

Leucosiidae (Crustacea, Brachyura)

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ABSTRACT

The Leucosiidae collected by the MUSORSTOM 1, 2 and 3 Expeditions (1976, 1980 and 1985) in Philippines waters consist of 41 species and one subspecies belonging to 16 genera and three subfamilies. Ten new

species are described and three species are new combinations. In addition to the new species, eleven species and one subspecies have been recorded for the first time from the Philippines.

RÉSUMÉ

Leucosiidae (Crustacea, Brachyura)

Les Leucosiidae récoltés par les Expéditions MUSORSTOM 1, 2, et 3 en 1976, 1980 et 1985, dans les eaux des Philippines, comprennent 41 espèces et une sous-

espèce appartenant à 16 genres et 3 sous-familles. Dix espèces sont décrites comme nouvelles, trois sont de nouvelles combinaisons. Outre les espèces nouvelles, onze espèces et une sous-espèce sont signalées pour la première fois des Philippines.

INTRODUCTION

The Leucosiidae collected by the MUSORSTOM 1 Expedition have been identified preliminarily by SERÈNE & VADON (1981). The material upon which this report is based was collected by the MUSORSTOM 1-3 Expeditions during 1976, 1980 and 1985 in Philippines waters. A total of 41 species and one subspecies belonging to 16 genera and three subfamilies are identified. Ten new species are described. Three species are new combinations. In addition to the new species, eleven species and one sub-species are first records for the Philippines waters. With the exception of four species from deep-waters (416-610 m), all the other species are from shallower waters, most of them collected at about 200 m deep.

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LIST OF STATIONS

MUSORSTOM 1

- Station 1. — 18.03.1976, 14°28,0' N, 120°42,0' E, 37-36 m : *Arcania septemspinosa*, *Myra elegans*, *Iphiculus spongiosus*.
- Station 2. — 19.03.1976, 14°02,8' N, 120°18,8' E, 187 m : *Arcania septemspinosa*, *Myra elegans*.
- Station 7. — 19.03.1976, 14°01,0' N, 120°20,0' E, 200-185 m : *Heteronucia laminata*.
- Station 9. — 19.03.1976, 14°01,8' N, 120°17,6' E, 194-180 m : *Randallia eburnea*.
- Station 10. — 19.03.1976, 14°00,2' N, 120°20,3' E, 205-187 m : *Heteronucia laminata*.
- Station 11. — 20.03.1976, 14°00,9' N, 120°21,5' E, 230-217 m : *Parilia major*.
- Station 12. — 20.03.1976, 14°00,8' N, 120°20,5' E, 210-187 m : *Pariphiculus coronatus*.
- Station 16. — 20.03.1976, 13°59,0' N, 120°12,3' E, 164-150 m : *Randallia eburnea*.
- Station 25. — 22.03.1976, 14°02,7' N, 120°20,3' E, 200-191 m : *Iphiculus spongiosus*.
- Station 26. — 22.03.1976, 14°00,9' N, 120°16,8' E, 189 m : *Ebalia scabriuscula*, *Heteronucia laminata*, *Arcania undecimspinosa*, *Randallia eburnea*.
- Station 27. — 22.03.1976, 14°00,5' N, 120°15,7' E, 192-188 m : *Ebalia scabriuscula*, *Randallia eburnea*, *R. trituberculata*, *Pariphiculus agariciferus*, *Leucosia crosnieri*.
- Station 30. — 22.03.1976, 14°01,3' N, 120°18,7' E, 186-177 m : *Heteronucia laminata*, *Randallia eburnea*, *R. trituberculata*, *Leucosia crosnieri*.
- Station 31. — 22.03.1976, 14°00,3' N, 120°19,0' E, 195-187 m : *Randallia eburnea*.
- Station 32. — 23.03.1976, 14°02,2' N, 120°17,7' E, 193-184 m : *Arcania undecimspinosa*, *Randallia eburnea*.
- Station 33. — 23.03.1976, 14°00,6' N, 120°16,3' E, 197-188 m : *Randallia eburnea*.
- Station 34. — 23.03.1976, 14°01,0' N, 120°15,8' E, 191-188 m : *Heteronucia laminata*, *Arcania undecimspinosa*, *Randallia eburnea*, *R. trituberculata*, *Pariphiculus coronatus*, *Leucosia crosnieri*.
- Station 35. — 23.03.1976, 14°08,0' N, 120°16,5' E, 186-187 m : *Randallia eburnea*, *Pariphiculus coronatus*.
- Station 36. — 23.03.1976, 14°00,3' N, 120°17,0' E, 210-187 m : *Heteronucia laminata*, *Pariphiculus coronatus*.
- Station 43. — 24.03.1976, 13°52,3' N, 120°28,6' E, 484-448 m : *Randallia pustulosa*.
- Station 44. — 24.03.1976, 13°46,9' N, 120°29,5' E, 610-592 m : *Randallia pustulosa*.
- Station 45. — 24.03.1976, 13°46,0' N, 120°23,8' E, 180-100 m : *Arcania quinquespinosa*, *Randallia eburnea*, *Pariphiculus mariannae*, *Iphiculus spongiosus*.
- Station 51. — 25.03.1976, 13°50,8' N, 120°03,2' E, 200-170 m : *Ebalia scabriuscula*, *Arcania quinquespinosa*, *Randallia trituberculata*.
- Station 55. — 26.03.1976, 13°55,0' N, 120°12,5' E, 200-194 m : *Leucosia crosnieri*.
- Station 56. — 26.03.1976, 13°53,3' N, 120°10,7' E, 134-129 m : *Ebalia glans*, *Drachiella morum*, *Randallia villosa*, *Myra biconica*, *Pariphiculus coronatus*.
- Station 57. — 26.03.1976, 13°53,1' N, 120°13,2' E, 107-96 m : *Ebalia glans*, *Nursilia tonsor*, *Randallia eburnea*, *Myra biconica*, *Pariphiculus coronatus*.
- Station 58. — 26.03.1976, 13°59,5' N, 120°15,2' E, 178-143 m : *Randallia eburnea*.
- Station 61. — 27.03.1976, 14°02,2' N, 120°18,1' E, 202-184 m : *Ebalia scabriuscula*, *Arcania undecimspinosa*, *Randallia eburnea*, *R. trituberculata*, *Pariphiculus coronatus*, *Leucosia crosnieri*.

Station 62. — 27.03.1976, 14°00,6' N, 120°13,7' E, 194-179 m : *Ebalia scabriuscula*, *Randallia eburnea*, *Pariphiculus agariciferus*, *Iphiculus spongiosus*, *Leucosia crosnieri*.

Station 63. — 27.03.1976, 14°00,5' N, 120°16,3' E, 195-191 m : *Ebalia scabriuscula*, *Randallia eburnea*, *Pariphiculus agariciferus*.

Station 64. — 27.03.1976, 13°59,5' N, 120°18,6' E, 195-194 m : *Ebalia scabriuscula*, *Arcania undecimspinosa*, *Randallia eburnea*, *R. trituberculata*, *Pariphiculus agariciferus*, *Leucosia crosnieri*.

Station 65. — 27.03.1976, 14°00,0' N, 120°19,2' E, 202-194 m : *Heteronucia perlata*, *Arcania undecimspinosa*.

Station 71. — 28.03.1976, 14°10,0' N, 120°26,8' E, 204-174 m : *Heteronucia laminata*, *Randallia trituberculata*, *Ixoides cornutus*, *Pariphiculus coronatus*, *P. agariciferus*, *Iphiculus spongiosus*.

Station 72. — 28.03.1976, 14°13,1' N, 120°28,8' E, 127-122 m : *Ebalia glans*, *Nursilia tonsor*, *Randallia eburnea*, *Myra biconica*, *Ixoides cornutus*, *Pariphiculus agariciferus*, *P. mariannae*, *Iphiculus spongiosus*.

Station 73. — 28.03.1976, 14°16,6' N, 120°31,8' E, 76-70 m : *Arcania septemspinosa*, *A. quinquespinosa*, *Ixa edwardsii*, *Pariphiculus mariannae*, *Iphiculus spongiosus*, *Leucosia longibrachia*, *L. foresti*, *L. margaritata*.

MUSORSTOM 2

Station 1. — 20.11.1980, 14°00,3' N, 120°19,3' E, 198-188 m : *Ebalia scabriuscula*, *Heteronucia laminata*, *Arcania undecimspinosa*, *A. quinquespinosa*, *Randallia eburnea*, *Pariphiculus coronatus*, *Leucosia crosnieri*.

Station 4. — 20.11.1980, 14°01,2' N, 120°18,4' E, 190-183 m : *Heteronucia laminata*, *Randallia eburnea*.

Station 6. — 20.11.1976, 13°56,4' N, 120°22,3' E, 152-136 m : *Randallia eburnea*.

Station 10. — 21.11.1980, 14°01,2' N, 120°17,9' E, 195-188 m : *Heteronucia laminata*, *Randallia eburnea*, *Pariphiculus coronatus*, *Leucosia crosnieri*.

Station 11. — 21.11.1980, 14°00,4' N, 120°19,7' E, 196-194 m : *Arcania undecimspinosa*.

Station 12. — 21.11.1980, 14°02,0' N, 120°21,0' E, 210-197 m : *Pariphiculus coronatus*.

Station 18. — 22.11.1980, 14°00,0' N, 120°18,6' E, 195-188 m : *Heteronucia laminata*, *Pariphiculus coronatus*.

Station 19. — 22.11.1980, 14°00,7' N, 120°18,2' E, 192-189 m : *Arcania undecimspinosa*, *Leucosia crosnieri*.

Station 20. — 22.11.1980, 14°00,9' N, 120°18,1' E, 192-185 m : *Heteronucia laminata*, *Randallia pustuloides*, *Pariphiculus coronatus*, *Parilia major*.

Station 21. — 22.11.1980, 14°02,2' N, 120°17,4' E, 192-191 m : *Heteronucia laminata*, *Pariphiculus coronatus*.

Station 31. — 24.11.1980, 13°40,0' N, 120°55,0' E, 230-204 m : *Randallia speciosa*.

Station 32. — 24.11.1980, 13°40,5' N, 120°54,2' E, 220-192 m : *Randallia speciosa*.

Station 33. — 24.11.1980, 13°32,3' N, 121°07,5' E, 137-130 m : *Ebalia scabriuscula*, *E. dimorphoides*, *Heteronucia perlata*.

Station 34. — 24.11.1980, 13°27,9' N, 121°12,0' E, 167-155 m : *Arcania undecimspinosa*.

Station 36. — 24.11.1980, 13°31,4' N, 121°23,9' E, 595-569 m : *Randallia pustulosa*.

Station 41. — 25.11.1980, 13°16,9' N, 122°46,6' E, 172-166 m : *Heteronucia laminata*, *Arcania undecimspinosa*, *Ixoides cornutus*, *Pariphiculus coronatus*, *Iphiculus spongiosus*, *Leucosia crosnieri*.

Station 47. — 26.11.1980, 13°33,2' N, 122°10,2' E, 84-81 m : *Arcania quinquespinosa*.

Station 49. — 26.11.1980, 13°38,4' N, 121°44,1' E, 425-416 m : *Randallia pustulosa*, *Parilia major*.

Station 51. — 27.11.1980, 14°00,4' N, 120°17,6' E, 187-170 m : *Praebebalia dondonae*, *Randallia eburnea*.

Station 52. — 27.11.1980, 14°00,7' N, 120°18,7' E, 190-181 m : *Heteronucia laminata*, *Randallia eburnea*, *Leucosia crosnieri*.

Station 54. — 27.11.1980, 14°00,0' N, 120°10,2' E, 174-170 m : *Randallia eburnea*.

Station 59. — 28.11.1980, 14°00,3' N, 120°17,5' E, 190-186 m : *Heteronucia laminata*, *Randallia eburnea*, *Leucosia crosnieri*.

Station 61. — 29.11.1980, 14°00,1' N, 120°16,7' E, 180-178 m : *Randallia eburnea*.

Station 62. — 29.11.1980, 14°00,3' N, 120°18,4' E, 189-186 m : *Arcania undecimspinosa*, *Heteronucia laminata*.

Station 64. — 29.11.1980, 14°01,5' N, 120°18,9' E, 195-191 m : *Heteronucia laminata*.

Station 66. — 29.11.1980, 14°00,6' N, 120°20,3' E, 209-192 m : *Pariphiculus coronatus*.

Station 67. — 29.11.1980, 14°01,8' N, 120°19,3' E, 199-193 m : *Heteronucia laminata*.

Station 68. — 29.11.1980, 14°01,9' N, 120°18,8' E, 199-195 m : *Heteronucia laminata*, *Pariphiculus coronatus*.

Station 72. — 30.11.1980, 14°00,7' N, 120°19,4' E, 197-182 m : *Heteronucia laminata*, *Pariphiculus coronatus*.

Station 78. — 1.12.1980, 13°49,8' N, 120°28,9' E, 540-441 m : *Randallia pustulosa*.

Station 80. — 1.12.1980, 13°45,1' N, 120°37,7' E, 205-178 m : *Arcania undecimspinosa*, *Pariphiculus coronatus*, *Leucosia crosnieri*.

MUSORSTOM 3

Station 86. — 31.05.1985, 14°01,1' N, 120°18,1' E, 192-187 m : *Arcania undecimspinosa*, *Randallia eburnea*.

Station 87. — 31.05.1985, 14°00,6' N, 120°19,6' E, 197-191 m : *Ebalia philippinensis*, *Randallia eburnea*, *Pariphiculus coronatus*.

Station 88. — 31.05.1985, 14°00,6' N, 120°17,4' E, 187-183 m : *Ebalia philippinensis*, *Arcania undecimspinosa*, *Randallia eburnea*, *R. trituberculata*, *Pariphiculus mariannae*.

Station 90. — 31.05.1985, 14°00,1' N, 120°18,7' E, 195 m : *Heteronucia laminata*, *Arcania undecimspinosa*.

Station 91. — 31.05.1985, 14°00,9' N, 120°19,2' E, 203-190 m : *Randallia eburnea*.

Station 92. — 31.05.1985, 14°03,3' N, 120°12,3' E, 224 m : *Pariphiculus coronatus*.

Station 96. — 1.06.1985, 14°00,3' N, 120°18,4' E, 194-190 m : *Heteronucia laminata*, *Arcania undecimspinosa*, *Randallia eburnea*, *Pariphiculus coronatus*.

Station 97. — 1.06.1985, 14°00,7' N, 120°18,8' E, 194-189 m : *Heteronucia laminata*, *Arcania undecimspinosa*, *Randallia eburnea*, *R. pustulosa*, *Pariphiculus coronatus*, *Leucosia crosnieri*.

Station 98. — 1.06.1985, 14°00,5' N, 120°19,4' E, 205-194 m : *Heteronucia laminata*.

Station 100. — 1.06.1985, 14°00,4' N, 120°19,0' E, 199-189 m : *Arcania undecimspinosa*, *Randallia eburnea*, *R. trituberculata*, *Pariphiculus coronatus*, *Leucosia crosnieri*.

Station 101. — 1.06.1985, 14°00,55' N, 120°19,6' E, 196-194 m : *Heteronucia laminata*, *Arcania undecimspinosa*, *Randallia eburnea*, *Leucosia crosnieri*.

Station 103. — 1.06.1985, 14°00,4' N, 120°19,6' E, 200-193 m : *Heteronucia laminata*, *Randallia eburnea*.

Station 107. — 2.06.1985, 14°02,0' N, 120°27,9' E, 115-111 m : *Arcania undecimspinosa*.

Station 108. — 2.06.1985, 14°01,1' N, 120°17,9' E, 195-188 m : *Heteronucia laminata*, *Randallia trituberculata*, *Leucosia crosnieri*.

Station 109. — 2.06.1985, 14°00,4' N, 120°19,0' E, 198-190 m : *Pariphiculus coronatus*.

Station 110. — 2.06.1985, 14°00,3' N, 120°18,2' E, 193-187 m : *Randallia eburnea*.

Station 111. — 2.06.1985, 14°00,5' N, 120°19,4' E, 205-193 m : *Arcania undecimspinosa*, *Randallia eburnea*, *Pariphiculus coronatus*.

Station 112. — 2.06.1985, 14°00,3' N, 120°19,2' E,

199-187 m : *Heteronucia laminata*, *Randallia eburnea*.
Station 117. — 3.06.1985, 12°31,3' N, 120°39,5' E, 97-92 m : *Ebalia serenei*, *Oreophorus (Oreotlos) speciosus*, *Drachiella aglypha aglypha*.

Station 120. — 3.06.1985, 12°06,7' N, 121°15,7' E, 220-219 m : *Heteronucia laminata*, *Randallia trituberculata*, *Pariphiculus coronatus*, *Parilia major*.

Station 121. — 3.06.1985, 12°08,7' N, 121°18,4' E, 84-73 m : *Ixa pulcherrima*.

Station 122. — 4.06.1985, 12°20,0' N, 121°43,3' E, 675-673 m : *Randallia pustulosa*.

Station 124. — 4.06.1985, 12°02,6' N, 121°35,3' E, 123-120 m : *Ebalia scabriuscula*.

Station 126. — 4.06.1985, 11°49,2' N, 121°22,1' E, 266 m : *Praebebalia semblatae*.

Station 128. — 5.06.1985, 11°50,5' N, 121°42,2' E, 821-815 m : *Randallia pustulosa*.

Station 137. — 6.06.1985, 12°03,5' N, 122°05,8' E, 56 m : *Ebalia serenei*, *Oreophorus (Oreophorus) ornatus*, *Nucia speciosa*, *Nursilia tonsor*.

Station 139. — 6.06.1985, 11°54,15' N, 122°14,7' E, 267-240 m : *Randallia trituberculata*, *Pariphiculus coronatus*, *Parilia major*.

Station 141. — 6.06.1985, 11°44,6' N, 122°45,35' E, 44-40 m : *Arcania brevifrons*, *A. septemspinosa*, *A. quinquespinosa*, *Myra elegans*, *Ixa edwardsii*, *Iphiculus spongiosus*, *Leucosia longibrachia*, *L. rhomboidalis*.

Station 142. — 6.06.1985, 11°47,3' N, 123°03' E, 27-26 m : *Oreophorus (Oreotlos) angulatus*, *Myra elegans*.

Station 143. — 7.06.1985, 11°29,1' N, 124°11,6' E, 214-205 m : *Parilia major*.

Station 144. — 7.06.1985, 11°12,7' N, 124°14,8' E, 383-379 m : *Parilia major*.

Station 145. — 7.06.1985, 11°01,6' N, 124°04,3' E, 246-214 m : *Heteronucia laminata*, *Pariphiculus coronatus*, *Parilia major*, *P. ovata*.

LIST OF SPECIES

I. Sufamily Ebalinae Stimpson, 1871

- *1. *Ebalia scabriuscula* Ortmann, 1892
2. *Ebalia glans* (Alcock, 1896), new combination
3. *Ebalia serenei* sp. nov.
4. *Ebalia philippinensis* sp. nov.
- *5. *Ebalia dimorphoides* Sakai, 1963
6. *Praebebalia dondonae* sp. nov.
7. *Praebebalia semblatae* sp. nov.
- *8. *Oreophorus (Oreophorus) ornatus* Ihle, 1918
9. *Oreophorus (Oreotlos) speciosus* sp. nov.
10. *Oreophorus (Oreotlos) angulatus* (Rathbun, 1906)
11. *Drachiella morum* (Alcock, 1896)
- *12. *Drachiella aglypha aglypha* (Laurie, 1906)
- *13. *Heteronucia perlata* (Sakai, 1963), new combination
14. *Heteronucia laminata* (Doflein, 1904), new combination
15. *Nucia speciosa* Dana, 1852

II. Subfamily Philyrinae Rathbun, 1937

- *16. *Nursilia tonsor* Alcock, 1896
17. *Arcania undecimspinosa* de Haan, 1841
18. *Arcania brevifrons* sp. nov.
- *19. *Arcania septemspinosa* (Fabricius, 1787).
20. *Arcania quinquespinosa* Alcock & Anderson, 1894
21. *Randallia speciosa* sp. nov.
22. *Randallia villosa* sp. nov.
23. *Randallia eburnea* Alcock, 1896
24. *Randallia trituberculata* Sakai, 1961
25. *Randallia pustulosa* Wood-Mason, 1891
- *26. *Randallia pustuloides* Sakai, 1961
- *27. *Myra biconica* Ihle, 1918
28. *Myra elegans* Bell, 1855
29. *Ixa edwardsii* Lucas, 1858
30. *Ixa pulcherrima* (Haswell, 1880)
31. *Ixoides cornutus* MacGilchrist, 1905
32. *Pariphiculus coronatus* Alcock & Anderson, 1894

33. *Pariphiculus agariciferus* Ihle, 1918
 34. *Pariphiculus mariannae* (Herklots, 1852)
 35. *Iphiculus spongiosus* Adams & White, 1848
 36. *Parilia major* Sakai, 1961
 *37. *Parilia ovata* Chen, 1984

38. *Leucosia crosnieri* sp. nov.
 *39. *Leucosia longibrachia* Shen & Chen, 1978
 40. *Leucosia rhomboides* de Haan, 1841
 41. *Leucosia foresti* sp. nov.
 *42. *Leucosia margaritata* A. Milne Edwards, 1874

III. Subfamily Leucosiinae Miers, 1886

(Species marked with an asterisk are first records for the Philippines)

SYSTEMATIC ACCOUNT

Family LEUCOSIIDAE Samouelle, 1819

Subfamily EBALIINAE Stimpson, 1871

Genus *Ebalia* Leach, 1817

Key to the species of the genus *Ebalia*

1. — Body thick, carapace covered with dense granules 2
 — Body thin, carapace smooth, front divided into four teeth *Ebalia dimorphoides* Sakai, 1963
2. — Posterior border without tubercle 3
 — Posterior border with three indistinct tubercles 4
3. — Body very small, dorsal surface very convex, intestinal region produced
 *Ebalia philippinensis* sp. nov.
 — Body slightly larger, dorsal surface medially convex, intestinal region not produced
 *Ebalia serenei* sp. nov.
4. — Fingers of chelipeds longer than palm *Ebalia glans* (Alcock, 1896)
 — Fingers of chelipeds as long as palm *Ebalia scabriuscula* Ortmann, 1892

1. *Ebalia scabriuscula* Ortmann, 1892

Fig. 1 ; pl. I 1

Ebalia scabriuscula Ortmann, 1892 : 580, pl. 26, fig. 14 ;
 SAKAI, 1937 : 107 (part). Non text-figs. 9 c-e = *E.*
glans (Alcock, 1896) ; 1965 : 28, pl. 13, fig. 3 ; 1976 :
 70 (part). Non text-figs. 32 b-d = *E. glans* (Alcock,
 1896).

? *Ebalia scabriuscula* : BALSS, 1922 : 127 (no descrip-
 tion and figure) ; TAKEDA & MIYAKE, 1970 : 219 ;
 1972 a : 70 (no description and figure).

Non *Ebalia scabriuscula*, YOKOYA, 1933 : 117 = *E.*
glans (Alcock, 1896).

Ebalia sp. : SERÈNE & VADON, 1981 : 119-120, 124.

— St. 51, 200-170 m : 1 ♀ 3,9 × 4,4 mm. — St. 61,
 202-184 m : 1 ♀ 6,2 × 7,1 mm. — St. 62, 179-94 m :
 1 ♀ 6,0 × 7,0 mm. — St. 64, 195-194 m : 1 ♀ 6,1 ×
 7,1 mm.

MUSORSTOM 2 : St. 1, 198-185 m : 1 ♂ 5,9 × 6,9 mm,
 1 ♂ 5,9 × 6,4 mm.

MUSORSTOM 3 : St. 124, 123-120 m : 1 ♂ 5,8 ×
 6,3 mm.

SUPPLEMENTARY DESCRIPTION

Carapace hexagonal, broader than long. Anterior 1/5 of dorsal surface depressed, covered with fine granules ; posterior 4/5 convex, intestinal region especially so, with vesiculous granules of

MATERIAL

MUSORSTOM 1 : St. 26, 189 m : 1 ovig. ♀ 9,5 ×
 7,3 mm. — St. 27, 192-188 m : 1 ♀ 6,1 × 7,0 mm.

various sizes. Antero-lateral borders with a notch near the hepatic region. Junction of the antero-lateral and postero-lateral borders angular. Posterior border in full-grown male and female specimens with a tubercle on each side. Merus, carpus, and palm of the cheliped covered with pointed granules. Segments of ambulatory

legs also with sharp granules. Abdomen of both sexes consisting of five segments. Sixth segment of male, with a tubercle near the median portion. Basal 2/3 of the first male pleopod stout; the distal 1/3 slender and curved, with relatively longer setae.

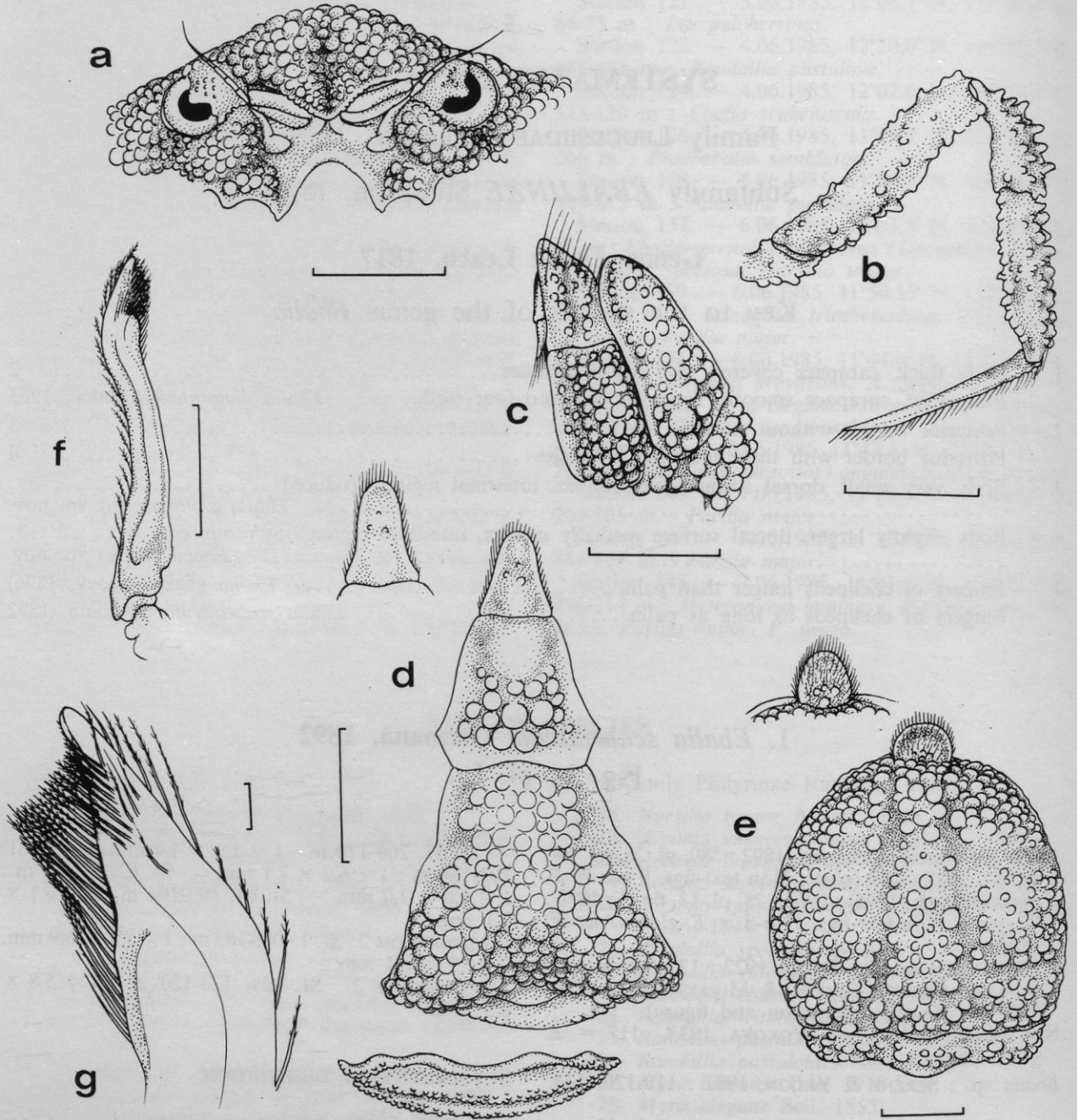


FIG. 1. — *Ebalia scabriuscula* Ortmann, 1892 : a, ventral view of anterior part of carapace ; b, fourth ambulatory leg ; c, third maxilliped ; d, male abdomen ; e, female abdomen ; f, first male pleopod ; g, enlarged tip of first male pleopod. scale : a-f, 1 mm ; g, 0,1mm.

HABITAT

Bottom of fine sand, soft mud, or shells, at depths of 50-202 m.

TYPE LOCALITY

Sagami Bay.

REMARKS

A female of this species was described by ORTMANN (1892) from Japan (Sagami Bay). ORTMANN's original description and figures were too simple to facilitate identification of the present species. According to the figures by

ORTMANN (1892, pl. 26, fig. 14) and SAKAI (1937, text-fig. 9 a; 1976, text-fig. 32 a), the junction of the antero-lateral and postero-lateral borders are round and the granules of lateral borders are smaller than the others, while in the present specimens the junctions are angular and the granules of the lateral borders are sharper than the others.

It appears after the figures published by SAKAI (1937, text-figs. 9 c-e; 1976, text-figs. 32b-d) that the male identified by this author to *E. scabriuscula* belongs to *E. glans*.

DISTRIBUTION

Japan, Philippines, and China (East China Sea and South China Sea).

2. *Ebalia glans* (Alcock, 1896), new combination

Fig. 2; pl. II 2, 3

Randallia glans Alcock, 1896 : 195; IHLE, 1918 : 248; SERÈNE, 1954 : 493, text-figs. 6, 7 b, pl. 10, fig. 3, 4; ZARENKOV, 1969 : 24, fig. 7; SERÈNE & SOH, 1976 : 13.

Ebalia scabriuscula : YOKOYA, 1933 : 117, 118; SAKAI, 1937 : 107 (part), text-figs. 9 c-e; 1976 : 70-71 (part), text-figs. 32 b-d. Non Ortmann, 1892.

Ebalia sp. : SERÈNE & VADON, 1981 : 120, 124.

MATERIAL

MUSORSTOM 1 : St. 56, 134-129 m : 1 ♂ 8,0 × 8,9 mm; 1 ♀ 8,1 × 9,2 mm. — St. 57, 107-96 m : 1 broken spec. — St. 72, 127-122 mm : 1 ♀ 7,0 × 8,0 mm.

HABITAT

Bottom of sand, sandy mud or soft mud, at depths of 30-300 m.

TYPE LOCALITY

Andaman Sea.

REMARKS

Randallia glans was established by ALCOCK in 1896 and the name was used by IHLE (1918), SERÈNE (1954), ZARENKOV (1969), SERÈNE & SOH (1976) as well as SERÈNE & VADON (1981). According to SERÈNE & SOH (1976 : 13) *Randallia glans* is not congeneric with *Randallia eburnea*

but may possibly belong to the genus *Nuciops*.

This species is different from the species of the genus *Randallia*. In the former the anterior end of the buccal cavern reaches far beyond the level of the anterior boundaries of the pterygostomial regions, which are rounded. The epistome and infraorbital lobes are usually well developed.

It resembles *Nucia* and *Nuciops* but more closely resembles *Ebalia*. The anterior boundaries of the pterygostomial regions are of different form and the merus of the third maxillipeds is a great deal more than half the length of the ischium measured along the inner border. So I prefer to classify this species as *Ebalia* instead of *Randallia*.

YOKOYA (1933 : 117, 118) described *E. scabriuscula* as having chelipeds longer than those described by ORTMANN, and cylindrical posterior pereopods (merus, carpus and propodus) almost smooth. These seems to indicate that his specimens belongs to *E. glans*.

DISTRIBUTION

China (South China Sea and East China Sea), Japan, Vietnam, Philippines, Indonesia, Australia, Thailand, India and Laccadive Islands.

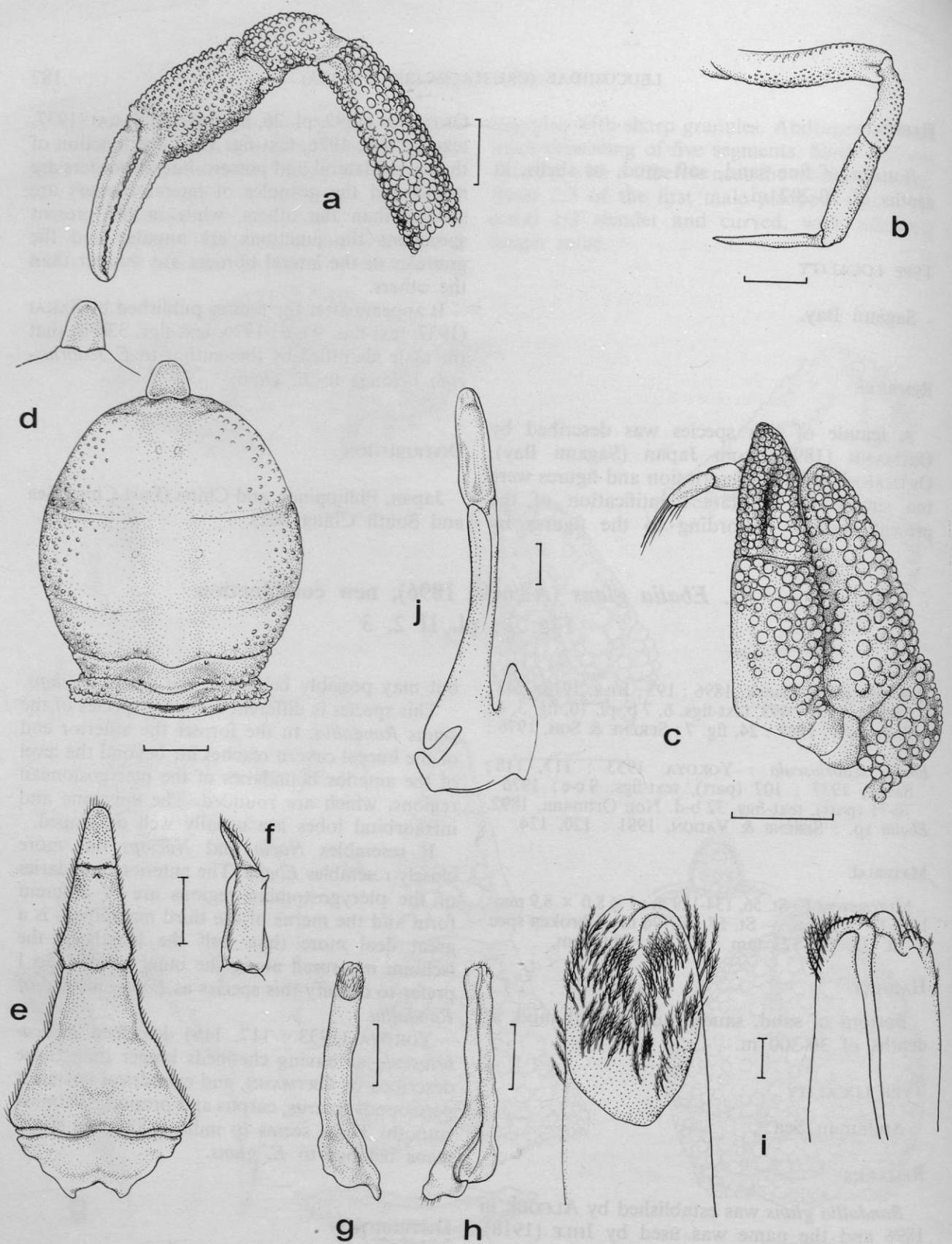


FIG. 2. — *Ebalia glans* (Alcock, 1896) : a, cheliped ; b, fourth ambulatory leg ; c, third maxilliped ; d, female abdomen ; e, male abdomen ; f, lateral view of sixth segment and telson ; g-h, first male pleopod ; i, enlarged tip of first male pleopod ; j, second male pleopod.

scale : a-h, 1 mm ; i-j, 0,1 mm.

3. *Ebalia serenei* sp. nov.

Fig. 31 a-b, fig. 32 a-b; pl. V 2, 4

MATERIAL

MUSORSTOM 3 : St. 117, 92-97 m : 2 ovig. ♀ 6,9 × 7,8 mm and 6,5 × 7,0 mm ; 1 ♀ immature 4,9 × 5,0 mm.
— St. 137, 56 m : 1 ♂ 5,8 × 6,0 mm ; 1 ♀ 6,5 × 7,4 mm.

TYPES

The male (MNHN-B 17969) from station 137 is the holotype and the female (MNHN-B 17970) from the same station the allotype. The three females (MNHN-B 17976) from station 117 are the paratypes.

DESCRIPTION

Carapace broader than long, broadly rounded, dorsal surface convex and covered with fine granules. Hepatic and pterygostomial regions slightly projecting. Intestinal region with a longitudinal shallow groove on either side. Front produced, bidentate, divided by a median shallow groove. Anterolateral borders slightly depressed between hepatic and branchial regions, lateral angle roundly produced. Posterior border produced towards the back but without tubercle.

Ventral surface of third maxillipeds, pterygo-

stomial regions and thoracic sterna are covered with fine granules.

Chelipeds except fingers covered with fine granules. Merus cylindrical. Palm oblong. Fingers longer than palm, their cutting edges with small teeth.

Ambulatory legs slender, the first pair the longest, the fourth the shortest. Merus smooth, cylindrical. Dactylus longer than propodus, with hairs on both sides.

Male abdomen triangular, consisting of five segments (3rd-5rd fused) : first segment small, second smaller than first, 6th segment longer than broad with a small and blunt tooth at its distal end, telson tongue-shaped. Male first pleopod stout and slightly curved, its distal end rounded, with short hairs. Female abdomen with five segments (1+2+3+R+T) : the first segment the smallest and line-like, telson tongue-shaped.

REMARKS

This species is dedicated in memory of late Dr. Raoul SERÈNE who so much contributed to the knowledge of Indo-West-Pacific Decapod fauna.

4. *Ebalia philippinensis* sp. nov.

Fig. 31 c; pl. V 3

MATERIAL

MUSORSTOM 3 : St. 87, 197-191 m : 1 ♀ holotype 3,5 × 3,2 mm (MNHN-B17973).

DESCRIPTION

Small species. Carapace longer than broad, closely covered with fine granules. Front bidentate, its anterior border slightly depressed and its lateral angles sharp on either side. Gastric region convex. Intestinal region rounded. Anterolateral borders slightly depressed between hepatic and branchial regions. Posterior border straight.

Ventral surface of third maxillipeds, pterygostomial regions and thoracic sterna covered with fine and sharp granules.

Chelipeds long, twice as long as carapace. Merus, carpus and palm closely covered with fine granules. Merus long and subcylindrical. Palm twice as long as broad, its middle part and its thin borders covered with sharp granules. Fingers slightly longer than palm, their tips crossed, their cutting edges serrulated.

Ambulatory legs long and thin, with smooth surface. Dactylus longer than propodus, its borders with a few hairs.

Female abdomen consisting of four segments (1+2+R+T). Telson longer than broad, triangular.

REMARKS

characteristics of these three species are tabulated as follows :

This new species closely resembles *Ebalia glans* (Alcock, 1896) and *Ebalia serenei* sp. nov. The

	<i>E. glans</i>	<i>E. serenei</i>	<i>E. philippinensis</i>
1. Carapace	rounded and with dorsal surface convex	broadly rounded and with dorsal surface not convex	nearly rhomboidal and with dorsal surface convex
2. Antero-lateral border	with a deep notch	without notch, only slightly depressed	without notch, only slightly depressed
3. Posterior border	with 2 indistinct tubercles	without tubercle	without tubercle
4. Female abdomen	segments 4-6 fused together	segments 4-6 fused together	segments 3-6 fused together
5. Telson of male	tongue-shaped	tongue-shaped	triangular

5. *Ebalia dimorphoides* Sakai, 1963

Fig. 3; pl. I 4

Ebalia dimorphoides Sakai, 1963 : 213-215, fig. 1 a ; 1965 : 27, pl. 13, fig. 1 ; 1976 : 72, text-fig. 34, pl. 24, fig. 2 ; TAKEDA, 1973 : 26, fig. 2, 3 b.

MATERIAL

MUSORSTOM 2 : St. 33, 137-130 m : 1 ♀ 4,8 × 5,5 mm.

HABITAT

Bottom of sand or sandy mud, at depths of 65-137 m.

TYPE LOCALITY

Amadaiba, Sagami Bay (Japan).

REMARKS

The morphological features of our single spe-

cimen agree well with SAKAI'S original description of *E. dimorphoides* except in two features : first, the mesobranchial region of the carapace is convex, which was overlooked by SAKAI. Second, the fingers of the chelipeds are slightly longer than the palm, and the tips of the fingers are crossed ; according to SAKAI, the fingers are as long as the propodus. The exopod of the third maxillipeds is slender, its outer border is curved, the tip and outer face are convex, and are covered with fine granules. The merus is as long as the ischium. This species is a first record for the Philippines.

Colours in alcohol : The body is darkish brown. The borders of the carapace, the fingers of the chelipeds and ambulatory legs are ivory white.

DISTRIBUTION

Japan and Philippines.

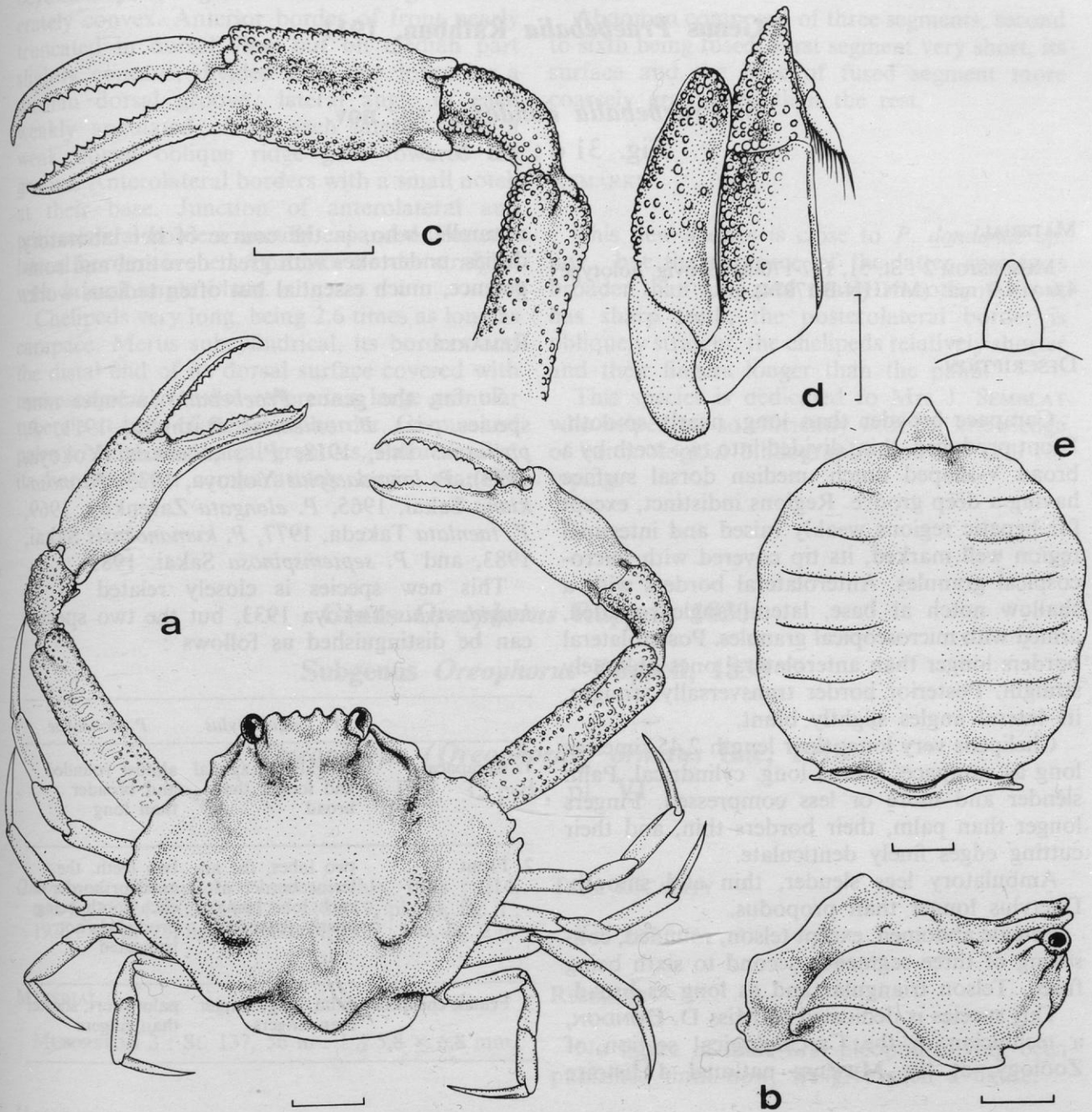


FIG. 3. — *Ebalia dimorphoides* Sakai, 1963 : a, entire animal ; b, carapace, lateral view ; c, cheliped ; d, third maxilliped ; e, female abdomen.

scale : a-c, 1 mm ; d-e, 0,5 mm.

Genus *Praebebalia* Rathbun, 1911

6. *Praebebalia dondonae* sp. nov.

Fig. 31 d; pl. V 5

MATERIAL

MUSORSTOM 2 : St. 51, 187-170 m : ♀ ovig. holotype
4,6 × 4,9 mm (MNHN-B 17974).

DESCRIPTION

Carapace broader than long, nearly smooth. Front produced, thin, divided into two teeth by a broad V-shaped notch, median dorsal surface having a deep groove. Regions indistinct, except for hepatic regions weakly raised and intestinal region well marked, its tip covered with microscopical granules. Anterolateral borders with a shallow notch at base, lateral angle rounded, armed with microscopical granules. Posterolateral borders longer than anterolateral ones obliquely straight. Posterior border transversally straight, its lateral angles slightly blunt.

Chelipeds very long, their length 2.45 times as long as carapace. Merus long, cylindrical. Palm slender and more or less compressed. Fingers longer than palm, their borders thin, and their cutting edges finely denticulate.

Ambulatory legs slender, thin and smooth, Dactylus longer than propodus.

Female abdomen, except telson, rounded, consisting of three segments, second to sixth being fused. Telson triangular and as long as broad.

This species is dedicated to Miss D. DONDON, a technician in the Carcinological section of Zoology, at the Muséum national d'Histoire

naturelle, who, in the course of her laboratory duties, undertakes with great devotion and competence, much essential but often tedious work.

REMARKS

So far, the genus *Praebebalia* includes nine species, viz., *P. extensiva* Rathbun, 1911, *P. pisiformis* Ihle, 1918, *P. sikokuensis* (Yokoya, 1933), *P. longidactylus* Yokoya, 1933, *P. mosaikiana* Sakai, 1965, *P. elongata* Zarenkov, 1969, *P. taeniata* Takeda, 1977, *P. kumanoensis* Sakai, 1983, and *P. septemspinosa* Sakai, 1983.

This new species is closely related to *P. longidactylus* Yokoya 1933, but the two species can be distinguished as follows :

	<i>P. longidactylus</i>	<i>P. dondonae</i>
1. Carapace	roughly hexagonal and longer than broad	almost rounded and broader than long
2. Front	two lobes, the anterior border of each lobe being nearly truncated	two teeth, the anterior border of each tooth being produced, not truncated
3. Female chelipeds	palm long, longer than fingers	palm short, shorter than fingers

3. *Praebebalia semblatae* sp. nov.

Fig. 31 e; Pl. V 1

MATERIAL

MUSORSTOM 3 : St. 126, 266 m : ♀ ovig. holotype
4,8 × 4,6 mm (MNHN-B 17975).

DESCRIPTION

Carapace a little longer than broad and convex dorsally, covered with microscopical granules.

Regions ill-defined (except for hepatic and intestinal ones). Pterygostomian regions projecting beyond hepatic regions. Intestinal region moderately convex. Anterior border of front nearly truncated in dorsal view but on median part slightly concave, divided into two lobes by a median dorsal groove; lateral angle of each weakly angulated; from each lateral angle a weak dorsal oblique ridge goes towards the groove. Anterolateral borders with a small notch at their base. Junction of anterolateral and posterolateral borders roundly expanded. Posterolateral borders arched. Posterior border straight, with lateral angle blunt.

Chelipeds very long, being 2.6 times as long as carapace. Merus subcylindrical, its borders and the distal end of its dorsal surface covered with microscopical granules; there is a large granular tubercle at base of posterior border. Carpus and palm with microscopical granules. Palm slender, its borders with comparatively larger granules

than on its dorsal surface. Fingers with their tips strongly crossed, and their cutting edges finely denticulate.

Abdomen composed of three segments, second to sixth being fused. First segment very short, its surface and the base of fused segment more coarsely granulated than the rest.

REMARKS

This new species is close to *P. dondonae* sp. nov., but the carapace of the latter species is broader than long and nearly smooth, its front has sharp teeth, the posterolateral border is obliquely straight, the chelipeds relatively shorter and their fingers longer than the palm.

This species is dedicated to Mrs J. SEMBLAT who helped me so efficiently with her knowledge of carcinological bibliography and her skill for typing.

Genus *Oreophorus* Rüppell, 1830

Subgenus *Oreophorus* Rüppell, 1830

8. *Oreophorus (Oreophorus) ornatus* Ihle, 1918

Fig. 32 c-d; pl. VI 6

Oreophorus (Oreophorus) ornatus Ihle, 1918 : 214, text-fig. 122; SAKAI, 1937 : 118-119, pl. 14, fig. 1; 1976 : 81, pl. 25, fig. 3; TAKEDA, 1979 : 156, fig. 2 b.

TYPE LOCALITY

Kei Islands.

MATERIAL

MUSORSTOM 3 : St. 137, 56 m : 1 ♂ 5,8 × 6,8 mm.

REMARKS

No figure of male first pleopod having been published until now, we give such a figure.

HABITAT

Found among dead shells, at depths of 50-90 m.

DISTRIBUTION

Indonesia (Kei Islands), Philippines, Japan.

Subgenus *Oreotlos* Ihle, 1918

9. *Oreophorus (Oreotlos) speciosus* sp. nov.

Pl. XI 1

MATERIAL

MUSORSTOM 3 : St. 117, 97-92 m : ♀ semi-adult holotype 4,6 × 6,9 mm (MNHN-B 18188).

DESCRIPTION

Carapace broader than long (cb/cl = 1,5), dorsal surface covered with honeycomb-like depressions and fine granules. Front thick and bluntly rounded. Gastric and cardiac regions moderately convex; branchial humps higher. Intestinal region slightly defined. Hepatic regions depressed, with a slightly larger granule; anterior border of subhepatic regions relatively produced, with a finely granular ridge forming a small tubercle. Pterygostomian regions more produced, forming a triangular tubercle. Anterolateral borders of the carapace straight behind the pterygostomian angle. Anterior part of the posterolateral borders of the carapace swollen and oblique; posterior part concave with a low and wide tubercle past its middle giving to the border a sinuous aspect. Posterior border of the carapace

narrow and very slightly convex.

Chelipeds symmetrical. Merus somewhat curved, anterior border covered with a row of granules, posterior border with some sparse teeth more or less triangular or rounded. Palm short and swollen; dorsal surface covered with fine granules, some larger ones are spaced on a transverse row near the base of the palm. Fingers are slender, more than twice as long as palm, with their tips strongly crossed; their borders with acute granules and their cutting edges with small teeth more developed on their distal half.

Ambulatory legs short and rather slender, the first longer than the others; all segments armed with fine granules. Anterior border of merus of last legs having 4 fine granules, posterior border with 6, the three on the basal half larger than those on the distal half.

REMARKS

This new species closely resembles *Oreophorus (Oreotlos) angulatus* (Rathbun, 1906), but the two species can be distinguished as follows :

	<i>Oreophorus (Oreotlos) angulatus</i>	<i>Oreophorus (Oreotlos) speciosus</i>
1. Front	two lobes	one lobe
2. Dorsal surface of carapace	with honeycomb-like depressions but having coarse granules	without honeycomb-like depressions and fine granules
3. Branchial humps	high	low
4. Intestinal region	prominent	not prominent

10. *Oreophorus (Oreotlos) angulatus* (Rathbun, 1906)

Pl. VI 2

Tlos angulatus Rathbun, 1906 : 889, pl. 6, fig. 5.
Oreophorus (Oreotlos) angulatus : IHLE, 1918 : 216;
 ESTAMPADOR, 1937 : 514; 1959 : 65; SERÈNE, 1968 :
 42.

MATERIAL

MUSORSTOM 3 : St. 142, 27-26 m : 1 ♂ 6,1 × 8,5 mm.

DESCRIPTION

Carapace broader than long (cb/cl = 1,4), covered with granules, much coarser on the borders. Gastric and cardiac regions moderately convex; branchial humps higher fore and aft. Intestinal region rather convex, the rest strongly depressed. Cardiac region with a short and eroded longitudinal groove on each side. Subhepatic regions produced with a larger tubercle on its posterior part, its border with coarse granules. Front produced, divided into two rounded lobes by a median groove. Lateral borders of the carapace sinuous; anterolateral borders shorter than posterolateral ones, the latter roundly expanded. Posterior border narrow.

Chelipeds stout and granular. Distal part of merus broader than the base, anterior border with a row of granules, posterior border with some spaced teeth more or less triangular or rounded. Palm short and relatively swollen with some coarser granules near its base. Fingers less than twice as long as palm, with their tips

strongly crossed and their cutting edges minutely toothed.

Ambulatory legs short and granular, the first longer than the others.

Male abdomen with segments 3-5 fused; segments 1-2 linear, fused segment with a tubercle at its distal third. Segment 6 with its basal part 2,3 times broader than the distal one; lateral borders subparallel on their basal third and strongly convergent afterwards. Telson roughly triangular.

HABITAT

Coral reefs, at depths of 13-54 m.

TYPE LOCALITY

Hawaiian Islands (vicinity of Kauai Island).

DISTRIBUTION

Hawaiian Islands, Indonesia and Philippines.

Genus *Drachiella* Guinot, 197611. *Drachiella morum* (Alcock, 1896)

Fig. 4 a, b; pl. III 6

Actaeomorpha morum Alcock, 1896 : pl. 8, fig. 3; ALCOCK & ANDERSON, 1897, pl. 28, fig. 4; CHOPRA, 1934 : 480; EDMONDSON, 1935 : 20; SAKAI, 1937 : 116, text-fig. 13; 1965 : 35, pl. 15, fig. 3; 1976 : 81, pl. 25, fig. 5; SERÈNE, 1954 : 458, pl. 7, text-figs. 1, 2; ZARENKOV, 1969 : 16, fig. 1(1); TAKEDA & MIYAKE, 1970 : 218.

Oreophorus rugosus : YOKOYA, 1933 : 116 (non *Oreophorus rugosus* Stimpson, 1858).

"Aff. *Oreophorus*" *morum* : GUINOT, 1966 : 759; SERÈNE, 1968 : 42.

Drachiella morum : GUINOT in SERÈNE & SOH, 1976 : 6, fig. 2; GUINOT, 1978 : 10, 11.

MATERIAL

MUSORSTOM 1 : St. 56, 134-129 m : 1 ♀ 10,0 × 11,9 mm

HABITAT

Bottom of muddy sand, coarse sand, and shell at depths of 23-150 m.

TYPE LOCALITY

Canja coast (India).

REMARKS

The gastro-cardiac and branchial regions of the carapace are more or less variable in form : the former is sometimes pyriform or triangular and the latter may be broader or narrower. Third to fifth segments of male abdomen fused, but distinctly marked. According to SAKAI (1937 : 116), the abdomen of the male consists of seven distinct segments.

This species was originally placed in the genus *Actaeomorpha* Miers, 1878, by ALCOCK. GUINOT (1966), on the basis that the genus *Actaeomorpha* Miers, 1878, is a parthenopid rather than a leucosiid, placed it near *Oreophorus* Rüppell,

1830. In 1976, GUINOT found out that it has deeply grooved carapace with mushroom-like tubercles on the dorsal side and has sharp cheliped fingers, which features are distinctive from those of *Oreophorus* on which ground she erected a new genus, *Drachiella* (published in SERÈNE & SOH, 1976 : 7).

DISTRIBUTION

China (South China Sea and East China Sea), Japan, Vietnam, Philippines, Thailand, and India.

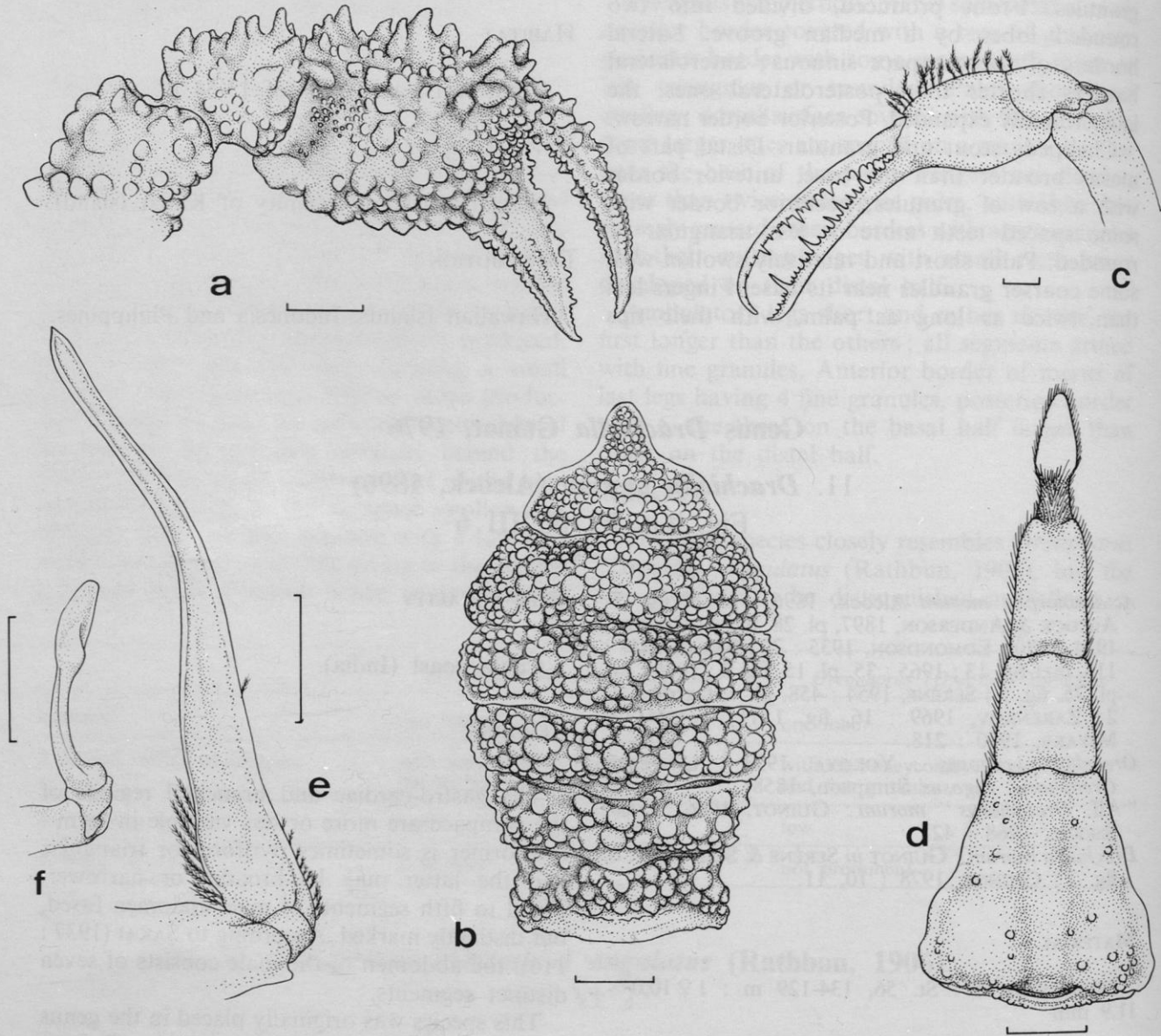


FIG. 4. — a-b, *Drachiella morum* (Alcock, 1896) and c-f, *Iphiculus spongiosus* Adams et White, 1848 : a, female cheliped ; b, female abdomen ; c, male cheliped ; d, male abdomen ; e, first male pleopod ; f, second male pleopod. scale : 1mm.

12. *Drachiella aglypha aglypha* (Laurie, 1906)

Pl. VI 3

Lithadia sculpta var. *aglypha* Laurie, 1906 : 358-359, text-fig. 2.Aff. *Oreophorus aglyphus aglyphus* : SERÈNE, 1968 : 42.*Drachiella aglypha aglypha* : GUINOT, 1978 : 11.

TYPE LOCALITY

Gulf of Mannar.

MATERIAL

MUSORSTOM 3 : St. 117, 97-92 m : 1 empty shell
9,0 × 11,4 mm.

DISTRIBUTION

Sri Lanka and Philippines.

HABITAT

Coral reefs, at depths of 92-97 m.

Genus *Heteronucia*, Alcock, 189613. *Heteronucia perlata* (Sakai, 1963), new combination

Fig. 5

Nucia perlata Sakai, 1963 : 218, fig. 3 a ; 1965 : 37, pl. 15, fig. 6 ; 1976 : 84-85, text-fig. 42, pl. 26, fig. 3.*Heteronucia globata* : SERÈNE & VADON, 1981 : 120, 124. (Non Sakai, 1963).

MATERIAL

MUSORSTOM 1 : St. 65, 202-194 m : 1 ♂ 5,6 × 5,9 mm.
MUSORSTOM 2 : St. 65, 137-130 m : 1 ♀ ovig.
6,4 × 7,0 mm.

HABITAT

Bottom of fine sand or shelly sand, at depths
of 65-131 m.

TYPE LOCALITY

Sagami Bay (Japan).

REMARKS

The ventral surface of the third maxillipeds is
unequally depressed and has round granules ; the

exopod is stout, and has a straight outer border. The abdomen of both sexes has granules. The male abdomen consists of four segments (third to sixth fused together). The telson is elongate triangular with rounded tip. The first pleopod is stout and straight, with the distal half covered with plumose hairs.

The features of the two specimens agree well with SAKAI's description and figure of *Nucia perlata*. The fingers are very much longer than the palm, which is swollen, and open vertically, a character typical of the genus *Heteronucia*.

DISTRIBUTION

China (East China Sea), Japan, and Philip-
pines.

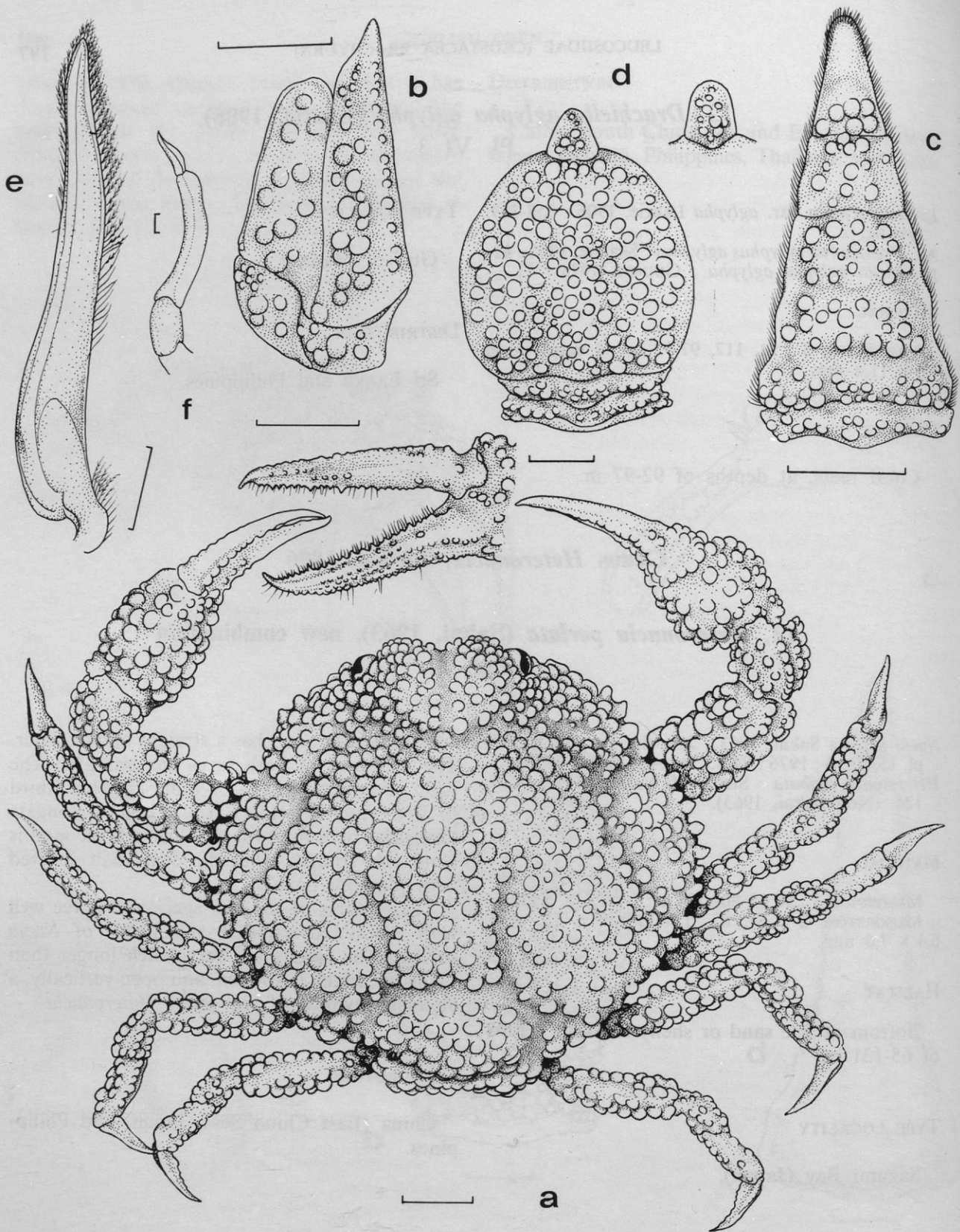


FIG. 5. — *Heteronucia perlata* (Sakai, 1963) : a, entire animal, ovig. female ; b, third maxilliped ; c, male abdomen ; d, female abdomen ; e, first male pleopod ; f, second male pleopod.
 scale : a-d, 1 mm ; e, 0,5 mm ; f, 0,1 mm.

14. *Heteronucia laminata* (Doflein, 1904) new combination

Fig. 6; pl. IV 6

Philyra laminata Doflein, 1904 : 46, pl. 15, figs. 5, 6 ;
SAKAI, 1937 : 153, text-figs. 31 a, b; 1965 : 49, pl.
20, fig. 2.
Nucia laminata : SAKAI 1976 : 85, pl. 27, fig. 1, text-
fig. 43 ; SERÈNE & VADON, 1981 : 118, 124.

MATERIAL

MUSORSTOM 1 : St. 7, 200-185 m : 1 ♀ 16,4 ×
15,8 mm. — St. 10, 205-187 m : 1 ♂ 9,8 × 9,4 mm. —
St. 26, 191-188 m : 1 ♂ 9,2 × 9,0 mm ; 1 ♀ 15,6 ×
15,0 mm. — St. 30, 187-186 m : 2 ♂ 16,8 × 15,8 mm,

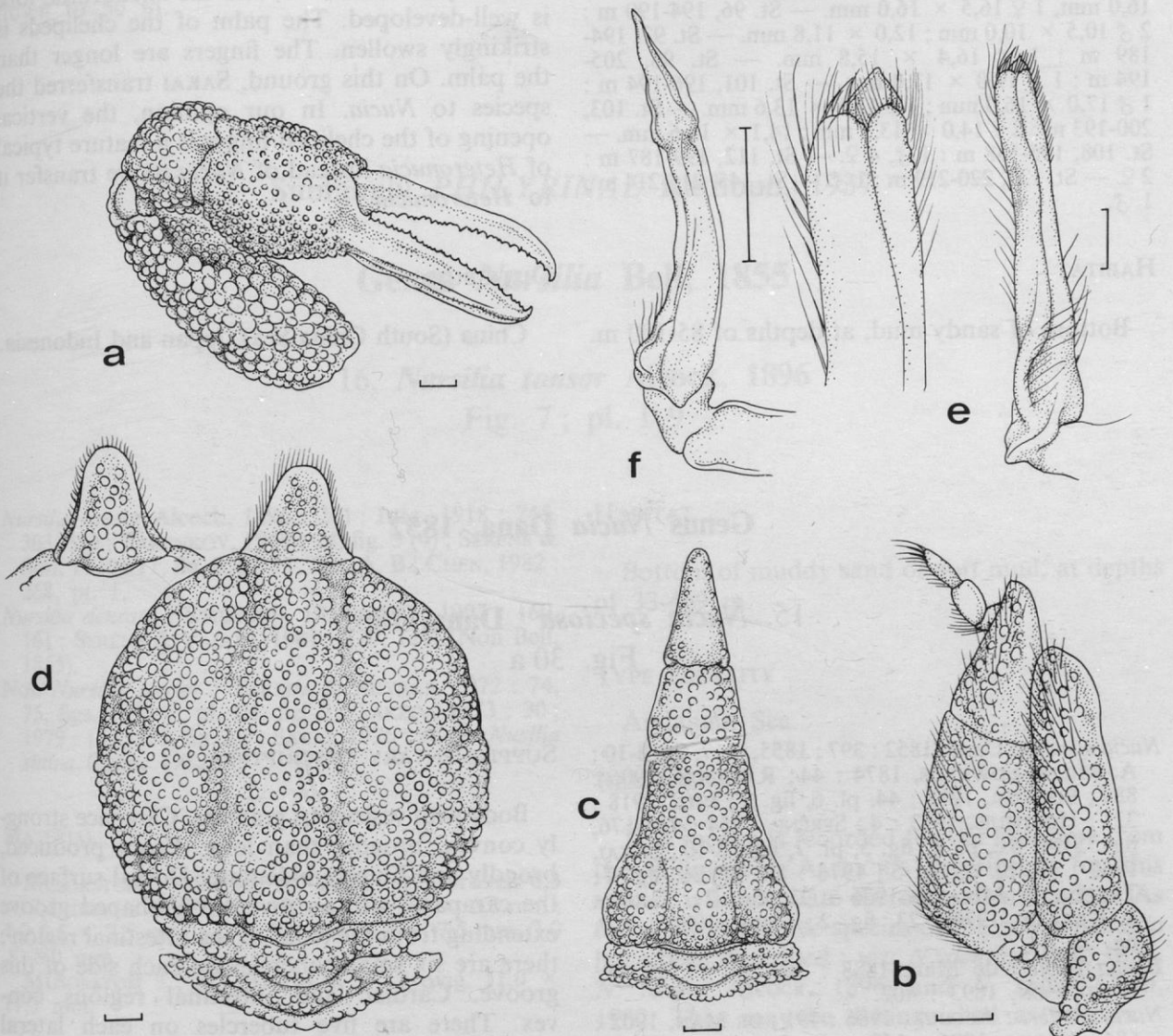


FIG. 6. — *Heteronucia laminata* (Doflein, 1904) : a, cheliped ; b, third maxilliped ; c, male abdomen ; d, female abdomen ; e, first male pleopod ; f, second male pleopod.

scale : 1 mm.

17,8 × 16,8 mm. — St. 34, 191-188 m : 3 ♂, 1 ♀. — St. 36, 210-187 m : 1 ♂. — St. 71, 174-204 m : 1 ♂, 3 ♀.

MUSORSTOM 2: St. 1, 198-188 m : 1 ♀ (damaged). — St. 4, 190-183 m : 1 ♂ 10,0 × 9,6 mm ; 1 ♀ 18,0 × 17,6 mm. — St. 10, 195-188 m : 1 ♀ 19,8 × 18,8 mm. — St. 18, 195-188 m : 1 ♀ 19,0 × 18,8 mm. — St. 20, 192-185 m : 1 ♀ 19,4 × 18,2 mm. — St. 21, 192-191 m : 2 ♂ 15,6 × 15,0, 20,0 × 19,2 mm ; 1 ♀ 20,0 × 19,0 mm. — St. 41, 172-166 m : 2 ♂ 11,2 × 11,0, 13,0 × 12,2 mm ; 2 ♀ 13,0 × 12,5, 18,2 × 18,0 mm. — St. 52, 190-181 m : 1 ♂, 1 ♀. — St. 59, 190-186 m : 1 ♀. — St. 62, 189-186 m : 1 ♀. — St. 64, 195-191 m : 1 ♀. — St. 67, 199-193 m : 2 ♀. — St. 68, 199-195 m : 1 ♂, 1 ♀. — St. 72, 197-182 m : 1 ♀.

MUSORSTOM 3 : St. 90, 195 m : 1 ♀ 17,0 × 16,0 mm, 1 ♀ 16,5 × 16,0 mm. — St. 96, 194-190 m : 2 ♂ 10,5 × 10,0 mm ; 12,0 × 11,8 mm. — St. 97, 194-189 m : 1 ♂ 16,4 × 15,8 mm. — St. 98, 205-194 m : 1 ♂ 19,0 × 17,0 mm. — St. 101, 196-194 m : 1 ♂ 17,0 × 16,0 mm ; 1 ♀ 13,5 × 13,6 mm. — St. 103, 200-193 m : 2 ♀ 14,0 × 13,5 mm ; 14,1 × 13,6 mm. — St. 108, 195-188 m : 1 ♂, 4 ♀. — St. 112, 199-187 m : 2 ♀. — St. 120, 220-219 m : 1 ♂. — St. 145, 216-214 m : 1 ♂.

HABITAT

Bottom of sandy mud, at depths of 85-100 m.

TYPE LOCALITY

Nias Island, south of Bagmum (Indonesia).

REMARKS

This species was established by DOFLEIN (1904), who placed it in the genus *Philyra*. According to SAKAI (1976), the characters of the species do not validate placing it in the genus *Philyra*, as no rhomboidal facet is formed on the lateral margin of the hepatic regions; the posterior border of the carapace is bilobed, and the infraorbital lobe is well-developed. The palm of the chelipeds is strikingly swollen. The fingers are longer than the palm. On this ground, SAKAI transferred the species to *Nucia*. In our opinion, the vertical opening of the cheliped finger is a feature typical of *Heteronucia* instead of *Nucia* so we transfer it to *Heteronucia*.

DISTRIBUTION

China (South China Sea), Japan and Indonesia.

Genus *Nucia* Dana, 1852

15. *Nucia speciosa* Dana, 1852

Fig. 30 a

Nucia speciosa Dana, 1852 : 397 ; 1855, pl. 7, fig. 8-10 ; A. MILNE EDWARDS, 1874 : 44 ; RATHBUN, 1906 : 889 ; BOUVIER, 1915 : 44, pl. 6, fig. 2 ; IHLE, 1918 : 321 ; HOLTHUIS, 1953 : 4 ; SERÈNE, 1954 : 165-176, figs. 5 d-f, 6 c, pl. 6, fig. 5, pl. 7, figs. 8-10 ; SAKAI, 1965 : 43, pl. 5, fig. 5 ; 1976 : 84, pl. 26, fig. 4 ; TAKEDA & MIYAKE, 1976 : 23, fig. 2 ; TAKEDA & KURATA, 1976 : 23, fig. 2 ; CHEN, 1980 : 119, fig. 2.

Ebalia pfefferi de Man, 1888 : 390, pl. 17, fig. 4 ; HENDERSON, 1893 : 402.

Nucia pfefferi : ALCOCK, 1986 : 191 ; DE MAN, 1902 : 684 ; NOBILL, 1906 : 162.

MATERIAL

MUSORSTOM 3 : St. 137, 56 m : 1 ♂ 8,0 × 9,5 mm.

SUPPLEMENTARY DESCRIPTION

Body with vesiculous granules. Carapace strongly convex, broader than long. Front produced, broadly and bluntly bidentate. Dorsal surface of the carapace with an inversed V-shaped groove extending from the front to the intestinal region ; there are six small tubercles on each side of this groove. Cardiac and intestinal regions convex. There are five tubercles on each lateral border of the carapace and two on the posterior border. These tubercles are more distinct in male than in female. Extremity of buccal cavity with a small tubercle on each side.

Chelipeds stout. Merus cylindrical with distal end broader than base. Fingers with acuminate granules, with fine teeth on cutting edge.

Male abdomen with 3rd to 5th segment fused. First male pleopod stout with its distal end bifid: the inner branch short and blunt; the outer one long and pointed.

HABITAT

Between high and low tidal zones, coral reefs down to 56 m.

TYPE LOCALITY

Sandwich Island.

DISTRIBUTION

Xisha Islands (South China Sea), Japan, Hawaii, New Caledonia, Indonesia (Amboina and Ternate), Mauritius and Red Sea.

Subfamily *PHILYRINAE* Rathbun, 1937Genus *Nursilia* Bell, 185516. *Nursilia tonsor* Alcock, 1896

Fig. 7; pl. I 9

Nursilia tonsor Alcock, 1896 : 261; IHLE, 1918 : 245, 303, 312; ZARENKOV, 1969 : 24, fig. 5 (4); SERÈNE & SOH, 1976 : 11, fig. 8, pl. 11, figs. A, B; CHEN, 1982 : 268, pl. 1.

Nursilia dentata : STIMPSON, 1858 : 162; 1907 : 160, 161; SERÈNE & VADON, 1981 : 120, 124. (Non Bell, 1855).

Non *Nursilia tonsor* : TAKEDA & MIYAKE, 1972 : 74, 75, figs. 1, D-F, pl. III, fig. 2; TAKEDA 1973 : 30; 1979 : 152, 155, fig. 2 c; SAKAI, 1976 : 90 (= *Nursilia sinica* Chen, 1982).

MATERIAL

MUSORSTOM 1 : St. 57, 107-96 m : 1 ♀ broken 6,3 × 7,6 mm. — St. 72, 127-122 m : 1 ♂ 5,8 × 6,8 mm; 4 ♀ 6,5 × 7,5 mm, 6,2 × 7,3 mm, 6,2 × 7,5 mm, 7,0 × 8,0 mm.

MUSORSTOM 3 : St. 137, 56 m : 1 ♀ ovig. 11,0 × 11,3 mm.

HABITAT

Bottom of muddy sand or soft mud, at depths of 33-469 m.

TYPE LOCALITY

Andaman Sea.

REMARKS

This species is recorded for the first time from the Philippines. ALCOCK's description for this species is inadequate for easy identification. As far as known, three species of the genus *Nursilia* have been described: viz. *N. dentata* Bell, 1855, *N. tonsor* Alcock, 1896, and *N. sinica* Chen, 1982. They may be distinguished as follows:

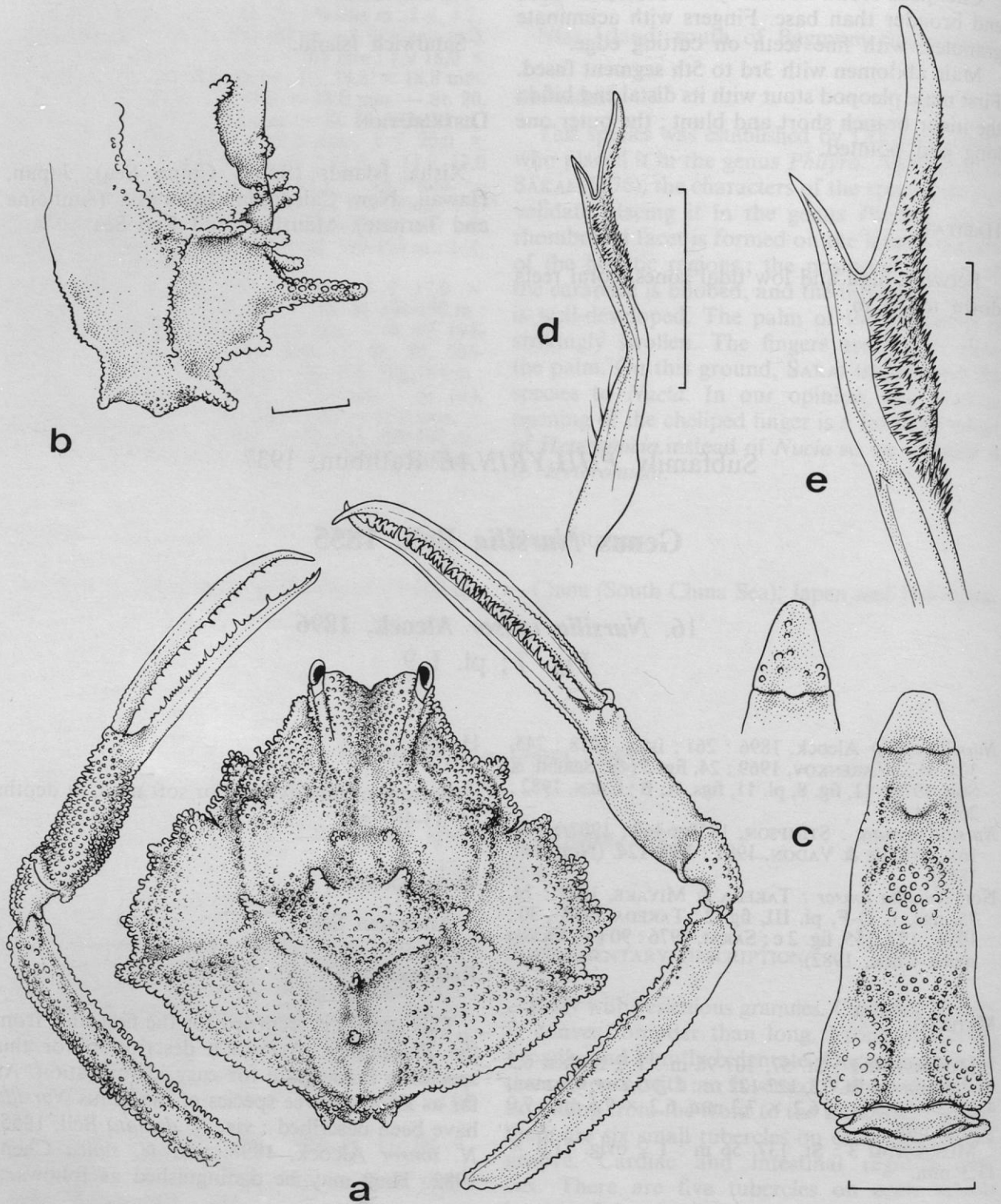


FIG. 7. — *Nursilia tonsor* Alcock, 1896 : a, male carapace and chelipeds ; b, posterior part of carapace, lateral view ; c, male abdomen ; d, e, first male pleopod.

scale : a-d, 1 mm ; e, 0,1 mm.

	<i>N. dentata</i>	<i>N. tonsor</i>	<i>N. sinica</i>
1. Carapace :			
a. Teeth of antero-lateral border	obtuse	sharp	sharp
b. Gastric region	slightly depressed and with two pairs of small spines	slightly depressed and with two pairs of small spines	deeply depressed and with one pair of small spines
c. Posterior part of longitudinal ridge	with three large spines	with one large and two small spines	with one large and one small spine
2. Outer border of palm of cheliped	without cristiform lamina	without cristiform lamina	without cristiform lamina
3. Third maxilliped	unknown	with a round square tubercle on dorsal surface of merus and with ventral surface of ischiomerus segments slightly depressed	with a conical tubercle on and dorsal surface of merus with ventral surface of ischiomerus segments deeply depressed
4. Extremity of pterygostomian region	unknown	narrow, with an obtusely round tooth	broad, with two teeth
5. Extremity of first male pleopod	with two branches, inner one long with curved tip, outer one short	with two branches, inner one long with curved tip, outer one short	with two branches equal

DISTRIBUTION

China (South China Sea), Japan, Philippines, Thailand, Sri Lanka, and India.

Genus *Arcania* Leach, 1817Key to the species of the genus *Arcania*

1. — Cardiac region of carapace without pigmented patch 2
 - Cardiac region of carapace with a square reddish patch *Arcania quinquespinosa* Alcock & Anderson, 1894
2. — Borders of carapace armed with seven spines, five of which are of unequal size ; dorsal surface of carapace with a median longitudinal ridge *Arcania septemspinosa* (Fabricius, 1787)
 - Borders of carapace armed with eleven spines 3
3. — Frontal teeth relatively long, their dorsal surface and borders covered with granules *Arcania undecimspinosa* de Haan, 1841
 - Frontal teeth relatively short, their dorsal surface and borders covered with dispersed acuminate spinules *Arcania brevifrons* sp. nov.

17. *Arcania undecimspinosa* de Haan, 1841

Fig. 8; pl. II 4

Arcania 11 spinosa de Haan, 1841 : 135, pl. 33, fig. 6.
Arcania undecimspinosa : BELL, 1855 : 309; WALKER, 1878 : 111; MIERS, 1884 : 548; ORTMANN, 1892 : 577; HENDERSON, 1893 : 404; ALCOCK, 1896 : 299; RATHBUN, 1902 : 30; 1910 : 314; PARISI, 1914 : 296; IHLE, 1918 : 265; BALSS : 132; SHEN, 1931 : 107, pl. 10, fig. 1; YOKOYA, 1933 : 132; SAKAI, 1934 : 288; 1937 : 123, fig. 15 a, pl. 14, fig. 2; 1965 : 40, fig. 6, pl. 16, fig. 3; 1976 : 91, pl. 28, fig. 1; TAKEDA & MIYAKE, 1970 : 244; KIM, 1973 : 295, 611, pl. 11, fig. 60; SERÈNE & VADON, 1981 : 119-120, 124.
Arcania granulosa Miers, 1877 : 240, pl. 38, fig. 29; HASWELL, 1880 : 58; 1882 : 131.

MATERIAL

MUSORSTOM 1 : St. 26, 189 m : 1 ♂ 8,0 × 8,0; 1 ♀ 8,1 × 8,1. — St. 32, 193-184 m : 1 ♂ 23,0 × 21,5 mm. — St. 34, 191-188 m : 1 ♂ 17,5 × 17,0 mm. — St. 51, 200-170 m : 1 ♂ 10,8 × 10,3; 1 ♀ 11,5 × 10,8 mm. — St. 61, 202-184 m : 1 ♀ 8,0 × 8,0 mm. — St. 64, 195-194 : 1 ♀. — St. 65, 202-194 m : 1 ♀ 22,0 × 21,0 mm.
 MUSORSTOM 2 : St. 1, 198-188 m : 1 ♂ 12,0 × 11,5 mm. — St. 11, 184-182 m : 1 ♂ 11,0 × 10,2 mm. — St. 19, 192-189 m : 1 ♂ 23,1 × 21,0 mm. — St. 34, 191-188 m : 1 ♂ broken. — St. 41, 172-166 m : 2 ♂ 7,2 × 7,1, 12,5 × 12,2 mm. — St. 62, 189-186 m : 1 ♀. — St. 80, 205-178 m : 1 ♂ 11,0 × 10,5 mm.
 MUSORSTOM 3 : St. 86, 192-187 m : 1 ♂ 12,0 × 11,2 mm. — St. 88, 187-183 m : 1 ♂ 12,5 × 12,0 mm; 2 ♀ 8,9 × 8,6, 12,3 × 11,9 mm. — St. 90, 195 m : 1 ♂ 12,0 × 11,0 mm. — St. 96, 194-190 m : 5 ♀ 13,0 × 12,0 to 18,3 × 17,0 mm. — St. 97, 194-189 m : 1 ♀. — St. 100, 199-189 m : 2 ♂. — St. 101, 196-194 m : 1 ♀. — St. 107, 115-111 m : 1 ♀. — St. 111, 205-193 m : 1 ♀.

HABITAT

Bottom of muddy sand, soft mud and sandy mud, at depths of 14-210 m.

TYPE LOCALITY

Japan.

REMARKS

The MUSORSTOM specimens agree with the description and figures of the species given by ALCOCK (1896) and SAKAI (1937). The front is divided into two sharp teeth with a V-shaped notch, the distal 2/3 of the dorsal surface is covered with dense and fine granules.

The abdomen of both sexes consists of five segments (1 + 2 + R + 6 + T). In the male, it is narrowly triangular, with its ventral surface covered with acuminate granules. The segment 6 is about twice as long as broad.

The anterior border of the pterygostomian regions is armed with two sharp spines, separated by a wide U-shaped sinus; an infraorbital spine is located between these two spines. The specimens were collected from 85 to 202 m. SAKAI reported this species from Japan at 30-100 m, ZARENKOV from India, Siam Bay, etc. at 14-100 m, and from the China Sea, at 22-210 m.

DISTRIBUTION

China (South China Sea and East China Sea), Japan, Korea, Vietnam, Philippines, Australia, Thailand, India, and Seychelles.

18. *Arcania brevifrons* sp. nov.

Fig. 31 f, 32 c-d; pl. V 6

MATERIAL

MUSORSTOM 3 : St. 141, 44-40 m : 1 ♂ holotype 20,0 × 18,5 mm (MNHN-B 18079); 1 ♂ juv. 10,0 × 9,1 mm; 1 ♀ juv. 11,0 × 10,2 mm paratypes, (MNHN-B 18080).

DESCRIPTION

Carapace longitudinal oval, dorsal surface convex, regions slightly distinct. Dorsal and

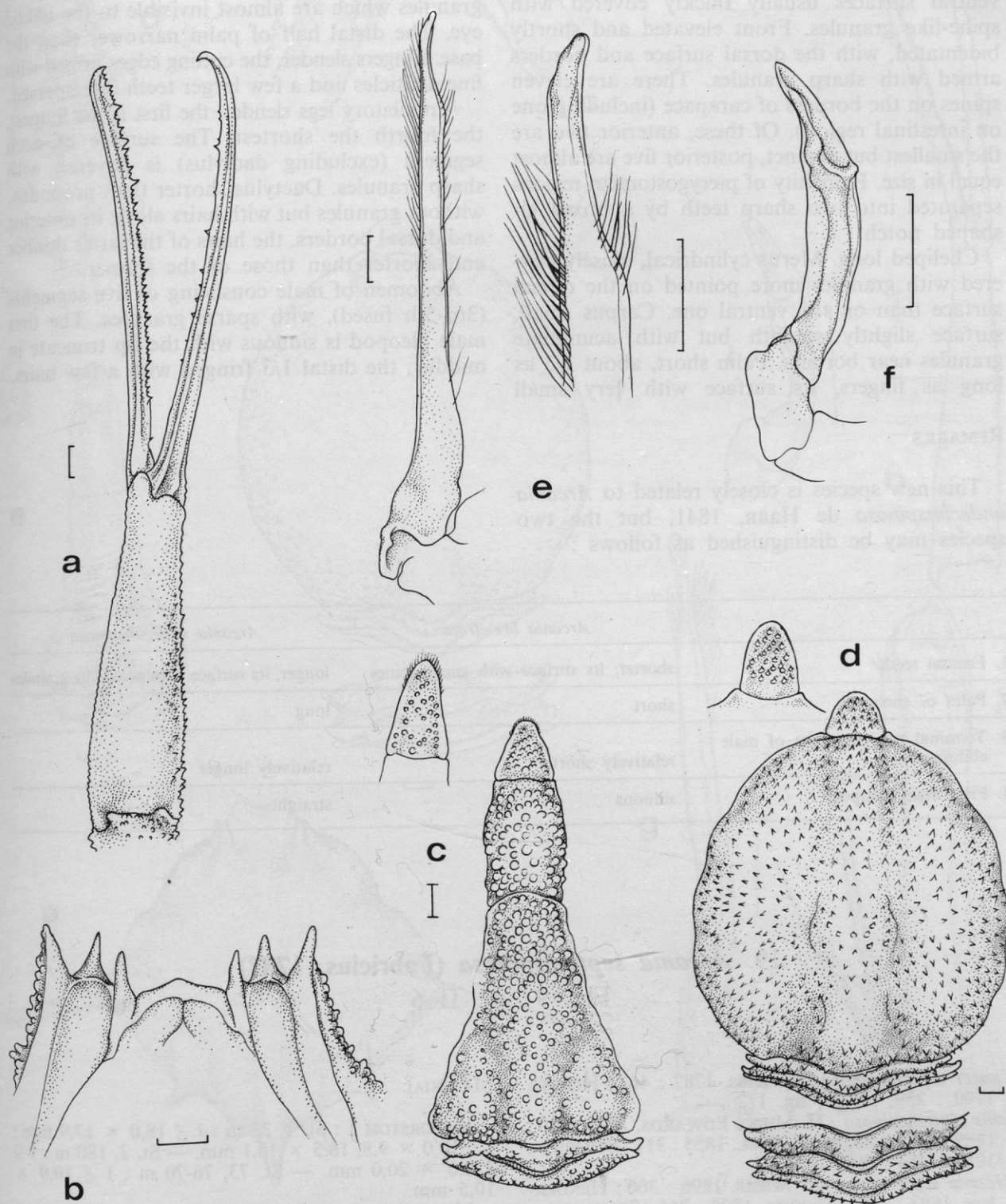


FIG. 8. — *Arcania undecimspinosus* de Haan, 1841 : a, finger and palm of cheliped ; b, anterior tip of pterygostomian region ; c, male abdomen ; e, first male pleopod ; f, second male pleopod.
 scale : 1 mm.

ventral surfaces usually thickly covered with spine-like granules. Front elevated and shortly bidentated, with the dorsal surface and borders armed with sharp granules. There are eleven spines on the borders of carapace (including one on intestinal region). Of these, anterior two are the smallest but distinct, posterior five are almost equal in size. Extremity of pterygostomian regions separated into two sharp teeth by a broad U-shaped notch.

Cheliped long. Merus cylindrical, closely covered with granules more pointed on the dorsal surface than on the ventral one. Carpus small, surface slightly smooth but with acuminate granules near borders. Palm short, about 2/3 as long as fingers, its surface with very small

granules which are almost invisible to the naked eye. The distal half of palm narrower than the base. Fingers slender, the cutting edges armed with fine denticles and a few larger teeth interspersed.

Ambulatory legs slender, the first is the longest, the fourth the shortest. The surface of each segment (excluding dactylus) is covered with sharp granules. Dactylus shorter than propodus, without granules but with hairs along its anterior and dorsal borders, the hairs of the latter thinner and shorter than those of the former.

Abdomen of male consisting of five segments (3rd-5th fused), with sparse granules. The first male pleopod is sinuous with the tip truncate in middle; the distal 1/3 fringed with a few hairs.

REMARKS

This new species is closely related to *Arcania undecimspinosa* de Haan, 1841, but the two species may be distinguished as follows :

	<i>Arcania brevifrons</i>	<i>Arcania undecimspinosa</i>
1. Frontal teeth	shorter, its surface with small spines	longer, its surface with pearl-like granules
2. Palm of chelipeds	short	long
3. Terminal two segments of male abdomen	relatively shorter	relatively longer
4. First male pleopod	sinuous	straight

19. *Arcania septemspinosa* (Fabricius, 1787)

Fig. 9; pl. II 6

Cancer septemspinosa Fabricius, 1787 : 463; HERBST, 1790 : 259, pl. 20, fig. 112.

Iphis septemspinosa : H. MILNE EDWARDS, 1877 : 139; 1849 : 79, pl. 25, fig. 4; BELL, 1855 : 311; STIMPSON, 1858 : 161; 1907 : 157.

Arcania septemspinosa : MIERS, 1896 : 300; HENDERSON, 1893 : 403; ALCOCK, 1896 : 265; STEPHENSEN, 1945 : 73, fig. 7 f; BARNARD, 1950 : 375, figs. 71 f, g.

Arcania heptacantha : SERÈNE & VADON, 1981 : 118, 120, 124. (Non de Haan, 1861).

Non *Arcania septem-spinosa* : BELL, 1855 : 310, pl. 34, fig. 7.

MATERIAL

MUSORSTOM 1 : St. 1, 31 m : 1 ♂ 18,0 × 17,9 mm; 2 ♀ 10,0 × 9,8, 16,5 × 16,1 mm. — St. 2, 180 m : 1 ♀ 220,0 × 20,0 mm. — St. 73, 76-70 m : 1 ♂ 10,9 × 10,5 mm.

MUSORSTOM 3 : St. 141, 44-40 m : 3 ♂ 9,0 × 9,5 mm to 13,5 × 13,0 mm; 5 ♀ (3 ovig.) 12,0 × 11,5 to 17,8 × 17,2 mm.

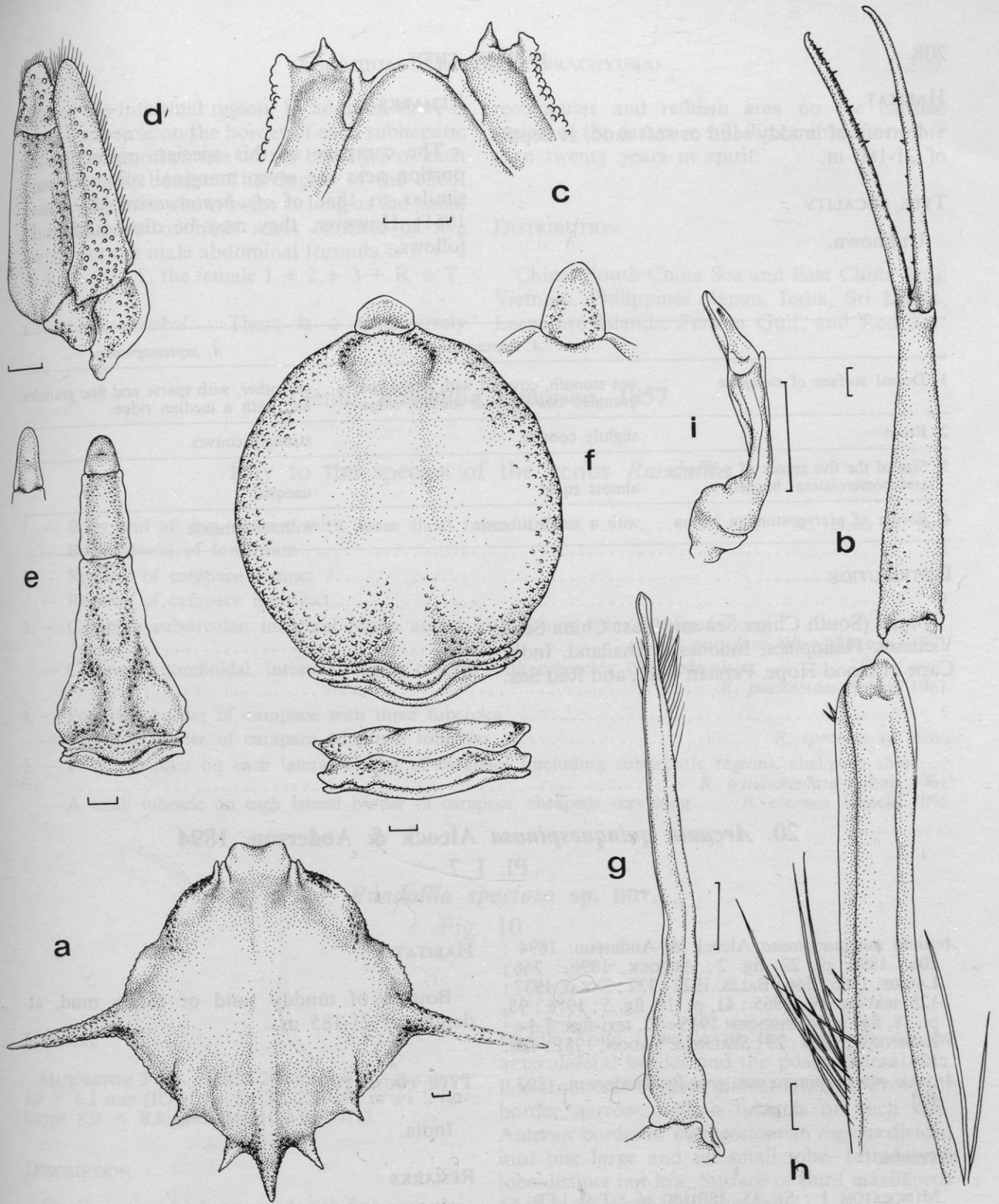


FIG. 9. — *Arcania septemspinosa* (Fabricius, 1787) : a, carapace ; b, finger and palm of cheliped ; c, anterior tip of pterygostomian region ; d, third maxilliped ; e, male abdomen ; f, female abdomen ; g, first male pleopod ; h, enlarged tip of first male pleopod ; i, second male pleopod.
 scale : a-g, i, 1 mm ; h, 0,1 mm.

HABITAT

Bottom of muddy sand or soft mud, at depths of 21-180 m.

TYPE LOCALITY

Unknown.

REMARKS

The carapace of this species, especially the portion near the seven marginal spines, is very similar to that of *A. heptacantha* (de Haan, 1861). However, they may be distinguished as follows :

	<i>A. heptacantha</i>	<i>A. septemspinosa</i>
1. Dorsal surface of carapace	not smooth, covered with dense coarse granules and without median ridge	smoother, with sparse and fine granules and with a median ridge
2. Front	slightly convex	strongly convex
3. Size of the five spines of posterior and posterolateral borders	almost equal	unequal
4. Border of pterygostomial region	with a small tubercle	without tubercle

DISTRIBUTION

China (South China Sea and East China Sea), Vietnam, Philippines, Indonesia, Thailand, India, Cape of Good Hope, Persian Gulf, and Red Sea.

20. *Arcania quinquespinosa* Alcock & Anderson, 1894

Pl. I 7

Arcania quinquespinosa Alcock & Anderson, 1894 : 206; 1896, pl. 22, fig. 2; ALCOCK, 1896 : 266; LAURIE, 1906 : 366; BALSS, 1922 : 132; SAKAI, 1937 : 128, text-fig. 19; 1965 : 41, pl. 16, fig. 5; 1976 : 95, pl. 28, fig. 3; STEPHENSEN 1945 : 72, text-figs. 7 d-e; ZARENKOV, 1969 : 23; SERÈNE & VADON, 1981 : 120, 124.

Arcania septemspinosa var. *gracilis* Henderson, 1893 : 403.

HABITAT

Bottom of muddy sand or sandy mud, at depths of 21-185 m.

TYPE LOCALITY

India.

MATERIAL

MUSORSTOM 1 : St. 45, 180-100 m : 1 ♀ 14,8 × 16,5 mm. — St. 73, 76-70 m : 1 ♂ 10,0 × 11,0 mm; 1 ♀ 12,5 × 13,5 mm.

MUSORSTOM 2 : St. 1, 185-173 m : 1 ♀ 11,1 × 13,0 mm. — St. 47, 84-81 m : 1 ♀ 5,7 × 6,5 mm.

MUSORSTOM 3 : St. 141, 44-40 m : 1 ♂ 12,5 × 13,5 mm; 1 ♀ 12,5 × 14,0 mm.

REMARKS

In the present species there are four spines on the borders of the carapace : a large one, on each side, at the junction of the anterolateral and posterolateral borders, two small ones on the posterior border. Another one is on the posterior

part of the intestinal region. In addition there is a small tubercle on the border of each subhepatic region and another one on the basal 1/3 of each posterolateral border. The fingers of the chelipeds are slender, about twice as long as the palm. The abdomen of both sexes consists of five segments; the male abdominal formula is 1 + 2 + R + 6 + T, the female 1 + 2 + 3 + R + T.

Colour in alcohol : There is a transversely

rectangular and reddish area on the cardiac region of the carapace still discernible after more than twenty years in spirit.

DISTRIBUTION

China (South China Sea and East China Sea), Vietnam, Philippines, Japan, India, Sri Lanka, Laccadive Islands, Persian Gulf, and Red Sea.

Genus *Randallia* Stimpson, 1857

Key to the species of the genus *Randallia*

1. — Body and all legs covered with dense short tomentum *R. villosa* sp. nov.
- Body devoid of tomentum 2
2. — Regions of carapace distinct 3
- Regions of carapace indistinct 4
3. — Carapace subcircular, intestinal region armed with a long spine, chelipeds long
- *R. pustulosa* Wood-Mason, 1891
- Carapace rhomboidal, intestinal region covered with tubercles, chelipeds short
- *R. pustuloides* Sakai, 1961
4. — Posterior border of carapace with three tubercles 5
- Posterior border of carapace with two tubercles *R. speciosa* sp. nov.
5. — Four tubercles on each lateral border of carapace (including subhepatic region), chelipeds short...
- *R. trituberculata* Sakai, 1961
- A small tubercle on each lateral border of carapace, chelipeds very long .. *R. eburnea* Alcock, 1896

21. *Randallia speciosa* sp. nov.

Fig. 10

MATERIAL

MUSORSTOM 2 : St. 31, 230-204 m : 1 ♀ juv. paratype 5,9 × 6,1 mm (IOQ). — St. 32, 220-192 m : 1 ♀ holotype 8,0 × 8,8 mm (MNHN-B 17971).

DESCRIPTION

Small species, body covered with fine granules. Carapace broader than long, regions not distinct, except intestinal and cardiac ones which are marked laterally with shallow grooves. Front with a median notch. Anterolateral borders slightly sinuous and irregular, depressed in their

middle; one tubercle at the junction of the anterolateral border and the posterolateral one. Posterolateral borders almost straight. Posterior border narrow, with a tubercle on each side. Anterior border of pterygostomian regions divided into one large and on small lobe. Infraorbital lobe distinct but low. Surface of third maxillipeds finely and distinctly granulated.

Chelipeds 1.5 times as long as carapace. Merus and carpus cylindrical. Palm convex on dorsal surface. Fingers shorter than palm, their cutting edge finely denticulated.

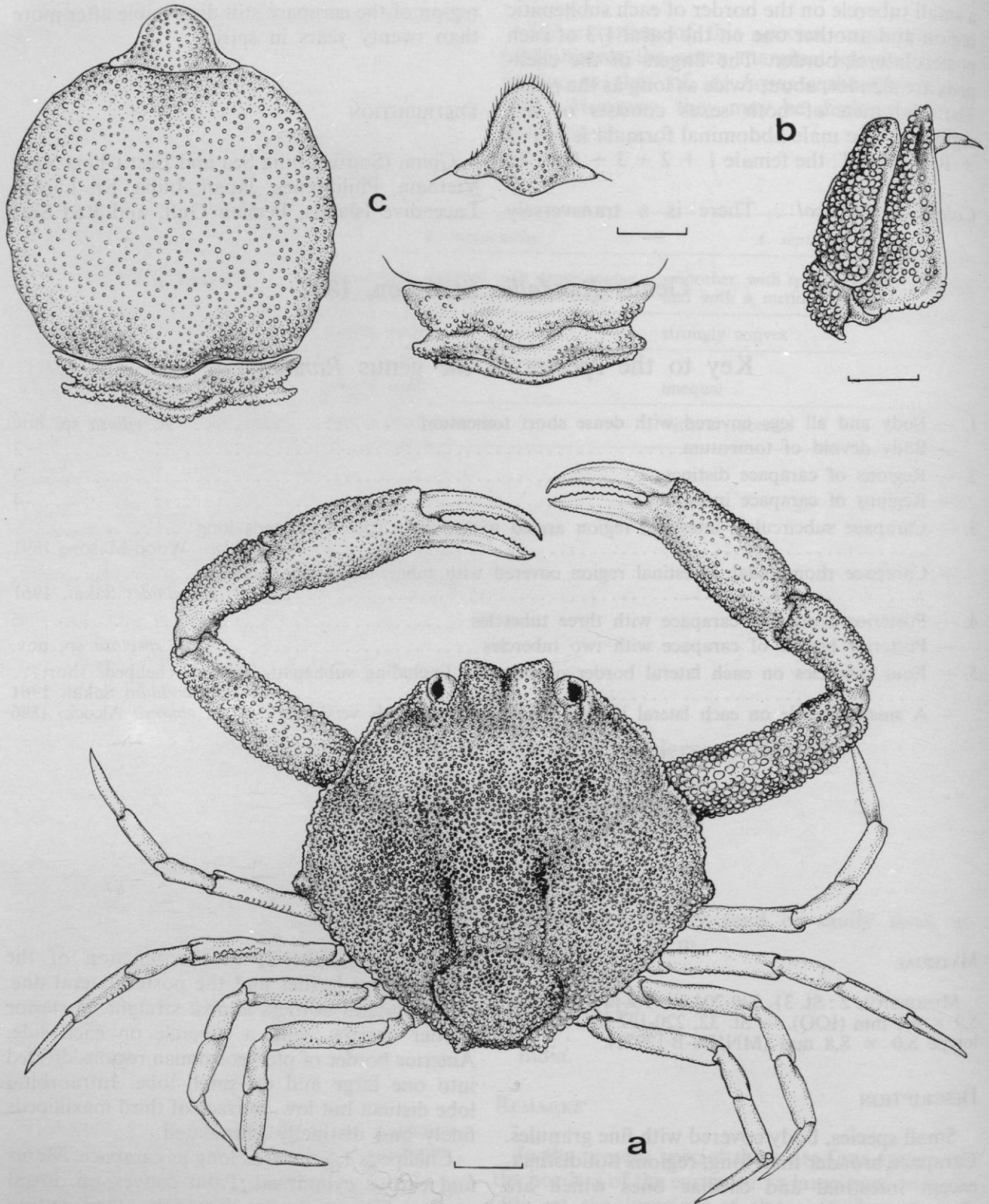


FIG. 10. — *Randallia speciosa* sp. nov. : a, entire animal ; b, third maxilliped ; c, female abdomen. scale : 1mm.

Ambulatory legs thin and short. Merus with fine granules which are smaller than those of chelipeds; granules of carpus and propodus smaller than those of merus. Dactylus longer than propodus, borders fringed with short hairs.

Abdomen of female consisting of five segments (4th to 6th fused): 1st segment shortest, second longer than the first, but shorter than the third. Telson as long as broad, distal end bluntly rounded.

REMARKS

This new species is close to *Randallia eburnea* Alcock, 1896, but it may be distinguished from the latter in that the body is smaller, the posterior border of the carapace armed with two tubercles, the chelipeds shorter and the shape of the telson different.

22. *Randallia villosa* sp. nov.

Fig. 11; pl. I 5-6

MATERIAL

MUSORSTOM 1: St. 56, 134-129 m: 1 ♂ holotype 6,9 × 6,0 mm (MNHN-B 17972).

DESCRIPTION

Body and legs covered with dense pubescence. Carapace hexagonal, longer than broad. Branchial regions separated from the cardiac and intestinal ones by deep grooves. All these regions very convex and covered with large granules beneath the pubescence; a large tubercle is at the posterior part of the intestinal region. Hepatic regions slightly convex with small granules. Front convex, divided into two lobes by a median notch, dorsal face smooth. Ten tubercles of different sizes on each lateral border of the carapace. Posterior border of the carapace with a large rounded tubercle on each side, and four small tubercles between them. Surface of third maxillipeds smooth and glossy when hairs removed.

Chelipeds stout. Merus with very low granules on anterior border; anterior outer angle of posterior border produced and forming a rounded tubercle; surface smooth and glossy. Carpus

small and rounded. Palm rectangular, and inflated, its length equal to 3/4 of its breadth. Movable finger shorter than palm, tips of fingers crossing, the cutting edges armed with triangular low teeth.

Ambulatory legs slender. Merus cylindrical, borders covered with short and soft dense hairs. Carpus and propodus slightly compressed, borders also provided with hairs. Dactylus lanceolate, borders fringed with a few setae.

Abdomen of male consisting of five segments (1 + 2 + R + 6 + T). Surface of fused segment uneven, its basal portion, with several granules, lateral surface uneven, each with a tubercle. Segment 6 hexagonal. Telson narrowly triangular. First male pleopod stout, armed with long and dense setae.

REMARKS

This new species may easily be distinguished from *Randallia lanata* Alcock, 1896, in that the carapace is hexagonal, the posterior border armed with two rounded tubercles and the front convex.

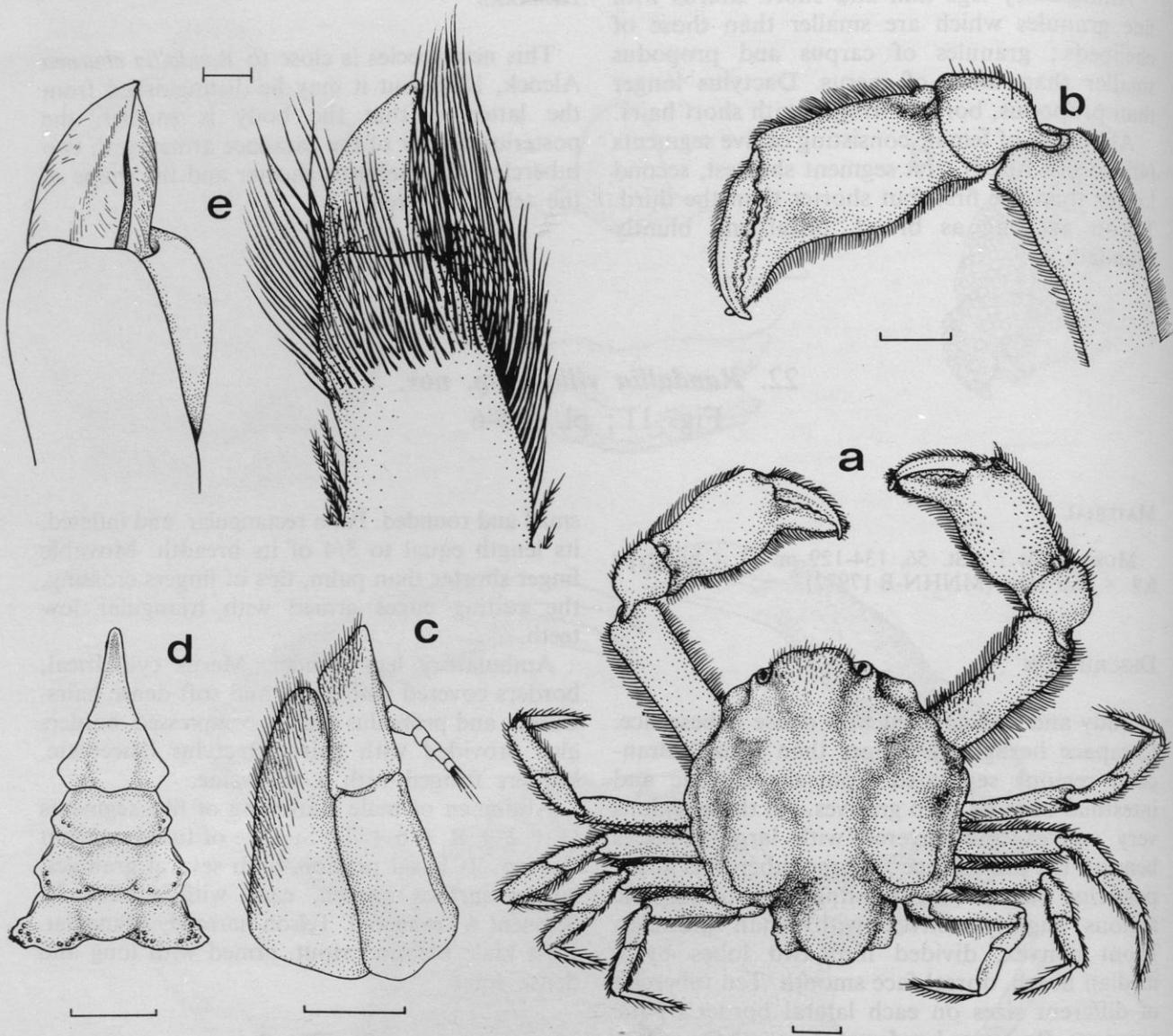


FIG. 11. — *Randallia villosa* sp. nov. : a, entire animal of male holotype ; b, cheliped ; c, third maxilliped ; d, male abdomen ; e, first male pleopod.

scale : a-d, 1mm ; e, 0,1 mm..

23. *Randallia eburnea* Alcock, 1896

Figs. 12, 13

Randallia eburnea Alcock, 1896 : 197 ; ALCOCK & ANDERSON, 1897 : pl. 30, fig. 4 ; IHLE, 1918 : 246 ; SAKAI, 1934 : 289, pl. 18, fig. 4 ; 1937 : 132, fig. 22 ; 1965 : 42, pl. 17, fig. 1 ; 1976 : 98, pl. 29, fig. 1 ; TYNDALE-BISCOE & GEORGE, 1962 : 87, fig. 7 ;

SERÈNE & SOH, 1966 : 12, pl. 3, fig. c ; ZARENKOV, 1969 : 24, fig. 7 (3) ; TAKEDA & MIYAKE, 1970 : 225 ; TAKEDA, 1973 : 32, figs. 3 E, F ; SERÈNE & VADON, 1981 : 118, 124.

Randallia japonica Yokoya, 1933 : 24, fig. 46.

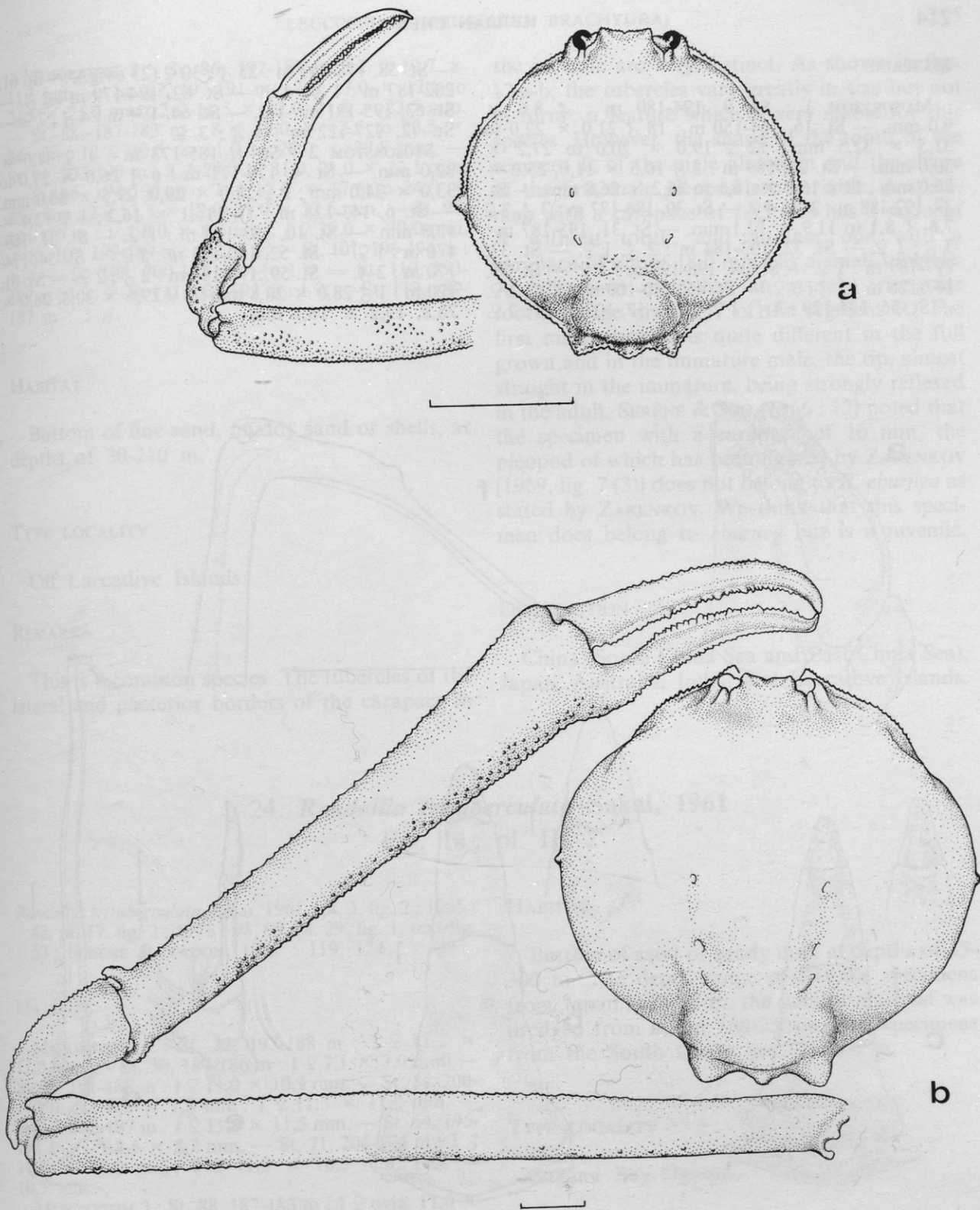


FIG. 12. — *Randallia eburnea* Alcock, 1896 : a, carapace and cheliped of immature male ; b, carapace and cheliped of full-adult male.

scale : 5 mm.

MATERIAL

MUSORSTOM 1 : St. 9, 194-180 m : ♂ 8,6 × 9,0 mm. — St. 16, 164-150 m : 18 ♂ 21,0 × 22,0 to 31,5 × 32,5 mm; 12 ♀ 19,0 × 20,0 to 27,2 × 30,0 mm. — St. 26, 189 m : 2 ♂ 10,5 × 11,0, 25,0 × 26,0 mm; 11 ♀ 15,2 × 16,1 to 25,2 × 26,8 mm. — St. 27, 192-188 m : 2 ♂; 4 ♀. — St. 30, 186-177 m : 7 ♂, 3 ♀ 7,8 × 8,1 to 11,9 × 12,1 mm. — St. 31, 195-187 m : 3 ♂; 1 ♀. — St. 32, 193-184 m : 2 ♂, 1 ♀. — St. 33, 197-187 m : 1 ♀. — St. 34, 198-191 m : 1 ♀. — St. 35, 187-126 m : 3 ♂; 3 ♀. — St. 45, 180-100 m : 3 ♂; 3 ♀. — St. 56, 134-129 : 3 ♂; 1 ♀. — St. 57, 107-96 m : 2 ♀.

— St. 58, 178-143 m : 25 ♂; 30 ♀ (23 ovig.). — St. 61, 202-187 m : 1 ♂; 4 ♀. — St. 62, 194-179 m : 2 ♂. — St. 63, 195-191 m : 1 ♀. — St. 64, 194 m : 4 ♂; 7 ♀. — St. 72, 127-122 m : 4 ♂; 3 ♀.

MUSORSTOM 2 : St. 1, 185-173 m : 1 ♀ 31,0 × 32,0 mm. — St. 4, 178-171 m : 6 ♂ 26,0 × 27,0 to 33,0 × 34,0 mm; 2 ♀ 28,0 × 29,0, 29,5 × 30,0 mm. — St. 6, 143-128 m : 1 ♂ 15,1 × 16,2; 1 ♀ 12,4 × 12,8 mm. — St. 10, 183-176 m : 1 ♀. — St. 51, 189-170 m : 1 ♀. — St. 52, 190-181 m : 3 ♀. — St. 54, 174-170 m : 2 ♂. — St. 59, 190-186 m : 2 ♂; 2 ♀. — St. 61, 120 m : 1 ♂ 28,0 × 28,8 mm; 3 ♀ 29,6 × 30,5, 28,0 × 28,8, 15,2 × 16,1 mm.

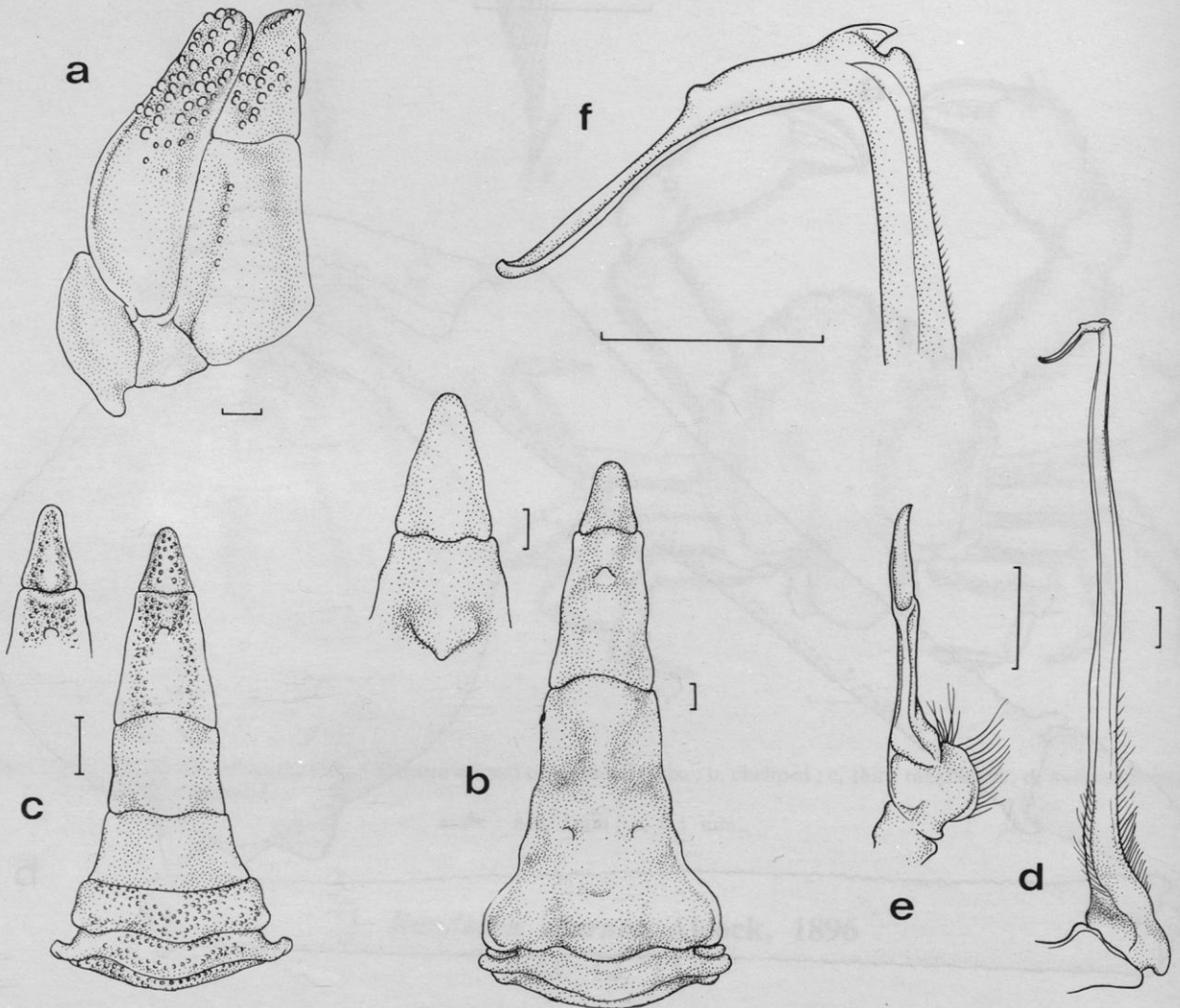


FIG. 13. — *Randallia eburnea* Alcock, 1896 : a, third maxilliped ; b, abdomen of full-adult male ; c, abdomen of immature male ; d, first pleopod of full-adult male ; e, second pleopod of full-adult male ; f, enlarged tip of first male pleopod: scale : 1mm.

MUSORSTOM 3 : St. 86, 192-187 m : 1 ♀ 10,7 × 11,5 mm. — St. 87, 197-191 m : 7 ♂ 17,0 × 17,6 to 24,5 × 25,0 mm ; 2 ♀ 11,5 × 12,0, 21,0 × 22,5 mm. — St. 88, 187-183 m : 8 ♂ 12,0 × 12,5 to 23,5 × 24 mm ; 12 ♀ 10,5 × 11,0 to 26,0 × 28,8 mm. — St. 91, 203-190 m : 2 ♂ 29,0 × 31,0, 21,0 × 22,1 mm. — St. 96, 194-190 m : 7 ♂ 17,0 × 17,6 to 24,5 × 25,6 mm ; 2 ♀ 11,5 × 12,0, 21,0 × 22,5 mm. — St. 97, 194-189 m : 1 ♂ 8,0 × 8,5 mm ; 1 ♀ 29,0 × 30,0 mm. — St. 100, 199-189 m : 1 ♂ ; 3 ♀. — St. 101, 196-194 m : 1 ♂. — St. 103, 200-193 m : ♂ ; 1 ♀. — St. 110, 193-187 m : 1 ♀. — St. 111, 205-193 m : 1 ♀. — St. 112, 189-187 m : 1 ♂.

HABITAT

Bottom of fine sand, muddy sand or shells, at depths of 30-210 m.

TYPE LOCALITY

Off Laccadive Islands.

REMARKS

This is a common species. The tubercles of the lateral and posterior borders of the carapace in

the juvenile are very distinct. As shown in figs. 12 a-b, the tubercles vary greatly in size but not in form ; a feature which is very stable for this species. However, the shape of the tooth of the segment R of the male abdomen and the shape of the first male pleopod are variable. A specimen with a carapace of 13,5 mm has a segment R without tooth, and another one with a carapace of about 18,0 mm has a small tubercle. A full-grown male has an acutely triangular tooth on the distal 1/7 of the segment R. The first male pleopod is quite different in the full grown and in the immature male, the tip, almost straight in the immature, being strongly reflexed in the adult. SERÈNE & SOH (1966 : 12) noted that the specimen with a carapace of 10 mm, the pleopod of which has been figured by ZARENKOV [1969, fig. 7 (3)] does not belong to *R. eburnea* as stated by ZARENKOV. We think that this specimen does belong to *eburnea* but is a juvenile.

DISTRIBUTION

China (South China Sea and East China Sea), Japan, Australia, India, and Laccadive Islands.

24. *Randallia trituberculata* Sakai, 1961

Fig. 14 ; pl. III 2

Randallia trituberculata Sakai, 1961 : pl. 3, fig. 2 ; 1965 : 42, pl. 17, fig. 2 ; 1976 : 98, 99, pl. 29, fig. 1, text-fig. 53 ; SERÈNE & VADON, 1981 : 119, 124.

MATERIAL

MUSORSTOM 1 : St. 27, 192-188 m : 1 ♀ 11,2 × 11,0 mm. — St. 30, 187-186 m : 1 ♀ 7,1 × 7,0 mm. — St. 34, 191-188 m : 1 ♀ 11,0 × 10,9 mm. — St. 51, 200-170 m : ♂ 8,0 × 7,8 mm ; 1 ♀ 11,3 × 11,2 mm. — St. 61, 202-187 m : 1 ♀ 11,8 × 11,5 mm. — St. 64, 195-194 m : 1 ♀ 8,5 × 8,2 mm. — St. 71, 204-174 m : 1 ♂ 11,2 × 11,0 mm ; 2 ♀ 11,0 × 10,9 mm, 10,8 × 10,5 mm.

MUSORSTOM 3 : St. 88, 187-183 m : 1 ♀ ovig. 11,0 × 11,0 mm. — St. 100, 199-189 m : 1 ♂ 11,1 × 11,1 mm. — St. 108, 195-188 m : 1 ♂ 10,5 × 10,5 mm 1 ♀ ovig 11,5 × 12,0. — St. 120, 220-219 m : 2 ♀ 8,0 × 8,0, 9,0 × 9,0 mm. — St. 139, 267-240 m : 11 ♂ 11,2 × 11,2 to 12,0 × 12,0 mm ; 6 ♀ 8,0 × 8,0 to 11,4 × 12,0 mm.

HABITAT

Bottom of sand or sandy mud at depths of 35-300 m. The depth range of SAKAI's specimens from Japan is 35-85 m, the present material was dredged from about 180-250 m, and specimens from the South China Sea, at 300 m.

TYPE LOCALITY

Sagami Bay (Japan).

REMARKS

The features of the present specimens agree well with SAKAI's original description and figure,

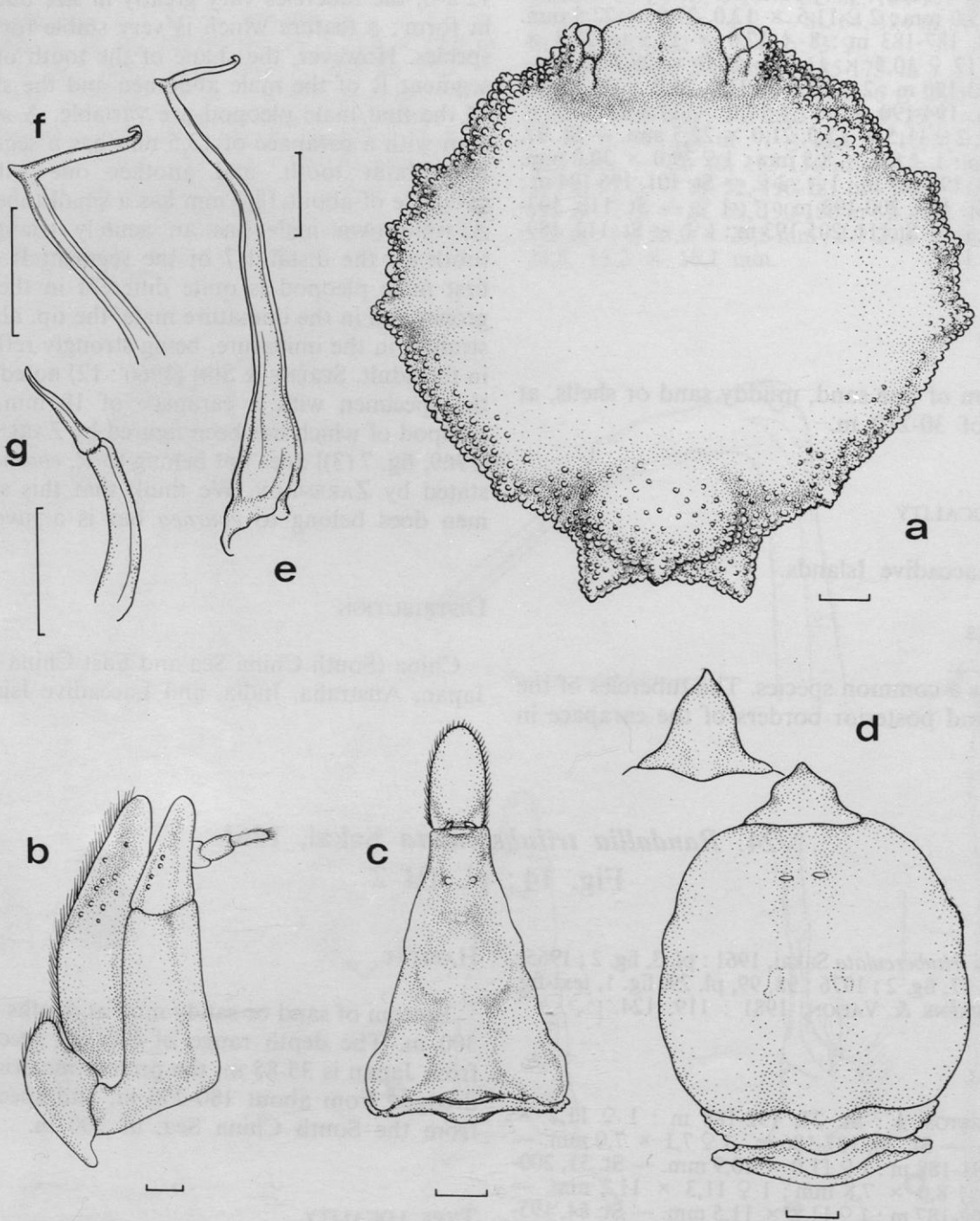


FIG. 14. — *Randallia trituberculata* Sakai, 1961 : a, male carapace ; b, third maxilliped ; c, male abdomen ; d, female abdomen ; e, first male pleopod ; f, enlarged tip of first male pleopod ; g, second pleopod.
scale : 1 mm.

but SAKAI's figure is only an outline. In order to complete the description some drawings of this species are presented here. The male abdomen consists of five distinct segments (3rd to 5th fused). There is a distinct tubercle located almost at the end of the segment R. The telson is elongate and tongue-shaped. The female abdomen consists of five segments (4th to 6th are not separately movable). The first pleopod is long, the tip being "7-shaped" resembling that of *R.*

eburnea Alcock, but the tip of the first pleopod of *R. eburnea* is more reflexed than that of *R. trituberculata*. The anterior border of the pterygostomian regions is bilobate, resembling that of *R. eburnea* Alcock.

DISTRIBUTION

Japan and China (South China Sea).

25. *Randallia pustulosa* Wood-Mason

Fig. 15; pl. IV 1

Randallia pustulosa Wood-Mason, 1891 : 266 ; ALCOCK, 1896 : 196 ; ALCOCK & ANDERSON, 1897 : pl. 5, fig. 4 ; SAKAI, 1976 : 99, pl. 30, fig. 2 ; SERÈNE & VADON, 1981 : 119, 124.

? *Randallia pustulosa* : IHLE, 1918 : 246.

Non *Randallia pustulosa* : DOFLEIN, 1904 : 42, pl. 14, fig. 1-6 (fig. 1-5. = unidentified species ; fig. 6 = *R. pustuloides* Sakai, 1961).

MATERIAL

MUSORSTOM 1 : St. 43, 484-448 m : 2 ♂ 23,5 × 24,5, 24,0 × 24 mm ; 2 ♀ 11,5 × 11,2, 24,0 × 25,4 mm. — St. 44, 610-592 m : 1 ♂ 15,0 × 16,0 mm ; 1 ♀ broken.

MUSORSTOM 2 : St. 36, 595-569 m : 1 ♂ 17,0 × 18,0 mm. — St. 49, 425-416 m : 1 ♂ 32,9 × 33,3 mm. — St. 78, 430-410 m ; 1 ♀ 16,0 × 17,5 mm.

MUSORSTOM 3 : St. 97, 194-189 m : 1 ♀ 11,5 × 12,5 mm. — St. 122, 675-673 m : 1 ♂ 23,0 × 19,0 mm. — St. 128, 821-815 m : 1 ♀ ovig. 36,0 × 38,0 mm ; 1 ♀ immature 22,5 × 23,5 mm.

Habitat

Bottom of sand or shells, at depths of 85-821 m.

TYPE LOCALITY

Andaman Sea.

REMARKS

The grooves and the fine granules of the whole dorsal surface in the young specimens are very distinct but in the full-grown male, the grooves and the fine granules of the anterior half are less distinct. The spine of the intestinal region in the full-grown male is long (3 mm) and curved upwards while in the young one it is long and straight.

The segment R of the male abdomen has a very small tubercle and the telson is slender. The male first pleopod is long and straight and its basal half is thicker than the distal one.

SAKAI pointed out that the specimen labelled *R. pustulosa* by DOFLEIN (fig. 6) seems to be related to *R. pustuloides* Sakai. I think DOFLEIN's specimen belongs definitely to *R. pustuloides* Sakai, 1961.

DISTRIBUTION

Japan, Philippines, Andaman Sea, Travancore Coast, Great Nicobar Is., and East Coast of Africa.

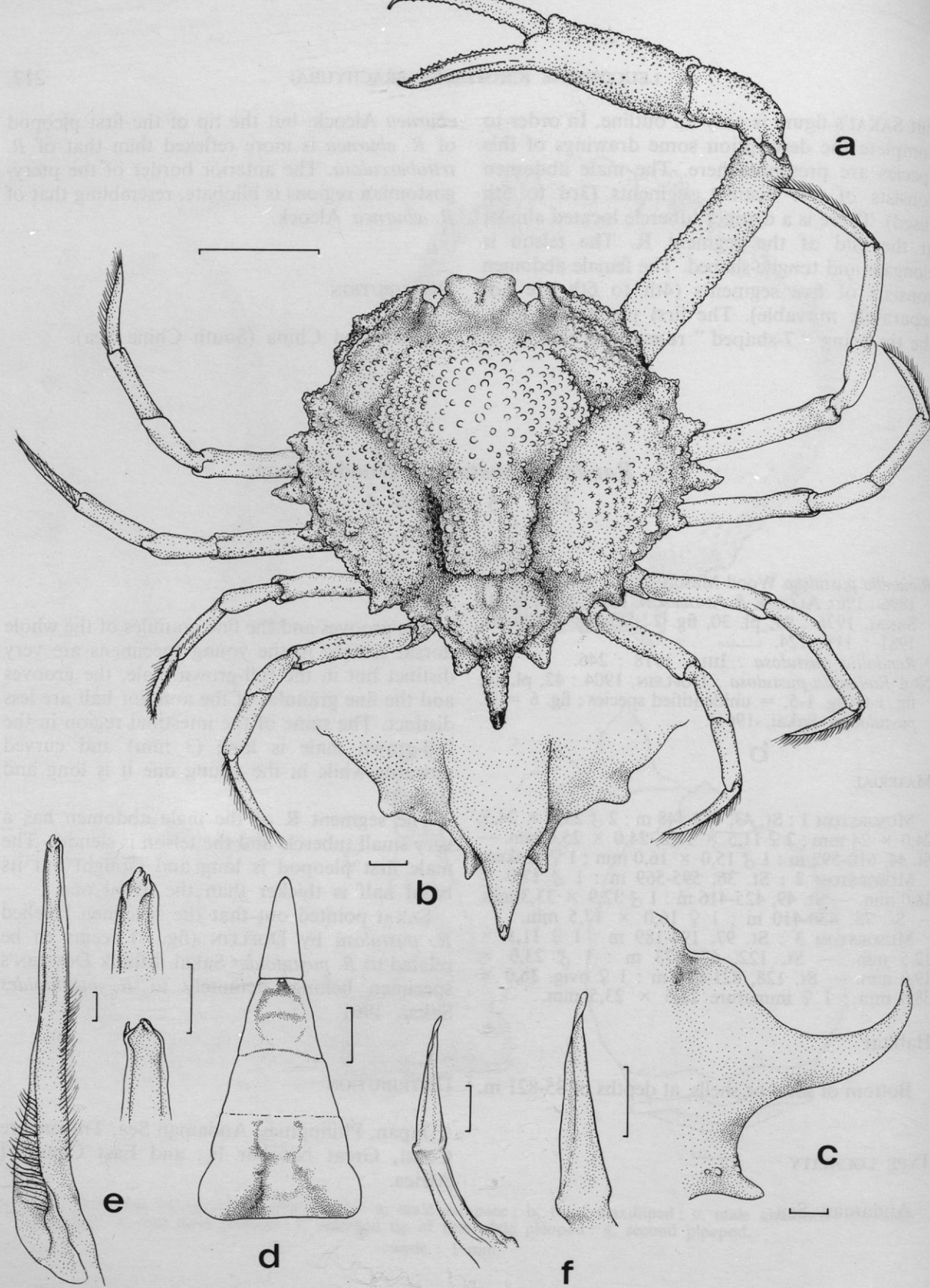


FIG. 15. — *Randallia pustulosa* Wood-Mason, 1891 : a, carapace and legs of immature male ; b, dorsal view of posterior part of carapace, full-adult male ; c, lateral view of posterior part of carapace, full-adult male ; d, male abdomen ; e, first male pleopod ; f, second male pleopod.
 scale : a-d, 5 mm ; e-f, 1 mm.

26. *Randallia pustuloides* Sakai, 1961

Fig. 16

Randallia pustuloides Sakai, 1961 : 135, pl. 3, fig. 4 ;
1976 : 99, 100, pl. 30, fig. 1, text-fig. 54.
Randallia pustulosa : DOFLEIN, 1904, fig. 6 (non Wood-
Mason, 1891).

REMARKS

The single male specimen available for study is a full-grown adult with features which agree well with SAKAI'S description and figure. This species is related to *R. pustulosa* Wood-Mason, 1891. In *R. pustuloides*, however, the dorsal surface of the carapace is studded with tubercles. A large tubercle and some smaller ones are present on the intestinal region. The chelipeds are stouter. The segment R of the male abdomen has a conical tooth. The last ambulatory legs (except the dactylus) are irregularly studded with high tubercles.

MATERIAL

MUSORSTOM 2 : St. 20, 192-185 m : 1 ♀ 25,0 ×
28,0 mm.

HABITAT

Bottom of sand or muddy sand, at depths of
85-192 m.

TYPE LOCALITY

Tosa Bay (Japan).

Genus *Myra* Leach, 181727. *Myra biconica* Ihle, 1918

Fig. 17 ; pl. III 1

Myra biconica Ihle, 1918 : 258-259, fig. 138 ; SERÈNE,
1968 : 44.

Myra fugax : SERÈNE & VADON, 1981 : 120, 124. (Non
Fabricius, 1798).

TYPE LOCALITY

Tiur Island (Indonesia).

MATERIAL

MUSORSTOM 1 : St. 56, 139-134 m : 1 ♂ immature 9,2
× 8,5 mm. — St. 57, 107-96 m : 1 ♂ 13,0 × 11,5 mm ;
1 ♀ 9,0 × 8,6 mm. — St. 72, 127-122 m : 1 ♂ 19,0 ×
16,0 mm.

REMARKS

The young specimens of the species and those
of *Myra fugax* (Fabricius) may be distinguished
as follows :

HABITAT

Bottom of muddy sand, sandy mud and mud,
at depths of 12-139 m.

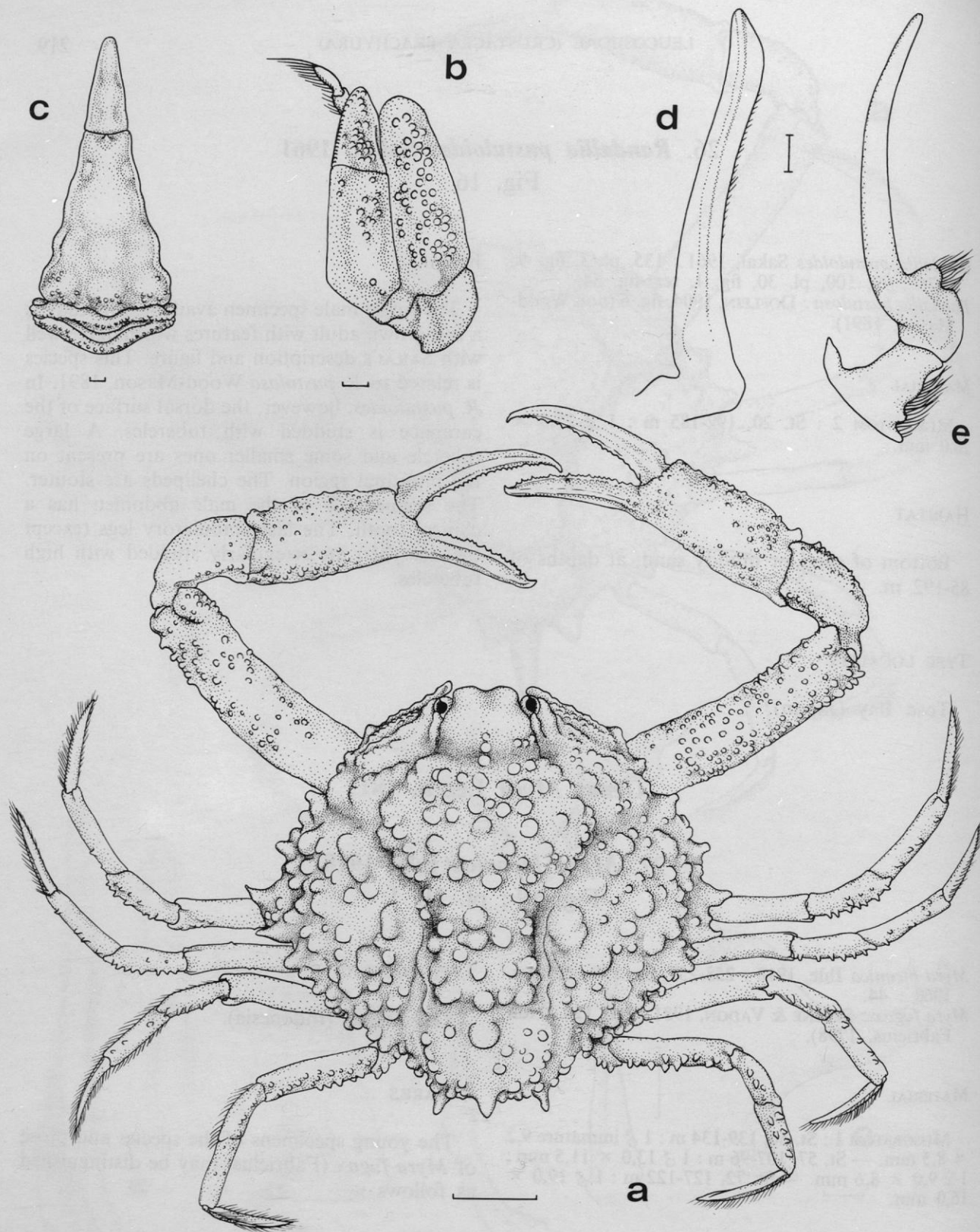


FIG. 16. — *Randallia pustuloides* Sakai, 1961 : a, entire animal, male ; b, third maxilliped ; c, male abdomen ; d, first male pleopod ; e, second male pleopod.

scale : a, c, 5 mm ; b, d-e, 1 mm.

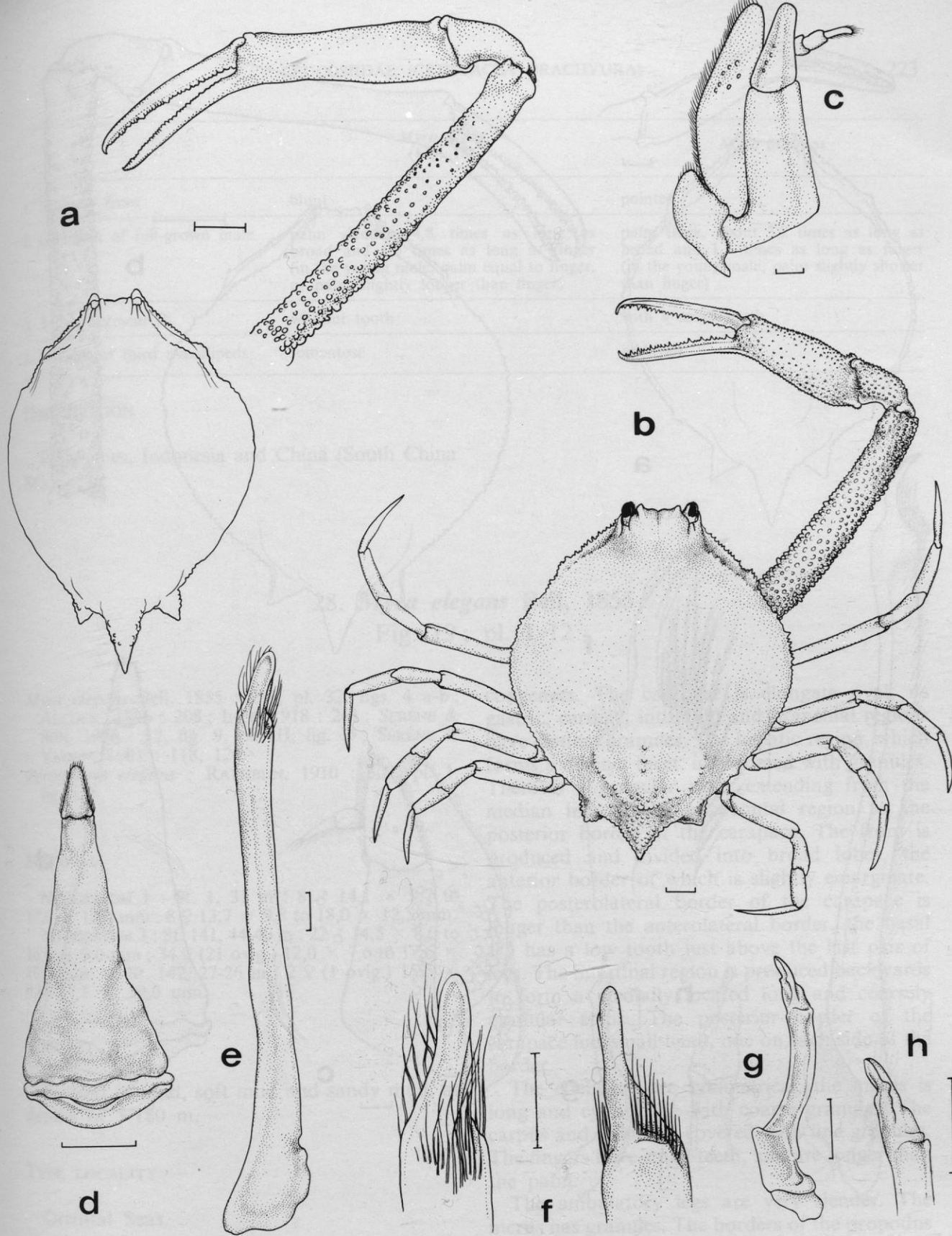


FIG. 17. — *Myra biconica* Ihle, 1918 : a, carapace and cheliped of full-adult male ; c, third maxilliped ; d, male abdomen ; e, first male pleopod ; f, enlarged tip of first male pleopod ; g, second male pleopod ; h, enlarged tip of second male pleopod.

scale : a, d, 5 mm ; b-c, e-g, 1 mm.

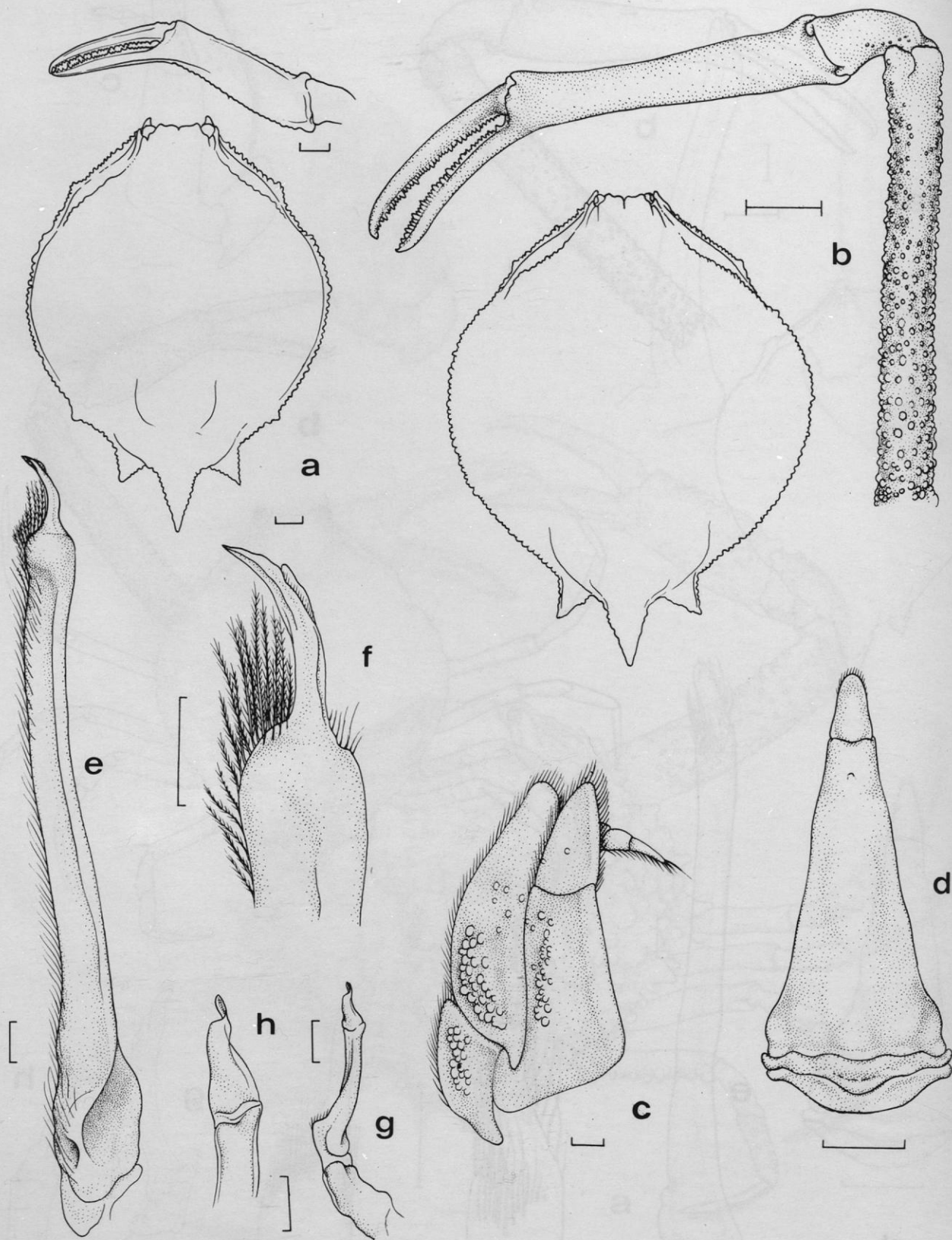


FIG. 18. — *Myra fugax* (Fabricius, 1798) : a, carapace and cheliped of immature male ; b, carapace and cheliped of full-adult male ; c, third maxilliped ; d, male abdomen ; e, first male pleopod ; f, enlarged tip of first male pleopod ; g, second male pleopod ; h, enlarged tip of second male pleopod.

scale : a, c, e-g, 1 mm ; b, d, 5 mm ; h, 0,5 mm.

	<i>Myra fugax</i> (Fig. 18)	<i>Myra biconica</i>
1. Teeth of front	blunt	pointed
2. Chelipeds of full-grown male	palm slender, 4,8 times as long as broad and 1,5 times as long as finger (in the young male, palm equal to finger, or palm slightly longer than finger)	palm thick, about 3,2 times as long as broad and 1,1 times as long as finger (in the young male, palm slightly shorter than finger)
3. Tip of segment R	without tooth	with a small tooth
4. Ischium of third maxillipeds	tomentose	glabrous

DISTRIBUTION

Philippines, Indonesia and China (South China Sea).

28. *Myra elegans* Bell, 1855

Fig. 19; pl. I 12

Myra elegans Bell, 1855 : 297, pl. 32, figs. 4 a-b; ALCOCK, 1896 : 208; IHLE, 1918 : 261; SERÈNE & SOH, 1976 : 12, fig. 9, pl. III, fig. D; SERÈNE & VADON, 1981 : 118, 124.
Persephona elegans : RATHBUN, 1910 : 309, pl. 1, fig. 12.

MATERIAL

MUSORSTOM 1 : St. 1, 31 m : 8 ♂ 14,1 × 9,7 to 17,0 × 12,0 mm; 8 ♀ 13,7 × 9,8 to 18,0 × 12,5 mm.
MUSORSTOM 3 : St. 141, 44-40 m : 22 ♂ 14,5 × 8,0 to 16,0 × 9,0 mm; 34 ♀ (21 ovig.) 12,0 × 7,6 to 17,5 × 10,5 mm. — St. 142, 27-26 m : 2 ♀ (1 ovig.) 15,5 × 9,0, 17,1 × 10,0 mm.

HABITAT

Bottom of mud, soft mud and sandy mud, at depths of 5-180 m.

TYPE LOCALITY

Oriental Seas.

REMARKS

This species is flatter and thinner than its

congeners. The carapace is elongate oval, its gastric, cardiac, intestinal and branchial regions have distinct granules. The hepatic region, which forms a distinct facet, is bordered with granules. There is a granular ridge extending from the median line of the postfrontal region to the posterior border of the carapace. The front is produced and divided into broad lobes, the anterior border of which is slightly emarginate. The posterolateral border of the carapace is longer than the anterolateral border, the basal 1/3 has a low tooth just above the last pair of legs. The intestinal region is produced backwards to form a medially located long and coarsely granular spine. The posterior border of the carapace has small teeth, one on each side of the border.

The chelipeds are symmetrical, the merus is long and cylindrical, with coarse granules. The carpus and palm are covered with fine granules. The fingers have small teeth, and are longer than the palm.

The ambulatory legs are very slender. The merus has granules. The borders of the propodus and dactylus are strongly ciliated; the latter, longer than the former.

The male abdomen is elongate triangular and

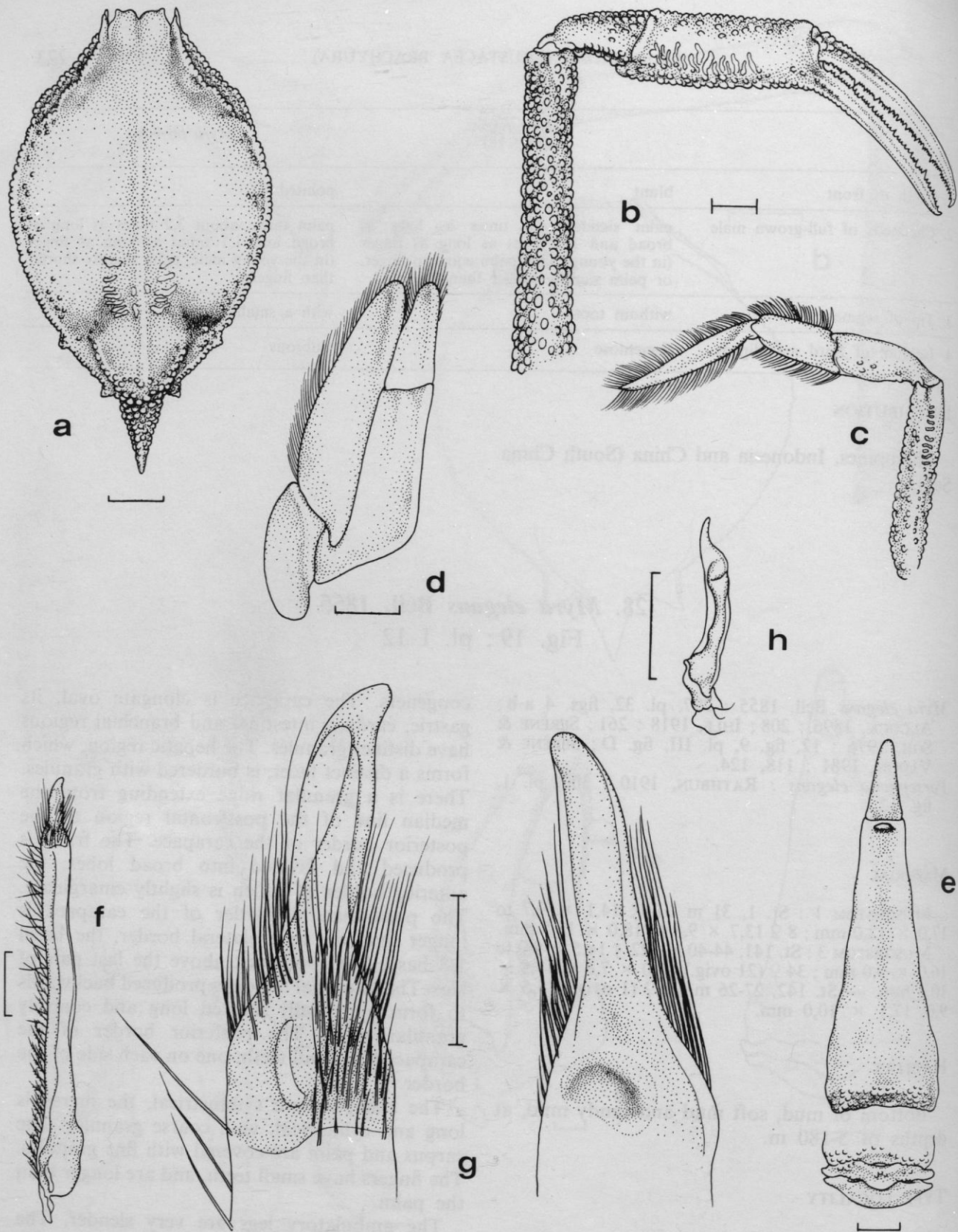


FIG. 19. — *Myra elegans* Bell, 1855 : a, carapace ; b, cheliped ; c, fourth ambulatory leg ; d, third maxilliped ; e, male abdomen ; f, first male pleopod ; g, enlarged tip of first male pleopod ; h, second male pleopod.
 scale : a, 2 mm ; b-f, h, 1 mm ; g, h, 0,5 mm.

consists of four segments (3rd to 6th fused). It has a medium-sized tooth near the distal end of the segment R. The telson is elongate triangular. The first pleopod has a slender distal end which is provided with long setae.

DISTRIBUTION

Philippines, Indonesia, Burma, Thailand, India.

Genus *Ixa* Leach, 181529. *Ixa edwardsii* Lucas, 1858

Fig. 20 ; pl. III 3

Ixa edwardsii Lucas, 1858 : pl. 4, fig. 3 ; HOLTHUIS & GOTTLIEB, 1956 : 296, pl. IV, fig. 3, pl. V, fig. 3 ; SERÈNE & VADON, 1981 : 120, 124.

Ixa inermis : NOBILI, 1906 : 171 ; CHOPRA, 1933 : 48, fig. 7. (Non Leach, 1817).

? *Ixa inermis* : ALCOCK, 1896 : 272. (Non Leach, 1817).

REMARKS

The species is closely allied to *Ixa cylindrus* (Fabricius, 1777), but *Ixa edwardsii* is easily distinguished by the shallow grooves of the carapace (instead of deep furrows), the lateral process of the carapace shorter and conical (instead of cylindrical), the posterior border of the carapace with two large rounded tubercles (instead of none).

MATERIAL

MUSORSTOM 1 : St. 73, 76-70 m : 1 ♂ 24,0 × 35,0 mm.
MUSORSTOM 3 : St. 141, 44-40 m : 1 ♀ 18,0 × 23,0 mm.

HABITAT

Bottom of muddy sand, soft mud and sand, at depths of 16-76 m.

DISTRIBUTION

Philippines, Indonesia, India, Zanzibar, Red Sea and Persian Gulf.

TYPE LOCALITY

Unknown.

31. *Ixa pulcherrima* (Haswell, 1880)

Pl. VI 4-5

Arcania pulcherrima Haswell, 1880 : 58, pl. 6, fig. 4 ; 1882 : 121 ; MIERS, 1884 : 253 ; LAURIE, 1906 : 366 ; TAKEDA, 1979 : 152, fig. 2.

Non *Ixa pulcherrima* : SERÈNE & LOHAVANIJAYA, 1973 : 41, pl. 4 A = *Ixa investigatoris* Chopra, 1933.

HABITAT

Coral reefs at depths of 16-84 m.

MATERIAL

MUSORSTOM 3 : St. 121, 84-73 m : 1 ♀ ovig. 15,0 × 17,0 mm.

TYPE LOCALITY

Chevert Island (Australia).

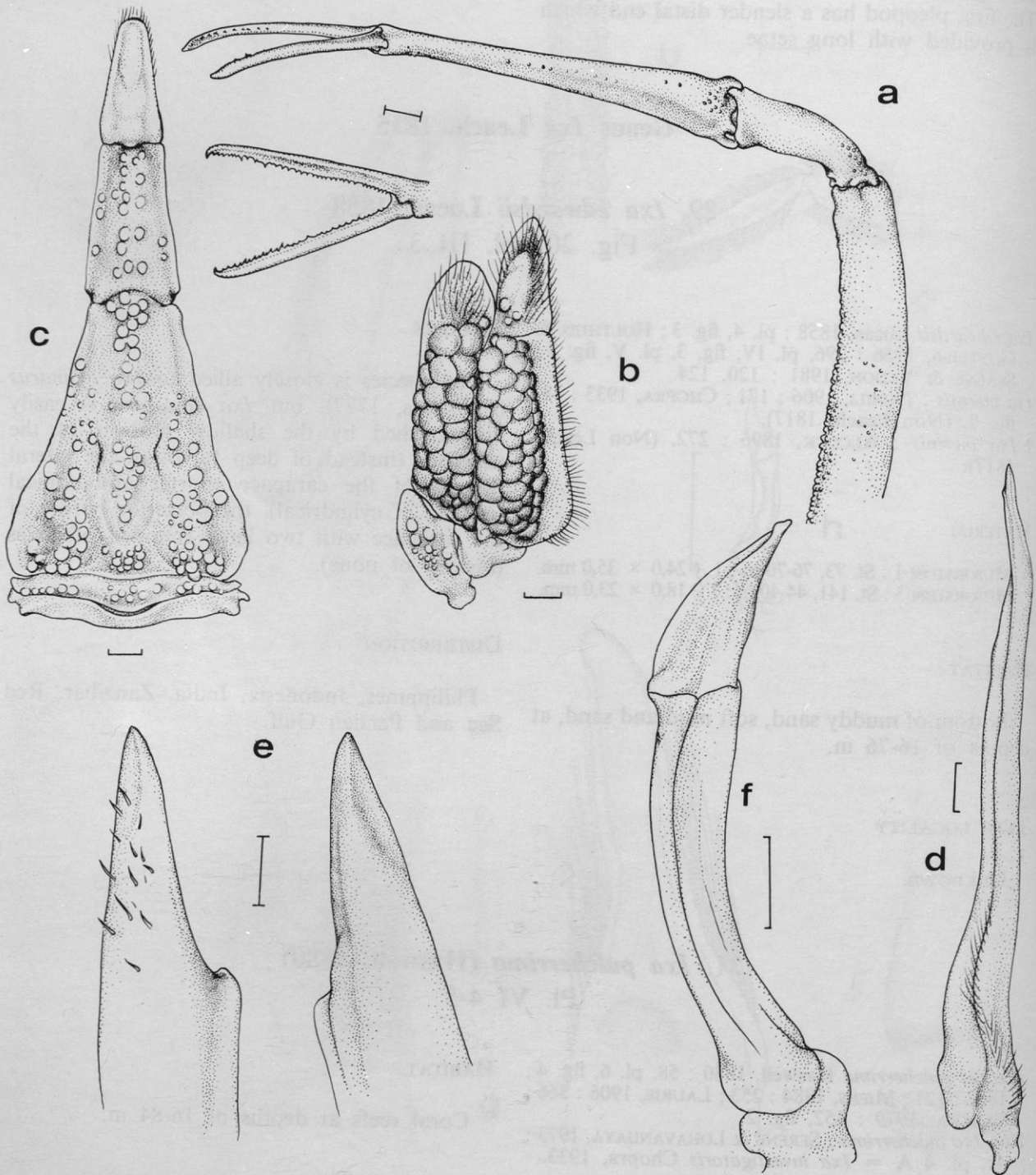


FIG. 20. — *Ixa edwardsii* Lucas, 1858 : a, cheliped ; b, third maxilliped ; c, male abdomen ; d, first male pleopod ; e, enlarged tip of first male pleopod ; f, second male pleopod.
 scale : a-d, 1 mm ; e, 0,1 mm ; f, 0,5 mm.

DISTRIBUTION

Australia and Philippines.

REMARKS

This specimen almost agrees with that of HASWELL (1880), but the tubercles on dorsal surface of carapace are not very distinct and the spines on the lateral borders are slightly blunt.

Arcania septem-spinosa sensu BELL, (1855 : 310, pl. 34, fig. 7) seems to differ from *Ixa pulcherrima* :

the fingers of the chelipeds, in BELL's description and on his figure 7, are nearly as long as the palm while in our specimen they are shorter than the palm ; more, the fused segment of the female abdomen, on the figure 7 of BELL, is round while on the figure of HASWELL as well as in our specimen it is oval. We think that the species described by BELL is different from HASWELL's one.

The specimens identified to *Ixa pulcherrima* by SERÈNE & LOHAVANIJAYA (1973 : 41, pl. 4 A) belong to *I. investigatoris* Chopra, 1933.

Genus *Ixoides* MacGilchrist, 190531. *Ixoides cornutus* MacGilchrist, 1905

Fig. 21 a-c ; pl. I 11 ; pl. IV 4

Ixoides cornutus MacGilchrist, 1905 : 255 ; ALCOCK & MACGILCHRIST, 1905, pl. 73, fig. 2, 2 b ; IHLE, 1918 : 314 ; GORDON, 1931 : 530, text-fig. 7 ; SAKAI, 1937 : 137, pl. 19, figs. 1-4 ; 1965 : 44, pl. 18, fig. 3 ; 1976 : 102-103, pl. 31, fig. 2, text-figs. 56 a-b ; SHEN, 1940 : 215 ; STEPHENSEN 1945 : 74 ; SERÈNE & LOHAVANIJAYA, 1973 : 39-40, pl. V, fig. D ; SERÈNE & VADON, 1981 : 120, 124.

Ixa sp. : SERÈNE & VADON, 1981 : 120, 124.

MATERIAL

MUSORSTOM 1 : St. 71, 204-174 m : 1 ♀ 8,5 × 10,1 mm. — St. 72, 127-122 m : 1 carapace 27,5 × 33,3 mm ; 1 ♂ 8,9 × 10,1 mm ; 1 ♀ 8,5 × 10,0 mm.

MUSORSTOM 2 : St. 41, 172-166 m : 1 ♂ immature 7,9 × 9,0 mm.

HABITAT

Bottom of sandy mud, muddy sand or soft mud, at depths of 28-204 m.

TYPE LOCALITY

Persian Gulf.

REMARKS

The lateral process of the carapace is very

variable in shape and length. In a full-grown specimen, this process is not very long, only about 1/4 as long as the length of the carapace, and its tip is round. The tubercles of the intestinal region and the posterior border of the carapace are also variable in shape. In full-grown specimens, the intestinal region is convex, the middle portion of which has a small round tubercle ; the anterior border of the carapace has a tubercle by the middle of the subhepatic region ; the posterior border has a pair of large and rounded tubercles. In immature specimens, the three tubercles on the posterior border of the carapace and the intestinal region are small and pointed ; besides these, on the anterolateral borders of the carapace, there is one small tubercle by the middle of the subhepatic region and another one at the basal 1/3 of the border. The anterior border of the pterygostomian regions has 3 teeth, the outer one is the broadest, the middle one is long and acute, and the inner one is short and acute.

The present specimens were dredged from 122-204 m, deeper than the depth range reported by SAKAI (50-100 m).

DISTRIBUTION

China (South China Sea and East China Sea), Japan, Philippines, Vietnam, and Persian Gulf.

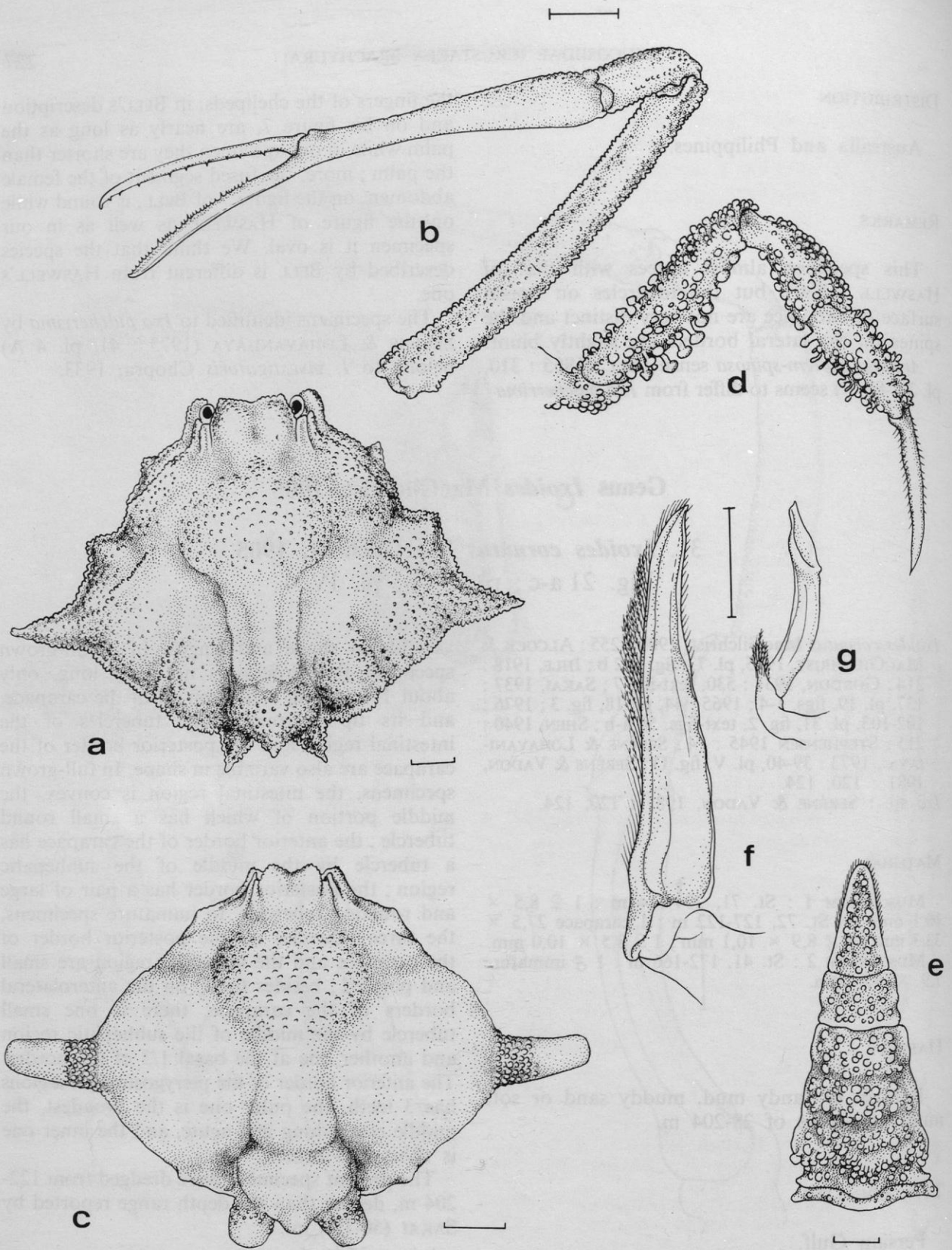


FIG. 21. — a-c, *Ixoides cornutus* MacGilchrist, 1905 and d-g, *Pariphiculus agariciferus* Ihle, 1918 : a, carapace of immature male ; b, cheliped of immature male ; c, carapace of full-adult specimen ; d, fourth ambulatory leg ; e, male abdomen ; f, first male pleopod ; g, second male pleopod.
 scale : a, b, d-g, 1 mm ; c, 5 mm.

Genus *Pariphiculus* Alcock, 1896Key to the species of the genus *Pariphiculus*

1. — Body covered with mushroom-like granules *P. agariciferus* Ihle, 1918
 — Body covered with vesiculous granules 2
2. — Carapace longer than broad. Cardiac and branchial regions unarmed. *P. mariannae* (Herklots, 1852)
 — Carapace broader than long or as broad as long. One cardiac and two branchial tubercles
 *P. coronatus* (Alcock & Anderson, 1894)

32. *Pariphiculus coronatus* (Alcock & Anderson, 1894).

Fig. 22; pl. I 3; pl. III 5

Randallia coronatus Alcock & Anderson, 1894 : 177.
Pariphiculus coronatus : ALCOCK, 1896 : 258; 1899 :
 30; ALCOCK & ANDERSON, 1896, pl. 24, fig. 2;
 DOFLEIN, 1904 : 41, pl. 4, fig. 7; IHLE, 1918 : 249;
 BALSS, 1922 : 131; YOKOYA, 1933 : 129, text-fig.
 45; SAKAI, 1937 : 129, pl. 14, fig. 6; 1965 : 43, pl.
 17, fig. 5; 1976 : 104, pl. 29, fig. 5, text-fig. 57;
 ZARENKOV, 1969 : 24; SERÈNE & LOHAVANIJAKA,
 1973 : 37, pl. 5 A; SERÈNE & VADON, 1981 : 118,
 124.

× 13,0 mm. — St. 80, 185-162 m : 1 ♀ 10,0 ×
 10,1 mm.

MUSORSTOM 3 : St. 87, 197-191 m : 1 ♂ 8,5 ×
 8,7 mm. — St. 92, 224 m : 1 ♂ 10,9 × 11,2 mm. —
 St. 96, 194-190 m : 1 ♂ 12,5 × 12,8 mm. — St. 97,
 194-189 m : 1 ♀ 18,0 × 18,5 mm. — St. 100, 199-189 m :
 3 ♀ 8,0 × 8,1 to 29,5 × 30,0 mm. — St. 109, 196-
 190 m : 1 ♂. — St. 111, 205-193 m : 1 ♀. — St. 120,
 220-219 m : 1 ♂. — St. 139, 267-240 m : 1 ♂, 2 ♀. —
 St. 145, 246-214 m : 1 ♂, 2 ♀.

MATERIAL

MUSORSTOM 1 : St. 12, 187 m : 1 ♀ 24,6 ×
 24,6 mm. — St. 34, 191-188 m : 1 ♂ 13,0 × 13,1 mm;
 1 ♀ 12,3 × 12,5 mm. — St. 35, 187-126 m : 1 ♀. —
 St. 36, 210-187 m : 1 ♀. — St. 57, 107-96 m : 1 ♂
 broken. — St. 61, 202-187 m : 2 ♀. — St. 64, 195-194 m :
 1 ♂ 18,0 × 18,2 mm. — St. 71, 204-174 m : 1 ♀.
 MUSORSTOM 2 : St. 1, 185-173 m : 1 ♂ 13,0 ×
 13,0 mm. — St. 10, 183-176 m : 1 ♀ 12,8 × 12,8 mm.
 — St. 12, 210-197 m : 1 ♂ 18,0 × 18,0 mm. — St. 18,
 195-188 m : 1 ♂ 21,6 × 21,0 mm; 1 ♀ 9,2 × 9,6 mm.
 — St. 20, 192-185 m : 1 ♀. — St. 21, 192-191 m : 1 ♀.
 — St. 41, 172-166 m : 1 ♀ 12,1 × 12,0 mm. — St. 66,
 195-178 m : 1 ♂. — St. 68, 195-185 m : 2 ♂ 21,6 ×
 21,5, 12,1 × 12,1 mm. — St. 72, 183-168 m : 1 ♀ 13,0

HABITAT

Bottom of mud, sandy mud, at depths of 65-
 296 m.

TYPE LOCALITY

Bay of Bengal.

DISTRIBUTION

China (South China Sea and East China Sea),
 Japan, Philippines, Indonesia, Bay of Bengal,
 India, and Red Sea.

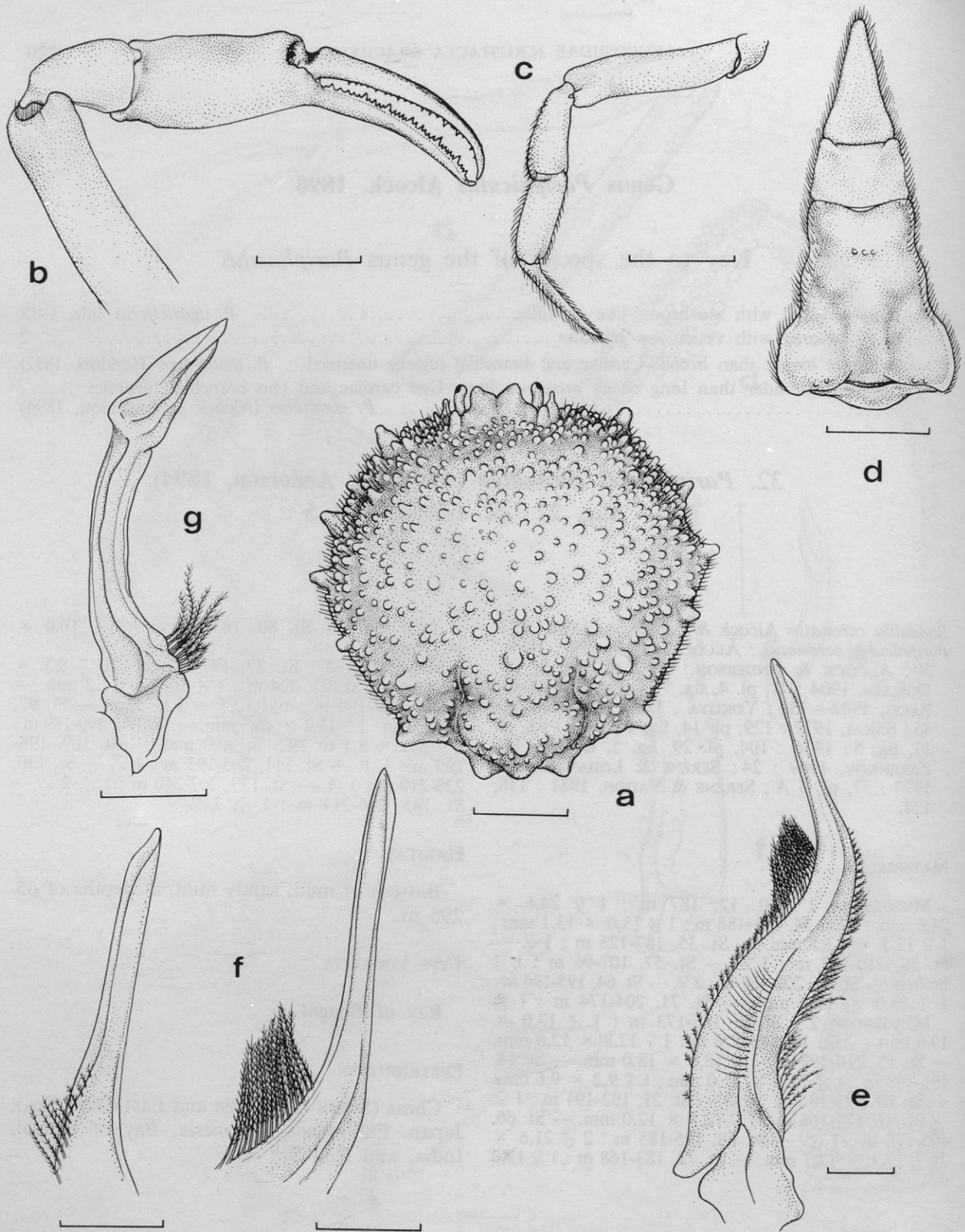


FIG. 22. — *Pariphiculus coronatus* Alcock & Anderson, 1894 : a, male carapace ; b, cheliped ; c, fourth ambulatory leg ; d, male abdomen ; e, f, first male pleopod ; g, second male pleopod.
 scale : a-d, 5 mm ; e-g, 1 mm.

33. *Pariphiculus agariciferus* Ihle, 1918

Fig. 21 d-g; pl. II 5

Pariphiculus agariciferus Ihle, 1918 : 250, fig. 236 ;
BALSS, 1922 : 131 ; YOKOYA, 1933 : 129 ; SAKAI,
1937 : 131 ; 1965 : 43, pl. 17, fig. 4 ; 1976 : 104-105,
pl. 29, fig. 4 ; SERÈNE & LOHAVANIJAYA, 1973 : 38-
39, figs. 64-66, pl. 5, fig. C ; SERÈNE & VADON, 1981 :
119, 120.

HABITAT

Bottom of mud or sandy mud, at depths of 65-
200 m.

TYPE LOCALITY

Between Timor and Rotti Island.

DISTRIBUTION

China (South China Sea), Japan, Philippines,
and the type locality.

MATERIAL

MUSORSTOM 1 : St. 27, 192-188 m : 1 ♀ 12,0 × 12,5
mm. — St. 62, 194-179 m : 1 ♂ 11,9 × 12,1 mm. — St.
63, 195-191 m : 1 sp. broken. — St. 64, 194 m : 1 ♂
12,5 × 12,5 mm ; 1 ♀ 6,2 × 6,3 mm. — St. 71, 204-
174 m : 1 ♂ 12,5 × 12,9 mm ; 2 ♀ 10,9 × 11,3,
29,0 × 9,0 mm. — St. 72, 127-122 m : 1 ♀ 12,0 ×
13,0 mm.

34. *Pariphiculus mariannae* (Herklots, 1852)

Fig. 23 ; pl. IV 3

Illia mariannae Herklots, 1852 : 36-37, fig. 2.
Pariphiculus rostratus Alcock, 1896 : 259, pl. 8, fig. 2 ;
ALCOCK & ANDERSON, 1897, pl. 30, fig. 7.
Pariphiculus mariannae : NOBILI, 1906 : 165 ; IHLE,
1918 : 249-250 ; ZARENKOV, 1969 : 24 ; SERÈNE &
LOHAVANIJAYA, 1973 : 37-38, figs. 60-63, pl. 5 B ;
SERÈNE & VADON, 1981 : 119, 124.

REMARKS

The male abdomen is narrowly triangular,
consisting of five segment (1 + 2 + R + 6 + T).
The first male pleopod has long hairs, its distal
1/4 is curved. The second pleopod is slightly
longer than half the length of the first pleopod
and has a long distal process, the borders of
which become thin and concave in the middle.
SERÈNE and LOHAVANIJAYA's specimen (16 ×
15 mm) was an immature male.

MATERIAL

MUSORSTOM 1 : St. 45, 180-100 m : 1 ♂ 26,0 ×
25,0 mm. — St. 72, 127-122 m : 2 ♀ 9,5 × 8,5, 10,5 ×
9,0 mm. — St. 73, 76-70 m : 3 ♂ 9,5 × 8,5, 10,0 × 9,0,
14,9 × 12,9 mm ; 1 ♀ 14,2 × 12,1 mm.
MUSORSTOM 3 : St. 88, 187-183 m : 1 ♂ 12,6 ×
12,0 mm.

DISTRIBUTION

China (South China Sea), Philippines, Indone-
sia, Burma, and India.

HABITAT

Bottom of sandy mud, muddy sand and soft
mud, at depths of 26-180 m.

TYPE LOCALITY

China.

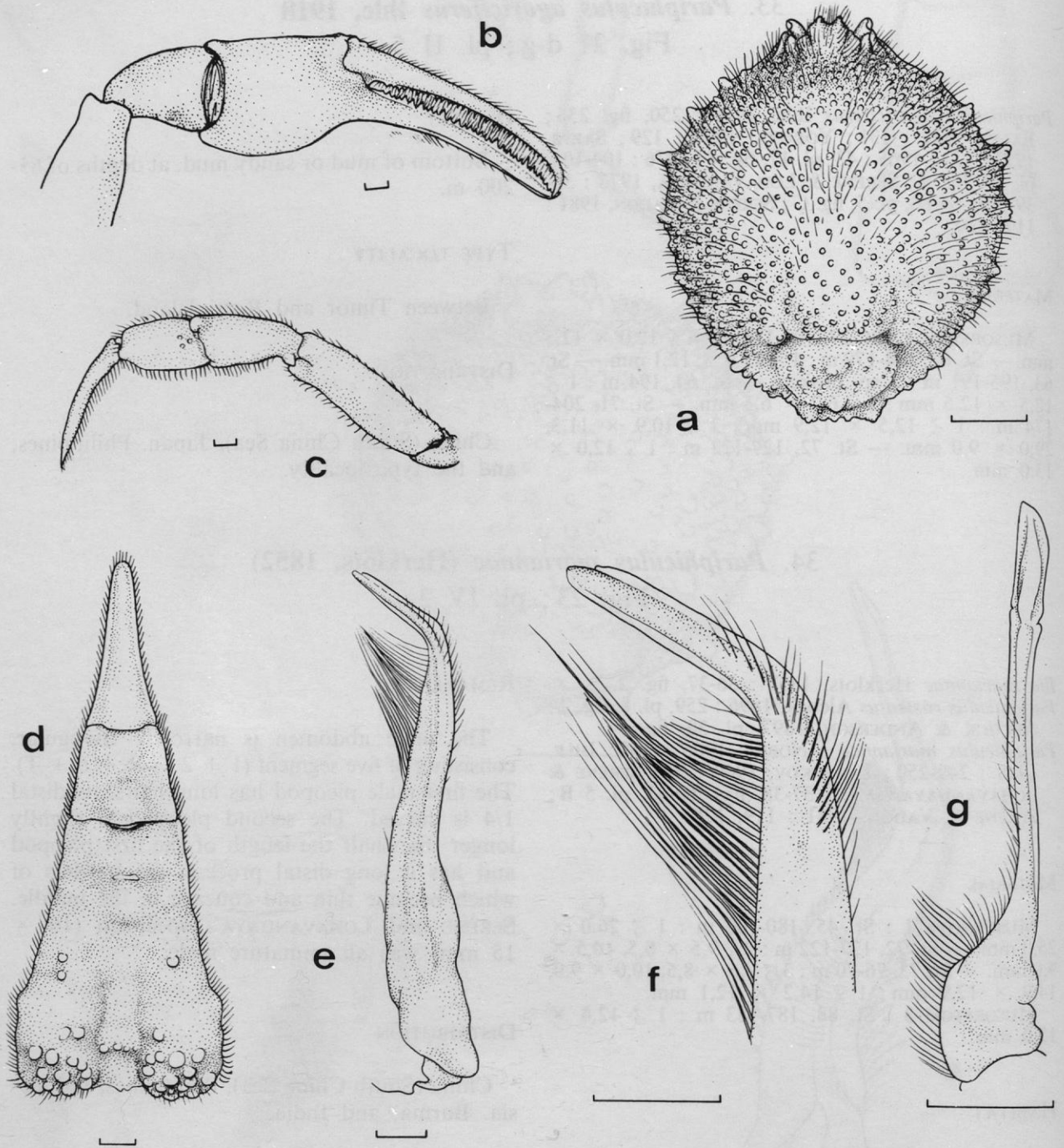


FIG. 23. — *Pariphiculus mariannae* (Herklots, 1852) : a, carapace ; b, cheliped ; c, fourth ambulatory leg ; d, male abdomen ; e, f, first male pleopod ; g, second pleopod.

scale : a, 5 mm ; b-g, 1 mm.

Genus *Iphiculus* Adams & White, 184835. *Iphiculus spongiosus* Adams & White, 1848

Fig. 4 c-f; pl. IV 5

Iphiculus spongiosus Adams & White, 1848 : 57, pl. 13, fig. 5; ALCOCK, 1896 : 256; LANCHESTER, 1900 : 766; NOBILI, 1906 : 170; STIMPSON, 1907 : 159, pl. 18, fig. 8; RATHBUN, 1910 : 314; IHLE, 1918 : 252; SAKAI, 1965 : 43, pl. 5, fig. 2; 1976 : 105, pl. 31, fig. 3; ZARENKOV, 1969 : 23-24, fig. 5 (2); SERÈNE & VADON, 1981 : 118, 124.

MATERIAL

MUSORSTOM 1 : St. 1, 31 m : 4 ♂ and 3 ♀ 10,2 × 12,8 to 13,1 × 18,1 mm. — St. 25, 200-191 m : 1 ♀ 10,9 × 12,5 mm. — St. 56, 139-134 m : 5 ♂, 3 ♀. — St. 62, 194-179 m : 1 ♀. — St. 71, 204-174 m : 1 ♂. — St. 72, 127-122 m : 5 ♂; 9 ♀. — St. 73, 76-70 m : 1 ♂; 2 ♀.
MUSORSTOM 2 : St. 41, 172-166 m : 1 ♂ 8,0 × 9,0 mm; 2 ♀ 8,4 × 10,0, 10,2 × 12,1 mm.
MUSORSTOM 3 : St. 141, 44-40 m : 1 ♂ 10,5 × 19,5 mm; 1 ♀ 12,0 × 16,5 mm.

HABITAT

Bottom of sandy mud or soft mud, at depths of 11-204 m.

TYPE LOCALITY

Philippines.

REMARKS

ADAMS & WHITE (1848) and ESTAMPADOR (1937, 1959) had previously reported this species from the Philippines. It is widely distributed in the Indo-Pacific region.

The abdomen of the male consists of six segments (3rd and 4th fused), that of the female has seven distinct segments. The basal 1/2 of the first male pleopod is robust while the distal 1/2 is slender and curved. The second pleopod is short and small and has a pointed tip.

The specimens were dredged from depths of 31-204 m. Depth range recorded by SAKAI (1976) is 50-56 m and by ZARENKOV (1969) 4-190 m.

DISTRIBUTION

China (South China Sea and East China Sea), Japan, Philippines, Indonesia, Singapore, Gulf of Thailand, India and Red Sea.

Genus *Parilia* Wood-Mason, 189136. *Parilia major* Sakai, 1961

Fig. 24; pl. II, 1

Parilia major Sakai, 1961 : 137, pl. 3, fig. 5; 1976 : 105-106, pl. 31, fig. 1; SERÈNE & VADON, 1981 : 118, 124.

MATERIAL

MUSORSTOM 1 : St. 11, 230-217 m : 1 ♀ ovig. 51,0 × 52,0 mm.
MUSORSTOM 2 : St. 20, 192-185 m : 1 ♀ 24,0 × 25,0 mm. — St. 49, 425-416 m : 2 ♂ 15,0 × 15,6, 25,3 × 26,1 mm; 3 ♀ 20,0 × 21,0 to 23,6 × 24,1 mm.
MUSORSTOM 3 : St. 120, 220-219 m : 1 ♂ 52,1 ×

53,1 mm. — St. 139, 267-240 m : 2 ♀ 10,5 × 10,8, 46,0 × 47,3 mm. — St. 143, 214-205 m : 1 ♂ 33,5 × 34,5 mm; 2 ♀ 23,0 × 23,5, 32,0 × 33,0 mm. — St. 144, 383-379 m : 1 ♂ 13,5 × 14,0 mm; 5 ♀ 6,1 × 6,2 to 15,0 × 15,3 mm. — St. 145, 246-214 m : 1 ♀ ovig. 42,0 × 43,7 mm.

HABITAT

Bottom of sandy mud, at depths of 100-425 m.

TYPE LOCALITY

Tosa Bay (Japan).

REMARKS

The carapace is a little broader than long. The

middle portion of the dorsal surface of the carapace is rather convex with a very shallow H-shaped groove in the posterior half. A tubercle is at the junction of the anterolateral and posterolateral borders of the carapace; in small and medium-sized specimens, the anterolateral border has three small tubercles in front of the tubercle placed at the junction, while the fully

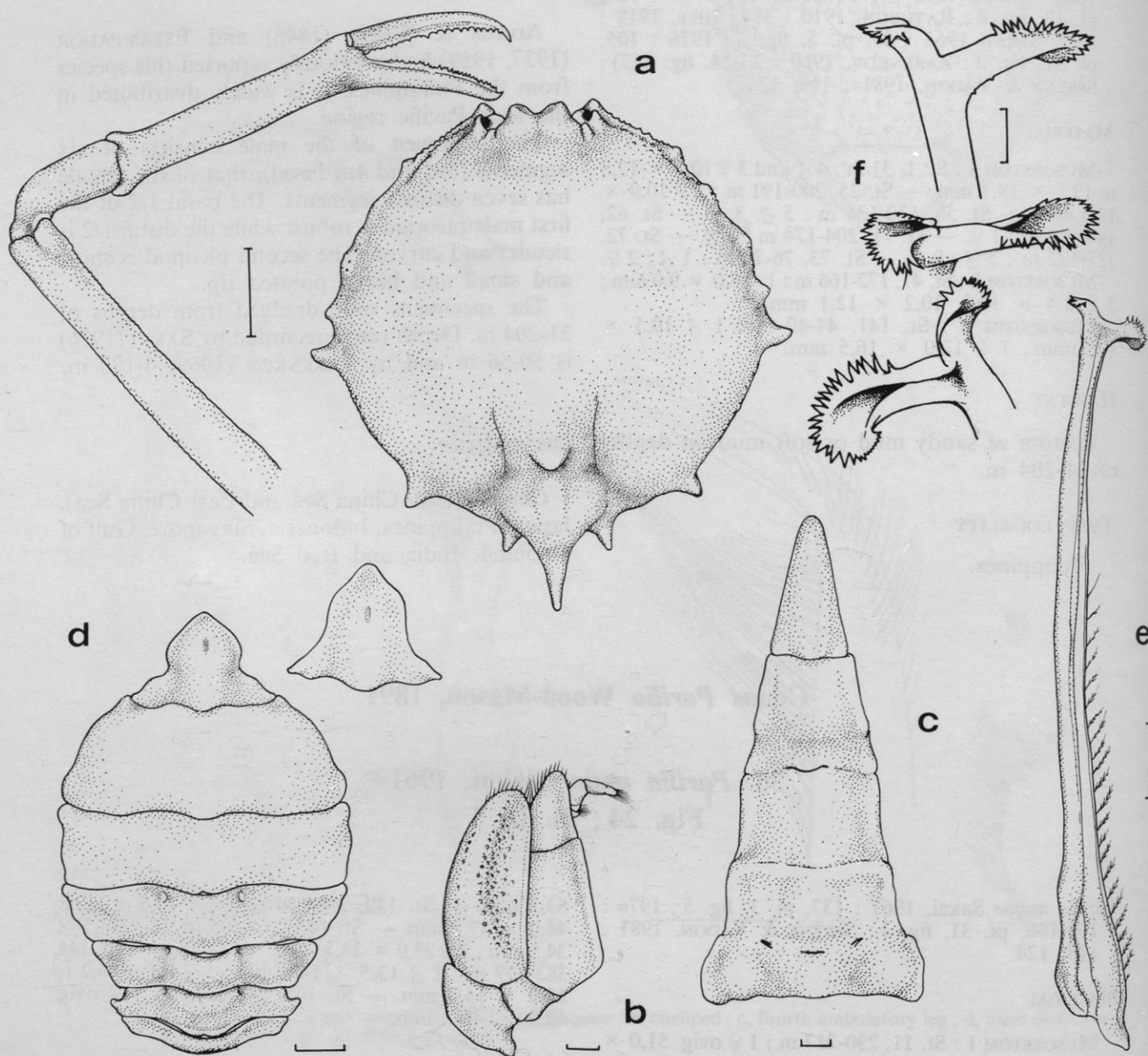


FIG. 24. — *Parilia major* Sakai, 1961 : a, carapace and cheliped of immature male ; b, third maxilliped ; c, male abdomen ; d, abdomen of full-adult female ; e, first male pleopod ; f, enlarged tip of first male pleopod.
scale : a, d, 5 mm ; b-c, e, 1 mm ; f, 0,5 mm.

adult has only one. The posterolateral border of the carapace has a tubercle. There are two tubercles (or spines in small specimens), one on each side of the posterior border, and a long spine on the intestinal region just above the center of the posterior border, but the spine is relatively shorter in the fully adult female.

The third maxillipeds are covered with fine granules; the exopod is stout but its distal 1/5 is slightly narrower.

The cheliped's length and shape approximate that of *Myra fugax* (Fabricius) in outline. In fully adult female it is 2,36 times as long as the carapace but in the immature male only 2,05

times; in SAKAI'S male specimen it is about 2,9 times.

The abdomen of the male is narrowly triangular, that of the female, elongate ovate. In the female the shape of the telson resembles a straw hat.

The present species was collected between 185-425 m. SAKAI (1976) reported its occurrence from Japan at 100-150 m.

DISTRIBUTION

Philippines and Japan.

37. *Parilia ovata* Chen, 1984

Fig. 30 d

Parilia ovata Chen, 1984 : 482.

MATERIAL

MUSORSTOM 3 : St. 145, 246-214 m : 1 ♀ immature
14,0 × 12,2 mm.

HABITAT

Bottom of the soft mud and sandy mud, at depths of 173-246 m.

DISTRIBUTION

China (South China Sea) and Philippines.

Subfamily LEUCOSIINAE Samouelle, 1819

Genus *Leucosia* Weber, 1785

Key to the species of the genus *Leucosia*

1. — Body large 2
- Body small 3
2. — Anterior border of thoracic sinus with a ring of granules *Leucosia crosnieri* sp. nov.
- Anterior border of thoracic sinus without a ring of granules. *Leucosia longibrachia* Shen & Chen, 1978
3. — Carapace as long broad. Front thick. Lateral borders of carapace thin *Leucosia foresti* sp. nov.
- Carapace longer than broad. Front thin. Lateral borders of carapace thick 4
4. — Posterolateral borders of carapace covered with black and short tomentum. Carapace more or less vermiculated *Leucosia margaritata* A. Milne Edwards, 1873
- Posterolateral borders of carapace without black and short tomentum, but with 4 small and reddish spots on the gastric region and near the hepatic region *Leucosia rhomboidalis* de Haan, 1841

38. *Leucosia crosnieri* sp. nov.

Fig. 25; fig. 26 a-e; pl. I 8

Leucosia obtusifrons: SERÈNE & VADON, 1981 : 120, 124. (Non de Haan, 1841).

MATERIAL

MUSORSTOM 1 : St. 27, 192-188 m : 2 ♂ (young). — St. 30, 187-186 m : 2 ♂ (young). — St. 34, 191-188 m : 2 ♂ 22,5 × 21,0, 31,0 × 28,0 mm. — St. 55, 200-194 m : 1 ♀ (young). — St. 61, 202-184 m : 1 ♀ 33,0 × 31,5 mm. — St. 62, 194-179 m : 2 ♀ (young). — St. 64, 195-194 m : 1 ♂ (young).

MUSORSTOM 2 : St. 1, 185-173 m : 1 ♀ (young). — St. 10, 183-176 m : 1 ♀ (young). — St. 19, 192-189 m : 1 ♂ (young). — St. 41, 172-166 m : 1 ♂ (immature). — St. 52, 190-181 m : 3 ♀ 15,0 × 14,0, 21,3 × 20,5, 22,0 × 21,0 mm. — St. 59, 190-186 m : 1 ♀ (young). — St. 80, 185-162 m : 1 ♀ (young).

MUSORSTOM 3 : St. 97, 194-189 m : 1 ♀ 22,5 × 21,5 mm. — St. 100, 199-189 m : 1 ♀ 15,5 × 14,0 mm. — St. 101, 196-194 m : 2 ♀ 14,5 × 13,5, 23,0 × 21,7 mm. — St. 108, 195-188 m : 1 ♂ 22,0 × 20,8; 2 ♀ 14,0 × 13,0, 16,0 × 15,1 mm.

TYPES

The male 31,0 × 28,0 mm (MNHN-B 18115) from MUSORSTOM 1, St. 34, is the holotype. The female 33,0 × 31,5 mm (IOQ) from MUSORSTOM 1, St. 61, is the allotype. One male 22,5 × 21,0 mm (IOQ) from MUSORSTOM 1, St. 34, and 3 females 22,0 × 21,0, 21,3 × 20,5, 15,0 × 14,0 mm (MNHN-B 18120) from MUSORSTOM, 2 St. 52, are paratypes.

DESCRIPTION

Carapace rounded, longer than broad, strongly convex, its anterior half with small pits. Hepatic regions not strongly convex. Front short, entire and pitted, its anterior border slightly convex. Lateral borders of carapace lined with granules which become obscure or even disappear on the anterior and posterior parts of the border. Anterolateral borders sinuous (convex the middle) and more sinuous in males than in females; posterolateral borders regularly convex and gradually tapering toward the posterior border, which is very slightly bilobed.

Thoracic sinus covered with tomentum, the anterior border with a ring of 6 to 8 tubercles, posteriorly followed by 8 tubercles, the first five large, the last three smaller and smaller.

Exopod and merus of the 3rd maxillipeds with distinct granules which are becoming small and rather indistinct near the base. These granules are more distinct in younger specimens. Exopod of the 3rd maxillipeds two and half times longer than broad.

Chelipeds stout. Borders of merus armed with tubercles of various size; basal part of dorsal surface of merus with a patch of 6 or 7 granules above which are two rows of granules; inner surface entirely covered with tubercles; ventral surface with tubercles only in its basal part. Carpus with a row of granules on its inner border. Palm rectangular, outer border smooth, inner border flat and broad with a row of granules on each of its sides extending to the distal part of the immovable finger. Fingers with a gap, denticulated.

Ambulatory legs short and slender, first pair the longest; fourth pair the shortest. Merus cylindrical, borders with fine granules, propodus slightly compressed, with its upper border crested. Dactylus lanceolated.

Abdomen of both sexes of five segments (3rd to 5th segments fused), its formula being 1 + 2 + R + 6 + T; male abdomen with second segment smaller than first. Segment R with convex lateral sides, basal 1/2 with a longitudinal median groove. Sixth segment with a small median tooth at its basal 1/3 and convex borders. Telson tongue-shaped. Female abdomen elongate ovate, second segment about twice as long as broad. First male pleopod stout and twisted four times, its extremity hook-shaped with dense and relatively long feathered setae at its base.

Colours in alcohol : Large reddish circle on each side of gastric region, with inside three small yellow spots. In young specimens these spots are obscure but there are many oblique and longitudinal stripes which are not present in full-grown specimens.

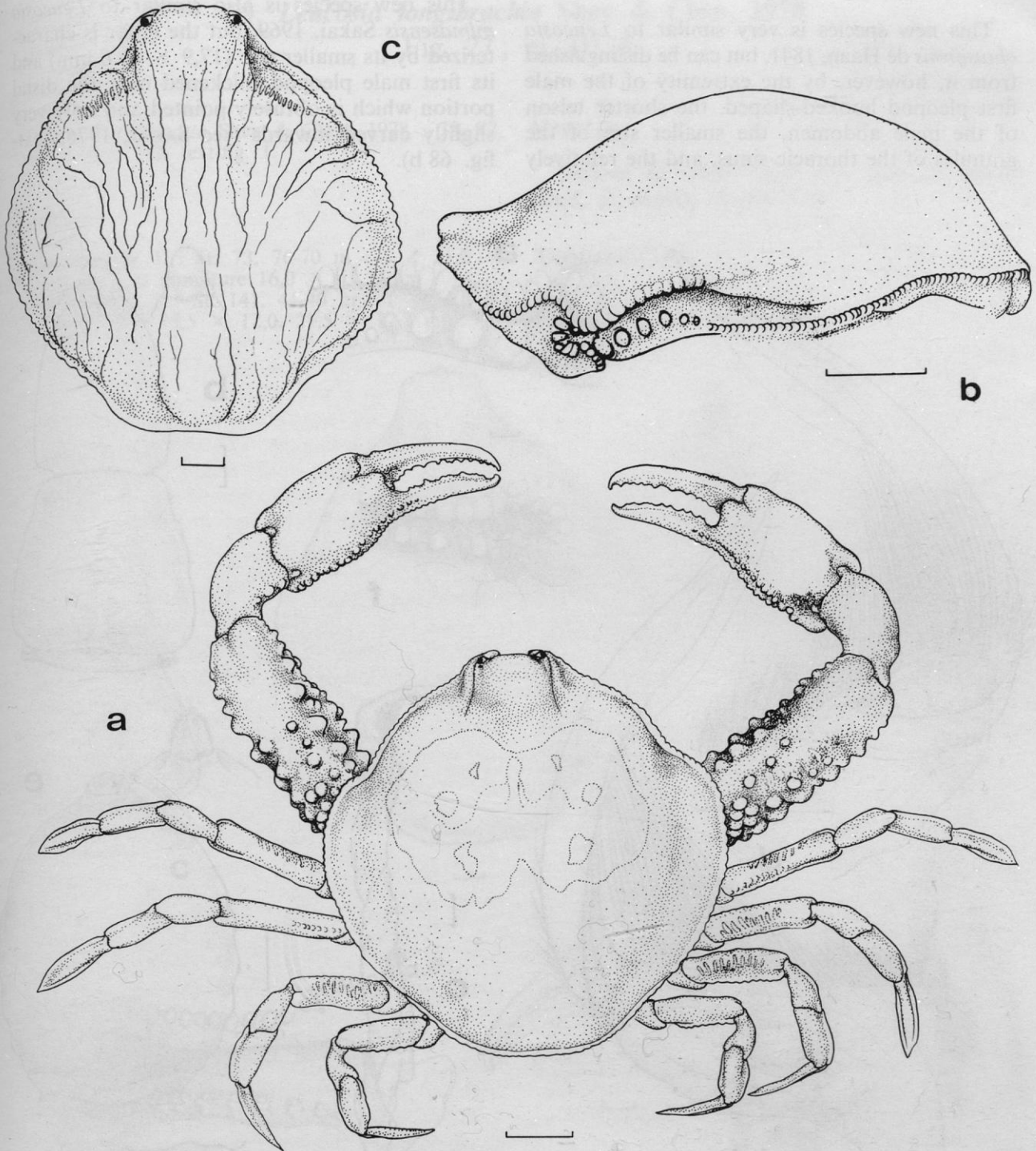


FIG. 25. — *Leucosia crosnieri* sp. nov. : a, entire animal, ♂ holotype ; b, lateral view of carapace ; c, carapace of immature male.

scale : a-b, 5 mm ; c, 1 mm.

REMARKS

This new species is very similar to *Leucosia obtusifrons* de Haan, 1841, but can be distinguished from it, however, by the extremity of the male first pleopod hooked-shaped, the shorter telson of the male abdomen, the smaller size of the granules of the thoracic sinus, and the relatively

shorter exopod of the third maxillipeds.

This new species is also similar to *Leucosia mimasensis* Sakai, 1969, but the latter is characterized by its smaller size (17,9 × 19,6 mm) and its first male pleopod thickened near the distal portion which is obtusely pointed and only very slightly curved inwards (see SAKAI, 1976, text-fig. 68 b).

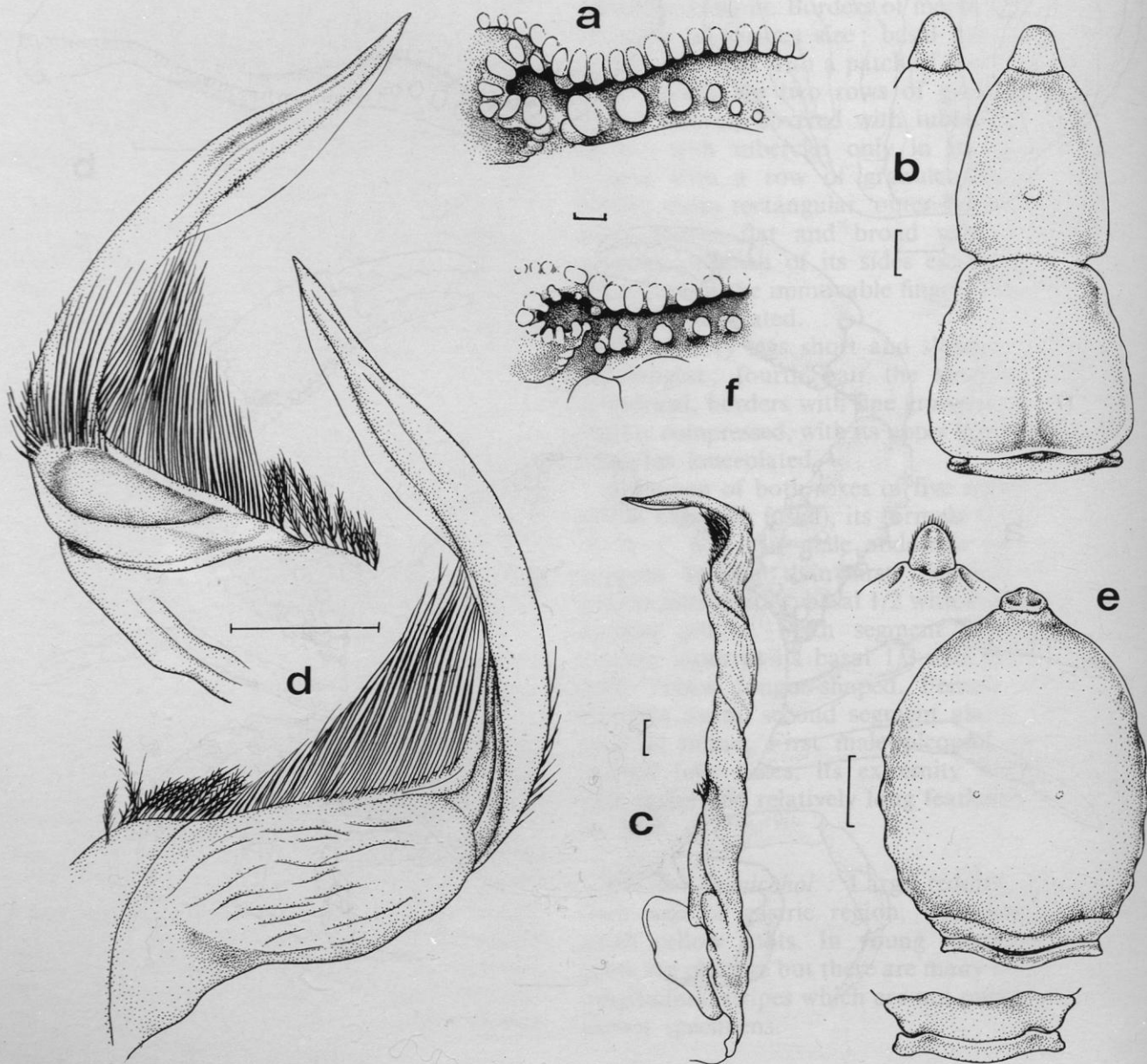


FIG. 26. — a-e, *Leucosia crosnieri* sp. nov. and f, *Leucosia obtusifrons* de Haan, 1841 : a, thoracic sinus of ♂ holotype ; b, male abdomen ; c, first male pleopod ; d, enlarged tip of first male pleopod ; e, female abdomen ; f, thoracic sinus. scale : a, e, f, 5 mm ; b-d, 1 mm.

39. *Leucosia longibrachia* Shen & Chen, 1978

Fig. 27; pl. III 4

Leucosia longibrachia Shen & Chen, 1978 : 75, 82, HABITAT
pl. I, figs. 1-2, text-fig. 1.

Bottom of sandy mud, soft mud or muddy
sand, at depths of 10-76 m.

MATERIAL

MUSORSTOM 1 : St. 73, 76-70 m : 1 ♂ 21,0 ×
16,5 mm ; 1 ♀ immature 16,0 × 12,2 mm.

MUSORSTOM 3 : St. 141, 44-40 m : 1 ♂ 15,0 ×
11,7 mm ; 2 ♀ 15,5 × 12,0, 21,5 × 12,2 mm.

TYPE LOCALITY

China (South China Sea).

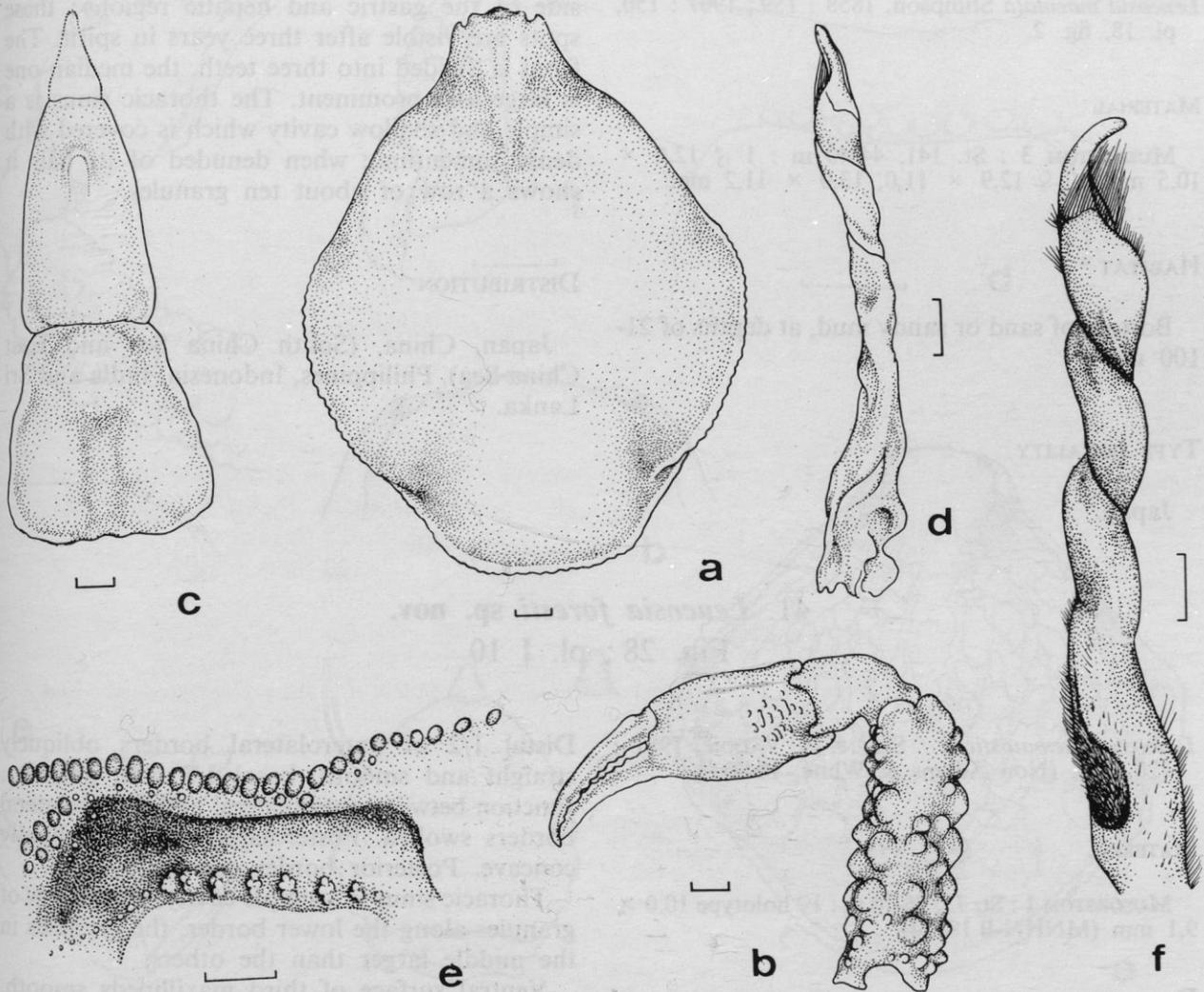


FIG. 27. — *Leucosia longibrachia* Shen & Chen, 1978 : a, carapace of immature female ; b, cheliped ; c, male abdomen of semi-adult ; d, first male pleopod ; e, thoracic sinus of adult male from South China Sea ; f, first male pleopod of adult from South China Sea.

scale : 1 mm.

REMARKS

This is a common species in the South China Sea (Beibu Gulf). It is the first record for the Philippines.

DISTRIBUTION

China and Philippines.

40. *Leucosia rhomboidalis* de Haan, 1841

Fig. 30 b-c

Leucosia rhomboidalis de Haan, 1841 : 134, pl. 33, fig. 5 ; BELL, 1855 : 284 ; ORTMANN, 1892 : 586 ; ALCOCK, 1896 : 234 ; DE MAN, 1907 : 397, pl. 31, fig. 7 ; IHLE, 1918 : 282 ; CHOPRA, 1933 : 32 ; SAKAI, 1935 : 62, text-fig. 23 ; 1937 : 149, text-fig. 29 ; 1976 : 123, text-fig. 65 f, pl. 35, fig. 5.

Leucosia maculata Stimpson, 1858 : 159 ; 1907 : 150, pl. 18, fig. 2.

MATERIAL

MUSORSTOM 3 : St. 141, 44-40 m : 1 ♂ 12,6 × 10,5 mm ; 2 ♀ 12,9 × 11,0, 13,0 × 11,2 mm.

HABITAT

Bottom of sand or sandy mud, at depths of 21-100 m.

TYPE LOCALITY

Japan.

REMARKS

This species is of medium size ; the carapace never exceeds 16,0 mm in length ; it is rhomboidal and smooth, with four reddish spots on either side of the gastric and hepatic regions ; these spots are visible after three years in spirit. The front is divided into three teeth, the median one is large and prominent. The thoracic sinus is a simple and shallow cavity which is covered with dense tomentum ; when denuded of its hair it shows a row of about ten granules.

DISTRIBUTION

Japan, China, (South China Sea and East China Sea), Philippines, Indonesia, India and Sri Lanka.

41. *Leucosia foresti* sp. nov.

Fig. 28 ; pl. I 10

Leucosia haematosticta : SERÈNE & VADON, 1981 : 120, 124. (Non Adams & White, 1848).

MATERIAL

MUSORSTOM 1 : St. 73, 76-70 m : 1 ♀ holotype 10,0 × 9,1 mm (MNHN-B 18124).

DESCRIPTION

Carapace somewhat rhomboidal, a little longer than broad, with a dorsal surface very smooth and shiny. Front thick, entire and bluntly rounded.

Distal 1/2 of anterolateral borders obliquely straight and smooth, basal 1/2 with granules. Junction between anterolateral and posterolateral borders swollen. Posterolateral borders slightly concave. Posterior border convex.

Thoracic sinus is a simple cavity, with a row of granules along the lower border, the granules in the middle larger than the others.

Ventral surface of third maxillipeds smooth. Exopod oblong in shape, with its distal end reaching the basal 5/6 of merus.

Chelipeds stout (the right claw is missing). Surface of merus with pearl-like granules of

different sizes : anterior border with a row of pearl-like tubercles, the middle ones larger than the others ; posterior border also with tubercles, the middle ones also larger than the others ; dorsal surface with a patch of small granules basally and more than 20 granules in its middle part, but smooth distally. Carpus short and subglobose, smooth excepted along its inner border where some granules are. Palm as long as broad, smooth and slightly inflated, its borders thin and acute ; inner border with a row of small granules on each side extending to basal 1/2 of

the immovable finger.

Ambulatory legs (second pair and terminal three segments of left third leg missing) slender and short, more or less compressed. The first the longest, the fourth the shortest. Surface of merus finely granulated, seeming smooth to the naked eye. Upper border of propodus cristiform. Dactylus styliform.

Abdomen consisting of four segments (3rd to 6th fused). First segment small, second two times longer than first. Telson pear-shaped.

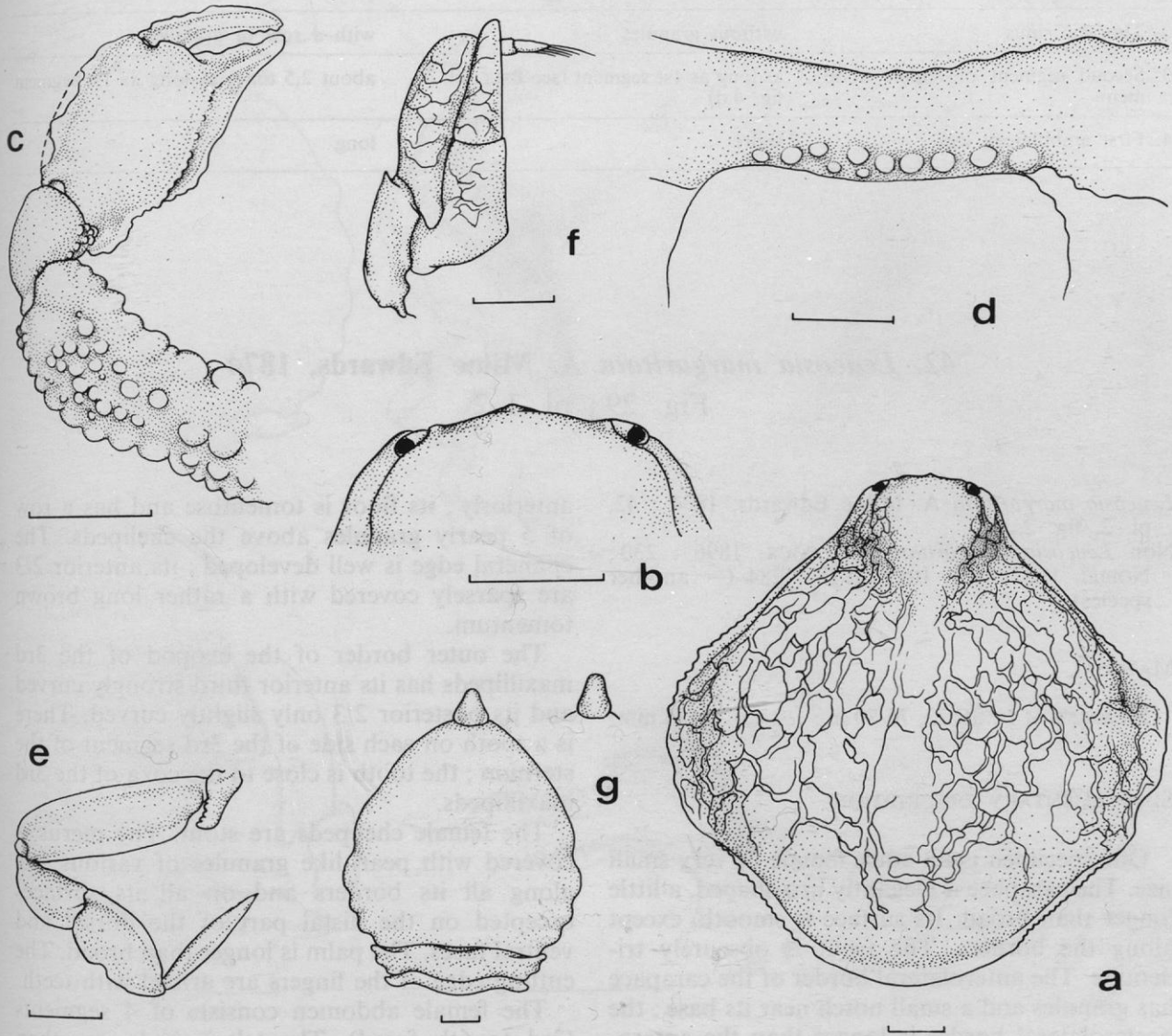


FIG. 28. — *Leucosia foresti* sp. nov. : a, carapace of ♀ holotype ; b, anterior part of carapace ; c, cheliped ; d, thoracic sinus ; e, fourth ambulatory leg ; f, third maxilliped ; g, female abdomen.

scale : 1 mm.

Colours in alcohol : Carapace with fine bright brown reticulation.

This new species closely resembles *Leucosia pulcheir* Bell, 1855, but differs from it in the following aspects :

REMARKS

	<i>Leucosia pulcheir</i>	<i>Leucosia foresti</i>
1. Carapace	as long as broad	longer than broad
a) lateral borders	without granules	with granules
b) junction between anterolateral and posterolateral borders	not swollen	swollen
c) reticulation	thick	fine
2. Thoracic sinus	without granules	with a row of granules
3. Second segment of female abdomen	as long as 1st segment (see BELL, pl. 31, fig. 4 d)	about 2,5 times as long as 1st segment
4. First ambulatory legs	short	long

42. *Leucosia margaritata* A. Milne Edwards, 1874

Fig. 29 ; pl. I 2

Leucosia margaritata A. Milne Edwards, 1874 : 42, pl. 2, fig. 2.

Non *Leucosia margaritata* : ALCOCK, 1896 : 230 ; NOBILI, 1907 : 99 ; IHLE, 1918 : 284 (= another species).

MATERIAL

MUSORSTOM 1 : St. 73, 76-70 m : 1 ♀ 7,0 × 6,4 mm.

SUPPLEMENTARY DESCRIPTION

Our specimen is an adult female of very small size. The carapace is elegantly urn-shaped, a little longer than broad. Its surface is smooth, except along the borders. The front is obscurely tridentate. The anterolateral border of the carapace has granules and a small notch near its base ; the posterolateral border is longer than the anterolateral one. The posterior border is bluntly rounded.

The thoracic sinus is very shallow and rounded

anteriorly ; its floor is tomentose and has a row of 5 pearly granules above the chelipeds. The epimeral edge is well developed ; its anterior 2/3 are sparsely covered with a rather long brown tomentum.

The outer border of the exopod of the 3rd maxillipeds has its anterior third strongly curved and its posterior 2/3 only slightly curved. There is a tooth on each side of the 3rd segment of the sternum ; the tooth is close to the coxa of the 3rd maxillipeds.

The female chelipeds are stout. The merus is covered with pearl-like granules of various size along all its borders and on all its surfaces excepted on the distal part of the dorsal and ventral faces. The palm is longer than broad. The cutting edge of the fingers are armed with teeth.

The female abdomen consists of 4 segments (3rd to 6th fused). The telson is longer than broad and has bluntly rounded tip.

Colours in alcohol : The carapace has bright brown reticulations. The tomentum is also bright brown.

TYPE LOCALITY

New Caledonia.

HABITAT

At depths of 18-76 m.

DISTRIBUTION

New Caledonia and Philippines.

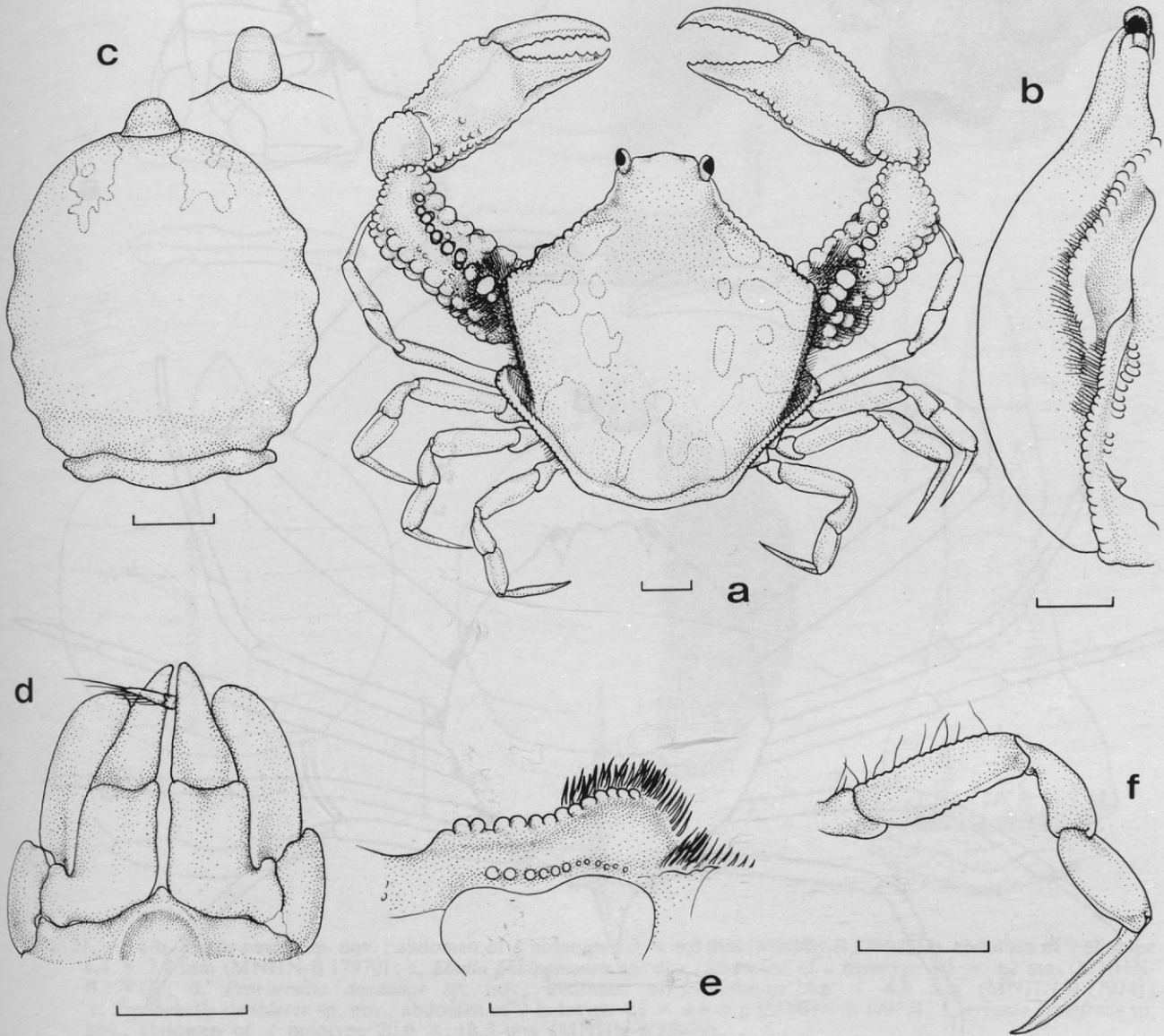


FIG. 29. — *Leucosia margaritata* A. Milne Edwards, 1874 : a, entire animale, female ; b, lateral view of carapace ; c, female abdomen ; d, third maxilliped ; e, thoracic sinus ; f, fourth ambulatory leg.
scale : 1 mm.

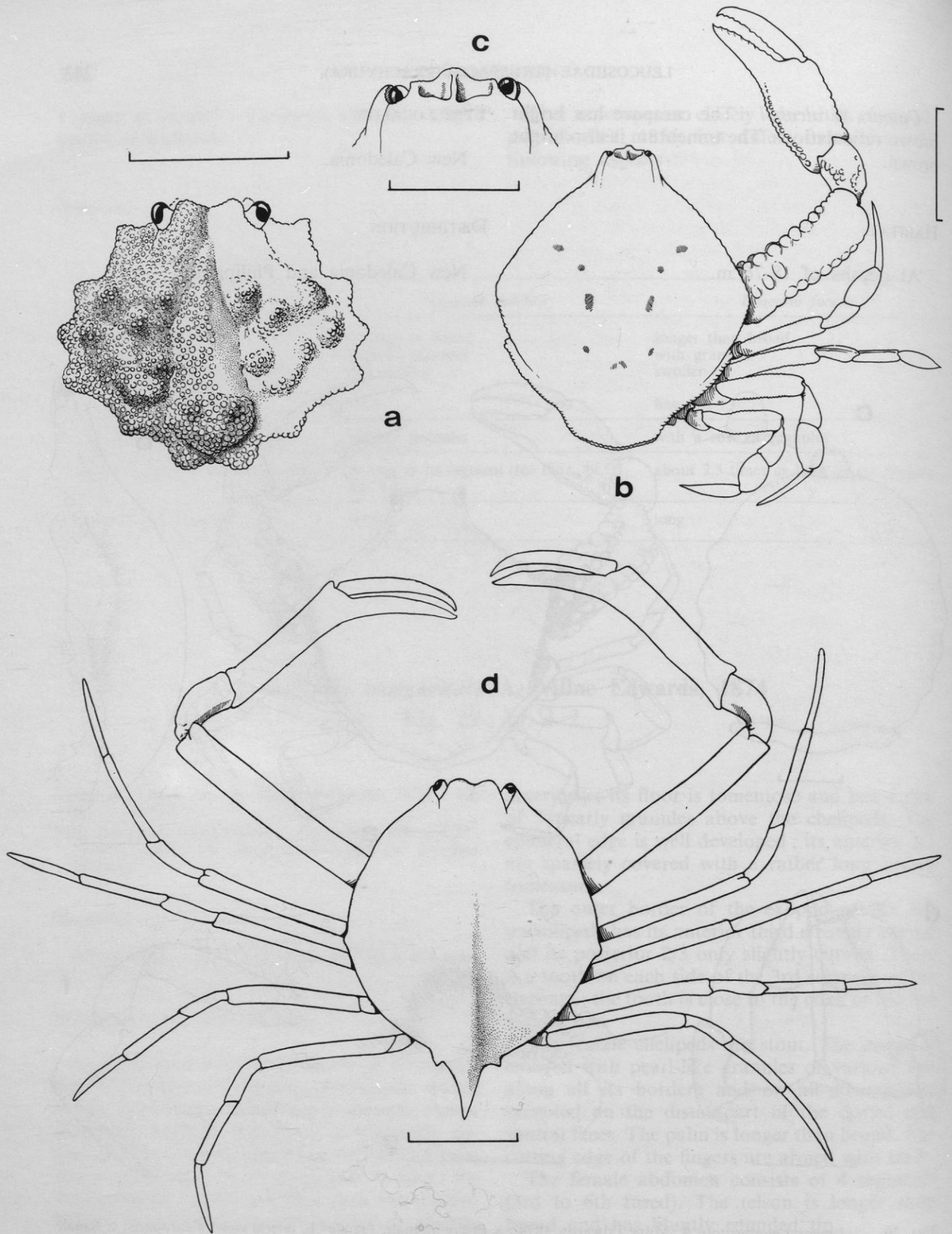


FIG. 30. — a, *Nucia speciosa* Dana, 1852; b-c, *Leucosia rhomboidalis* de Haan, 1841; d, *Parilia ovata* Chen, 1984.
 scale : a-b, d, 5 mm; c, 2 mm.

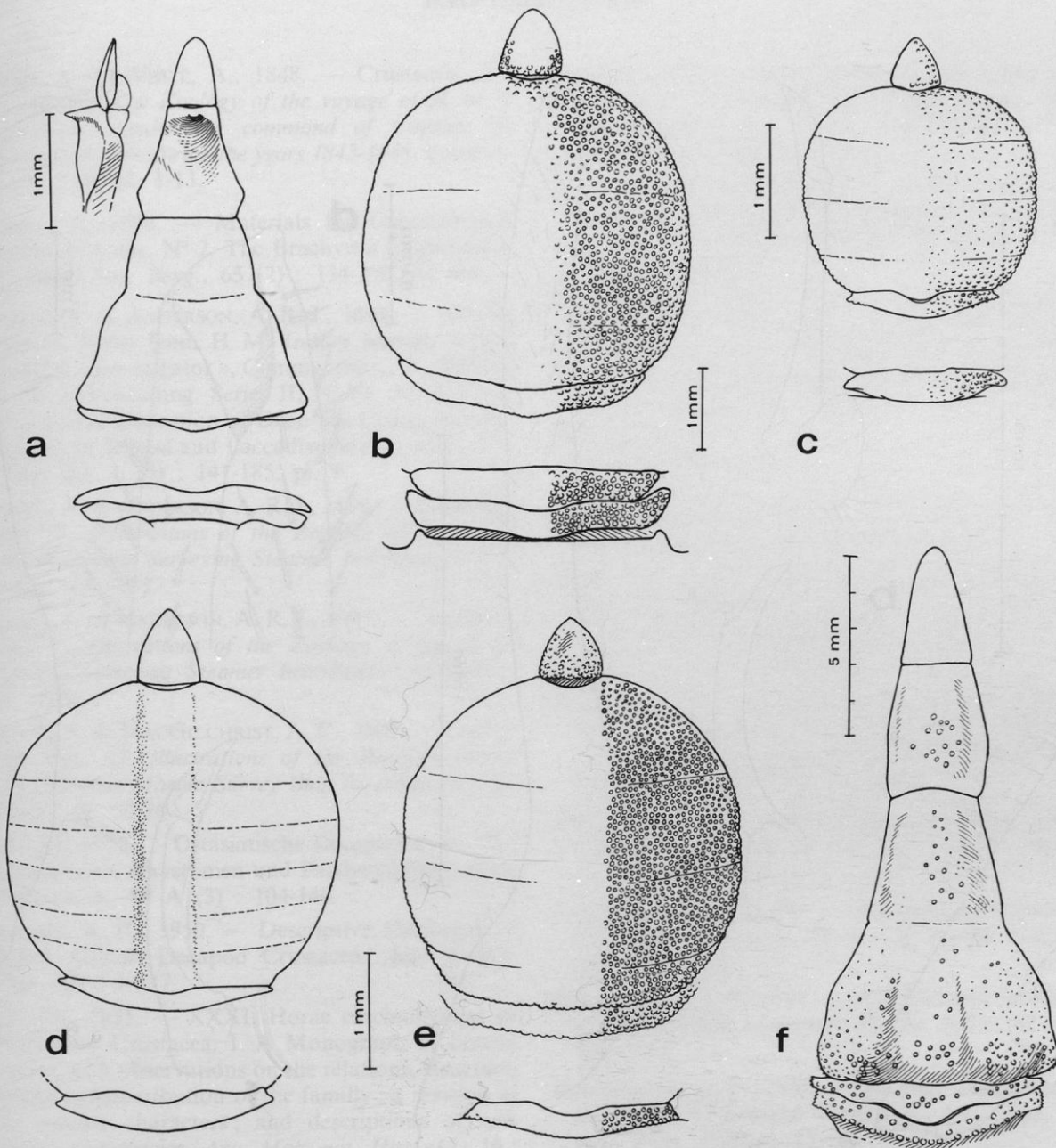


FIG. 31. — a-b, *Ebalia serenei* sp. nov.: abdomen of ♂ holotype 5,8 × 6,0 mm (MNHN-B 17969); b, abdomen of ♀ allotype 6,5 × 7,4 mm (MNHN-B 17970); c, *Ebalia philippinensis* sp. nov., abdomen of ♀ holotype 3,5 × 3,2 mm (MNHN-B 17973); d, *Praebebalia dondonae* sp. nov., abdomen of ♀ holotype 4,6 × 4,9 mm (MNHN-B 17974); e, *Praebebalia semblatae* sp. nov., abdomen of ♀ holotype 4,8 × 4,6 mm (MNHN-B 17975); f, *Arcania brevifrons* sp. nov., abdomen of ♂ holotype 20,0 × 18,5 mm (MNHN-B 18079).

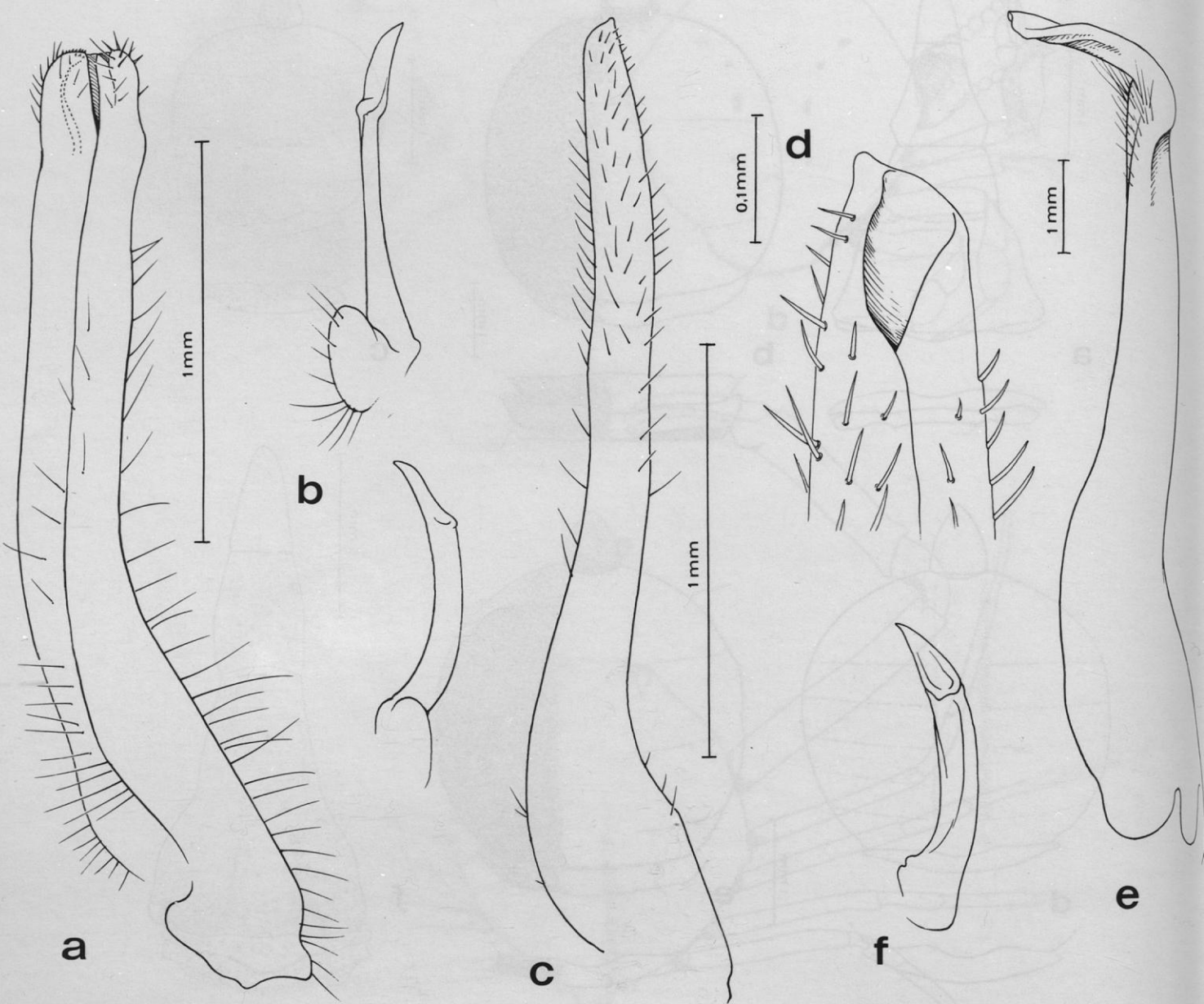


FIG. 32. — a-b, *Ebalia serenei* sp. nov., ♂ holotype 5,8 × 6,0 mm (MNHN-B 17969) : a, first pleopod ; b, second pleopod ; c-d, *Oreophorus (Oreophorus) ornatus* Ihle, 1918, ♂ 5,8 × 6,8 mm (MNHN-B 18193) : c, first pleopod ; d, enlarged tip of first pleopod ; e-f, *Arcania brevifrons* sp. nov., ♂ holotype 20,0 × 18,5 mm (MNHN-B 18079) : e, first pleopod ; f, second pleopod.

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PLATES

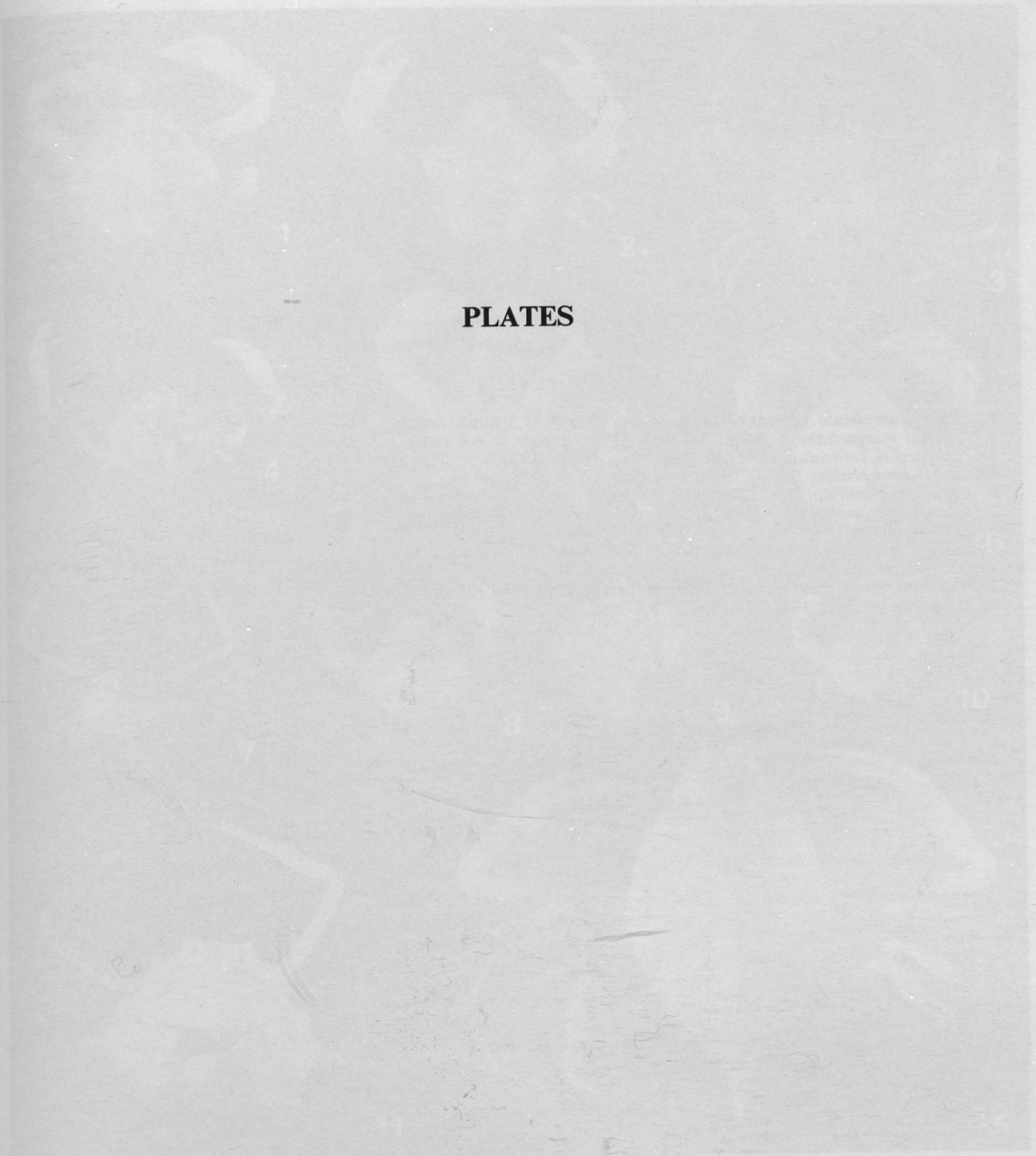


PLATE I

1. *Ebalia scabriuscula* Ortmann, 1892, ovig. ♀ (6,5 × 7,3 mm).
2. *Leucosia margaritata* A. Milne Edwards, 1874, ♀ (7,0 × 6,4 mm).
3. *Pariphiculus coronatus* Alcock & Anderson, 1894, ♂ (21,6 × 21,0 mm).
4. *Ebalia dimorphoides* Sakai, 1963, ♀ (4,8 × 5,5 mm).
- 5-6. *Randallia villosa* sp. nov., ♂ (6,9 × 6,0 mm).
7. *Arcania quinquispinosa* Alcock & Anderson, 1894, ovig. ♀ (12,5 × 13,5 mm).
8. *Leucosia crosnieri* sp. nov., ♀ (15,0 × 13,2 mm).
9. *Nursilia tonsor* Alcock, 1896, ♂ (5,8 × 6,8 mm).
10. *Leucosia foresti* sp. nov., ♀ (10,0 × 9,8 mm).
11. *Ixoides cornutus* MacGilchrist, 1905, immature ♀ (8,5 × 10,1 mm).
12. *Myra elegans* Bell, 1855, ♂ (14,1 × 9,7 mm).

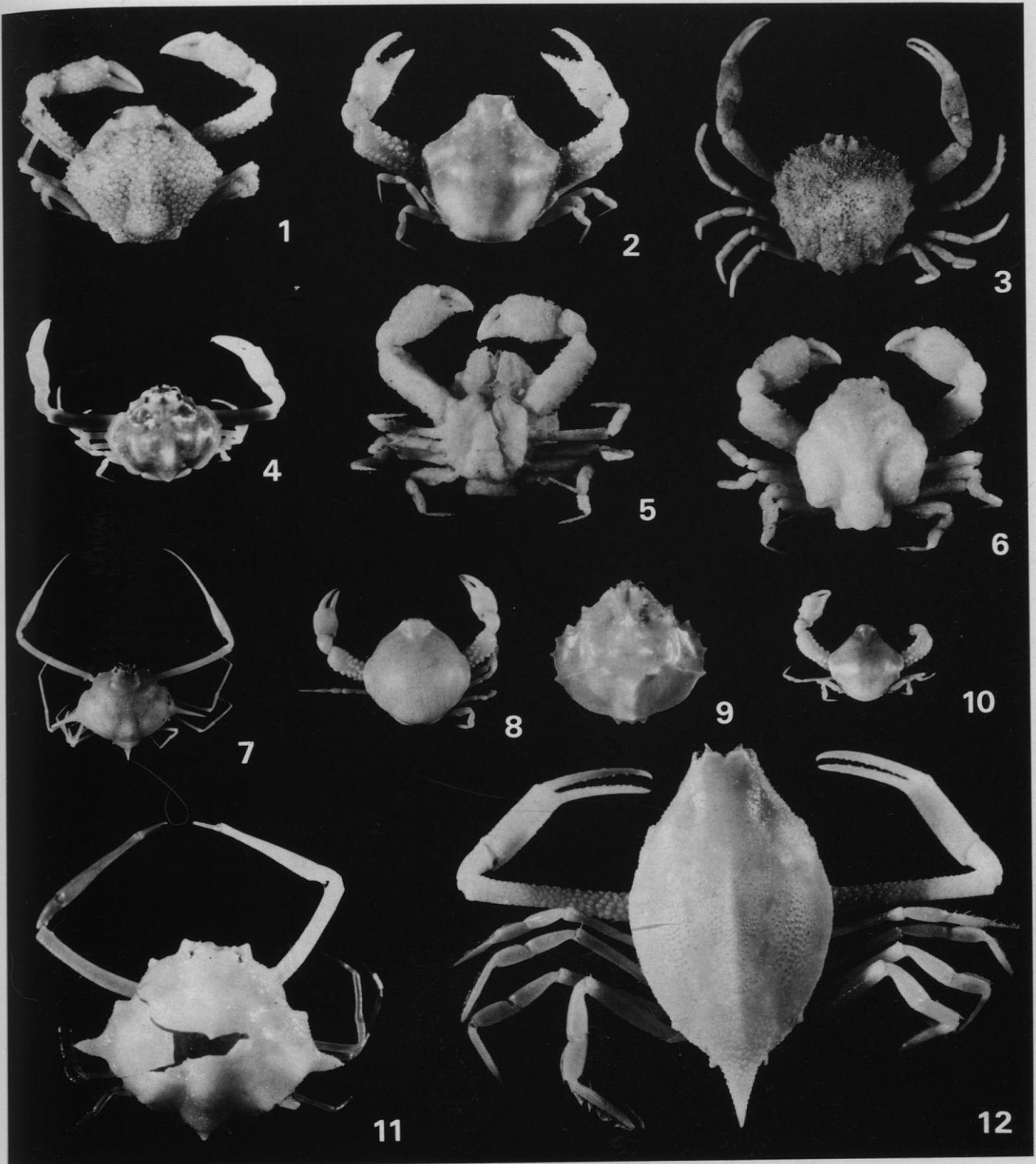


PLATE II

1. *Parilia major* Sakai, 1961, ovig. ♀ (51,0 × 52,0 mm).
2. *Ebalia glans* (Alcock, 1896), new combination, ♀ (8,1 × 9,2 mm).
3. *Ebalia glans* (Alcock, 1896), new combination, ♂ (8,0 × 8,9 mm).
4. *Arcania undecimspinosa* de Haan, 1841, ♂ (11,0 × 10,2 mm).
5. *Pariphiculus agariciferus* Ihle, 1918, ♂ (11,9 × 12,1 mm).
6. *Arcania septemspinosa* (Fabricius, 1787), ♂ (18,0 × 17,9 mm).

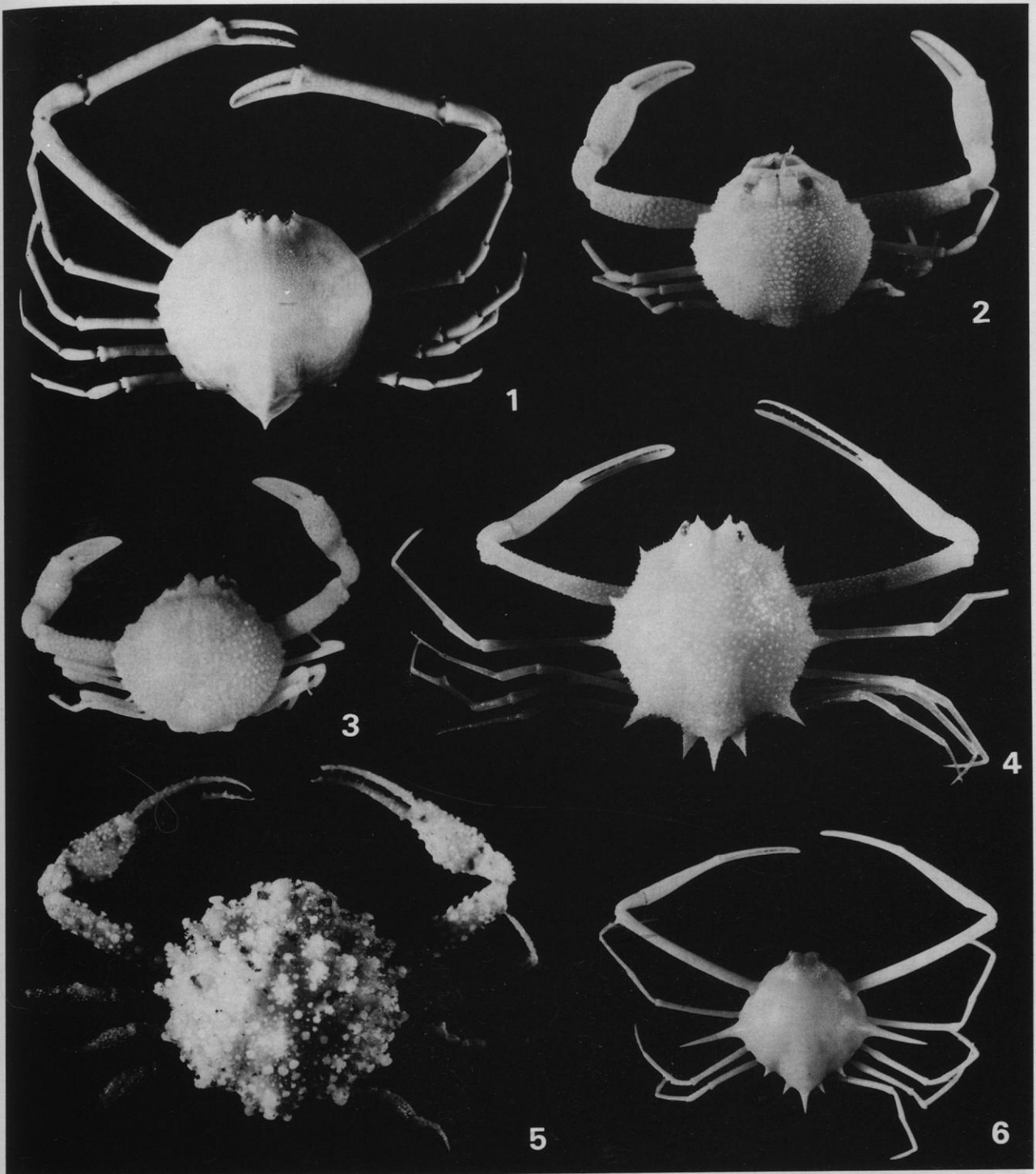


PLATE III

1. *Myra biconica* Ihle, 1918, immature ♂ (9,2 × 8,5 mm).
2. *Randallia trituberculata* Sakai, 1961, ♀ (11,0 × 10,9 mm).
3. *Ixa edwardsii* Lucas, 1858, ♂ (24,0 × 35,0 mm).
4. *Leucosia longibrachia* Shen & Chen, 1978, immature ♀ (16,0 × 12,2 mm).
5. *Pariphiculus coronatus* Alcock & Anderson, 1894, ♂ (18,0 × 18,2 mm).
6. *Drachiella morum* (Alcock, 1896), ♀ (10,0 × 11,9 mm).

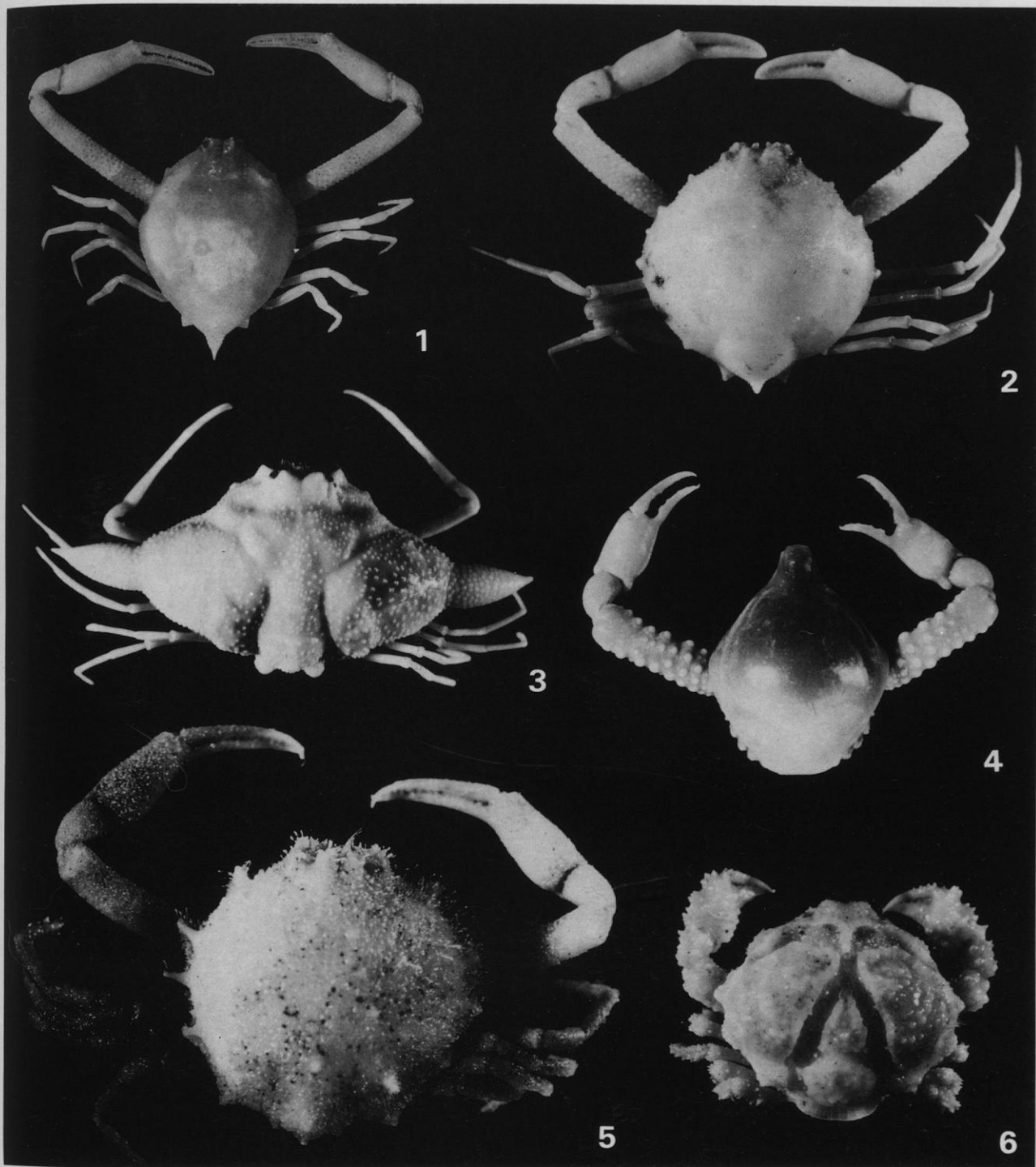


PLATE IV

1. *Randallia pustulosa* Wood-Mason, 1891, ♂ (23,5 × 24,5 mm).
2. *Leucosia crosnieri* sp. nov., ♂ (31,0 × 28,0 mm).
3. *Pariphiculus mariannae* (Herklots, 1852), ♂ (26,0 × 25,0 mm).
4. *Ixoides cornutus* MacGilchrist, 1905, empty shell (27,5 × 33,3 mm).
5. *Iphiculus spongiosus* Adams et White, 1848, ♂ (10,6 × 12,5 mm).
6. *Heteronucia laminata* (Doflein, 1904), ♂ (16,0 × 15,0 mm).



PLATE V

1. *Praebebalia semblatae* sp. nov., ♀ ovig. (4,8 × 4,6 mm).
2. *Ebalia serenei* sp. nov., ♂ (5,8 × 6,0 mm).
3. *Ebalia philippinensis* sp. nov., ♀ ovig. (3,5 × 3,2 mm).
4. *Ebalia serenei* sp. nov., ♀ (6,5 × 7,4 mm).
5. *Praebebalia dondonae* sp. nov., ♀ ovig. (4,6 × 4,9 mm).
6. *Arcania brevifrons* sp. nov., ♂ (20,0 × 18,5 mm).

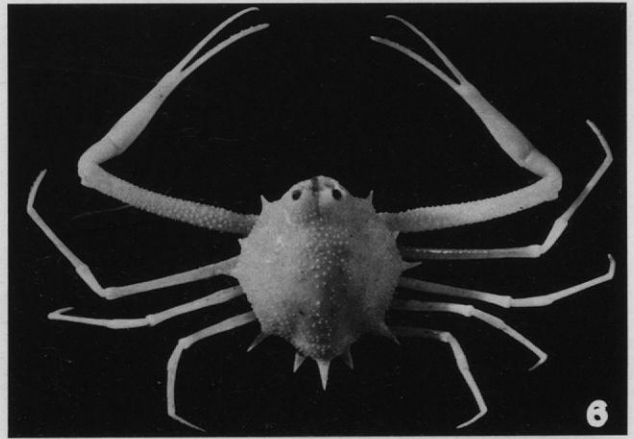
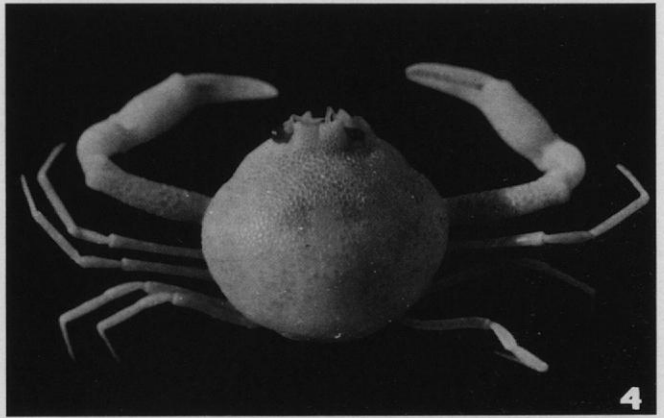
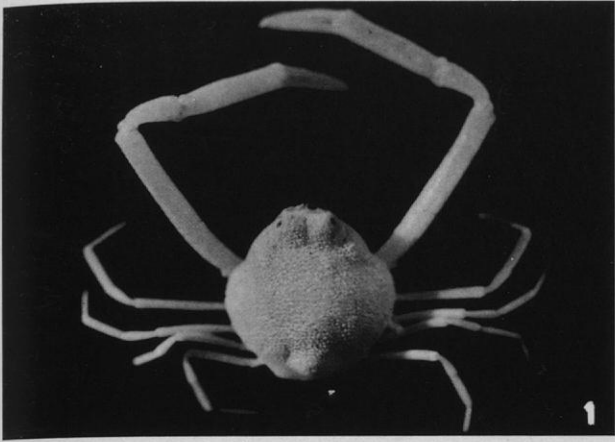
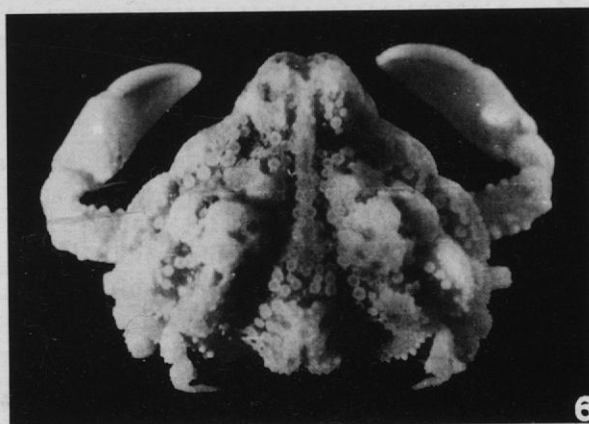
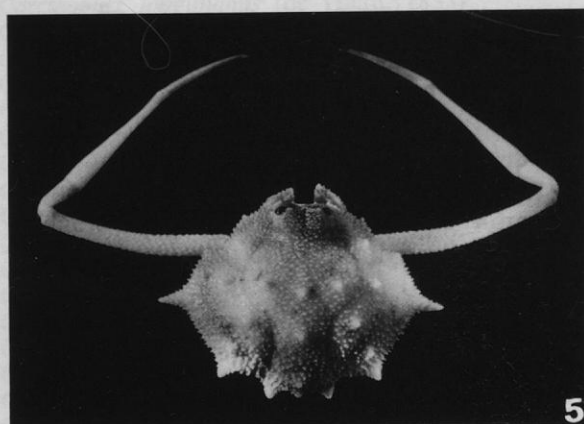
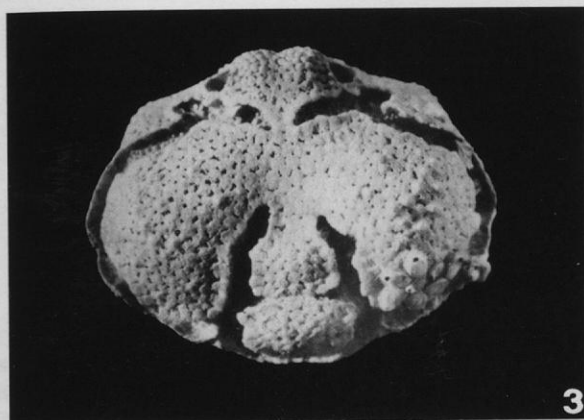


PLATE VI

1. *Oreophorus (Oreotlos) speciosus* sp. nov., ♀ (4,6 × 6,9 mm).
2. *Oreophorus (Oreotlos) angulatus* (Rathbun, 1906), ♂ (6,1 × 8,5 mm).
3. *Drachiella aglypha aglypha* (Laurie, 1906), 1 empty shell, (9,0 × 11,4 mm).
4. *Ixa pulcherrima* (Haswell, 1880), ♀ (15,0 × 17,0 mm), ventral view.
5. *Ixa pulcherrima* (Haswell, 1880), ♀ (15,0 × 17,0 mm), dorsal view.
6. *Oreophorus (Oreophorus) ornatus* Ihle, 1918, ♂ (5,8 × 6,8 mm).



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