

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).

SMIB 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).

AZTEQUE : 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

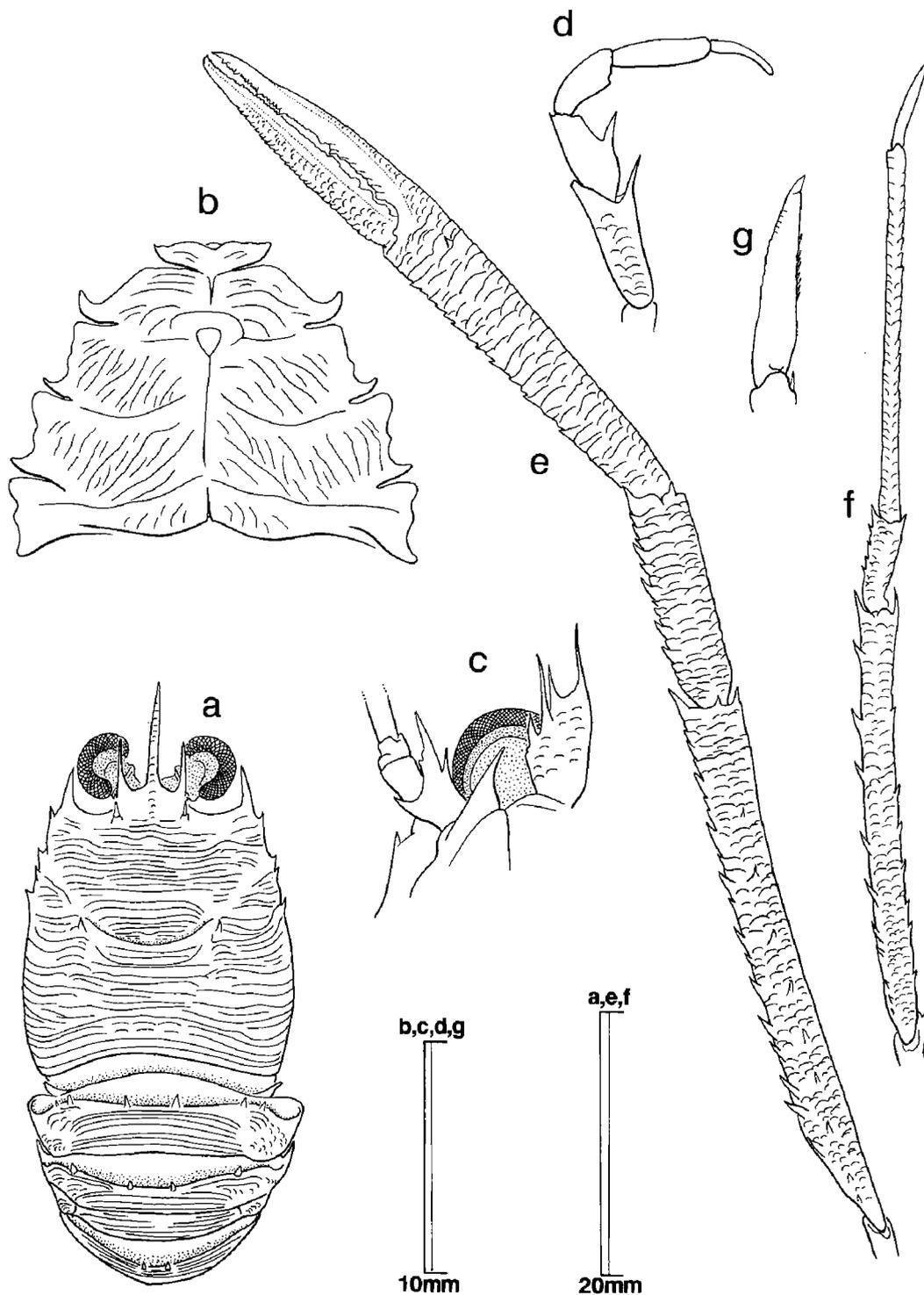


FIG. 50. — *Munida sphecia* sp. nov., ♂ 18.1 mm, holotype from Stn 213 (MUSORSTOM 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking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

SMIB 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.

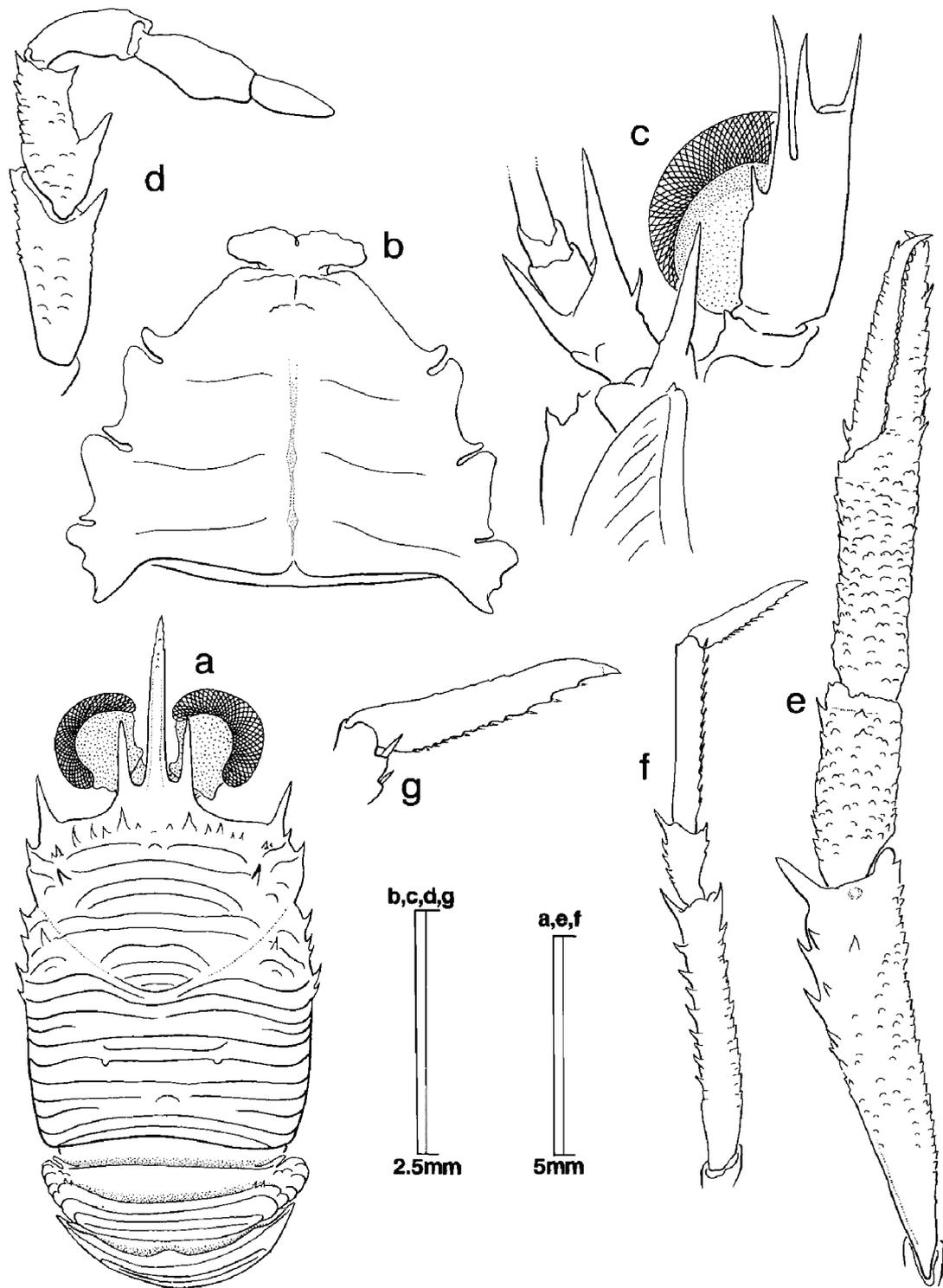


FIG. 51. — *Munida spilota* sp. nov., ♂ 6.7 mm, holotype from Stn 7 (VOLSMAR): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

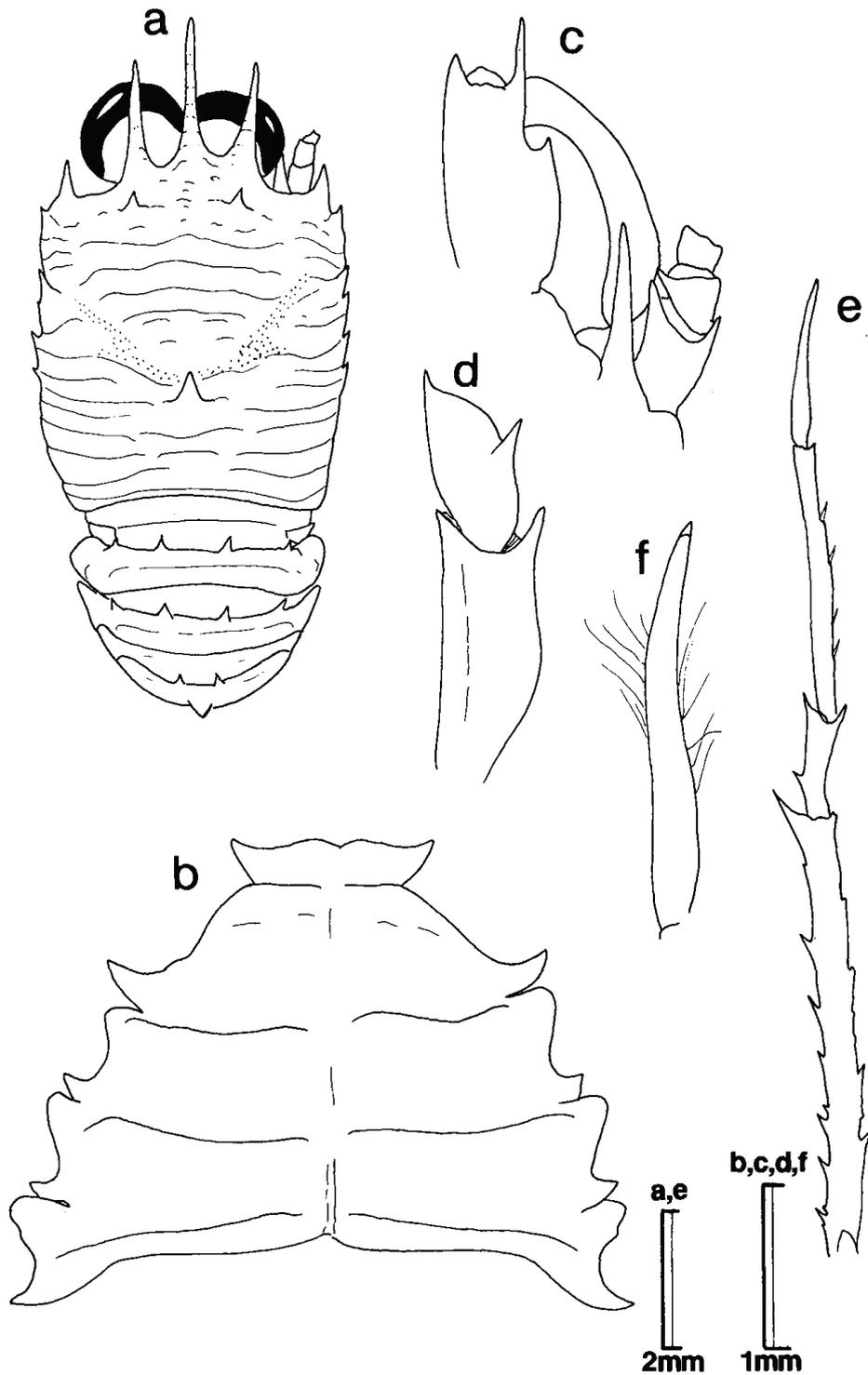


FIG. 52. — *Munida spenicordata* Henderson, 1885, ♂ 4.0 mm, holotype from Stn 174d ("Challenger"): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right second or third pereiopod, 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. BIICAL : 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 BIICAL, 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

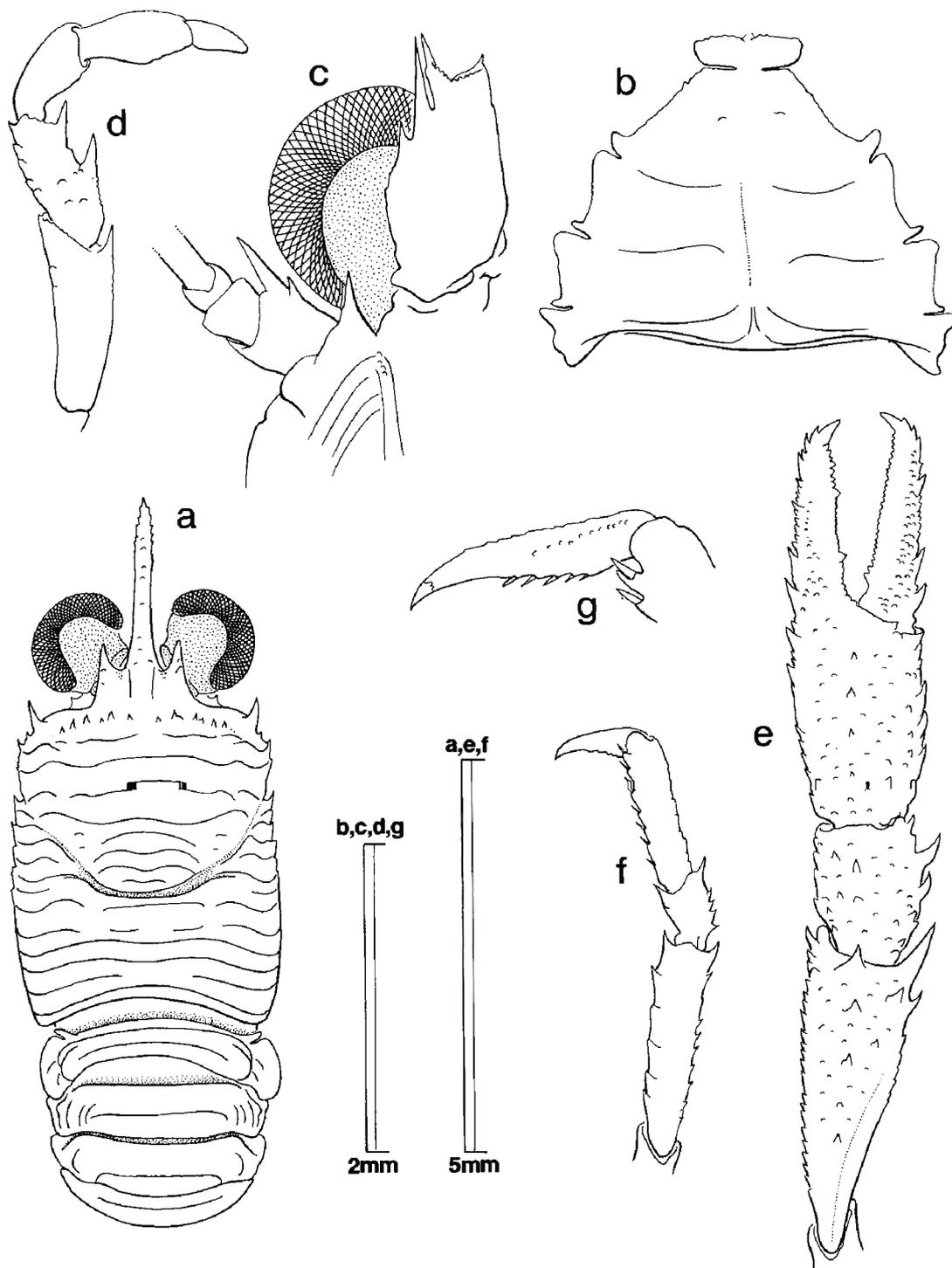


FIG. 53. — *Munida stia* sp. nov., ♂ 3.6 mm, holotype from Stn 38 (BIOCAL): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, left first walking leg, lateral view; g, dactylus of left first walking leg, lateral view.

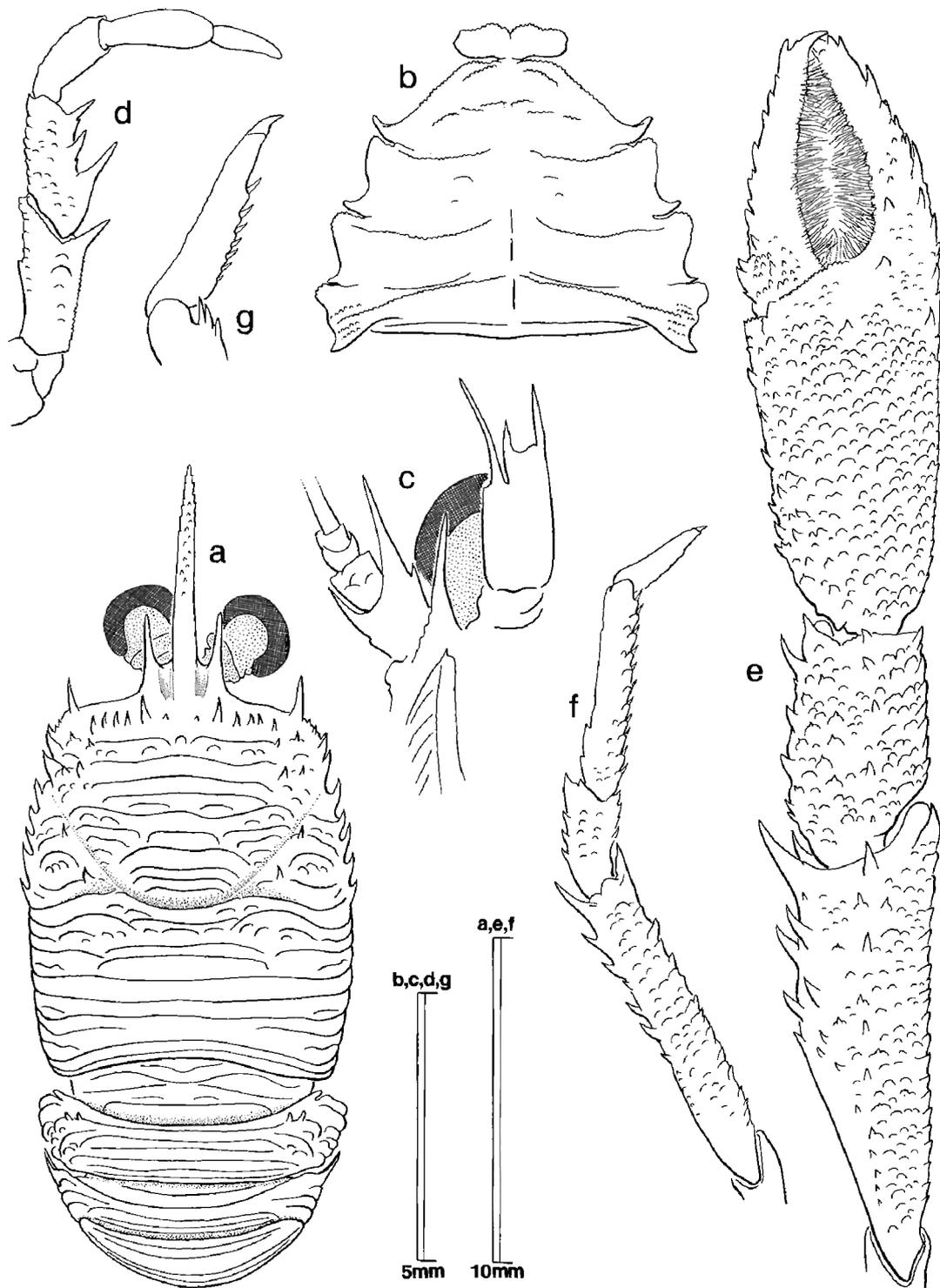


FIG. 54. — *Munida stigmatica* sp. nov., ♂ 10.6 mm, holotype from Stn 18 (SMIB 3) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking 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)

SMB 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).

SMB 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).

SMB 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).

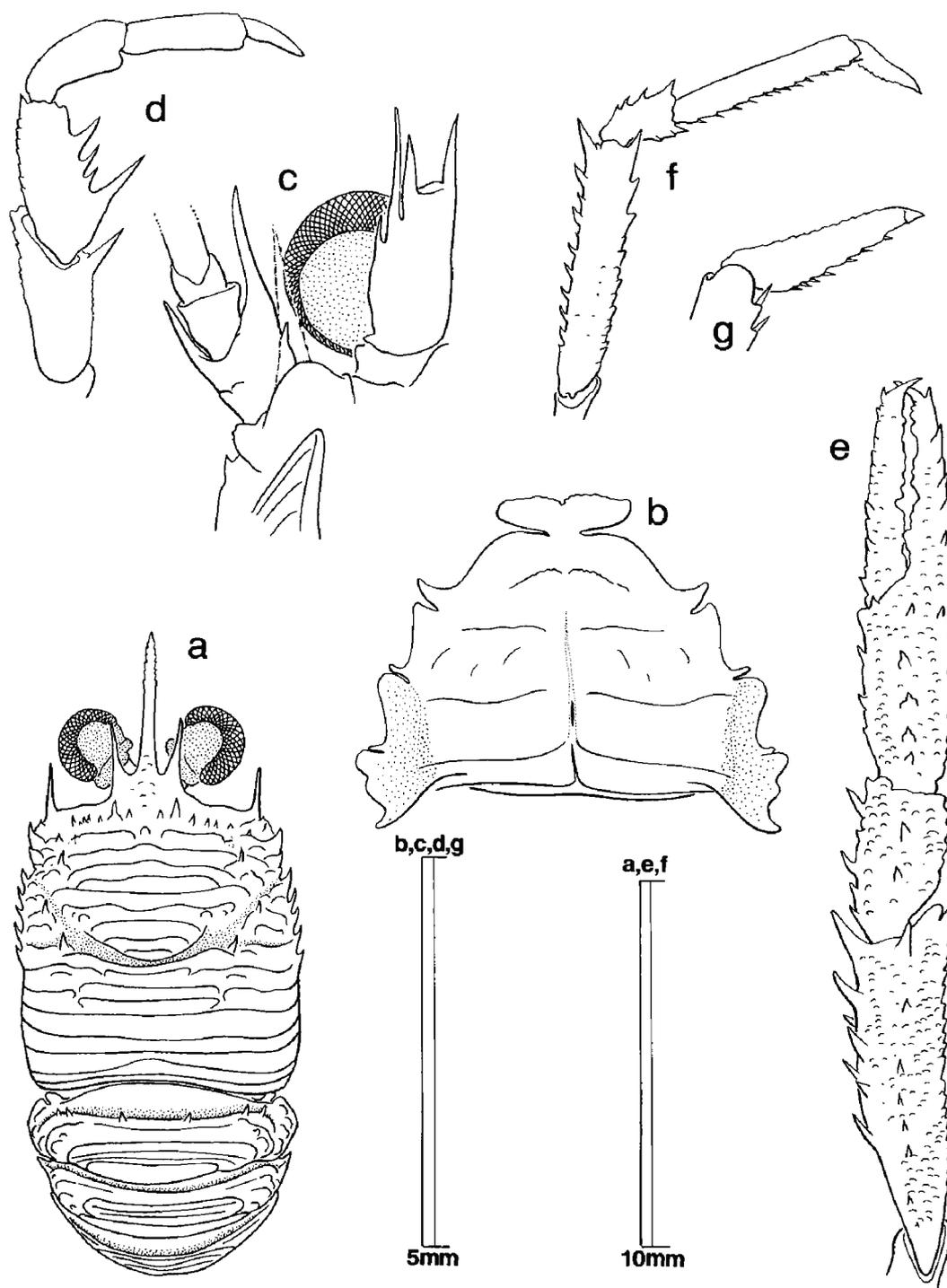


FIG. 55. — *Munida taenia* sp. nov., ♂ 7.5 mm, holotype from Stn 56 (SMIB 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

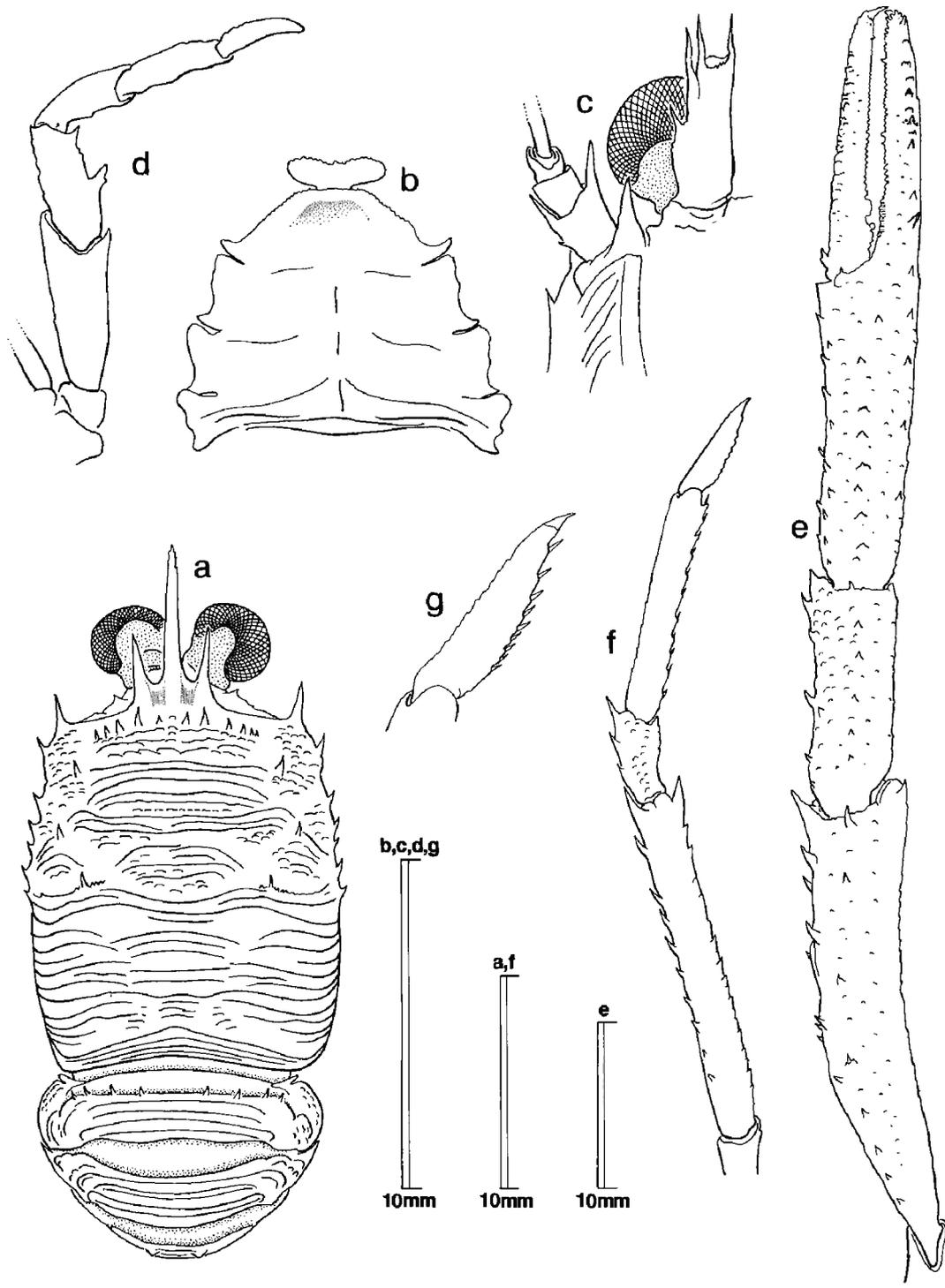


FIG. 56. — *Munida thoe* sp. nov., ♂ 14.8 mm, holotype from Stn 1 (CHALCAL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking 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

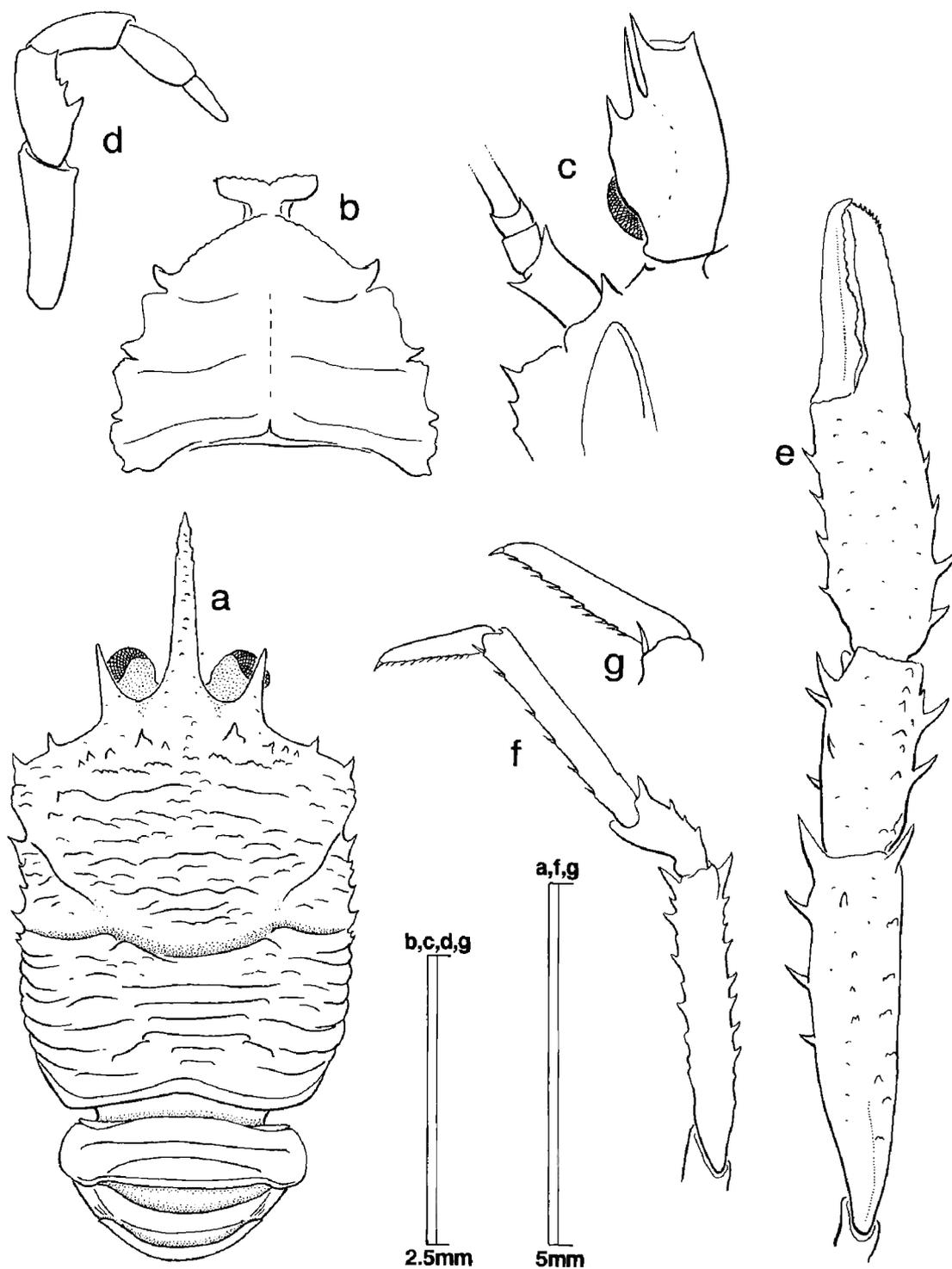


FIG. 57. — *Munida tiresias* sp. nov., ♂ 5.4 mm, holotype from Stn 68 (BIOCAL): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, left first walking 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 insize 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.

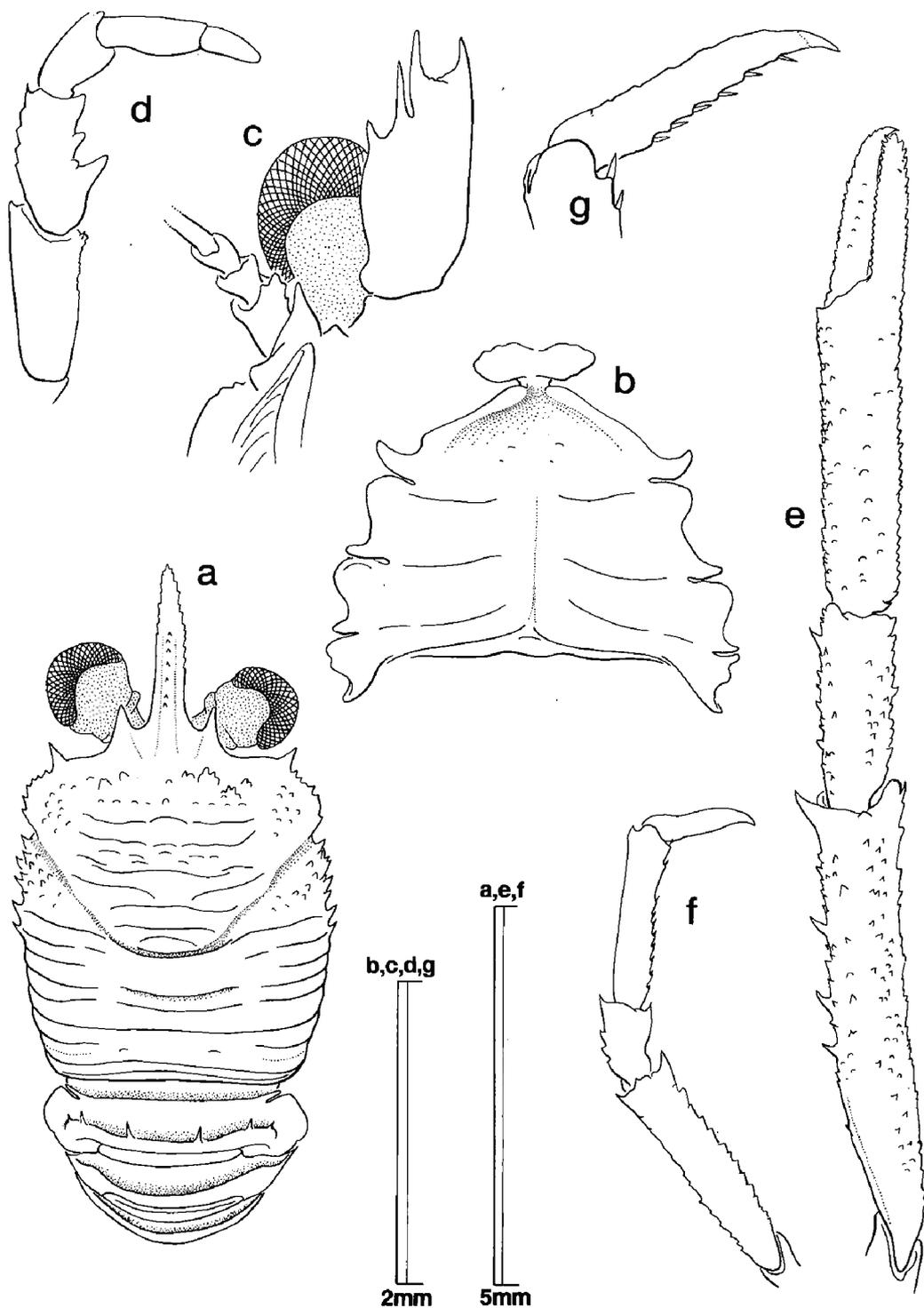


FIG. 58. — *Munida tuberculata* Henderson, 1885 ♂, 4.6 mm, from Stn 75 (CHALCAL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking 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).

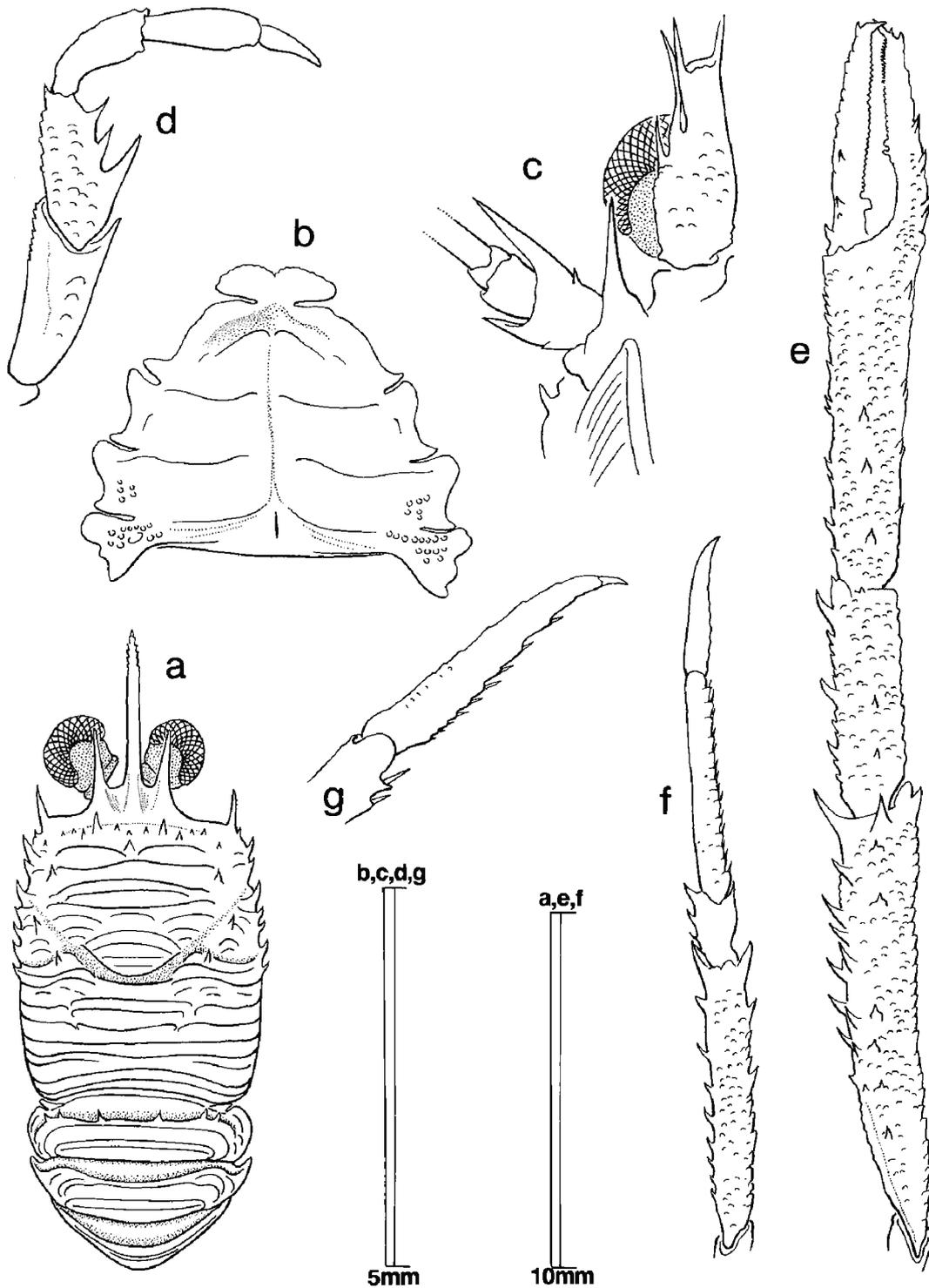


FIG. 59. — *Munida tyche* sp. nov., ♂ 7.4 mm, holotype from Stn 131 (CORAIL 2): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking 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.

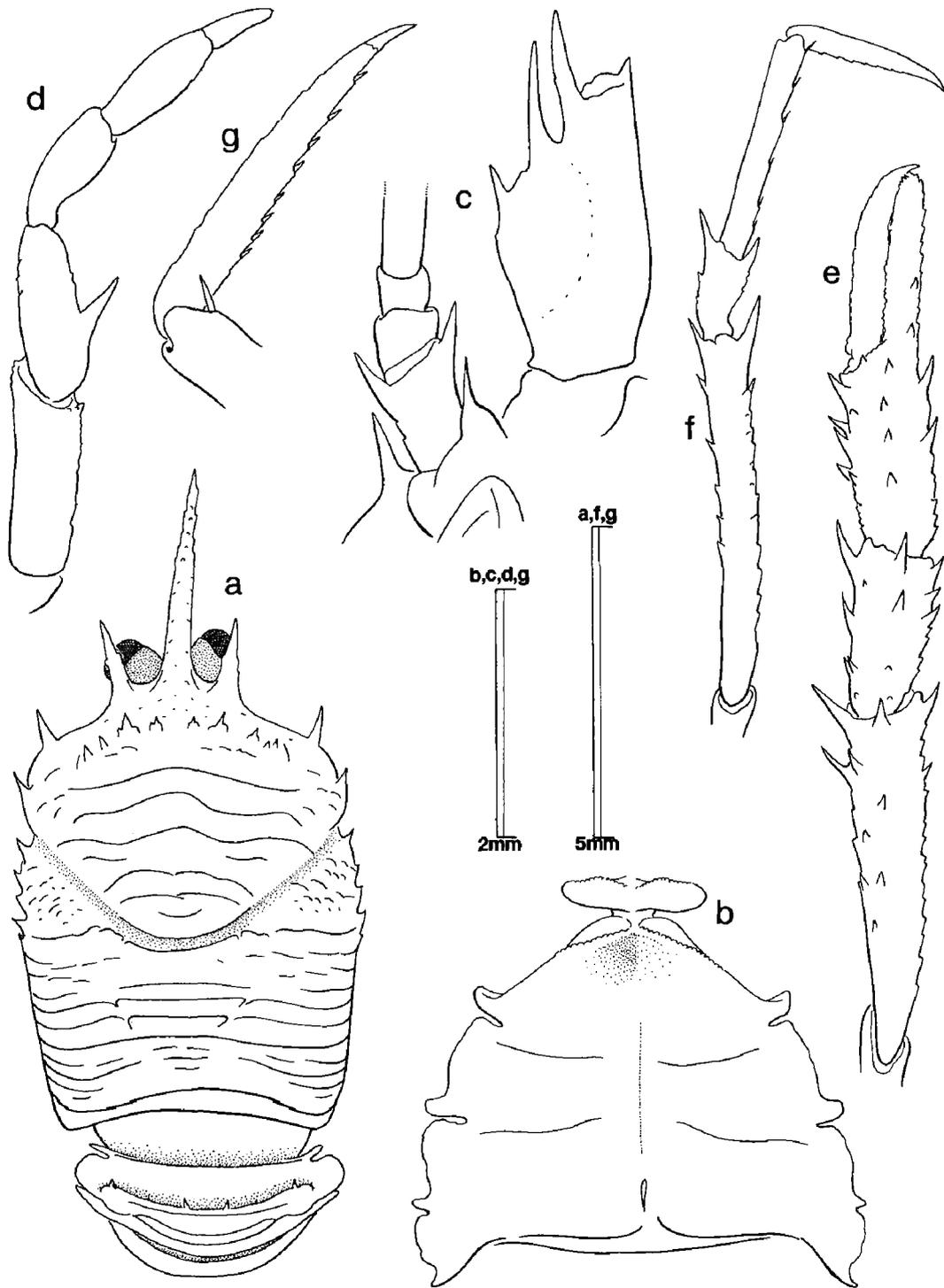


FIG. 60. — *Munida typhle* sp. nov., ♂ 6.9 mm, holotype from Stn 68 (BIOCAL): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

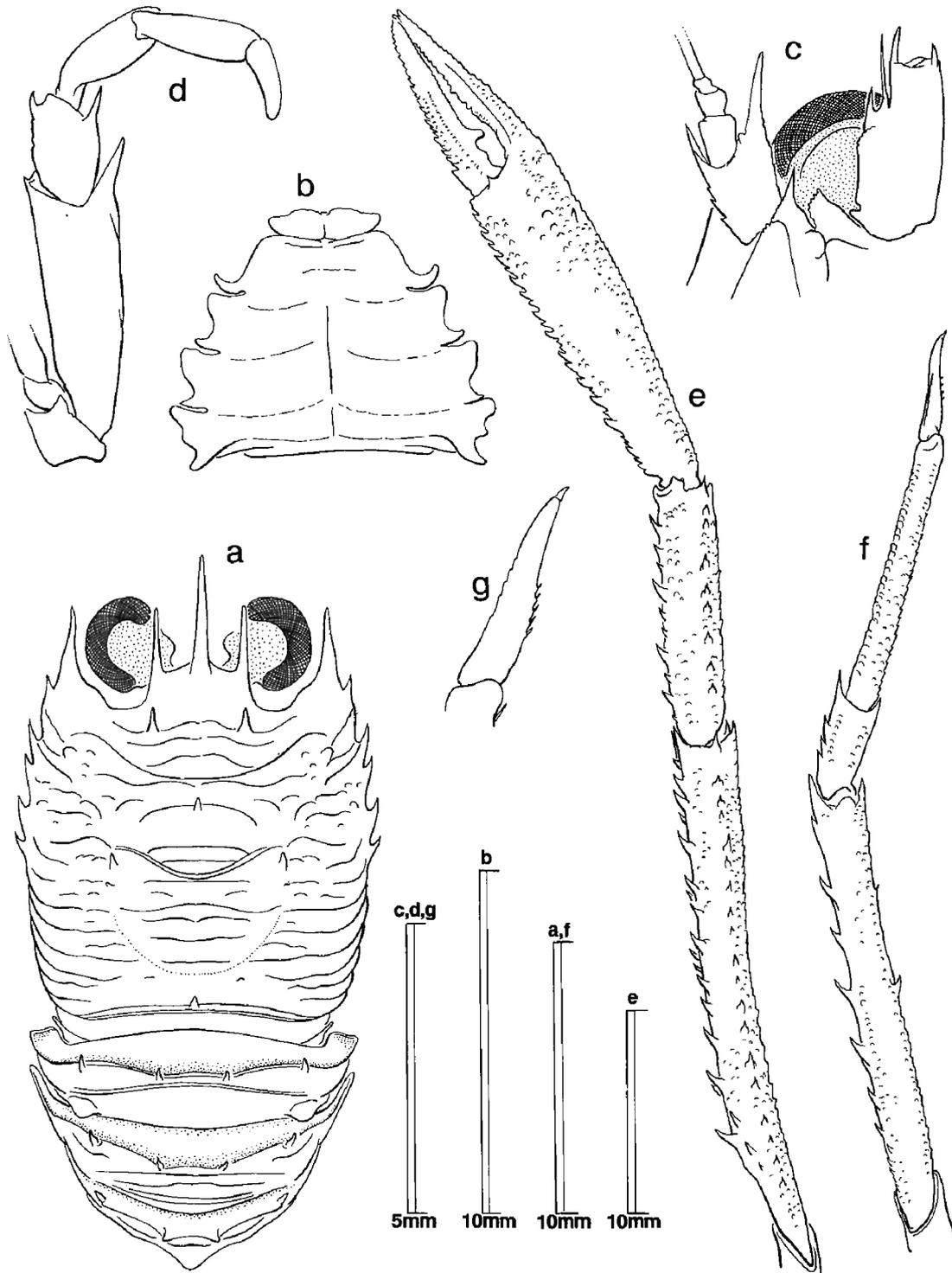


FIG. 61. — *Munida urizae* sp. nov., ♂ 10.0 mm, holotype from Sin 20 (CHALCAL 2) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking leg, lateral view.

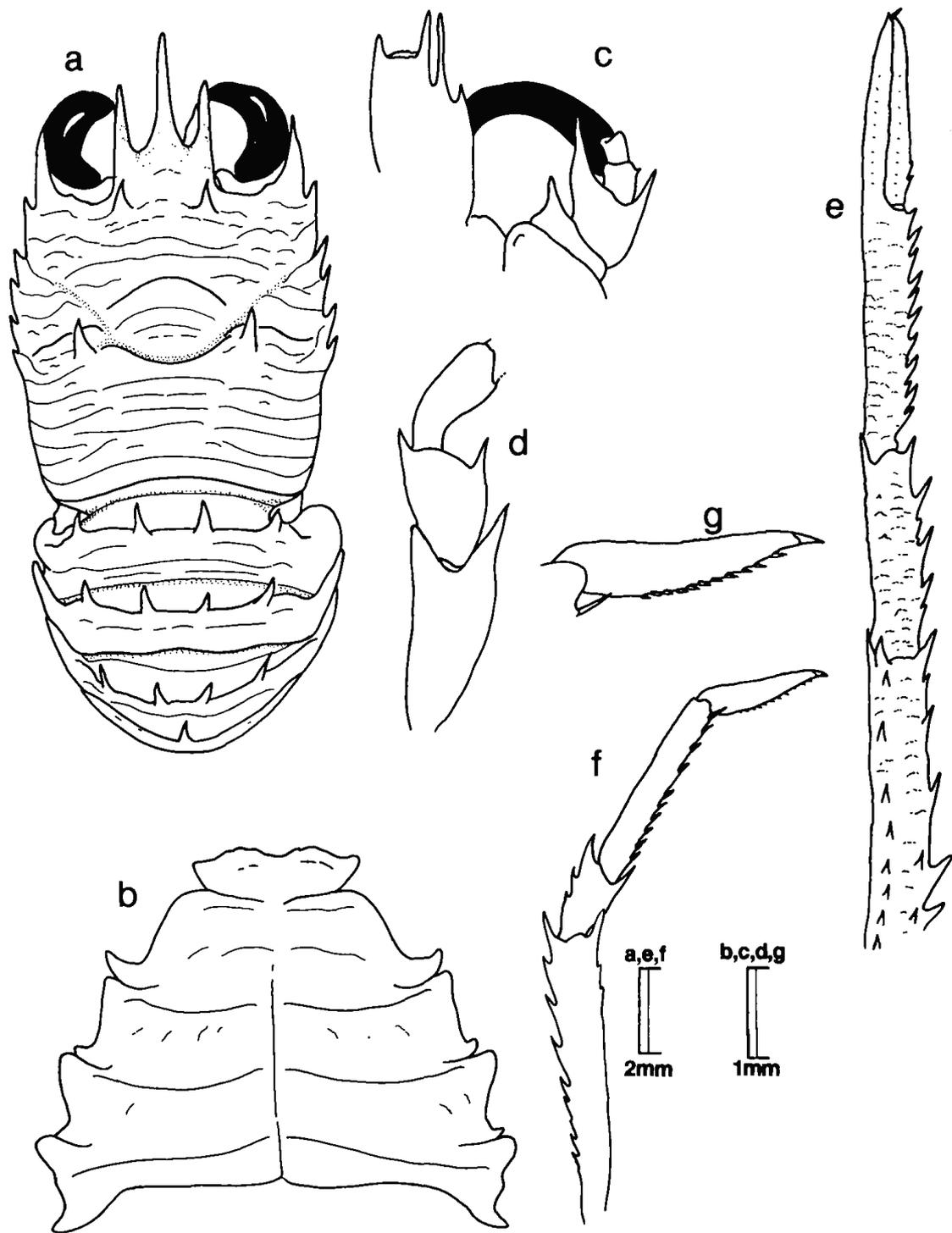


FIG. 62. — *Munida yante* sp. nov., ♀ 5.5 mm, holotype from Stn 178 (SMIB 8) : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, 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 : 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.

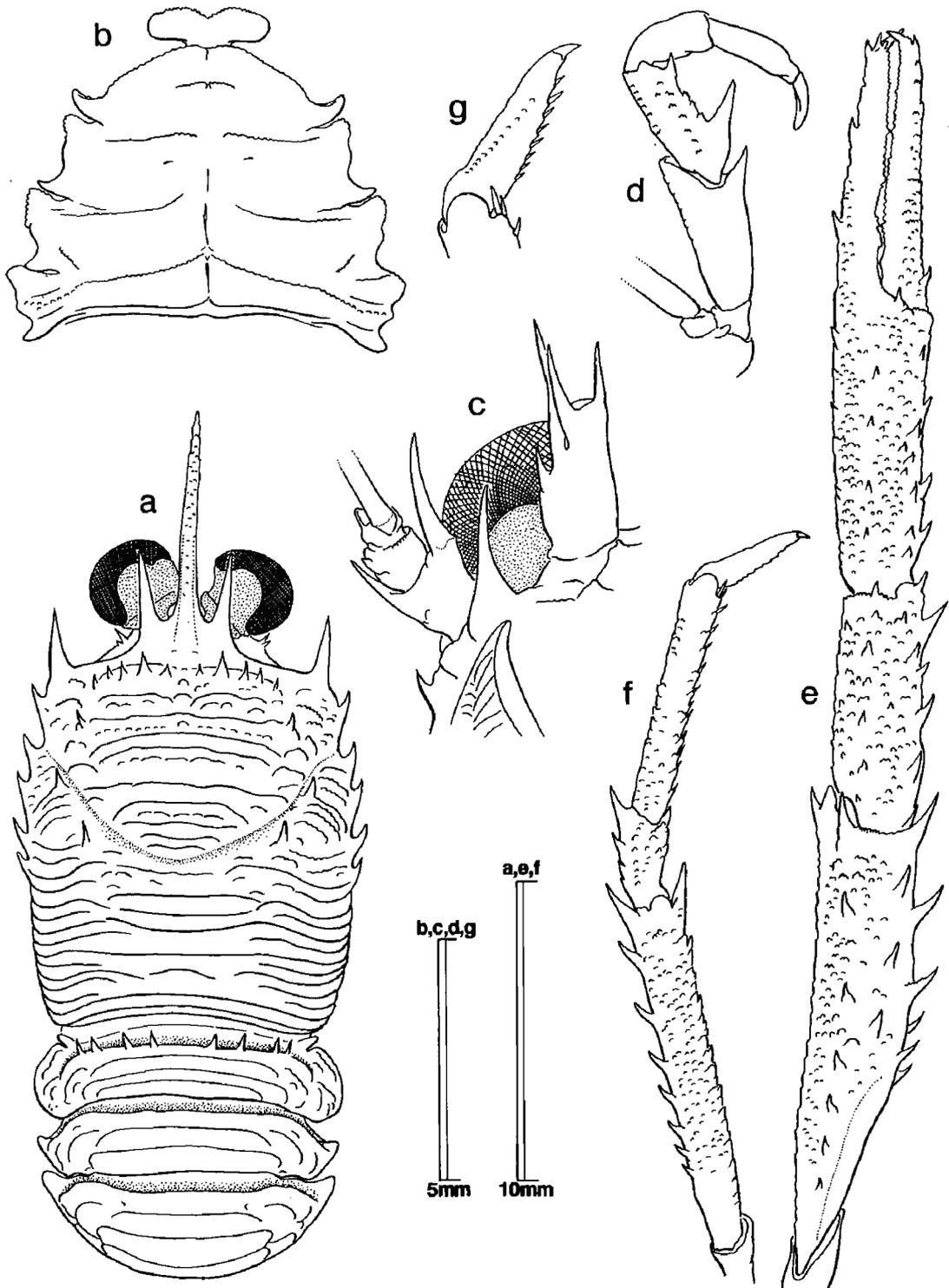


FIG. 63. — *Munida zebra* sp. nov., ♂ 11.8 mm, holotype from Stn 34 (SMIB 4): a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennular and antennal peduncles; d, right third maxilliped, lateral view; e, left cheliped, dorsal view; f, right first walking leg, 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 laurentiae* 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 sphaecia* 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.







