

**Crustacea Decapoda: Species of the genera  
*Agononida* Baba & de Saint Laurent, 1996  
and *Munida* Leach, 1820 (Galatheidae)  
collected during the MUSORSTOM 8 cruise  
in Vanuatu**

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ABSTRACT

Galatheid crustaceans of the genera *Agononida* Baba & de Saint Laurent, 1996 and *Munida* Leach, 1820 collected in Vanuatu, during the MUSORSTOM 8 cruise (September-October, 1994) have been studied. The collection contains 8 species of the genus *Agononida* and 25 belonging to the genus *Munida*. Two species are described as new: *A. alisae* and *M. congesta*. *A. alisae*, close to *A. callirhoe* (Macpherson, 1994), can be distinguished easily by the spines of the carapace and the antennal peduncle. *M. congesta* is close to *M. miliaris* Henderson, 1855, but is distinguished by the shape and the spines of the chelipeds.

RÉSUMÉ

**Crustacea Decapoda : Espèces des genres *Agononida* Baba & de Saint Laurent, 1996 et *Munida* Leach, 1820 (Galatheidae) récoltées durant la campagne MUSORSTOM 8 au Vanuatu.**

Les espèces des genres *Agononida* Baba & de Saint Laurent, 1996, et *Munida* Leach, 1820, récoltées à Vanuatu (Campagne MUSORSTOM 8, septembre-octobre, 1994) sont au nombre de 8 et 25, respectivement. Deux espèces (*A. alisae* et *M. congesta*) sont nouvelles. *A. alisae*, proche de *A. callirhoe* (Macpherson, 1994) se différencie facilement par l'armature de la carapace et du pédoncule antennaire. *M. congesta* est proche de *M. miliaris* Henderson, 1855, mais se différencie par la forme et l'armature des chélicèdes.

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## INTRODUCTION

During September-October of 1994 the cruise MUSORSTOM 8 was carried out in the Vanuatu waters (RICHER DE FORGES *et al.*, 1995) and numerous representatives of the genera *Agononida* Baba & de Saint Laurent, 1996 and *Munida* Leach, 1820 were collected. The study of these specimens revealed the presence of 8 species of the genus *Agononida* and 25 species belonging to the genus *Munida*. One species of each genus has been considered here as new.

The colour patterns of some species (*Agononida fortiantennata*, *A. squamosa*, *Munida masi*, *M. rhodonia*, *M. rubrodigitalis* and *M. congesta*) have been included in their remarks and descriptions. These patterns have been described from colour slides of material obtained during the cruise by J.L. MENOUE. As it has been pointed out in other works (e.g. RICE & DE SAINT LAURENT, 1985; MACPHERSON & DE SAINT LAURENT, 1991; MACPHERSON, 1994) the colouration can be a great help in species identification, although some species can show some colour variability. The colour variations observed in some species (e.g. *M. rhodonia*, *M. rubrodigitalis*, see below) recommend to use colour pattern with caution, especially when the ground colours are the same. However, the existence of two colour forms in *Agononida squamosa* (one form uniformly red and a second form with yellow and purple spots, see below), without any additional and clear morphological difference, emphasizes the necessity of complementary studies, e.g. genetics, mating behaviour, to clarify the validity and importance of the colour pattern as a taxonomic character in this group (BRUCE, 1975; KNOWLTON, 1986).

The types of the new species and other material have been deposited in the collections of the Muséum national d'Histoire naturelle, Paris. Measurements given are of carapace length (CL), excluding rostrum, and the terminology used mainly follows previous papers (ZARIQUIEY-ALVAREZ, 1952; MACPHERSON & DE SAINT LAURENT, 1991; MACPHERSON, 1994; BABA & DE SAINT LAURENT, 1996).

## LIST OF STATIONS

The abbreviations of the gears used are: DW = Waren dredge, CP = Beam trawl, CC = Otter trawl, CAS = trap.

- Station DW 958. — 20.09.1994, 20°20'S, 169°47'E, 497-570 m: *A. laurentae*.  
 Station DW 959. — 20.09.1994, 20°20'S, 169°48'E, 436-475 m: *A. squamosa*.  
 Station CP 961. — 21.09.1994, 20°18'S, 169°49'E, 100-110 m: *M. clinata*, *M. gordoae*.  
 Station CP 962. — 21.09.1994, 20°19'S, 169°49'E, 370-400 m: *M. rogeri*, *M. tyche*.  
 Station CP 963. — 21.09.1994, 20°20'S, 169°49'E, 400-440 m: *A. alisae*, *A. squamosa*, *M. runcinata*.  
 Station DW 965. — 21.09.1994, 20°20'S, 169°51'E, 361-377 m: *M. notata*.  
 Station DW 966. — 21.09.1994, 20°19'S, 169°52'E, 128-150 m: *M. clinata*, *M. elegantissima*.  
 Station CP 971. — 21.09.1994, 20°19'S, 169°53'E, 250-315 m: *M. sao*, *M. semoni*.  
 Station DW 972. — 22.09.1994, 19°22'S, 169°28'E, 487-507 m: *A. ocyrhoe*.  
 Station CP 973. — 22.09.1994, 19°21'S, 169°27'E, 460-480 m: *A. squamosa*.  
 Station CP 974. — 22.09.1994, 19°21'S, 169°28'E, 492-520 m: *A. incerta*, *A. ocyrhoe*, *A. squamosa*, *M. rubrodigitalis*, *M. tuberculata*.  
 Station CP 975. — 22.09.1994, 19°23'S, 169°29'E, 536-566 m: *A. incerta*, *M. congesta*, *M. rhodonia*.  
 Station DW 978. — 22.09.1994, 19°23'S, 169°27'E, 408-413 m: *M. leptitis*, *M. runcinata*.  
 Station CP 980. — 22.09.1994, 19°21'S, 169°25'E, 433-450 m: *A. laurentae*, *A. squamosa*, *M. idyia*.  
 Station CP 982. — 23.09.1994, 19°22'S, 169°26'E, 408-410 m: *A. laurentae*, *A. squamosa*, *M. leagora*.  
 Station CP 983. — 23.09.1994, 19°22'S, 169°28'E, 475-480 m: *A. laurentae*, *M. leptitis*, *M. rubrodigitalis*.  
 Station CP 984. — 23.09.1994, 19°20'S, 169°26'E, 480-544 m: *A. incerta*, *A. ocyrhoe*, *A. squamosa*, *M. rubrodigitalis*.  
 Station CP 985. — 23.09.1994, 19°22'S, 169°26'E, 536-563 m: *M. rubrodigitalis*, *M. tuberculata*.  
 Station DW 986. — 23.09.1994, 19°21'S, 169°31'E, 602-648 m: *M. rhodonia*.

- Station DW 988. — 23.09.1994, 19°16'S, 169°24'E, 372-466 m: *M. rufiantennulata*, *M. runcinata*.  
 Station DW 989. — 23.09.1994, 19°14'S, 169°20'E, 650-669 m: *A. incerta*.  
 Station CP 990. — 24.09.1994, 18°52'S, 168°51'E, 980-990 m: *A. eminens*, *M. microps*.  
 Station CP 991. — 24.09.1994, 18°51'S, 168°52'E, 910-936 m: *A. eminens*, *M. microps*.  
 Station CP 992. — 24.09.1994, 18°52'S, 168°55'E, 748-775 m: *M. microps*, *M. rosula*.  
 Station CP 993. — 24.09.1994, 18°48'S, 168°54'E, 780-783 m: *A. eminens*, *M. microps*, *M. rosula*.  
 Station CP 994. — 25.09.1994, 18°47'S, 168°56'E, 641-649 m: *A. incerta*.  
 Station CC 996. — 25.09.1994, 18°52'S, 168°56'E, 764-786 m: *A. eminens*, *M. rosula*.  
 Station CP 1001. — 26.09.1994, 18°49'S, 168°59'E, 764-786 m: *M. masi*.  
 Station CP 1007. — 26.09.1994, 18°52'S, 168°56'E, 720-830 m: *A. eminens*, *M. microps*, *M. rosula*.  
 Station CP 1008. — 26.09.1994, 18°53'S, 168°53'E, 919-1000 m: *A. eminens*, *M. microps*.  
 Station DW 1014. — 27.09.1994, 17°54'S, 168°19'E, 495-498 m: *M. microps*.  
 Station CP 1017. — 27.09.1994, 17°53'S, 168°26'E, 294-295 m: *M. notata*.  
 Station CP 1018. — 27.09.1994, 17°53'S, 168°25'E, 300-301 m: *M. notata*.  
 Station DW 1021. — 28.09.1994, 17°43'S, 168°37'E, 124-130 m: *M. clinata*.  
 Station CP 1024. — 28.09.1994, 17°48'S, 168°39'E, 335-370 m: *M. notata*.  
 Station CP 1025. — 28.09.1994, 17°49'S, 168°39'E, 385-410 m: *A. alisae*, *A. squamosa*, *M. runcinata*.  
 Station CP 1026. — 28.09.1994, 17°50'S, 168°39'E, 437-504 m: *A. squamosa*, *M. sao*.  
 Station CP 1027. — 28.09.1994, 17°53'S, 168°39'E, 550-571 m: *A. incerta*, *A. normani*, *M. rhodonia*,  
*M. tuberculata*.  
 Station CP 1028. — 28.09.1994, 17°54'S, 168°40'E, 624-668 m: *A. incerta*, *A. normani*, *M. congesta*,  
*M. leviantennata*, *M. rhodonia*.  
 Station DW 1029. — 28.09.1994, 17°53'S, 168°34'E, 324-360 m: *A. squamosa*.  
 Station CC 1033. — 29.09.1994, 17°54'S, 168°40'E, 650-691 m: *A. incerta*.  
 Station CC 1034. — 29.09.1994, 17°54'S, 168°42'E, 690-750 m: *A. eminens*, *M. militaris*.  
 Station CP 1035. — 29.09.1994, 17°56'S, 168°44'E, 765-780 m: *A. eminens*, *M. rosula*, *M. runcinata*.  
 Station CP 1036. — 29.09.1994, 18°01'S, 168°48'E, 920-950 m: *A. eminens*, *M. microps*.  
 Station CP 1037. — 29.09.1994, 18°03'S, 168°54'E, 1058-1086 m: *M. microps*.  
 Station DW 1042. — 30.09.1994, 16°52'S, 168°52'E, 200-260 m: *M. tyche*.  
 Station DW 1043. — 30.09.1994, 16°52'S, 168°25'E, 350-372 m: *M. runcinata*.  
 Station DW 1045. — 30.09.1994, 16°54'S, 168°20'E, 459-488 m: *A. incerta*, *M. rhodonia*.  
 Station CP 1047. — 30.09.1994, 16°53'S, 168°10'E, 486-494 m: *A. incerta*, *M. pagesi*, *M. rhodonia*,  
*M. rubrodigitalis*, *M. sacksi*.  
 Station CP 1049. — 1.10.1994, 16°39'S, 168°02'E, 469-525 m: *A. squamosa*, *M. idyia*, *M. rhodonia*,  
*M. rubrodigitalis*.  
 Station CP 1050. — 1.10.1994, 16°39'S, 168°01'E, 541-577 m: *A. incerta*, *M. rhodonia*.  
 Station CP 1051. — 1.10.1994, 16°36'S, 167°59'E, 555-558 m: *M. leviantennata*, *M. rhodonia*.  
 Station CP 1055. — 1.10.1994, 16°30'S, 167°55'E, 572-580 m: *M. rhodonia*.  
 Station CC 1056. — 1.10.1994, 16°33'S, 167°55'E, 602-620 m: *A. incerta*, *M. rosula*.  
 Station DW 1060. — 2.10.1994, 16°13'S, 167°20'E, 397-375 m: *A. squamosa*, *M. idyia*, *M. leagora*.  
 Station DW 1061. — 2.10.1994, 16°14'S, 167°20'E, 458-512 m: *M. sao*.  
 Station DW 1065. — 2.10.1994, 16°16'S, 167°21'E, 360-419 m: *M. notata*, *M. runcinata*.  
 Station DW 1067. — 2.10.1994, 16°16'S, 167°21'E, 344-366 m: *M. leagora*.  
 Station DW 1070. — 4.10.1994, 15°36'S, 167°16'E, 184-190 m: *M. sao*.  
 Station CP 1071. — 4.10.1994, 15°36'S, 167°16'E, 180-191 m: *M. semoni*.  
 Station CP 1073. — 4.10.1994, 15°45'S, 167°22'E, 630-650 m: *A. incerta*, *M. leviantennata*, *M. rhodonia*,  
*M. rosula*.  
 Station CP 1075. — 4.10.1994, 15°53'S, 167°27'E, 944-956 m: *M. microps*.  
 Station CP 1076. — 4.10.1994, 15°53'S, 167°30'E, 1100-1191 m: *A. fortiantennata*, *M. microps*.  
 Station CP 1077. — 5.10.1994, 16°04'S, 167°06'E, 180-210 m: *M. elegantissima*, *M. semoni*.

- Station CP 1078. — 5.10.1994, 16°03'S, 167°26'E, 194-230 m: *M. semoni*.
- Station CP 1080. — 5.10.1994, 15°57'S, 167°27'E, 799-850 m: *A. eminens*, *M. microps*, *M. rosula*.
- Station CAS 1081. — 5.10.1994, 15°55'S, 167°27'E, 908 m: *M. microps*.
- Station CP 1083. — 5.10.1994, 15°51'S, 167°19'E, 397-439 m: *A. squamosa*, *M. leagora*.
- Station CP 1086. — 5.10.1994, 15°36'S, 167°16'E, 182-215 m: *M. sao*.
- Station CP 1087. — 6.10.1994, 15°10'S, 167°14'E, 394-421 m: *A. alisae*, *A. squamosa*, *M. idyia*, *M. runcinata*.
- Station CP 1088. — 6.10.1994, 15°09'S, 167°15'E, 425-455 m: *A. squamosa*, *M. idyia*, *M. leviantennata*, *M. rubrodigitalis*, *M. sao*.
- Station CP 1089. — 6.10.1994, 15°08'S, 167°17'E, 494-516 m: *A. incerta*, *M. rhodonia*, *M. rubrodigitalis*, *M. sao*.
- Station CP 1090. — 6.10.1994, 15°08'S, 167°17'E, 470-502 m: *A. incerta*, *M. rhodonia*, *M. rubrodigitalis*.
- Station CP 1091. — 6.10.1994, 15°10'S, 167°13'E, 344-350 m: *A. incerta*, *M. notata*.
- Station CP 1095. — 6.10.1994, 15°07'S, 167°11'E, 304-320 m: *M. sao*.
- Station DW 1097. — 7.10.1994, 15°05'S, 167°10'E, 281-288 m: *A. incerta*, *M. notata*.
- Station CP 1098. — 7.10.1994, 15°04'S, 167°10'E, 277-285 m: *M. sao*.
- Station DW 1100. — 7.10.1994, 15°04'S, 167°09'E, 258-265 m: *M. leptitis*.
- Station CP 1102. — 7.10.1994, 15°03'S, 167°08'E, 208-210 m: *M. semoni*.
- Station CP 1107. — 7.10.1994, 15°05'S, 167°15'E, 397-402 m: *A. squamosa*, *M. sao*.
- Station DW 1108. — 7.10.1994, 15°04'S, 167°15'E, 405-419 m: *A. squamosa*.
- Station CP 1111. — 8.10.1994, 14°51'S, 167°14'E, 1210-1250 m: *M. leviantennata*, *M. typhle*.
- Station CP 1114. — 8.10.1994, 15°52'S, 167°03'E, 647 m: *A. incerta*, *M. militaris*.
- Station CP 1118. — 9.10.1994, 15°08'S, 166°53'E, 191-248 m: *M. semoni*.
- Station CP 1119. — 9.10.1994, 15°08'S, 166°53'E, 254-300 m: *M. semoni*.
- Station CP 1124. — 9.10.1994, 15°01'S, 166°56'E, 532-599 m: *A. incerta*, *M. rhodonia*, *M. sacksi*.
- Station CP 1125. — 10.10.1994, 15°57'S, 166°38'E, 1160-1220 m: *M. microps*.
- Station CP 1126. — 10.10.1994, 15°58'S, 166°39'E, 1210-1260 m: *M. microps*.
- Station CP 1129. — 10.10.1994, 16°00'S, 166°39'E, 1014-1050 m: *A. fortiantennata*, *M. microps*.
- Station CP 1131. — 11.10.1994, 15°38'S, 167°03'E, 140-175 m: *M. tyche*.
- Station CP 1132. — 11.10.1994, 15°38'S, 167°02'E, 161-182 m: *M. tyche*.
- Station CP 1133. — 11.10.1994, 15°38'S, 167°03'E, 174-210 m: *M. tyche*.
- Station CP 1135. — 11.10.1994, 15°40'S, 167°02'E, 282-375 m: *M. masi*, *M. runcinata*, *M. sacksi*.
- Station CP 1136. — 11.10.1994, 15°40'S, 167°01'E, 398-400 m: *A. squamosa*, *M. idyia*, *M. sao*.
- Station CP 1137. — 11.10.1994, 15°41'S, 167°02'E, 360-371 m: *A. squamosa*, *M. idyia*, *M. leviantennata*, *M. runcinata*, *M. sao*.
- Station CP 1138. — 11.10.1994, 15°44'S, 167°04'E, 462-492 m: *A. incerta*, *M. leagora*.
- Station CP 1139. — 11.10.1994, 15°47'S, 167°08'E, 235-251 m: *M. masi*.

## SYSTEMATIC ACCOUNT

### *Agononida alisae* sp. nov.

Fig. 1

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 963, 400-440 m: 13 ♂ 10.2 to 15.3 mm; 24 ov. ♀ 10.2 to 14.5 mm; 3 ♀ 11.6 to 12.7 mm; 1 juv. 6.2 mm. — Stn 1025, 385-410 m: 1 ov. ♀ 10.4 mm; 2 ♀ 7.5 and 8.4 mm. — Stn 1087, 394-421 m: 1 ♂ 8.2 mm; 2 ov. ♀ 10.3 and 13.3 mm.

TYPES. — The male of 12.6 mm from the Stn 1076 has been selected as holotype, the other specimens are paratypes.

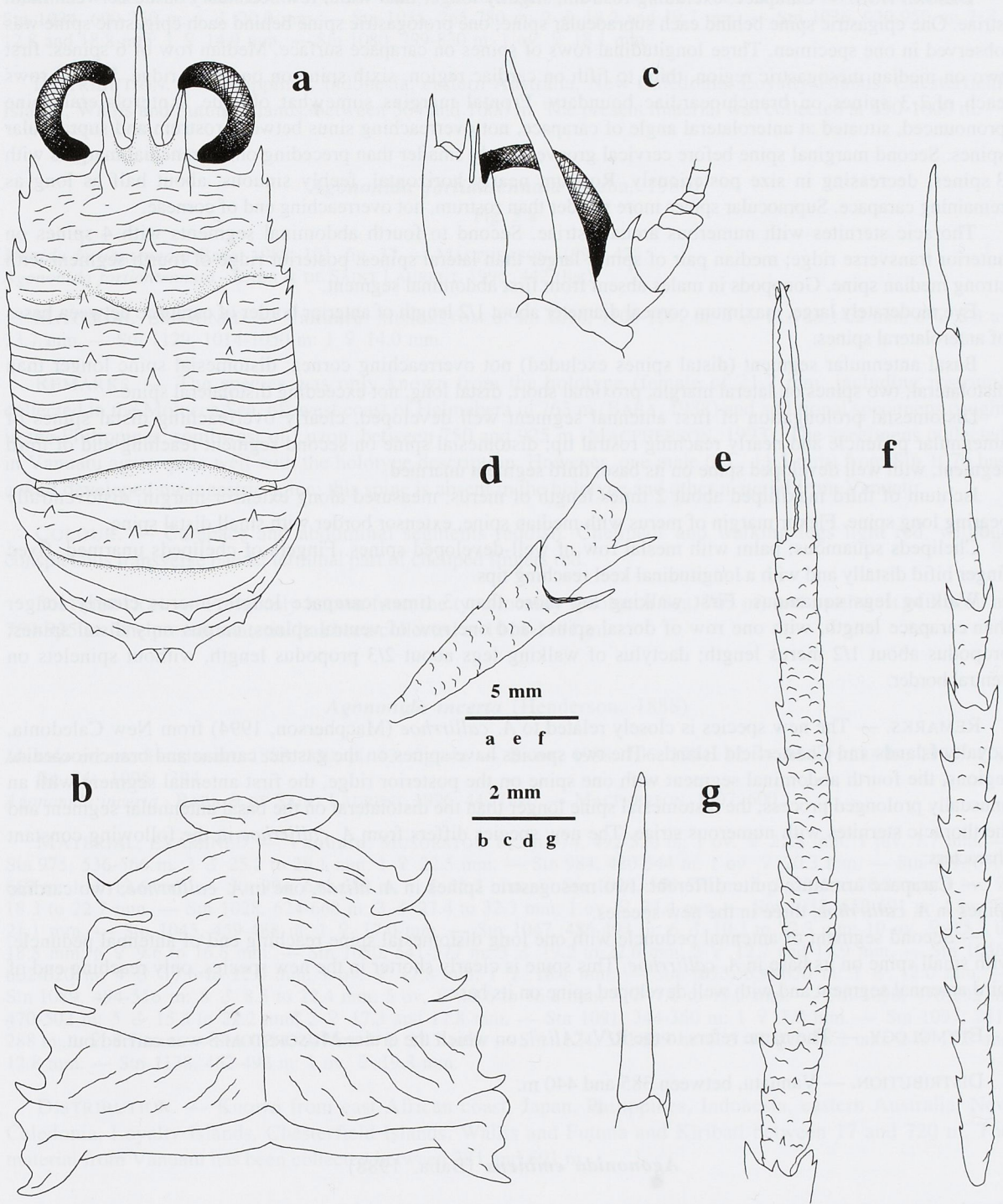


FIG. 1. — *Agononida alisae* sp. nov., ♂, 12.6 mm, holotype from stn 1076 : a, carapace, dorsal view; b, sternal plastron; c, ventral view of cephalic region, showing antennula and antennal peduncles; d, right third maxilliped, lateral view; e, right cheliped, dorsal view; f, right first walking leg, lateral view; g, dactylus of right first walking, lateral view.

DESCRIPTION. — Carapace, excluding rostrum, slightly longer than wide; few secondary striae between main striae. One epigastric spine behind each supraocular spine; one protogastric spine behind each epigastric spine was observed in one specimen. Three longitudinal rows of spines on carapace surface. Median row of 6 spines: first two on median mesogastric region, third to fifth on cardiac region, sixth spine on posterior ridge. Lateral rows each of 2-3 spines on branchiocardiac boundary. Frontal margins somewhat oblique. Anterolateral spine pronounced, situated at anterolateral angle of carapace, not overreaching sinus between rostrum and supraocular spines. Second marginal spine before cervical groove clearly smaller than preceding one. Branchial margins with 3 spines, decreasing in size posteriorly. Rostrum nearly horizontal, feebly sinuous, about half as long as remaining carapace. Supraocular spines more slender than rostrum, not overreaching end of corneae.

Thoracic sternites with numerous arcuate striae. Second to fourth abdominal segments with 4 spines on anterior transverse ridge; median pair of spines larger than lateral spines; posterior ridge of fourth segment with strong median spine. Gonopods in males absent from first abdominal segment.

Eye moderately large, maximum corneal diameter about 1/2 length of anterior border of carapace between bases of anterolateral spines.

Basal antennular segment (distal spines excluded) not overreaching cornea; distomesial spine longer than distolateral; two spines on lateral margin, proximal short, distal long, not exceeding distolateral spine.

Distomesial prolongation of first antennal segment well developed, clearly overreaching distal spines of antennular peduncle and nearly reaching rostral tip; distomesial spine on second segment reaching end of third segment, with well developed spine on its base; third segment unarmed.

Ischium of third maxilliped about 2 times length of merus, measured along extensor margin, distoventrally bearing long spine. Flexor margin of merus with median spine, extensor border with small distal spine.

Chelipeds squamous; palm with mesial row of well-developed spines. Fingers of chelipeds unarmed, fixed finger bifid distally and with a longitudinal keel reaching tips.

Walking legs squamous. First walking leg more than 3 times carapace length; merus clearly longer than carapace length, with one row of dorsal spines and one row of ventral spines; carpus only distal spines; propodus about 1/2 merus length; dactylus of walking legs about 2/3 propodus length, without spinelets on ventral border.

REMARKS. — The new species is closely related to *A. callirrhoe* (Macpherson, 1994) from New Caledonia, Loyalty Islands and Chesterfield Islands. The two species have spines on the gastric, cardiac and branchiocardiac regions, the fourth abdominal segment with one spine on the posterior ridge, the first antennal segment with an unusually prolonged process, the distomesial spine longer than the distolateral on the basal antennular segment and the thoracic sternites with numerous striae. The new species differs from *A. callirrhoe* in the following constant characters:

— Carapace armature quite different: two mesogastric spines in *A. alisae*, one in *A. callirrhoe*; two cardiac spines in *A. callirrhoe*, three in the new species.

— Second segment of antennal peduncle with one long distomesial spine reaching end of antennal peduncle, with small spine on its base in *A. callirrhoe*. This spine is clearly shorter in the new species, only reaching end of third antennal segment and with well developed spine on its base.

ETYMOLOGY. — The name refers to the R/V "Alis", on which the cruise MUSORSTOM 8 was carried out.

DISTRIBUTION. — Vanuatu, between 385 and 440 m.

#### *Agononida eminens* (Baba, 1988)

*Munida eminens* Baba, 1988: 95, fig. 35; 1994: 11. — MACPHERSON, 1994: 456, fig. 72; 1995: 392.

*Agononida eminens* - BABA & DE SAINT LAURENT, 1995: 442 (list). — MACPHERSON, 1997: 600.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 990, 980-990 m: 2 ♀ 12.4 and 13.6 mm. — Stn 991, 910-936 m: 2 ♂ 13.0 and 15.0 mm; 3 ♀ 9.8 to 14.6 mm. — Stn 993, 780-783 m: 1 ♀ 15.8 m. — Stn 996, 764-786 m: 1 ♀

15.4 mm. — Stn 1007, 720-830 m: 1 ♂ 16.7 mm; 1 ♀ 18.0 mm. — Stn 1008, 919-1000 m: 2 ♂ 13.4 and 14.2 mm. — Stn 1034, 690-750 m: 1 ♂ 20.0 mm. — Stn 1035, 765-780 m: 2 ♂ 18.2 and 19.7 mm. — Stn 1036, 920-950 m: 2 ♂ 12.8 and 18.8 mm; 1 ♀ 14.9 mm. — Stn 1080, 799-830 m: 1 ov. ♀ 18.1 mm.

DISTRIBUTION. — Philippines, Indonesia, eastern Australia, New Caledonia, Loyalty Islands, Chesterfield Islands, Wallis and Futuna Islands, between 564 and 1000 m. The present material was collected at 690-1000 m.

*Agononida fortiantennata* (Baba, 1988)

Fig. 3 a

*Munida fortiantennata* Baba, 1988: 101, fig. 37. — MACPHERSON, 1993: 428.

*Agononida fortiantennata* - BABA & DE SAINT LAURENT, 1996: 442 (list).

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 1076, 1100-1191 m: 4 ♂ 11.5 to 14.2 mm; 5 ♀ 8.3 to 13.7 mm. — Stn 1129, 1014-1050 m: 1 ♀ 14.0 mm.

REMARKS. — The species was only known from the holotype (female of 21.7 mm, including rostrum) collected in the Molucca Sea, off west coast of Halmahera in 763 m (BABA, 1988) and additional specimens caught in the Philippines, southwest of Luzon, between 750 and 925 m (MACPHERSON, 1993). The specimens collected in Vanuatu agree quite well with the holotype description. However, one male (CL, 11.5 mm) from Stn 1076 has a well developed mesogastric spine; this spine is absent in the holotype and other material from Vanuatu.

COLOUR. — Carapace and abdominal segments reddish. Chelipeds and walking legs light red, without conspicuous transverse bands; terminal part of cheliped fingers red.

DISTRIBUTION. — Previously known from the type locality (Molucca Sea, 763 m) and southwest of Luzon at 750-925 m. The present material has been collected at 1014-1191 m.

*Agononida incerta* (Henderson, 1888)

*Munida incerta* Henderson, 1888: 130, pl. 13, fig. 4a. — BABA, 1988: 106; 1994: 12. — MACPHERSON, 1994: 478, fig. 74; 1995: 394.

*Agononida incerta* - BABA & DE SAINT LAURENT, 1996: 442 (list). — MACPHERSON, 1997: 600.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 974, 492-520 m: 1 ov. ♀ 22.8 mm; 1 juv. 7.7 mm. — Stn 975, 536-566 m: 3 ♂ 25.2 to 29.1 mm; 1 ♀ 22.5 mm. — Stn 984, 480-544 m: 1 ov. ♀ 20.3 mm. — Stn 989, 650-669 m: 1 ♂ 12.6 mm. — Stn 994, 641-649 m: 1 ♂ 25.2 mm. — Stn 1027, 550-571 m: 5 ♂ 20.4 to 26.8 mm; 3 ov. ♀ 18.3 to 22.7 mm. — Stn 1028, 624-668 m: 3 ♂ 27.4 to 32.3 mm; 1 ov. ♀ 23.4 mm. — Stn 1033, 650-691 m: 1 ov. ♀ 21.1 mm. — Stn 1045, 459-488 m: 1 ♀ 17.0 mm. — Stn 1047, 486-494 m: 6 ♂ 10.3 to 22.3 mm; 10 ov. ♀ 15.3 to 18.8 mm; 6 ♀ 9.6 to 16.6 mm. — Stn 1050, 541-577 m: 3 ♂ 19.2 to 22.6 mm; 2 ♀ 12.7 and 17.9 mm. — Stn 1056, 602-620 m: 4 ♂ 17.6 to 22.0 mm; 1 ov. ♀ 17.8 mm; 1 ♀ 18.1 mm. — Stn 1073, 630-650 m: 1 ♂ 12.0 mm. — Stn 1089, 494-516 m: 8 ♂ 8.5 to 22.4 mm; 5 ov. ♀ 13.6 to 16.2 mm; 5 ♀ 7.0 to 19.3 mm. — Stn 1090, 470-502 m: 470-502 m: 5 ♂ 15.3 to 22.2 mm; 2 ♀ 17.3 and 17.8 mm. — Stn 1091, 344-350 m: 1 ♀ 7.0 mm. — Stn 1097, 281-288 m: 1 ♀ 8.7 mm. — Stn 1114, 647 m: 1 ♀ 23.3 mm. — Stn 1124, 532-599 m: 5 ♂ 11.0 to 18.2 mm; 2 ♀ 10.3 and 12.8 mm. — Stn 1138, 462-492 m: 1 ov. ♀ 19.8 mm.

DISTRIBUTION. — Known from east African coast, Japan, Philippines, Indonesia, eastern Australia, New Caledonia, Loyalty Islands, Chesterfield Islands, Wallis and Futuna and Kiribati between 17 and 720 m. The material from Vanuatu has been collected between 281 and 691 m.

*Agononida laurentae* (Macpherson, 1994)

*Munida laurentae* Macpherson, 1994: 483, figs 25, 92.

*Agononida laurentae* - BABA & DE SAINT LAURENT, 1995: 442 (list).

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 980, 433-450 m: 2 ♂ 10.6 and 13.6 mm. — Stn 982, 408-410 m: 1 ov. ♀ 14.0 mm. — Stn 983, 475-480 m: 3 ♀ 6.4 to 11.4 mm.

DISTRIBUTION. — Known from New Caledonia, Loyalty Islands, Chesterfield Islands, Matthew and Hunter Islands, between 260 and 610 m. The material from Vanuatu has been collected at 408-480 m.

*Agononida normani* (Henderson, 1885)

*Munida Normani* Henderson, 1885: 408.

*Munida normani* - HENDERSON, 1888: 129, pl. 13, fig. 5. — BABA, 1988: 83 (key). — MACPHERSON, 1994: 500; 1995: 400, fig. 20.

*Agononida normani* - BABA & DE SAINT LAURENT, 1996: 442 (list).

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 1027, 550-571 m: 2 ♀ 11.2 and 12.0 mm. — Stn 1028, 624-668 m: 1 ♂ 8.2 mm.

REMARKS. — The specimens from Vanuatu agree with the types and additional material from New Caledonia, Wallis and Futuna. However, the cardiac spines are absent in the present material, whereas there are 0-5 spines in the types and other material previously collected.

DISTRIBUTION. — The species has previously been cited in Fiji, New Caledonia and Wallis and Futuna area between 320 and 600 m. The present material was caught at depths between 550 and 668 m.

*Agononida ocyrhoe* (Macpherson, 1994)

*Munida ocyrhoe* Macpherson, 1994: 503, figs 35, 79; 1995: 402, fig. 21.

*Agononida ocyrhoe* - BABA & DE SAINT LAURENT, 1996: 442 (list).

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 972, 487-507 m: 1 juv. 5.5 mm. — Stn 974, 492-520 m: 2 ♂ 11.4 and 13.5 mm; 2 ov. ♀ 12.5 and 14.6 mm. — Stn 984, 480-544 m: 3 ♂ 8.5 to 21.2 mm.

DISTRIBUTION. — The species has previously been cited in New Caledonia, Chesterfield Islands and Wallis Islands between 420 and 650 m. The material from Vanuatu has been collected at 480-544 m.

*Agononida squamosa* (Henderson, 1885)

Figs 3 b-c

*Munida squamosa* Henderson, 1885: 409; 1888: 131, pl. 13, figs 1a-b. — BABA, 1988: 133 (in part); 1994: 12. — MACPHERSON, 1993: 425, fig. 1h-l; 1994: 537, fig. 96; 1995: 406.

*Agononida squamosa* - BABA & DE SAINT LAURENT, 1996: 442 (list). — MACPHERSON, 1997: 603.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 959, 436-475 m: 1 ♂ 15.2 mm. — Stn 963, 400-440 m: 1 ♂ 14.5 mm; 1 ♀ 7.6 mm. — Stn 973, 460-480 m: 1 ♂ 13.2 mm. — Stn 974, 492-520 m: 2 ♂ 14.4 and 16.5 mm. — Stn 980, 433-450 m: 14 ♂ 8.2 to 15.9 mm; 1 ov. ♀ 11.3 mm; 4 ♀ 8.0 to 14.8 mm; 3 juv. 6.5 to 6.6 mm. — Stn 982, 408-410 m: 1 ov. ♀ 11.6 mm. — Stn 984, 480-544 m: 2 ♂ 14.2 and 14.5 mm. — Stn 1025, 385-410 m: 1 ♂ 9.5 mm; 3 ov. ♀ 13.8 to 14.7 mm. — Stn 1026, 437-504 m: 2 ♂ 14.7 and 15.3 mm; 1 ov. ♀ 11.8 mm. — Stn 1029, 324-360 m: 1 ov. ♀ 12.6 mm. — Stn 1049, 469-525 m: 1 ♂ 11.4 mm; 3 ov. ♀ 15.4 to 18.5 mm. — Stn 1060, 375-397 m: 1 ♂ 15.0 mm; 1 ov. ♀ 10.2 mm. — Stn 1083, 397-439 m: 3 ♂ 11.4 to 14.2 mm; 1 ov. ♀ 11.9 mm. — Stn 1087, 394-421 m: 1 ♂ 6.3 mm; 1 ov. ♀ 8.7 mm. — Stn 1088, 425-455 m: 1 ♂ 15.0 mm; 3 ov. ♀ 11.8 to 14.2 mm. — Stn 1107, 397-402 m: 1 ♂ 11.3 mm; 2 ov. ♀ 12.0 and 12.8 mm. — Stn 1108, 405-419 m: 1 ♂ 12.9 mm. — Stn 1136, 398-400 m: 1 ov. ♀ 12.1 mm; 2 ♀ 10.0 and 12.2 mm. — Stn 1137, 360-371 m: 5 ♂ 11.6 to 16.2 mm; 6 ov. ♀ 9.8 to 14.2 mm; 3 juv. 6.4 to 6.8 mm.

REMARKS. — The colour pattern of the ovigerous female (CL, 12.6 mm) from Stn 1029 (Fig. 3c) agrees with the figure and description of the specimens from Loyalty Islands, having numerous yellow and purple spots on



the carapace, and red and whitish bands on the pereopods (MACPHERSON, 1994). However, one male (CL, 13.2 mm) from Stn 973 (Fig. 3b) has the carapace, abdominal segments and pereopods uniformly red, without bands and spots. This clear difference in the colour patterns suggests the existence of two forms or species. However, no other clear morphological differences have been observed and, as has been pointed out in the Introduction, a revision of the species using complementary techniques is strongly recommended.

DISTRIBUTION. — Japan, Indonesia, Admiralty Islands, northeastern Australia, New Caledonia, Loyalty Islands and Wallis Islands, between 176 and 752 m. The specimens from Vanuatu were collected at 324-525 m.

Genus *MUNIDA* Leach, 1820

*Munida clinata* Macpherson, 1994

*Munida clinata* Macpherson, 1994: 457, fig. 11; 1995: 391; 1997: 605.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 961, 100-110 m: 2 ov. ♀ 7.8 and 8.7 mm. — Stn 966, 128-150 m: 1 ♂ 5.5 mm; 1 ov. ♀ 8.8 mm. — Stn 1021, 124-130 m: 1 ov. ♀ 5.4 mm.

DISTRIBUTION. — Previously known from the Philippines, Indonesia, New Caledonia, Chesterfield Islands and Futuna Island, between 28 and 245 m. The specimens from Vanuatu were collected at 124-150 m.

*Munida congesta* sp. nov.

Figs 2, 3 d, 4 a

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 975, 536-566 m: 1 ♂ 7.6 mm; 1 ov. ♀ 10.2 mm. — Stn 1028, 624-668 m: 1 ♀ 12.6 mm.

TYPES. — The ovigerous female of 10.2 mm from the Stn 975 has been selected as holotype, the other specimens are paratypes.

ETYMOLOGY. — From the Latin, *congestus*, dense, thick, in reference to the massive chelipeds.

DESCRIPTION. — Carapace as long as wide. Main striae on posterior part of carapace interrupted in cardiac region. Few secondary striae present. Intestinal region without striae. Three-five pairs of epigastric spines; one branchial anterior spine on each side.

Frontal margins somewhat oblique. Lateral margins slightly convex. Anterolateral spine well developed, situated at anterolateral angle, reaching level of sinus between rostrum and supraocular spine. Second marginal spine before cervical groove clearly smaller than preceding one. Branchial margins with 5 spines.

Rostrum about half as long as carapace. Supraocular spines more slender than rostrum, reaching to its midlength, but not to end of corneae, slightly divergent.

Thoracic sternites without striae.

Second abdominal segment with one row of 7-8 spines on anterior border. Second to fourth segments with one transverse stria.

Eyes large, maximum corneal diameter about half the distance between bases of anterolateral spines.

Basal segment of antennule reaching end of cornea; distomesial spine shorter than distolateral; two spines on lateral margin, proximal short, located at midlength of segment, distal long, overreaching distal spine.

First segment of antennal peduncle with strong distomesial spine, not reaching end of second segment; second segment with two distal spines, mesial longer than lateral, not overreaching antennal peduncle.

Ischium of third maxilliped slightly longer than merus, measured along extensor border, distoventrally bearing spine. Merus bearing two well developed spines on flexor margin, proximal spine clearly longer than distal. Extensor margin unarmed.

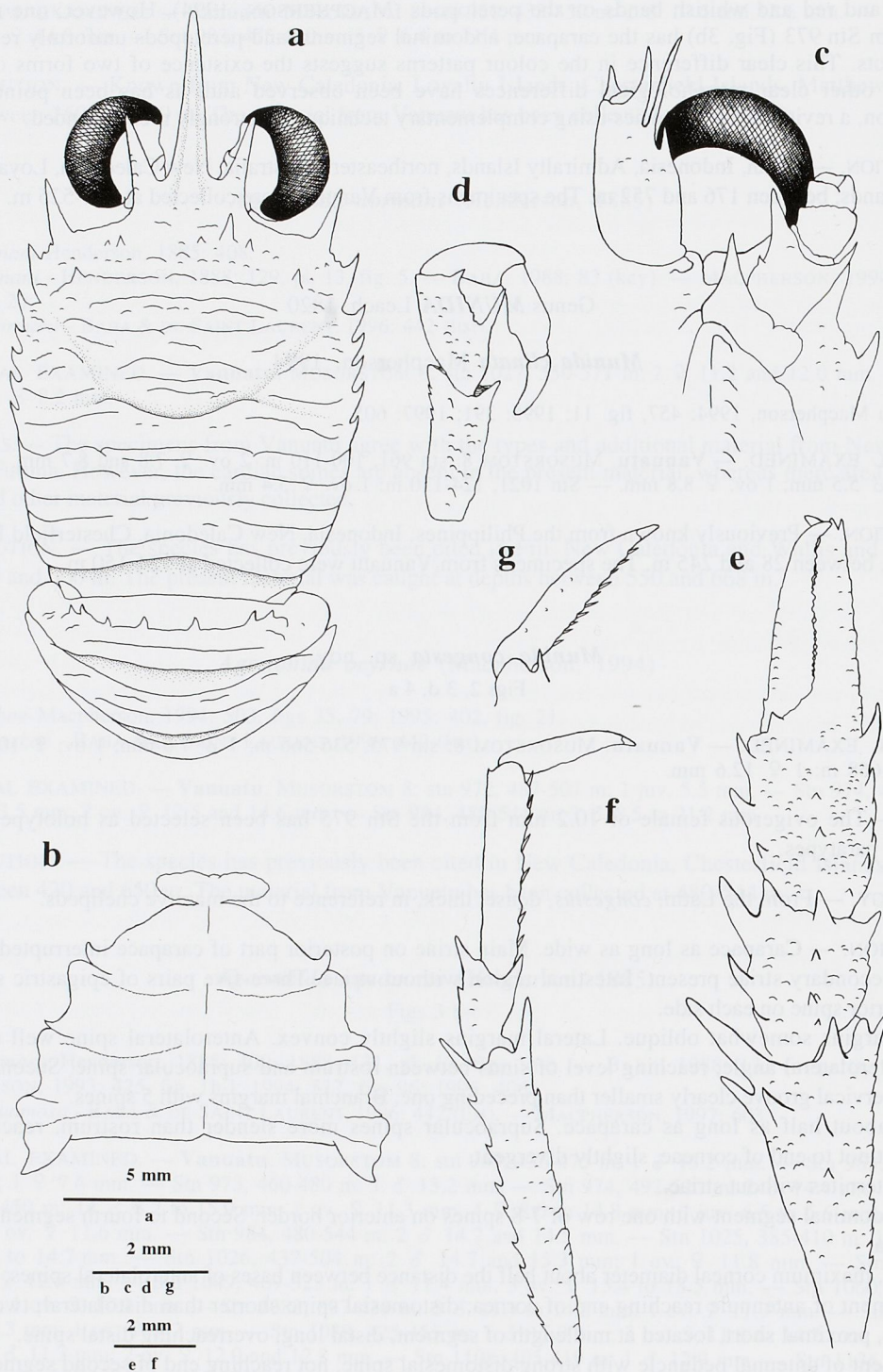


FIG. 2. — *Munida congesta* sp. nov., ovig. ♀, 10.2 mm, holotype from stn 975 : **a**, carapace, dorsal view; **b**, sternal plastron; **c**, ventral view of cephalic region, showing antennula and antennal peduncles; **d**, right third maxilliped, lateral view; **e**, right cheliped, dorsal view; **f**, right first walking leg, lateral view; **g**, dactylus of right first walking, lateral view.

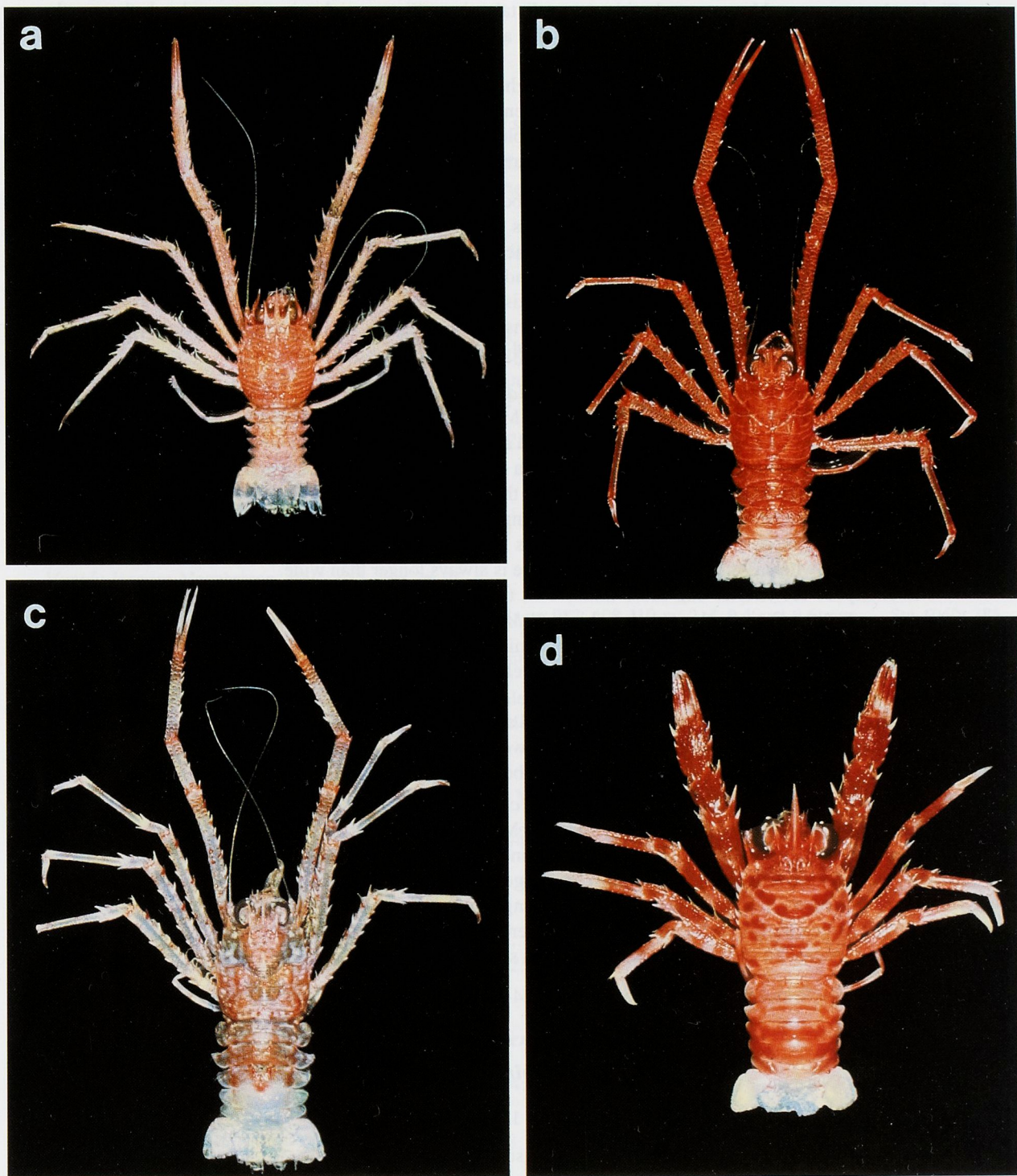


FIG. 3. — **a**, *Agononida fortiantennata* (Baba, 1986), male 11.9 mm, stn 1076; **b**, *Agononida squamosa* (Henderson, 1885), male 13.2 mm, stn 973; **c**, *Agononida squamosa* (Henderson, 1885), ovigerous female 12.6 mm, stn 1029; **d**, *Munida congesta* sp. nov., ovigerous female 10.2 mm, holotype, stn 975.

Chelipeds squamous. Merus armed with strong distal spines, distomesial spine strong, clearly longer than others. Carpus and palm with some spines on dorsal side and marginal borders. Fixed finger unarmed except small distal spine; movable finger with small proximal spine.

Second pereopod twice carapace length; merus slightly shorter than carapace, about twice propodus length, with dorsal row of spines, increasing in size distally, ventral border with one long distal spine. Carpus with two well developed distal spines. Propodus with some movable spinules along ventral border. Dactylus slightly shorter than propodus, with row of movable spinules along ventral margin.

COLOUR. — *Holotype*: Ground colour of carapace, abdominal segments and pereopods orange, with some red spots, more numerous on gastric and branchial regions of carapace and fourth and fifth abdominal segments. Telson and uropods white. Rostrum and supraocular spines reddish, tips white. Merus of chelipeds with transverse red bands; carpus and palm red, fingers with proximal and distal parts whitish, median part red. Walking legs with some transverse red bands, terminal half of dactylus whitish (Fig. 3d).

*Paratype* (male CL 7.6 mm, Stn 975) with less conspicuous red spots on the carapace, distal part of merus, carpus and proximal part of palm of chelipeds whitish (Fig. 4a).

REMARKS. — The new species resembles *Munida militaris* Henderson, 1885 from Indonesia, Fiji, New Caledonia and Wallis and Futuna area (BABA & MACPHERSON, 1991; MACPHERSON, 1994; 1995). Both species have five spines on the branchial margin, second abdominal segment armed with spines along the anterior ridge, intestinal region without striae, one transverse stria on the second and third abdominal segments, eyes large, thoracic sternites without striae and distolateral spine of the basal antennular peduncle longer than the distomesial spine. However, they can be distinguished by the following characters:

— The carapace is more massive in the new species than in *M. militaris*. The carapace is always as long as wide in *M. congesta*, whereas in *M. militaris* the carapace is always longer than wide.

— The chelipeds are shorter and more massive in the new species than in *M. militaris*. The palm of the chelipeds is more than 2 times longer than high in *M. militaris*, being less than 2 times in *M. congesta*. This difference is quite clear comparing specimens of similar size and sex.

— The fixed finger of the cheliped has one well developed basal spine in *M. militaris*. This spine is absent in the new species.

— The colour patterns are different. The carapace and abdominal segments have numerous large red spots in the new species, these spots are absent in *M. militaris*. However, as it has been pointed out in the Introduction, the differences in the colour patterns between species should be considered with caution.

*M. congesta* is also close to a group of species (*M. curvirostris* Henderson, 1885; *M. masoae* Macpherson, 1995; *M. punctata* Macpherson, 1997; *M. rhodonia* Macpherson, 1994; *M. rosula* Macpherson, 1994 and *M. spissa* Macpherson, 1995) from the Western Pacific and the Indian ocean waters, which shares some characters (e.g. five spines on lateral branchial margins, eyes large, second abdominal segment with a row of spines on anterior ridge). However, it is easily distinguished, among other characters, by the size of the distal spines of the basal antennular peduncle. The distolateral spine is longer than the distomesial one in *M. congesta*, whereas in the above mentioned species the distal spines are subequal in size.

DISTRIBUTION. — Vanuatu, between 536-566 and 624-668 m.

### *Munida elegantissima* de Man, 1902

*Munida elegantissima* - BABA, 1988: 94 (references); 1989: 131. — MACPHERSON, 1994: 465; 1995: 391.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 966, 128-150 m: 2 ♂ 7.6 and 8.5 mm; 1 ov. ♀ 10.3 mm; 1 ♀ 8.9 mm; 1 juv. 3.2 mm. — Stn 1077, 180-210 m: 1 ov. ♀. 9.3 mm.

DISTRIBUTION. — The species has previously been cited from the Eastern Indian Ocean, Malay Archipelago, Indonesia, Philippines, Japan, Western and Eastern Australia, New Caledonia, Bellona Island and Futuna Island, between 20 and 440 m. The specimens from Vanuatu were collected at 128-210 m.

*Munida gordoae* Macpherson, 1994

*Munida gordoae* Macpherson, 1994: 469, fig. 18.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 961, 100-110 m: 1 ov. ♀ 4.8 mm; 1 ♀ 4.7 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands, Matthew and Hunter Islands and Chesterfield Islands, between 80 and 283 m. The present material was collected at 100-110 m.

*Munida idyia* Macpherson, 1994

*Munida idyia* Macpherson, 1994: 477, fig. 23.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 980, 433-450 m: 1 ♂ 7.2 mm. — Stn 1049, 469-525 m: 1 ♀ 10.4 mm. — Stn 1060, 375-397 m: 1 ♂ 9.8 mm. — Stn 1087, 394-421 m: 1 ♂ 9.1 mm; 3 ov. ♀ 8.7 to 10.2 mm; 1 ♀ 11.2 mm. — Stn 1088, 425-455 m: 1 ov. ♀ 10.2 mm. — Stn 1136, 398-400 m: 1 ♂ 13.2 mm; 2 ov. ♀ 9.5 and 9.7 mm; 2 ♀ 7.6 and 11.3 mm. — Stn 1137, 360-371 m: 2 ♂ 7.8 and 9.5 mm; 1 ♀ 6.8 mm.

DISTRIBUTION. — Previously known from New Caledonia, in 485 m depth. The specimens from Vanuatu were caught between 360 and 525 m.

*Munida leagora* Macpherson, 1994

*Munida leagora* Macpherson, 1994: 485, figs 26, 76.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 982, 408-410 m: 2 ♂ 9.4 and 9.6 mm. — Stn 1060, 375-397 m: 1 ov. ♀ 12.6 mm. — Stn 1067, 344-366 m: 1 ov. ♀ 10.7 mm; 1 ♀ 6.3 mm. — Stn 1083, 397-439 m: 2 ♂ 6.3 and 12.9 mm; 5 ov. ♀ 8.3 to 14.2 mm; 2 ♀ 8.6 and 10.1 mm. — Stn 1138, 462-498 m: 1 ov. ♀ 12.2 mm.

DISTRIBUTION. — Previously known from New Caledonia, Loyalty Islands and Chesterfield Islands, between 265 and 580 m. The present material was collected at 344-498 m.

*Munida leptitis* Macpherson, 1994

*Munida leptitis* Macpherson, 1994: 487, fig. 27; 1995: 394, fig. 14; 1997: 607.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 978, 408-413 m: 1 ov. ♀ 4.4 mm. — Stn 983, 475-480 m: 3 ♂ 3.3 to 6.5 mm. — Stn 1100, 258-265 m: 1 ♀ 4.3 mm.

DISTRIBUTION. — New Caledonia, Loyalty Islands, Wallis and Futuna Islands and Indonesia between 21 and 440 m. The specimens from Vanuatu were collected at 258-480 m.

*Munida leviantennata* Baba, 1988

*Munida leviantennata* Baba, 1988: 111, figs 41, 42; 1994: 12, fig. 5. — MACPHERSON, 1994: 491; 1995: 395; 1997: 608.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 958, 497-570 m: 1 ♀ 9.6 mm. — Stn 1028, 624-668 m: 1 ♂ 13.2 mm. — Stn 1051, 555-558 m: 1 ov. ♀ 12.4 mm. — Stn 1073, 630-650 m: 4 ♂ 12.0 to 13.2 mm. — Stn 1088, 425-455 m: 2 ♂ 9.8 and 13.3 mm. — Stn 1111, 1210-1250 m: 1 ♀ 10.9 mm. — Stn 1137, 360-371 m: 1 ♂ 11.5 mm.

DISTRIBUTION. — Philippines, Indonesia, eastern Australia, New Caledonia, Chesterfield Islands and Wallis Islands, between 300 and 660 m. The present material was obtained between 360 and 1250 m.



FIG. 4. — a, *Munida congesta* sp. nov., male 7.6 mm, paratype, stn 975; b, *Munida masi* Macpherson, 1994, male 8.8 mm, stn 1001; c, *Munida rhodonia* Macpherson, 1994, ovigerous female 10.3 mm, stn 1027; d, *Munida rhodonia* Macpherson, 1994, female 9.0 mm, stn 1027; e, *Munida rubrodigitalis* Baba, 1994, male 6.4 mm, stn 985.

*Munida masi* Macpherson, 1994

Fig. 4 b

*Munida masi* Macpherson, 1994: 495, fig. 31.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 1001, 150-250 m: 1 ♂ 8.8 mm; 1 ♀ 5.8 mm. — Stn 1135, 282-375 m: 1 ♂ 9.4 mm; 1 ov. ♀ 7.9 mm. — Stn 1039, 464-472 m: 1 ♂ 7.1 mm.

REMARKS. — The species was only known from the holotype (male of CL, 10.6 mm) collected in New Caledonia, between 250-290 m. The specimens collected in Vanuatu fully agree with the holotype description.

COLOUR. — Ground colour of carapace and abdominal segments red. Rostrum and supraocular spines red. Chelipeds reddish, with some white spots along lateral margins of articles. Walking legs reddish, with some transverse deep red bands.

DISTRIBUTION. — Previously known from New Caledonia between 250-290 m. The specimens from Vanuatu were collected between 150-472 m.

*Munida microps* Alcock, 1894

*Munida microps* Alcock, 1894: 326. — BABA, 1988: 122 (references); 1994: 13. — MACPHERSON, 1994: 496, fig. 32; 1995: 397; 1997: 608.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 990, 980-990 m: 4 ♂ 10.4 to 11.3 mm; 2 ov. ♀ 10.7 and 13.6 mm; 1 ♀ 9.7 mm. — Stn 991, 910-936 m: 4 ♂ 6.0 to 16.8 mm; 3 ov. ♀ 11.5 to 13.7 mm; 1 ♀ 9.3 mm. — Stn 992, 748-775 m: 12 ♂ 6.5 to 18.8 mm; 2 ov. ♀ 11.0 and 16.4 mm; 4 ♀ 7.7 to 15.4 mm. — Stn 993, 780-783 m: 1 ♂ 11.0 mm. — Stn 1007, 720-830 m: 1 ♂ 10.2 mm; 1 ov. ♀ 14.4 mm. — Stn 1008, 919-1000 m: 6 ♂ 13.4 to 17.9 mm; 6 ov. ♀ 11.3 to 16.3 mm. — Stn 1014, 495-498 m: 1 ♀ 14.6 mm. — Stn 1036, 920-950 m: 4 ♂ 6.6 to 12.3 mm; 2 ov. ♀ 10.3 and 15.6 mm. — Stn 1037, 1058-1086 m: 8 ♂ 6.7 to 15.2 mm; 1 ov. ♀ 12.6 mm; 9 ♀ 8.5 to 12.3 mm. — Stn 1075, 944-956 m: 4 ♂ 9.7 to 19.4 mm; 6 ov. ♀ 13.5 to 15.8 mm; 1 ♀ 8.3 mm. — Stn 1076, 1100-1191 m: 26 ♂ 6.8 to 15.6 mm; 11 ov. ♀ 11.0 to 13.7 mm; 10 ♀ 9.0 to 14.1 mm. — Stn 1080, 799-850 m: 23 ♂ 14.2 to 20.2 mm; 2 ov. ♀ 9.8 and 10.3 mm; 7 ♀ 10.0 to 18.1 mm. — Stn 1081, 908 m: 2 ♂ 19.1 and 19.8 mm; 2 ov. ♀ 13.0 and 16.5 mm. — Stn 1125, 1160-1220 m: 2 ♂ 8.4 and 9.3 mm; 1 ♀ 6.5 mm. — Stn 1126, 1210-1260 m: 7 ♂ 8.6 to 11.0 mm; 1 ov. ♀ 11.6 mm; 1 ♀ 8.0 mm. — Stn 1129, 1014-1050 m: 1 ♀ 13.3 mm.

DISTRIBUTION. — The species has been previously cited in Arabian Sea, Maldives Islands, Philippines, Indonesia, southeastern Australia, New Caledonia, Chesterfield Islands, Wallis and Futuna Islands, between 686 and 1240 m. The specimens from Vanuatu were collected at 495-1260 m.

*Munida militaris* Henderson, 1885

*Munida militaris* - BABA & MACPHERSON, 1991: 539, fig. 1 (synonymies and references). — MACPHERSON, 1994: 496; 1995: 399, fig. 16.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 1034, 690-750 m: 1 ♂ 20.8 mm. — Stn 1114, 647 m: 2 ov. ♀ 12.8 and 17.8 mm.

DISTRIBUTION. — The species is known from Indonesia, New Caledonia, Fiji and Wallis and Futuna area, between 183 and 1280 m. The present material was collected at depths between 647 and 750 m.

*Munida notata* Macpherson, 1994

*Munida notata* Macpherson, 1994: 500, figs 34,78; 1995: 402.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 965, 361-377 m: 1 ♂ 8.6 mm; 1 ov. ♀ 8.3 mm. — Stn 1017, 294-295 m: 1 ♂ 7.0 mm; 6 ov. ♀ 6.9 to 9.7 mm. — Stn 1018, 300-301 m: 1 ov. ♀ 7.8 mm; 2 ♀ 6.4 and 7.0 mm. — Stn 1024, 335-370 m: 2 ♂ 6.8 and 8.4 mm. — Stn 1058, 319 m: 1 ♂ 6.4 mm. — Stn 1065, 360-419 m: 1 ♀ 9.7 mm. — Stn 1091, 344-350 m: 1 ♀ 8.8 mm. — Stn 1097, 281-288 m: 2 ♂ 6.1 and 8.0 mm; 1 ov. ♀ 7.5 mm.

DISTRIBUTION. — Previously known from New Caledonia, Loyalty Islands, Chesterfield Islands, Wallis and Futuna Islands, between 59 and 850 m. The present material was caught at depths between 281 and 419 m.

*Munida pagesi* Macpherson, 1994

*Munida pagesi* Macpherson, 1994: 507, fig. 37.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 1047, 486-494 m: 1 ♂ 16.8 mm; 1 ov. ♀ 14.8 mm.

DISTRIBUTION. — The species has previously been cited in New Caledonia and Loyalty Islands, between 250 and 600 m. The specimens from Vanuatu were obtained at 486-494 m.

*Munida rhodonia* Macpherson, 1994

Figs 4 c-d

*Munida rhodonia* Macpherson, 1994: 517, figs 13a, 43, 81.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 975, 536-566 m: 3 ♂ 8.0 to 10.6 mm; 3 ov. ♀ 8.7 to 12.1 mm; 1 ♀ 12.4 mm. — Stn 986, 602-648 m: 1 ♂ 10.8 mm. — Stn 1027, 550-571 m: 1 ♂ 6.8 mm; 2 ov. ♀ 10.3 and 12.3 mm; 5 ♀ 8.6 to 12.5 mm. — Stn 1028, 624-668 m: 1 ov. ♀ 11.2 mm. — Stn 1045, 459-488 m: 1 ♂ 6.7 mm. — Stn 1047, 486-494 m: 3 ♂ 7.5 to 9.2 mm; 1 ov. ♀ 12.1 mm; 1 ♀ 7.8 mm. — Stn 1049, 469-525 m: 1 ♂ 9.8 mm. — Stn 1050, 541-577 m: 1 ov. ♀ 14.3 mm; 1 ♀ 8.3 mm. — Stn 1051, 555-558 m: 1 ♂ 11.0 mm; 3 ♀ 7.9 to 13.5 mm. — Stn 1055, 572-580 m: 2 ov. ♀ 8.3 and 11.4 mm. — Stn 1073, 630-650 m: 1 ♂ 6.8 mm; 2 ov. ♀ 12.4 and 13.0 mm. — Stn 1089, 494-516 m: 4 ♀ 6.2 to 11.0 mm. — Stn 1090, 470-502 m: 1 ♂ 10.4 mm; 1 ov. ♀ 10.6 mm. — Stn 1124, 532-599 m: 5 ♂ 7.7 to 10.0 mm; 4 ov. ♀ 9.3 to 14.2 mm.

REMARKS. — The colour pattern of the specimens photographed in Vanuatu generally agrees with the type description. However, the female (CL, 9.0 mm) from Stn 1027, have some red spots on gastric, cardiac and branchial regions and a median white band on the second to fourth abdominal segments. These red spots and white band are less conspicuous in an ovigerous female (CL, 10.3 mm) from the same station. Both specimens have the distal part of the rostrum and supraocular spines white. These spots and bands are absent in the specimens from New Caledonia. No other morphological differences between New Caledonia and Vanuatu specimens were observed.

DISTRIBUTION. — Previously cited in New Caledonia, Loyalty Islands and Chesterfield Islands, between 475 and 705 m. The material examined here was collected at 459-668 m.

*Munida rogeri* Macpherson, 1994

*Munida rogeri* Macpherson, 1994: 518, fig. 44.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 962, 370-400 m: 1 ♂ 4.6 mm.

DISTRIBUTION. — Previously known from New Caledonia, Loyalty Islands and Chesterfield Islands, between 245 and 390 m. The material from Vanuatu was collected at 370-400 m.

*Munida rosula* Macpherson, 1994

*Munida rosula* Macpherson, 1994: 521, figs 45, 82; 1995: 404.



**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 992, 748-775 m: 4 ♂ 8.4 to 14.4 mm; 4 ov. ♀ 14.4 to 16.0 mm; 6 ♀ 7.3 to 12.3 mm. — Stn 993, 780-783 m: 1 ♂ 13.3 mm. — Stn 996, 764-786 m: 2 ♂ 10.0 and 14.8 mm; 3 ♀ 9.6 to 15.3 mm. — Stn 1007, 720-830 m: 1 ♀ 16.5 mm. — Stn 1035, 765-780 m: 1 ♂ 11.0 mm; 4 ov. ♀ 14.5 to 17.0 mm; 1 ♀ 10.6 mm. — Stn 1056, 602-620 m: 3 ♂ 12.2 to 15.4 mm. — Stn 1073, 630-650 m: 6 ♂ 8.0 to 14.4 mm; 1 ov. ♀ 15.7 mm; 1 ♀ 10.4 mm. — Stn 1080, 799-850 m: 3 ♂ 11.7 to 16.8 mm; 3 ov. ♀ 13.4 to 16.7 mm; 5 ♀ 8.1 to 17.7 mm.

**DISTRIBUTION.** — The species has previously been cited in New Caledonia, Loyalty Islands, Chesterfield Islands and Wallis and Futuna area, between 465 and 860 m. The specimens from Vanuatu were caught at 602-850 m.

*Munida rubrodigitalis* Baba, 1994

Fig. 4 e

*Munida rubrodigitalis* Baba, 1994: 13, fig. 6. — MACPHERSON, 1997: 610.

*Munida* sp. - MACPHERSON, 1994: 558, figs 13b, 90.

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 974, 490-520 m: 3 ♂ 9.6 to 13.6 mm; 3 ov. ♀ 13.2 to 13.4 mm; 1 ♀ 9.3 mm. — Stn 983, 475-480 m: 2 ♂ 10.0 and 11.2 mm; 2 ov. ♀ 12.9 and 13.0 mm; 1 ♀ 5.9 mm. — Stn 984, 480-544 m: 3 ♂ 9.5 to 11.1 mm; 3 ov. ♀ 12.2 to 12.5 mm; 1 ♀ 11.6 mm. — Stn 985, 536-563 m: 1 ♂ 6.4 mm. — Stn 1047, 486-494 m: 1 ♂ 11.7 mm; 1 ov. ♀ 11.8 mm; 2 ♀ 10.2 and 12.0 mm. — Stn 1049, 469-525 m: 1 ov. ♀ 11.5 mm; 1 ♀ 8.8 mm. — Stn 1088, 425-455 m: 3 ♂ 7.8 to 10.2 mm. — Stn 1089, 494-516 m: 1 ov. ♀ 13.3 mm. — Stn 1090, 470-502 m: 1 ov. ♀ 14.3 mm.

**REMARKS.** — The specimens from Vanuatu generally agree with the type description and the specimens from New Caledonia and Indonesia. However, the specimen photographed (male, CL, 6.4 mm, Stn 985) has a longitudinal median white band from the epigastric region to the fourth abdominal segment. This band is absent in the New Caledonia material.

**DISTRIBUTION.** — The species has previously been cited in Eastern Australia, Indonesia, New Caledonia and Loyalty Islands, between 285 and 503 m. The specimens from Vanuatu were obtained at 425-563 m.

*Munida rufiantennulata* Baba, 1969

*Munida rufiantennulata* Baba, 1969: 23, fig. 7; 1988: 128; 1989: 131. — MACPHERSON, 1994: 523, figs 46, 83; 1997: 610.

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 988, 372-466 m: 2 ♂ 4.2 and 8.3 mm.

**DISTRIBUTION.** — Previously known from Japan, Philippines, Indonesia, New Caledonia, Loyalty Islands, Chesterfield Islands, Matthew and Hunter Islands, between 205 and 610 m. The material examined here was collected at 372-466 m.

*Munida runcinata* Macpherson, 1994

*Munida runcinata* Macpherson, 1994: 525, fig. 47; 1995: 405, fig. 19.

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 963, 400-440 m: 6 ♂ 6.5 to 8.7 mm; 6 ov. ♀ 7.4 to 9.7 mm. — Stn 978, 408-413 m: 2 ♂ 7.7 and 8.5 mm; 2 ov. ♀ 6.1 and 6.8 mm; 1 ♀ 6.6 mm. — Stn 988, 372-466 m: 1 ov. ♀ 7.8 mm. — Stn 1025, 385-410 m: 9 ♂ 6.7 to 9.5 mm; 3 ov. ♀ 7.6 to 9.3 mm; 2 ♀ 6.6 and 7.1 mm. — Stn 1035, 282-375 m: 1 ♂ 6.3 mm; 1 ov. ♀ 7.8 mm. — Stn 1043, 350-372 m: 1 ov. ♀ 8.1 mm. — Stn 1065, 360-419 m: 3 ♂ 7.2 to 8.3 mm; 3 ♀ 5.8 to 8.9 mm. — Stn 1087, 394-421 m: 1 ♂ 6.3 mm; 1 ov. ♀ 8.7 mm. — Stn 1135, 282-375 m: 1 ♂ 6.3 mm; 1 ov. ♀ 8.7 mm. — Stn 1137, 360-371 m: 1 ♂ 10.2 mm; 1 ov. ♀ 8.2 mm; 3 ♀ 6.6 to 7.7 mm.

**DISTRIBUTION.** — Previously cited in New Caledonia, Loyalty Islands, Wallis and Futuna Islands, between 245 and 500 m. The specimens from Vanuatu were collected between 282 and 466 m.

*Munida sao* Macpherson, 1994

*Munida sao* Macpherson, 1994: 529, fig. 49.

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 971, 250-315 m: 1 ov. ♀ 7.5 mm. — Stn 1026, 437-504 m: 1 ♂ 6.3 mm; 3 ov. ♀ 11.4 to 16.0 mm; 1 ♀ 5.7 mm. — Stn 1061, 458-512 m: 2 ♂ 8.6 and 9.4 mm. — Stn 1070, 184-190 m: 3 ♂ 5.8 to 9.9 mm; 1 ♀ 7.4 mm. — Stn 1086, 182-215 m: 6 ♂ 6.0 to 7.4 mm; 3 ♀ 4.7 to 7.9 mm. — Stn 1088, 425-455 m: 1 ♂ 14.3 mm; 6 ov. ♀ 10.0 to 12.6 mm. — Stn 1089, 494-516 m: 1 ♂ 14.2 mm. — Stn 1095, 304-320 m: 1 ov. ♀ 7.8 mm. — Stn 1098, 277-285 m: 2 ♂ 5.8 and 9.0 mm; 1 ov. ♀ 6.3 mm; 1 ♀ 6.0 mm. — Stn 1107, 397-402 m: 2 ♂ 12.3 and 15.1 mm; 1 ov. ♀ 11.6 mm. — Stn 1136, 398-400 m: 9 ♂ 8.3 to 15.4 mm; 6 ov. ♀ 8.8 to 13.0 mm; 1 ♀ 10.4 mm. — Stn 1137, 360-371 m: 6 ♂ 9.3 to 12.1 mm; 2 ov. ♀ 10.4 and 10.5 mm; 1 ♀ 13.0 mm.

**DISTRIBUTION.** — Known from New Caledonia, between 165 and 260 m. The material from Vanuatu was obtained from 182-516 m.

*Munida sacksi* Macpherson, 1993

*Munida sacksi* Macpherson, 1993: 438, fig. 6; 1994: 438 (key).

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 1047, 486-494 m: 1 ov. ♀ 11.5 mm. — Stn 1124, 532-599 m: 1 ♀ 10.4 mm. — Stn 1135, 282-375 m: 1 ♀ 5.6 mm.

**DISTRIBUTION.** — Previously known from the Philippines and New Caledonia, between 300 and 550 m. The present material has been collected at 486-599 m.

*Munida semoni* Ortmann, 1894

*Munida semoni* - MACPHERSON & BABA, 1993: 411, fig. 17 (references). — MACPHERSON, 1994: 530; 1995: 405.

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 971, 250-315 m: 1 ♀ 7.8 mm. — Stn 1071, 180-191 m: 1 ♂ 9.3 mm; 1 ♀ 7.6 mm. — Stn 1077, 180-210 m: 2 ♂ 7.4 and 8.9 mm; 1 ov. ♀ 9.5 mm; 1 ♀ 10.2 mm. — Stn 1078, 194-230 m: 1 ♂ 8.4 mm. — Stn 1102, 208-210 m: 2 ♂ 7.3 and 8.2 mm. — Stn 1118, 191-248 m: 1 ♀ 6.3 mm. — Stn 1119, 254-300 m: 16 ♂ 5.4 to 8.3 mm; 6 ov. ♀ 6.1 to 7.6 mm; 1 juv. 3.1 mm.

**DISTRIBUTION.** — The species has been cited in Indonesia, New Caledonia and Futuna Island, between 245 and 440 m. The specimens from Vanuatu were caught at 180-315 m.

*Munida tuberculata* Henderson, 1885

*Munida tuberculata* - MACPHERSON, 1994: 547, fig. 58 (references); 1995: 408.

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 974, 492-520 m: 1 ♂ 3.8 mm. — Stn 985, 536-563 m: 1 ♀ 3.9 mm. — Stn 1027, 550-571 m: 2 ♂ 3.6 and 3.8 mm.

**DISTRIBUTION.** — The species has previously been cited in Fiji, New Caledonia, Matthew and Hunter Islands, Wallis and Futuna area, between 420 and 650 m. The material studied here was collected at 492-571 m.

*Munida tyche* Macpherson, 1994

*Munida tyche* Macpherson, 1994: 549, fig. 59; 1995: 408, fig. 22.

**MATERIAL EXAMINED.** — **Vanuatu.** MUSORSTOM 8: stn 962, 370-400 m: 1 ♂ 12.3 mm. — Stn 1042, 200-260 m: 3 ♂ 6.3 to 8.5 mm; 2 ov. ♀ 6.1 and 7.7 mm; 1 ♀ 6.0 mm. — Stn 1131, 140-175 m: 4 ♂ 4.4 to 7.1 mm; 1 ov. ♀

10.1 mm; 1 ♂ 5.7 mm; 2 juv. 3.2 and 3.4 mm. — Stn 1132, 161-182 m: 1 ♂ 6.0 mm. — Stn 1133, 174-210 m: 1 ♂ 9.2 mm; 1 ♀ 7.2 mm.

DISTRIBUTION. — Known from New Caledonia, Chesterfield Islands and Futuna Island, between 200 and 440 m. The material from Vanuatu was obtained from 140-400 m.

*Munida typhle* Macpherson, 1994

*Munida typhle* Macpherson, 1994: 549, fig. 60.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: stn 1111, 1210-1250 m: 1 ov. ♀ 11.2 mm.

DISTRIBUTION. — Previously known from New Caledonia, between 1395 and 1470 m. The specimen from Vanuatu was collected at 1210-1250 m.

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