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Crustacea Decapoda : A revision of the genus *Mursia* Desmarest, 1823 (Calappidae)

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ABSTRACT

The collections of the deep water calappid crab genus *Mursia* at the Muséum national d'Histoire naturelle, assembled between 1971 and 1991 off Madagascar, the Philippines and New Caledonia, have been studied, in addition to material sought from other collections. Fifteen species have been identified, of which four are new : *M. africana*, *M. danigoi*, *M. flamma* and *M. musorstomia*. The allied genus *Platymera*, formerly submerged within *Mursia*, is reinstated as a distinct genus. All taxa are described, photographed and illustrated, and a key to their identification is provided.

RÉSUMÉ

Crustacea Decapoda : Révision du genre *Mursia* Desmarest, 1823 (Calappidae).

Les collections de Calappidae du genre *Mursia* se trouvant au Muséum national d'Histoire naturelle, récoltées entre 1971 et 1991 au large de Madagascar, des Philippines et de la Nouvelle-Calédonie, ont été étudiées ainsi que diverses autres. Quinze espèces ont été identifiées dont quatre sont nouvelles : *M. africana*, *M. danigoi*, *M. flamma* et *M. musorstomia*. Le genre proche *Platymera*, autrefois mis en synonymie avec *Mursia*, est rétabli. Toutes les espèces sont décrites et figurées et une clé pour leur identification est proposée.

INTRODUCTION

The Institut Français de Recherche Scientifique pour le Développement en Coopération (ORSTOM) and the Muséum national d'Histoire naturelle, Paris, have carried out a series of cruises in the Indo-West Pacific Ocean. These resulted in extensive collections of specimens belonging to the deep water calappid crab genus *Mursia* Desmarest, 1823.

A study of the material at the Muséum national d'Histoire naturelle, and collections made available by The Natural History Museum, London (BM), Nationaal Natuurhistorisch Museum, Leiden (NNM), South

African Museum, Capetown (SAM), and the National Museum of Natural History, Washington (USNM) have allowed re-examination of most type specimens and much of the published material.

Although *Mursia* has been known since 1823, the relative rarity and superficial resemblances of its species have caused taxonomic confusion. *Mursia cristiata* H. Milne Edwards, 1837, whose illustration was first published by DESMAREST (1825) as 'Mursie mains-en-crête', was also described as *Cryptosoma orientis* (Adams & White, 1848). Similarly, *Mursia armata* de Haan, 1837, was redescribed as *Thealia acanthophora* Lucas, 1839. On the other hand, ALCOCK (1899a) suggested that the closely allied genus *Platymera* H. Milne Edwards, 1837, is synonymous with *Mursia*. DOFLEIN (1904 : 37) elevated to specific rank five of the six "formen" of *M. armata*, explaining : "ihre Verschiedenheiten sind aber so gering, das sie nicht zur Aufstellung von besonderen Arten genbigen." This course was upheld by IHLE (1918) : "Mit Recht hat DOFLEIN *M. armata*, *curtispina*, *aspera*, *bicristimana* and *hawaiiensis* als eine Art zusammengefasst, welche er dann in mehrere Unterarten zerlegt. Als Unterarten von *M. armata* durfen win auch *M. spinimanus* Rathbun, welche sich *M. armata bicristimana* anschliesst, und *M. armata trispinosa* Parisi betrachten." The superficial resemblance and seeming intergradation of the species has also engendered equivocating statements. GRINDLEY (1961 : 133) stated : "This form [*M. armata curtispina*] is strikingly distinct from the typical form of *M. armata*, but is now regarded as a subspecies. *M. aspera* is relegated to the synonymy, despite its characteristic appearance." Thus SAKAI (1965) wrote disconcertingly : "With regard to the Indo-Pacific species, some confusion may be taken into consideration, as far as synonymy and validity are concerned."

The present study includes descriptions of four new species : *M. africana*, *M. danigoi*, *M. flamma* and *M. musorstomia*. Descriptive and distributional information is given here as well as detailed references to literature. Some material, notably that of SAKAI, was unavailable for examination, so that unequivocal identifications were sometimes impossible. All the taxa have been illustrated and photographed, and a key is proposed for their identification.

Measurements given refer to the carapace length (cl), carapace width excluding lateral spines (cw) and carapace width including lateral spines (mcw).

SYSTEMATIC ACCOUNT

Genus *MURSIA* Desmarest, 1823

Mursia Desmarest, 1823 : 231. — DESMAREST, 1825 : 108. — LATREILLE, 1829 : 39. — H. MILNE EDWARDS, 1837a : 54; 1837b : 109. — DE HAAN, 1837 : 68. — LUCAS, 1840 : 108. — DANA, 1852 : 391. — MIERS, 1886 : 290. — ORTMANN, 1892 : 564. — ALCOCK, 1896 : 146. — DOFLEIN, 1904 : 36. — STEBBING, 1910 : 334. — IHLE, 1918 : 179, 300, 307. — RATHBUN, 1937 : 215. — SAKAI, 1937 : 85; 1965 : 51; 1976 : 134. — BARNARD, 1950 : 353. — GUINOT-DUMORTIER & DUMORTIER, 1960 : 139.

Thealia Lucas, 1839 : 577.

TYPE SPECIES. — *Mursia cristiata*, H. Milne Edwards, 1837.

DIAGNOSIS. — Carapace subcircular to transversely ovate, convex, granulate, regions undefined, ridges tuberculate. Front wider than orbit, trilobate, median lobe projecting. Anterolateral margin arcuate, tuberculate. Posterolateral margin sharply convergent, carinate. Lateral spine well developed. Eyes filling orbit, eyestalk short, granulate, setose, cornea large. Orbital margins with long plumose setae. Supraorbital margin with one or two fissures. Inner orbital tooth separated from outer orbital margin by wide hiatus opening into oblique subhepatic canal. Subhepatic region minutely granulate. Third maxilliped not covering anterior part of buccal cavity, ischium of endopod with granulate row distally forming stridulating organ when rasped against milled ridge on dactylus of chela. Chelipeds massive, subequal. Merus distally spinose. External surface of chela swollen, granulose, upper margin crested, dentate; internal surface setose near lower margin; lower margin serrate. Larger dactylus with molariform tooth proximally fitting into cup-like depression. Pereiopods large, laterally compressed, dactyli long.

styliform. Male abdomen five-segmented, tapering, prominent trilobate carina on second segment. First male pleopod stout, tapering, distally spinulose. Second male pleopod long, slender, distally cornute.

REMARKS. — DESMAREST (1823 : 231) described *Mursia* in a footnote in the 'Dictionnaire des Sciences naturelles' as "se rapproche beaucoup des hépates par la forme générale du corps et par la compression des mains, mais qui en diffère en ce que ses pieds-mâchoires extérieurs ont, comme ceux des crabes, leur troisième article court, presque carré et échancré intérieurement". That same note appeared two years later (DESMAREST, 1825) accompanied by a figure (pl. 9 fig. 3) of 'Mursie Mains-en-Crête', clearly identifiable as *Mursia cristiata* H. Milne Edwards, 1837. *Thealia*, erected by LUCAS (1839 : 579) has, in his own words "beaucoup d'analogie avec les *Mursia*" - so much so that MIERS (1886) and subsequent authors considered it a junior synonym of *Mursia*.

We recognize as valid the following species : *M. africana* sp. nov.; *M. armata* de Haan, 1837; *M. aspera* Alcock, 1899; *M. australiensis* Campbell, 1971; *M. bicristimana* Alcock & Anderson, 1894; *M. cristiata* H. Milne Edwards, 1837; *M. curtispina* Miers, 1886; *M. danigoi* sp. nov.; *M. flamma* sp. nov.; *M. hawaiiensis* Rathbun, 1893; *M. mcdowelli* Manning & Chace, 1990; *M. microspina* Davie & Short, 1989; *M. musorstomia* sp. nov.; *M. spinimanus* Rathbun, 1906; *M. trispinosa* Parisi, 1914.

Key to *Mursia* species

1. Internal surface of cheliped dactylus irregularly granulate; carina on second abdominal segment entire *Platymera gaudichaudii*
- Internal surface of cheliped dactylus with a milled ridge; carina on second abdominal segment trilobate *Mursia* 2
2. Posterior margin of carapace arcuate, entire; suborbital tooth subquadrate; front pointed ..
..... *M. cristiata*
- Posterior margin bi- or trilobate; suborbital tooth triangular; front trilobate 3
3. Lateral spine of carapace less than 0.07 carapace width 4
- Lateral spine of carapace more than 0.07 carapace width 7
4. Conical tubercles on external surface of cheliped and carpus of fourth pereopod
..... *M. aspera*
- No conical tubercles on external surface of cheliped and carpus of fourth pereopod 5
5. Posterior margin distinctly trilobed *M. flamma* sp. nov.
- Median lobe on posterior margin indistinct or missing 6
6. Carapace coarsely granulose, lateral spine upcurved, inferior proximal tubercle on external surface of chela conical, second male pleopod crook-shaped distally (fig. 6h)
..... *M. microspina*
- Carapace finely granulose, lateral spine straight, inferior proximal tubercle on external surface of chela keel-like, second male pleopod beta-shaped distally (fig. 6d)
..... *M. hawaiiensis*
7. Lateral spine massive, over one third carapace width, posterior margin bearing two cylindrical lobes, second male pleopod distally looped (fig. 3c) *M. armata*
- Lateral spine slender, less than one third carapace width, lobes on posterior margin not cylindrical, second male pleopod different 8
8. Posterior margin bilobed 9
- Posterior margin trilobed 10
9. Supraorbital margin bifissured, distalmost spine on merus of cheliped longer than lateral spine, external surface of fourth ambulatory merus granulose, second male pleopod distally curved (fig. 10a) *M. musorstomia* sp. nov.

- Supraorbital margin unifissured, distalmost spine on merus of cheliped shorter than lateral spine, external surface of fourth ambulatory merus smooth, second male pleopod distally hook-like, tip upcurved (fig. 10h) *M. trispinosa*
- 10. Supraorbital margin bifissured *M. mcdowellii*
- Supraorbital margin unifissured 11
- 11. Lower margin of chela minutely serrate 12
- Lower margin of chela prominently serrate 13
- 12. Cheliped merus trispinose, distalmost spine longer than lateral spine, second male pleopod sinuous (fig. 3e) *M. australiensis*
- Cheliped merus quadrispinose, distalmost spine shorter than lateral spine, second male pleopod distally coiled (fig. 3j) *M. bicristimana*
- 13. Lobes on posterior margin indistinct, nearly effaced, second male pleopod crook-shaped (fig. 3a) *M. africana* sp. nov.
- Lobes on posterior margin distinct, triangular, second male pleopod different 14
- 14. Carapace minutely granulate *M. spinimanus*
- Carapace prominently granulate 15
- 15. Anterolateral margins indistinctly denticulate, three tubercles in inferior row externally on chela *M. curtispina*
- Anterolateral margins distinctly dentate, more than three tubercles in inferior row externally on chela *M. danigoi* sp. nov.

Mursia africana sp. nov.

Fig. 1 a, 2 a-b, 3 a-b

Mursia armata - BARNARD, 1950 : 356, fig. 67g. Non de Haan, 1837.

MATERIAL EXAMINED. — Kenya, 3°08'S, 40°20.5'E, 250-255 m, 5 September 1974, coll. A. J. BRUCE : 1 ♂, holotype, cl 30.8, cw 38.8, mcw 56.7 (NNM).

Portuguese East Africa, 26°03'S, 33°04'E, 290 m, 1924, coll. GILCHRIST, id. BARNARD : 1 ♂ juv., paratype, cl 20.1, cw 24.5, mcw 34.8; 1 ♀ juv., paratype, cl 17.8, cw 20.9, mcw 27.5 (SAM A6794).

TYPE LOCALITY. — Kenya, 3°08'S, 40°20.5'E.

DESCRIPTION. — Carapace 1.25 wide as long, surface coarsely granulate. Radial tubercles granulate. Front with rounded median lobe projecting beyond lateral lobes. Supraorbital margin unifissured. Anterolateral margin with nine small triangular teeth. Lateral spine 0.2 carapace width, granular. Posterolateral margin beaded, sinuous. Posterior margin minutely beaded, with flattened, nearly effaced lobes. Merus of cheliped bispinose, distal spine twice as long as proximal spine. External surface of palm with nine tubercles in three oblique rows and three tubercles near base of serrate upper crest. Proximal tubercle in lowest row acuminate, keel-like, median and distal tubercles smaller, triangulate. Lower margin strongly serrate, teeth smaller proximally. Dactylus basally granulose on exterior surface. Upper margin of pereopodal meri minutely granulose, as well as external surface of fourth ambulatory merus. Upper margin of propodi unicristate. Lobes of abdominal crest coequal. Second male pleopod distally crook-shaped, tip slightly outcurved.

Color. - "As preserved, pinkish, a bright red spot on inner surface of hand of both chelipeds at insertion of finger" (BARNARD, 1950).



FIG. 1. — Dorsal view : a, *Mursia africana* sp. nov., ♂, holotype, cl 30.8 mm, Kenya, 250 m (NNM). — b, *Mursia armata* de Haan, 1837, ♂ cl 30.1 mm, Viet Nam, 145 m (MNHN-B 16325). — c, *Mursia aspera* Alcock, 1899, ♀ cl 54.6 mm, Madagascar (MNHN-B 24352). — d, *Mursia australiensis* Campbell, 1971, ♀ ovigerous cl 14.6 mm, New Caledonia, 315-320 m (MNHN-B 24369). — e, *Mursia danigoi* sp. nov., ♂, holotype, cl 45 mm, Philippines, 143-178 m (MNHN-B 22369). — f, *Mursia bicristimana* Alcock & Anderson, 1894, ♂, syntype, cl 19.1 mm, Nicobar Ids, 124-271 m (BM 1898.8.26.3).

ETYMOLOGY. — The specific name refers to the occurrence of the species off the African coast.

REMARKS. — *M. africana* resembles both *M. mcdowellii* and *M. bicristimana* in carapace shape and granulosity. *M. mcdowellii* differs from *M. africana* in its shorter lateral spine, bifissured supraorbital margin and beta-shaped second male pleopod. *M. bicristimana* differs from *M. africana* in its quadrispinose cheliped merus and

distally curled second male pleopod. *M. africana* and *M. microspina* both possess a crook-shaped second male pleopod. However, the latter is easily distinguished from *M. africana* by its minute lateral spine.

DISTRIBUTION. — Kenya, Mozambique; 250-290 m.

Mursia armata de Haan, 1837

Fig. 1 b, 2 c-d, 3 c-d

Mursia armata de Haan, 1837 : 70 (list), pl. 19 fig. 2; 1839 : 73. — ORTMANN, 1892 : 564 (part). — DOFLEIN, 1902 : 653; 1904 : 36. — PARISI, 1914 : 290. — IHLE, 1918 : 179. — GORDON, 1931 : 527 (list). — ANDRÉ, 1931 : 641. — YOKOYA, 1933 : 114. — SAKAI, 1937 : 85, pl. 11 fig. 3; 1965 : 51, pl. 20 fig. 4; 1976 : 135, pl. 43 fig. 2. — SHEN, 1940 : 214. — UCHIDA, 1949 : 723, fig. 2091. — GUINOT-DUMORTIER & DUMORTIER, 1960 : 139, fig. 19a-b. — SERÈNE, 1968 : 41 (list). — KIM, 1970 : 11, pl. 2 fig. 1. — TAKEDA, 1978 : 34; 1979 : 153 (list). — MIYAKE, 1983 : 23, 199, pl. 8 fig. 3. — DAI & YANG, 1991 : 107, text-fig. 53, pl. 12 fig. 2.

Thealia acanthophora Lucas, 1839 : 579, pl. 21 figs 1-3.

Mursia armata tipica Doflein, 1904 : 40, pl. 17 fig. 1, pl. 18 fig. 2. — BALSS, 1922 : 124. — SAKAI, 1934 : 284; 1936 : 47, pl. 7 fig. 1.

Not *Mursia armata* - BARNARD, 1950 : 356, fig. 67g. — KENSLEY, 1981a : 38 (list); 1981b : 60 (list) (= *M. africana* sp. nov.).

MATERIAL EXAMINED. — **Japan.** 1825-1834, coll. H. BURGER : 1 ♀ cl 27.4, lectotype (NNM 38154); 2 ♂, 4 ♀, paralectotypes (NNM 38155). — Near Tokyo, 1906, coll. J. HARMAND : 1 juv. (MNHN-B 24350). — Amakusa, off Tomioka, 60-70 m, August 1983, coll. K. HARADA : 2 ♂ cl 22.1, 22.6, cw 27.5, 28.0, mcw 50.0 (NNM 38192). — Misaki, 1930, id. M. J. RATHBUN : 1 ♂ cl 30.1, cw 36.9 (USNM 63691).

Hong Kong. Coll. BARNES : 2 ♂, cl 25.0, 28.3, cw 30.3, 35.9, mcw 53.8, 61.2; 1 ♀ cl 25.0, cw 30.7, mcw 52.6 (BM 1930.12.2.34-36). — vic. Hong Kong, 21°53'N, 115°51'E, 113 m, 4 November 1908 : 1 ♀ cl 26, cw 31.4, mcw 54.7 (USNM).

Viet Nam. Coll. A. KREMPF : 1 ♀ cl 33.2, cw 41.7, mcw 74.3 (MNHN-B 16324). — "De Lanessan", 145 m, 30 September 1925, coll. A. KREMPF : 1 ♂ cl 30.1, cw 38.6, mcw 69.5 (MNHN-B 16325).

New Caledonia. Off Thio, trap, 260 m, 21. June 1986 : 1 juv. cl 19.5, cw 24.0 (MNHN-B 24351).

TYPE LOCALITY. — Japan (DE HAAN, 1837).

DESCRIPTION. — Carapace about 1.2 wide as long, surface covered with close spaced flattened granules anteriorly, well-spaced, rounded granules posteriorly. Radial tubercles prominent, median row laterally bordered by deep grooves. Front with slightly rounded lateral lobes and triangular rostrum. Supraorbital margin unifissured. Suborbital sinus v-shaped, suborbital tooth triangular. Anterolateral margins with seven rounded, nearly effaced teeth. Lateral spine massive, over one third carapace width, minutely granulate. Posterolateral margin oblique, beaded, angled medially. Posterior margin beaded, lateral processes stout, cylindrical. Merus of cheliped bispinose, distal spine much longer than proximal. Carpus with nearly effaced granules. Upper margin of palm set with eight teeth. External surface of palm with large, rounded tubercles in three diagonal rows and three more at base of palmar crest, lowest row with median tubercle largest. Lower margin of palm serrate, teeth diminishing in size proximally. Dactylus basally granulate on anterior margin. Upper margins of pereopodal meri granulose, meri, propodi nearly smooth; fourth pereopodal meri distinctly granulose on external surface. Abdominal crest with finely granulate margin, rounded lateral lobes widely separated from trapezoid median lobe. Second male pleopod distally looped, its tip incurved.

Color. - Carapace tubercles orange-red; internal palmar surface near dactylar base with deep-orange patch (SAKAI, 1936, pl. 7 fig. 11).

REMARKS. — *M. armata* alone among its congeners possesses long, stout, straight lateral spines, two cylindrical protuberances on posterior margin and distally looped second male pleopod.

M. armata was listed and drawn by DE HAAN (1837), and later described by him (1839), unbeknown to LUCAS (1839), who described it, that same year, as *Thealia acanthophora*. Though clearly distinct, *M. armata* was merged

with other species (ORTMANN, 1892; IHLE, 1918), so that some authors found it necessary to reestablish it as *M. armata typica* (DOFLEIN, 1904; BALSS, 1922; SAKAI, 1934, 1935).

DISTRIBUTION. — Hong Kong, Indochina, Korea, Japan, New Caledonia; 60-260 m.

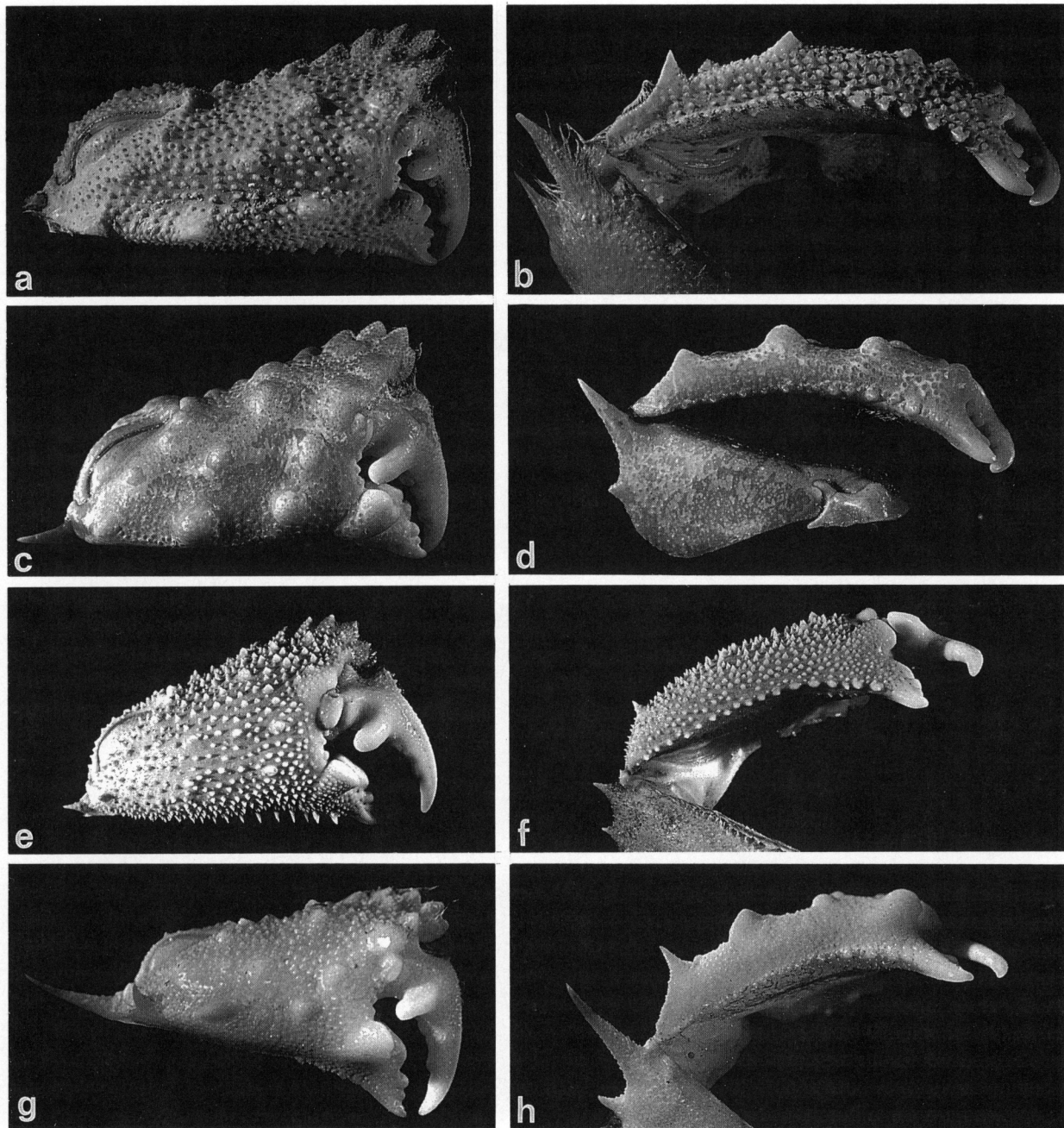


FIG. 2. — Cheliped, external and ventral views : **a-b**, *Mursia africana* sp. nov., ♂, holotype, cl 30.8 mm, Kenya, 250 m (NNM). — **c-d**, *Mursia armata* de Haan, 1837, ♂ cl 30.1 mm, Viet Nam, 145 m (MNHN-B 16325). — **e-f**, *Mursia aspera* Alcock, 1899, ♀ cl 54.6 mm, Madagascar (MNHN-B 24352). — **g-h**, *Mursia australiensis* Campbell, 1971, ♀ ovigerous cl 14.6 mm, New Caledonia, 315-320 m (MNHN-B 24369)

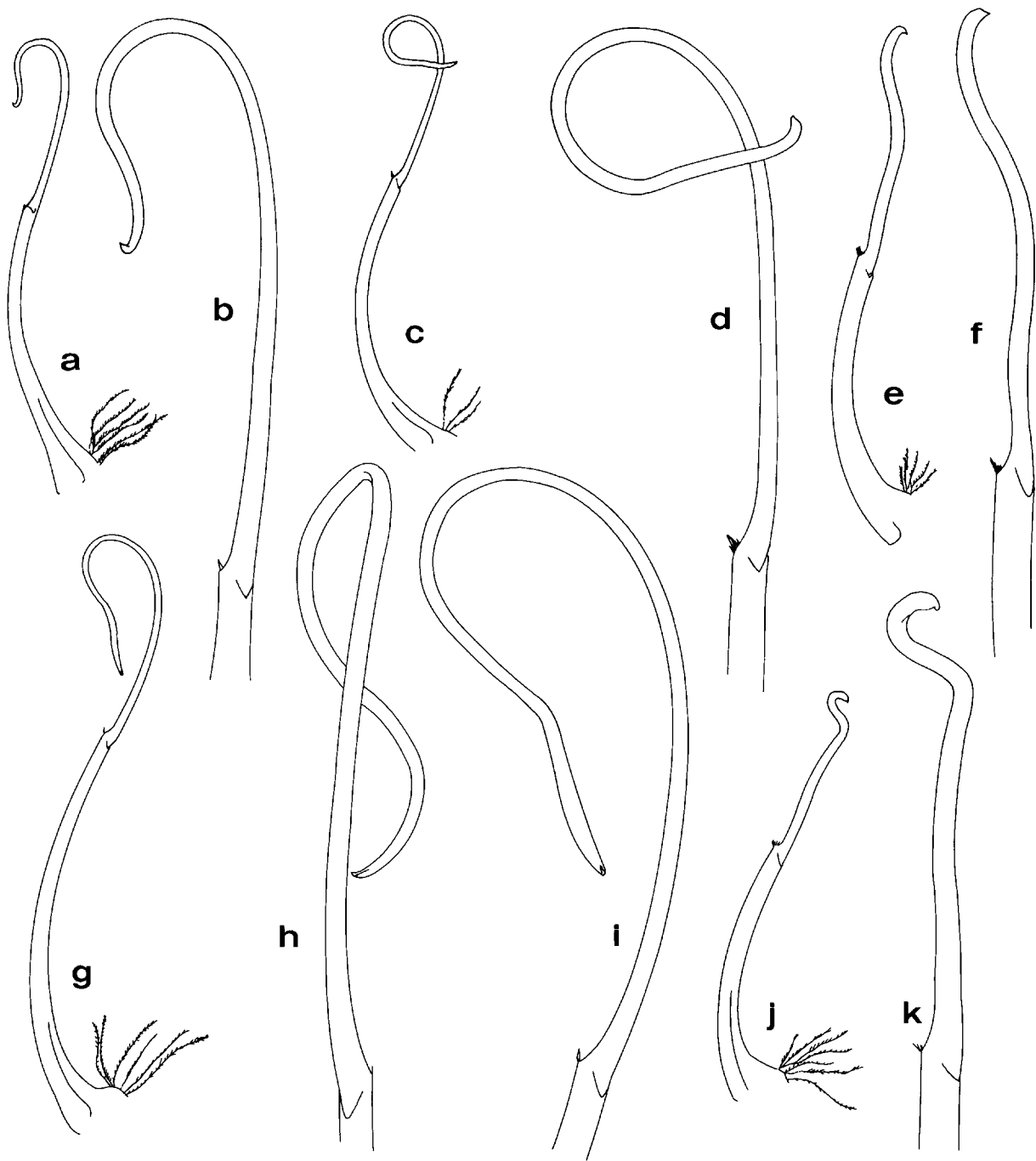


FIG. 3. — Second pleopod male with enlargement of distal part : a-b, *Mursia africana* sp. nov., ♂, holotype, cl 30.8 mm, Kenya, 250 m (NNM). — c-d, *Mursia armata* de Haan, 1837, ♂ cl 30.1 mm, Viet Nam, 145 m (MNHN-B 16325). — e-f, *Mursia australiensis* Campbell, 1971, ♂ cl 11.9 mm, New Caledonia, 300 m (MNHN-B 24355). — g-i, *Mursia danigoi* sp. nov., ♂, holotype, cl 45 mm, Philippines, 143-178 m (MNHN-B 22369). — j-k, *Mursia bicristimana* Alcock & Anderson, 1894, ♂, syntype, cl 19.1 mm, Nicobar Islands, 124-271 m (BM 1898.8.26.3).

Mursia aspera Alcock, 1899

Fig. 1 c, 2 e-f

Mursia aspera Alcock, 1899a : 24; 1899b, pl. 40 fig. 2. — SERÈNE, 1968 : 41 (list).Not *Mursia aspera* - MIYAKE, 1983 : 24, 199, pl. 8 fig. 5 (= *M. australiensis* Campbell, 1971 ?).Not *Mursia aspera* - BABA, 1986 : 221, pl. 165 (= *M. microspina* Davie & Short, 1989).Not *Mursia aspera* - SAKAI, 1965 : 54, textfig 8c-c'; 1976 : 138, textfig. 74c-c', pl. 42 fig. 2. — ZARENKOV, 1990 : 220, fig. 2.

MATERIAL EXAMINED. — Madagascar. "Vauban": West coast, coll. A. CROSNIER : 1 ♀ cl 54.6, cw 68.2, mcw 73.3 (MNHN-B 24352).

Seychelles. CEPROS : stn 15, 04°09.3'S, 56°11'E, 150-210 m, 20 October 1987 : 2 ♀ cl 50.4, 53.4, cw 63.0, 66.2, mcw 67.9, 71.3 (MNHN-B 19113).

TYPE LOCALITY. — Maldives (ALCOCK, 1899a).

DESCRIPTION. — Carapace strongly convex, about 1.2 wide as long, surface closely covered with conical tubercles, smaller anteriorly. Radial tubercles only slightly enlarged. Front with lateral teeth more prominent than median. Supraorbital margin unfissured. Anterolateral margins setose, with eleven small granular tubercles. Lateral spine minute, less than 0.04 carapace width, granulate. Posterolateral margin oblique, beaded, medially angled. Posterior margin with three acuminate denticles of nearly equal size. Outer surface of chelipeds covered with acuminate granules and tubercles. Merus of cheliped with four spines increasing in size distally. Palm crested with nine granulate lobes. Lower margin prominently spinose. Posterior surface of fourth pereopodal merus covered with conical tubercles, as well as upper and lower margins of pereopodal meri. Upper margin of first and second pereopodal carpi with three rows of conical tubercles, third with two rows, fourth with single row. Abdominal crest with granulate lateral lobes widely separated from irregularly tuberculate median lobe.

Color. - Carapace bone colored with coral-pink patches on hepatic, mesogastric and branchial regions. Inner palmar face with large, coral-colored patch, at base of dactylus. Ambulatory legs pale coral.

REMARKS. — The rarity of *M. aspera* was probably the reason that, despite ALCOCK's clear description (1899a) and illustration (1899b), it has been submerged as a junior synonym of *M. armata curtispina* by DOFLEIN (1904) and IHLE (1918). The specimens described and depicted by SAKAI (1965, 1976) differ from *M. aspera* in having more prominent medial tubercles on the external surface of the chela and a longer lateral spine. MIYAKE (1983) described a specimen with an even longer lateral spine and a thin, elongate spine distally on the merus of the cheliped, quite similar to *M. australiensis* Campbell, 1971. The specimen depicted by BABA (1986) is *M. microspina* Davie & Short, 1989, which indeed closely resembles *M. aspera* in having a short lateral spine. However, *M. aspera* differs from *M. microspina* in having evenly sized frontal denticles, acuminate tubercles externally on cheliped, four spines distally on cheliped merus, lower margin of palm prominently spinose as well as granulate ambulatory legs. ZARENKOV'S (1990) specimens differ from *M. aspera* in lacking prominent conii on carapace, external surface of chela and on upper margins of pereopodal meri.

DISTRIBUTION. — Madagascar, Seychelles, Maldives; 150-384 m.

Mursia australiensis Campbell, 1971

Fig. 1 d, 2 g-h, 3 e-f, 11

Mursia armata - WHITELEGGE, 1900 : 160. Non de Haan, 1837.*Mursia australiensis* Campbell, 1971 : 31, pl. 2a-b, fig. 1.? *Mursia aspera* - MIYAKE, 1983 : 24, 199, pl. 8 fig. 5.

MATERIAL EXAMINED. — **Australia.** Off New South Wales coast, August 1929, coll. and id. M. WARD : 2 ♂, cl 23.6, 24.4, cw 27.5, 27.6, mcw 39.5, 40.9 (USNM 63715).

New Caledonia. MUSORSTOM 5 : stn 252, 25°08.53'S, 159°55.11'E, 300-310 m, 7 October 1986 : 1 ♀ ovigerous, cl 13.7, cw 15.4, mcw 20.9 (MNHN-B 24353). — Stn 255, 25°15.40'S, 159°54.80'E, 280-295 m, 7 October 1986 : 1 ♂, cl 15.7, cw 18.1, mcw 27.7 (MNHN-B 24354). — Stn 261, 25°26.58'S, 159°45.88'E, 300 m, 8 October 1986 : 1 ♂, cl 11.9, cw 19.5, mcw 30.3 (tip broken); 1 ♀, cl 14.3, cw 16.4, mcw 24.9 (MNHN-B 24355). — Stn 263, 25°21.30'S, 159°46.44'E, 255-150 m, 8 October 1986 : 1 ♀, cl 14.3, cw 16.2, mcw 22.8 (MNHN-B 24356). — Stn 265, 25°21.10'S, 159°45.20'E, 190-260 m, 8 October 1986 : 3 juv. (MNHN-B 24357). — Stn 266, 25°20.20'S, 159°45.70'E, 240 m, 8 October 1986 : 1 ♂, cl 12.8, cw 15.3, mcw 21.3; 1 ♀, cl 14.8, cw 16.1, mcw 23.8; 2 juv. (MNHN-B 24358). — Stn 267, 25°23.60'S, 159°47.20'E, 285 m, 8 October 1986 : 1 ♀, cl 13.5, cw 15.4, mcw 24.3 (MNHN-B 24359). — Stn 269, 24°47.0'S, 159°37.30'E, 270-250 m, 9 October 1986 : 1 juv., cl 6.6 (MNHN-B 24360). — Stn 274, 24°44.83'S, 159°41.00'E, 285 m, 9 October 1986 : 1 ♂, cl 13.8, cw 15.5 (MNHN-B 24361). — Stn 275, 24°46.60'S, 159°40.30'E, 285 m, 9 October 1986 : 1 ♀, cl 14.4, cw 16.3, mcw 22.8; 5 juv. (MNHN-B 24363). — Stn 276, 24°48.90'S, 159°40.90'E, 269-258 m, 9 October 1986 : 3 ♂, cl 12.9-14.5; 2 ♀, cl 13.5, 13.7 (MNHN-B 24362). — Stn 281, 24°10.54'S, 159°34.32'E, 272 m, 10 October 1986 : 1 ♀, cl 11.8, cw 13.2, mcw 17.4 (MNHN-B 24364). — Stn 282, 24°11.55'S, 159°32.22'E, 226-230 m, 10 October 1986 : 3 juv., cl 6.3-10 (MNHN-B 24365). — Stn 284, 24°09.96'S, 159°33.49'E, 225-230 m, 10 October 1986 : 1 ♂, cl 10.6, cw 11.9, mcw 16.4 (MNHN-B 24366). — Stn 285, 24°09.35'S, 159°34.04'E, 245-255 m, 10 October 1986 : 1 ♂, cl 12.8, cw 14.9, mcw 22.1 (MNHN-B 24367). — Stn 289, 24°01.50'S, 159°38.40'E, 273 m, 10 October 1986 : 1 ♂, cl 14.6, cw 16.3, mcw 25.4; 1 ♀, cl 13.3, cw 15.0, mcw 20.7 (MNHN-B 24368). — Stn 312, 22°17.20'S, 159°24.80'E, 315-320 m, 12 October 1986 : 1 ♀ ovigerous, cl 14.6, cw 16.6, mcw 22.6 (MNHN-B 24369).

TYPE LOCALITY. — Cape Moreton, Queensland, Australia (CAMPBELL, 1971).

DESCRIPTION. — Carapace 1.1 wide as long, surface closely covered with granules. Radial tubercles prominent. Median frontal lobe triangular, projecting beyond rounded lateral lobes. Supraorbital margin uniffissured. Suborbital sinus v-shaped suborbital tooth triangular pointing distad. Anterolateral margins indistinctly cristate, with ten minute teeth diminishing in size posteriorly. Lateral spine one quarter carapace width, minutely granulate, curved upwards. Posterolateral margins beaded, angled medially. Posterior margin with lateral teeth projecting further than median lobe. Chelipeds externally granulate. Merus of cheliped trispinose, distal spine largest, nearly as long as lateral spine. Outer surface of chela with nine tubercles in three oblique rows and three tubercles near base of serrate upper crest, lowest row with proximal tubercle acuminate, prominent, median and distal tubercles smaller, rounded. Lower margin minutely serrate, teeth smaller proximally. Dactylus minutely granulate proximally on anterior margin. Upper margin of pereopods nearly rounded, minutely granulate. Abdominal crest with flattened, subequal, rounded lobes. Cornute distal portion of second male pleopod sinuous, tip outcurved.

Color (in alcohol). — Carapace buff with irregular pink spots. Meral and anterolateral spines red distally. Inner palmar face with small, red patch at base of dactylus. Four red dots on distal margin of buccal cavity.

REMARKS. — *M. australiensis* differs from its congeners in having the distal portion of the second male pleopod sinuous with tip curved distad.

DISTRIBUTION. — Australia, New Caledonia, ? Japan; 40-320 m.

Mursia bicristimana Alcock & Anderson, 1894

Fig. 1 f, 3 j-k, 5 c-d

Mursia bicristimana Alcock & Anderson, 1894 : 179. — ALCOCK, 1896 : 150; 1899a : 23; 1899b, pl. 3 fig. 3. — ALCOCK & ANDERSON, 1896, pl. 24 fig. 5. — ANDERSON, 1897 : 103. — LAURIE, 1906 : 355. — LLOYD, 1907 : 6. — BARNARD, 1926 : 120. — SERÈNE, 1968 : 41 (list).

Mursia armata bicristimana - DOFLEIN, 1904 : 41, pl. 17 fig. 3, pl. 18 fig. 4.

MATERIAL EXAMINED. — **Indian Ocean.** 11°14.30'N, 74°57.15'E, 124-271 m, pres. Indian Museum : 1 ♂, cl 19.1, cw 24.1, mcw 32.4. Syntype. (BM 1898.8.26.3). — Stn AB-22B, 31 July 1963, coll. "Anton Brunn" : 2 ♂,

cl 18.9, 44.3, cw 23.8, 58.8, mcw 30.9, 74.7; 1 ♀, cl 27.2, cw 34.9, mcw 46.1 (USNM). — Ceylon. coll. HERDMAN : 1 ♂ cl 11.9, cw 21.1, mcw 28.0 (BM 1907.5.22). — Gulf of Manaar, coll. HERDMAN : 1 ♀ ovigerous, cl 11.8, cw 20.5, mcw 25.4 (BM 1934.1.16.23).

TYPE LOCALITY. — Gulf of Manaar (ALCOCK & ANDERSON, 1894).

DESCRIPTION. — Carapace about 1.2 long as wide, coarsely granulate, granules smaller anteriorly. Radial tubercles minutely granulate, prominent. Lateral frontal lobes rounded, effaced, median lobe triangular, projecting. Supraorbital margin unifissured, suborbital sinus v-shaped. Suborbital tooth triangular, pointing distad. Anterolateral margin with nine tuberculate teeth, largest medially. Lateral spine less than one fifth carapace width, granulate. Posterolateral margin beaded, sinuous. Posterior margin with laminar lobes, lateral lobes projecting beyond median. External surface of chelipeds granulose. Merus quadrispinose, distal spine largest. External surface of palm with two longitudinal rows of three granulate tubercles and with granular ridge, unevenly trilobate, with proximal lobe most prominent, triangulate distad, median lobe broadly rounded, distal lobe smallest, obtuse. Lower margin minutely serrate. Dactylus granulose on external surface. Margins of pereopodal carpi minutely granulate as well as external surface of last pair. Upper margin of meri with three granulate costae, but for last which is bicristate. Abdominal crest with rounded, subequal lobes. Second male pleopod distally coiled.

Color. - "Salmon-pink" (ALCOCK & ANDERSON, 1894 : 179); "upper surface of leg and carapace pale bluish-white studded with orange red granules, lower surface white; fingers of chelipeds white, inner surface of merus of chelipeds deep orange" (ANDERSON, 1897 : 103).

REMARKS. — *M. bicristimana* was well described and illustrated by ALCOCK and ANDERSON (1894), ALCOCK (1899) and DOFLEIN (1904).

M. bicristimana alone among its congeners possesses a corkscrew-shaped second male pleopod.

DISTRIBUTION. — Sri Lanka, Nicobar Islands; 260-732 m.

Mursia cristata H. Milne Edwards, 1837

Fig. 4 a, 5 e-f, 6 a-c

Mursia Desmarest, 1823 : 231; 1825 : 108.

Mursie Mains-en-crête - Desmarest, 1825, pl. 9 fig. 3.

Mursie en crête - LATREILLE, 1831 : 352.

Mursia cristata H. Milne Edwards, 1837b : 109.

Mursia cristimanus de Haan, 1837 : 70. — STEBBING, 1900 : 22; 1910 : 334. — DOFLEIN, 1901 : 136. — BARNARD, 1950 : 354, fig. 67a-f. — MACPHERSON, 1983 : 18, figs 8, 9a-f. — MANNING & CHACE, 1990 : 46, 76, 77.

Mursia cristimana - DE HAAN, 1837 : pl. E; 1839 : 73. — KRAUSS, 1843 : 52. — MIERS, 1886 : 291. — DOFLEIN, 1904 : 38, pl. 16, figs 5-12, pl. 18 fig. 1. — STEBBING, 1914 : 272, 307. — ODHNER, 1923 : 26. — GUINOT-DUMORTIER & DUMORTIER, 1960 : 139. — SERÈNE, 1968 : 41 (list). — KENSLEY, 1981a : 38 (list).

Mursia cristata - H. MILNE EDWARDS, 1840 : 17 (explication des planches); 1843, pl. 13 fig. 1-1a. — LUCAS, 1840 : 108, pl. 8 fig. 1. — STUDER, 1883 : 15. — ORTMANN, 1894 : 35.

Mursie custata - H. MILNE EDWARDS, 1840 : 627 (index).

Mursica cristata - H. MILNE EDWARDS, 1843 : pl. 13 fig. 1-1a.

Cryptosoma orientis Adams & White, 1848 : 62, pl. 13 fig. 4.

MATERIAL EXAMINED. — South Africa. Cape Province, coll. H. B. VAN HORSTOCK : 1 ♂, cl 27.5, cw 30.0, mcw 34.8. Holotype. det. DE HAAN (NNM 38213). — Coll. STEBBING : 1 ♂, cl 22.3, cw 23.8 (BM 1928.12.1.197). — Simon's Bay, 9-33 m, coll. HMS "Challenger" : 1 ♂, cl 27.4, cw 30.4, mcw 36.2 (BM 1884.31). — Sea Point, nr Capetown, coll. HMS "Challenger" : 1 ♀, cl 20.1, cw 21.8, mcw 25.3 (BM 1884.31). — Agulhas Bank, stn 142, 35°0'S, 18°37'E, 274 m, coll. HMS "Challenger" : 1 ♂, cl 21.3, cw 22.4, mcw 26.5; 2 ♀, cl 15.3, 19.0, cw 15.3, 19.3, mcw 20.3, 23.1 (BM 1884.31). — False Bay, coll. STEBBING : 1 ♂, cl 29.1, cw 31.8 (BM 1928.12.1.198). — Jeffrey's Bay, 28 April 1961, coll. GRAS : 1 ♂, cl 29.7, cw 32.4, mcw 37.2 (NNM 16821). — Durban, coll. STEBBING : 1 ♂,