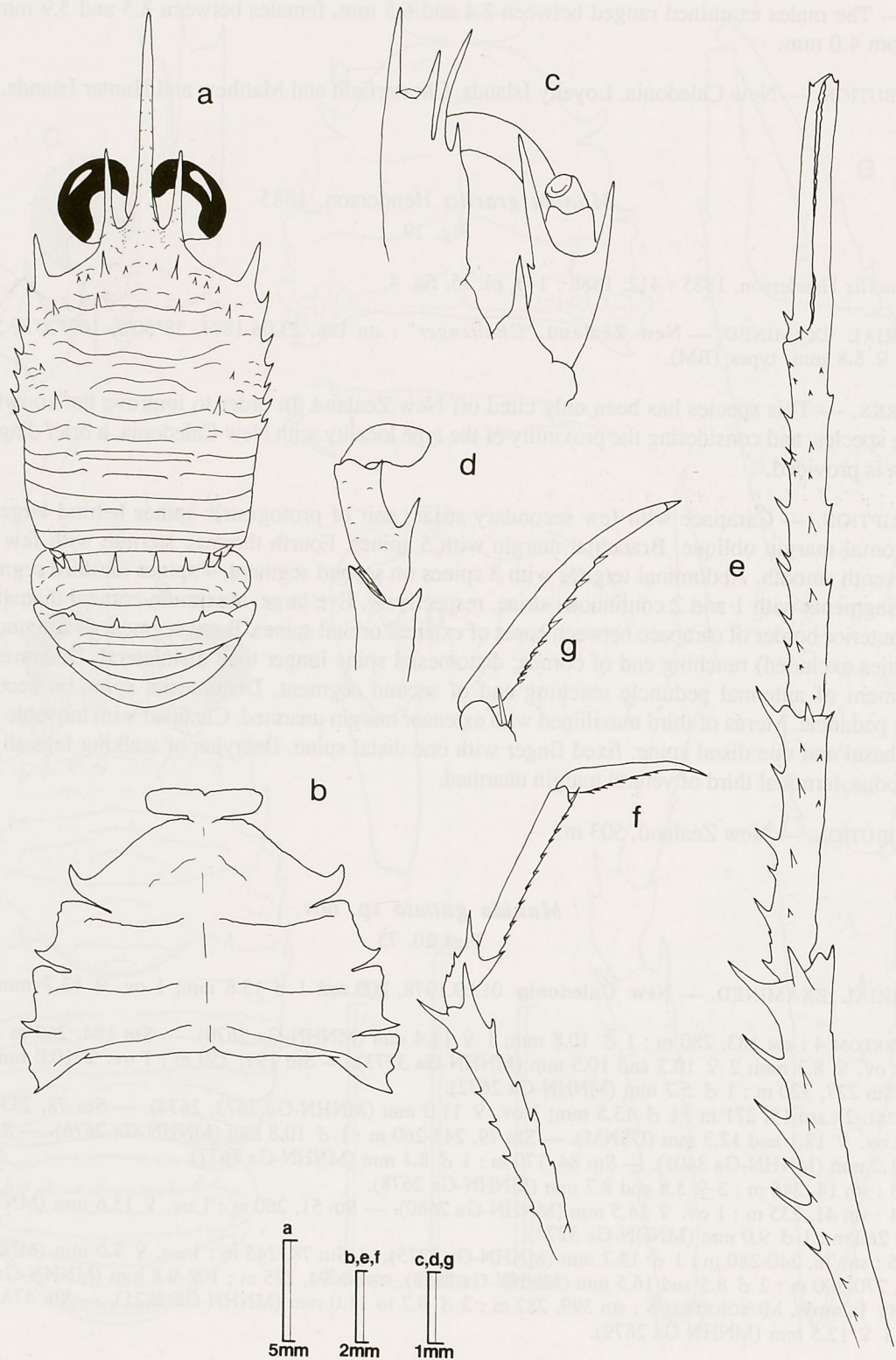


FIG. 19. — *Munida gracilis* Henderson, 1885, ♀ 6.8 mm, from New Zealand, Stn 166 ("Challenger"): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

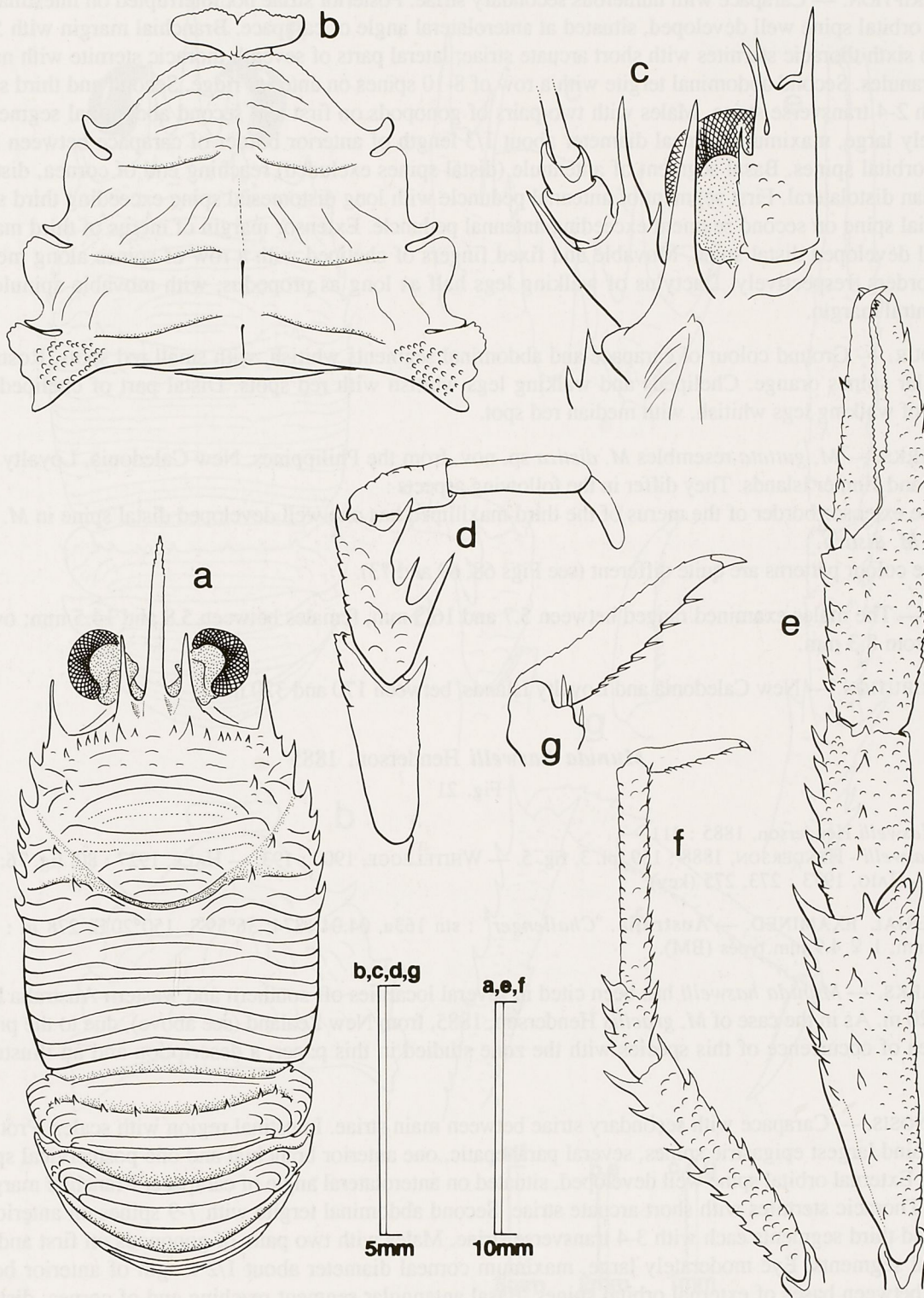


FIG. 20. — *Munida guttata* sp. nov., ♂ 13.5 mm, holotype from Stn 19 (CHALCAL 2) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

DESCRIPTION. — Carapace with numerous secondary striae. Posterior striae not interrupted on intestinal region. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth to sixth thoracic sternites with short arcuate striae; lateral parts of seventh thoracic sternite with numerous coarse granules. Second abdominal tergite with a row of 8-10 spines on anterior ridge. Second and third segments each with 2-4 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, distomesial longer than distolateral. First segment of antennal peduncle with long distomesial spine exceeding third segment; distomesial spine on second segment exceeding antennal peduncle. Extensor margin of merus of third maxilliped with well developed distal spine. Movable and fixed fingers of cheliped with a row of spines along mesial and lateral borders, respectively. Dactylus of walking legs half as long as propodus, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments whitish, with small red spots. Rostrum and supraocular spines orange. Chelipeds and walking legs whitish with red spots. Distal part of chelipeds white. Dactylus of walking legs whitish, with median red spot.

REMARKS. — *M. guttata* resembles *M. distiza* sp. nov. from the Philippines, New Caledonia, Loyalty Islands, Matthew and Hunter Islands. They differ in the following aspects :

— The extensor border of the merus of the third maxilliped has one well developed distal spine in *M. guttata*, absent in *M. distiza*.

— The colour patterns are quite different (see Figs 68, 69 and 73).

SIZE. — The males examined ranged between 5.7 and 16.5 mm, females between 5.8 and 14.5 mm; ovigerous females from 8.3 mm.

DISTRIBUTION. — New Caledonia and Loyalty Islands, between 170 and 320 m.

### *Munida haswelli* Henderson, 1885

Fig. 21

*Munida Haswelli* Henderson, 1885 : 411.

*Munida haswelli* - HENDERSON, 1888 : 139, pl. 3, fig. 5. — WHITELEGGE, 1900 : 193. — HALE, 1927 : 80, fig. 76; 1941 : 273. — HAIG, 1973 : 273, 275 (key).

MATERIAL EXAMINED. — **Australia.** "Challenger" : stn 163a, 04.04.1874, 36°59'S, 150°20'E, 278 m : 2 ♂ 4.0 and 10.9 mm; 1 ♀ 4.9 mm types (BM).

REMARKS. — *Munida haswelli* has been cited in several localities off southern and western Australia between 90 and 420 m. As in the case of *M. gracilis* Henderson, 1885, from New Zealand (see above), due to the proximity of the area of occurrence of this species with the zone studied in this paper, a description and an illustration is provided.

DIAGNOSIS. — Carapace with secondary striae between main striae. Intestinal region with scales. Protogastric spines behind largest epigastric spines, several parahepatic, one anterior branchial and one postcervical spines on each side. External orbital spine well developed, situated on anterolateral angle of carapace. Branchial margin with 5 spines. Thoracic sternites with short arcuate striae. Second abdominal tergite with 7-9 spines on anterior ridge. Second and third segments each with 3-4 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment reaching end of cornea, distomesial spine longer than distolateral. Distomesial spine on basal segment of antennal peduncle reaching end of second segment; distomesial spine on second segment exceeding peduncle. Merus of third maxilliped with extensor margin armed with distal spine. Cheliped with movable finger armed with one basal and one distal spine; fixed finger with one distal spine. Dactylus of walking legs half as long as propodus, terminal third of ventral margin unarmed.

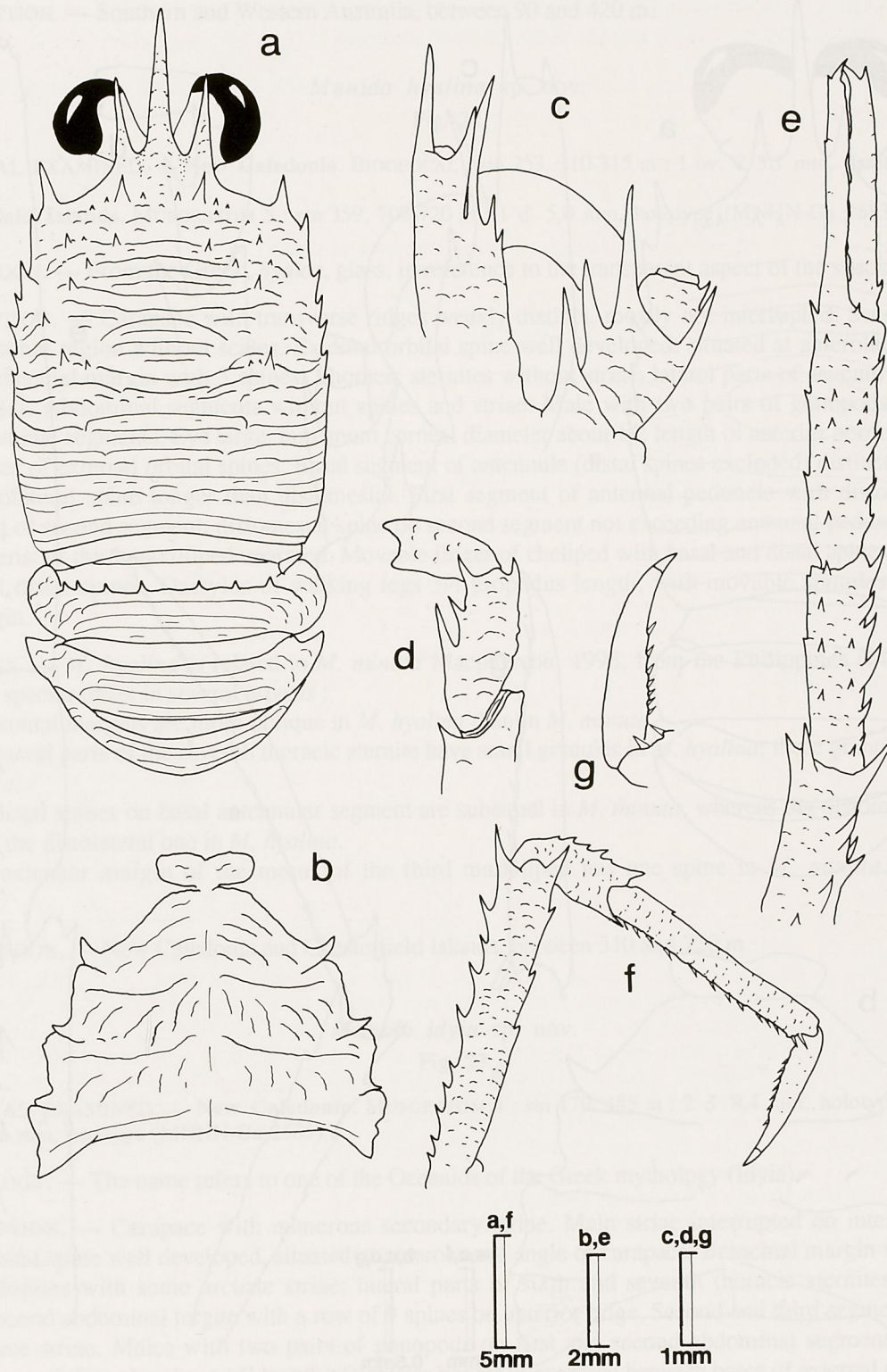


FIG. 21. — *Munida haswelli* Henderson, 1885, a-d, f-g : ♂ 10.9 mm, from Australia, Stn 163a ("Challenger"); e : ♀ 4.9 mm from Australia, Stn 163a ("Challenger"). a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, left third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

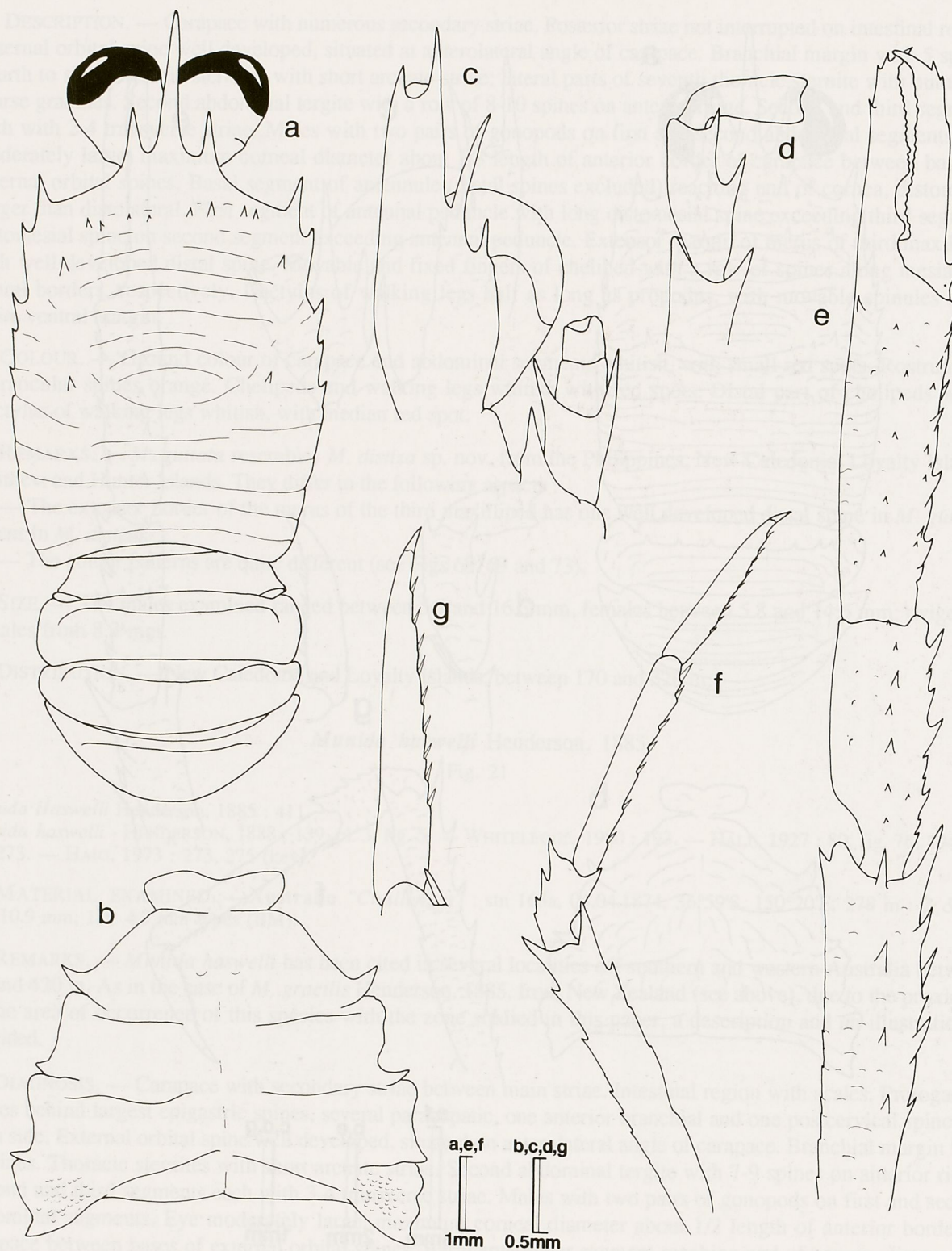


FIG. 22. — *Munida hyalina* sp. nov., ♂ 5.0 mm, holotype from Stn 359 (MUSORSTOM 5): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, left first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.



DISTRIBUTION. — Southern and Western Australia, between 90 and 420 m.

*Munida hyalina* sp. nov.

Fig. 22

MATERIAL EXAMINED. — **New Caledonia**. BIOGEOCAL : stn 253, 310-315 m : 1 ov. ♀ 3.1 mm, paratype (MNHN-Ga 2682).

**Chesterfield Islands**. MUSORSTOM 5 : stn 359, 700-720 m : 1 ♂ 5.0 mm, holotype (MNHN-Ga 2683).

ETYMOLOGY. — From the Greek, *hyalos*, glass, in reference to the transparent aspect of the species.

DESCRIPTION. — Carapace with transverse ridges weakly distinct, mostly not interrupted. Secondary striae absent. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 3 spines. Thoracic sternites without striae; lateral parts of seventh sternite with small granules. Abdominal segments without spines and striae. Male with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) distinctly exceeding cornea, distolateral spine longer than distomesial. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment not exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Movable finger of cheliped with basal and distal spines; fixed finger with several distal spines. Dactylus of walking legs 3/4 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. hyalina* is related to *M. minuta* Macpherson, 1993, from the Philippines (MACPHERSON, 1993). Both species differ in several aspects :

— The frontal margins are more oblique in *M. hyalina* than in *M. minuta*.

— The lateral parts of the seventh thoracic sternite have small granules in *M. hyalina*; these granules are absent in *M. minuta*.

— The distal spines on basal antennular segment are subequal in *M. minuta*, whereas the distomesial spine is shorter than the distolateral one in *M. hyalina*.

— The extensor margin of the merus of the third maxilliped has one spine in *M. minuta*, unarmed in *M. hyalina*.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, between 310 and 720 m.

*Munida idyia* sp. nov.

Fig. 23

MATERIAL EXAMINED. — **New Caledonia**. MUSORSTOM 4 : stn 170, 485 m : 2 ♂ 8.4 mm, holotype (MNHN-Ga 2648) and 8.5 mm, paratype (MNHN-Ga 2685).

ETYMOLOGY. — The name refers to one of the Oceanids of the Greek mythology (Idyia).

DESCRIPTION. — Carapace with numerous secondary striae. Main striae interrupted on intestinal region. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Thoracic sternites with some arcuate striae; lateral parts of sixth and seventh thoracic sternites with coarse granules. Second abdominal tergite with a row of 9 spines on anterior ridge. Second and third segments each with 2-3 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding cornea, distomesial slightly longer than distolateral. Basal segment of antennal peduncle with long distomesial spine reaching end of antennal peduncle; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped with small distal spine. Movable finger of cheliped with one basal and one distal spine on mesial

border; fixed finger with several spines along lateral border. Dactylus of walking legs half as long as propodus, with movable spinules along ventral margin, terminal third unarmed.

REMARKS. — *M. idyia* is closely related to *M. tyche* sp. nov. from New Caledonia and Chesterfield Islands, but they differ in several features (see Remarks under that species).

DISTRIBUTION. — New Caledonia, 485 m.

*Munida incerta* Henderson, 1888

Fig. 74

*Munida incerta* - BABA, 1988 : 106 (references); 1990 : 963.

MATERIAL EXAMINED. — **Japan.** Tosa Bay, 150-300 m, 11.1963 : 2 ♂ 19.9 and 22.6 mm (MNHN-Ga 1096).

**Philippines.** MUSORSTOM 1 : stn 40, 265-287 m : 1 ♂ 23.8 mm; 1 ov. ♀ 22.5 mm; 2 ♀ 13.7 and 16.4 mm (MNHN-Ga 2686). — Stn 50, 415-510 m : 16 ♂ 8.2 to 25.2 mm; 3 ov. ♀ 15.7 to 20.6 mm; 19 ♀ 4.6 to 19.7 mm (MNHN-Ga 2687). — Stn 51, 170-200 m : 1 ♂ 26.0 mm; 1 ov. ♀ 26.3 mm (MNHN-Ga 2688).

MUSORSTOM 2 : stn 40, 280-440 m : 3 ♂ 24.0 to 25.4 mm; 4 ov. ♀ 22.0 to 23.4 mm; 1 ♀ 21.8 mm (MNHN-Ga 2689). — Stn 75, 300-330 m : 11 ♂ 8.0 to 19.7 mm; 22 ♀ 6.8 to 16.5 mm (MNHN-Ga 2690). — Stn 83, 318-320 m : 15 ♂ 10.7 to 28.0 mm; 5 ov. ♀ 20.3 to 27.0 mm; 7 ♀ 9.0 to 18.2 mm (MNHN-Ga 2691).

MUSORSTOM 3 : stn 119, 320-337 m : 14 ♂ 10.1 to 27.4 mm; 5 ov. ♀ 21.0 to 22.2 mm; 16 ♀ 11.1 to 22.4 mm (MNHN-Ga 2692). — Stn 123, 700-702 m : 2 ♂ 6.1 and 18.0 mm (MNHN-Ga 2693). — Stn 133, 334-390 m : 1 ♂ 22.5 mm; 1 ♀ 21.4 mm (MNHN-Ga 2694).

"Challenger" : stn 200, 23.10.1874, 06°47'N, 122°28'E, 463 m : 1 ♀ 15.5 mm, type (BM).

**Kiribati.** 600 m, 05.1987 : 1 ♂ 29.6 mm (MNHN-Ga 2738).

**New Caledonia.** BIOCAL : stn 40, 650 m : 2 ♂ 28.5 and 31.3 mm (MNHN-Ga 2695). — Stn 52, 540-600 m : 5 ♂ 21.1 to 29.7 mm; 5 ov. ♀ 21.5 to 24.7 mm (MNHN-Ga 2696). — Stn 109, 495-515 m : 1 ov. ♀ 27.5 mm (MNHN-Ga 2697).

MUSORSTOM 4 : stn 156, 530 m : 1 ♂ 26.0 mm (MNHN-Ga 2698). — Stn 158, 620 m : 1 ♂ 22.3 mm; 4 ♀ 5.8 to 12.5 mm (MNHN-Ga 2699). — Stn 159, 600 m : 1 ♂ 17.4 mm (MNHN-Ga 2700). — Stn 169, 600 m : 26 ♂ 7.9 to 28.2 mm; 9 ov. ♀ 18.4 to 24.7 mm; 14 ♀ 12.2 to 24.7 mm (MNHN-Ga 2701). — Stn 170, 485 m : 2 ♂ 16.0 and 21.5 mm (MNHN-Ga 2702). — Stn 178, 520 m : 3 ♂ 8.5 to 12.4 mm; 1 ov. ♀ 24.7 mm; 2 ♀ 10.0 and 13.4 mm (MNHN-Ga 2703). — Stn 179, 480 m : 1 ♂ 18.9 mm; 1 ♀ 21.0 mm (MNHN-Ga 2704). — Stn 194, 550 m : 3 ♂ 13.0 to 31.9 mm; 10 ov. ♀ 15.0 to 27.3 mm; 3 ♀ 17.2 to 18.0 mm (MNHN-Ga 2705). — Stn 197, 550 m : 2 ♂ 11.2 and 20.5 mm (MNHN-Ga 2706). — Stn 198, 585 m : 30 ♂ 14.7 to 32.0 mm; 22 ov. ♀ 13.9 to 24.4 mm; 20 ♀ 15.4 to 24.2 mm (MNHN-Ga 2707). — Stn 199, 600 m : 19 ♂ 10.4 to 28.7 mm; 6 ov. ♀ 17.5 to 20.4 mm; 11 ♀ 10.4 to 18.7 mm (MNHN-Ga 2708). — Stn 200, 535 m : 6 ♂ 12.2 to 32.2 mm; 3 ov. ♀ 20.6 to 26.7 mm; 1 ♀ 28.6 mm (MNHN-Ga 2709). — Stn 201, 490 m : 1 ♂ 26.5 mm; 1 ov. ♀ 28.5 mm (MNHN-Ga 2710). — Stn 202, 580 m : 44 ♂ 12.1 to 31.8 mm; 5 ov. ♀ 20.2 to 22.2 mm; 10 ♀ 9.3 to 20.2 mm (MNHN-Ga 2711). — Stn 221, 535-560 m : 2 ♂ 26.5 and 30.5 mm; 2 ♀ 8.0 and 20.0 mm; 1 juv. 5.8 mm (MNHN-Ga 2712). — Stn 223, 545-560 m : 1 ♀ 6.0 mm (MNHN-Ga 2713). — Stn 236, 495-550 m : 12 ♂ 7.6 to 34.5 mm; 1 ov. ♀ 28.6 mm; 5 ♀ 7.8 to 10.4 mm (MNHN-Ga 2714). — Stn 238, 500-510 m : 1 ♂ 8.0 mm; 1 ♀ 8.3 mm (MNHN-Ga 2715). — Stn 239, 470-475 m : 14 ♂ 8.0 to 35.5 mm; 2 ov. ♀ 27.8 and 29.0 mm; 8 ♀ 6.2 to 17.5 mm (MNHN-Ga 2716). — Stn 240, 475-500 m : 3 ♀ 6.2 to 12.5 mm (MNHN-Ga 2717). — Stn 241, 470-480 m : 2 ♂ 8.0 and 15.7 mm; 3 ov. ♀ 17.0 to 21.6 mm; 3 ♀ 8.4 to 10.5 mm (USNM). — Stn 242, 500-550 m : 16 ♂ 8.0 to 26.0 mm; 15 ♀ 6.3 to 22.7 mm (MNHN-Ga 2719). — Stn 247, 435-460 m : 1 ov. ♀ 20.4 mm (MNHN-Ga 2720).

SMB 2 : stn 11, 475-500 m : 1 ♂ 24.5 mm (MNHN-Ga 2721).

SMB 3 : stn 21, 525 m : 1 ♀ 12.9 mm (MNHN-Ga 2722).

**Loyalty Islands.** MUSORSTOM 6 : stn 466, 540 m : 1 ♂ 12.0 mm; 1 ♀ 17.5 mm (MNHN-Ga 2727). — Stn 469, 630 m : 1 ♀ 12.2 mm (MNHN-Ga 2728). — Stn 470, 560 m : 2 ♂ 18.6 and 20.0 mm; 1 ♀ 21.5 mm (MNHN-Ga 2729). — Stn 489, 700 m : 1 ♀ 14.5 mm (MNHN-Ga 3497).

**Chesterfield Islands.** MUSORSTOM 5 : stn 341, 620-630 m : 1 ov. ♀ 23.5 mm; 1 ♀ 20.4 mm (MNHN-Ga 2730). — Stn 358, 680-700 m : 1 ♂ 15.5 mm (MNHN-Ga 2731). — Stn 359, 700-720 m : 1 ♂ 29.0 mm (MNHN-Ga 2732). — Stn 363, 685-700 m : 6 ♂ 25.5 to 33.6 mm; 3 ♀ 22.4 to 25.7 mm (MNHN-Ga 2733). — Stn 364, 675 m : 5 ♂ 20.4 to 33.3 mm; 2 ♀ 17.5 and 24.6 mm (MNHN-Ga 2734). — Stn 365, 710 m : 9 ♂ 23.0 to 34.3 mm; 1 ♀ 24.0 mm (MNHN-Ga 2870). — Stn 383, 600-615 m : 3 ♂ 16.4 to 24.9 mm; 5 ov. ♀ 23.6 to 28.0 mm; 5 ♀ 13.5 to 18.0 mm (MNHN-Ga 2735). — Stn 387, 650-660 m : 3 ♂ 30.0 to 34.3 mm; 1 ♀ 24.4 mm (MNHN-Ga 2736). — Stn 389, 500 m : 1 ♂ 20.4 mm (MNHN-Ga 2737).

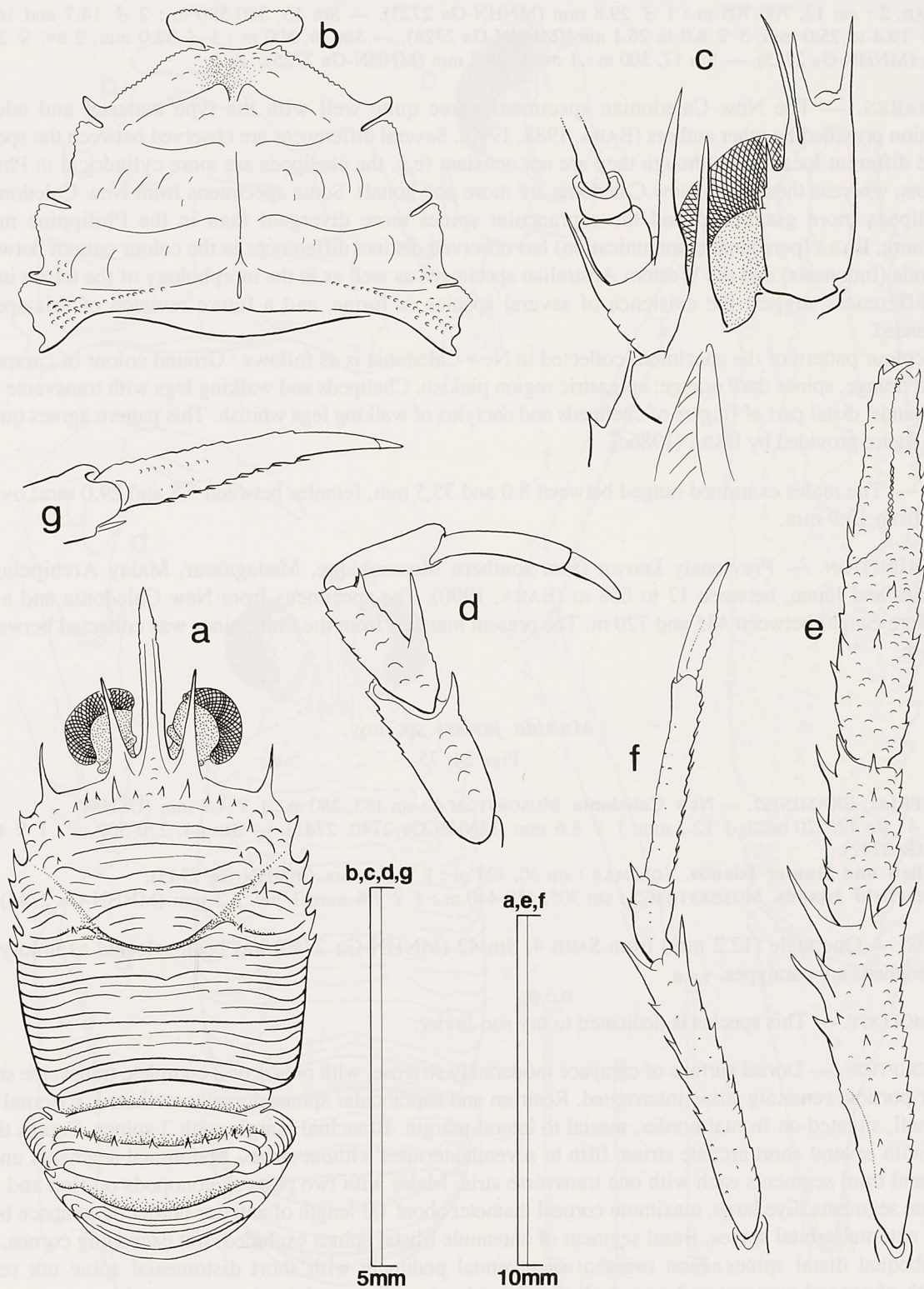


FIG. 23.— *Munida idyia* sp. nov., ♂ 8.4 mm, holotype from Stn 170 (MUSORSTOM 4) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

CORAIL 2 : stn 13, 700-705 m : 1 ♂ 29.8 mm (MNHN-Ga 2723). — Stn 15, 580-590 m : 2 ♂ 14.7 and 16.0 mm; 10 ov. ♀ 19.4 to 25.0 mm; 5 ♀ 8.0 to 26.1 mm (MNHN-Ga 2724). — Stn 16, 500 m : 1 ♂ 32.0 mm; 2 ov. ♀ 25.0 and 25.5 mm (MNHN-Ga 2725). — Stn 17, 500 m : 1 ov. ♀ 28.7 mm (MNHN-Ga 2726).

REMARKS. — The New Caledonian specimens agree quite well with the type material and additional information provided by other authors (BABA, 1988, 1990). Several differences are observed between the specimens from the different localities, although they are not constant (e.g. the chelipeds are more cylindrical in Philippine specimens, whereas those from New Caledonia are more polygonal). Some specimens from New Caledonia have the chelipeds more granulated and the supraocular spines more divergent than in the Philippine material. Furthermore, BABA (personal communication) has observed distinct differences in the colour pattern between the Kei Islands (Indonesia) and the Western Australian specimens as well as in the morphology of the telson in males. These differences suggest the existence of several species or forms, and a future revision of this species is recommended.

The colour pattern of the specimens collected in New Caledonia is as follows : Ground colour of carapace and abdomen orange, spines dark orange; epigastric region pinkish. Chelipeds and walking legs with transverse whitish and red bands; distal part of fingers of chelipeds and dactylus of walking legs whitish. This pattern agrees quite well with the figure provided by BABA (1986c).

SIZE. — The males examined ranged between 8.0 and 35.5 mm, females between 5.8 and 29.0 mm; ovigerous females from 13.9 mm.

DISTRIBUTION. — Previously known from southern Mozambique, Madagascar, Malay Archipelago, the Philippines and Japan, between 17 to 658 m (BABA, 1990). The specimens from New Caledonia and adjacent waters were caught between 435 and 720 m. The present material from the Philippines was collected between 170 and 702 m.

*Munida javieri* sp. nov.

Figs 24, 75

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 183, 280 m : 1 ♀ 4.7 mm (USNM).

SMIB 4 : stn 42, 320 m : 1 ♂ 12.2 mm; 1 ♀ 8.6 mm (MNHN-Ga 2740, 2741). — Stn 44, 270-300 m : 1 ♀ 6.0 mm (MNHN-Ga 2742).

**Matthew and Hunter Islands.** VOLSMAR : stn 50, 425 m : 1 ♀ 5.4 mm (MNHN-Ga 2743).

**Chesterfield Islands.** MUSORSTOM 5 : stn 305, 430-440 m : 1 ♀ 7.6 mm; 1 juv. 4.3 mm (MNHN-Ga 2744).

TYPES. — One male (12.2 mm) from SMIB 4, Stn 42 (MNHN-Ga 2740) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to my son Javier.

DESCRIPTION. — Dorsal surface of carapace moderately strigose, with only 1 or 2 complete transverse striae on posterior portion; remaining striae interrupted. Rostrum and supraocular spines dorsally carinated. External orbital spine small, situated on frontal border, mesial to lateral margin. Branchial margin with 3 spines. Fourth thoracic sternite with several short arcuate striae; fifth to seventh sternites without striae. Abdominal segments unarmed. Second and third segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) not exceeding cornea, with 2 short subequal distal spines. First segment of antennal peduncle with short distomesial spine not reaching midlength of second segment and one small distolateral spine; distomesial spine on second segment exceeding antennal peduncle; small distal spines on mesial and lateral angle of third segment. Extensor margin of merus of third maxilliped unarmed. Fixed finger of cheliped with a lateral row of spines; movable finger with a row of spines along mesial border; dorsal side of both fingers with a row of spines, absent in juvenile specimen. Dactylus of walking legs 1/2 propodus length, with movable spinules along entire ventral margin.

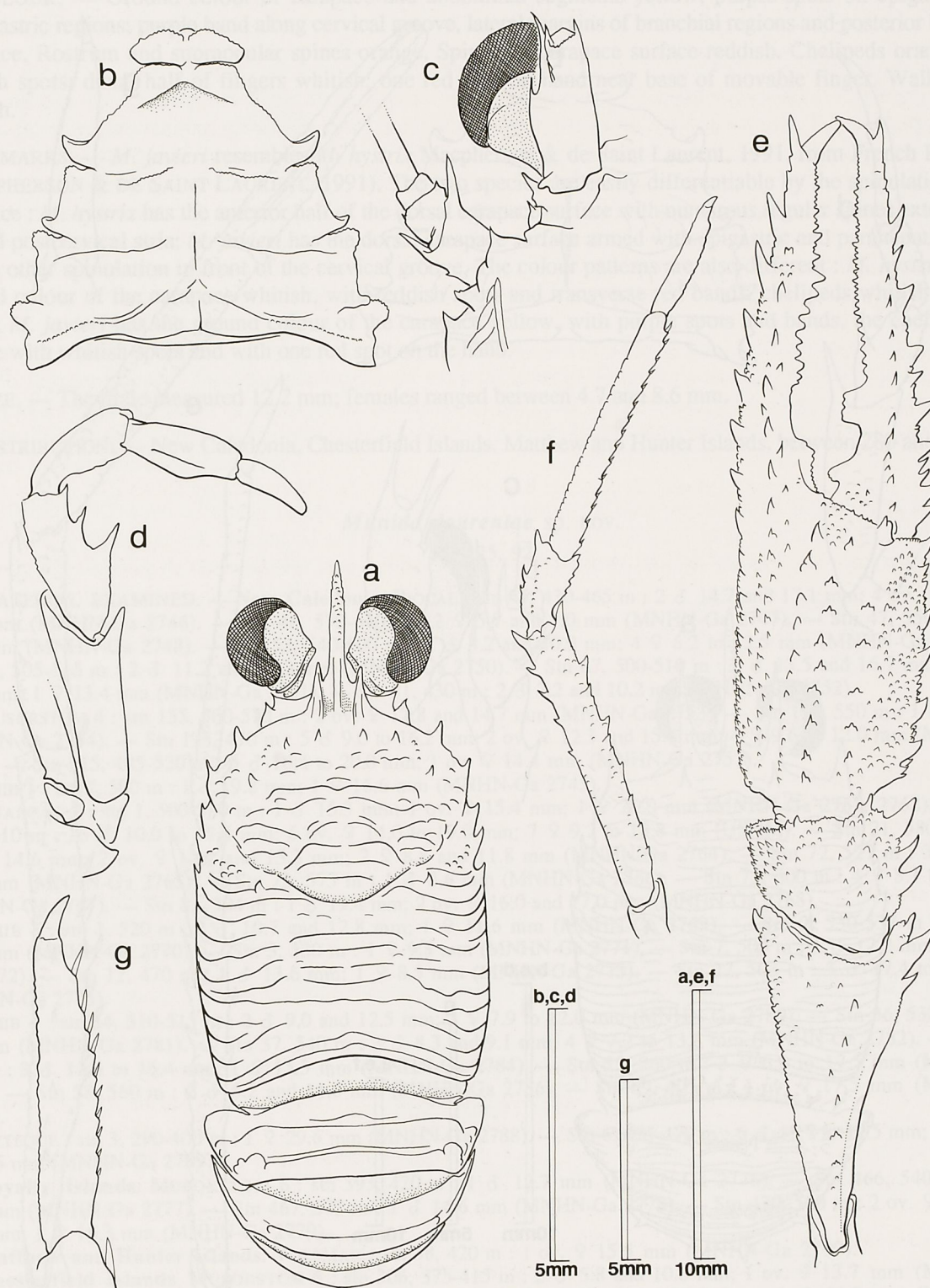


FIG. 24. — *Munida javieri* sp. nov., ♂ 12.2 mm, holotype from Stn 42 (SMIB 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

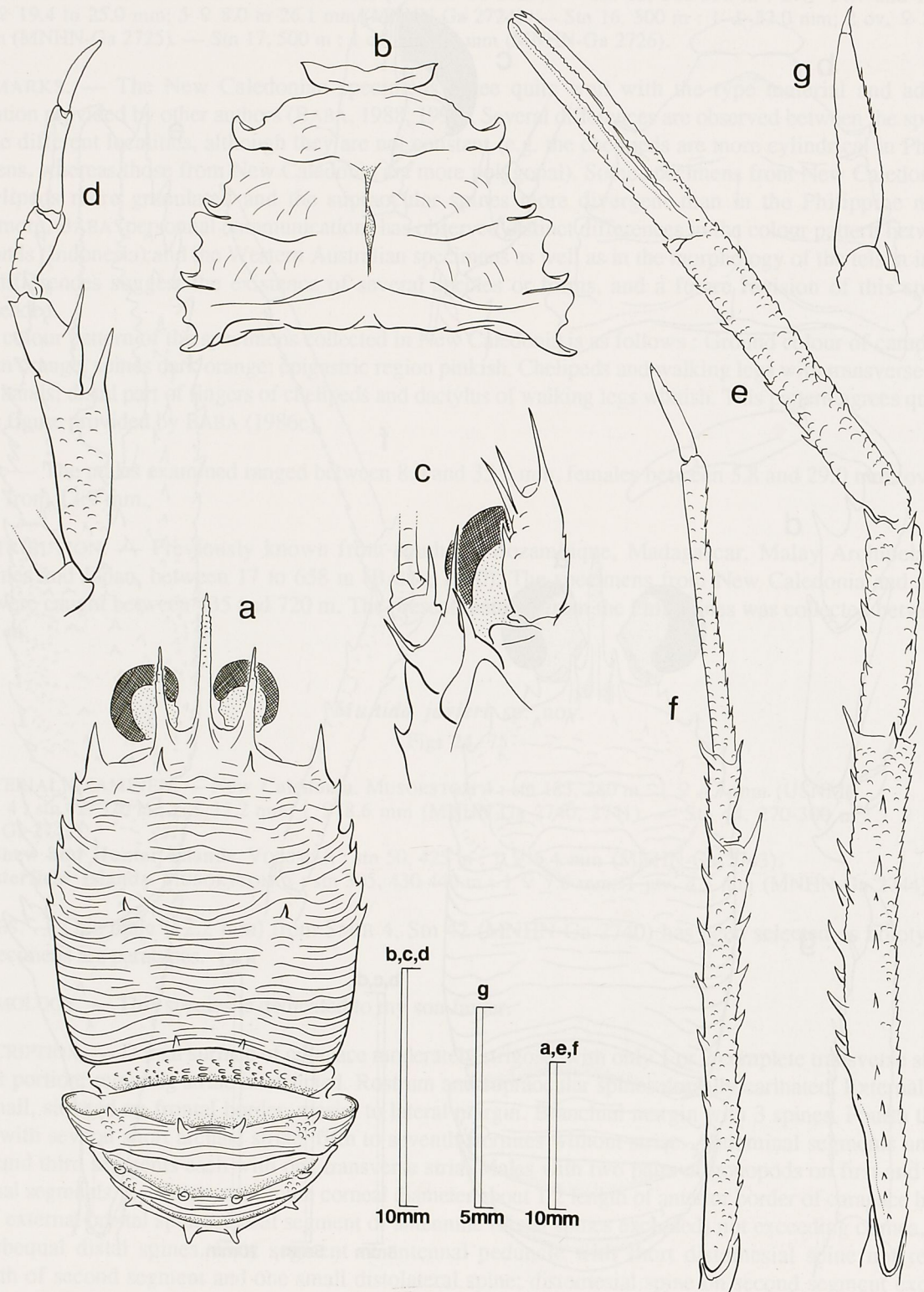


FIG. 25. — *Munida laurentae* sp. nov., ♂ 15.3 mm, holotype from Stn 1 (CHALCAL 2) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

COLOUR. — Ground colour of carapace and abdominal segments yellow; purple spots on epigastric and mesogastric regions; purple band along cervical groove, lateral margins of branchial regions and posterior border of carapace. Rostrum and supraocular spines orange. Spines on carapace surface reddish. Chelipeds orange, with whitish spots; distal half of fingers whitish; one red spot on hand near base of movable finger. Walking legs whitish.

REMARKS. — *M. javieri* resembles *M. hystrix* Macpherson & de Saint Laurent, 1991, from French Polynesia (MACPHERSON & DE SAINT LAURENT, 1991). The two species are easily differentiable by the spinulation of the carapace: *M. hystrix* has the anterior half of the dorsal carapace surface with numerous regular spines extending to second postcervical stria; *M. javieri* has the dorsal carapace surface armed with epigastric and parahepatic spines, but no other spinulation in front of the cervical groove. The colour patterns are also different: *M. hystrix* has the ground colour of the carapace whitish, with reddish spots and transverse red bands, chelipeds whitish with red bands; *M. javieri* has the ground colour of the carapace yellow, with purple spots and bands, the chelipeds are orange with whitish spots and with one red spot on the hand.

SIZE. — The male measured 12.2 mm; females ranged between 4.7 and 8.6 mm.

DISTRIBUTION. — New Caledonia, Chesterfield Islands, Matthew and Hunter Islands, between 280 and 440 m.

*Munida laurentae* sp. nov.

Figs 25, 92

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL: stn 45, 430-465 m: 2 ♂ 14.7 and 17.1 mm; 4 ov. ♀ 13.0 to 19.1 mm (MNHN-Ga 2746). — Stn 46, 570-610 m: 2 ♀ 5.7 and 7.0 mm (MNHN-Ga 2747). — Stn 47, 550 m: 1 ♂ 28.6 mm (MNHN-Ga 2748). — Stn 52, 540-600 m: 2 ♂ 8.2 and 10.9 mm; 4 ♀ 6.2 to 12.5 mm (MNHN-Ga 2749). — Stn 66, 505-515 m: 2 ♂ 11.2 and 13.3 mm (MNHN-Ga 2750). — Stn 67, 500-510 m: 2 ♂ 13.5 and 16.7 mm; 1 ov. ♀ 12.2 mm; 1 ♀ 13.4 mm (MNHN-Ga 2751). — Stn 81, 430 m: 2 ♂ 7.2 and 10.2 mm (MNHN-Ga 2752).

MUSORSTOM 4: stn 155, 500-570 m: 2 ov. ♀ 12.8 and 14.7 mm (MNHN-Ga 2753). — Stn 194, 550 m: 1 ♂ 9.0 mm (MNHN-Ga 2754). — Stn 195, 470 m: 5 ♂ 9.0 to 16.2 mm; 2 ov. ♀ 12.3 and 15.8 mm; 4 ♀ 9.6 to 12.0 mm (MNHN-Ga 2755). — Stn 215, 485-520 m: 5 ♂ 16.4 to 20.0 mm; 1 ov. ♀ 14.4 mm (MNHN-Ga 2757).

SMIB 1: stn 7, 500 m: 1 ♂ 19.8 mm; 1 ♀ 16.6 mm (MNHN-Ga 2745).

CHALCAL 2: stn 1, 500-580 m: 1 ♂ 15.3 mm; 1 ov. ♀ 15.4 mm; 1 ♀ 20.0 mm (MNHN-Ga 2761, 2762). — Stn 2 500-610 m: 16 ♂ 10.0 to 17.4 mm; 6 ov. ♀ 14.0 to 19.0 mm; 7 ♀ 9.2 to 18.8 mm (USNM). — Stn 21, 580 m: 6 ♂ 9.4 to 14.6 mm; 2 ov. ♀ 12.4 and 15.3 mm; 2 ♀ 8.8 and 11.8 mm (MNHN-Ga 2764). — Stn 72, 527 m: 3 ♂ 9.4 to 11.8 mm (MNHN-Ga 2765). — Stn 73, 573 m: 1 ♂ 8.6 mm (MNHN-Ga 2766). — Stn 75, 600 m: 4 ♀ 8.1 to 9.5 mm (MNHN-Ga 2767). — Stn 82, 304 m: 1 ♂ 19.4 mm; 2 ov. ♀ 16.0 and 17.0 mm (MNHN-Ga 2768).

SMIB 3: stn 1, 520 m: 2 ♂ 10.7 and 12.8 mm; 1 ♀ 11.6 mm (MNHN-Ga 2769). — Stn 2, 530-537 m: 1 ov. ♀ 13.3 mm (MNHN-Ga 2770). — Stn 3, 530 m: 1 ♀ 9.8 mm (MNHN-Ga 2771). — Stn 7, 505 m: 1 ♂ 12.2 mm (MNHN-Ga 2772). — Stn 12, 470 m: 1 ♂ 13.6 mm; 1 ♀ 8.5 mm (MNHN-Ga 2773). — Stn 22, 503 m: 3 ♂ 17.4 to 20.3 mm (MNHN-Ga 2775).

SMIB 4: stn 34, 510-515 m: 2 ♂ 9.0 and 12.5 mm; 3 ♀ 7.9 to 12.0 mm (MNHN-Ga 2780). — Stn 36, 530 m: 1 ♂ 9.3 mm (MNHN-Ga 2781). — Stn 37, 540 m: 2 ♂ 8.3 and 9.1 mm; 4 ♀ 7.2 to 13.8 mm (MNHN-Ga 2782). — Stn 39, 560 m: 3 ♂ 12.4 to 16.4 mm; 1 ♀ 15.3 mm (MNHN-Ga 2784). — Stn 55, 260 m: 3 ♀ 6.9 to 17.5 mm (MNHN-Ga 2785). — Stn 58, 560 m: 2 ♂ 8.2 and 11.8 mm (MNHN-Ga 2786). — Stn 69, 405 m: 1 ov. ♀ 17.5 mm (MNHN-Ga 2787).

AZTÈQUE: stn 3, 290-400 m: 1 ♀ 29.6 mm (MNHN-Ga 2788). — Stn 6, 425-470 m: 6 ♂ 15.7 to 17.5 mm; 3 ♀ 13.8 to 31.5 mm (MNHN-Ga 2789).

**Loyalty Islands.** MUSORSTOM 6: stn 393, 420 m: 1 ♂ 12.7 mm (MNHN-Ga 2776). — Stn 466, 540 m: 1 ♀ 14.8 mm (MNHN-Ga 2777). — Stn 467, 575 m: 1 ♂ 14.6 mm (MNHN-Ga 2778). — Stn 470, 560 m: 2 ov. ♀ 16.4 and 17.3 mm; 1 ♀ 16.3 mm (MNHN-Ga 2779).

**Matthew and Hunter Islands.** VOLSMAR: stn 38, 420 m: 1 ov. ♀ 15.5 mm (MNHN-Ga 2790).

**Chesterfield Islands.** MUSORSTOM 5: stn 306, 375-415 m: 2 ♂ 5.8 and 10.0 mm; 1 ov. ♀ 13.7 mm (MNHN-Ga 2791). — Stn 338, 540-580 m: 1 ♂ 12.9 mm (MNHN-Ga 2792). — Stn 388, 500-510 m: 1 ♂ 16.3 mm (MNHN-Ga 2793).

TYPES. — One male of 15.3 mm from CHALCAL 2, Stn 1 (MNHN-Ga 2761) has been selected as holotype; the other specimens are paratypes.

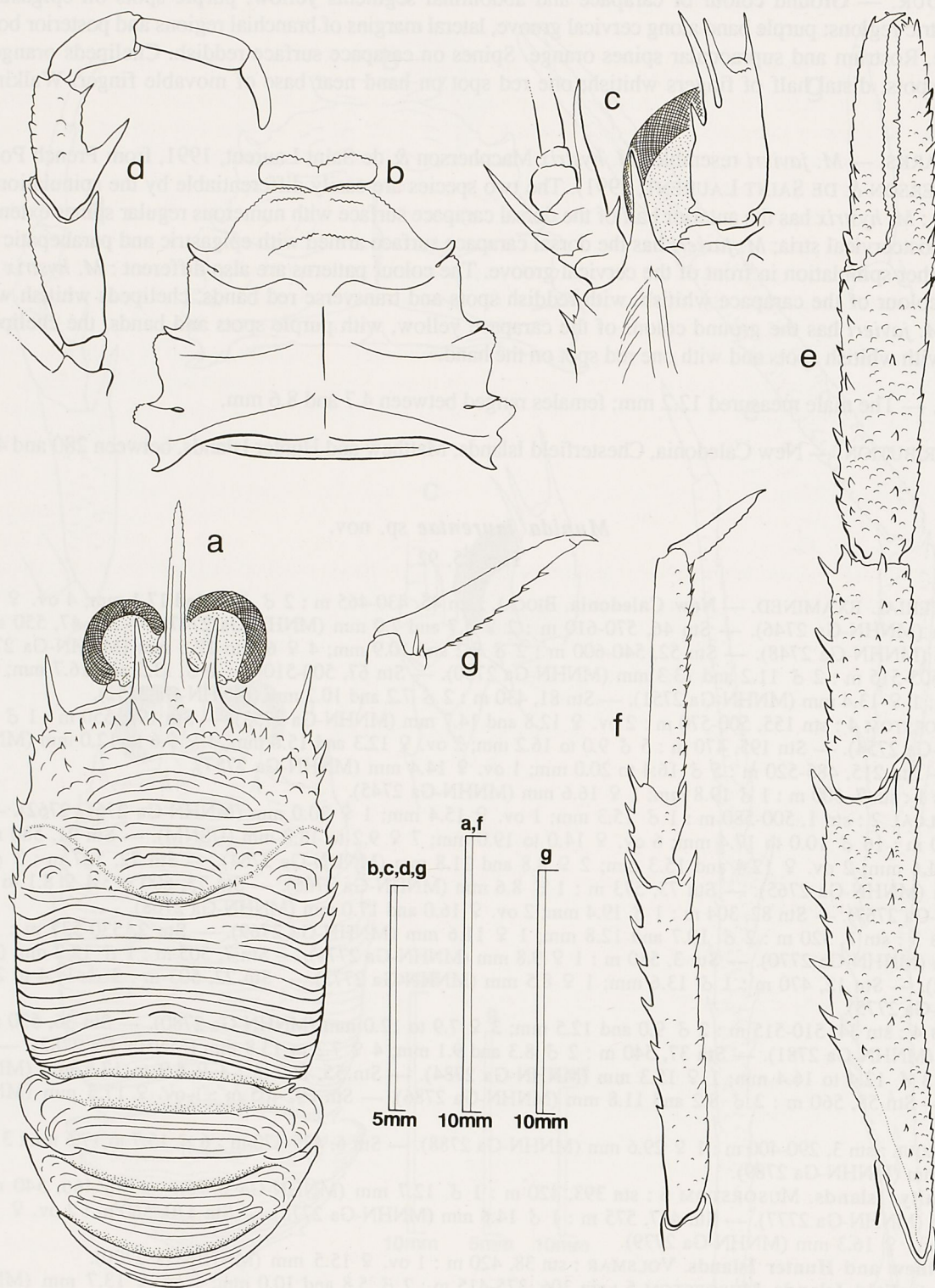


FIG. 26. — *Munida leagora* sp. nov., ♂ 12.0 mm, holotype from Stn 78 (BIOCAL): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.



ETYMOLOGY. — It is a pleasure to dedicate this species to Michèle DE SAINT LAURENT from the Muséum national d'Histoire naturelle, Paris for her continuous support in my work.

DESCRIPTION. — Carapace with numerous secondary striae. Gastric region with 2 epigastric spines placed behind supraoculars. One postcervical spine on each side, occasionally 1-2 small spines behind each postcervical spine. Cardiac region without spines. Posterior transverse ridge armed with 2 median spines. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Thoracic sternites with numerous striae. Abdominal segments with numerous striae. Second, third and fourth segments each with 4 spines on anterior transverse ridge; posterior ridge of fourth segment unarmed. Males with gonopods absent from first abdominal segment. Eye moderately large, maximum corneal diameter  $\frac{1}{3}$  length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) reaching end of cornea, distomesial spine longer than distolateral. First antennal segment moderately produced on mesial margin, slightly exceeding second segment; distomesial spine on second segment exceeding antennal peduncle; third segment with long distomesial spine, exceeding antennal peduncle. Merus of third maxilliped bearing one median marginal spine on flexor border and one distomarginal spine on extensor margin. Fingers of cheliped subcylindrical, distally curving and crossing, ending in sharp point; one spine located near tip of fixed finger. Dactylus of walking legs  $\frac{1}{3}$  propodus length, with dorsal border slightly concave, ventral border convex, with median corneae spinules, unarmed on proximal and distal parts.

COLOUR. — Ground colour of carapace and abdomen orange; red spot on intestinal region, absent in larger specimens; median part of abdominal segments whitish. Rostrum orange. Chelipeds and walking legs with transverse whitish and red bands; proximal third of fingers of chelipeds reddish, distal part whitish. Dactylus of walking legs whitish.

REMARKS. — *M. laurentae* is related to *M. pilosimanus* Baba, 1969, from Japan (BABA, 1969a). The comparison of the new species with several specimens from Kyushu-Palau Ridge reported by BABA (1986c) (1 ♂ 11.9 mm; 2 ov. ♀ 14.7 and 16.4 mm) shows several constant differences:

- One well developed parahepatic spine on each side in *M. pilosimanus*, absent in the new species.
- The striae on the thoracic sternites are more numerous in *M. laurentae* than in *M. pilosimanus*.
- The mesial spine on the basal antennal segment not exceed the second segment in *M. pilosimanus*, whereas in the new species this spine exceeds the second segment. The mesial spine on the second antennal segment exceeds the antennal peduncle in *M. laurentae*, not in *M. pilosimanus*.
- One distal spine on the extensor border of the merus of the third maxilliped in *M. laurentae*. This spine is absent in *M. pilosimanus*.

*M. laurentae* is also close to *M. ocyrhoe* sp. nov. from New Caledonia and Chesterfield Islands (see below for the differences between these species).

SIZE. — The males examined ranged between 5.8 and 28.6 mm; females between 5.7 and 31.5 mm; ovigerous females from 12.2 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands, Chesterfield Islands, Matthew and Hunter Islands, between 260 and 610 m.

### *Munida leagora* sp. nov.

Figs 26, 76

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 67, 500 m : 16 ♂ 9.3 to 13.0 mm; 2 ov. ♀ 7.7 and 9.8 mm (MNHN-Ga 2794 and USNM). — Stn 77, 440 m : 2 ♂ 7.1 and 10.3 mm (MNHN-Ga 3279). — Stn 78, 445-450 m : 8 ♂ 7.7 to 14.4 mm; 2 ov. ♀ 8.0 and 12.7 mm; 3 ♀ 6.3 to 11.7 mm (MNHN-Ga 2795, 2796). — Stn 82, 440 m : 3 ♂ 7.0 to 12.4 mm; 1 ♀ 4.9 mm (MNHN-Ga 3280).

MUSORSTOM 4 : stn 180, 450 m : 1 ♂ 4.0 mm; 1 ♀ 5.0 mm (MNHN-Ga 2797). — Stn 238, 500-510 m : 1 ♀ 14.6 mm (MNHN-Ga 3282). — Stn 239, 470-475 m : 2 ♂ 8.2 and 8.9 mm; 1 ♀ 9.0 mm (MNHN-Ga 3283).

CHALCAL 2 : stn 21, 500 m : 10 ♂ 8.0 to 13.2 mm (MNHN-Ga 3281).

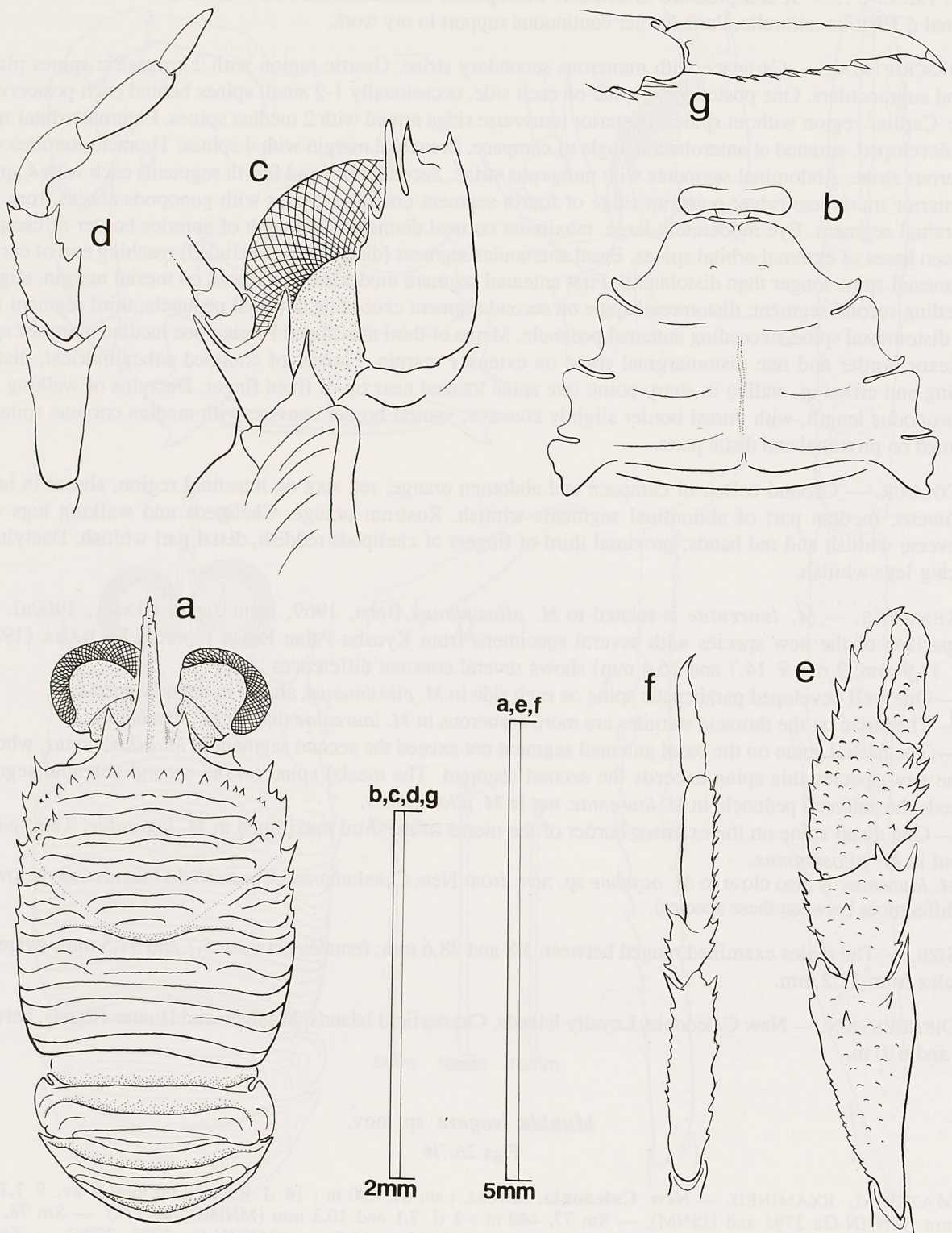


FIG. 27. — *Munida leptitis* sp. nov., ♀ 3.4 mm, holotype from Stn 431 (MUSORSTOM 6) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

SMIB 3 : stn 1, 520 m : 8 ♂ 6.8 to 11.6 mm; 3 ov. ♀ 6.7 to 9.3 mm (MNHN-Ga 2798).

SMIB 4 : stn 34, 515 m : 1 ov. ♀ 11.4 mm; 3 ♀ 8.3 to 9.2 mm (MNHN-Ga 3285). — Stn 38, 510 m : 2 ♂ 11.4 and 11.6 mm (MNHN-Ga 2803).

**Loyalty Islands.** MUSORSTOM 6 : stn 391, 390 m : 1 ♂ 6.3 mm; 1 ♀ 6.1 mm (MNHN-Ga 2799). — Stn 408, 380 m : 1 ♂ 10.0 mm (MNHN-Ga 3284). — Stn 419, 283 m : 4 ♂ 7.3 to 9.4 mm; 2 ov. ♀ 6.9 and 9.0 mm; 3 ♀ 6.7 and 7.6 mm (MNHN-Ga 3505). — Stn 428, 420 m : 2 ♂ 7.8 and 11.9 mm (MNHN-Ga 2800). — Stn 460 : 420 m : 1 ♂ 8.9 mm (MNHN-Ga 2801). — Stn 478, 400 m : 1 ♀ 6.8 mm (MNHN-Ga 2802). — Stn 485, 350 m : 1 ♂ 10.8 mm (MNHN-Ga 3506).

**Chesterfield Islands.** MUSORSTOM 5 : stn 258, 300 m : 2 ov. ♀ 5.2 and 5.6 mm (MNHN-Ga 3509). — Stn 267, 285 m : 1 ♀ 2.7 mm (MNHN-Ga 3510). — Stn 274, 285 m : 1 ♀ 4.1 mm (MNHN-Ga 3509). — Stn 278, 265 m : 1 ov. ♀ 6.9 mm (MNHN-Ga 2804). — Stn 300, 450 m : 6 ♂ 6.9 mm; 8 ov. ♀ 6.2 to 9.2 mm (MNHN-Ga 3286). — Stn 301, 487-610 m : 18 ♂ 5.4 to 11.0 mm; 7 ov. ♀ 5.7 to 7.3 mm; 6 ♀ 4.7 to 6.8 mm (MNHN-Ga 2805). — Stn 305, 430-440 m : 20 ♂ 4.3 to 10.2 mm; 6 ov. ♀ 5.6 to 9.0 mm; 10 ♀ 3.6 to 7.0 mm (MNHN-Ga 2806). — Stn 306, 375-415 m : 10 ♂ 5.1 to 11.3; 1 ov. ♀ 7.6 mm; 3 ♀ 5.3 to 5.9 mm (MNHN-Ga 2807). — Stn 332, 400 m : 3 ♂ 9.2 to 10.8 mm; 1 ov. ♀ 10.0 mm (MNHN-Ga 2808). — Stn 338, 540-580 m : 2 ♂ 6.3 and 11.0 mm (MNHN-Ga 2809).

**TYPES.** — The male of 12.0 mm from BIOCAL, Stn 78 (MNHN-Ga 2795) has been selected as holotype; the other specimens are paratypes.

**ETYMOLOGY.** — The name refers to one of the Nereids of the Greek mythology (Leagora).

**DESCRIPTION.** — Carapace with secondary striae between main striae. Posteriormost major stria not medially interrupted, except in small specimens. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few striae; fifth to seventh without striae. Abdominal segments unarmed. Second and third segments each with 3-5 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) ending at same level of cornea, with 2 subequal distal spines. First segment of antennal peduncle with long distomesial spine reaching end of second segment; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Fixed finger of cheliped with a row of spines along lateral margin; movable finger with three spines along proximal half of mesial margin, and one distal spine. Dactylus of walking legs 1/2 propodus length, with movable spinules along ventral margin, distal fourth unarmed.

**COLOUR.** — Carapace with wide transverse yellow and purple bands. Epigastric, mesogastric and cardiac regions with purple spot. Purple band along cervical groove. Second abdominal segment with median and lateral purple and yellow spots. Chelipeds and walking legs light orange; spines and some granules reddish. Distal part of fingers of chelipeds and dactylus of walking legs whitish.

**REMARKS.** — *M. leagora* is closely related to *M. pseliophora* sp. nov. from Loyalty Islands and Chesterfield Islands, however they can be distinguished by several features (see Remarks under that species).

**SIZE.** — The males examined ranged between 4.0 and 14.4 mm, females between 3.2 and 14.6 mm; ovigerous females from 5.2 mm.

**DISTRIBUTION.** — New Caledonia, Loyalty Islands and Chesterfield Islands, between 265 and 580 m.

*Munida leptitis* sp. nov.

Fig. 27

**MATERIAL EXAMINED.** — **New Caledonia.** BIOCAL : stn 82, 440 m : 1 ♂ 5.2 mm, paratype (MNHN-Ga 3287).

**Loyalty Islands.** MUSORSTOM 6 : stn 431, 21 m : 1 ♀ 3.4 mm, holotype (MNHN-Ga 2810).

**ETYMOLOGY.** — From the Greek, *leptitis*, smallness. The name is considered as a substantive in apposition.

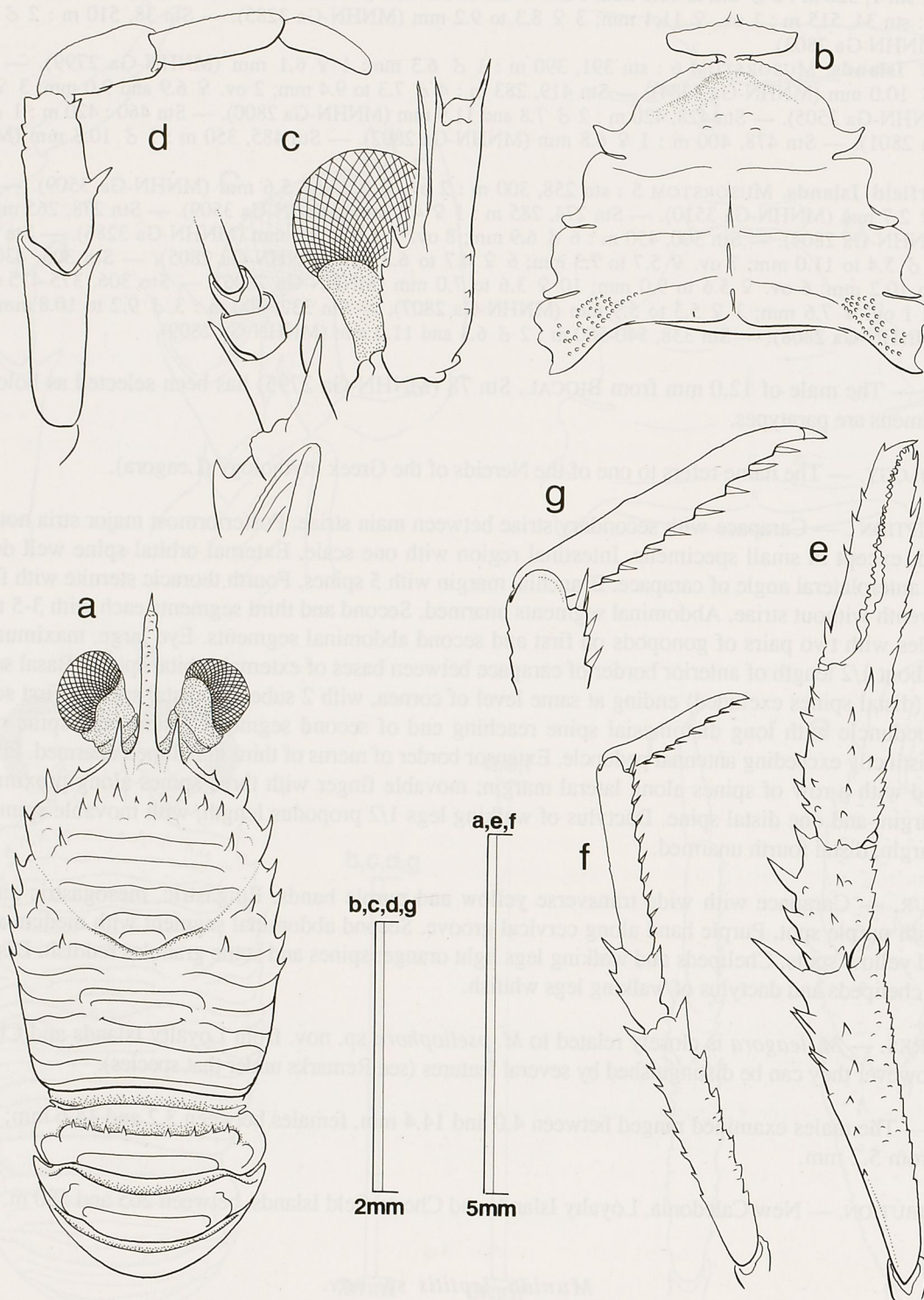


FIG. 28. — *Munida leptosyne* sp. nov., ov. ♀ 4.8 mm, holotype from Stn 441 (MUSORSTOM 6): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine short, situated at anterolateral angle of carapace. Branchial margin with 5 small spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh smooth. Abdominal segments unarmed. Second and third segments each with 2 transverse striae. Male with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) ending at same level as the cornea, distomesial spine shorter than distolateral. First segment of antennal peduncle with distomesial spine not reaching end of second segment; distomesial spine on second segment reaching end of third segment. Extensor margin of merus of third maxilliped with distal spine. Fixed finger of cheliped with a row of spines along lateral border; movable finger with basal spine. Dactylus of walking legs as long as propodus, with movable spinules along entire ventral margin.

REMARKS. — *M. leptitis* is closely related to *M. stia* sp. nov. from New Caledonia and Chesterfield Islands (see below for their relationships).

DISTRIBUTION. — Loyalty Islands and New Caledonia, 21 and 440 m.

*Munida leptosyne* sp. nov.

Fig. 28

MATERIAL EXAMINED. — **New Caledonia.** Meurthe Passage, 16.11.1991, 6-10 m : 6 ♂ 5.8 to 6.0 mm; 1 ov. ♀ 5.3 mm (MNHN-Ga 3288). — Banya South Is, 18.11.1991, 27 m : 1 ov. ♀ 4.0 mm (MNHN-Ga 3289).

**Loyalty Islands.** MUSORSTOM 6 : stn 441, 80 m : 1 ov. ♀ 4.8 mm (MNHN-Ga 2812).

**Chesterfield Islands.** CHALCAL 1 : stn 29, 100 m : 1 ♂ 6.2 mm (USNM).

CORAIL 2 : stn 7, 63-64 m : 1 ♂ 4.1 mm (USNM).

TYPES. — One ovigerous female (4.8 mm) from MUSORSTOM 6, Stn 441 (MNHN-Ga 2812) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *leptosyne*, thinness, in reference to the small size of the species. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine developed, rather mesial to level of lateral margins of carapace. Branchial margin with 4 spines. Fourth thoracic sternite with several short arcuate striae; fifth to seventh sternites smooth; lateral parts of seventh sternite with numerous granules. Second abdominal segment with a row of 4 pairs of spines on anterior ridge. Second and third segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) exceeding cornea, distomesial spine slightly longer than distolateral. First segment of antennal peduncle with distomesial spine reaching end second segment; distomesial spine on second segment nearly reaching end of third segment. Extensor border of merus of third maxilliped with small distal spine. Fixed and movable fingers of cheliped with a row of spines along entire lateral and mesial border, respectively. Dactylus of walking legs slightly shorter than propodus, with movable spinules along entire ventral margin.

REMARKS. — *M. leptosyne* resembles *M. evarne* Macpherson & de Saint Laurent, 1991, from French Polynesia (MACPHERSON & DE SAINT LAURENT, 1991). They differ in several aspects :

— The new species has the second abdominal segment with a row of 4 pairs of spines on the anterior ridge; only two small median spines in *M. evarne*.

— The antennular peduncle distinctly exceeds the eyes in *M. leptosyne*, whereas in *M. evarne* ends at the same level.

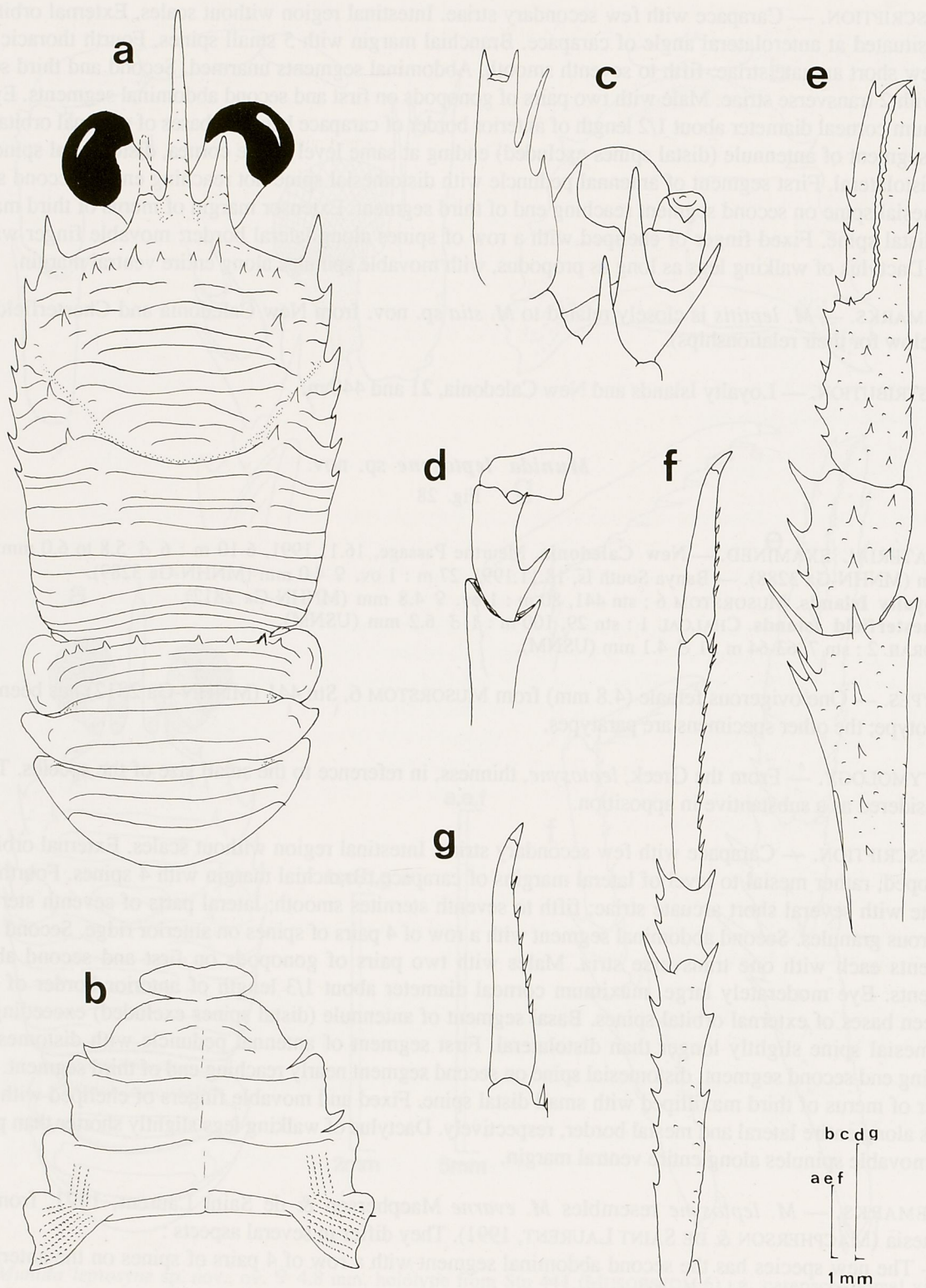


FIG. 29. — *Munida lineola* sp. nov., ♂ 5.0 mm, holotype from Saint Vincent Bay : **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

*M. leptosyne* is also close to *M. gordoae* sp. nov. from New Caledonia, Loyalty Islands, Matthew and Hunter Islands and Chesterfield Islands, but they are easily differentiable by the size of the distal spines on the basal antennular segment. *M. leptosyne* has the distomesial spine longer than the distolateral, whereas in *M. gordoae* it is shorter. Furthermore, the basal antennular segment is distinctly longer in *M. gordoae* than in *M. leptosyne*.

SIZE.— The males examined ranged between 4.1 and 6.2 mm; females between 4.0 and 5.3 mm; ovigerous females from 4.0 mm.

DISTRIBUTION. — Loyalty Islands and Chesterfield Islands, between 6 and 100 m.

### *Munida leviantennata* Baba, 1988

*Munida leviantennata* Baba, 1988 : 82 (key), 111, figs 41, 42.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 1 : stn 50, 415-510 m : 13 ♂ 7.6 to 12.0 mm; 4 ov. ♀ 9.0 to 11.1 mm; 1 ♀ 9.8 mm (MNHN-Ga 2814).

**Indonesia.** CORINDON 2 : stn 229, 411-445 m : 3 ♂ 10.6 to 10.9 mm (MNHN-Ga 2815).

**New Caledonia.** "Vauban" : 22°32.3'S, 166°25.8'E, 350-420 m, 06.06.1979 : 2 ♀ 12.7 and 16.0 mm (MNHN-Ga 2816).

BIOCAL : stn 109, 495-515 m : 1 ♂ 16.0 mm; 1 ov. ♀ 12.9 mm (MNHN-Ga 2817).

MUSORSTOM 4 : stn 236, 495-550 m : 3 ♂ 9.0 to 11.0 mm; 3 ov. ♀ 9.5 to 11.0 mm (USNM). — Stn 239, 470-475 m : 1 ♂ 13.8 mm (MNHN-Ga 2819). — Stn 241, 470-480 m : 2 ♂ 9.5 and 13.0 mm; 2 ov. ♀ 9.7 and 11.9 mm; 2 ♀ 8.4 and 9.5 mm (MNHN-Ga 2820). — Stn 246, 410-420 m : 1 ♀ 13.0 mm (MNHN-Ga 2822). — Stn 247, 435-460 m : 1 ♂ 14.5 mm; 1 ov. ♀ 13.0 mm (MNHN-Ga 2823).

LAGON : stn 1062, 300-320 m : 1 ♀ 11.9 mm (MNHN-Ga 2824).

**Chesterfield Islands.** MUSORSTOM 5 : stn 387, 560-660 m : 2 ♂ 10.4 and 13.3 mm (USNM).

REMARKS. — The specimens examined agree quite well with the original description and figures provided by BABA (1988). The number of cardiac spines ranges between 2 and 4, sometimes one hepatic spine is present on each side (absent in the holotype). The supraocular spines (broken in the holotype) are divergent and distinctly overreach the cornea. The thoracic sternites are smooth, without striae, the fourth sternite is anterior-mesially hollowed. The males have 2 pairs of gonopods.

SIZE. — The males examined ranged between 7.6 and 16.0 mm, females between 8.4 and 16.0 mm; ovigerous females from 9.0 mm.

DISTRIBUTION. — Philippines, Indonesia, New Caledonia and Chesterfield Islands, between 300 and 660 m.

### *Munida lineola* sp. nov.

Fig. 29

MATERIAL EXAMINED. — **New Caledonia.** Saint Vincent Bay : stn 190, 22°02'S, 165°57'E, 135-150 m : 1 ♂ 5.0 mm, holotype (MNHN-Ga 3215).

ETYMOLOGY. — From the Latin, *lineola*, line, in reference to the lines of granules on the thoracic sternites.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few arcuate striae; fifth to seventh sternites smooth; lateral parts of sixth sternite with several vertical rows of small granules; lateral parts of seventh sternite with numerous granules. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second and third segments each with 2 and 1 transverse striae, respectively. Two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule

(distal spines excluded) distinctly exceeding cornea, distal spines subequal. First segment of antennal peduncle with distomesial spine slightly exceeding second segment; distomesial spine on second segment exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial border, respectively. Dactylus of walking legs slightly shorter than propodus, with movable spinules along nearly entire ventral margin.

REMARKS. — *M. lineola* is closely related to *M. pontoporea* sp. nov. from New Caledonia, but they differ in several features (see below under the Remarks of *M. pontoporea*).

The new species is also close to *M. pasithea* Macpherson & de Saint Laurent, 1991 from French Polynesia. (MACPHERSON & DE SAINT LAURENT, 1991). They are easily differentiable by the granulation of the lateral parts of the sixth thoracic sternite. In the new species the granules are scarce and disposed in rows, whereas in *M. pasithea* the granules are numerous and homogeneously disposed.

DISTRIBUTION. — New Caledonia, between 135 and 150 m.

*Munida marini* sp. nov.

Figs 30, 77

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 67, 500-510 m : 5 ♂ 18.3 to 25.5 mm; 6 ov. ♀ 19.7 to 24.0 mm; 2 ♀ 14.0 to 14.5 mm (MNHN-Ga 2830, 2831 and USNM).

CHALCAL 2 : stn 1, 500 m : 22 ♂ 13.6 to 26.8 mm; 9 ov. ♀ 19.0 to 23.4 mm; 9 ♀ 19.4 to 22.6 mm (MNHN-Ga 2842). — Stn 2, 500 m : 11 ♂ 7.8 to 24.7 mm; 6 ov. ♀ 21.4 to 25.0 mm; 3 ♀ 7.7 to 23.2 mm (MNHN-Ga 2843 and USNM). — Stn 21, 500 m : 1 ♂ 24.5 mm; 1 ov. ♀ 22.4 mm; 2 ♀ 22.0 and 24.2 mm (MNHN-Ga 2844). — Stn 75, 600 m : 1 ♀ 17.7 mm (MNHN-Ga 2845).

SMIB 4 : stn 34, 515 m : 1 ♂ 16.2 mm; 1 ov. ♀ 18.6 mm (MNHN-Ga 2854). — Stn 38, 510 m : 1 ov. ♀ 21.6 mm (MNHN-Ga 2855).

**Loyalty Islands.** MUSORSTOM 6 : stn 413, 463 m : 1 ♂ 11.8 mm; 1 ov. ♀ 11.6 mm (MNHN-Ga 2850).

**Chesterfield Islands.** MUSORSTOM 5 : stn 388, 500-510 m : 1 ♀ 6.5 mm (MNHN-Ga 2856).

CORAIL 2 : stn 16, 500 m : 3 ♀ 7.4 to 8.6 mm (MNHN-Ga 2846). — Stn 17, 500 m : 1 ♂ 9.0 mm (MNHN-Ga 2847).

TYPES. — One ovigerous female of 20.9 mm from BIOCAL, Stn 67 (MNHN-Ga 2830) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to Marin MANRIQUEZ from the Instituto de Ciencias del Mar, Barcelona, for his continuous support in my work.

DESCRIPTION. — Carapace with two epigastric spines directly behind supraocular spines. Three longitudinal rows of spines. Median row of 6 spines : first two on median mesogastric region; third to fifth on cardiac region, sixth spine on posterior transverse ridge. Lateral rows each of 2-4 spines on branchiocardiac boundary. External orbital spine long, situated at anterolateral angle of carapace. Branchial margin with 3 spines, third spine very small or absent. Pterygostomian region with dense and iridescent long setae. Fourth thoracic sternite with several short arcuate striae; fifth to seventh sternites without striae. Second, third and fourth abdominal segments each with 4 equal-sized spines on anterior transverse ridge; posterior ridge of fourth segment with strong median spine. One pair of gonopods on abdominal segments. Eye moderately large, maximum corneal diameter more than 1/3 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) not exceeding cornea, distolateral spine longer than distomesial. Distomesial prolongation of first antennal segment well developed, nearly reaching rostral tip; distomesial spine on second segment reaching end of third segment, with small spine on its base; third segment with small distolateral spine. Merus of third maxilliped with marginal spine near midlength of flexor margin; small distal spine on extensor border. Fixed finger of cheliped bifid distally, movable finger with small spine near tip. Dactylus of walking legs slightly less than 1/2 propodus length, without spinules on ventral border.



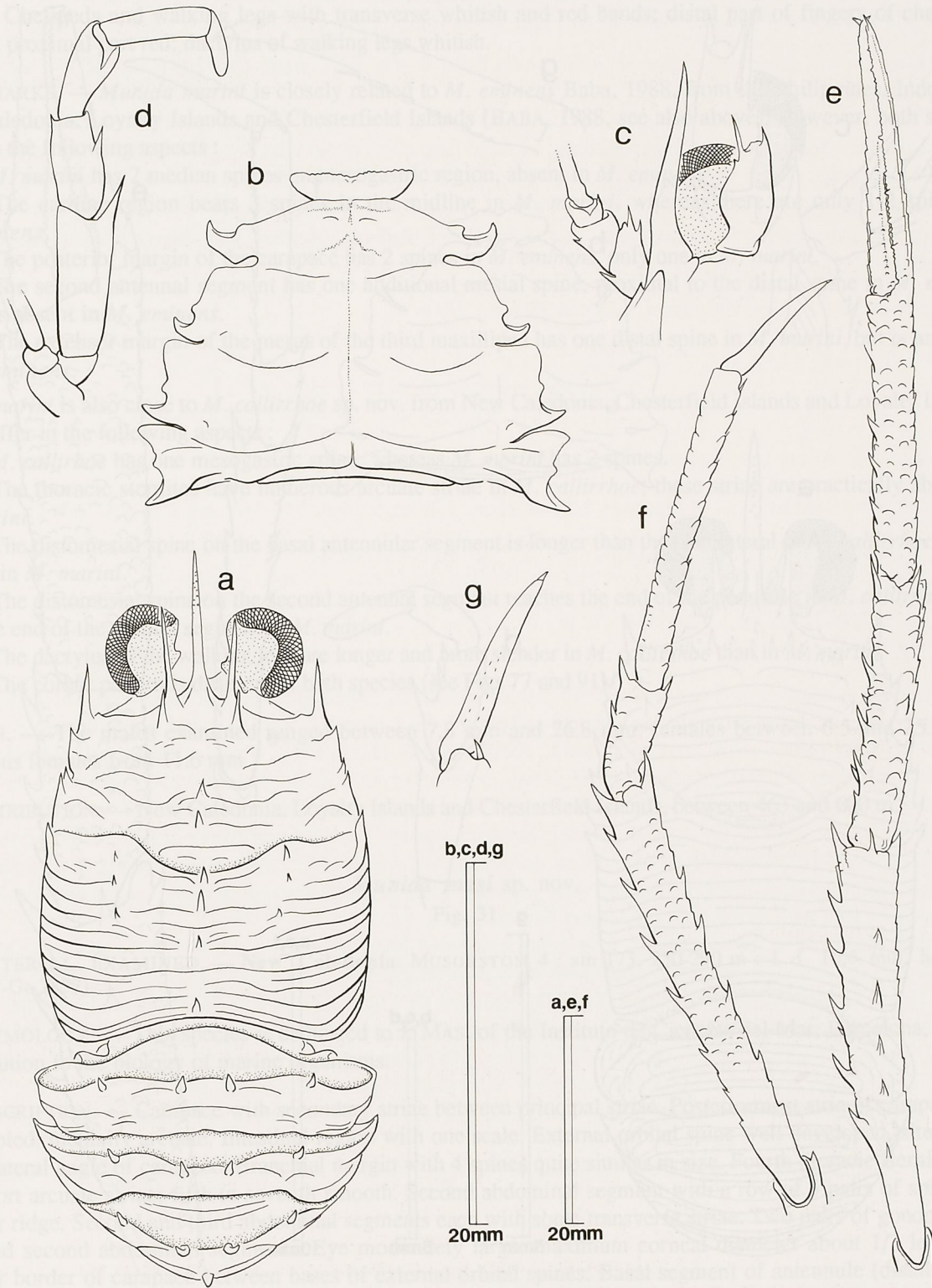


FIG. 30. — *Munida marini* sp. nov., ♀ 20.9 mm, holotype from Stn 67 (BIOCAL): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

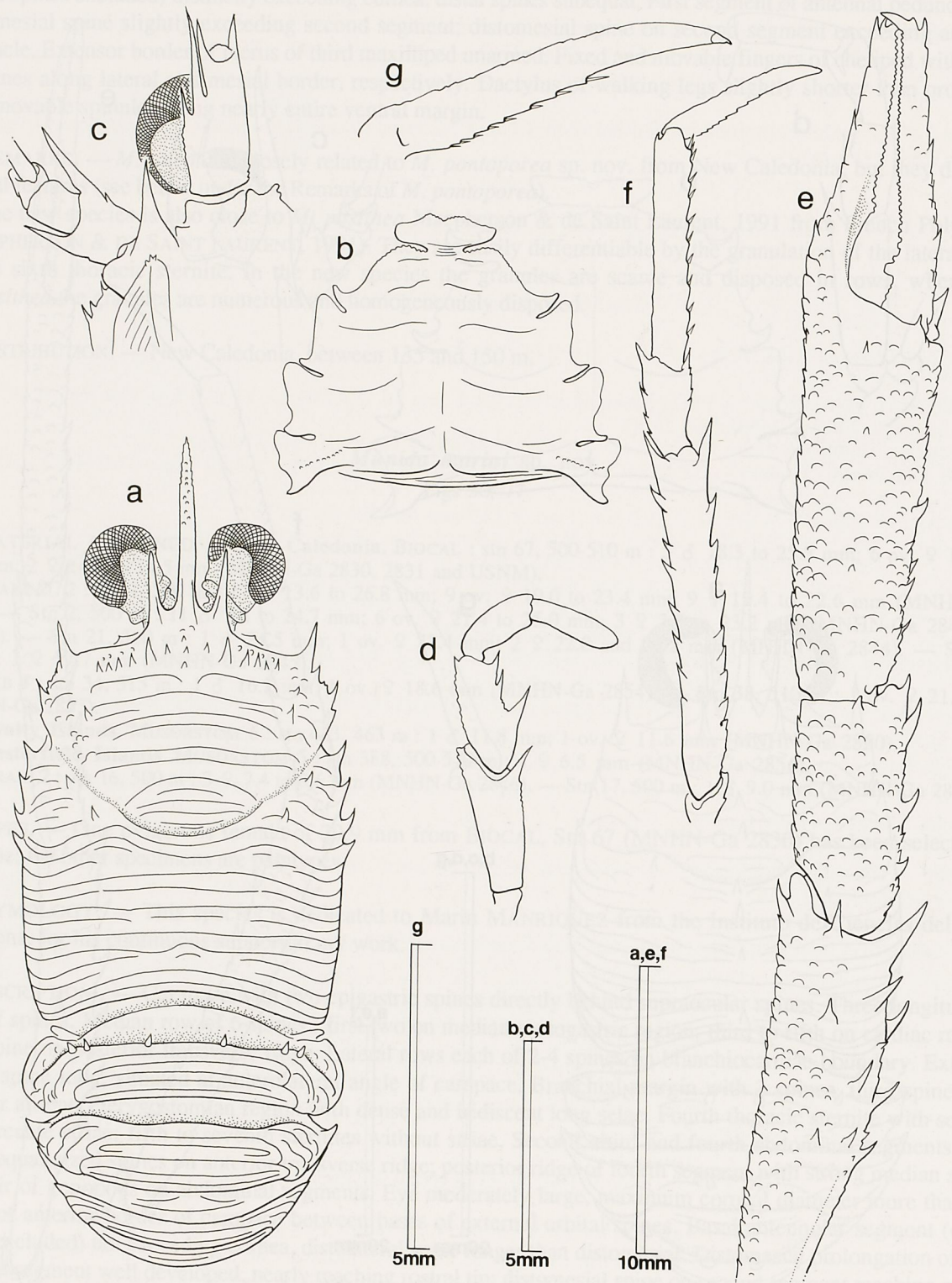


FIG. 31. — *Munida masi* sp. nov., ♂ 10.6 mm, holotype from Stn 173 (MUSORSTOM 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg.

COLOUR. — Ground colour of carapace and abdomen orange, supraocular spines red; epigastric region dark orange. Chelipeds and walking legs with transverse whitish and red bands; distal part of fingers of chelipeds whitish, proximal part red; dactylus of walking legs whitish.

REMARKS. — *Munida marini* is closely related to *M. eminens* Baba, 1988, from the Philippines, Indonesia, New Caledonia, Loyalty Islands and Chesterfield Islands (BABA, 1988, see also above). However, both species differ in the following aspects :

- *M. marini* has 2 median spines on mesogastric region, absent in *M. eminens*.
- The cardiac region bears 3 spines in the midline in *M. marini*, whereas there are only 1-2 spines in *M. eminens*.
- The posterior margin of the carapace has 2 spines in *M. eminens*, only one in *M. marini*.
- The second antennal segment has one additional mesial spine, proximal to the distal spine in *M. marini*, which is absent in *M. eminens*.
- The extensor margin of the merus of the third maxilliped has one distal spine in *M. marini*, but is unarmed in *M. eminens*.

*M. marini* is also close to *M. callirrhoe* sp. nov. from New Caledonia, Chesterfield Islands and Loyalty Islands. They differ in the following aspects :

- *M. callirrhoe* has one mesogastric spine, whereas *M. marini* has 2 spines.
- The thoracic sternites have numerous arcuate striae in *M. callirrhoe*; these striae are practically absent in *M. marini*.
- The distomesial spine on the basal antennular segment is longer than the distolateral in *M. callirrhoe*, but is shorter in *M. marini*.
- The distomesial spine on the second antennal segment reaches the end of the peduncle in *M. callirrhoe*, but only the end of the second segment in *M. marini*.
- The dactylus of the walking legs are longer and more slender in *M. callirrhoe* than in *M. marini*.
- The colour pattern is different in both species (see Figs 77 and 91).

SIZE. — The males examined ranged between 7.8 mm and 26.8 mm, females between 6.5 and 25.0 mm; ovigerous females from 11.6 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Chesterfield Islands, between 463 and 600 m.

*Munida masi* sp. nov.

Fig. 31

MATERIAL EXAMINED. — New Caledonia. MUSORSTOM 4 : stn 173, 250-290 m : 1 ♂ 10.6 mm, holotype (MNHN-Ga 2857).

ETYMOLOGY. — This species is dedicated to J. MAS, of the Instituto de Ciencias del Mar, Barcelona, for his contribution to the biology of marine organisms.

DESCRIPTION. — Carapace with secondary striae between principal striae. Posteriormost stria of carapace not interrupted, medially arcuate. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines quite similar in size. Fourth thoracic sternite with few short arcuate striae; fifth to seventh smooth. Second abdominal segment with a row of 3 pairs of spines on anterior ridge. Second and third abdominal segments each with some transverse striae. Two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding cornea, with 2 long subequal distal spines. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment exceeding antennal peduncle. Extensor margin of merus of third maxilliped with distal spine. Movable and fixed fingers of cheliped

with a row of spines along mesial and lateral margins, respectively. Dactylus of walking legs  $2/3$  propodus length, with movable spinules along proximal  $2/3$  of ventral margin.

REMARKS. — *M. masi* resembles *M. albiapicula* Baba & Yu, 1987, from Taiwan (BABA & YU, 1987). The two species differ in several features :

— The fixed and movable fingers of the cheliped only have one proximal spine other than subterminals in *M. albiapicula*, whereas there are one additional on fixed finger and two on the movable finger in *M. masi*.

— The dactylus of the walking legs has the spinelets restricted to the proximal  $2/3$  of the ventral border in *M. masi*, whereas these spinelets are present along the entire ventral border in *M. albiapicula*.

*M. masi* is also close to *M. psamathe* sp. nov. from New Caledonia, Matthew and Hunter Islands (see Remarks under that species).

DISTRIBUTION. — New Caledonia, between 250 and 290 m.

### *Munida microps* Alcock, 1894

Fig. 32

*Munida microps* - BABA, 1988 : 84 (key), 122 (references and synonymies).

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 2 : stn 56, 970 m : 2 ♂ 14.4 and 15.7 mm (MNHN-Ga 2858, 3491).

**New Caledonia.** BIOCAL : stn 61, 1070 m : 2 ♂ 7.0 and 7.6 mm (USNM).

BIOGEOCAL : stn 297, 1230-1240 m : 1 ♀ 10.0 mm (MNHN-Ga 3290).

**Chesterfield Islands.** MUSORSTOM 5 : stn 323, 970 m : 9 ♂ 9.4 to 14.2 mm; 3 ov. ♀ 11.2 to 11.6 mm; 5 ♀ 7.3 to 9.4 mm (MNHN-Ga 2860). — Stn 324, 970 m : 8 ♂ 8.0 to 13.8 mm; 7 ov. ♀ 8.7 to 13.2 mm; 7 ♀ 8.7 to 11.2 mm (MNHN-Ga 2861).

REMARKS. — *Munida microps* was described from specimens collected in the Andaman Sea. The species was posteriously cited in the Arabian Sea, Maldives Islands, off Colombo, Sulawesi and southeastern Australia, between 686 and 1234 m (e.g., ALCOCK, 1901; TIRMIZI, 1966; HAIG, 1974; BABA, 1988). Furthermore, BABA (1988) consider that *M. microps* and *M. microps* var. *lasiocheles* Alcock, 1894, are the same species. The species is characterized by the presence of 5 spines on the branchial margin, some spines on the second abdominal segment, the lateral parts of the seventh thoracic sternites smooth, the cornea scarcely broader than the stalk, the antennular peduncle distinctly exceeding cornea, the distomesial spine on the basal antennular segment smaller than the distolateral, the fixed finger of cheliped only with one spine in addition to subterminal spines and the dactylus of the walking legs with spines along the entire ventral border.

Unfortunately, in the present paper, I have not examined specimens from the type series or type locality. However, the specimens examined here present several differences with one male (12.0 mm) from the Maldives Islands (John Murray Expedition, Stn 158, BM) identified by TIRMIZI (1966) as *M. microps*. For instance, the cornea of the male from Maldives is smaller and the basal antennular segment much longer than in the present material. These differences, of specific value in species of the genus *Munida*, recommend a comparison of the type series with specimens from the different localities in order to clarify the status of this species.

The colour of the specimens collected in New Caledonia is light pinkish, darker in the gastric region and tips of the fingers of cheliped and dactylus of the walking legs.

The present material was collected in the Philippines, New Caledonia and Chesterfield Islands, between 970 and 1240 m.

### *Munida militaris* Henderson, 1885

*Munida militaris* - BABA & MACPHERSON, 1991 : 539 (references and synonymies).

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 168, 720 m : 1 ♂ 14.0 mm (MNHN-Ga 2862).

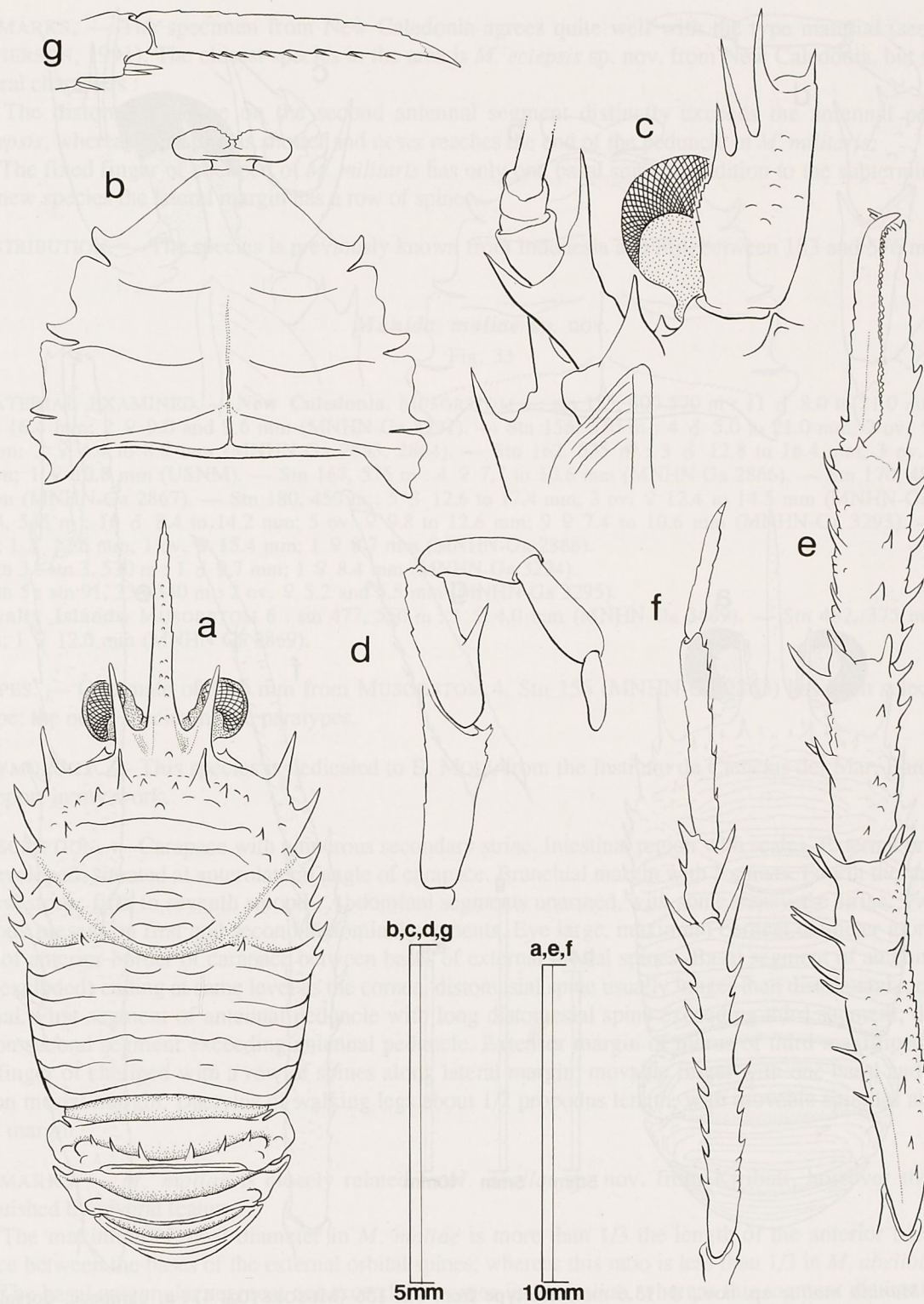


FIG. 32. — *Munida microps* Alcock, 1894, ♂ 10.4 mm, from Stn 323 (MUSORSTOM 5) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

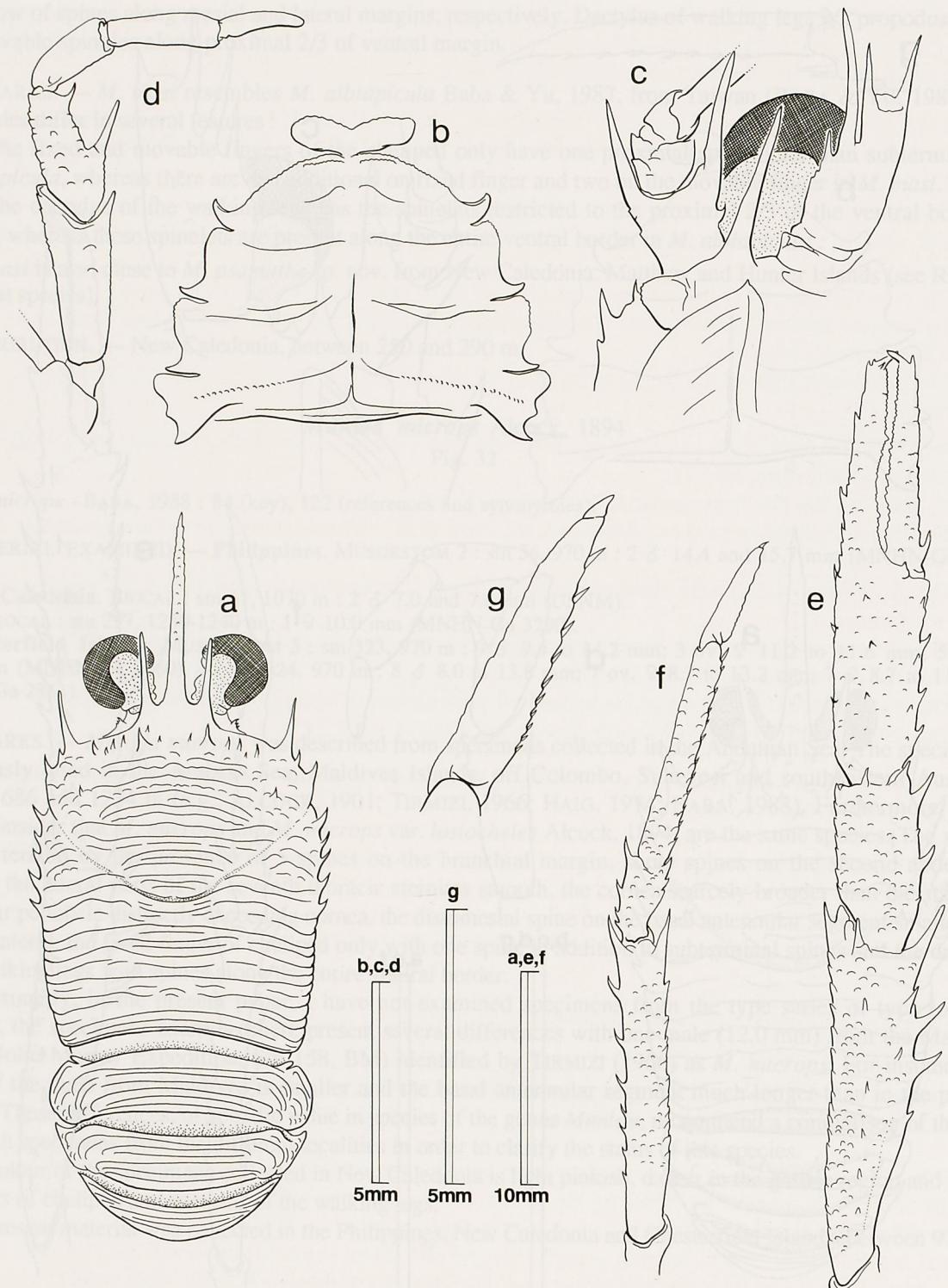


FIG. 33. — *Munida moliae* sp. nov., ♂ 13.6 mm, holotype from Stn 156 (MUSORSTOM 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

REMARKS. — The specimen from New Caledonia agrees quite well with the type material (see BABA & MACPHERSON, 1991). The closest species in the area is *M. eclepsis* sp. nov. from New Caledonia, but they differ in several characters :

— The distomesial spine on the second antennal segment distinctly exceeds the antennal peduncle in *M. eclepsis*, whereas this spine is shorter and never reaches the end of the peduncle in *M. militaris*.

— The fixed finger of cheliped of *M. militaris* has only one basal spine in addition to the subterminal spines. In the new species the lateral margin has a row of spines.

DISTRIBUTION. — The species is previously known from Indonesia and Fiji, between 183 and 576 m.

*Munida moliae* sp. nov.

Fig. 33

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 155, 500-570 m : 11 ♂ 8.0 to 21.0 mm; 7 ov. ♀ 10.0 to 16.4 mm; 2 ♀ 9.0 and 9.6 mm (MNHN-Ga 3291). — Stn 156, 530 m : 4 ♂ 5.0 to 21.0 mm; 2 ov. ♀ 12.6 and 14.7 mm; 3 ♀ 4.4 to 8.8 mm (MNHN-Ga 2863, 2864). — Stn 162, 535 m : 3 ♂ 12.8 to 16.4 mm; 3 ov. ♀ 11.4 to 13.7 mm; 1 ♀ 10.8 mm (USNM). — Stn 167, 575 m : 4 ♀ 7.7 to 10.6 mm (MNHN-Ga 2866). — Stn 170, 485 m : 1 ♂ 10.5 mm (MNHN-Ga 2867). — Stn 180, 450 m : 5 ♂ 12.6 to 17.4 mm; 3 ov. ♀ 12.4 to 14.5 mm (MNHN-Ga 3292). — Stn 194, 545 m : 16 ♂ 8.4 to 14.2 mm; 5 ov. ♀ 9.8 to 12.6 mm; 9 ♀ 7.4 to 10.6 mm (MNHN-Ga 3293). — Stn 196, 460 m : 1 ♂ 12.6 mm; 1 ov. ♀ 15.4 mm; 1 ♀ 8.7 mm (MNHN-Ga 2868).

SMIB 3 : stn 3, 530 m : 1 ♂ 9.7 mm; 1 ♀ 8.4 mm (MNHN-Ga 3294).

SMIB 5 : stn 91, 335-340 m : 2 ov. ♀ 5.2 and 5.5 mm (MNHN-Ga 3295).

**Loyalty Islands.** MUSORSTOM 6 : stn 477, 550 m : 1 ♀ 4.0 mm (MNHN-Ga 3489). — Stn 482, 375 m : 1 ov. ♀ 8.0 mm; 1 ♀ 12.0 mm (MNHN Ga 2869).

TYPES. — One male of 13.6 mm from MUSORSTOM 4, Stn 156 (MNHN-Ga 2863) has been selected as the holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to B. MOLI, from the Instituto de Ciencias del Mar, Barcelona, for her support in my work.

DESCRIPTION. — Carapace with numerous secondary striae. Intestinal region with scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few striae; fifth to seventh smooth. Abdominal segments unarmed, with some transverse striae. Two pairs of gonopods present on first and second abdominal segments. Eye large, maximum corneal diameter more than 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) ending at same level as the cornea, distomesial spine usually longer than distolateral, occasionally subequal. First segment of antennal peduncle with long distomesial spine exceeding third segment; distomesial spine on second segment exceeding antennal peduncle. Extensor margin of merus of third maxilliped unarmed. Fixed finger of cheliped with a row of spines along lateral margin; movable finger with one basal and one distal spine on mesial margin. Dactylus of walking legs about 1/2 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. moliae* is closely related to *M. abelloi* sp. nov. from Kiribati, however they can be distinguished by several features :

— The maximum corneal diameter in *M. moliae* is more than 1/3 the length of the anterior border of the carapace between the bases of the external orbital spines; whereas this ratio is less than 1/3 in *M. abelloi*.

— The basal antennular segment not exceed the cornea in *M. moliae*, whereas this segment distinctly exceeds the eyes in *M. abelloi*.

— The movable finger of the cheliped has only one basal and one distal spine in *M. moliae*, whereas there are several spines between these two spines in *M. abelloi*.

SIZE. — The males examined ranged between 5.0 and 21.0 mm, females between 4.0 and 15.4 mm; ovigerous females from 5.2 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands, between 335 and 575 m.

*Munida normani* Henderson, 1885

*Munida Normani* Henderson, 1885 : 408.

*Munida normani* - HENDERSON, 1888 : 129, pl.13, fig. 5. — BABA, 1988: 83 (key).

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 198, 590 m : 1 ♀ 13.3 mm (MNHN-Ga 2871).

**Fiji Islands.** "Challenger" : stn 173, 24.07.1874, 19°09'35"S, 179°41'50"E, 583 m : 7 ♂ 9.7 to 15.0 mm; 3 ♀ 9.0 to 11.7 mm; 1 juv. 7.6 mm (BM).

REMARKS. — The specimen collected in New Caledonia agrees quite well with the types. However, one of the specimens of the type series, a juvenile, is somewhat different from the remainder : the spines on the posterior transverse ridge of the carapace are absent; the branchiocardiac boundary bears 3 spines instead of 5 as in the other types; also the cardiac region is unarmed instead of bearing 3-5 spines as in the remainder.

SIZE. — The males examined (including the type series) ranged between 9.7 and 15.0 mm; females between 9.0 and 13.3 mm.

DISTRIBUTION. — Fiji Island and New Caledonia, between 583 and 590 m.

*Munida notata* sp. nov.

Figs 34, 78

MATERIAL EXAMINED. — **New Caledonia.** LAGON : stn 387, 318 m : 5 ♂ 6.0 to 6.5 mm; 4 ov. ♀ 6.3 to 8.3 mm (MNHN-Ga 3310). — Stn 418, 318 m : 1 ♂ 6.9 mm (MNHN-Ga 3309). — Stn 1152, 335 m : 2 ♂ 7.8 and 8.7 mm; 4 ov. ♀ 7.0 to 9.0 mm; 3 ♀ 4.7 to 5.5 mm (MNHN-Ga 3311).

BIOCAL : stn 84, 150-210 m : 2 ov. ♀ 10.0 and 10.2 mm (MNHN-Ga 3296). — Stn 108, 335 m : 6 ♂ 5.7 to 7.7 mm; 4 ov. ♀ 5.6 to 7.8 mm (MNHN-Ga 2872). — Stn 105, 335 m : 4 ♂ 7.6 to 9.8 mm; 1 ♀ 5.6 mm (MNHN-Ga 3297). — Stn 110, 275 m : 1 ♂ 6.5 mm; 4 ov. ♀ 7.0 to 11.0 mm (MNHN-Ga 2873).

MUSORSTOM 4 : stn 148, 59 m : 8 ♂ 5.7 to 10.5 mm; 5 ov. ♀ 6.5 to 8.6 mm; 1 ♀ 7.9 mm (MNHN-Ga 3298). — Stn 172, 275-330 m : 14 ♂ 6.1 to 11.8 mm; 6 ov. ♀ 9.0 to 9.5 mm; 2 ♀ 5.0 and 7.3 mm (MNHN-Ga 3299). — Stn 178, 520 m : 1 ♀ 4.8 mm (MNHN-Ga 2874). — Stn 183, 280 m : 19 ♂ 6.0 to 10.5 mm; 13 ov. ♀ 6.4 to 8.8 mm; 2 ♀ 7.8 and 8.4 mm (MNHN-Ga 2875 and USNM). — Stn 184, 260 m : 1 ov. ♀ 6.4 mm (MNHN-Ga 3300). — Stn 210, 340-345 m : 1 ♂ 5.1 mm; 1 ♀ 4.8 mm (MNHN-Ga 3301). — Stn 226, 395 m : 3 ♂ 4.2 to 7.2 mm; 2 ov. ♀ 8.4 and 9.0 mm; 1 ♀ 4.5 mm (MNHN-Ga 2876). — Stn 227, 320 m : 4 ♂ 7.5 to 9.0 mm; 1 ov. ♀ 7.0 mm (MNHN-Ga 2877). — Stn 234, 350-365 m : 1 ov. ♀ 11.7 mm (MNHN-Ga 3302). — Stn 235, 405-415 m : 1 ♂ 8.0 mm (MNHN-Ga 2878).

Station without number : 22°40'S, 167°10'E, 200-350 m, 10.10.1986 : 5 ♂ 5.7 to 7.7 mm (MNHN-Ga 2879).

CHALCAL 2 : stn 69, 260 m : 2 ov. ♀ 5.3 and 5.6 mm (MNHN-Ga 3479). — Stn 83, 200 m : 1 ov. ♀ 7.3 mm (MNHN-Ga 2880).

SMIB 5 : stn 91, 335-340 m : 1 ♀ 8.5 mm (MNHN-Ga 3307). — Stn 94, 275 m : 2 ♂ 5.0 and 9.8 mm; 1 ♀ 8.5 mm (MNHN-Ga 3308).

SMIB 6 : stn 116, 290-300 m : 1 ov. ♀ 8.8 mm (MNHN-Ga 2887). — Stn 120, 310-325 m : 1 ♂ 6.3 mm (MNHN-Ga 2888). — Stn 124, 360-405 m : 1 ♀ 7.0 mm (MNHN-Ga 2889). — Stn 125, 335-350 m : 1 ♂ 8.0 mm; 2 ov. ♀ 8.5 and 9.3 mm (MNHN-Ga 2890). — Stn 126, 320-330 m : 2 ♂ 8.4 and 8.7 mm; 1 ♀ 7.2 mm (MNHN-Ga 2891).

**Loyalty Islands.** MUSORSTOM 6 : stn 397, 380 m : 1 ♂ 8.3 mm (MNHN-Ga 3466). — Stn 398, 370 m : 4 ♂ 9.2 to 10.1 mm; 3 ov. ♀ 9.0 to 9.5 mm (MNHN-Ga 3306). — Stn 399, 282 m : 5 ♂ 7.8 to 10.2 mm; 1 ov. ♀ 9.4 mm (MNHN-Ga 2882, 2647). — Stn 406, 373 m : 2 ♂ 6.9 and 9.4 mm (MNHN-Ga 3305). — Stn 417, 283 m : 1 ♂ 10.2 mm (MNHN-Ga 3485). — Stn 419, 283 m : 5 ♂ 9.2 to 13.4 mm; 3 ♀ 5.0 to 8.8 mm (MNHN-Ga 2883). — Stn 457, 353 m : 1 ov. ♀ 9.6 mm (MNHN-Ga 2884). — Stn 474, 260 m : 1 ov. ♀ 11.7 mm (MNHN-Ga 3449). — Stn 477, 550 m : 1 ♀ 4.1 mm (MNHN-Ga 2885). — Stn 481, 300 m : 2 ♂ 8.8 and 10.7 mm; 1 ov. ♀ 9.7 mm (MNHN-Ga 2886).

**Chesterfield Islands.** CHALCAL 1 : stn 3, 120-150 m : 2 ov. ♀ 7.0 and 8.9 mm (MNHN-Ga 2892). — Stn 5, 400 m : 1 ov. ♀ 8.4 mm (MNHN-Ga 2893). — Stn 14, 246 m : 1 ♂ 6.6 mm; 1 ov. ♀ 7.6 mm (MNHN-Ga 2894). —



Stn 31, 230 m : 2 ♂ 5.8 and 6.7 mm; 3 ov. ♀ 6.8 to 8.3 mm (MNHN-Ga 2895). — Stn 32, 350 m : 1 ♀ 8.7 mm (MNHN-Ga 2896). — Stn 35, 210 m : 1 ov. ♀ 5.8 mm (MNHN-Ga 3484).

MUSORSTOM 5 : stn 250, 850 m : 2 ♂ 5.6 and 5.7 mm; 3 ov. ♀ 5.3 to 7.0 mm; 1 ♀ 7.2 mm (MNHN-Ga 2897). — Stn 255, 280-295 m : 1 ov. ♀ 5.3 mm (MNHN-Ga 2898). — Stn 263, 150-225 m : 2 ov. ♀ 6.7 and 7.3 mm (MNHN-Ga 3480). — Stn 268, 280 m : 2 ♂ 5.4 and 5.5 mm; 1 ov. ♀ 4.5 mm (MNHN-Ga 2899). — Stn 269, 250-270 m : 1 ♂ 4.3 mm (MNHN-Ga 2900). — Stn 276, 258-269 m : 1 ♂ 7.2 mm (MNHN-Ga 3474). — Stn 288, 270 m : 1 ov. ♀ 7.0 mm (MNHN-Ga 3486). — Stn 289, 273 m : 1 ♂ 6.1 mm; 3 ov. ♀ 5.5 to 8.0 mm (MNHN-Ga 2901). — Stn 300, 450 m : 2 ♂ 7.2 and 8.5 mm; 1 ov. ♀ 8.0 mm; 1 ♀ 7.8 mm (MNHN-Ga 2902). — Stn 301, 487-610 m : 1 ♂ 3.4 mm (MNHN-Ga 2903). — Stn 304, 385-420 m : 2 ♂ 6.2 and 6.4 mm (MNHN-Ga 3467). — Stn 328, 355-340 m : 1 ov. ♀ 7.5 mm; 1 ♀ 4.2 mm (MNHN-Ga 2904). — Stn 329, 320 m : 1 ♀ 5.7 mm (MNHN-Ga 2905). — Stn 332, 400 m : 1 ♂ 9.6 mm; 3 ov. ♀ 7.6 to 9.8 mm; 2 ♀ 6.5 and 8.3 mm (MNHN-Ga 2907). — Stn 347, 245-252 m : 1 ♂ 9.0 mm; 1 ov. ♀ 7.7 mm (MNHN-Ga 3475). — Stn 348, 260 m : 1 ♂ 5.8 mm (MNHN-Ga 2906). — Stn 349, 275 m : 1 ♂ 4.2 mm (MNHN-Ga 2908). — Stn 353, 290 m : 1 ♂ 5.0 mm (MNHN-Ga 3497). — Stn 361, 400 m : 5 ♂ 5.2 to 6.0 mm; 1 ov. ♀ 7.2 mm; 1 ♀ 4.6 mm (MNHN-Ga 3404). — Stn 362, 410 m : 1 ov. ♀ 6.0 mm (MNHN-Ga 3482). — Stn 375, 300 m : 4 ♂ 5.1 to 8.0 mm; 4 ov. ♀ 6.3 to 8.0 mm (MNHN-Ga 2909). — Stn 377, 260-270 m : 2 ov. ♀ 6.1 and 6.7 mm; 1 ♀ 6.0 mm (MNHN-Ga 3491).

CORAIL 2 : stn 114, 217 m : 1 ♂ 5.3 mm; 1 ov. ♀ 4.7 mm (MNHN-Ga 3303). — Stn 129, 215 m : 1 ♂ 8.3 mm (MNHN-Ga 3304). — Stn 131, 215-217 m : 16 ♂ 5.5 to 8.8 mm; 12 ov. ♀ 6.0 to 8.3 mm; 2 ♀ 8.5 and 8.6 mm (MNHN-Ga 2881).

TYPES. — The ovigerous female of 9.4 mm from MUSORSTOM 6, Stn 399 (MNHN-Ga 2882) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Latin, *notatio*, marking, in reference to the spots on the carapace and abdominal segments.

DESCRIPTION. — Carapace with secondary striae present. Intestinal region without scales. External orbital spine long, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth and fifth thoracic sternites with few short arcuate striae; sixth and seventh sternites smooth. Second abdominal segment usually unarmed, occasionally with 1-2 spines on each lateral side. Second and third abdominal segments each with several transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, distomesial spine longer than distolateral. First segment of antennal peduncle with long distomesial spine reaching end of third segment; distomesial spine on second segment exceeding antennal peduncle. Extensor border of merus of third maxilliped with small distal spine. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial borders, respectively. Dactylus of walking legs half as long as propodus, with movable spinules along ventral margin, distal third unarmed.

COLOUR. — Ground colour of carapace and abdominal segments light orange. Large red spots scattered on dorsal surface of carapace. Striae reddish. Rostrum and supraocular spines orange. Second to fourth abdominal segments with median and lateral red spots. Chelipeds and walking legs light orange, spines and some granules reddish. Distal part of fingers of chelipeds and dactylus of walking legs white.

REMARKS. — *M. notata* is closely related to *M. acantha* sp. nov. from New Caledonia, Loyalty Islands and Atoll de Surprise, but they differ in several aspects :

— The third thoracic sternite in *M. notata* is much longer relative to width and more distinctly convex on the anterior margin than in *M. acantha*.

— *M. acantha* has the distomesial spine on the antennal basal segment exceeding the antennal peduncle, whereas this spine never exceeds the peduncle in *M. notata*.

— The dactylus of the walking legs has spines along the entire ventral border in *M. acantha*, unarmed on the terminal third in *M. notata*.

SIZE. — The males examined ranged between 3.4 and 13.4 mm, females between 4.1 and 11.7 mm; ovigerous female from 4.5 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Chesterfield Islands, between 120 and 850 m.

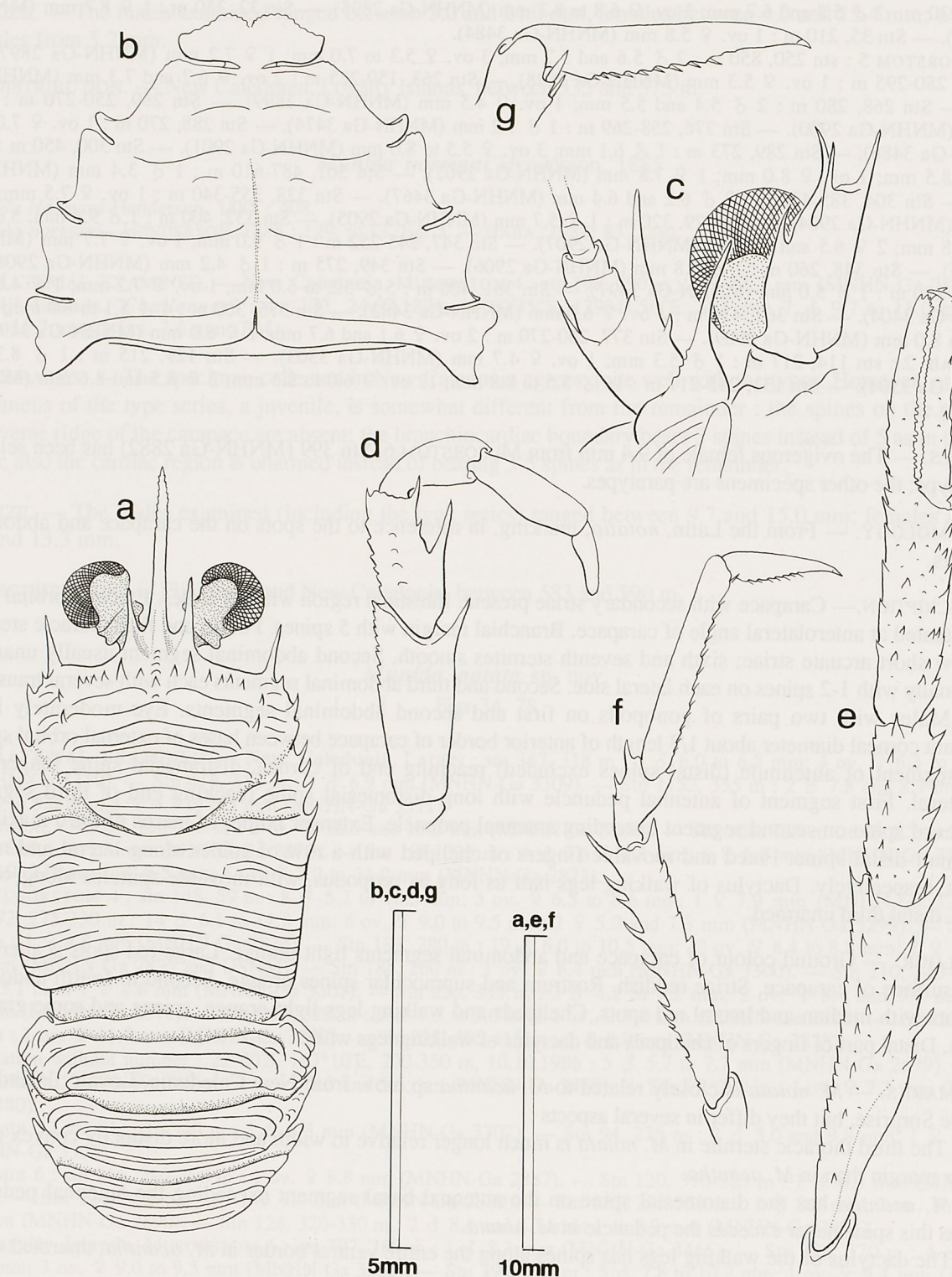


FIG. 34. — *Munida notata* sp. nov., ov. ♀ 9.4 mm, holotype from Stn 399 (MUSORSTOM 6) : **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, left cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

*Munida ocyrhoe* sp. nov.

Figs 35, 79

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 67, 500 m : 1 ♂ 28.4 mm; 1 ov. ♀ 19.8 mm; 2 ♀ 13.3 and 15.8 mm (MNHN-Ga 3313).

MUSORSTOM 4 : stn 194, 550 m : 1 ♂ 10.8 mm; 1 ♀ 12.7 mm (MNHN-Ga 3316). — Stn 198, 590 m : 1 ♀ 10.8 mm (MNHN-Ga 2756). — Stn 215, 485-520 m : 1 ♀ 24.4 mm (MNHN-Ga 3314). — Stn 216, 490-515 m : 3 ♀ 17.0 to 29.4 mm (MNHN-Ga 2758). — Stn 238, 500-510 m : 1 ♀ 25.8 mm (MNHN-Ga 2759). — Stn 240, 475-500 m : 2 ♀ 7.9 and 8.2 mm (MNHN-Ga 2910).

SMIB 2 : stn 10, 490-495 m : 3 ♂ 8.2 to 12.8 mm; 1 ov. ♀ 24.6 mm; 2 ♀ 12.2 and 15.7 mm (MNHN-Ga 2760). — Stn 26, 500-535 m : 1 ♀ 14.2 mm (USNM).

CHALCAL 2 : stn 1, 500-580 m : 2 ♂ 13.5 and 15.3 mm; 4 ov. ♀ 15.4 to 27.7 mm; 2 ♀ 9.8 and 20.0 mm (MNHN-Ga 2912 and USNM). — Stn 2, 500 m : 1 ♂ 21.0 mm; 2 ♀ 19.4 and 28.0 mm (MNHN-Ga 3317). — Stn 74, 650 m : 1 ♀ 10.5 mm (MNHN-Ga 2913).

SMIB 3 : stn 12, 470 m : 1 ov. ♀ 12.4 mm (MNHN-Ga 3315).

SMIB 4 : stn 34, 515 m : 1 ♂ 20.3 mm (MNHN-Ga 3320). — Stn 38, 510 m : 1 ♀ 16.0 mm (MNHN-Ga 3318). — Stn 39, 560 m : 1 ov. ♀ 26.4 mm (MNHN-Ga 3319). — Stn 62, 490-540 m : 1 ov. ♀ 25.0 mm (MNHN-Ga 2914).

**Chesterfield Islands.** MUSORSTOM 5 : stn 355, 580 m : 1 ♀ 7.6 mm (MNHN-Ga 2915).

TYPES. — One ovigerous female of 25.0 mm from SMIB 4, Stn 62, (MNHN-Ga 2914) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — The name refers to one of the Oceanids of the Greek mythology (Ocyrhoë).

DESCRIPTION. — Carapace with numerous secondary striae. Intestinal region with small scales. Gastric region with 2 epigastric spines placed behind supraocular spines. Each branchiocardiac boundary with 3 spines in longitudinal row, first postcervical, well developed, second small, rather close to first, third also small, somewhat posterior to level of cardiac transverse elevation. Posterior transverse ridge armed with 2 median spines. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Thoracic sternites with numerous striae. Second, third and fourth abdominal segments each with 4 spines on anterior transverse ridge; posterior ridge of fourth segment unarmed. Males with gonopods absent from first abdominal segment. Eye moderately large, maximum corneal diameter 1/3 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) not exceeding cornea, distomesial spine distinctly longer than distolateral. First antennal segment moderately produced on mesial margin, slightly exceeding second segment; distomesial spine on second segment reaching end of peduncle; third segment with distomesial spine. Extensor border of merus of third maxilliped unarmed. Fingers of cheliped distally curving and crossing; fixed finger with distal spine. Dactylus of walking legs with dorsal border slightly concave, ventral border convex, with spinules restricted to median portion.

COLOUR. — Ground colour of carapace and abdomen orange; rostrum whitish; spines on carapace and abdomen reddish. Chelipeds orange; proximal 2/3 of fingers reddish, distal third whitish. Proximal half of propodus of walking legs red, distal half whitish; dactylus whitish.

REMARKS. — *M. ocyrhoe* is closely related to *M. laurentae* sp. nov. from New Caledonia, Loyalty Islands, Matthew and Hunter Islands and Chesterfield Islands described above. They differ in several characters :

— The rostrum and the supraocular spines are more slender in *M. laurentae* than in *M. ocyrhoe*.

— The mesial spines on both the second and third antennal segments distinctly exceed the antennal peduncle in *M. laurentae*, whereas the mesial spine on the second segment reaches the end of the antennal peduncle and the spine on the third segment never exceeds the antennal peduncle in *M. ocyrhoe*.

— The merus of the third maxilliped is unarmed on the extensor margin in *M. ocyrhoe*, instead of having a distinct distal spine as in *M. laurentae*.

— The colour patterns are quite different (see Figs 78 and 91).

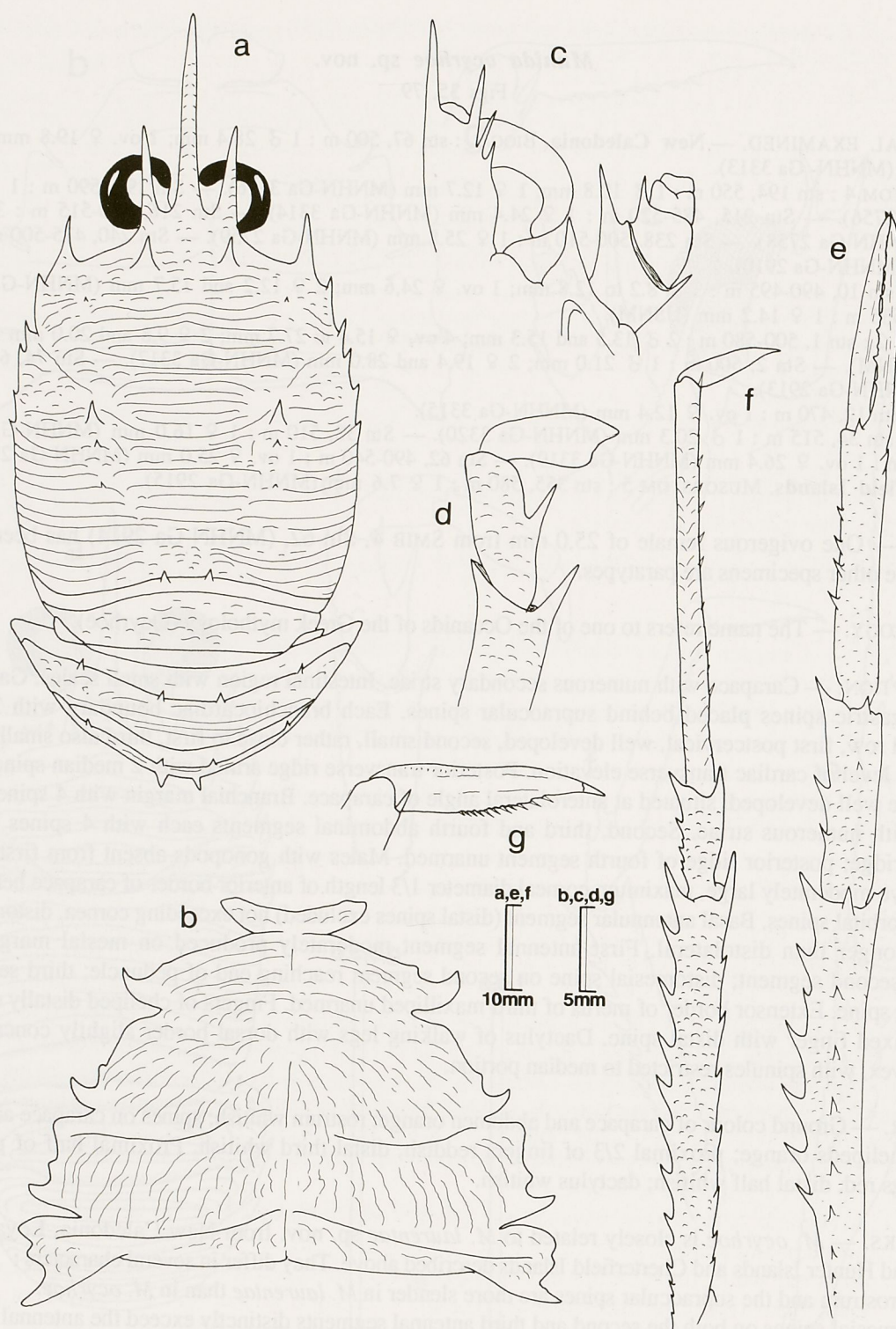


FIG. 35. — *Munida ocyrhoe* sp. nov., ov. ♀ 25.0 mm, holotype from Stn 62 (SMIB 4): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

*M. ocyrhoe* is also related to *M. pilosimanus* Baba, 1969, from Tosa Bay (type locality), Okinawa, Kyushu-Palau Ridge and Sulu Archipelago (BABA, 1988). The comparison of the new species with specimens from Kyushu-Palau Ridge (see Remarks under *M. laurentae* for the material examined) shows several small but constant differences:

- The parahepatic spines are well developed in *M. pilosimanus*, very small in the new species.
- The frontal margins are oblique in the new species, transverse in *M. pilosimanus*.
- The striae on the thoracic sternites are more numerous in *M. ocyrhoe*, than in *M. pilosimanus*.

SIZE. — The males examined ranged between 8.2. and 28.4 mm; females from 7.6 and 29.4 mm; ovigerous females from 12.4 mm.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, between 470 and 650 m.

***Munida olivarae* sp. nov.**

Figs 36, 80

MATERIAL EXAMINED. — **New Caledonia.** LAGON : stn 433, 40-67 m : 1 ♂ 3.2 mm; 1 ov. ♀ 4.8 mm (USNM). — Stn 495, 80 m : 2 ♂ 3.9 and 5.1 mm (MNHN-Ga 2916).

Passe de la Meurthe, 6-10 m, 16.11.1991: 1 ov. ♀ 5.0 mm; 2 ♀ 5.0 and 5.3 mm (MNHN-Ga 3321).

**Loyalty Islands.** MUSORSTOM 6 : stn 430, 30 m : 1 ♂ 4.9 mm (MNHN-Ga 2918). — Stn 436, 33 m : 2 ♂ 3.8 and 6.3 mm (MNHN-Ga 2919, 2920). — Stn 437, 31 m : 1 ♂ 5.2 mm (MNHN-Ga-2921).

**Matthew and Hunter Islands.** VOLSMAR : stn 60, 190 m : 1 ♂ 4.4 mm; 2 ov. ♀ 4.0 and 4.3 mm (MNHN-Ga 2922).

TYPES. — One male of 6.3 mm from MUSORSTOM 6, Stn 436 (MNHN-Ga 2919) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to M. P. OLIVAR of the Instituto de Ciencias del Mar, Barcelona, for her valuable contributions to the Namibian marine fauna.

DESCRIPTION. — Carapace with few secondary striae between main striae. Intestinal region without scales. Frontal margin distinctly oblique. External orbital spine short, mesial to level of lateral margin. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh smooth. Abdominal segments unarmed. Second and third abdominal segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) ending at same level as the cornea, distomesial spine longer than distolateral. First segment of antennal peduncle with distomesial spine not reaching end of second segment; distomesial spine on second segment reaching end of third segment. Extensor border of merus of third maxilliped with distal spine. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial margin, respectively. Dactylus of walking legs slightly shorter than propodus, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments red. Epigastric, hepatic, anterior branchial and cardiac regions whitish. Rostrum and supraocular spines orange. Dorsal side of antennal peduncles red. Second to fourth abdominal segments with white spots. Chelipeds and walking legs with transverse red and white bands. Palm and proximal half of fingers white, with one red spot; distal half of fingers orange. Dactylus of walking legs reddish.

REMARKS. — *M. olivarae* is closely related to *M. clinata* sp. nov. from the Philippines, New Caledonia and Chesterfield Islands, described above, and to *M. roshanei* Tirmizi, 1966, from the Red Sea and Northwestern Indian Ocean (TIRMIZI, 1966).

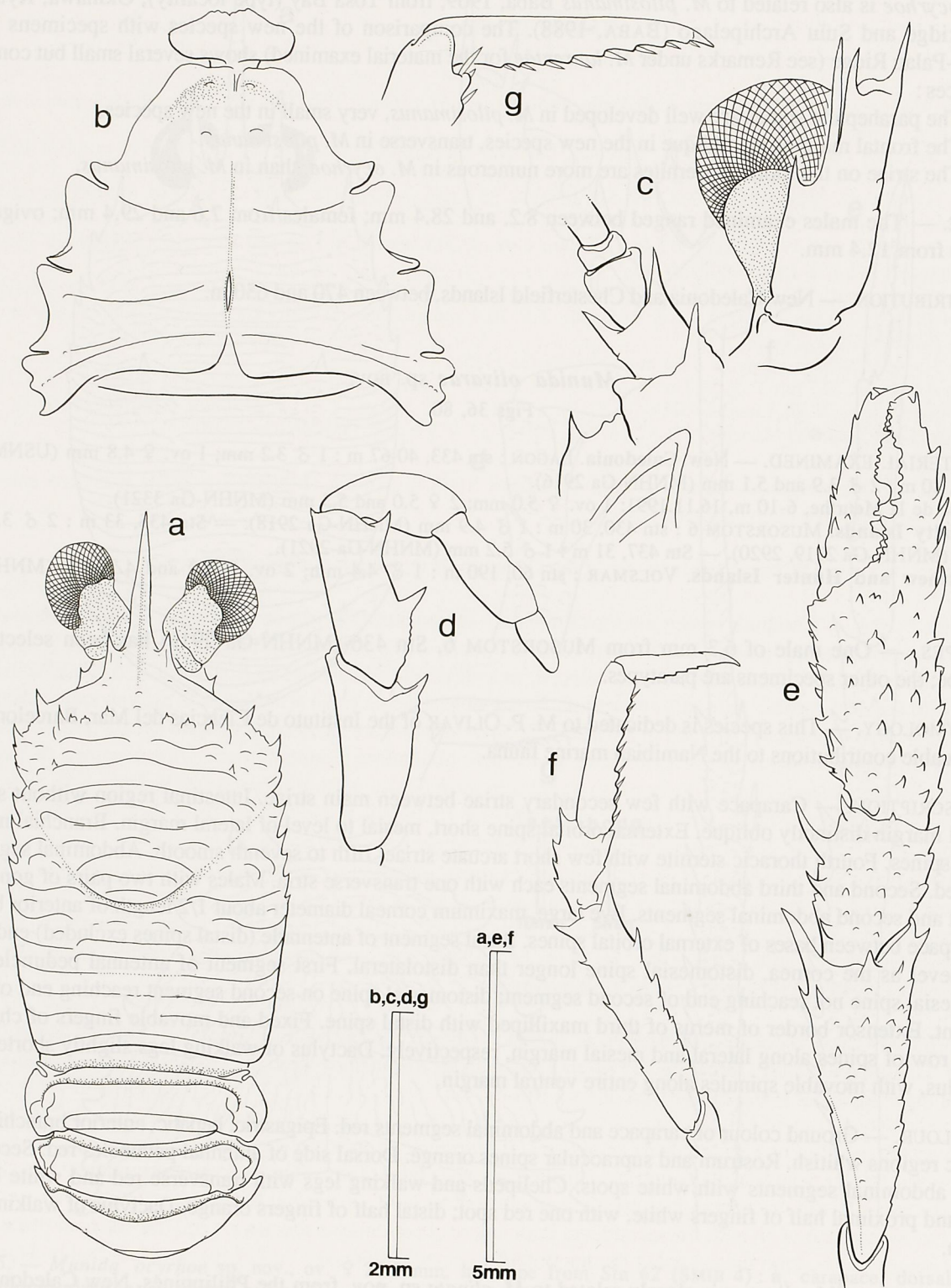


FIG. 36. — *Munida olivariae* sp. nov., ♂ 6.3 mm, holotype from Stn 436 (MUSORSTOM 6) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

The examination of the types of *M. roshanei* (Gulf of Oman, holotype, ♂ 4.7 mm; Gulf of Aden, paratype, ♂ 4.5 mm, BM) and additional material (Gulf of Suez, ♂ 5.0 mm, MNHN-Ga 770) shows that this species is easily differentiable from the two new species by the presence of numerous striae on the thoracic sternites and the absence of spines on the fingers of the chelipeds. In *M. clinata* and *M. olivarae* the thoracic sternites are smooth, without striae and the movable and fixed fingers of the chelipeds have a row of spines along the mesial and lateral borders, respectively.

*M. olivarae* can be distinguished from *M. clinata* by the following features :

— The distal spines on the basal segment of the antennular peduncle are subequal in *M. clinata*, whereas the distomesial spine is longer than the distolateral in *M. olivarae*.

— The palm of the cheliped has more spines on the dorsal side in *M. olivarae* than in *M. clinata*.

— The propodus of the walking legs in *M. olivarae* is slightly longer than the dactylus, whereas the propodus is about 1.5 times the dactylus length in *M. clinata*.

SIZE. — The males examined ranged between 3.2 and 6.3 mm, the females between 4.0 and 5.3 mm; ovigerous female from 4.0 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Matthew and Hunter Islands, between 6 and 190 m.

*Munida pagesi* sp. nov.

Fig. 37

MATERIAL EXAMINED. — **New Caledonia.** LAGON : stn 904, 250-300 m : 1 ♀ 10.0 mm (MNHN-Ga 2928). — Stn 993, 375-400 m : 1 ♀ 13.0 mm (MNHN-Ga 3324).

BIOCAL : stn 108, 335 m : 1 ♀ 6.8 mm (MNHN-Ga 2923). — Stn 109, 495 m : 2 ♂ 9.8 and 12.1 mm; 1 ov. ♀ 17.8 mm; 3 ♀ 10.0 to 11.2 mm (MNHN-Ga 3322).

MUSORSTOM 4 : stn 236, 495-550 m : 1 ♀ 5.3 mm (USNM). — Stn 239, 470-475 m : 1 ♀ 13.7 mm (MNHN-Ga 3325). — Stn 241, 470-480 m : 5 ♂ 8.3 to 14.1 mm; 3 ov. ♀ 9.7 to 13.0 mm; 2 ♀ 10.8 and 19.8 mm (MNHN-Ga 3326). — Stn 242, 500-550 m : 1 ♂ 10.2 mm; 1 ov. ♀ 18.5 mm (MNHN-Ga 2925, 2926). — Stn 246, 410-420 m : 1 ov. ♀ 9.0 mm (USNM). — Stn 247, 435-460 m : 3 ♂ 12.3 to 20.3 mm; 4 ov. ♀ 13.4 to 20.4 mm (MNHN-Ga 3327).

**Loyalty Island.** MUSORSTOM 6 : stn 483, 600 m : 1 ♀ 7.6 mm (MNHN-Ga 3323).

TYPES. — The ovigerous female of 18.5 mm from MUSORSTOM 4, Stn 242 (MNHN-Ga 2925) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to F. PAGES of the Instituto de Ciencias del Mar, Barcelona, for his support to systematic studies.

DESCRIPTION. — Carapace with numerous secondary striae. Intestinal region with numerous scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth and fifth thoracic sternites with numerous short arcuate striae; sixth and seventh smooth; fourth sternite anteriorly hollowed. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second and third abdominal segments each with some transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter slightly more than 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) exceeding cornea, distomesial spine shorter than distolateral. First segment of antennular peduncle with distomesial spine slightly exceeding end of second segment; distomesial spine on second segment exceeding antennular peduncle. Extensor margin of merus of third maxilliped unarmed. Movable and fixed fingers of cheliped with a row of spines along mesial and lateral borders, respectively. Dactylus of walking legs 3/4 length of propodus, with movable spinules along ventral margin, terminal third unarmed.

REMARKS. — *M. pagesi* is closely related to *M. sacksi* Macpherson, 1993, from the Philippines and New Caledonia (MACPHERSON, 1993). The two species can be easily distinguished by the following constant characters :

— The carapace is distinctly more convex in *M. pagesi* than in *M. sacksi*.

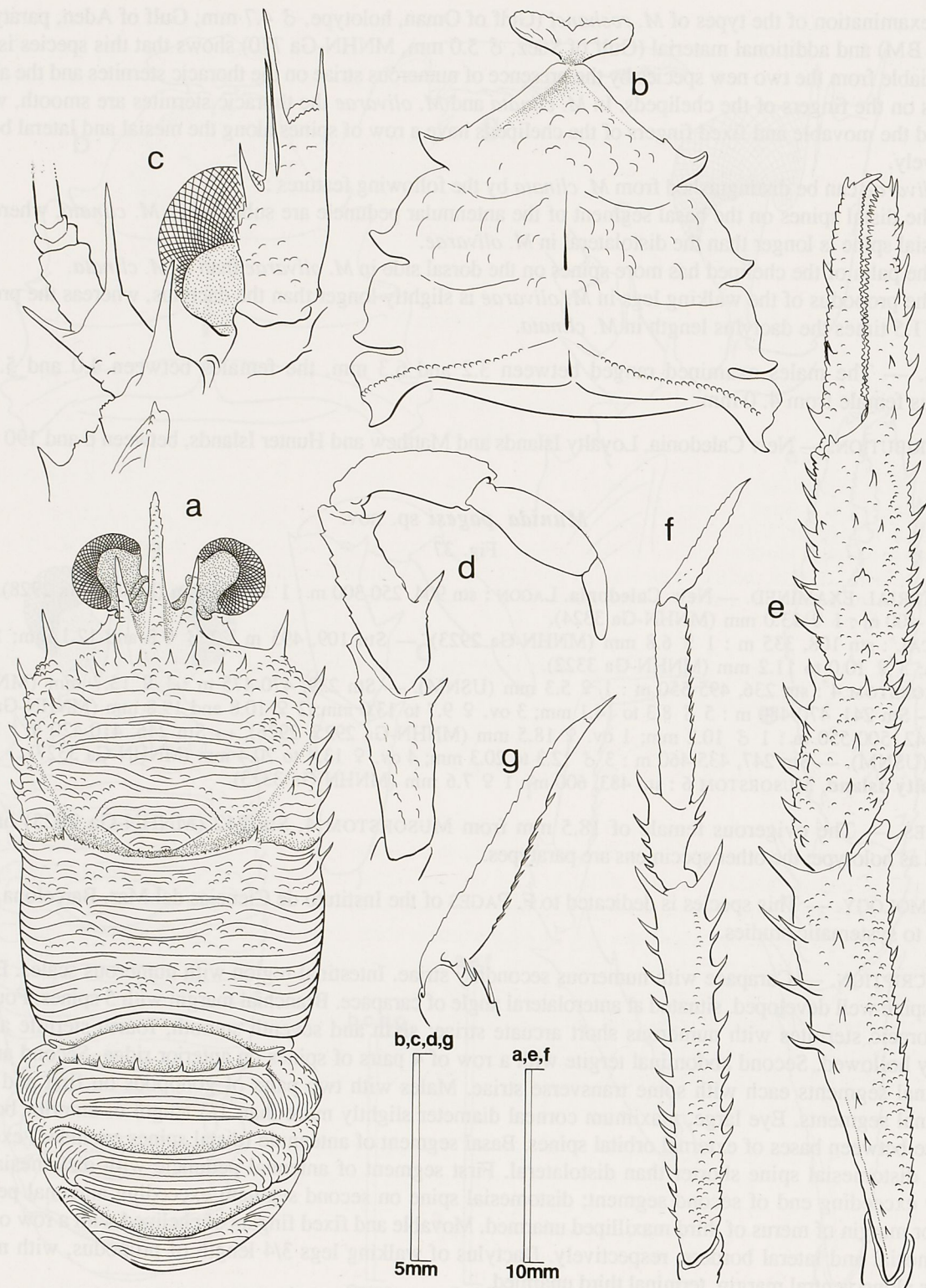


FIG. 37. — *Munida pagesi* sp. nov., ov. ♀ 18.5 mm, holotype from Stn 242 (MUSORSTOM 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



— If specimens of similar sizes of the two species are compared, the carapace and the abdominal segments distinctly have more secondary striae in *M. pagesi* than in *M. sacksi*.

— The fourth and fifth thoracic sternites in *M. pagesi* have numerous short arcuate striae; in *M. sacksi* these sternites are smooth.

SIZE. — The males examined measured between 8.3 and 20.3 mm; the females ranged between 5.3 and 20.4 mm; ovigerous females from 9.0 mm.

DISTRIBUTION. — New Caledonia and Loyalty Islands, between 250 and 600 m.

*Munida pontoporea* sp. nov.

Fig. 38

MATERIAL EXAMINED. — New Caledonia. CORAIL 2 : stn 162, 203-208 m : 1 ov. ♀ 10.9 mm, holotype (MNHN-Ga 2944).

ETYMOLOGY. — The name refers to one of the Nereids of the Greek mythology (Pontoporea).

DESCRIPTION. — Carapace with secondary striae. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few arcuate striae; lateral parts of sixth and seventh thoracic sternites with many small granules. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second and third abdominal segments each with 3 transverse striae. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) distinctly exceeding cornea, distomesial spine slightly longer than distolateral. First segment of antennal peduncle with distomesial spine exceeding second segment; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Movable and fixed fingers of cheliped with several spines along mesial and lateral borders, respectively. Dactylus of walking legs more than 1/2 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. pontoporea* is closely related to *M. taenia* sp. nov. from New Caledonia and Chesterfield Islands (see below, under the Remarks of *M. taenia* for the differences between these species), and *M. lineola* sp. nov. from New Caledonia. The latter differs from *M. pontoporea* in the following aspects:

— The granules of the lateral parts of the thoracic sternites form several rows in *M. lineola*, whereas they are homogeneously scattered in *M. pontoporea*.

— The distomesial spine on the basal antennular segment is longer than the distolateral in *M. pontoporea*; whereas these spines are subequal in *M. lineola*.

DISTRIBUTION. — New Caledonia, between 203 and 208 m.

*Munida proto* sp. nov.

Fig. 39

MATERIAL EXAMINED. — New Caledonia. SMIB 5 : stn 82, 155 m : 1 ov. ♀ 4.4 mm (USNM).

Loyalty Islands. MUSORSTOM 6 : stn 481, 300 m : 1 ov. ♀ 5.9 mm (MNHN-Ga 2945).

Chesterfield Islands. MUSORSTOM 5 : stn 274, 285 m : 1 ♂ 4.0 mm (MNHN-Ga 2946). — Stn 282, 226-230 m : 1 ov. ♀ 4.0 mm (MNHN-Ga 2947). — Stn 301, 487-610 m : 1 ♂ 3.8 mm (MNHN-Ga 3500). — Stn 305, 430-440 m : 2 ♂ 3.6 and 4.3 mm (MNHN-Ga 3503). — Stn 339, 380-395 m : 2 ♂ 4.1 and 4.5 mm : 1 ♀ 5.0 mm (MNHN-Ga 3501).

TYPES. — One ovigerous female of 5.9 mm from MUSORSTOM 6, Stn 481 (MNHN-Ga 2945) has been selected as the holotype; the other specimens are paratypes.

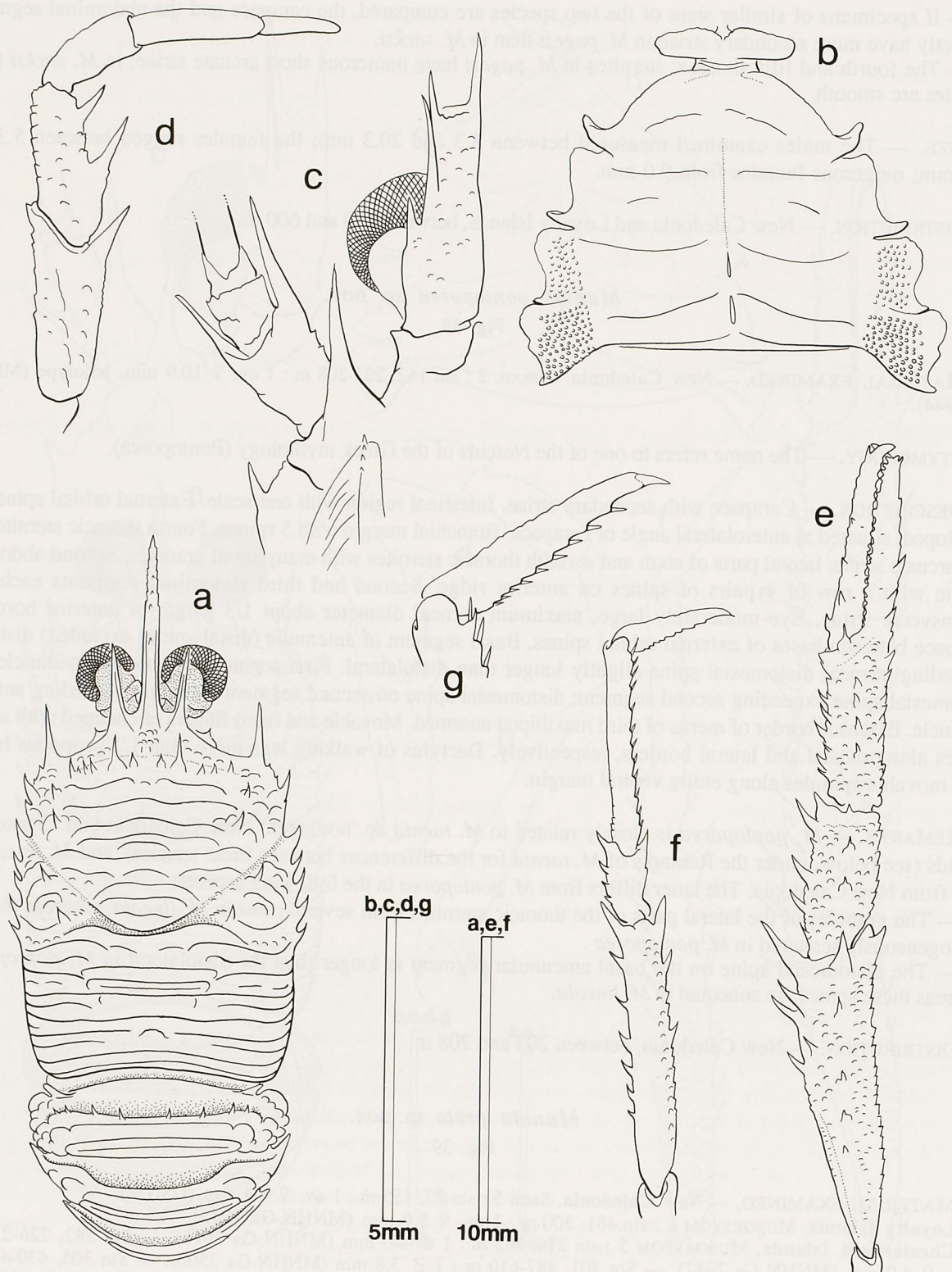


FIG. 38. — *Munida pontoporea* sp. nov., ov. ♀ 10.9 mm, holotype from Stn 162 (CORAIL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

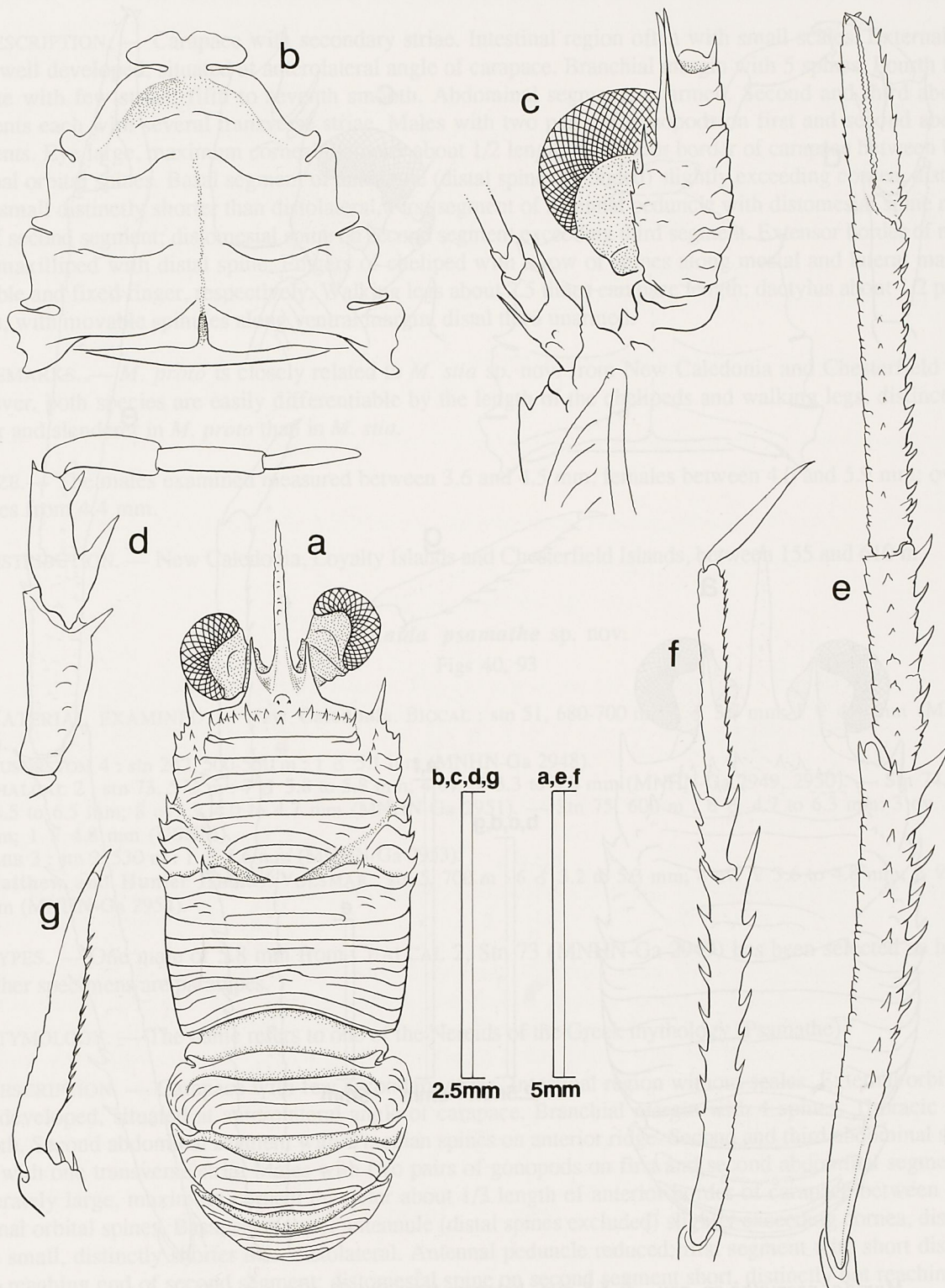


FIG. 39. — *Munida proto* sp. nov., ov. ♀ 5.9 mm, holotype from Stn 481 (MUSORSTOM 6) : **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, left cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

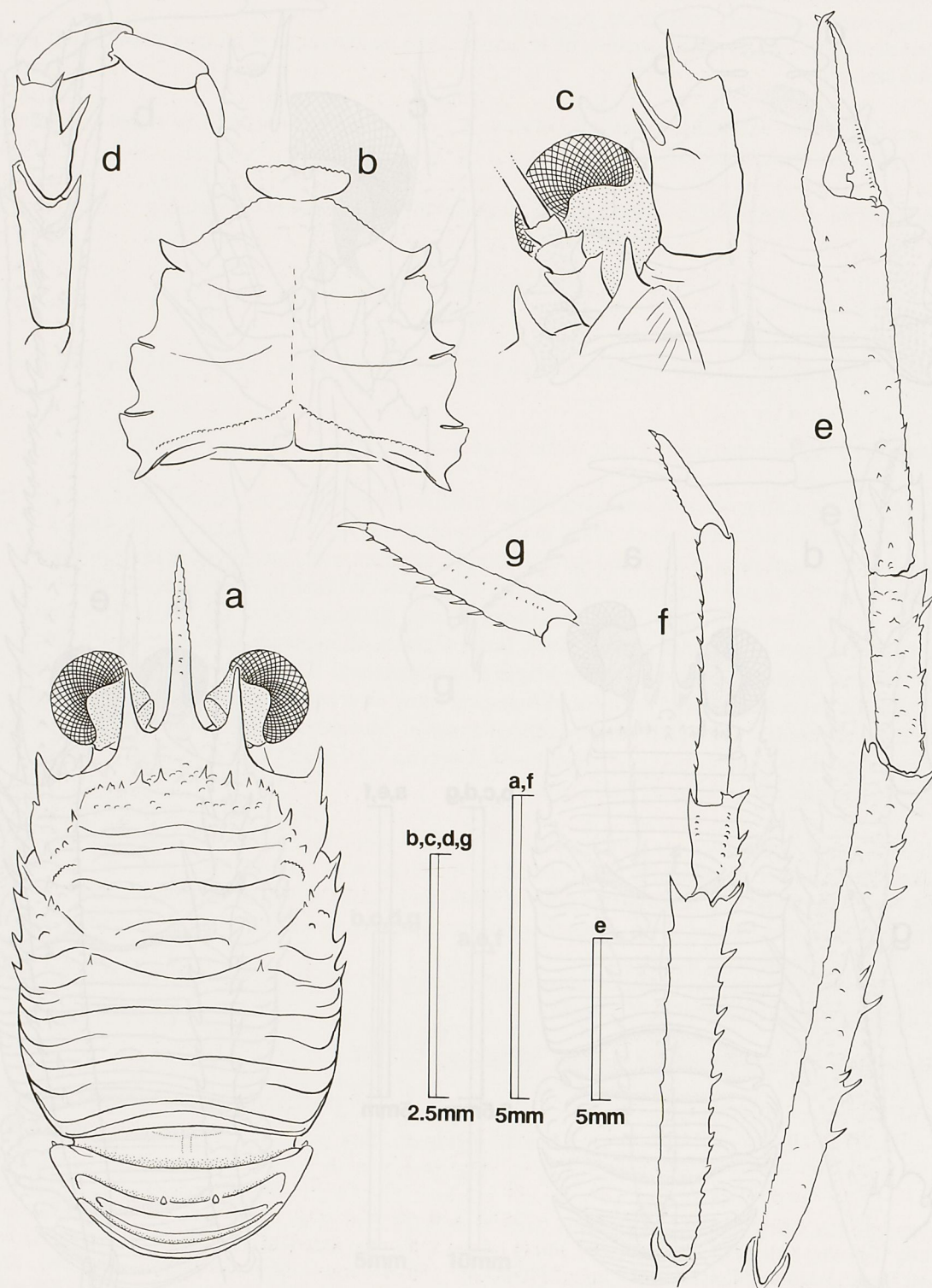


FIG. 40. — *Munida psamathe* sp. nov., ♂ 5.8 mm, holotype from Stn 73 (CHALCAL 2): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, left cheliped, dorsal view; **f**, left first walking leg, lateral view; **g**, dactylus of left first walking leg, lateral view.

ETYMOLOGY. — The name refers to one of the Nereids of the Greek mythology (Proto).

DESCRIPTION. — Carapace with secondary striae. Intestinal region often with small scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few striae; fifth to seventh smooth. Abdominal segments unarmed. Second and third abdominal segments each with several transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding cornea, distomesial spine small distinctly shorter than distolateral. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment exceeding third segment. Extensor border of merus of third maxilliped with distal spine. Fingers of cheliped with a row of spines along mesial and lateral margins of movable and fixed finger, respectively. Walking legs about 2.5 times carapace length; dactylus about 1/2 propodus length, with movable spinules along ventral margin, distal third unarmed.

REMARKS. — *M. proto* is closely related to *M. stia* sp. nov. from New Caledonia and Chesterfield Islands. However, both species are easily differentiable by the length of the chelipeds and walking legs, distinctly more longer and slenderer in *M. proto* than in *M. stia*.

SIZE.— The males examined measured between 3.6 and 4.5 mm, females between 4.0 and 5.9 mm; ovigerous females from 4.4 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Chesterfield Islands, between 155 and 610 m.

*Munida psamathe* sp. nov.

Figs 40, 93

MATERIAL EXAMINED. — New Caledonia. BIOCAL : stn 51, 680-700 m : 1 ♂ 3.7 mm; 1 ♀ 4.6 mm (MNHN-Ga 3508).

MUSORSTOM 4 : stn 242, 500-550 m : 1 ♂ 5.1 mm (MNHN-Ga 2948).

CHALCAL 2 : stn 73, 573 m : 7 ♂ 3.8 to 5.8 mm; 4 ov. ♀ 3.3 to 4.8 mm (MNHN-Ga 2949, 2950). — Stn 74, 650 m : 9 ♂ 4.5 to 6.5 mm; 8 ov. ♀ 4.0 to 4.7 mm (MNHN-Ga 2951). — Stn 75, 600 m : 6 ♂ 4.7 to 6.3 mm; 3 ov. ♀ 3.6 to 4.9 mm; 1 ♀ 4.8 mm (USNM).

SMB 3 : stn 2, 530 m : 1 ♂ 5.6 mm (MNHN-Ga 2953).

Matthew and Hunter Islands. VOLSMAR : stn 5, 700 m : 6 ♂ 3.2 to 5.3 mm; 4 ov. ♀ 3.6 to 4.8 mm; 2 ♀ 4.4 and 4.8 mm (MNHN-Ga 2954).

TYPES. — One male of 5.8 mm from CHALCAL 2, Stn 73 (MNHN-Ga 2949) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — The name refers to one of the Nereids of the Greek mythology (Psamathe).

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Thoracic sternites smooth. Second abdominal segment with 2 median spines on anterior ridge. Second and third abdominal segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding cornea, distomesial spine small, distinctly shorter than distolateral. Antennal peduncle reduced; first segment with short distomesial spine reaching end of second segment; distomesial spine on second segment short, distinctly not reaching end of third segment. Extensor border of merus of third maxilliped with distal spine. Fingers of cheliped unarmed. Dactylus of walking legs half as long as propodus, with movable spinules along entire ventral margin.

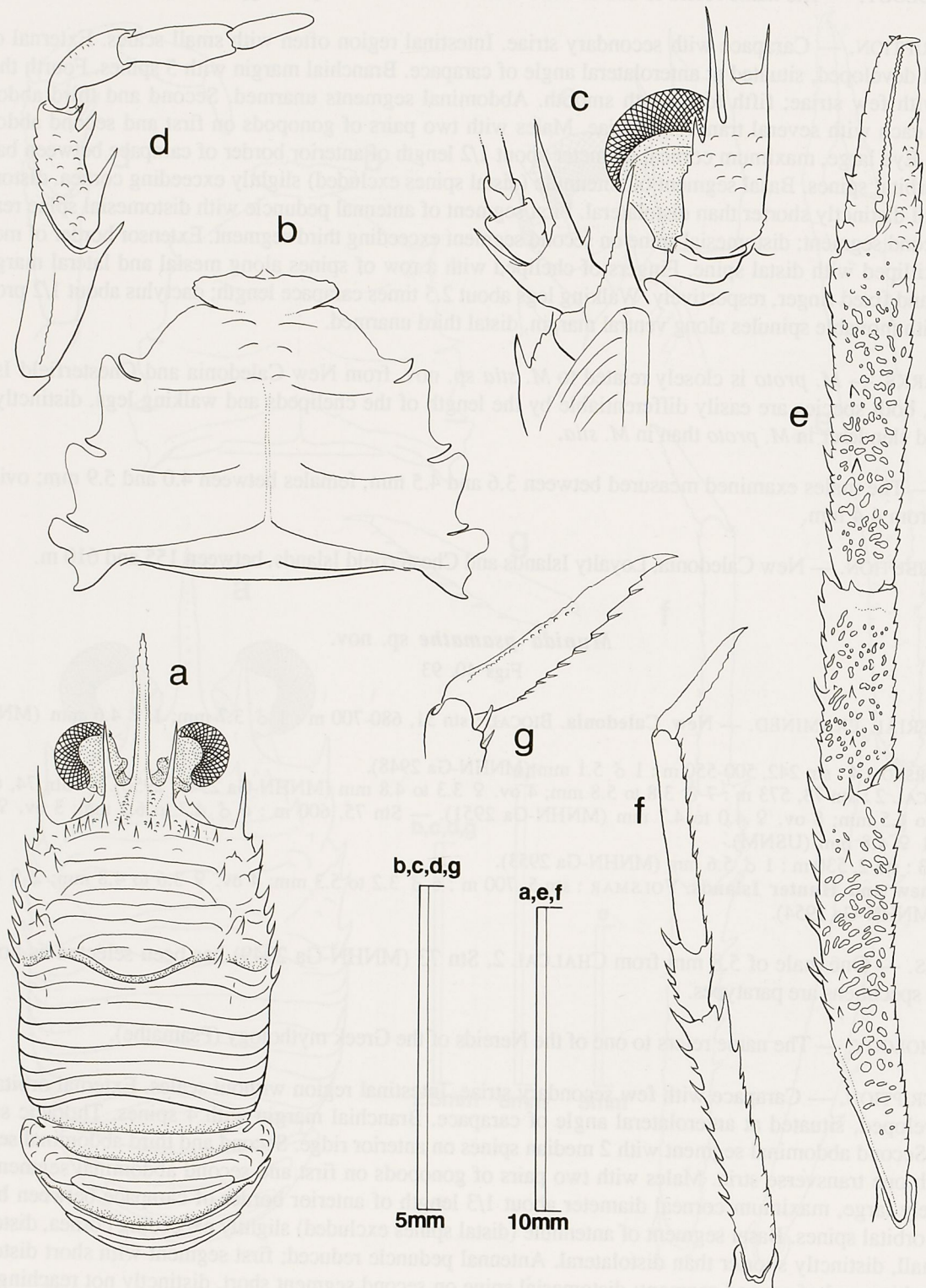


FIG. 41. — *Munida pseliophora* sp. nov., ♂ 9.0 mm, holotype from Stn 419 (MUSORSTOM 6): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennula and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

COLOUR. — Ground colour of carapace and abdominal segments orange, gastric region reddish. Rostrum and supraocular spines orange. Chelipeds and walking legs orange. Distal part of fingers of chelipeds and dactylus of walking legs white.

REMARKS. — *M. psamathe* is closely related to *M. masi* sp. nov. from New Caledonia described above. The two species are easily differentiable by several constant characters :

- The carapace and abdominal segments have more secondary striae in *M. masi* than in *M. psamathe*.
- The second abdominal segment bears two median spines in *M. psamathe*, instead of 6 spines in *M. masi*.
- The distomesial spine on the lateral antennular segment is distinctly shorter than the distolateral in *M. psamathe*, whereas both spines are subequal in *M. masi*.
- The antennal peduncle is reduced in *M. psamathe*, whereas is well developed in *M. masi*.
- The fingers of cheliped are unarmed in *M. psamathe*, whereas the fingers are armed with some spines in *M. masi*.
- The dactylus of the walking legs in *M. masi* is unarmed on the distal third of the ventral border, whereas the spines are along the entire ventral margin in *M. psamathe*.

SIZE. — The males examined ranged between 3.2 and 6.5 mm, females between 3.3 and 4.9 mm; ovigerous female from 3.3 mm.

DISTRIBUTION. — New Caledonia, Matthew and Hunter Islands, between 500 and 700 m.

*Munida pseliophora* sp. nov.

Figs 41, 94

MATERIAL EXAMINED. — **Loyalty Islands.** MUSORSTOM 6 : stn 419, 283 m : 5 ♂ 8.3 to 9.4 mm; 3 ov. ♀ 7.7 to 9.6 mm; 2 ♀ 8.3 and 8.5 mm (MNHN-Ga 2955, 2956).

**Chesterfield Islands.** MUSORSTOM 5 : stn 258, 300 m : 2 ov. ♀ 5.6 and 6.0 mm (MNHN-Ga 2957). — Stn 267, 285 m : 1 ♀ 3.2 mm (MNHN-Ga 2958). — Stn 274, 285 m : 1 ov. ♀ 4.6 mm (MNHN-Ga 2959).

TYPES. — The male (9.0 mm) from MUSORSTOM 6, Stn 419 (MNHN-Ga 2955) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *pseliophoros*, carrying a bracelet, in reference to the red band on the posterior half of the carapace.

DESCRIPTION. — Carapace with few secondary striae. Posterior striae not interrupted on intestinal region. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with some striae; fifth to seventh sternites smooth. Abdominal segments unarmed. Second and third abdominal segments each with 2-3 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding the level of cornea, with 2 subequal distal spines. First segment of antennal peduncle with long distomesial spine reaching end of third segment; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Fixed finger of cheliped with a row of spines along lateral margin; movable finger with 2 spines on proximal half of mesial margin, and one distal spine. Dactylus of walking legs 2/3 propodus length, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments orange. Rostrum and supraocular spines orange. Red band along branchial and posterior borders of carapace. Second to fourth abdominal segments with median and lateral red spots. Chelipeds orange, distal part of fingers white. Walking legs with transverse orange and white bands.

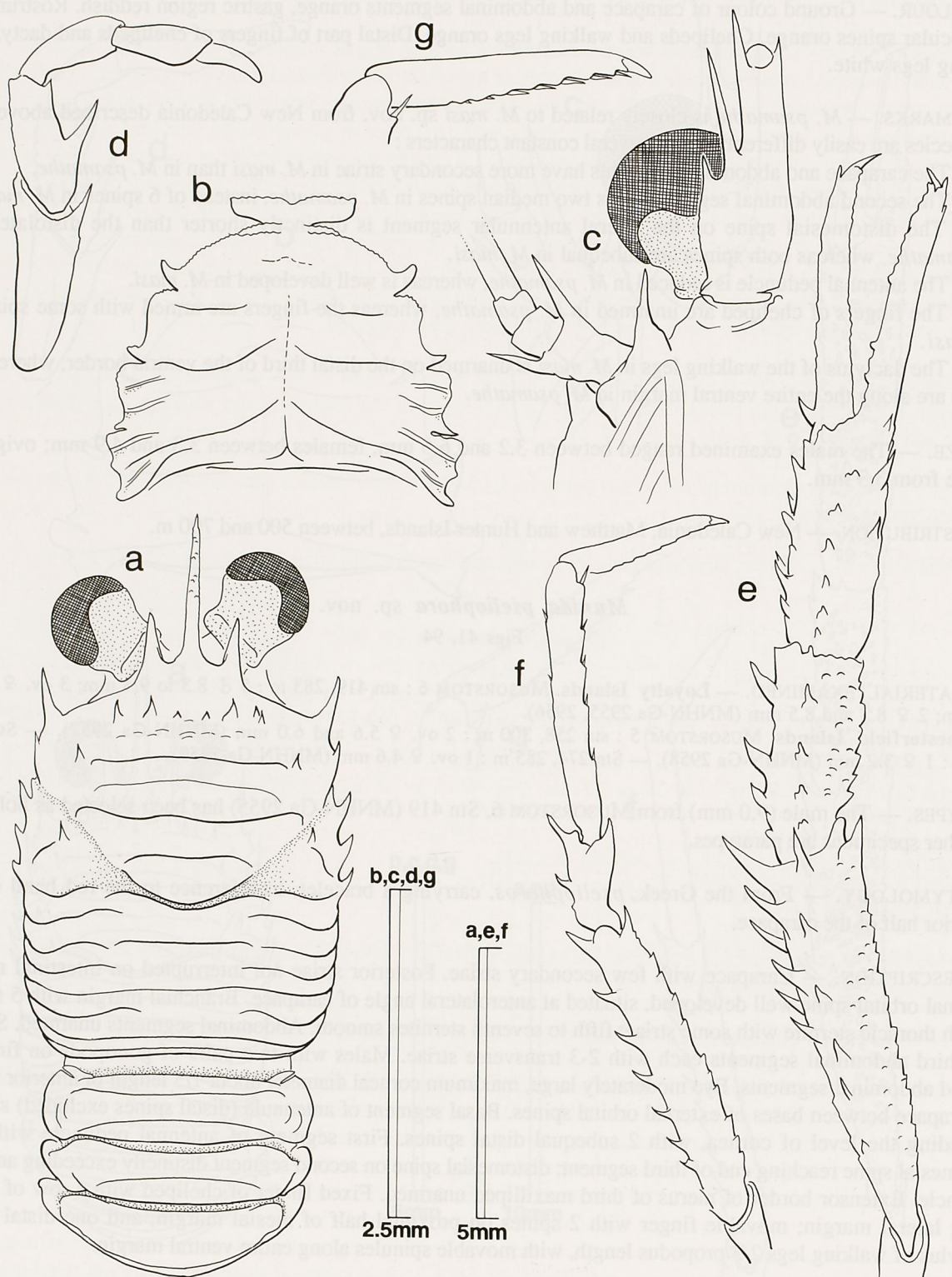


FIG. 42. — *Munida psylla* sp. nov., ov. ♀ 5.3 mm, holotype from Stn 67 (BIOCAL): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, dorsal view; e, right first walking leg, lateral view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



REMARKS. — *M. pseliophora* is closely related to *M. leagora* sp. nov. from New Caledonia, Loyalty Islands and Chesterfield Islands, however, they can be differentiated by several characters :

- The intestinal region has one scale in *M. leagora*, absent in *M. pseliophora*.
- The eye in *M. leagora* is large, the maximum corneal diameter is about 1/2 the length of the anterior border of the carapace between the bases of the external orbital spines, whereas is about 1/3 in *M. pseliophora*.
- The colour pattern is different in both species (see Figs 76 and 94).

SIZE. — The males examined ranged between 8.3 and 9.4 mm, females between 3.2 and 9.6 mm; ovigerous females from 4.6 mm.

DISTRIBUTION. — Loyalty Islands and Chesterfield Islands, between 283 and 300 m.

*Munida psylla* sp. nov.

Fig. 42

MATERIAL EXAMINED. — New Caledonia. BIOCAL : stn 67, 500-510 m : 1 ov. ♀ 5.3 mm (MNHN-Ga 2960).

CHALCAL 2 : stn 73, 573 m : 1 ♂ 3.5 mm (MNHN-Ga 2961).

Loyalty Islands. MUSORSTOM 6 : stn 480, 380 m : 1 ♂ 3.0 mm (USNM).

TYPES. — One ovigerous female of 5.3 mm from BIOCAL, Stn 67 (MNHN-Ga 2960) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY.— From the Greek, *psylla*, flea, in reference to the small size of the species. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine well developed situated, at anterolateral angle of carapace. Branchial margin with 3-4 spines quite similar in size. Fourth thoracic sternite with several short arcuate striae; lateral surfaces of sixth and seventh thoracic sternites with distinct carinae. Second abdominal segment unarmed. Second and third abdominal segments each with one transverse stria. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) distinctly exceeding cornea, distomesial spine distinctly shorter than distolateral. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Movable finger of cheliped with basal and distal spines; fixed finger with two distal spines. Dactylus of walking legs 3/4 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. psylla* is closely related to *M. sentai* Baba, 1986, from Andaman Sea. However, after the description and illustrations provided by BABA (1986b), they are easily differentiable by the presence of small spines on the hepatic region in *M. sentai*, absent in the new species. Furthermore, *M. sentai* has numerous secondary striae on the carapace, absent in the new species. On the other hand, *M. sentai* has two subequal distal spines on the basal antennular segment, whereas in *M. psylla* the distolateral spine is distinctly longer than the distolateral.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, between 380 and 573 m.

*Munida rhodonia* sp. nov.

Figs 13a, 43, 81

MATERIAL EXAMINED. — New Caledonia. MUSORSTOM 4 : stn 198, 590 m : 25 ♂ 9.7 to 12.3 mm; 13 ov. ♀ 9.5 to 12.9 mm; 2 ♀ 9.2 and 13.4 mm (MNHN-Ga 2963, 2964). — Stn 202, 580 m : 1 ♂ 13.8 mm; 4 ov. ♀ 8.7 to 10.2 mm;

6 ♀ 6.3 to 10.2 mm (USNM). — Stn 238, 500-510 m : 1 ♂ 6.3 mm; 1 ♀ 6.5 mm; 1 juv. 3.8 mm (MNHN-Ga 2966). — Stn 240, 475-500 m : 1 ♂ 12.0 mm (MNHN-Ga 2967).

**Loyalty Islands.** MUSORSTOM 6 : stn 466, 540 m : 1 ♂ 13.8 mm (MNHN-Ga 2969). — Stn 470, 560 m : 1 ♂ 13.3 mm (MNHN-Ga 3213).

**Chesterfield Islands.** CORAIL 2 : stn 13 : 700-705 m : 1 ov. ♀ 10.7 mm (MNHN-Ga 2968).

**TYPES.** — The male of 11.5 mm from MUSORSTOM 4, Stn 198 (MNHN-Ga 2963) has been selected as holotype; the other specimens are paratypes.

**ETYMOLOGY.** — From the Greek, *rhodon*, rose, in reference to the colour of the species. The name is considered as a substantive in apposition.

**DESCRIPTION.** — Carapace with numerous secondary striae. Intestinal region with scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh sternites smooth. Second abdominal tergite with a row of 4-5 pairs of spines on anterior ridge. Second to fourth segments each with numerous transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines. First segment of antennal peduncle with distomesial spine not reaching end of second segment; distomesial spine on second segment reaching end of antennal peduncle. Extensor border of merus of third maxilliped unarmed. Palm of cheliped as long as fingers; movable finger unarmed; fixed finger with one distal spine, near tip. Dactylus of walking legs 3/4 length of propodus, with movable spinules along entire ventral margin.

**COLOUR.** — Ground colour of carapace and abdominal segments pinkish. Rostrum and supraocular spines reddish. Chelipeds and walking legs pinkish. Fingers of chelipeds and dactylus of walking legs whitish.

**REMARKS.** — *M. rhodonia* is closely related to *M. rosula* sp. nov. from New Caledonia, Loyalty Islands and Chesterfield Islands (see the differences under the Remarks of the latter).

*Munida rhodonia* is the species figured on the cover of this volume.

**SIZE.** — The males examined ranged between 6.3 and 13.8 mm, females between 6.3 and 13.4 mm; ovigerous females from 8.7 mm.

**DISTRIBUTION.** — New Caledonia, Loyalty Islands and Chesterfield Islands, between 475 and 705 m.

### *Munida rogeri* sp. nov.

Fig. 44

**MATERIAL EXAMINED.** — **New Caledonia.** BIOCAL : stn 65, 245-275 m : 1 ov. ♀ 6.7 mm (MNHN-Ga 2970).

CHALCAL 2 : stn 18, 274 m : 1 ♂ 4.3 mm (MNHN-Ga 2973).

**Loyalty Islands.** MUSORSTOM 6 : stn 455, 260 m : 1 ♂ 6.5 mm (USNM). — Stn 474, 260 m : 1 ♂ 5.2 mm ; 1 ov. ♀ 4.0 mm (MNHN-Ga 2972).

**Chesterfield Islands.** MUSORSTOM 5 : stn 276, 258-269 m : 1 ♂ 6.8 mm (MNHN-Ga 2974). — Stn 280, 270 m : 1 ♂ 5.0 mm (MNHN-Ga 2975). — Stn 287, 265-270 m : 5 ♂ 6.0 to 8.2 mm (MNHN-Ga 2976, 2977). — Stn 288, 270 m : 3 ♀ 5.4 to 8.3 mm (MNHN-Ga 2978). — Stn 289, 273 m : 2 ov. ♀ 6.5 and 6.7 mm (MNHN-Ga 2979, 3490). — Stn 291, 300 m : 1 ♂ 8.4 mm (USNM). — Stn 299, 360-390 m : 1 ♂ 4.7 mm (MNHN-Ga 2981). — Stn 345, 305-310 m : 2 ♂ 8.0 and 8.2 mm (MNHN-Ga 2982). — Stn 368, 305 m : 1 ♂ 4.7 mm (MNHN-Ga 2983).

**TYPES.** — One male of 7.7 mm from MUSORSTOM 5, Stn 287 (MNHN-Ga 2976) has been selected as holotype; the other specimens are paratypes.

**ETYMOLOGY.** — This species is dedicated to Roger VILLANUEVA of the Instituto de Ciencias del Mar, Barcelona, for his support in my work and his important contribution to the taxonomy of cephalopods.

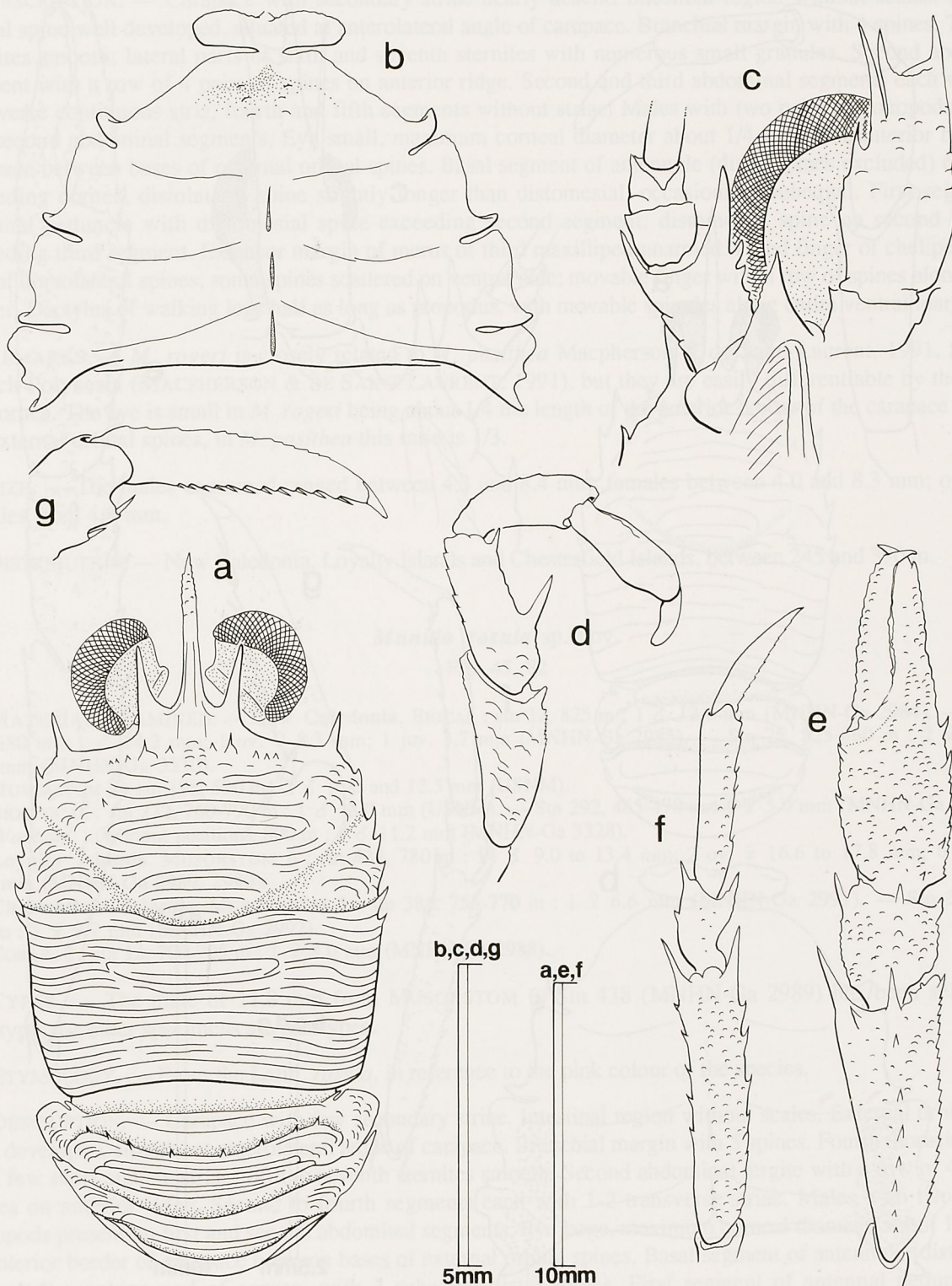


FIG. 43. — *Munida rhodonia* sp. nov., ♂ 11.5 mm, holotype from Stn 198 (MUSORSTOM 4): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

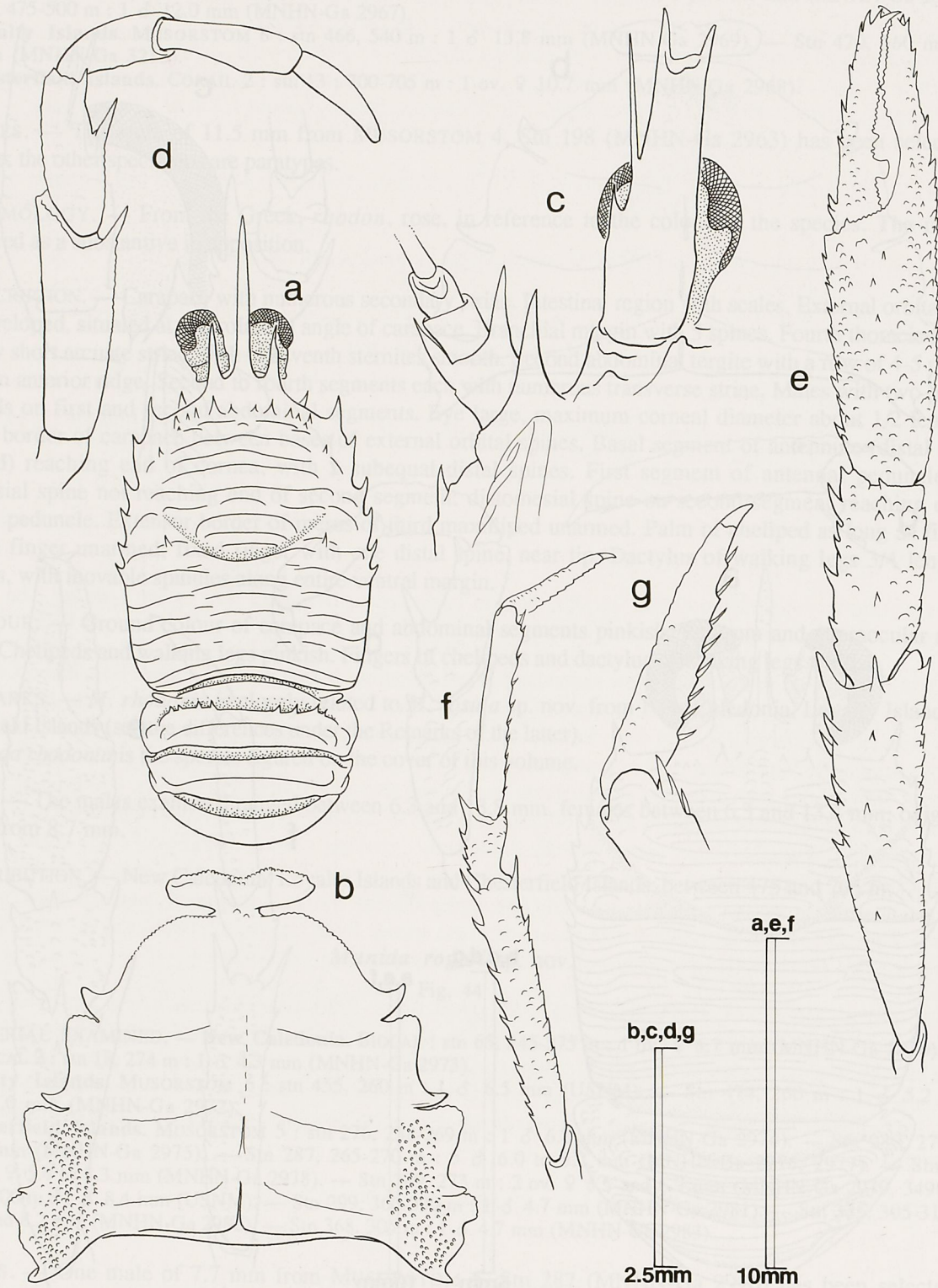


FIG. 44. — *Munida rogeri* sp. nov., ♂ 7.7 mm, holotype from Stn 287 (MUSORSTOM 5): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

DESCRIPTION. — Carapace with secondary striae nearly absent. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Thoracic sternites smooth; lateral parts of sixth and seventh sternites with numerous small granules. Second abdominal segment with a row of 4 pairs of spines on anterior ridge. Second and third abdominal segments each with one transverse continuous stria, fourth and fifth segments without striae. Males with two pairs of gonopods on first and second abdominal segments. Eye small, maximum corneal diameter about 1/4 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) distinctly exceeding cornea, distolateral spine slightly longer than distomesial, occasionally subequal. First segment of antennal peduncle with distomesial spine exceeding second segment; distomesial spine on second segment exceeding third segment. Extensor margin of merus of third maxilliped unarmed. Fixed finger of cheliped with a row of dorsolateral spines, some spines scattered on ventral side; movable finger with a row of spines along mesial border. Dactylus of walking legs half as long as propodus, with movable spinules along entire ventral margin.

REMARKS. — *M. rogeri* is closely related to *M. pasithea* Macpherson & de Saint Laurent, 1991, from the French Polynesia (MACPHERSON & DE SAINT LAURENT, 1991), but they are easily differentiable by the size of the cornea. The eye is small in *M. rogeri* being about 1/4 the length of the anterior border of the carapace between the external orbital spines, in *M. pasithea* this ratio is 1/3.

SIZE. — The males examined ranged between 4.3 and 8.4 mm, females between 4.0 and 8.3 mm; ovigerous females from 4.0 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Chesterfield Islands, between 245 and 390 m.

*Munida rosula* sp. nov.

Figs 45, 82

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 32, 825 m : 1 ♂ 12.6 mm (MNHN-Ga 2984). — Stn 33, 675-680 m : 1 ♂ 14.2 mm; 1 ov. ♀ 8.3 mm; 1 juv. 3.7 mm (MNHN-Ga 2985). — Stn 75, 825-860 m : 2 ♀ 9.1 and 10.0 mm (MNHN-Ga 3330).

MUSORSTOM 4 : stn 198, 590 m : 2 ♂ 10.0 and 12.5 mm (USNM).

BIOGEOCAL : stn 232, 760-790 m : 1 ♂ 13.0 mm (USNM). — Stn 292, 465-470 m : 1 ♀ 5.0 mm (MNHN-Ga 3329).

"*Vauban*" : (without position), 800 m : 1 ♂ 11.2 mm (MNHN-Ga 3328).

**Loyalty Islands.** MUSORSTOM 6 : stn 438, 780 m : 14 ♂ 9.0 to 13.4 mm; 2 ov. ♀ 16.6 to 17.8 mm; 6 ♀ 9.7 to 12.5 mm (MNHN-Ga 2989, 2990).

**Chesterfield Islands.** MUSORSTOM 5 : stn 386, 755-770 m : 1 ♀ 6.6 mm (MNHN-Ga 2991). — Stn 387, 650-660 m : 1 ♀ 9.7 mm (MNHN-Ga 2992).

CORAIL 2 : stn 13, 700-705 m : 1 ♀ 8.0 mm (MNHN-Ga 2988).

TYPES. — The male of 11.8 mm from MUSORSTOM 6, Stn 438 (MNHN-Ga 2989) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Latin, *rosula*, in reference to the pink colour of the species.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh sternites smooth. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second to fourth segments each with 1-2 transverse striae. Males with two pairs of gonopods present on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment exceeding third segment. Extensor border of merus of third maxilliped unarmed. Palm of cheliped distinctly shorter than fingers; movable finger unarmed; fixed finger with 2 distal spines, occasionally with one basal spine. Dactylus of walking legs more than 1/2 length of propodus, with movable spinules along entire ventral margin.

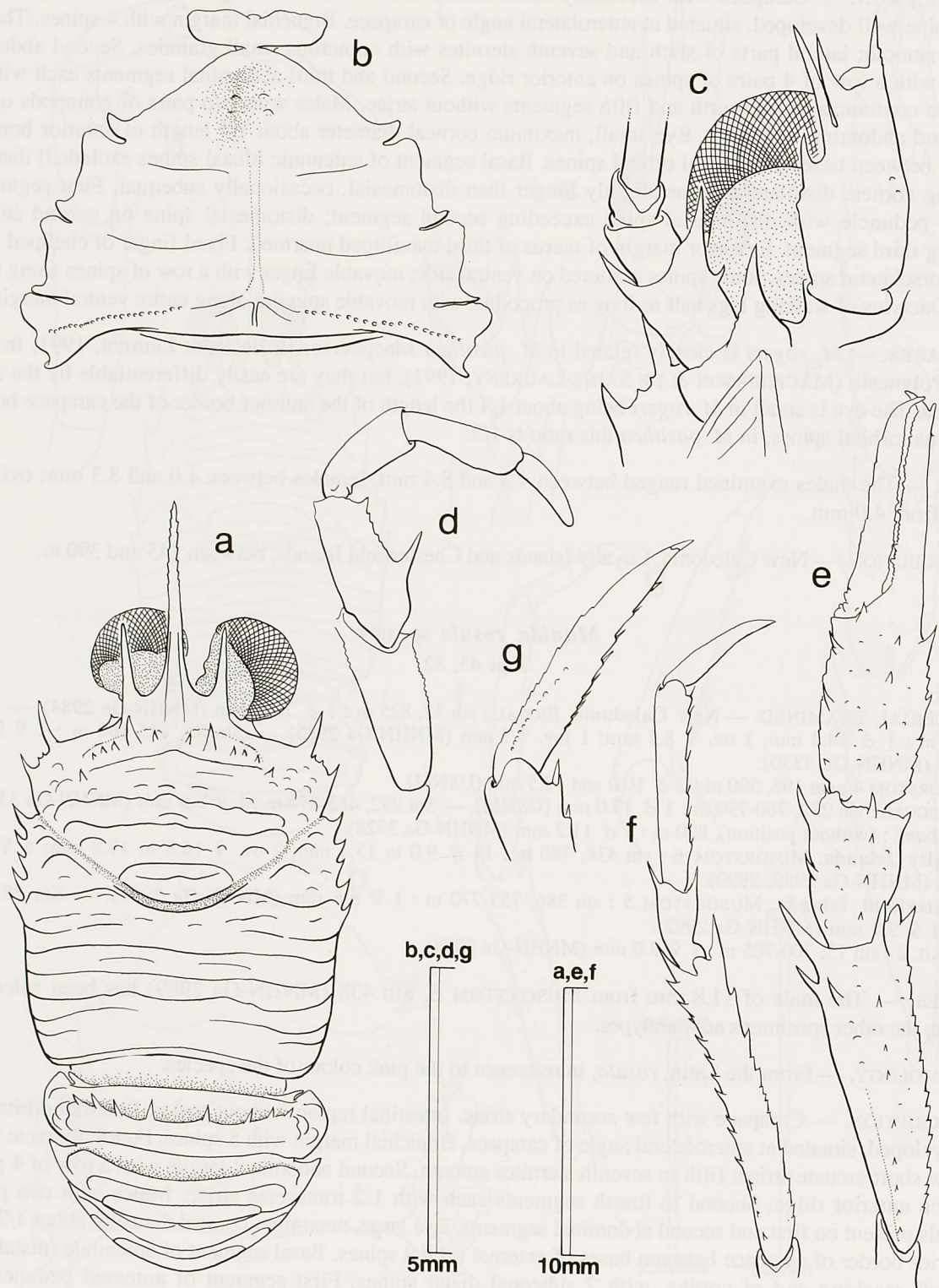


FIG. 45. — *Munida rosula* sp. nov., ♂ 11.8 mm, holotype from Stn 438 (MUSORSTOM 6): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

COLOUR. — Ground colour of carapace and abdominal segments pink. Rostrum and supraocular spines white. Chelipeds and walking legs pinkish, darker on terminal half of articles. Fingers of chelipeds and dactylus of walking legs whitish.

REMARKS. — *M. rosula* is closely related to *M. rhodonia* sp. nov. from New Caledonia, Loyalty Islands and Chesterfield Islands They are distinguished by :

— The carapace and the abdominal segments have numerous secondary striae in *M. rhodonia*, these secondary striae are nearly absent in *M. rosula*.

— The chelipeds is shorter and more massive in *M. rhodonia* than in *M. rosula*. In *M. rhodonia* the palm is as long as the fingers, whereas in *M. rosula* the palm is distinctly shorter than the fingers.

— The colour patterns are very different (see Figs. 80 and 81).

SIZE. — The males examined ranged between 9.0 and 14.2 mm, females from 6.6 and 17.8 mm; ovigerous females from 8.3 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Chesterfield Islands, between 465 and 860 m.

*Munida rufiantennulata* Baba, 1969

Figs 46, 83

*Munida rufiantennulata* Baba, 1969a : 23, fig. 7; 1988 : 83 (key), 128; 1989 : 131.

MATERIAL EXAMINED. — **Japan.** 06.08.1967, 32°13.6'N, 128°20.2'E, 167 m : 1 ♀ 6.4 mm, holotype; 1 ov. ♀ 5.2 mm, paratype (ZLKU).

**Philippines.** MUSORSTOM 2 : stn 36, 569-595 m : 1 ♂ 13.3 mm; 1 ov. ♀ 11.6 mm; 1 ♀ 8.0 mm (USNM). — Stn 51, 170-187 m : 1 ov. ♀ 6.5 mm (MNHN-Ga 2994).

MUSORSTOM 3 : stn 144, 379-383 m : 4 ♂ 4.3 to 11.6 mm (MNHN-Ga 2995).

**New Caledonia.** BIOCAL : stn 8, 435 m : 1 ♂ 6.9 mm; 1 ov. ♀ 5.5 mm (USNM). — Stn 66, 515 m : 2 ♂ 5.2 and 6.5 mm (MNHN-Ga 3332). — Stn 82, 440-460 m : 1 ♂ 9.0 mm; 1 ov. ♀ 6.5 mm (MNHN-Ga 3333). — Stn 83, 460 m : 1 ♂ 6.0 mm (MNHN-Ga 2649).

MUSORSTOM 4 : stn 236, 495-550 m : 1 ♀ 6.7 mm (MNHN-Ga 2997). — Stn 238, 500-510 m : 1 ♂ 8.0 mm; 1 ov. ♀ 6.8 mm (MNHN-Ga 2998).

SMIB 3 : stn 21, 525 m : 1 ♂ 10.6 mm (MNHN-Ga 2999).

SMIB 4 : stn 36, 530 m : 1 ♂ 5.2 mm (MNHN-Ga 3331).

**Loyalty Islands.** MUSORSTOM 6 : stn 391, 390 m : 1 ov. ♀ 7.3 mm (MNHN-Ga 3000).

**Matthew and Hunter Islands.** VOLSMAR : stn 6, 480 m : 1 ov. ♀ 7.8 mm (USNM). — Stn 50, 425 m : 1 ♂ 3.6 mm; 1 ov. ♀ 5.6 mm (MNHN-Ga 3002).

**Chesterfield Islands.** MUSORSTOM 5 : stn 300, 450 m : 1 ♀ 5.6 mm (MNHN-Ga 3003). — Stn 301, 480-610 m : 2 ♂ 5.0 and 9.0 mm (MNHN-Ga 3004).

REMARKS. — The specimens collected off the Philippines, New Caledonia and adjacent waters agree with the types and the information provided by BABA (1969a, 1988). The lateral surfaces of the sixth and seventh thoracic sternites have distinct crests. The inclination of the frontal margin and the length of the first external orbital spine show certain variations with the specimen size. The type specimens and the specimens smaller than 8 mm of carapace length have the frontal margins distinctly oblique and the external orbital spine short; the larger specimens have the frontal margins more transverse, although oblique, and the external orbital spine well developed. The fixed finger of cheliped has 1 or 2 spines on the proximal half in several specimens, but these spines are absent in others.

BABA (1969a) provided the colour pattern of the type after one week in formalin. This pattern agrees quite well with the colour observed in the specimens collected during MUSORSTOM 5 cruise (Fig. 83).

SIZE. — The males examined ranged between 3.6 and 13.3 mm, females between 5.2 and 11.6 mm; ovigerous females from 5.2 mm.

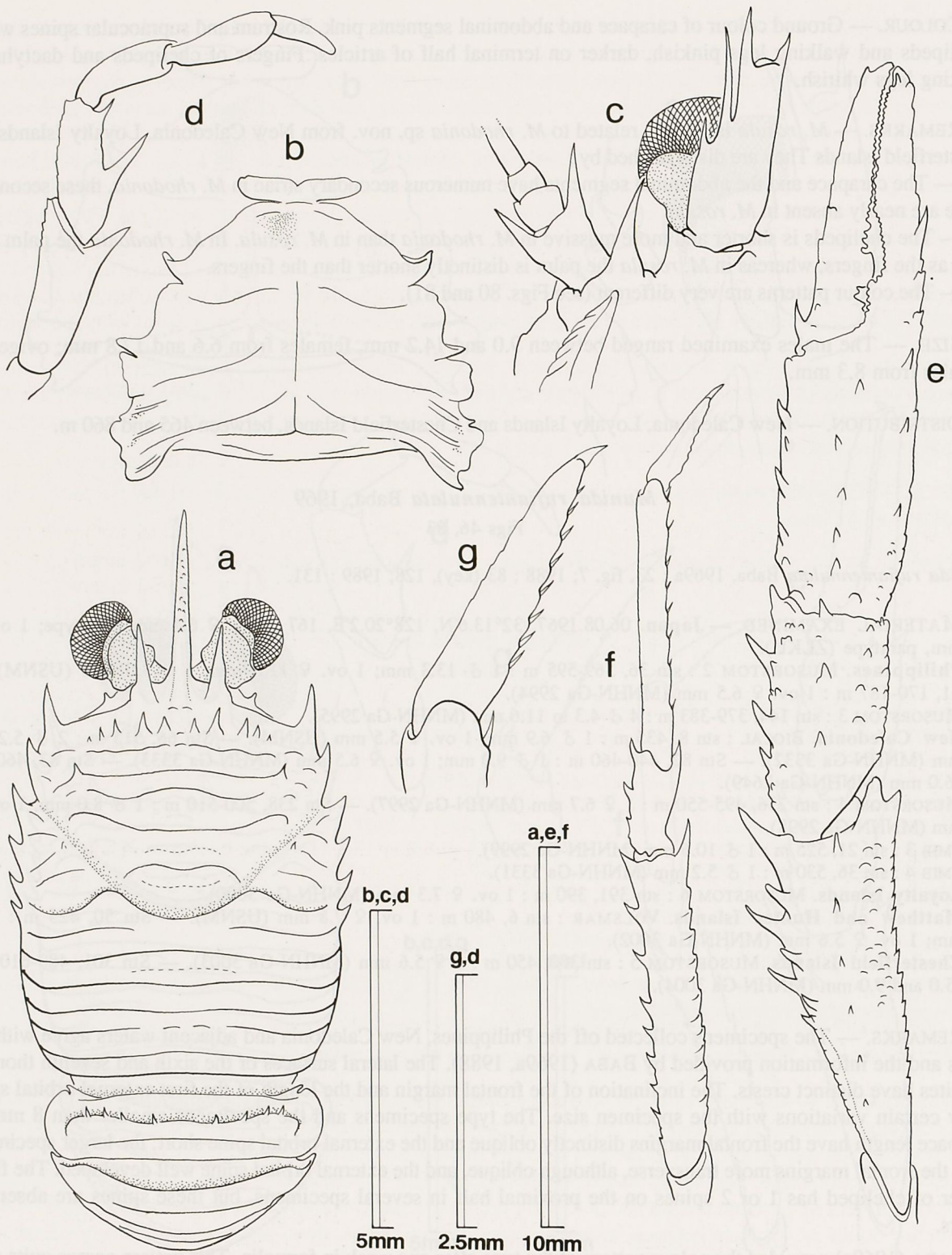


FIG. 46. — *Munida rufiantennulata* Baba, 1969, ♂ 9.0 mm, from Stn 301 (MUSORSTOM 5): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



DISTRIBUTION. — Japan and Philippines, between 45 and 705 m (BABA, 1988; 1989). The present material from the Philippines, New Caledonia, Loyalty Islands, Chesterfield Islands, Matthew and Hunter Islands, was collected between 379 and 610 m.

*Munida runcinata* sp. nov.

Fig. 47

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 192, 320 m : 2 ov. ♀ 8.1 and 10.0 mm (MNHN-Ga 3335). — Stn 195, 470 m : 8 ♂ 4.8 to 11.1 mm; 6 ov. ♀ 7.2 to 10.0 mm; 4 ♀ 5.3 to 7.5 mm (MNHN-Ga 3336). — Stn 248, 380-385 m : 1 ♂ 7.8 mm (MNHN-Ga 3337).

**Loyalty Islands.** MUSORSTOM 6 : stn 391, 390 m : 1 ♀ 5.0 mm (USNM). — Stn 464, 430 m : 3 ♂ 7.0 to 9.3 mm; 3 ov. ♀ 8.0 to 10.3 mm; 2 ♀ 7.8 and 9.0 mm (MNHN-Ga 3006, 3007 and USNM). — Stn 487, 500 m : 1 ♂ 7.4 mm (MNHN-Ga 3334).

TYPES. — The male of 8.0 mm from MUSORSTOM 6, Stn 464 (MNHN-Ga 3006) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Latin, *runcinatus*, plain, smooth, in reference to the smooth carapace surface, only armed with epigastric spines.

DESCRIPTION. — Carapace with secondary striae. Intestinal region without scales. Dorsal surface of carapace only with a row of epigastric spines. External orbital spine long, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh smooth. Second abdominal segment unarmed. Second to fifth segments each with several transverse continuous striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines. First segment of antennal peduncle with long distomesial spine reaching end of third segment; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped with distal spine. Movable finger of cheliped with one basal and one terminal spine; fixed finger with 2 terminal spines. Dactylus of walking legs 2/3 propodus length, with movable spinules along ventral margin, distal third unarmed.

REMARKS. — *M. runcinata* is closely related to *M. spilota* sp. nov. from New Caledonia and Matthew and Hunter Islands and *M. sao* sp. nov. from New Caledonia (but see below for additional differences under the Remarks of these species).

SIZE. — The males examined ranged between 4.8 and 11.1 mm, females between 5.0 and 10.3 mm; ovigerous females from 7.2 mm.

DISTRIBUTION. — New Caledonia and Loyalty Islands, between 320 and 500 m.

*Munida sabatesae* sp. nov.

Fig. 48

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 155, 500-570 m : 12 ♂ 13.3 to 20.0 mm; 5 ov. ♀ 16.4 to 18.4 mm; 6 ♀ 4.9 to 20.0 mm (MNHN-Ga 3008). — Stn 162, 535 m : 3 ♂ 8.7 to 19.5 mm; 1 ♀ 12.5 mm (MNHN-Ga 3009). — Stn 167, 575 m : 1 ♂ 17.3 mm (MNHN-Ga 3010). — Stn 180, 450 m : 1 ♂ 15.0 mm; 1 juv. 4.0 mm (MNHN-Ga 3011). — Stn 193, 415 m : 3 ♂ 13.7 to 16.0 mm; 2 ov. ♀ 14.3 to 16.4 mm (MNHN-Ga 3012). — Stn 194, 550 m : 41 ♂ 10.8 to 21.6 mm; 25 ov. ♀ 13.9 to 18.9 mm; 46 ♀ 8.5 to 19.8 mm (MNHN-Ga 3013 and USNM). — Stn 195, 470 m : 5 ♂ 10.7 to 20.4 mm; 3 ov. ♀ 15.0 to 15.7 mm; 4 ♀ 10.0 to 13.1 mm (USNM). — Stn 196, 460 m : 1 ♂ 12.5 mm; 2 ov. ♀ 14.8 and 15.3 mm; 1 ♀ 9.0 mm (MNHN-Ga 3015).

CHALCAL 2 : stn 2, 500-610 m : 1 ♀ 9.4 mm (MNHN-Ga 3017).

SMIB 6 : stn 124, 360-405 m : 1 ♂ 14.6 mm; 1 ov. ♀ 16.6 mm; 1 ♀ 17.0 mm (MNHN-Ga 3018).

**New Hebrides Islands.** 01.08.1978, 350 m : 1 ov. ♀ 19.8 mm (MNHN-Ga 3019).

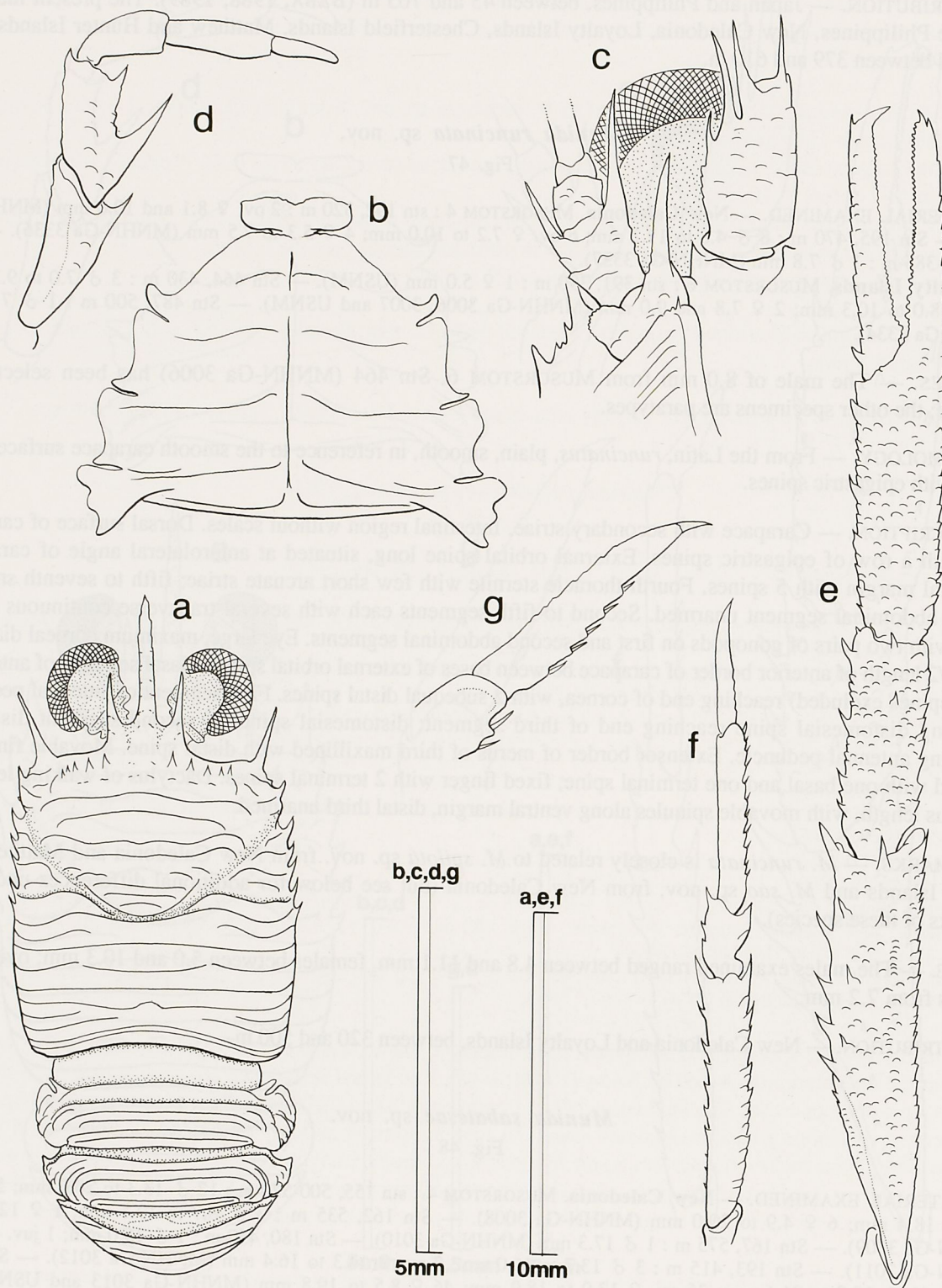


FIG. 47. — *Munida runcinata* sp. nov., ♂ 8.0 mm, holotype from Stn 464 (MUSORSTOM 6): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

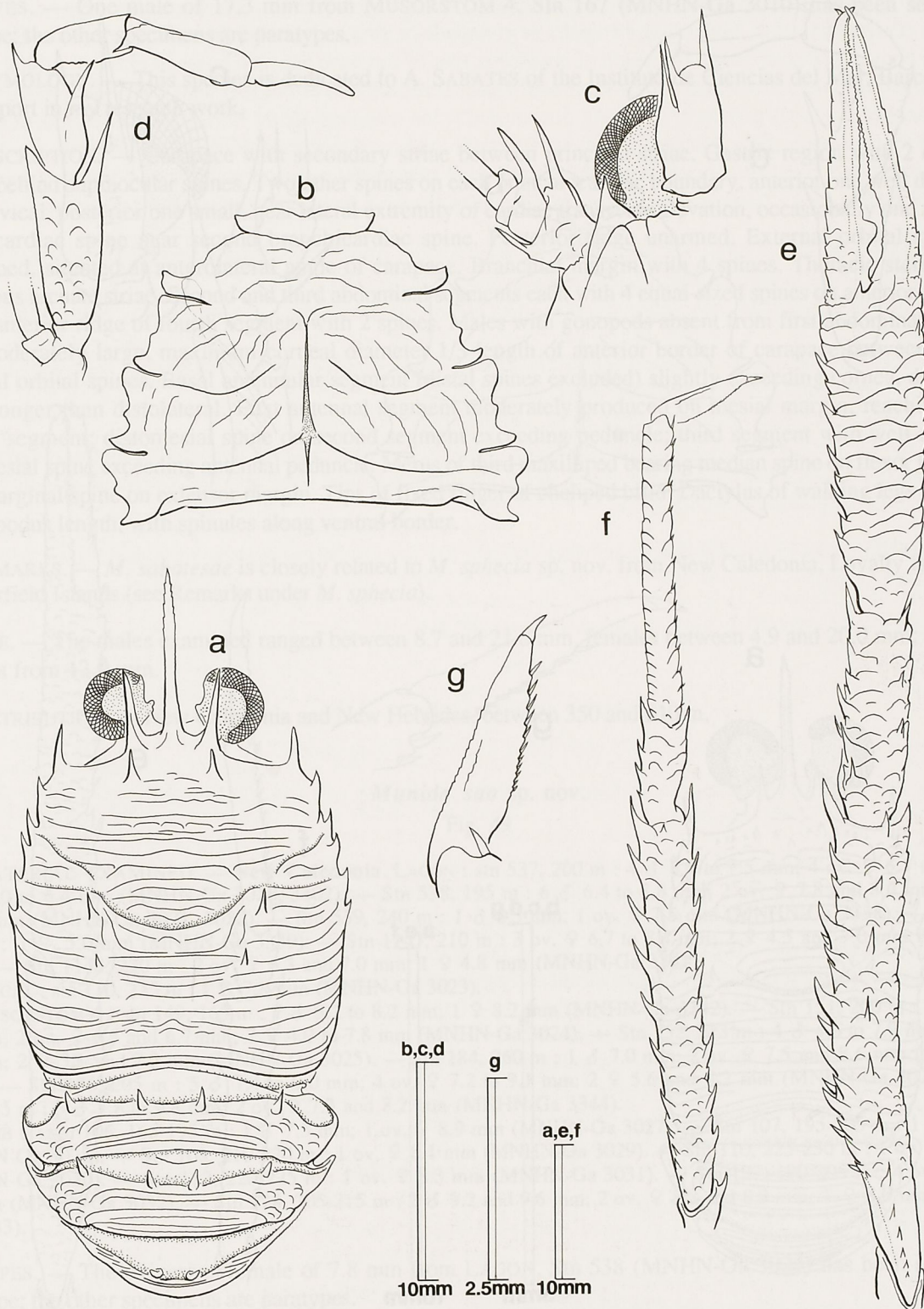


FIG. 48. — *Munida sabatesae* sp. nov., ♂ 17.3 mm, holotype from Stn 167 (MUSORSTOM 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

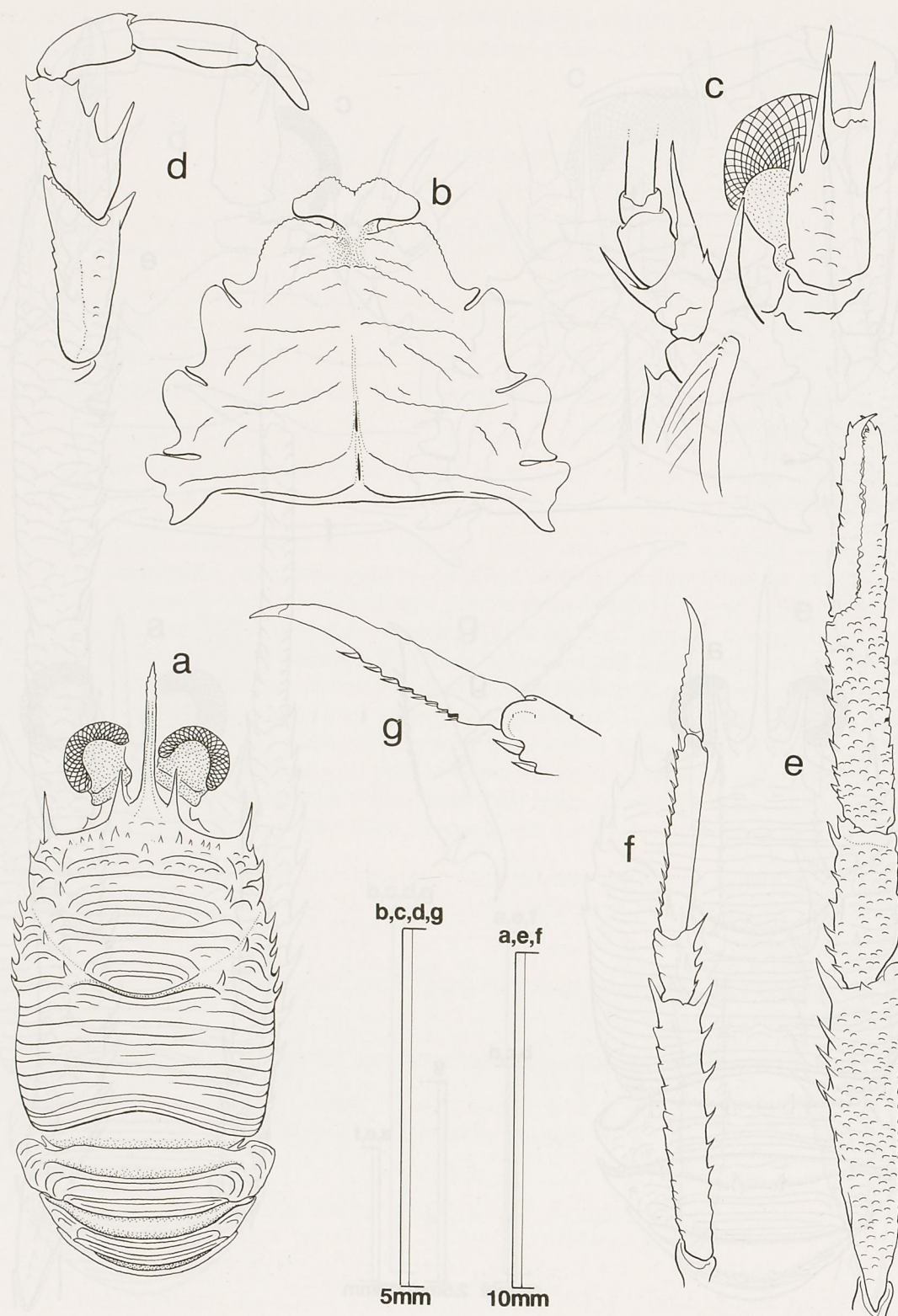


FIG. 49. — *Munida sao* sp. nov., ov. ♀ 7.8 mm, holotype from Stn 538 (LAGON): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, left first walking leg, lateral view; g, dactylus of left first walking leg, lateral view.

TYPES. — One male of 17.3 mm from MUSORSTOM 4, Stn 167 (MNHN-Ga 3010) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — This species is dedicated to A. SABATES of the Instituto de Ciencias del Mar, Barcelona, for her support in my research work.

DESCRIPTION. — Carapace with secondary striae between principal striae. Gastric region with 2 epigastric spines behind supraocular spines. Two other spines on each branchiocardiac boundary, anterior one well developed, postcervical, posterior one small, near lateral extremity of cardiac transverse elevation, occasionally one additional small cardiac spine near second branchiocardiac spine. Posterior ridge unarmed. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Thoracic sternites with numerous arcuate striae. Second and third abdominal segments each with 4 equal-sized spines on anterior transverse ridge; anterior ridge of fourth segment with 2 spines. Males with gonopods absent from first abdominal segment. Eye moderately large, maximum corneal diameter 1/3 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) slightly exceeding cornea, distomesial spine longer than distolateral. First antennal segment moderately produced on mesial margin, reaching end of second segment; distomesial spine on second segment exceeding peduncle; third segment with well developed distomesial spine exceeding antennal peduncle. Merus of third maxilliped bearing median spine on flexor border and distomarginal spine on extensor margin. Tips of fixed finger of cheliped bifid. Dactylus of walking legs about 1/2-1/3 propodus length, with spinules along ventral border.

REMARKS. — *M. sabatesae* is closely related to *M. sphecia* sp. nov. from New Caledonia, Loyalty Islands and Chesterfield Islands (see Remarks under *M. sphecia*).

SIZE. — The males examined ranged between 8.7 and 21.6 mm, females between 4.9 and 20.0 mm; ovigerous females from 13.9 mm.

DISTRIBUTION. — New Caledonia and New Hebrides, between 350 and 610 m.

### *Munida sao* sp. nov.

Fig. 49

MATERIAL EXAMINED. — **New Caledonia.** LAGON : stn 537, 200 m : 4 ♂ 6.4 to 7.5 mm; 4 ov. ♀ 6.7 to 7.5 mm; 4 ♀ 6.0 to 6.4 mm (MNHN-Ga 3020, 3402). — Stn 538, 195 m : 6 ♂ 6.4 to 8.8 mm; 2 ov. ♀ 7.8 and 8.6 mm; 3 ♀ 6.4 to 8.7 mm (MNHN-Ga 3021, 3022). — Stn 539, 240 m : 1 ♂ 8.3 mm; 1 ov. ♀ 7.5 mm (MNHN-Ga 3338). — Stn 1146, 185 m : 1 ♀ 5.0 mm (MNHN-Ga 3339). — Stn 1147, 210 m : 3 ov. ♀ 6.7 to 8.4 mm; 2 ♀ 4.5 and 7.0 mm (MNHN-Ga 3340). — Stn 1148, 220 m : 2 ov. ♀ 6.3 and 7.0 mm; 1 ♀ 4.8 mm (MNHN-Ga 3341).

BIOCAL : stn 110, 275 m : 1 ♂ 7.8 mm (MNHN-Ga 3023).

MUSORSTOM 4 : stn 149, 165 m : 7 ♂ 5.2 to 8.2 mm; 1 ♀ 8.2 mm (MNHN-Ga 3342). — Stn 151, 200 m : 8 ♂ 6.0 to 7.5 mm; 2 ov. ♀ 6.5 and 6.7 mm; 7 ♀ 4.0 to 7.8 mm (MNHN-Ga 3024). — Stn 152, 223 m : 4 ♂ 4.6 to 7.9 mm; 1 ov. ♀ 8.5 mm; 2 ♀ 5.1 and 7.2 mm (MNHN-Ga 3025). — Stn 184, 260 m : 1 ♂ 7.0 mm; 2 ov. ♀ 7.5 and 8.6 mm (MNHN-Ga 3343). — Stn 186, 205 m : 5 ♂ 7.4 to 9.0 mm; 4 ov. ♀ 7.2 to 9.1 mm; 2 ♀ 5.6 and 8.2 mm (MNHN-Ga 3026). — Stn 189, 215 m : 5 ♂ 7.8 to 9.8 mm; 2 ov. ♀ 7.3 and 8.2 mm (MNHN-Ga 3344).

SMIB 6 : stn 106, 165-195 m : 1 ♂ 7.5 mm; 1 ov. ♀ 8.9 mm (MNHN-Ga 3027). — Stn 107, 195-205 m : 1 ♂ 8.6 mm (MNHN-Ga 3028). — Stn 108, 210-220 m : 1 ov. ♀ 8.1 mm (MNHN-Ga 3029). — Stn 110, 225-230 m : 1 ov. ♀ 9.2 mm (MNHN-Ga 3030). — Stn 112, 220-225 m : 1 ov. ♀ 8.3 mm (MNHN-Ga 3031). — Stn 127, 190-205 m : 4 ov. ♀ 7.3 to 8.9 mm (MNHN-Ga 3032). — Stn 128, 205-215 m : 2 ♂ 9.2 and 9.6 mm; 2 ov. ♀ 8.8 and 8.9 mm; 1 ♀ 8.0 mm (MNHN-Ga 3033).

TYPES. — The ovigerous female of 7.8 mm from LAGON, Stn 538 (MNHN-Ga 3021) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — The name refers to one of the Nereids of the Greek mythology (Sao).

DESCRIPTION. — Carapace with secondary striae. Intestinal region without scales. External orbital spine long, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth to sixth thoracic sternites with

some short arcuate striae. Second abdominal segment unarmed. Second to fifth segments each with several transverse continuous striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about  $2/5$  length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) nearly reaching end of cornea, with 2 subequal distal spines. First segment of antennal peduncle with long distomesial spine reaching end of third segment; distomesial spine on second segment exceeding antennal peduncle. Extensor margin of merus of third maxilliped with small distal spine. Movable and fixed fingers of cheliped with a row of spines along mesial and lateral borders respectively. Dactylus of walking legs  $2/3$  propodus length, with spinules along ventral margin, distal third unarmed.

REMARKS. — *M. sao* is closely related to *M. spilota* sp. nov. from New Caledonia and Matthew and Hunter Islands, but they differ in several aspects (see Remarks under that species).

*M. sao* is also close to *M. runcinata* sp. nov. from New Caledonia and Loyalty Islands. They differ in the following aspects :

— The dorsal surface of the carapace bears only a row of epigastric spines in *M. runcinata*, whereas in *M. sao* there are also parahepatic, anterior branchial and postcervical spines.

— The thoracic sternites bear more striae in *M. sao* than in *M. runcinata*.

— The movable and fixed fingers of the cheliped bear a row of spines along mesial and lateral borders in *M. sao*, whereas in *M. runcinata* the movable finger of the cheliped bears one basal and one subterminal spine and the fixed finger only bears 2 subterminal spines.

SIZE. — The males examined ranged between 4.6 and 9.8 mm, females between 4.0 and 9.2 mm; ovigerous females from 6.3 mm.

DISTRIBUTION. — New Caledonia, between 165 and 260 m.

#### *Munida semoni* Ortmann, 1894

*Munida semoni* - MACPHERSON & BABA, 1993 : 386 (key), 411, fig. 17 (references).

MATERIAL EXAMINED. — New Caledonia. BIOCAL : stn 108, 335 m : 2 ♂ 8.6 and 10.0 mm; 2 ov. ♀ 7.6 and 8.7 mm; 1 ♀ 8.6 mm (MNHN-Ga 3034).

REMARKS. — This species is only known by one male (5.5 mm) collected in Ambon, Indonesia (see MACPHERSON & BABA, 1993). The specimens caught in New Caledonia agree quite well with the lectotype of *M. semoni*. Moreover, the movable and fixed fingers of the chelipeds have one row of spines along the mesial and lateral borders, respectively. The chelipeds are lost in the lectotype, although the illustration of ORTMANN (1894) shows the movable finger unarmed. In spite of this difference, the specimens from New Caledonia are identified as *M. semoni*. The discovery of topotypic specimens would be desirable in order to clarify the true identity of the present material, because the presence or absence of a row of spines on the fingers of the chelipeds is considered to be of specific importance in the species of the genus *Munida*.

The depth of the type locality is unrecorded. The present material was caught at 335 m.

#### *Munida soelae* Baba, 1986

*Munida soelae* Baba, 1986a : 2, fig. 3; 1988 : 82 (key).

*Munida* sp. - BABA, 1986c : 175, 292, fig. 126.

MATERIAL EXAMINED. — New Caledonia. CHALCAL 2 : stn 74, 650 m : 2 ♀ 5.3 and 5.9 mm (MNHN-Ga 3035). — Stn 75, 600 m : 1 ♂ 6.6 mm; 1 ♀ 6.1 mm (MNHN-Ga 3036).

SMB 3 : stn 2, 530 m : 1 ♂ 8.4 mm (MNHN-Ga 3037).

REMARKS. — The specimens from New Caledonia agree with the description and figures provided by BABA (1986 a, c). However, the number of spines on the posterior border of the carapace and on the branchiocardiac area

presents a certain degree of variation : 4-6 and 2-4 respectively in the New Caledonian specimens, whereas the types have 6 and 2 respectively.

DISTRIBUTION. — North-West Australia and New Caledonia, between 450 and 600 m.

*Munida sphecia* sp. nov.

Figs 50, 95

MATERIAL EXAMINED. — **New Caledonia.** "Vauban" : stn D 4, 400 m : 1 ♂ 9.3 mm (MNHN-Ga 3044). — Stn CB 105, 360 m : 4 ♂ 10.4 to 13.2 mm; 1 ov. ♀ 12.4 mm; 3 ♀ 12.6 to 15.2 mm (MNHN-Ga 3043). — Stn without n°, 13.04.1978, île des Pins, 400 m : 1 ♂ 14.4 mm; 2 ov. ♀ 14.2 and 15.0 mm (MNHN-Ga 3041, 3042).

BIOCAL : stn 38, 360 m : 1 ♀ 9.0 mm (MNHN-Ga 3045). — Stn 45, 430-465 m : 1 ♂ 15.6 mm (MNHN-Ga 3046).

MUSORSTOM 4 : stn 148, 59 m : 1 ♂ 10.6 mm (MNHN-Ga 3047). — Stn 193, 430 m : 5 ♂ 10.4 to 15.7 mm; 11 ov. ♀ 10.4 to 13.9 mm; 2 ♀ 9.5 and 10.4 mm (MNHN-Ga 3048). — Stn 212, 375-380 m : 2 ♀ 6.7 and 13.6 mm (MNHN-Ga 3049). — Stn 213, 405-430 m : 5 ♂ 10.6 to 18.4 mm; 3 ov. ♀ 11.1 to 14.6 mm; 6 ♀ 9.7 to 15.6 mm (MNHN-Ga 3050, 3051). — Stn 214, 425-440 m : 4 ♂ 10.0 to 18.1 mm; 6 ov. ♀ 11.4 to 17.1 mm; 2 ♀ 9.4 and 10.0 mm (MNHN-Ga 3052). — Stn 215, 485-520 m : 1 ♂ 11.9 mm; 2 ♀ 10.5 and 11.0 mm (MNHN-Ga 3053). — Stn 222, 410-440 m : 3 ♂ 11.8 to 14.7 mm : 2 ov. ♀ 9.3 and 10.0 mm (MNHN-Ga 3345). — Stn 226, 390 m : 1 juv. 5.0 mm (MNHN-Ga 3346).

SMIB 1 : stn 2, 415 m : 2 ♂ 11.7 and 12.0 mm (MNHN-Ga-3038). — Stn 9, 450 m : 1 ♂ 13.6 mm; 1 ov. ♀ 14.7 mm; 2 ♀ 16.8 and 16.9 mm (MNHN-Ga 3039). — Stn 10, 395-410 m : 1 ov. ♀ 14.2 mm; 1 ♀ 11.6 mm (MNHN-Ga 3040).

CHALCAL 2 : stn 82, 304 m : 1 ♂ 15.0 mm (MNHN-Ga 3396).

SMIB 2 : stn 3, 428 m : 2 ♂ 11.1 and 14.5 mm; 3 ov. ♀ 13.2 to 13.7 mm; 3 ♀ 9.0 to 15.3 mm (USNM). — Stn 5, 398-410 m : 1 ♂ 15.3 mm; 1 ♀ 14.7 mm (MNHN-Ga 3055). — Stn 6, 442-460 m : 5 ♂ 9.4 to 17.0 mm; 1 ov. ♀ 11.0 mm; 2 ♀ 8.2 and 12.0 mm (USNM). — Stn 9, 475-500 m : 1 ♂ 12.8 mm; 1 ov. ♀ 16.7 mm (MNHN-Ga 3057).

SMIB 4 : stn 36, 530 m : 1 ♀ 6.0 mm (MNHN-Ga 3397). — Stn 66, 430 m : 1 ♂ 13.5 mm (MNHN-Ga 3062). — Stn 68, 430-440 m : 1 ♂ 13.4 mm (MNHN-Ga 3063).

SMIB 5 : Banc Alis, 13.09.1985, 250 m : 1 ♂ 5.0 mm (MNHN-Ga 3064). — Stn 86, 320 m : 1 ov. ♀ 12.3 mm (MNHN-Ga 3065). — Stn 88, 350 m : 1 ♂ 17.0 mm (MNHN-Ga 3066). — Stn 97, 300 m : 2 ♂ 8.6 and 13.2 mm; 1 ov. ♀ 13.2 mm (MNHN-Ga 3067). — Stn 104, 305-335 m : 2 ♂ 5.7 and 7.0 mm (MNHN-Ga 3347).

AZTÈQUE : stn 11, 340-360 m : 1 ov. ♀ 12.3 mm (MNHN-Ga 3068).

**Loyalty Islands.** MUSORSTOM 6 : stn 406, 373 m : 3 ♂ 10.8 to 15.6 mm; 1 ov. ♀ 11.8 mm (MNHN-Ga 3058). — Stn 460, 420 m : 1 ♂ 15.6 mm; 1 ♀ 15.2 mm (MNHN-Ga 3059). — Stn 464, 430 m : 2 ♂ 12.2 and 13.0 mm (MNHN-Ga 3060). — Stn 472, 300 m : 1 ov. ♀ 13.7 mm (MNHN-Ga 3061).

**Chesterfield Islands.** CHALCAL 1 : stn 8, 348 m : 2 ♂ 11.4 and 11.6 mm; 3 ov. ♀ 11.0 to 12.8 mm (MNHN-Ga 3069).

MUSORSTOM 5 : stn 299, 360-390 m : 1 ♂ 24.0 mm (MNHN-Ga 3394). — Stn 300, 450 m : 1 ♂ 15.2 mm; 3 ♀ 9.0 to 10.1 mm (MNHN-Ga 3070). — Stn 306, 375-415 m : 1 ♀ 6.0 mm (MNHN-Ga 3395). — Stn 332, 400 m : 2 ♀ 10.8 and 11.7 mm (MNHN-Ga 3071). — Stn 378, 355 m : 1 ♀ 9.3 mm (MNHN-Ga 3072).

TYPES. — One male of 18.1 mm from MUSORSTOM 4, Stn 213 (MNHN-Ga 3050) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *sphex*, wasp, in reference to the yellow and purple bands of the carapace.

DESCRIPTION. — Carapace with numerous secondary striae. Gastric region with 2 epigastric spines behind supraoculars. One postcervical spine on each side, occasionally two. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 3 spines. Thoracic sternites with numerous arcuate striae. Abdominal segments with numerous striae. Second segment with 6 spines on anterior transverse ridge; third segment with 4 spines; anterior ridge of fourth segment with 2 spines; posterior ridge unarmed. Males with gonopods absent from first abdominal segment. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) slightly exceeding end of cornea, distomesial spine distinctly longer than distolateral. First antennal segment moderately produced on inner margin, slightly exceeding second segment; distomesial spine on second segment exceeding antennal peduncle, one additional spine on mesial border, located at midlength of segment; third segment unarmed. Merus of third maxilliped bearing median spine on flexor margin; small distomarginal spine on extensor

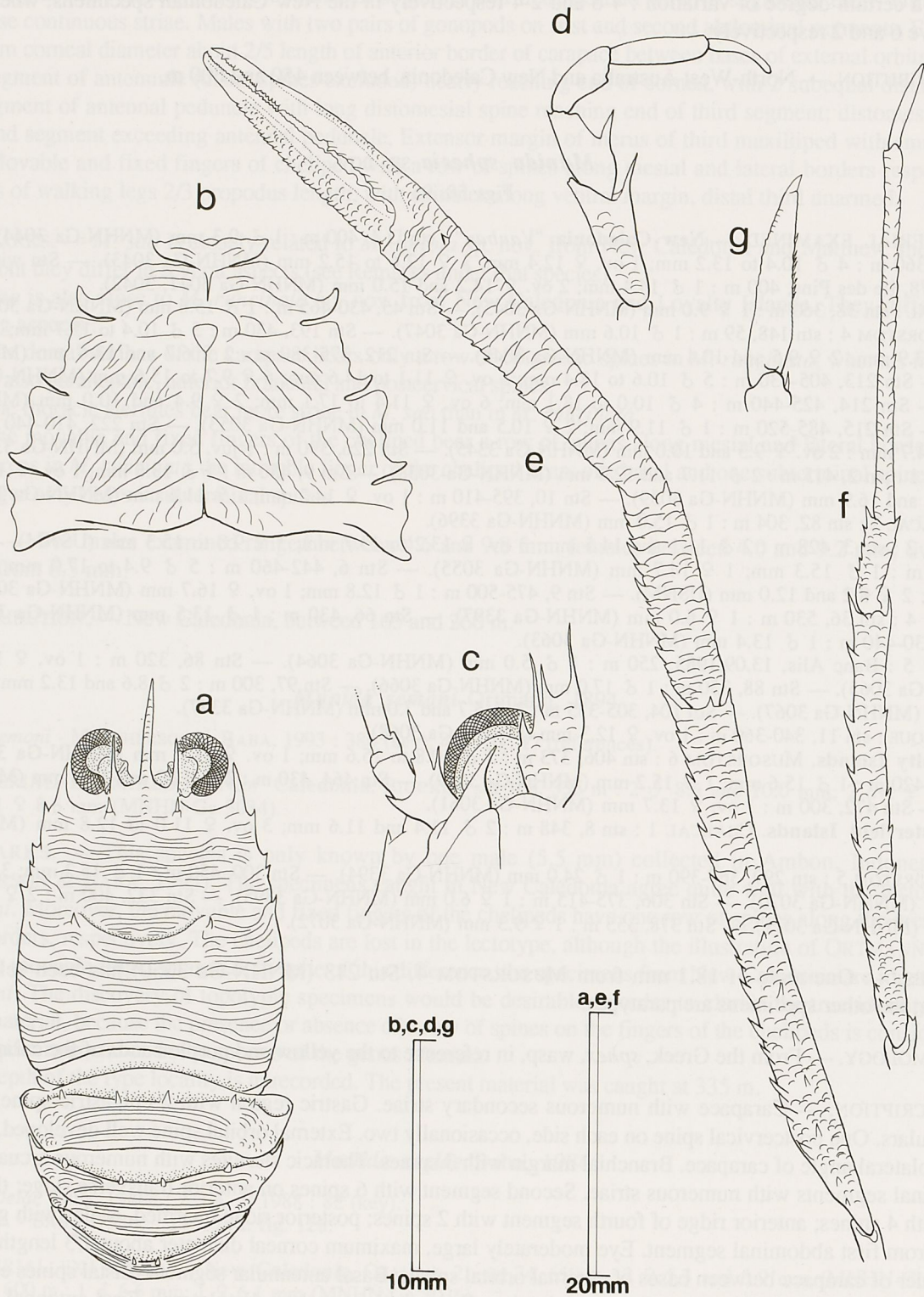


FIG. 50. — *Munida sphecia* sp. nov., ♂ 18.1 mm, holotype from Stn 213 (MUSORSTOM 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



border. Mesial border of movable finger of cheliped denticulated; tip of fixed finger bifid. Dactylus of walking legs about 1/4 propodus length, with numerous median spinules on ventral border.

COLOUR. — Carapace with wide transverse yellow and purple bands. Epigastric region and cervical groove with purple band; cardiac region and lateral parts of branchial regions yellow; center parts of branchial regions and intestinal region purple. Rostrum and supraocular spines yellow. Second and third abdominal segments with yellow and purple bands. Chelipeds and walking legs with transverse whitish and red bands; distal part of fingers of chelipeds whitish, proximal part red; dactylus of walking legs whitish.

REMARKS. — *M. sphecia* is very close to *M. tenuipes* Baba & Miyake, 1967, from Japan (MIYAKE & BABA, 1967a), both species can be distinguished by small but constant differences:

— The anterior margin of the third thoracic sternite is distinctly bilobed in *M. sphecia*, very weakly in *M. tenuipes*.

— The distomesial spine on the basal antennal segment is long, exceeding the antennal peduncle in *M. tenuipes*; this spine is distinctly shorter in *M. sphecia*, and slightly exceeds the second antennal segment.

— The mesial margin of the second antennal segment is only armed with one distal spine in *M. tenuipes*. *M. sphecia* has one distomesial and one additional spine on its base.

The new species is also close to *M. sabatesae* sp. nov. from New Caledonia and New Hebrides Islands. They differ in several constant characters:

— The branchial margin in *M. sphecia* bears 3 spines, 4 in *M. sabatesae*.

— Usually there is one postcervical spine in *M. sphecia*, 2 spines in *M. sabatesae*.

— The second abdominal segment has 6 spines on the anterior ridge in *M. sphecia*, 4 spines in *M. sabatesae*.

— The third antennal segment has a well developed distomesial spine in *M. sabatesae*, absent in *M. sphecia*.

— The propodus of the walking legs are less than 3 times longer than the dactylus in *M. sabatesae*, being about 4 times in *M. sphecia*.

SIZE. — The males examined ranged between 5.0 and 24.0 mm, females between 6.0 and 17.1 mm; ovigerous females from 9.3 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands and Chesterfield Islands, between 59 and 520 m.

*Munida spilota* sp. nov.

Figs 51, 84

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4: stn 207, 220-235 m: 1 ♂ 8.6 mm (USNM).

SMB 4: stn 42, 320 m: 2 ♂ 7.6 and 7.7 mm (MNHN-Ga 3074, 3511).

**Matthew and Hunter Islands.** VOLSMAR: stn 7, 400 m: 1 ♂ 6.7 mm (MNHN-Ga 3075).

TYPES. — The male of 6.7 mm from VOLSMAR, Stn 7 (MNHN-Ga 3075) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *spilos*, spot, fleck, in reference to the colour pattern of the species.

DESCRIPTION. — Carapace with secondary striae. Intestinal region with one scale. External orbital spine situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh sternites smooth. Second abdominal segment with 2 spines on each side of anterior ridge. Second to fifth segments each with several transverse continuous striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines. First segment of antennal peduncle with long distomesial spine reaching end of third segment; distomesial spine on second segment exceeding antennal peduncle. Extensor border

of merus of third maxilliped with distal spine. Movable finger of cheliped with one basal and one distal spines; fixed finger with a row of spines along lateral border. Dactylus of walking legs 2/3 propodus length, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments pinkish. Red longitudinal rows on dorsal surface of carapace, spines red. Rostrum and external orbital spines pinkish. Lateral parts of second to fourth abdominal segments with red spots; median red spot on fourth and fifth abdominal segment. Chelipeds missing in photographed specimen. Walking legs with transverse whitish and reddish bands; dactylus whitish.

REMARKS. — *Munida spilota* is closely related to *M. runcinata* sp. nov. from New Caledonia and Loyalty Islands. They differ in the following aspects :

— The dorsal surface of the carapace is only armed with epigastric spines in *M. runcinata*, whereas *M. spilota* also has parahepatic and anterior branchial spines.

— The dactylus of the walking legs are unarmed on the terminal third in *M. runcinata*, whereas in *M. spilota* the spinules are along the entire ventral border.

*M. spilota* is also close to *M. sao* sp. nov. from New Caledonia, but they differ in several features :

— The thoracic sternites are smooth in *M. spilota*, with numerous striae in *M. sao*.

— The movable finger of the cheliped in *M. spilota* bears on the mesial margin only 2 spines (one basal and one subterminal), instead of a row of spines in *M. sao*.

— The dactylus of the walking legs has spines along the entire ventral border in *M. spilota*, unarmed on the terminal third in *M. sao*.

SIZE. — The males examined ranged between 6.7 and 8.6 mm, no females were caught.

DISTRIBUTION. — New Caledonia, Matthew and Hunter Islands, between 220 and 400 m.

### *Munida spinicordata* Henderson, 1885

Fig. 52

*Munida spinicordata* Henderson, 1885 : 413; 1888 : 146, pl. 15, fig. 3. — BABA, 1988 : 83 (key).

MATERIAL EXAMINED. — **Fiji Islands.** "Challenger" : stn 174d, 03.08.1874, 19°05'50"S, 178°16'20"E, 390 m : 1 ♂ 4.0 mm, holotype (BM).

DESCRIPTION.— Carapace with few secondary striae. Gastric region with 2 epigastric spines behind supraoculars. Cardiac region with one strong median spine. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Thoracic sternites smooth. Second abdominal segment with 4 spines on anterior transverse ridge; third segment with 4 spines; anterior ridge of fourth segment with 2 spines; posterior ridge with one median spine. Gonopods absent from first segment. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) reaching end of cornea, distomesial spine shorter than distolateral. First antennal segment produced on inner margin, reaching end of antennal peduncle; distomesial spine on second segment reaching end of third segment; third segment with small distomesial spine. Merus of third maxilliped bearing median spine on flexor margin; distomarginal spine on extensor border. Chelipeds missing. Dactylus of walking legs about 1/2 propodus length, without spinules on ventral border.

REMARKS. — Only known from the type specimen. The closest species is *M. squamosa* Henderson, 1885, from Admiralty Islands, Loyalty Islands and New Caledonia (see below) but they are easily distinguishable by the absence of spines on the posterior border of the carapace, the thoracic sternites without striae and the long distomesial spine on the basal antennal segment.

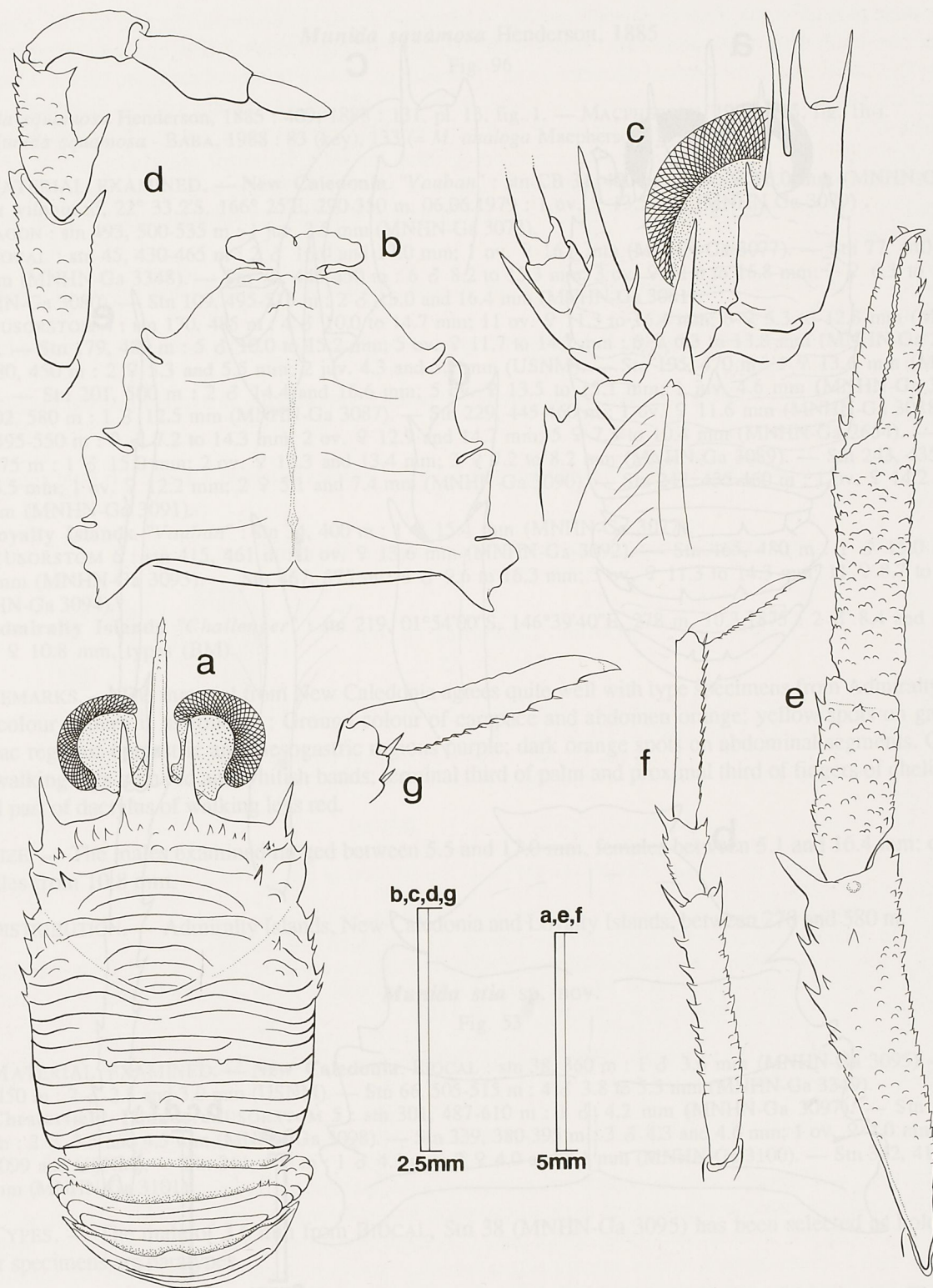


FIG. 51. — *Munida spilota* sp. nov., ♂ 6.7 mm, holotype from Stn 7 (VOLSMAR): **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking leg, lateral view.

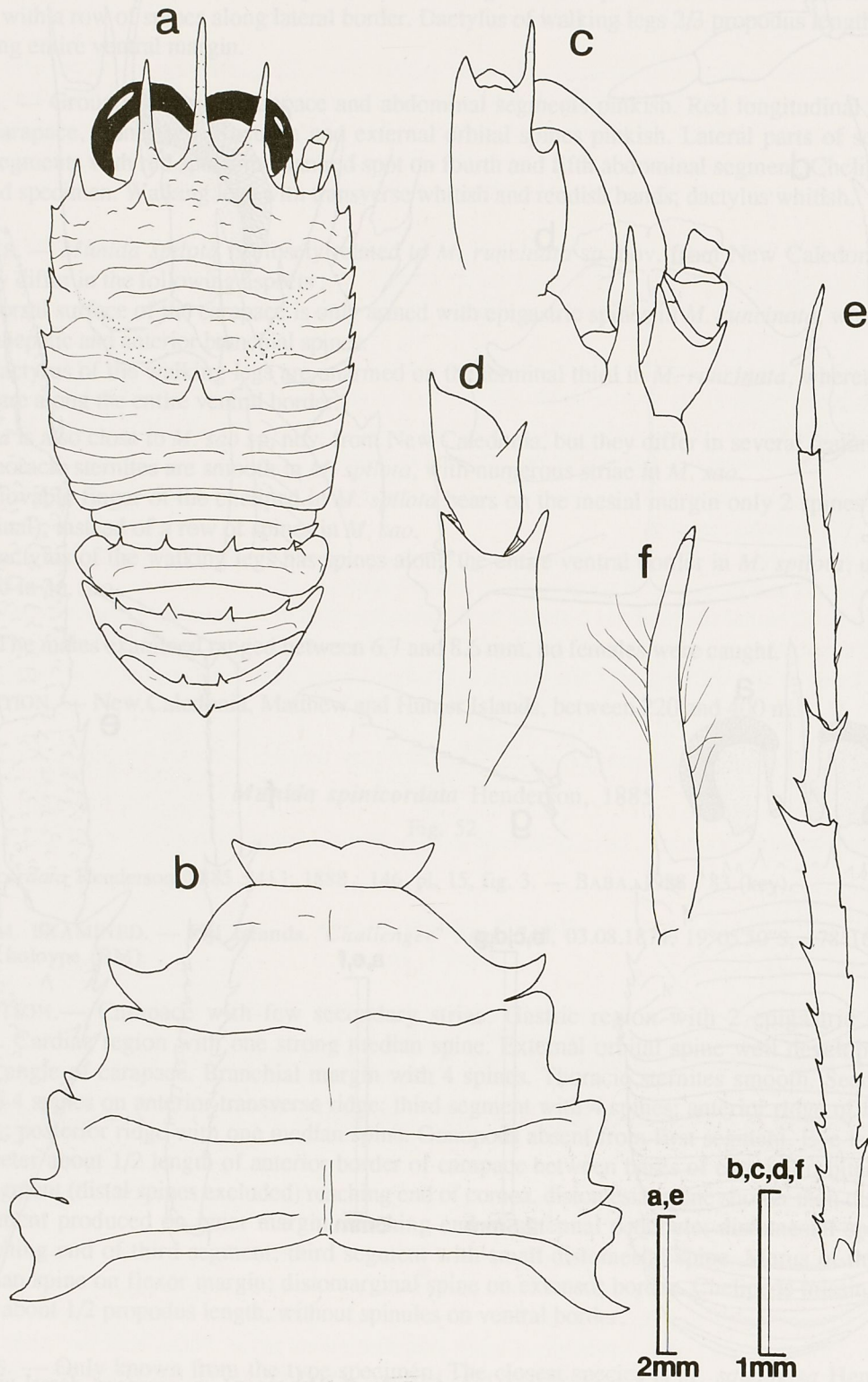


FIG. 52. — *Munida spinicordata* Henderson, 1885, ♂ 4.0 mm, holotype from Stn 174d ("Challenger"): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right second or third pereiopod, lateral view; f, dactylus of right second or third pereiopod, lateral view.

*Munida squamosa* Henderson, 1885

Fig. 96

*Munida squamosa* Henderson, 1885 : 409; 1888 : 131, pl. 13, fig. 1. — MACPHERSON, 1993: 425, fig. 1h-i.  
Not *Munida squamosa* - BABA, 1988 : 83 (key), 133 (= *M. analoga* Macpherson, 1993).

MATERIAL EXAMINED. — **New Caledonia.** "Vauban" : stn CB 34, 400 m : 1 ov. ♀ 16.0 mm (MNHN-Ga 3076).  
— Stn without n°, 22° 33.2'S, 166° 25'E, 290-350 m, 06.06.1979 : 1 ov. ♀ 13.5 mm (MNHN Ga 3079) .

LAGON : stn 493, 500-535 m : 1 juv. 3.5 mm (MNHN-Ga 3078).

BIOCAL : stn 45, 430-465 m : 2 ♂ 16.0 and 17.0 mm; 1 ov. ♀ 16.3 mm (MNHN-Ga 3077). — Stn 77, 440 m : 1 ♂ 6.7 mm (MNHN-Ga 3348). — Stn 78, 445-450 m : 6 ♂ 8.2 to 15.3 mm; 3 ov. ♀ 11.6 to 16.8 mm; 7 ♀ 6.3 to 10.0 mm (MNHN-Ga 3080). — Stn 109, 495-515 m : 2 ♂ 15.0 and 16.4 mm (MNHN-Ga 3081).

MUSORSTOM 4 : stn 170, 485 m : 4 ♂ 10.0 to 14.7 mm; 11 ov. ♀ 11.3 to 16.4 mm; 6 ♀ 5.3 to 12.8 mm (MNHN-Ga 3082). — Stn 179, 480 m : 5 ♂ 10.0 to 15.2 mm; 5 ov. ♀ 11.7 to 14.2 mm ; 6 ♀ 6.3 to 13.8 mm (MNHN-Ga 3083). — Stn 180, 450 m : 2 ♀ 5.3 and 5.5 mm; 2 juv. 4.3 and 5.1 mm (USNM). — Stn 195, 470 m : 1 ♀ 13.6 mm (MNHN-Ga 3085). — Stn 201, 500 m : 2 ♂ 14.4 and 16.6 mm; 5 ov. ♀ 13.5 to 15.1 mm; 1 juv. 4.6 mm (MNHN-Ga 3086). — Stn 202, 580 m : 1 ♂ 12.5 mm (MNHN-Ga 3087). — Stn 229, 445-460 m : 1 ov. ♀ 11.6 mm (MNHN-Ga 3088). — Stn 236, 495-550 m : 9 ♂ 7.2 to 14.3 mm; 2 ov. ♀ 12.9 and 14.7 mm; 5 ♀ 7.3 to 10.4 mm (MNHN-Ga 2654). — Stn 239, 470-475 m : 1 ♂ 15.0 mm; 2 ov. ♀ 12.3 and 13.4 mm; 3 ♀ 7.2 to 8.2 mm (MNHN-Ga 3089). — Stn 243, 435-450 m : 1 ♂ 5.5 mm; 1 ov. ♀ 12.2 mm; 2 ♀ 5.1 and 7.4 mm (MNHN-Ga 3090). — Stn 247, 435-460 m : 1 ov. ♀ 14.2 mm; 1 ♀ 6.5 mm (MNHN-Ga 3091).

**Loyalty Islands.** "Vauban" : stn 34, 400 m : 1 ♀ 15.4 mm (MNHN-Ga 3077).

MUSORSTOM 6 : stn 415, 461 m : 1 ov. ♀ 13.6 mm (MNHN-Ga 3092). — Stn 465, 480 m : 1 ♂ 15.0 mm; 1 ♀ 12.8 mm (MNHN-Ga 3093). — Stn 467, 575 m : 6 ♂ 9.6 to 16.3 mm; 3 ov. ♀ 11.3 to 14.3 mm; 11 ♀ 8.7 to 15.6 mm (MNHN-Ga 3094).

**Admiralty Islands.** "Challenger" : stn 219, 01°54'00"S, 146°39'40"E, 278 m, 10.3.1875 : 2 ♂ 8.4 and 10.3 mm; 1 ov. ♀ 10.8 mm, types (BM).

REMARKS. — The material from New Caledonia agrees quite well with type specimens from Admiralty Islands. The colour pattern is as follows : Ground colour of carapace and abdomen orange; yellow spots on gastric and cardiac regions; epigastric and mesogastric regions purple; dark orange spots on abdominal segments. Chelipeds and walking legs with red and whitish bands; terminal third of palm and proximal third of fingers of chelipeds red; distal part of dactylus of walking legs red.

SIZE. — The males examined ranged between 5.5 and 17.0 mm, females between 5.1 and 16.4 mm; ovigerous females from 10.8 mm.

DISTRIBUTION. — Admiralty Islands, New Caledonia and Loyalty Islands, between 278 and 580 m.

*Munida stia* sp. nov.

Fig. 53

MATERIAL EXAMINED. — **New Caledonia.** BIocal : stn 38, 360 m : 1 ♂ 3.6 mm (MNHN-Ga 3095) — Stn 44, 440-450 m : 2 ♂ 2.8 and 3.0 mm (USNM). — Stn 66, 505-515 m : 4 ♂ 3.8 to 5.5 mm (MNHN-Ga 3349).

**Chesterfield Islands.** MUSORSTOM 5 : stn 301, 487-610 m : 1 ♂ 4.2 mm (MNHN-Ga 3097). — Stn 305, 430-440 m : 2 ♂ 3.5 and 4.5 mm (MNHN-Ga 3098). — Stn 339, 380-395 m : 3 ♂ 4.3 and 4.6 mm; 1 ov. ♀ 4.0 mm (MNHN-Ga 3099 and USNM). — Stn 361, 400 m : 1 ♂ 4.3 mm; 2 ♀ 4.0 and 4.1 mm (MNHN-Ga 3100). — Stn 362, 410 m : 1 ♂ 3.8 mm (MNHN-Ga 3101).

TYPES. — The male of 3.6 mm from BIocal, Stn 38 (MNHN-Ga 3095) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *stia*, small stone, in reference to the small size of the species. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine short, situated at anterolateral angle of carapace. Branchial margin with 5 small spines. Fourth thoracic sternite

with few short arcuate striae; fifth to seventh smooth. Abdominal segments unarmed. Second to fifth segments each with one transverse continuous stria. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) not exceeding cornea, distomesial spine shorter than distolateral. First segment of antennal peduncle with distomesial spine not reaching end of second segment; distomesial spine on second segment exceeding third segment. Extensor margin of merus of third maxilliped with small distal spine. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial borders, respectively. Dactylus of walking legs 2/3 propodus length, with spinules along ventral margin, terminal third unarmed.

REMARKS. — *M. stia* is closely related to *M. leptitis* sp. nov. from New Caledonia and Loyalty Islands and they differ in several features:

— The movable finger of the cheliped has one basal spine in *M. leptitis*, whereas in *M. stia* there is a row of spines along the mesial margin.

— The dactylus of the walking legs have spines along the entire ventral border in *M. leptitis*, unarmed on the terminal third in *M. stia*.

SIZE. — The males examined ranged between 2.8 and 5.5 mm, females between 4.1 and 4.6 mm; ovigerous female from 4.0 mm.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, between 360 and 610 m.

### *Munida stigmatica* sp. nov.

Figs 54, 85

MATERIAL EXAMINED. — **New Caledonia.** Stn without position, 250 m, 13.09.1985: 4 ♂ 4.0 to 8.2 mm; 4 ov. ♀ 8.2 to 9.0 mm; 4 ♀ 4.9 to 7.5 mm (MNHN-Ga 3353).

MUSORSTOM 4 : stn 182, 305 m : 2 ♂ 7.5 and 9.0 mm; 1 ov. ♀ 6.8 mm (MNHN-Ga 3354).

CHALCAL 2 : stn 19, 271 m : 5 ♂ 5.6 to 10.1 mm (MNHN-Ga 3103). — Stn 78, 233-360 m : 1 ♂ 11.8 mm; 2 ♀ 5.5 and 5.7 mm (USNM).

SMIB 3 : stn 18, 338 m : 1 ♂ 10.6 mm (MNHN-Ga 3105).

SMIB 5 : stn 84, 290 m : 1 ♂ 8.4 mm (MNHN-Ga 3106). — Stn 86, 320 m : 1 ♂ 8.5 mm (MNHN-Ga 3350). — Stn 87, 335-370 m : 1 ♂ 3.8 mm; 1 ♀ 5.0 mm (MNHN-Ga 3351). — Stn 97, 300 m : 1 ♂ 10.0 mm; 1 ov. ♀ 9.0 mm; 1 ♀ 9.5 mm (MNHN-Ga 3352).

**Matthew and Hunter Islands.** VOLSMAR : stn 7, 400 m : 1 ♂ 7.5 mm (MNHN-Ga 3107).

**Chesterfield Islands.** CHALCAL 1 : stn 67, 277 m : 1 ov. ♀ 6.1 mm (MNHN-Ga 3108).

MUSORSTOM 5 : stn 273, 290 m : 2 ♂ 4.2 and 4.9 mm (MNHN-Ga 3109). — Stn 280, 270 m : 1 ♂ 5.3 mm (MNHN-Ga 3110). — Stn 299, 360-390 m : 10 ♂ 4.0 to 7.8 mm; 7 ov. ♀ 4.7 to 6.0 mm; 1 ♀ 5.0 mm (MNHN-Ga 3111). — Stn 302, 345-360 m : 2 ♂ 3.4 and 5.5 mm; 1 ♀ 4.2 mm (MNHN-Ga 3112).

TYPES. — The male of 10.6 mm from SMIB 3, Stn 18 (MNHN-Ga 3105) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *stigma*, mark, in reference to the spots on the carapace and pereopods.

DESCRIPTION. — Carapace with secondary striae between principal striae. Intestinal region without scales. External orbital spine situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth and fifth thoracic sternites with few short arcuate striae; lateral parts of seventh sternite with small granules. Second abdominal segment with 2 spines on each side of anterior ridge. Second to fourth segments each with several transverse continuous striae. Eye large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) slightly exceeding cornea, distomesial spine longer than distolateral. First segment of antennal peduncle with long distomesial spine reaching end of third segment; distomesial spine on second segment exceeding antennal peduncle. Extensor border of

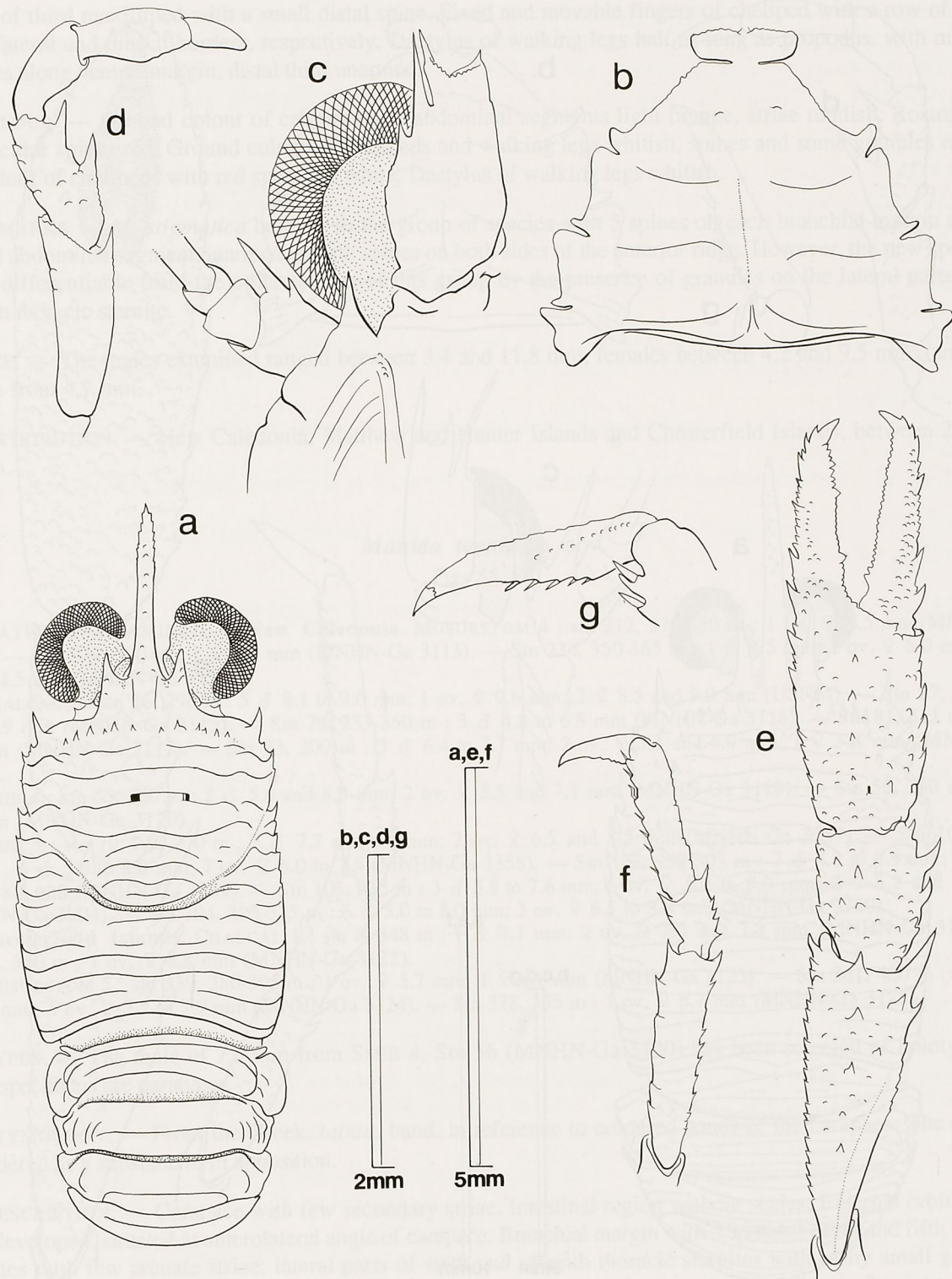


FIG. 53. — *Munida stia* sp. nov., ♂ 3.6 mm, holotype from Stn 38 (BIOCAL): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, left first walking leg, lateral view; g, dactylus of left first walking leg, lateral view.

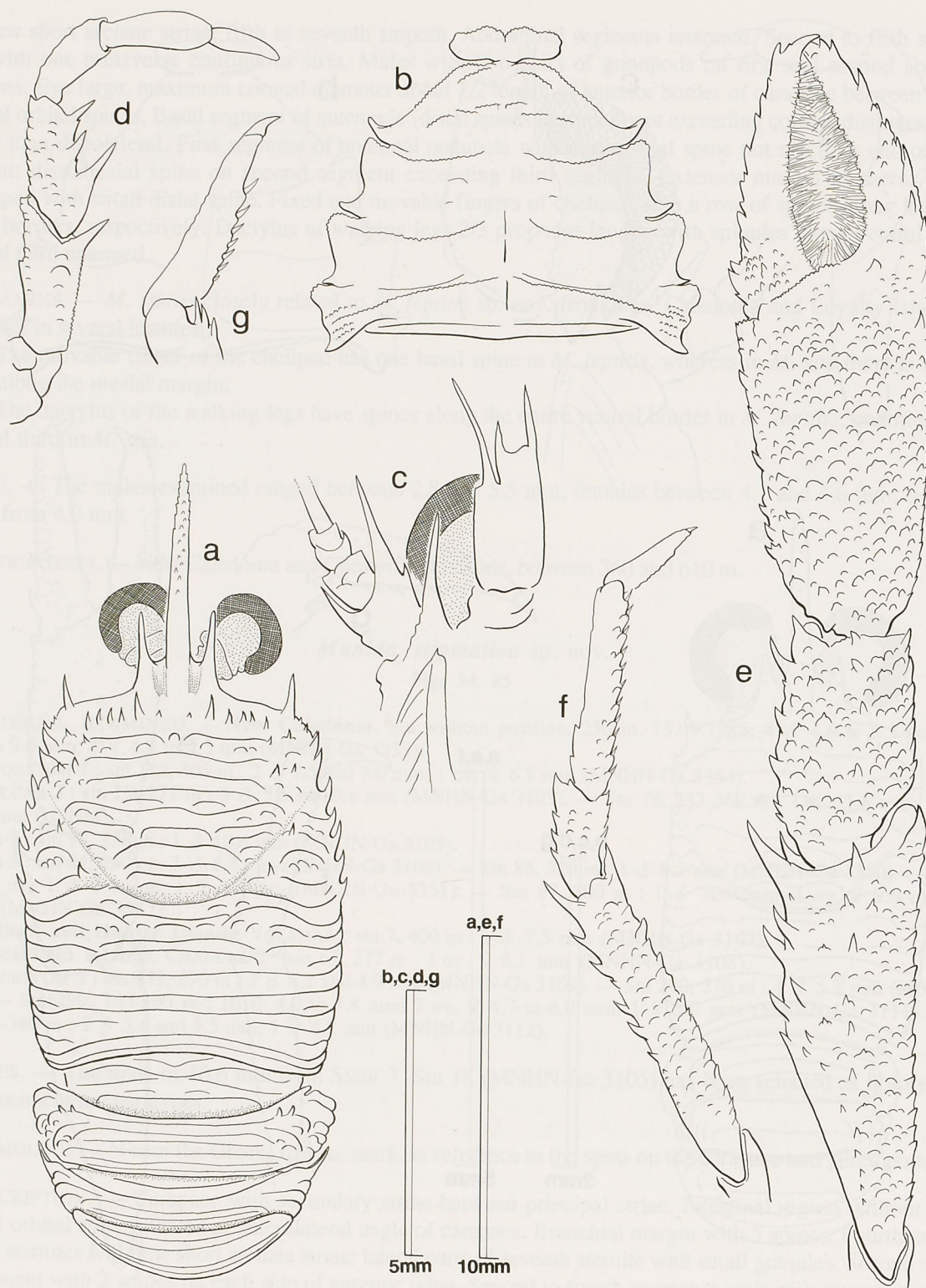


FIG. 54. — *Munida stigmatica* sp. nov., ♂ 10.6 mm, holotype from Stn 18 (SMIB 3): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



merus of third maxilliped with a small distal spine. Fixed and movable fingers of cheliped with a row of spines along lateral and mesial borders, respectively. Dactylus of walking legs half as long as propodus, with movable spinules along ventral margin, distal third unarmed.

COLOUR. — Ground colour of carapace and abdominal segments light orange, striae reddish. Rostrum and supraocular spines red. Ground colour of chelipeds and walking legs whitish, spines and some granules reddish. Distal half of chelipeds with red spots, tip white. Dactylus of walking legs whitish.

REMARKS. — *M. stigmatica* belongs to the group of species with 5 spines on each branchial margin and the second abdominal segment unarmed or with spines on both sides of the anterior ridge. However, the new species is easily differentiable from the other species of this group by the presence of granules on the lateral parts of the seventh thoracic sternite.

SIZE. — The males examined ranged between 3.4 and 11.8 mm, females between 4.2 and 9.5 mm; ovigerous female from 4.7 mm.

DISTRIBUTION. — New Caledonia, Matthew and Hunter Islands and Chesterfield Islands, between 233 and 400 m.

*Munida taenia* sp. nov.

Figs 55, 86

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 212, 375-380 m : 1 ov. ♀ 6.5 mm (MNHN-Ga 3355). — Stn 227, 320 m : 1 ♀ 4.6 mm (MNHN-Ga 3113). — Stn 234, 350-365 m : 1 ♂ 4.5 mm; 1 ov. ♀ 6.0 mm; 4 ♀ 3.0 to 4.5 mm (MNHN-Ga 3356).

CHALCAL 2 : stn 26, 296 m : 5 ♂ 8.1 to 9.0 mm; 1 ov. ♀ 9.6 mm; 2 ♀ 8.5 and 9.0 mm (USNM). — Stn 27, 289 m : 1 ♂ 7.9 mm (MNHN-Ga 3115). — Stn 78, 233-360 m : 3 ♂ 4.8 to 6.5 mm (MNHN-Ga 3116). — Stn 81, 311 m : 1 ♂ 4.1 mm (MNHN-Ga 3117). — Stn 83, 200 m : 3 ♂ 6.4 to 7.7 mm; 2 ov. ♀ 5.3 and 6.9 mm; 1 ♀ 3.8 mm (MNHN-Ga 3118).

SMIB 4 : stn 55, 260 m : 2 ♂ 5.6 and 8.8 mm; 2 ov. ♀ 5.5 and 7.1 mm (MNHN-Ga 3119). — Stn 56, 260 m : 1 ♂ 7.5 mm (MNHN-Ga 3120).

SMIB 5 : stn 70, 260-270 m : 2 ♂ 7.7 and 8.0 mm; 2 ov. ♀ 6.5 and 8.5 mm (MNHN-Ga 3357). — Stn 101, 225-270 m : 6 ♂ 5.0 to 8.0 mm; 7 ov. ♀ 6.0 to 7.5 (MNHN-Ga 3358). — Stn 102, 290-305 m : 7 ♂ 4.2 to 8.5 mm; 5 ov. ♀ 5.5 to 8.2 mm (MNHN-Ga 3359). — Stn 103, 315 m : 3 ♂ 5.8 to 7.6 mm; 6 ov. ♀ 5.2 to 9.0 mm; 2 ♀ 5.2 and 9.0 mm (MNHN-Ga 3204). — Stn 104, 305-335 m : 6 ♂ 5.0 to 8.0 mm; 3 ov. ♀ 6.5 to 8.0 mm (MNHN-Ga 3360).

**Chesterfield Islands.** CHALCAL 1 : stn 8, 348 m : 1 ♂ 7.1 mm; 2 ov. ♀ 7.0 and 7.8 mm (MNHN-Ga 3121). — Stn 32, 350 m : 1 ov. ♀ 6.8 mm (MNHN-Ga 3122).

MUSORSTOM 5 : stn 339, 380-395 m : 1 ov. ♀ 5.7 mm; 1 ♀ 4.8 mm (MNHN-Ga 3123). — Stn 361, 400 m : 3 ♂ 5.3 to 6.9 mm; 5 ov. ♀ 5.2 to 7.9 mm (MNHN-Ga 3124). — Stn 378, 355 m : 1 ov. ♀ 6.7 mm (MNHN-Ga 3125).

TYPES. — The male of 7.5 mm from SMIB 4, Stn 56 (MNHN-Ga 3120) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — From the Greek, *tainia*, band, in reference to coloured bands of the carapace. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with few secondary striae. Intestinal region without scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth and fifth thoracic sternites with few arcuate striae; lateral parts of sixth and seventh thoracic sternites with many small granules. Second abdominal tergite with a row of 6-7 spines on anterior ridge (one specimen with only 2 spines on each side). Second to fourth segments each with several transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, distomesial spine slightly longer than distolateral. First segment of antennal peduncle with long

distomesial spine reaching end of antennal peduncle; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped with distal spine. Movable finger of cheliped with 3 spines on proximal half of mesial margin, and one subdistal spine; fixed finger with a row of spines along lateral border. Dactylus of walking legs less than 1/2 propodus length, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments orange, striae reddish. Rostrum and supraocular spines orange. Chelipeds orange, some spines and granules red; distal part of palm and fingers whitish. Walking legs with transverse whitish and orange bands.

REMARKS. — *M. taenia* is closely related to *M. pontoporea* sp. nov. from New Caledonia, but they differ in several aspects:

— The frontal margin is moderately oblique in *M. pontoporea*, transverse in *M. taenia*.

— The antennular peduncle distinctly exceeds the cornea in *M. pontoporea*, whereas only reaches the end of the cornea in *M. taenia*.

— The merus of the third maxilliped has one distal spine on the extensor border in *M. taenia*, this spine is absent in *M. pontoporea*.

— The dactylus of the walking legs are more longer and slenderer in *M. pontoporea* than in *M. taenia*.

SIZE. — The males examined ranged between 4.1 and 9.0 mm, females between 3.0 and 9.6 mm; ovigerous females from 5.2 mm.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, between 200 and 400 m.

### *Munida thoe* sp. nov.

Figs 56, 87

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 8, 435 m : 3 ♂ 8.0 to 10.0 mm; 2 ov. ♀ 8.3 and 9.4 mm (MNHN-Ga 3361). — Stn 67, 500 m : 1 ov. ♀ 15.5 mm (MNHN-Ga 3126). — Stn 83, 460 m : 1 ♂ 12.4 mm (MNHN-Ga 3362).

MUSORSTOM 4 : stn 156, 530 m : 3 ♂ 6.8 to 17.1 mm; 1 ov. ♀ 13.2 mm; 3 ♀ 6.4 to 7.3 mm (MNHN-Ga 3363). — Stn 194, 550 m : 11 ♂ 10.2 to 15.2 mm; 5 ov. ♀ 9.1 to 14.0 mm; 5 ♀ 7.5 to 11.5 mm (MNHN-Ga 3128). — Stn 195, 370 m : 2 ♂ 9.7 and 10.3 mm; 3 ov. ♀ 10.4 to 12.0 mm (MNHN-Ga 3129). — Stn 216, 490-515 m : 2 ♂ 15.7 and 18.3 mm; 1 ♀ 10.0 mm (MNHN-Ga 3364)

SMIB 2 : stn 26, 500-535 m : 1 ♂ 19.0 (MNHN-Ga 3130).

CHALCAL 2 : stn 1, 500 m : 16 ♂ 11.0 to 19.7 mm; 7 ov. ♀ 9.6 to 16.0 mm; 3 ♀ 11.3 to 15.0 mm (MNHN-Ga 3131, 3132). — Stn 2, 500-580 m : 3 ♂ 11.2 to 19.0 mm; 3 ov. ♀ 14.5 to 18.0 mm; 2 ♀ 12.6 and 13.6 mm (MNHN-Ga 3133 and USNM). — Stn 21, 500-610 m : 19 ♂ 7.2 to 18.2 mm; 2 ♀ 10.1 and 11.8 mm (USNM). — Stn 73, 573 m : 2 ♂ 9.3 and 12.0 mm; 1 ov. ♀ 9.8 mm (MNHN-Ga 3135). — Stn 75, 600 m : 1 ♂ 6.4 mm; 2 ♀ 5.8 and 7.9 mm (MNHN-Ga 3136).

BIOGEOCAL : stn 291, 510-520 m : 1 ♂ 6.6 mm; 1 ov. ♀ 10.0 mm (MNHN-Ga 3365).

SMIB 3 : stn 1, 520 m : 1 ♂ 11.0 mm; 3 ov. ♀ 8.6 to 14.9 mm (MNHN-Ga 3137). — Stn 2, 530 m : 1 ♂ 12.8 mm (MNHN-Ga 3366). — Stn 3, 513 m : 3 ♂ 5.2 to 11.0 mm; 1 ♀ 5.4 mm (MNHN-Ga 3138). — Stn 4, 530 m : 1 ♂ 16.1 mm; 2 ov. ♀ 15.0 and 16.7 mm (MNHN-Ga 3367).

SMIB 4 : stn 34, 515 m : 1 ♂ 12.4 mm; 1 ♀ 17.3 mm (MNHN-Ga 3139). — Stn 37, 540 m : 1 ♂ 10.0 mm (MNHN-Ga 3140). — Stn 38, 510 m : 1 ♀ 10.4 mm (MNHN-Ga 3141). — Stn 39, 560 m : 1 ♀ 10.0 mm (MNHN-Ga 3142). — Stn 55, 260 m : 4 ov. ♀ 9.3 to 14.2 mm; 1 ♀ 7.2 mm (MNHN-Ga 3368).

**Matthew and Hunter Islands.** VOLSMAR : stn 51, 450 m : 1 ♂ 12.5 mm (MNHN-Ga 3143).

TYPES. — The male of 14.8 mm from CHALCAL 2, Stn 1 (MNHN-Ga 3131) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — The name refers to one of the Oceanids of the Greek mythology (Thoë).

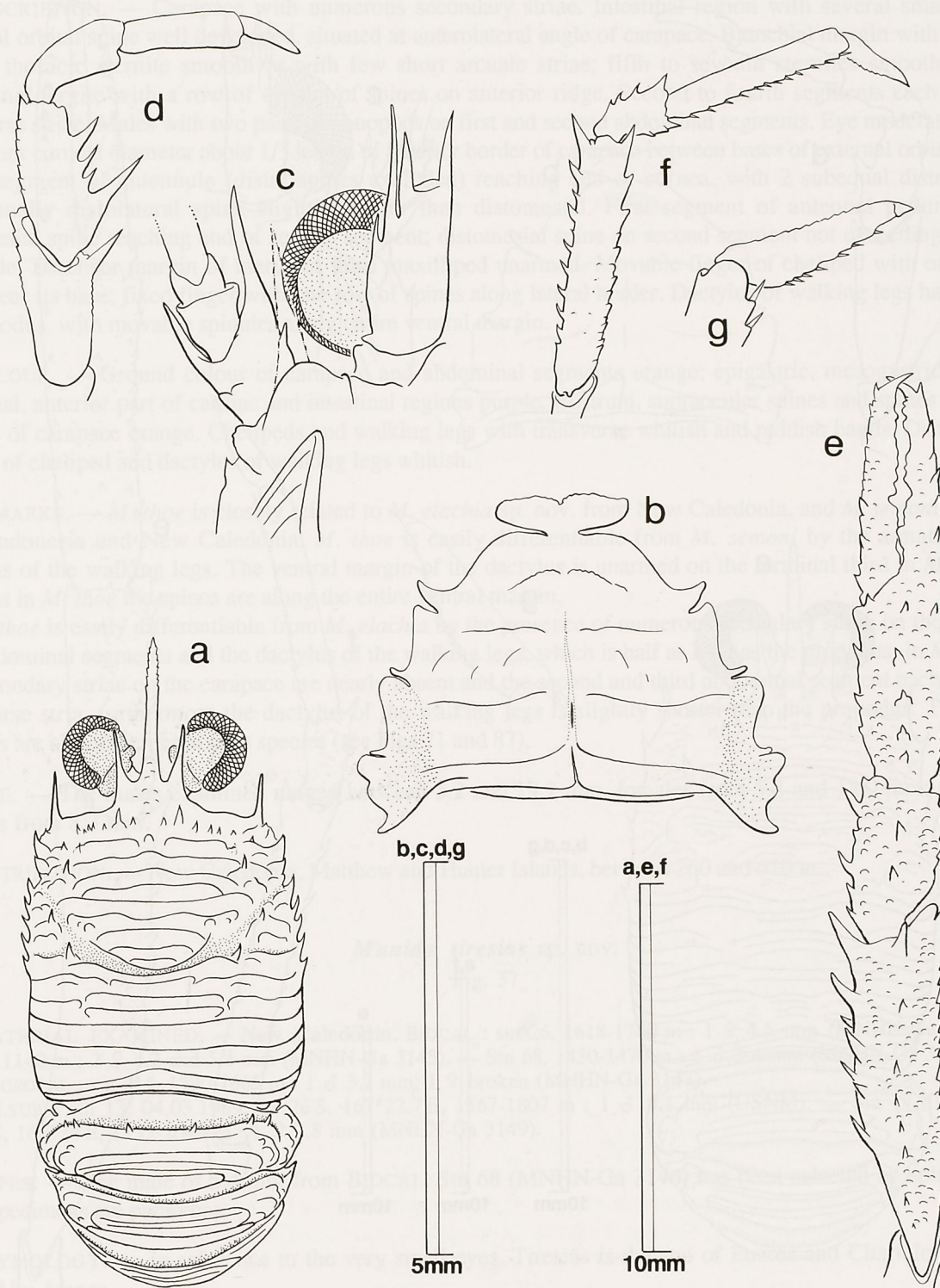


FIG. 55. — *Munida taenia* sp. nov., ♂ 7.5 mm, holotype from Stn 56 (SMIB 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

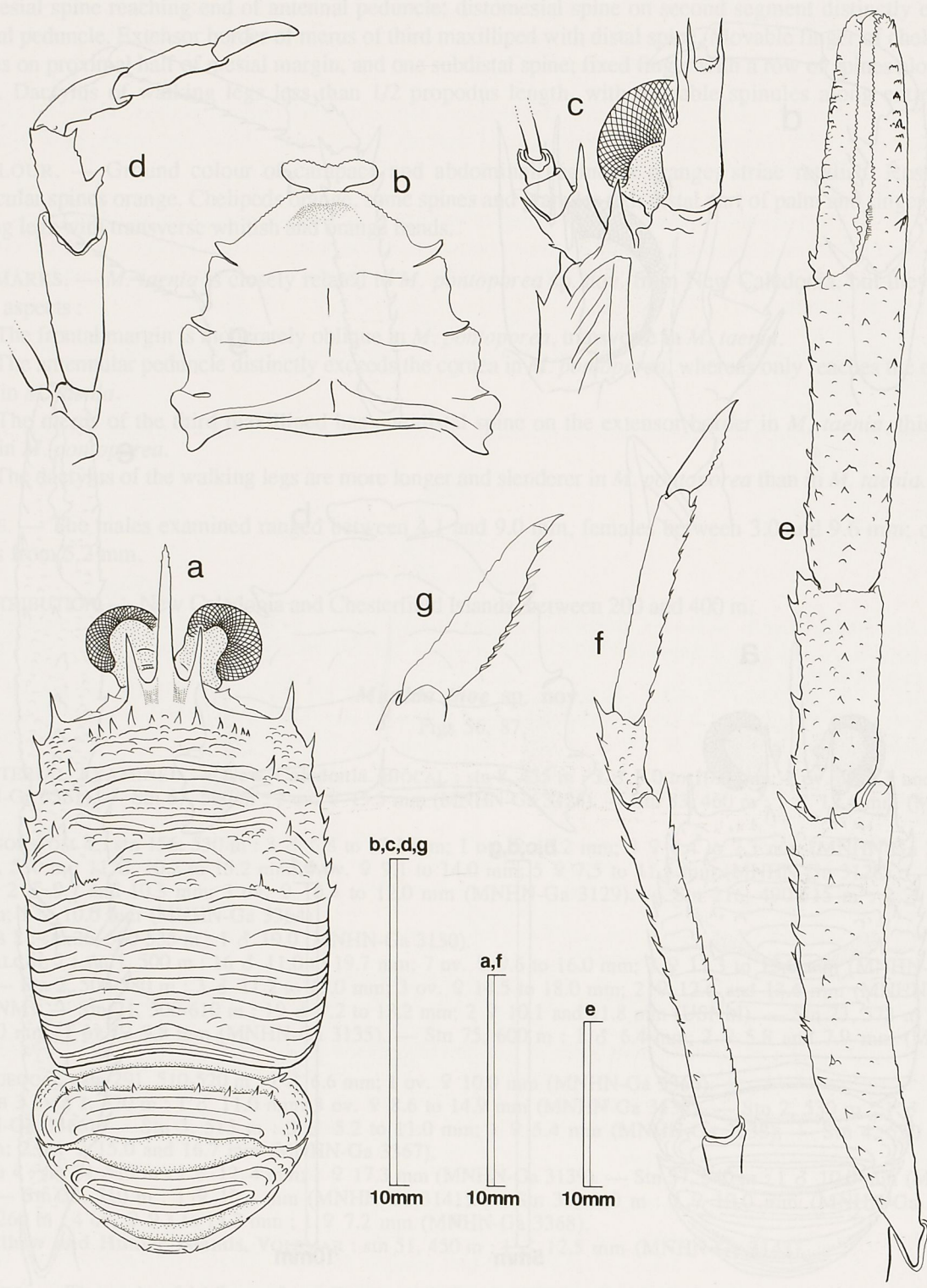


FIG. 56. — *Munida thoe* sp. nov., ♂ 14.8 mm, holotype from Stn 1 (CHALCAL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

DESCRIPTION. — Carapace with numerous secondary striae. Intestinal region with several small scales. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite smooth or with few short arcuate striae; fifth to seventh sternites smooth. Second abdominal tergite with a row of 4 pairs of spines on anterior ridge. Second to fourth segments each with 4-6 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines, occasionally distolateral spine slightly longer than distomesial. First segment of antennal peduncle with distomesial spine reaching end of second segment; distomesial spine on second segment not exceeding antennal peduncle. Extensor margin of merus of third maxilliped unarmed. Movable finger of cheliped with one mesial spine near its base; fixed finger with one row of spines along lateral border. Dactylus of walking legs half as long as propodus, with movable spinules along entire ventral margin.

COLOUR. — Ground colour of carapace and abdominal segments orange; epigastric, mesogastric, anterior branchial, anterior part of cardiac and intestinal regions purple. Rostrum, supraocular spines and spines on dorsal surface of carapace orange. Chelipeds and walking legs with transverse whitish and reddish bands. Distal half of fingers of cheliped and dactylus of walking legs whitish.

REMARKS. — *M. thoe* is closely related to *M. elachia* sp. nov. from New Caledonia, and *M. semoni* Ortmann from Indonesia and New Caledonia. *M. thoe* is easily differentiable from *M. semoni* by the armature of the dactylus of the walking legs. The ventral margin of the dactylus is unarmed on the terminal third in *M. semoni*, whereas in *M. thoe* the spines are along the entire ventral margin.

*M. thoe* is easily differentiable from *M. elachia* by the presence of numerous secondary striae on the carapace and abdominal segments and the dactylus of the walking legs, which is half as long as the propodus. In *M. elachia* the secondary striae on the carapace are nearly absent and the second and third abdominal segment each have one transverse stria, furthermore the dactylus of the walking legs is slightly shorter than the propodus. The colour patterns are also different in both species (see Figs 71 and 87).

SIZE. — The males examined ranged between 5.2 and 19.7 mm, females from 5.8 and 18.0 mm; ovigerous females from 8.3 mm.

DISTRIBUTION. — New Caledonia, Matthew and Hunter Islands, between 260 and 610 m.

*Munida tiresias* sp. nov.

Fig. 57

MATERIAL EXAMINED. — New Caledonia. BIOCAL : stn 26, 1618-1740 m : 1 ♀ 4.5 mm (MNHN-Ga 3144). — Stn 30, 1140 m : 2 ♀ 4.2 and 5.4 mm (MNHN-Ga 3145). — Stn 68, 1430-1470 m : 1 ♂ 5.4 mm (MNHN-Ga 3146).

BIOGEOCAL : stn 214, 1590-1665 m : 1 ♂ 3.2 mm; 1 ♀ broken (MNHN-Ga 3147).

CALSUB : stn 13, 04.03.1989, 21°26'S, 167°22.7'E, 1567-1807 m : 1 ♂ 5.1 mm (USNM). — Stn 17, 08.03.1989, 21°25'S, 166°24'E, 1753-2049 m : 1 ♀ 2.8 mm (MNHN-Ga 3149).

TYPES. — One male of 5.4 mm from BIOCAL, Stn 68 (MNHN-Ga 3146) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — In reference to the very small eyes. Tiresias is the son of Eueres and Chariclo, who was blinded by Atenea.

DESCRIPTION. — Carapace with gastric region anteriorly elevated. Gastric, hepatic and anterobranchial regions squamate. Transverse ridges on branchial and cardiac regions mostly interrupted. Intestinal region with small scales. Gastric region with a row of epigastric spines, rest of dorsal carapace surface unarmed. External orbital

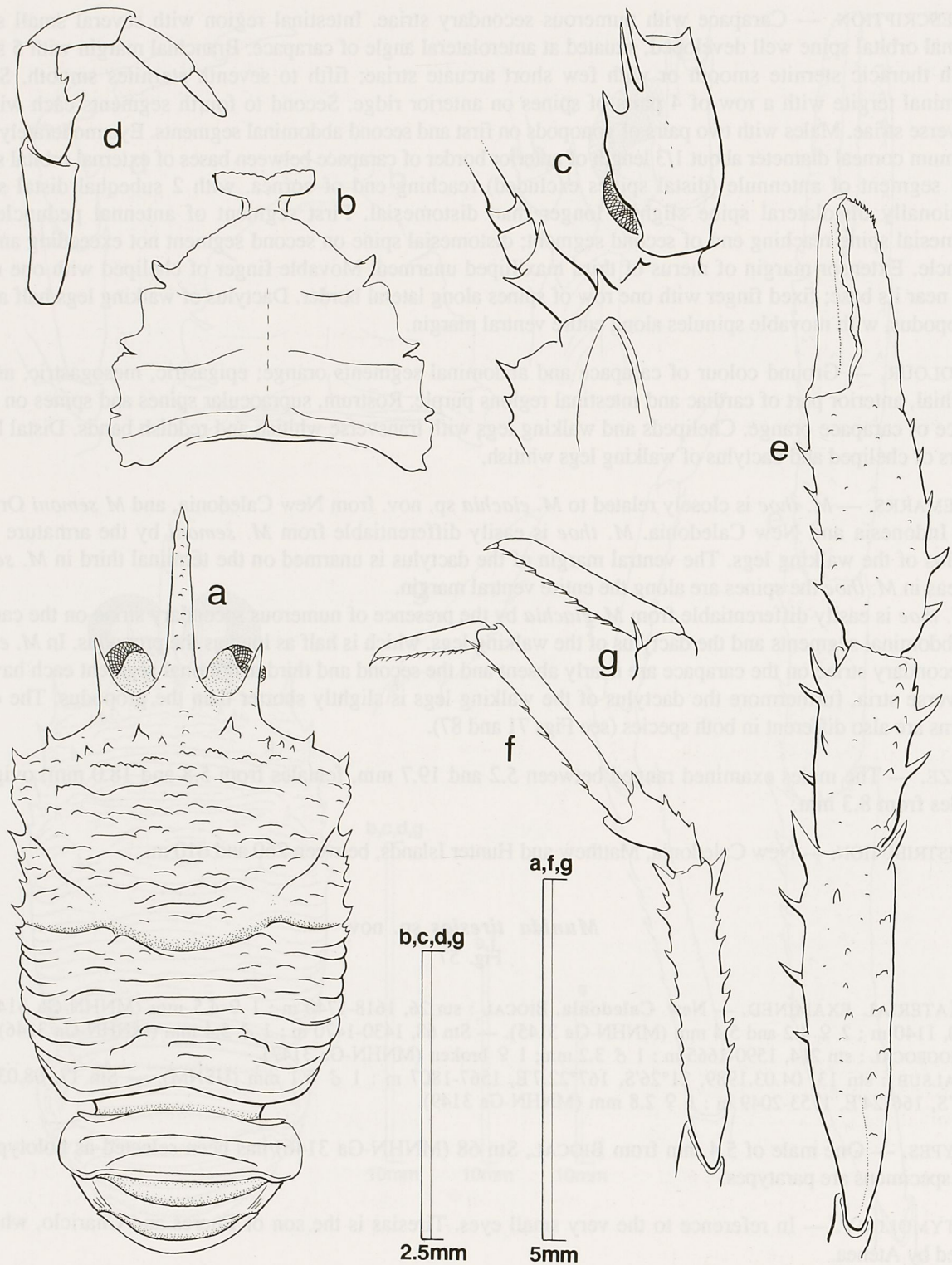


FIG. 57. — *Munida tiresias* sp. nov., ♂ 5.4 mm, holotype from Stn 68 (BIOCAL) : **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennular and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, left first walking leg, lateral view; **g**, dactylus of left first walking leg, lateral view.

spine very small rather mesial to level of second spine; second spine situated at anterolateral angle and similar in size to preceding spine. Branchial margins with 5 small spines. Thoracic sternites smooth. Abdominal segments unarmed. Second abdominal segment with one transverse continuous stria; third to fifth segments without striae. Males with two pairs of gonopods present on first and second abdominal segments. Eyes small, maximum corneal diameter less than 1/5 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) large, distinctly exceeding cornea and reaching tip of rostrum, distomesial spine very small distinctly shorter than distolateral. First segment of antennal peduncle with short distomesial spine distinctly not reaching end of second segment; distomesial spine on second segment not exceeding third segment. Extensor border of merus of third maxilliped unarmed. Chelipeds with iridescent setae more dense on mesial borders of articles, carpus and palm setose; movable finger unarmed; fixed finger with several small distal spines. Dactylus of walking legs 2/3 propodus length, with movable spinules along entire ventral margin.

REMARKS. — *M. tiresias* is very close to *M. magniantennulata* Baba & Türkay, 1992, from active thermal vent areas in Valu-Fa ridge, Lau Basin (BABA & TURKAY, 1992; BABA & DE SAINT LAURENT, 1992). However, *M. tiresias* has the external orbital and the second lateral spines on the carapace small, subequal, and the first spine is placed on frontal margin, the second is situated at anterolateral angle. In *M. magniantennulata* the first spine is well developed, distinctly longer than the second, and situated at anterolateral angle.

SIZE. — The males examined ranged between 3.2 and 5.4 mm, females between 2.8 and 5.4 mm; no ovigerous females were collected.

DISTRIBUTION. — New Caledonia, between 1140 and 2049 m.

*Munida tuberculata* Henderson, 1885

Fig. 58

*Munida tuberculata* Henderson, 1885 : 413; 1888 : 145, pl. 15, fig. 2. — BABA, 1988 : 83 (key).

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 8, 435 m : 1 ov. ♀ 4.7 mm; 1 ♀ 4.0 mm (MNHN-Ga 3150).

CHALCAL 2 : stn 74, 650 m : 1 ♂ 4.8 mm (MNHN-Ga 3151). — Stn 75, 600 m : 1 ♂ 4.6 mm; 2 ov. ♀ 4.3 and 4.4 mm (USNM).

**Matthew and Hunter Islands.** VOLSMAR : stn 51, 450 m : 1 ov. ♀ 4.7 mm (MNHN Ga 3153). — Stn 52, 510 m : 1 ♀ 4.0 mm (MNHN-Ga 3154).

**Fiji.** "Challenger" : stn 173, 24.07.1874, 19°09'35"S, 179°41'50"E, 583 m : 1 ♂ 5.4 mm; 1 ♀ 3.7 mm, types (BM).

REMARKS. — The material from New Caledonia agrees with the type specimens. The species is again illustrated in order to clarify its taxonomic status. The diagnosis of the species is : carapace granulated in hepatic and anterior branchial regions, epigastric spines granulated. Frontal margins transverse. Rostrum horizontal; supraocular spines short. Branchial margin with 5-6 spines on each side. Thoracic sternites smooth. Second abdominal segment with 3 pairs of spines. Males with two pairs of gonopods on abdominal segments. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Distomesial spine on basal segment of antennular peduncle slightly shorter than distolateral. Antennal peduncle reduced. Extensor border of merus of third maxilliped with small distal spine. Fingers of cheliped granulated; fixed finger with a row of small spines along lateral margin. Dactylus of walking legs half as long as propodus, with a row of spinules along entire ventral border.

SIZE. — The males examined ranged between 4.6 and 5.4 mm; females between 3.7 and 4.7 mm; ovigerous females from 4.3 mm.

DISTRIBUTION. — New Caledonia, Matthew and Hunter Islands, Fiji, between 435 and 650 m.

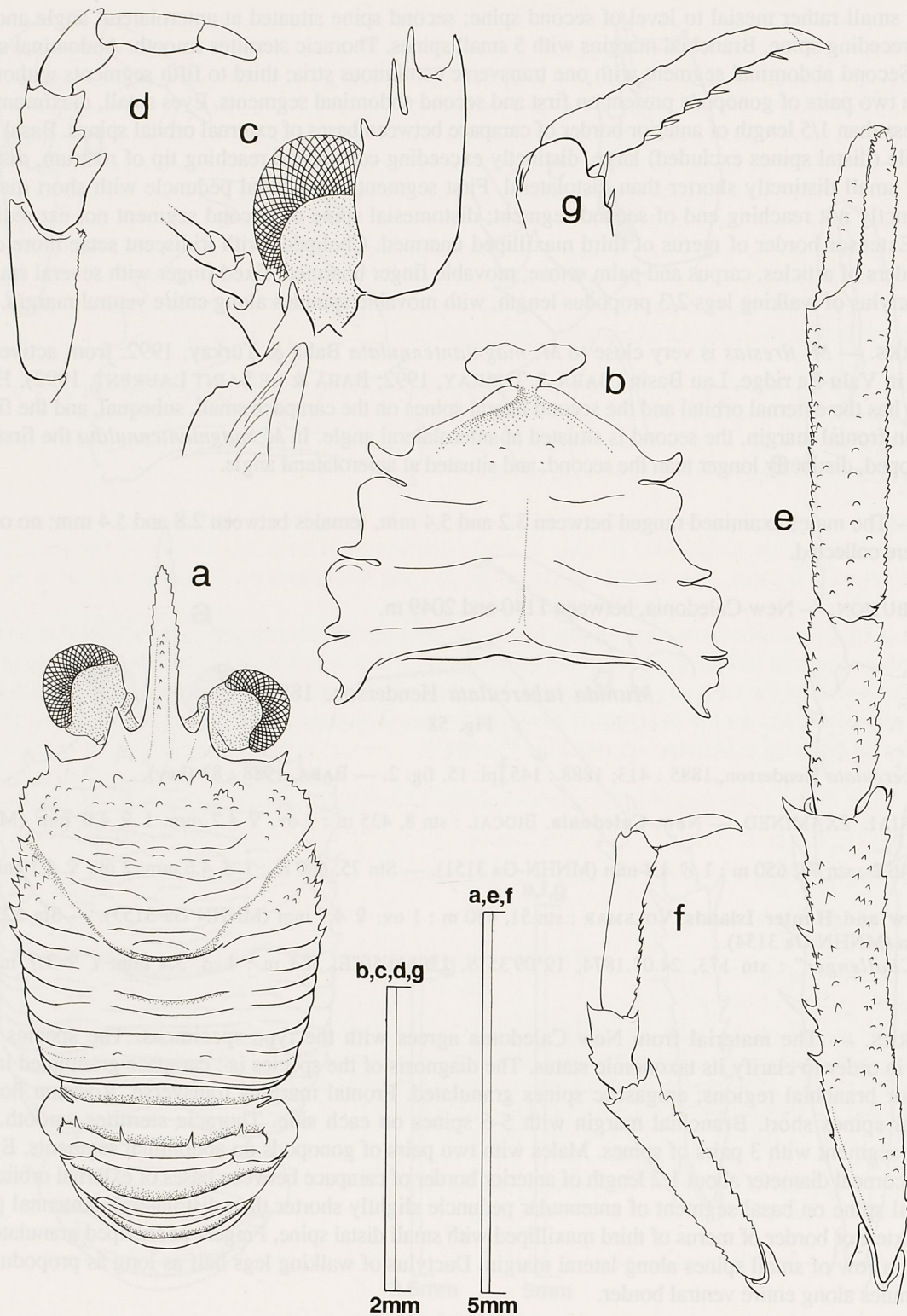


FIG. 58. — *Munida tuberculata* Henderson, 1885 ♂, 4.6 mm, from Stn 75 (CHALCAL 2) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.



*Munida tyche* sp. nov.

Fig. 59

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 84, 150-210 m : 1 ♂ 10.6 mm (MNHN-Ga 3369).

MUSORSTOM 4 : stn 152, 228 m : 1 ♂ 8.3 mm (MNHN-Ga 3155). — Stn 153, 235 m : 5 ♂ 4.2 to 10.4 mm; 2 ov. ♀ 8.6 and 9.0 mm; 4 ♀ 5.5 to 9.0 mm (MNHN-Ga 3156). — Stn 186, 205 m : 1 ♂ 10.6 mm (MNHN-Ga 3157). — Stn 190, 215 m : 2 ♂ 9.6 and 9.8 mm; 1 ov. ♀ 10.2 mm (USNM). — Stn 207, 220-235 m : 1 ♂ 8.7 mm; 1 ♀ 4.4 mm (MNHN-Ga 3159).

SMIB 6 : stn 106, 165-195 m : 1 ♂ 10.4 mm; 1 ov. ♀ 11.3 mm (MNHN-Ga 3162). — Stn 130, 190-205 m : 1 ♂ 7.2 mm; 2 ♀ 5.8 and 6.5 mm (MNHN-Ga 3163).

LAGON : stn 190, 135-150 m : 1 ♂ 10.0 mm (MNHN-Ga 3372). — Stn 370, 127 m : 1 ♂ 6.8 mm (MNHN-Ga 3373). — Stn 1146, 185 m : 1 ♂ 5.5 mm (MNHN-Ga 3371).

**Chesterfield Islands.** CHALCAL 1 : stn 30, 150-180 m : 1 ♂ 9.7 mm (MNHN-Ga 3164).

CORAIL 2 : stn 129, 215 m : 6 ♂ 5.0 to 7.0 mm; 1 ov. ♀ 6.8 mm; 1 ♀ 7.0 mm (MNHN-Ga 3370). — Stn 131, 215-217 m : 17 ♂ 5.0 to 8.3 mm; 12 ov. ♀ 5.7 to 8.4 mm; 3 ♀ 6.4 to 7.2 mm (MNHN-Ga 3160, 3161).

TYPES. — The male of 7.4 mm from CORAIL 2, Stn 131 (MNHN-Ga 3160) has been selected as holotype; the other specimens are paratypes.

ETYMOLOGY. — The name refers to one of the Oceanids of the Greek mythology (Tyche).

DESCRIPTION. — Carapace with few secondary striae. Striae not interrupted on intestinal region. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 5 spines. Fourth thoracic sternite with few short arcuate striae; fifth to seventh without striae; lateral parts of sixth and seventh thoracic sternites with some coarse granules. Second abdominal tergite with a row of 3-4 pairs of spines on anterior ridge. Second to fourth segments each with 3-4 transverse striae. Males with two pairs of gonopods on first and second abdominal segments. Eye moderately large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) exceeding cornea, with 2 subequal distal spines. First segment of antennal peduncle with long distomesial spine nearly reaching end of third segment; distomesial spine on second segment distinctly exceeding antennal peduncle. Extensor border of merus of third maxilliped with small distal spine. Movable and fixed finger of cheliped with several spines along proximal half of mesial and lateral borders, respectively; one and 2 subdistal spines on movable and fixed finger, respectively. Dactylus of walking legs half as long as propodus, with movable spinules along ventral margin, terminal fourth unarmed.

REMARKS. — *M. tyche* is closely related to *M. idyia* sp. nov. from New Caledonia but they differ in several features :

— The distal spines on the basal antennular segment are subequal in *M. tyche*; whereas the distolateral spine is slightly shorter than the distomesial in *M. idyia*.

— The distomesial spine on the antennal basal segment reaches the end of the antennal peduncle in *M. idyia*, whereas this spine nearly reaches the end of the third segment in *M. tyche*.

— The movable finger of the cheliped has only one basal and one distal spine in *M. idyia*, whereas there are several spines along the first half of the mesial margin in *M. tyche*.

SIZE. — The males examined ranged between 4.2 and 10.6 mm, females between 4.4 and 11.3 mm; ovigerous females from 5.7 mm.

DISTRIBUTION. — New Caledonia and Chesterfield Islands, between 127 and 235 m.

*Munida typhle* sp. nov.

Fig. 60

MATERIAL EXAMINED. — **New Caledonia.** BIOCAL : stn 62, 1395-1410 m : 1 ♂ 5.6 mm, paratype (MNHN-Ga 3165). — Stn 68, 1430-1470 m : 1 ♂ 6.9 mm, holotype (MNHN-Ga 3166).

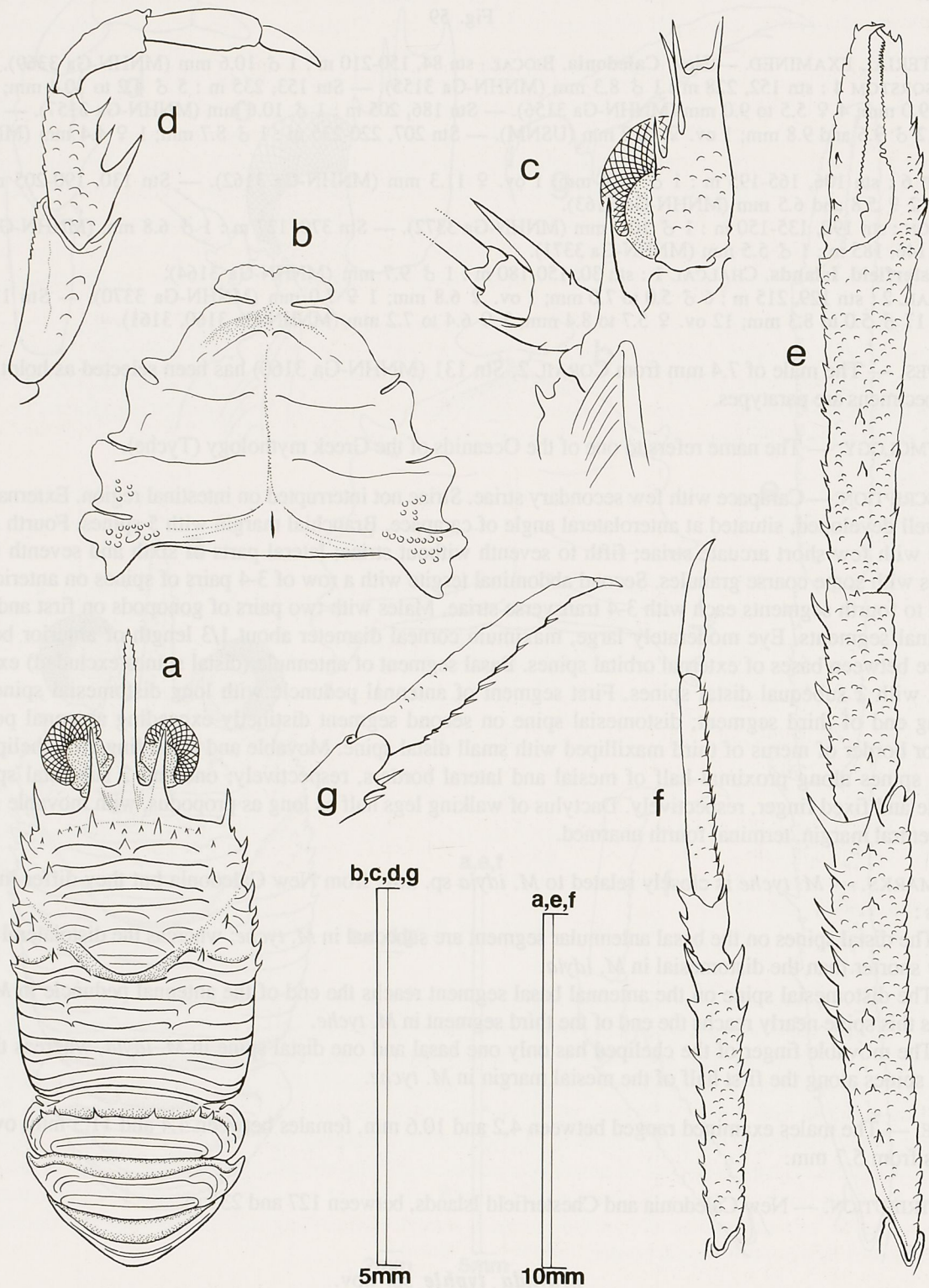


FIG. 59. — *Munida tyche* sp. nov., ♂ 7.4 mm, holotype from Stn 131 (CORAIL 2) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

ETYMOLOGY. — From the Greek, *typhlos*, blind, in reference to the small cornea. The name is considered as a substantive in apposition.

DESCRIPTION. — Carapace with gastric region anteriorly elevated. Secondary striae present, anterior branchial region squamate. Intestinal region with scales. Gastric region with a row of 5 pairs of epigastric spines. No other spines on dorsal surface of carapace. Supraocular spines overreaching eyes. External orbital spine well developed, situated at anterolateral angle of carapace; second marginal spine smaller than preceding one situated at midlength of hepatic margin between first spine and cervical groove. Branchial margin with 5 small spines. Thoracic sternites without striae. Second abdominal segment with a row of 4 spines on anterior ridge. Second and third segments each with one transverse continuous striae; fourth and fifth segments without striae. Two pairs of gonopods on first and second abdominal segments. Eye small, cornea not dilated, maximum corneal diameter about 1/6 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) unusually large, distinctly exceeding cornea, distomesial spine distinctly shorter than distolateral. First segment of antennal peduncle with distomesial spine nearly reaching end of second segment; distomesial spine on second segment reaching end of third segment. Extensor border of merus of third maxilliped unarmed. Fixed finger of cheliped with several spines along proximal half of lateral margin and one subterminal spine; movable finger with proximal spine. Dactylus of walking legs slightly shorter than propodus, with movable spinules along entire ventral margin.

REMARKS. — *M. typhle* sp. nov. is closely related to *M. magniantennulata* Baba & Türkay, 1992, from thermal vents of Lau Basin (BABA & TÜRKAY, 1992; BABA & DE SAINT LAURENT, 1992). Both species are differentiable by several aspects:

- The supraocular spines distinctly overreach the cornea in *M. typhle*, not in *M. magniantennulata*.
- The distal spine on the basal segment of the antennal peduncle nearly reaches the end of the second segment in *M. typhle*, in *M. magniantennulata* this spine is very short and distinctly does not reach the end of this segment.
- The cheliped palm has one row of well developed dorsal spines and the fixed finger has several spines on the proximal half in *M. typhle*, these spines are absent in *M. magniantennulata*.

*M. typhle* is also close to *M. parvioculata* Baba, 1982, from SE Miyake-jima, 1105 m (BABA, 1982), differing in several features:

- The spines on the branchial margins are more developed in *M. parvioculata* than in the new species.
- The cheliped is densely setose in *M. parvioculata*, with few setae in the new species.
- The dactylus of the walking legs are slightly shorter than the propodus, instead of being half as long as in *M. parvioculata*.

DISTRIBUTION. — New Caledonia, between 1395 and 1470 m.

*Munida urizae* sp. nov.

Figs 61, 88

MATERIAL EXAMINED. — **New Caledonia.** CHALCAL 2: stn 4, 253 m: 1 ♂ 7.2 mm (MNHN-Ga 3167). — Stn 18, 274 m: 47 ♂ 4.7 to 10.9 mm; 10 ov. ♀ 7.4 to 9.3 mm; 7 ♀ 4.0 to 8.9 mm (MNHN-Ga 3168). — Stn 19, 271 m: 1 ♂ 8.5 mm; 1 ov. ♀ 6.2 mm (MNHN-Ga 3169). — Stn 20, 230-300 m: 5 ♂ 6.0 to 10.0 mm; 5 ov. ♀ 8.0 to 9.0 mm (MNHN-Ga 3170 and USNM). — Stn 26, 296 m: 2 ♂ 9.5 and 11.2 mm; 3 ♀ ov. 8.2 to 10.4 mm; 1 ♀ 5.3 mm (MNHN-Ga 3171). — Stn 27, 289 m: 4 ov. ♀ 7.7 to 8.2 mm (MNHN-Ga 3172).

SMIB 4: stn 44, 270-300 m: 1 ♂ 8.2 mm; 1 ov. ♀ 7.5 mm (MNHN-Ga 3173).

SMIB 5: stn 90, 340 m: 1 ov. ♀ 9.5 mm (MNHN-Ga 3174).

LAGON: stn 1153, 330 m: 2 ♀ 6.1 and 6.3 mm (MNHN-Ga 3175).

**Matthew and Hunter Islands.** VOLSMAR: stn 39, 305 m: 1 ov. ♀ 7.7 mm (MNHN-Ga 3176).

**Chesterfield Islands.** MUSORSTOM 5: stn 301, 487-610 m: 2 ♀ 3.6 and 7.4 mm (MNHN-Ga 3177).

TYPES. — One male of 10.0 mm from CHALCAL 2, Stn 20 (MNHN-Ga 3170) has been selected as holotype; the other specimens are paratypes.

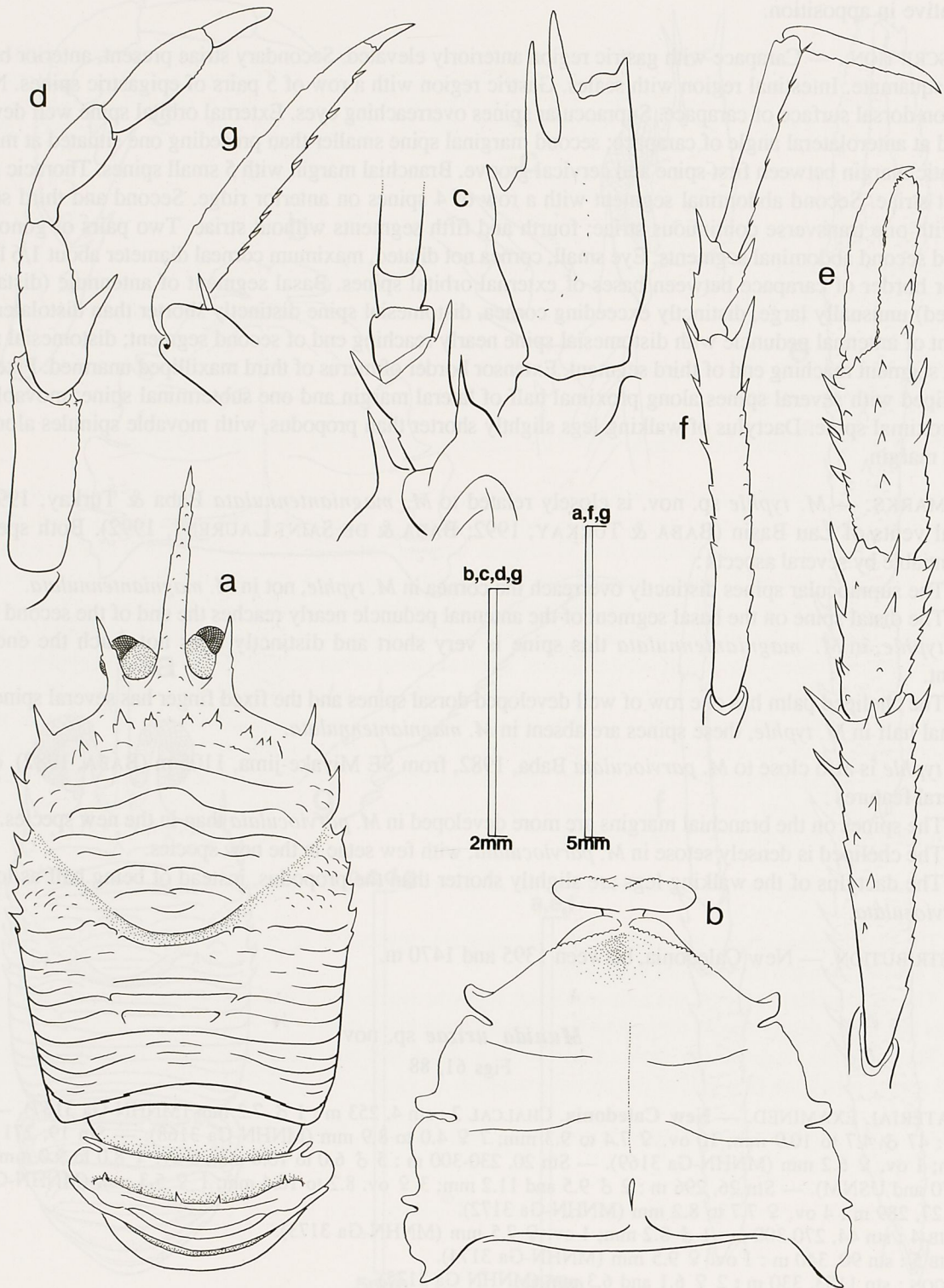


FIG. 60. — *Munida typhle* sp. nov., ♂ 6.9 mm, holotype from Stn 68 (BIOCAL): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

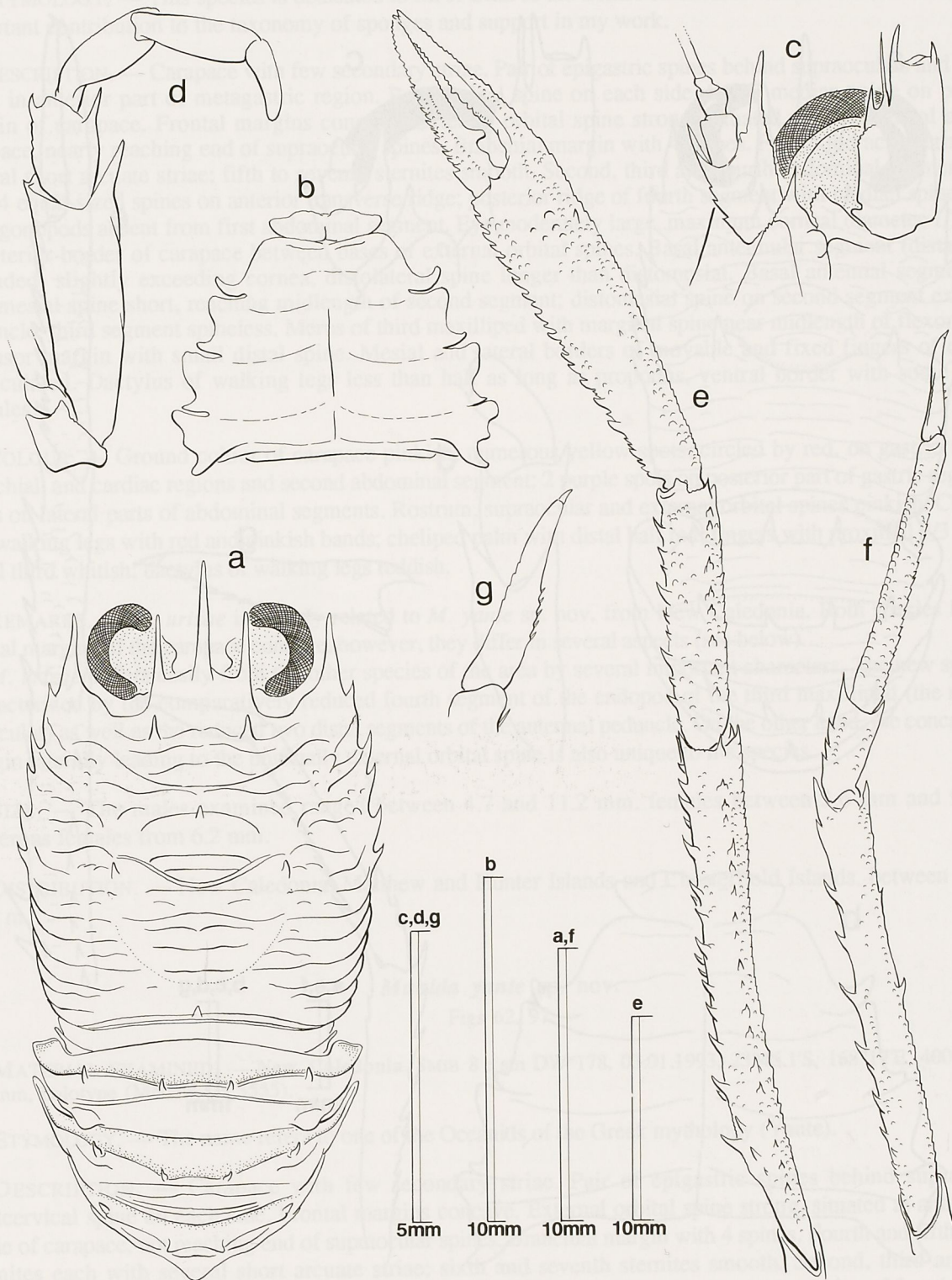


FIG. 61. — *Munida urizae* sp. nov., ♂ 10.0 mm, holotype from Stn 20 (CHALCAL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

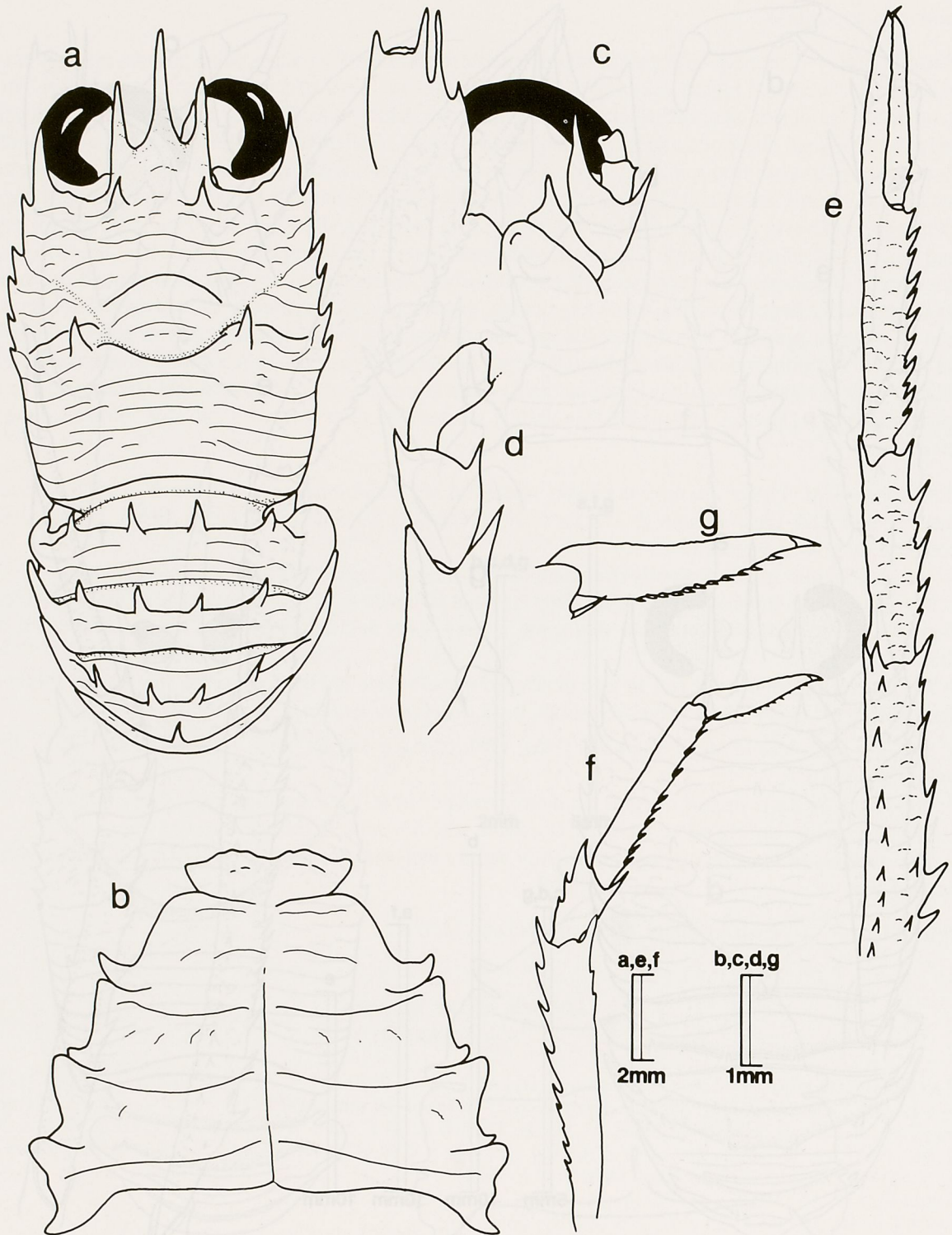


FIG. 62. — *Munida yante* sp. nov., ♀ 5.5 mm, holotype from Stn 178 (SMIB 8) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

ETYMOLOGY. — This species is dedicated to M. J. URIZ of the Centro de Estudios Avanzados, Blanes, for her important contribution to the taxonomy of sponges and support in my work.

DESCRIPTION. — Carapace with few secondary striae. Pair of epigastric spines behind supraoculars and median spine in anterior part of metagastric region. Postcervical spine on each side. Small median spine on posterior margin of carapace. Frontal margins concave. External orbital spine strong, situated at anterolateral angle of carapace, nearly reaching end of supraocular spines. Branchial margin with 4 spines. Fourth thoracic sternite with several short arcuate striae; fifth to seventh sternites smooth. Second, third and fourth abdominal segments each with 4 equal-sized spines on anterior transverse ridge; posterior ridge of fourth segment with median spine. Males with gonopods absent from first abdominal segment. Eye moderately large, maximum corneal diameter 1/3 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) slightly exceeding cornea, distolateral spine longer than distomesial. Basal antennal segment with distomesial spine short, reaching midlength of second segment; distomesial spine on second segment exceeding peduncle; third segment spineless. Merus of third maxilliped with marginal spine near midlength of flexor border; extensor margin with small distal spine. Mesial and lateral borders of movable and fixed fingers of cheliped denticulated. Dactylus of walking legs less than half as long as propodus, ventral border with some median spinules.

COLOUR. — Ground colour of carapace pinkish; numerous yellow spots, circled by red, on gastric, anterior branchial, and cardiac regions and second abdominal segment; 2 purple spots on posterior part of gastric region; red spots on lateral parts of abdominal segments. Rostrum, supraocular and external orbital spines pinkish. Chelipeds and walking legs with red and pinkish bands; cheliped palm with distal half red; fingers with proximal 2/3 reddish, distal third whitish; dactylus of walking legs reddish.

REMARKS. — *M. urizae* is closely related to *M. yante* sp. nov. from New Caledonia. Both species have the frontal margins of the carapace concave, however, they differ in several aspects (see below).

*M. urizae* differs easily from the other species of the area by several important characters. The new species is characterized by the comparatively reduced fourth segment of the endopod of the third maxilliped (the merus in particular) as well as the reduced two distal segments of the antennal peduncle. On the other hand, the concave front margin laterally leading to the unusually external orbital spine is also unique to the species.

SIZE. — The males examined ranged between 4.7 and 11.2 mm, females between 3.6 mm and 9.5 mm; ovigerous females from 6.2 mm.

DISTRIBUTION. — New Caledonia, Matthew and Hunter Islands and Chesterfield Islands, between 230 and 610 m.

*Munida yante* sp. nov.

Figs 62, 97

MATERIAL EXAMINED. — New Caledonia. SMIB 8 : stn DW 178, 03.01.1993, 23°45.1'S, 168°17'E, 400 m : 1 ♀ 5.5 mm, holotype (MNHN-Ga 3555).

ETYMOLOGY. — The name refers to one of the Oceanids of the Greek mythology (Yante).

DESCRIPTION. — Carapace with few secondary striae. Pair of epigastric spines behind supraoculars. Postcervical spine on each side. Frontal margins concave. External orbital spine strong, situated at anterolateral angle of carapace, not reaching end of supraocular spines. Branchial margin with 4 spines. Fourth and fifth thoracic sternites each with several short arcuate striae; sixth and seventh sternites smooth. Second, third and fourth abdominal segments each with 4 equal-sized spines on anterior transverse ridge; posterior ridge of fourth segment with median spine. Eye large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of external orbital spines. Basal antennular segment (distal spines excluded) slightly exceeding cornea, distolateral spine longer than distomesial. Basal antennal segment with distomesial spine slightly overreaching

midlength of second segment; distomesial spine on second segment exceeding peduncle. Merus of third maxilliped with median marginal spine on flexor border; extensor margin with distal spine. Movable finger of cheliped with basal spine; fixed finger unarmed. Dactylus of walking legs about half as long as propodus, ventral border with spinules along entire length.

**COLOUR.** — Ground colour of carapace and abdominal segments red; small white spot on bifurcation of cervical groove. Tip of rostrum and spines of carapace and abdominal segments with white spots. Chelipeds and walking legs with red and white bands; fingers and distal half of palm red; dactylus of walking legs reddish.

**REMARKS.** — *M. yante* is closely related to *M. urizae* sp. nov. from New Caledonia, Matthew and Hunter Islands and Chesterfield Islands. They are easily distinguishable by the following aspects:

- *M. urizae* has a median spine on the metagastric region, absent in *M. yante*.
- The posterior margin of the carapace has a median spine in *M. urizae*, whereas this margin is unarmed in *M. yante*.
- The entire ventral margin of the dactylus of the walking legs bears spinules in *M. yante*; these spinules are restricted to the median portion in *M. urizae*.
- The colour patterns are different (see Figs 88 and 97).

### *Munida zebra* sp. nov.

Figs 63, 89

**MATERIAL EXAMINED.** — **New Caledonia.** "Vauban": 22°49'S, 167°12'E, 390 m: 1 ♀ 13.3 mm (MNHN-Ga 3178). — 22°54'S, 167°12'E, 395-410 m: 1 ♂ 14.6 mm; 1 ov. ♀ 14.0 mm (USNM). — Without position, 200 m, 13.10.1978: 1 ♂ 11.7 mm (MNHN-Ga 3392).

**BIOCAL** 4: stn 45, 430-465 m: 1 ♂ 14.8 mm (MNHN-Ga 3180). — Stn 66, 505-515 m: 1 ♀ 5.3 mm; 1 juv. 4.0 mm (MNHN-Ga 3181). — Stn 67, 500-510 m: 5 ♀ 7.2 to 13.8 mm; 6 ov. ♀ 10.0 to 13.8 mm; 3 ♀ 7.7 to 17.8 mm (MNHN-Ga 3374). — Stn 83, 460 m: 1 juv. 3.8 mm (MNHN-Ga 3488).

**MUSORSTOM** 4: stn 193, 430 m: 2 ov. ♀ 11.4 and 14.4 mm (MNHN-Ga 3182). — Stn 197, 560 m: 2 ♂ 11.0 and 12.8 mm; 2 ♀ 11.0 and 12.6 mm (MNHN-Ga 3376). — Stn 213, 405-430 m: 1 ov. ♀ 12.4 mm (MNHN-Ga 3183). — Stn 214, 425-440 m: 5 ♂ 12.1 to 14.6 mm; 1 ov. ♀ 16.0 mm (MNHN-Ga 3375). — Stn 215, 485-520 m: 1 ♂ 14.6 mm; 1 ov. ♀ 14.0 mm (MNHN-Ga 3377). — Stn 222, 410-440 m: 4 ♂ 10.5 to 14.9 mm; 1 ov. ♀ 10.7 mm (USNM). — Stn 228, 420 m: 1 ♂ 5.1 mm (MNHN-Ga 3378).

**SMIB** 1: stn 7, 500 m: 2 ♂ 12.3 and 16.1 mm; 1 ov. ♀ 13.6 mm; 1 ♀ 12.0 mm (MNHN-Ga 3381). — Stn 9, 450 m: 1 ov. ♀ 14.8 (MNHN-Ga 3382).

**SMIB** 2: stn 1, 438-444 m: 1 ♂ 11.2 mm; 1 ov. ♀ 12.8 mm (MNHN-Ga 3185). — Stn 2, 438-444 m: 1 ♂ 7.3 mm (MNHN-Ga 3186). — Stn 3, 428 m: 4 ♂ 11.8 to 13.8 mm; 1 ov. ♀ 13.8 mm (MNHN-Ga 3187). — Stn 5, 398-410 m: 1 ♂ 11.2 mm (MNHN-Ga 3188). — Stn 6, 442-460 m: 2 ♂ 9.0 and 12.8 mm; 3 ov. ♀ 12.1 to 14.8 mm (MNHN-Ga 3189).

**CHALCAL** 2: stn 1, 500-580 m: 1 ♂ 15.3 mm (MNHN-Ga 3190). — Stn 2, 500-610 m: 5 ♂ 8.4 to 14.5 mm; 1 ov. ♀ 13.3 mm (MNHN-Ga 3191). — Stn 21, 500 m: 3 ♂ 10.5 to 13.5 mm; 3 ♀ 6.5 to 8.0 mm (MNHN-Ga 3379). — Stn 25, 418 m: 4 ♂ 11.8 to 18.5 mm; 3 ov. ♀ 12.0 to 16.0 mm; 1 ♀ 15.7 mm (MNHN-Ga 3380).

**SMIB** 3: stn 1, 520 m: 9 ♂ 7.5 to 15.8 mm; 5 ov. ♀ 5.4 to 11.7 mm; 2 ♀ 7.1 and 9.2 mm (MNHN-Ga 3385). — Stn 3, 513 m: 11 ♂ 8.9 to 16.0 mm; 13 ov. ♀ 9.7 to 13.3 mm; 20 ♀ 5.5 to 11.6 mm (MNHN-Ga 3192). — Stn 5, 502-512 m: 1 ♂ 7.7 mm; 1 ♀ 10.0 mm (MNHN-Ga 3383). — Stn 6, 505 m: 1 ♂ 12.4 mm; 1 ov. ♀ 14.2 mm; 1 ♀ 7.5 mm (MNHN-Ga 3384).

**SMIB** 4: stn 34, 510-515 m: 8 ♂ 6.1 to 15.2 mm; 5 ♀ 4.3 to 11.0 mm (MNHN-Ga 3458, 3196). — Stn 36, 530 m: 5 ♂ 6.3 to 13.8 mm; 1 ov. ♀ 12.2 mm; 1 ♀ 7.4 mm (MNHN-Ga 3387). — Stn 37, 540 m: 3 ♂ 10.5 to 11.2 mm; 4 ♀ 6.5 to 15.5 mm (MNHN-Ga 3388). — Stn 38, 510 m: 7 ♂ 6.2 to 13.1 mm; 6 ♀ 9.3 to 12.6 mm (MNHN-Ga 3389). — Stn 55, 260 m: 2 ♂ 11.0 and 11.3 mm; 1 ov. ♀ 11.7 mm; 2 ♀ 9.5 and 10.8 mm (MNHN-Ga 3386). — Stn 65, 420 m: 1 ♀ 11.3 mm (MNHN-Ga 3197).

**SMIB** 5: stn 98, 320-335 m: 1 ♂ 7.2 mm (MNHN-Ga 3390).

**Loyalty Islands.** Without position, 400 m, 03.03.1977: 2 ♂ 14.0 and 15.2 mm (MNHN-Ga 3391).

**MUSORSTOM** 6: stn 406, 373 m: 1 ♂ 12.0 mm; 1 ♀ 12.0 mm (MNHN-Ga 3193). — Stn 407, 360 m: 1 ♂ 13.5 mm (MNHN-Ga 3194). — Stn 464, 430 m: 2 ♂ 7.5 and 12.6 mm (MNHN-Ga 3195).

**TYPES.** — One male of 11.8 mm from SMIB 4, Stn 34 (MNHN-Ga 3196) has been selected as holotype; the other specimens are paratypes.



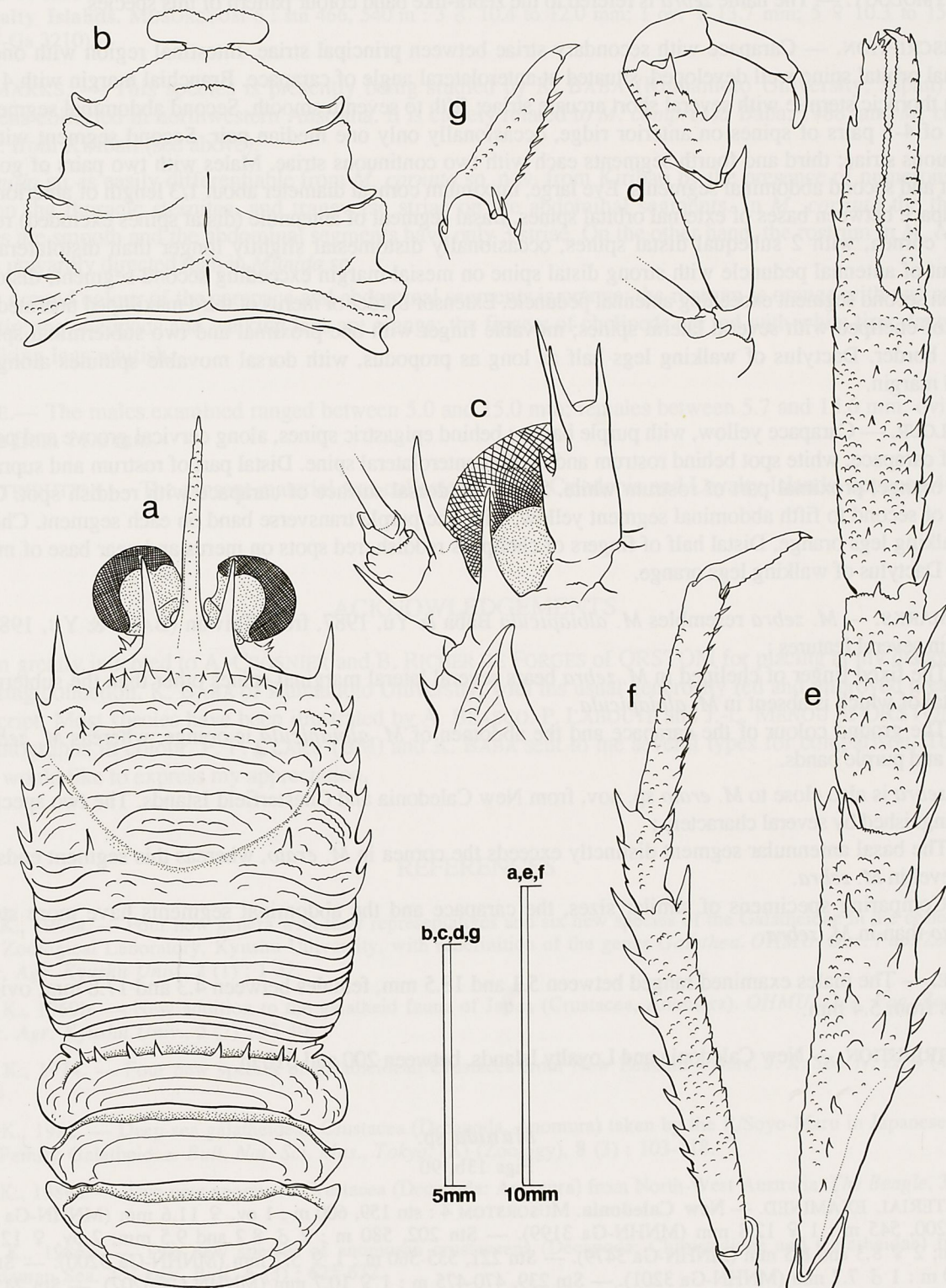


FIG. 63. — *Munida zebra* sp. nov., ♂ 11.8 mm, holotype from Stn 34 (SMIB 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

ETYMOLOGY. — The name *zebra* is referred to the zebra-like band colour pattern of this species.

DESCRIPTION. — Carapace with secondary striae between principal striae. Intestinal region with one scale. External orbital spine well developed, situated at anterolateral angle of carapace. Branchial margin with 4 spines. Fourth thoracic sternite with several short arcuate striae; fifth to seventh smooth. Second abdominal segment with a row of 4-5 pairs of spines on anterior ridge, occasionally only one median pair. Second segment with three continuous striae; third and fourth segments each with two continuous striae. Males with two pairs of gonopods on first and second abdominal segments. Eye large, maximum corneal diameter about 1/3 length of anterior border of carapace between bases of external orbital spines. Basal segment of antennule (distal spines excluded) reaching end of cornea, with 2 subequal distal spines, occasionally distomesial slightly longer than distolateral. First segment of antennal peduncle with strong distal spine on mesial margin exceeding second segment; distomesial spine on second segment exceeding antennal peduncle. Extensor border of merus of third maxilliped unarmed. Fixed finger of cheliped with several lateral spines; movable finger with one proximal and two subterminal spines on mesial border. Dactylus of walking legs half as long as propodus, with dorsal movable spinules along entire ventral margin.

COLOUR. — Carapace yellow, with purple bands : behind epigastric spines, along cervical groove and posterior zone of carapace; white spot behind rostrum and on first anterolateral spine. Distal part of rostrum and supraocular spines orange; proximal part of rostrum white. Spines on dorsal surface of carapace with reddish spot. Ground colour of second to fifth abdominal segment yellow, with one purple transverse band on each segment. Chelipeds and walking legs orange. Distal half of fingers of chelipeds reddish, red spots on merus and near base of movable finger. Dactylus of walking legs orange.

REMARKS. — *M. zebra* resembles *M. albiapicula* Baba & Yu, 1987, from Taiwan (BABA & YU, 1987), but differs in several features :

— The fixed finger of cheliped in *M. zebra* bears several lateral marginal spines other than the subterminals, the distal of which is absent in *M. albiapicula*.

— The ground colour of the carapace and the abdomen of *M. albiapicula* is orange, whereas *M. zebra* has yellow and purple bands.

*M. zebra* is also close to *M. erato* sp. nov, from New Caledonia and Chesterfield Islands. The two species can be distinguished by several characters :

— The basal antennular segment distinctly exceeds the cornea in *M. erato*, whereas this segment ends at the same level in *M. zebra*.

— Comparing specimens of similar sizes, the carapace and the abdominal segments have more striae in *M. erato* than in *M. zebra*.

SIZE. — The males examined ranged between 5.1 and 18.5 mm, females between 4.3 and 17.8 mm; ovigerous females from 5.4 mm.

DISTRIBUTION. — New Caledonia and Loyalty Islands, between 200 and 610 m.

### *Munida* sp.

Figs 13b, 90

MATERIAL EXAMINED. — **New Caledonia.** MUSORSTOM 4 : stn 159, 600 m : 1 ov. ♀ 11.6 mm (MNHN-Ga 3198). — Stn 200, 545 m : 1 ♀ 12.8 mm (MNHN-Ga 3199). — Stn 202, 580 m : 2 ♂ 8.2 and 9.5 mm; 2 ov. ♀ 12.9 and 14.8 mm; 2 ♀ 8.3 and 8.5 mm (MNHN-Ga 3479). — Stn 221, 535-560 m : 1 ♀ 5.7 mm (MNHN-Ga 3200). — Stn 238, 500-510 m : 1 ♂ 7.7 mm (MNHN-Ga 3201). — Stn 239, 470-475 m : 1 ♀ 10.7 mm (MNHN-Ga 3202). — Stn 241, 470-480 m : 2 ♂ 5.0 and 10.4 mm (USNM). — Stn 242, 500-550 m : 1 ♂ 14.7 mm (USNM).

CHALCAL 2 : stn 1, 500-580 m : 1 ♀ 13.3 mm (MNHN-Ga 3206). — Stn 73, 573 m : 1 ♂ 8.5 mm; 1 ♀ 7.3 mm (MNHN-Ga 3207). — Stn 74, 650 m : 1 ♀ 9.0 mm (MNHN-Ga 3208). — Stn 75, 600 m : 1 ♂ 5.0 mm; 1 ♀ 8.3 mm (MNHN-Ga 3209).

BIOGEOCAL : stn 308, 510-590 m : 1 ♂ 15.0 mm (MNHN-Ga 3393).

SMIB 4 : stn 34, 510-515 m : 1 ♀ 14.3 mm (MNHN-Ga 3212).

**Loyalty Islands.** MUSORSTOM 6 : stn 466, 540 m : 3 ♂ 10.4 to 12.0 mm; 1 ov. ♀ 13.7 mm; 5 ♀ 10.3 to 15.6 mm (MNHN-Ga 3210).

REMARKS. — This species is presently being studied by K. BABA (Kumamoto University, Japan) using specimens collected in northwestern Australia. It is closely related to *M. compressa* Baba, 1988, and *M. cornuta* sp. nov. from Kiribati (see above).

*Munida* sp. is easily differentiable from *M. cornuta* sp. nov. from Kiribati by the presence of numerous short striae on the thoracic sternites, and transverse striae on the abdominal segments. In *M. cornuta* the thoracic sternites are smooth and the abdominal segments have only 3 striae. On the other hand, the rostrum in *M. cornuta* is more upwardly directed than in *Munida* sp.

The ground colour of the carapace and abdominal segments is orange; the rostrum is orange with one red spot on the tip; the chelipeds and walking legs are orange; the fingers of chelipeds are red with white tips; dactylus of the walking legs whitish.

SIZE.— The males examined ranged between 5.0 and 15.0 mm; females between 5.7 and 15.6 mm; ovigerous females from 11.6 mm.

DISTRIBUTION.— The present material was collected in New Caledonia and Loyalty Islands, between 466 and 650 m.

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## COLOUR PHOTOGRAPHS

- FIG. 64. — *Munida acantha* sp. nov., ♀ paratype (6.0 mm). SMIB 6, Stn 118.
- FIG. 65. — *Munida armilla* sp. nov., ♂ paratype (13.3 mm). SMIB 4, Stn 34.
- FIG. 66. — *Munida bellior* Miyake & Baba, ov. ♀ (12.3 mm). MUSORSTOM 6, Stn 419.
- FIG. 67. — *Munida callista* sp. nov., ♂ paratype (11.7 mm). BATHUS 3, Stn 814.
- FIG. 68. — *Munida distiza* sp. nov., ♂ paratype (8.2 mm). MUSORSTOM 6, Stn 419.
- FIG. 69. — *Munida distiza* sp. nov., ♂ paratype (8.2 mm). MUSORSTOM 6, Stn 419, ventral view.
- FIG. 70. — *Munida ecleipsis* sp. nov., ♀ holotype (11.0 mm). SMIB 4, Stn 34.
- FIG. 71. — *Munida elachia* sp. nov., ♀ paratype (4.3 mm). CHALCAL 2, Stn 74.
- FIG. 72. — *Munida eminens* Baba, ♂ (12.0 mm). MUSORSTOM 6, Stn 438.
- FIG. 73. — *Munida guttata* sp. nov., ov. ♀ paratype (13.6 mm). SMIB 4, Stn 51.
- FIG. 74. — *Munida incerta* Henderson, ♀ (17.5 mm). MUSORSTOM 6, Stn 466.
- FIG. 75. — *Munida javieri* sp. nov., ♀ paratype (6.0 mm). SMIB 4, Stn 44.
- FIG. 76. — *Munida leagora* sp. nov., ♂ paratype (11.4 mm). SMIB 4, Stn 38.
- FIG. 77. — *Munida marini* sp. nov., ♀ paratype (24.2 mm). CHALCAL 2, Stn 21.
- FIG. 78. — *Munida notata* sp. nov., ov. ♀ paratype (9.4 mm). MUSORSTOM 6, Stn 399.
- FIG. 79. — *Munida ocyrhoe* sp. nov., ov. ♀ paratype (25.0 mm). SMIB 4, Stn 62.
- FIG. 80. — *Munida olivarae* sp. nov., ♂ holotype (6.3 mm). MUSORSTOM 6, Stn 436.
- FIG. 81. — *Munida rhodonia* sp. nov., ♂ paratype (13.3 mm). MUSORSTOM 6, Stn 470.
- FIG. 82. — *Munida rosula* sp. nov., ♂ paratype (10.4 mm). MUSORSTOM 6, Stn 438.
- FIG. 83. — *Munida rufiantennulata* Baba, ♂ (9.0 mm). MUSORSTOM 5, Stn 301.
- FIG. 84. — *Munida spilota* sp. nov., ♂ paratype (7.6 mm). SMIB 4, Stn 42.
- FIG. 85. — *Munida stigmatica* sp. nov., ♂ paratype (8.4 mm). SMIB 5, stn 84.
- FIG. 86. — *Munida taenia* sp. nov., ♂ holotype (7.5 mm). SMIB 4, Stn 56.
- FIG. 87. — *Munida thoe* sp. nov., ♂ paratype (12.4 mm). SMIB 4, Stn 34.
- FIG. 88. — *Munida urizae* sp. nov., ♂ paratype (8.2 mm). SMIB 4, Stn 44.
- FIG. 89. — *Munida zebra* sp. nov., ♂ holotype (11.8 mm). SMIB 4, Stn 34.
- FIG. 90. — *Munida* sp., ♀ (14.3 mm). SMIB 4, Stn 34.
- FIG. 91. — *Munida callirrhoe* sp. nov., ♂ paratype (14.6 mm). MUSORSTOM 6, Stn 412.
- FIG. 92. — *Munida laurentae* sp. nov., ♀ paratype (14.8 mm). MUSORSTOM 6, Stn 466.
- FIG. 93. — *Munida psamathe* sp. nov., ♂ holotype (5.8 mm). CHALCAL 2, Stn 73.
- FIG. 94. — *Munida pseliophora* sp. nov., ♂ holotype (9.0 mm). MUSORSTOM 6, Stn 419.
- FIG. 95. — *Munida sphecia* sp. nov., ♂ paratype (15.6 mm). MUSORSTOM 6, Stn 460.
- FIG. 96. — *Munida squamosa* Henderson, ♀ (15.6 mm). MUSORSTOM 6, Stn 467.
- FIG. 97. — *Munida yante* sp. nov., ♀ holotype (5.5 mm). SMIB 8, Stn 178.



