setose semi-rolled tube with an apical plate; second pair simple, needle-like, with varying numbers of subterminal spines.

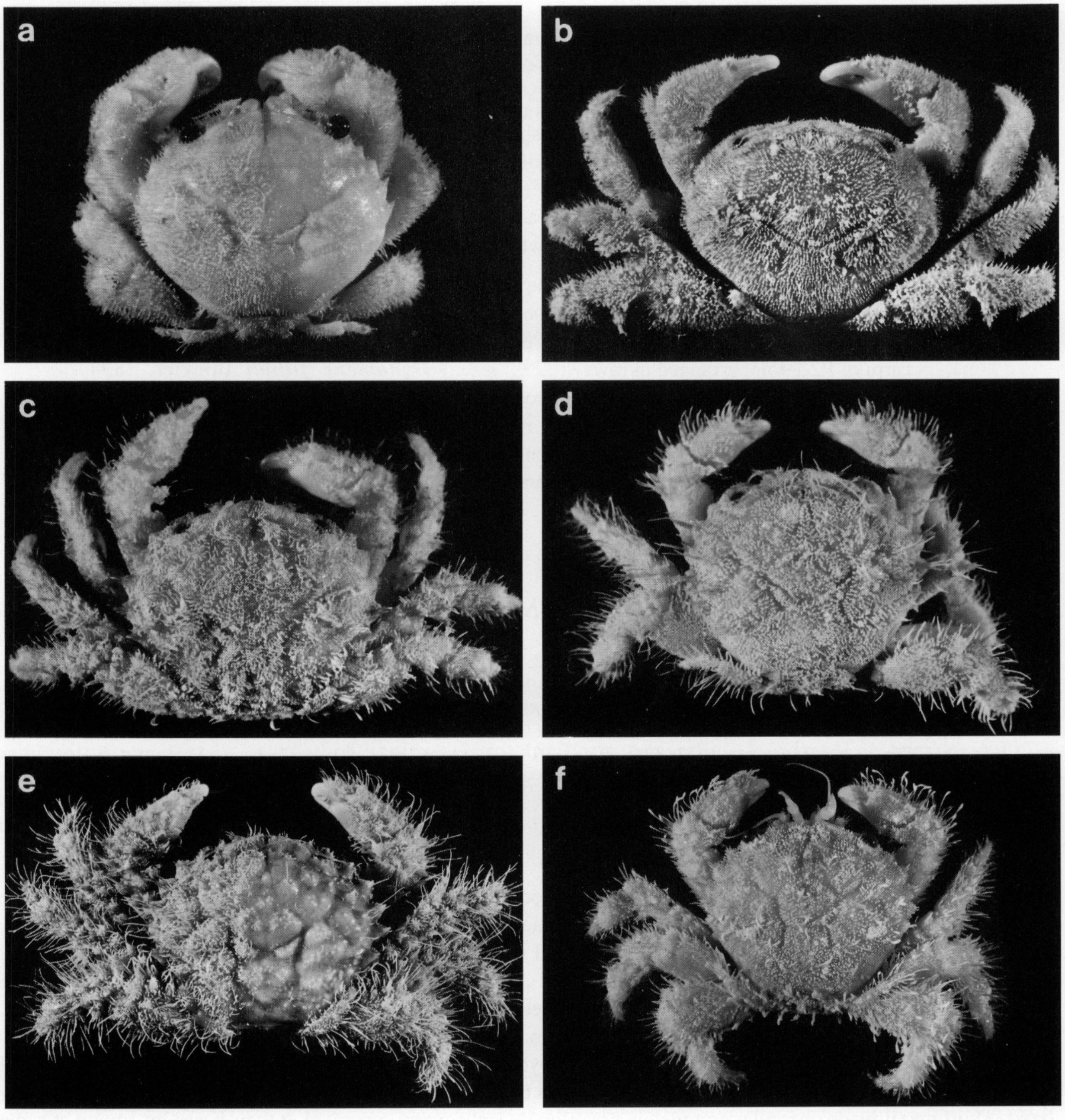

FIG. 17. — **a**, *Dynomene hispida* Guérin-Méneville, 1832, ♂ 9.2 x 7.6 mm, Madagascar, Tuléar, stn 13-3, reef flat (MNHN-B 22087): dorsal view of whole crab, setae removed from right half of carapace, right second pereopod missing. — **b**, *Dynomene praedator* A. Milne Edwards, 1879, ♂ 10.4 x 8.2 mm, New Caledonia, Île des Pins, stn 585, 43 m: dorsal view of whole crab. — **c**, *Dynomene filholi* Bouvier, 1894, ♀ ovig. 10.4 x 8.0 mm, Gulf of Guinea, Annobon Id, 35-55 m (MNHN-B 22093): dorsal view of whole crab. — **d**, *Dynomene pilumnoides* Alcock, 1900, ♀ ovig. 12.7 x 10.6 mm, Sulu Archipelago, 99-108 m, (MNHN-B 10374): dorsal view of whole crab, left fourth pereopod and right fifth pereopod are missing. — **e**, *Hirsutodynomene spinosa* (Rathbun, 1911), ♂ 17.5 x 14.0 mm, Gorong, East of Seram, RUMPHIUS II (MNHN-B 9906): dorsal view of whole crab, some setae removed from right half of carapace. — **f**, *Hirsutodynomene ursula* (Stimpson, 1860), ♀ 15.0 x 12.3 mm, Galapagos, Hood Id, HANCOCK GALAPAGOS EXPEDITION, stn 30-33 (ex USNM 68313 but gifted to MNHN, Paris): dorsal view of whole crab.

TYPE SPECIES. — A genus without included nominal species; type species *Dynomene hispida* Guérin-Méneville, 1832, by subsequent monotypy, gender feminine.

OTHER SPECIES. — *Dynomene filholi* Bouvier, 1894, *D. pilumnoides* Alcock, 1900, *D. praedator* A. Milne Edwards, 1879, *D. pugnatrix* de Man, 1889 (including *D. pugnatrix brevimana* Rathbun, 1911).

DISCUSSION. — There has been considerable confusion over the authorship of the generic name *Dynomene* because at the outset it was sometimes used in the vernacular and other times in the latinized form. In DESMAREST's (1823, 1825) texts (and on the plates) the name *Dynomene* is given in the vernacular (French). In the indices to these two papers (the second paper being only a new version of the first), the name, however, is given in latin. In the 1823 index the latin names are italicized and the vernacular names are in roman type, e.g. "Langouste (Voy. *Palinurus*)". This is confirmed in the 1825 index, that starts with "Nota. Les noms latins des genres sont en italiques". Other uses of the latin *Dynomene* are found in JAROCKI's (1825) general zoology book and BERTHOLD's (1827) German translation of LATREILLE's (1825) "Familles naturelles du Règne Animal". (I am indebted to Prof. L. B. HOLTHUIS for the preceding information.) Thus DESMAREST (1823: 422) is the author of the genus *Dynomene* which was first used in the index to this publication.

There has also been confusion about the authorship of the type species of the genus *Dynomene*. Like many authors before them, PEYROT-CLAUSADE and SERÈNE (1976) attributed the name *Dynomene hispida* to DESMAREST (1825) but they point out that it was GUÉRIN-MÉNEVILLE who first used the full latinized form in his *"Iconographie du règne animal de G. Cuvier"*, published between 1829-1844. MANNING and HOLTHUIS (1981) state that livraison 22 of this series was published in July 1832. The latinized form was first used on pl. 14 of GUÉRIN-MÉNEVILLE (1832).

Maxillothrix Stebbing, 1921 was erected for a supposed new species of the Xanthidae, collected from the Cape Region, South Africa. But ODHNER (1925: 85) established that *Maxillothrix*, type species *Maxillothrix actaeiformis* Stebbing, 1921, is not a xanthid, but in fact a dynomenid, which he recognized as being a species of *Dynomene*. Subsequently, BARNARD (1947) placed *M. actaeiformis* in synonymy with *Dynomene pilumnoides* Alcock, 1900.

Dynomene hispida Guérin-Méneville, 1832

Figs 3 a, 5 a-b, 11, 12 a-c, 17 a, 18 a-g

Dynomene hispide Desmarest, 1823: pl. (18), fig. 2; 1825: 432, pl. 18, fig 2. — LATREILLE, 1829: 69.
Dynomene hispida Guérin-Méneville, 1832: 10, pl. 14, fig 2. — GRIFFITH, 1833: 175, pl. 14, fig. 2. — H. MILNE EDWARDS, 1837: 180; 1848 (in CUVIER): 180, pl. 14, fig. 2. — LAMARCK, 1838: 482. — A. MILNE EDWARDS, 1879: 5, pl. 12, figs 1-9, pl. 13, figs 10-15. — RICHTERS, 1880: 158. — MIERS, 1884: 13. — DE MAN, 1888: 408. — ORTMANN, 1892: 543; 1894: 33. — ALCOCK, 1901: 74 (list). — NOBILI, 1907: 378. — RATHBUN, 1911: 195. — IHLE, 1913: 92 (list). — BOUVIER, 1915: 38. — BALSS, 1922: 105; 1938: 7. — EDMONDSON, 1925: 30; 1933: 265, fig. 141; 1946: 269, fig. 165. — SAKAI, 1936: 43, pl. 8, fig 3; 1940: 29 (list); 1965: 660, text-fig. 1130; 1976: 29, pl. 6, fig. 4. — BUITENDIJK, 1939: 227. — MIYAKE, 1939: 198 (list); 1983: 195 (list). — HORIKAWA, 1940: 28. — WARD, 1942: 71. — LIN, 1949: 12. — TWEEDIE, 1950: 106. — GUINOT, 1967: 241 (list); 1985: 448 (list). — SUZUKI & KURATA, 1967: 95. — SERÈNE, 1968: 36 (list); 1973: 119. — TAKEDA, 1973: 80; 1977: 35 (list). — PEYROT-CLAUSADE & SERÈNE, 1976: 1340, fig. 1, pl. 5 A-B,F. — PEYROT-CLAUSADE, 1977: 212; 1981: 750; 1984: 114. — GUINOT, 1979: 125, pl. 21, figs 8-9. — CHEN, 1980: 118, text-fig. 1, pl. 1, fig. 3. — HIGHSMITH, 1981: 369. — BABA, 1986: 310. — DAI, YANG, SONG & CHEN, 1986: 28, pl. 3-4, text-fig. 11, 1-4. — GARTH, HAIG, & KNUDSEN, 1987: 241. — NAGAI & NOMURA, 1988: 92. — NAGAI, 1989: 43. — DAI & YANG, 1991: 32, text-fig 11, pl. 3, fig. 2. — POUPIN, 1996a: 24 (list).
Dynomena latreillii Eydoux & Souleyet, 1842: 239, pl. 3, figs 3-5. — TAKEDA, 1977: 35 (list).
Dynomene granulobata Dai, Yang & Lan 1981: 119, figs 10-14. — DAI, YANG, SONG & CHEN, 1986: 29, text-fig. 12, 1-2, pl. 3, fig. 3. — DAI & YANG, 1991: 33, text-fig. 12, 1-2, pl. 3, fig. 3.
Not *Dynomene hispida* - DE MAN, 1902: 689 [= *Hirsutodynomene spinosa* (Rathbun, 1911)].
Not *Dynomene hispida* - YOKOYA, 1933: 95, text-fig. 37 [= *D. pilumnoides* Alcock, 1900].

MATERIAL EXAMINED. — **New Caledonia**. No locality, probably intertidal, 1873: 1 ♂ 15.2 x 11.3 mm; 1 ♀ ovig. 13.7 x 10.1 mm (MNHN-B 22086). — No locality, probably intertidal, M. BALANSA coll., 1873: 7 ♂ 7.7 x

6.1 - 12.0 x 8.9 mm; 6 ♀ 8.2 x 6.6 - 10.9 x 8.5 mm; 1 ♀ ovig. 13.0 x 10.0 mm (MNHN-B 22091). — No locality, leg. A. MILNE EDWARDS, probably part of the M. BALANSA collection: 1 ♂ 13.0 x 10.4 mm; 1 ♀ 7.6 x 6.0 mm (ZMB 4324).

Mauritius. Port Louis, probably intertidal, M. THIRIOUX coll., 1913, E. BOUVIER det.: 1 ♀ ovig. 12.9 x 9.9 mm (MNHN-B 22088). — No date or locality: 1 ♀ 10.3 x 8.4 mm, dry (ANSP-CA3315, originally part of the collection of GUÉRIN-MÉNEVILLE, No. 209).

Madagascar. West coast, Tuléar, stn 13-3, external reef flat, M. PEYROT-CLAUSADE coll., 1968, R. SERÈNE det. : 1 ♂ 9.2 x 7.6 mm (MNHN-B 22087) (see PEYROT-CLAUSADE & SERÈNE, 1976 and PEYROT-CLAUSADE, 1984).

Somalia. (M. VANNINI coll.). Gesira, 18 km south of Mogadishu: stn 1, on live *Pocillopora* sp., low tide level, 1981: 1 ♀ 8.3 x 6.6 mm. — Stn 2, on live *Pocillopora* sp., low tide level, 1981: 1 ♀ 4.4 x 3.6 mm. — Stn 3, on dead *Pocillopora* sp., low tide level, 1981: 1 ♂ 6.5 x 5.2 mm. — Stn 4, on dead *Pocillopora* sp., low tide level, 1981: 1 ♀ ovig. 11.7 x 8.7 mm. — Stn 5, on dead *Pocillopora* sp., low tide level, 1981: 2 ♀ 3.6 x 3.3, 3.9 x 3.3 mm. — Stn 6, on dead *Pocillopora* sp., low tide level, 1981: 1 ♀ 5.4 x 4.7 mm. — Stn 11, on dead *Pocillopora* sp., low tide level, 1981: 2 ♂ 6.0 x 5.3, 8.5 x 6.8 mm; 1 ♀ 3.9 x 3.2 mm. — Stn 12, on dead *Pocillopora* sp., low tide level: 3 ♂ 6.7 x 5.4 - 11.6 x 9.2 mm. — Stn 13, on dead *Pocillopora* sp., low tide level: 1 ♂ 7.6 x 6.0 mm; 2 ♀ 3.9 x 3.3, 7.2 x 5.9 mm. — Stn 15, on dead *Pocillopora* sp., low tide level, 1981: 1 ♂ 9.7 x 7.9 mm; 1 ♀ 7.5 x 6.4 mm; 1 ♀ ovig. 10.0 x 7.8 mm. — Stn 16, on dead *Pocillopora* sp., low tide level, 1981: 1 ♂ 8.8 x 7.0 mm. — Stn 17, on dead *Pocillopora* sp., low tide level, 1981: 1 ♀ 8.0 x 6.6 mm. — Stn 18, on dead *Pocillopora* sp., low tide level, 1981: 1 ♀ 3.9 x 3.4 mm (all Somalia material from MZUF, see VANNINI, 1985).

Aldabra. Takora. Seaward Cove, low tide level, J. D. TAYLOR coll., 5.01.1967: 1 ♀ 11.7 x 9.0 mm (BMNH).

Cocos Keeling Islands. No locality, no depth, C. A. GIBSON-HILL coll., 1941, M. TWEEDIE det.: 1 ♀ 9.3 x 7.6 mm (ZRC 196461211). See TWEEDIE (1950). — Horsburgh Id, 0-37 m, 9.02.1989: 1 ♂ 5.7 x 4.9 mm (WAM 375-89). — Home Id, ocean side, no depth, 21.02.1989: 1 ♂ 13.8 x 10.9 mm; 1 ♀ 10.7 x 8.3 mm (WAM 751-89).

Northwest New Guinea. Salawatti Id, no depth, no date: 1 ♂ 6.0 x 5.0 mm (ZMB 5139).

Elizabeth Reef (east of Australia). Tasman Sea, 29°58'S, 159°05.1'E, no depth, 12.1987: 1 ♀ 9.0 x 7.5 mm (AMS-P 39155).

Middleton Reef (east of Australia). Tasman Sea, 29°29.5'S, 159°05.1'E, intertidal, 9.05.1987: 1 ♀ ovig. 15.6 x 12.3 mm (QM W13033).

Samoa. Pago Pago, no locality, no depth, 1924: 1 ♂ 14.0 x 11.0 mm (BPBM 2388).

French Polynesia. *Tuamotu Ids*: Marutea, Maitutaki, eastern reef, no locality, probably intertidal, M. SEURAT coll., 1905, G. NOBILI det.: 1 ♂ 8.5 x 6.7 mm (MNHN-B 22089) (see NOBILI , 1907). —*Austral Ids*. Marotiri, 27°35'S, 144°25'W, 9-5 m, D. M. DEVANEY coll., 20.02.1971: 1 ♀ ovig. 13.5 x 10.6 mm (BPBM 71.201).

Howland Island. WHIPP EXP., 0°48'N, 176°38'W, no locality, no depth, 1924: 2 ♂ 9.1 x 7.6, 13.0 x 10.0 mm; 1 ♀ ovig. 10.6 x 8.4 mm (BPBM 2353).

Johnston Island. 16°45'N, 169°30'W, no locality, no depth, C. EDMONDSON coll., 1923: 2 ♂ 8.5 x 6.8, 10.0 x 8.5 mm; 1 ♀ ovig. 11.5 x 9.6 mm (BPBM 1363).

Hawaii. No locality, no depth, 1836: 1 unknown sex. 7.9 x 6.0 mm (MNHN dry collection no. 23, type of *Dynomena latreillii* Eydoux & Souleyet, 1842). — No locality, no depth, no date: 1 ♀ ovig. 10.1 x 8.0 mm (AMS-P 5478). — Honolulu, no depth, Th MORTENSEN coll., April 1915: 2 ♂ 9.3 x 7.6 (damaged), 10.8 x 8.8 mm; 1 ♀ 15.0 x 10.5 mm (ZMUC - unregistered).

Oahu, Waikiki: no depth, 1928: 1♀ ovig. 14.1 x 10.9 mm (BPBM 1587). — No depth, 1928: 1 ♀ 11.5 x 10.2 mm (BPBM 3024). — No depth, no date: 1 ♂ 10.2 x 8.0 mm (BPBM 2883). — No depth, C. EDMONDSON coll., 1930: 1 ♀ 8.4 x 7.1 mm (BPBM 3131). — No depth, 24.04.1942: 1 ♀ ovig. 12.6 x 10.0 mm (USNM 182729). — No depth, 2.05.1942: 1 ♀ 11.7 x 9.4 mm (USNM 182729). — No depth, 29.05.1942: 1 ♀ 4.3 x 3.9 mm (USNM 182729).

Oahu, Waikiki Reef (C. EDMONDSON coll.): no depth, 1921: 3 ♂ 11.4 x 9.0 - 15.1 x 11.6 mm; 4 ♀ ovig. 9.7 x 7.7 - 10.6 x 8.6 mm (BPBM 572). — No depth, 16.02.1922: 4 ♂ 8.6 x 6.5 - 12.2 x 9.8 mm; 2 ♀ 10.0 x 7.9, 14.0 x 10.8 mm; 1 ♀ ovig. 12.5 x 9.7 mm (BPBM 658).

Oahu, Waialee: no depth, C. EDMONDSON coll., 6.07.1921: 1 ♂ 9.8 x 7.9 mm; 1 ♀ ovig. 14.3 x 11.6 mm (BPBM 510).

Oahu, Kahala Bay (C. EDMONDSON coll.): no depth, 7.03.1930: 16 ♂ 5.8 x 4.7 - 12.4 x 10.0 mm; 11 ♀ 5.2 x 4.2 - 10.8 x 8.3 mm; 4 ♀ ovig. 6.5 x 5.4 - 8.9 x 7.1 mm (BPBM 3168). — No depth, 1913: 2 ♂ 5.7 x 4.7, 10.7 x 8.6 mm (BPBM 3554). — No depth, 05.1931: 7 ♂ 9.7 x 7.8 - 12.3 x 9.7 mm (BPBM 3414). — No depth, 28.06.1934: 9 ♂ 8.3 x 6.8 - 11.5 x 9.6 mm; 2 ♀ 7.0 x 5.8, 10.8 x 8.6 mm; 7 ♀ ovig.) 9.3 x 7.5 - 10.5 x 8.6 mm (BPBM 3780).

Oahu, Pearl and Hermes Bay: no depth, 02.1928: 1 ♂ 10.0 x 8.3 mm; 1 ♀ 10.8 x 8.5 mm (BPBM 3043).

Oahu, Barbers Point: no depth, 1.09.1936: 1 ♂ 12.7 x 9.9 mm; 2 ♀ 10.7 x 8.6, 12.5 x 10.3 mm (BPBM 4234).

Oahu, Rabbit Id: no depth, 13.11.1936: 2 ♂ 10.1 x 8.2, 10.5 x 8.6 mm; 1 ♀ 12.2 x 9.5 mm (BPBM 4255).

Oahu, Kawela Bay: no depth, C. EDMONDSON coll., 15.07.1935: 4 ♂ 10.7 x 8.8 - 13.0 x 10.5 mm; 5 ♀ ovig. 9.9 x 7.7 - 13.0 x 10.3 mm, (BPBM 4038). — No depth, 10.07.1937: 5 ♂ 9.9 x 8.1 - 15.0 x 11.5 mm; 6 ♀ 9.0 x 7.2 - 13.5 x 11.1 mm (BPBM 4312).

Oahu: no locality, no depth, 10.01.1924: 2 ♂ 11.3 x 8.9, 12.6 x 10.2 mm (ZMUC). — No locality, no depth, no date: 2 ♂ 5.6 x 4.6, 13.2 x 10.1 mm; 2 ♀ 8.2 x 6.5, 11.2 x 9.1 mm; 3 ♀ ovig. 10.0 x 8.0 - 13.8 x 10.8 mm (BPBM

2186). — No locality, no depth, 1932: 5 ♂ 8.0 x 6.5 - 12.7 x 10.0 mm; 2 ♀ ovig. 8.4 x 6.6, 10.5 x 8.5 mm, C. EDMONDSON coll. (BPBM 3601). — No locality, no depth: 3 ♀ 6.4 x 5.2 -10.2 x 8.3 mm (BPBM 3683). — No locality, no depth, 1973: 4 ♂ 7.7 x 6.0 - 13.9 x 10.8 mm; 6 ♀ 5.2 x 4.3 - 12.7 x 10.0 mm; 2 ♀ ovig. 9.7 x 8.1, 11.2 x 9.1 mm (BPBM 510491). — No depth, 1973: 1 ♂ 8.0 x 6.7 mm; 1 ♀ 6.4 x 5.5 mm; 1 ♀ ovig. 11.6 x 9.3 mm. (BPBM 510492). — No locality, 12.2 m, 03.1996: 1 ♂ 6.8 x 5.2 mm (QM).

Oahu, Paile Point: no depth, 7.07.1952: 1 ♂ 11.1 x 8.5 mm; 1♀ ovig. 9.0 x 7.0 mm (BPBM 5804).

Oahu, Maili Point: no depth, 13.05.1953: 1 ♂ 10.0 x 8.6 mm; 1 ♀ 8.5 x 6.9 mm; 1 ♀ ovig. 11.0 x 9.6 mm (BPBM 6055). — No depth, 10.07.1953: 2 ♀ ovig. 9.3 x 7.6 , 10.0 x 7.8 mm (BPBM 5900).

Oahu, Kahe Point: no depth, S. COLES coll., 6-07.1977: 1 juv. 2.0 x 1.7 mm; 2 ♀ 3.6 x 3.1, 5.0 x 4.2 mm (BPBM 1977.554).

Ocean Island (= Kure Id), 80 km NW of Midway Id: no locality, no depth, 1923: 1 ♀ 4.0 x 3.3 mm (BPBM 1133).

Taiwan. Nan-Wan, Pingtung County, no locality, 6 m, from coral *Seriatopora hystrix* Dana, M. S. JENG coll., 5.12.1985: 1 ♀ 7.7 x 6.4 mm (NTOU). — Wan-li-Fong, low tide level, PING-HO-HO coll., 2.06.1992: 1 ♂ 6.6 x 5.2 mm; 1 ♀ ovig. 10.4 x 8.2 mm (NTOU).

TYPES. — *Dynomene hispida* Guérin-Méneville, 1832: according to PEYROT-CLAUSADE and SERÈNE (1976) the male 14.0 x 11.5 mm, from Mauritius was probably considered the holotype by DESMAREST. The specimen is part of the dry collection held by the Muséum national d'Histoire naturelle, Paris, registration number MP-B 245.

Dynomena latreillii Eydoux & Souleyet, 1842: holotype is a small, mounted, dry specimen 7.9 x 6.0 mm, collected from Hawaii, 1836, held by the Muséum national d'Histoire naturelle, Paris, registration number MP-B 235. As the specimen is mounted on a stub it is not possible to determine the sex.

Dynomene granulobata Dai, Yang & Lan, 1981: holotype is a male 6.2 x 5.4 mm, collected from Dongdao, Xisha Ids, South China Sea, 04.1965, held by the Beijing Natural History Museum, registration number 65079.

DESCRIPTION. — Carapace wider than long (CW/CL = 1.3 approx.), broadly rounded in outline but frontal and posterior margins truncated, surface minutely granulated and quite convex. Carapace surface and pereopods covered with coarse, plumose setae of two lengths: short setae clothing surface, but interspersed with slightly longer (0.08 x CW) setae which also fringe limbs. Setae not arranged in clumps. Density of setae not sufficient to completely obscure body surface. Structure of setae identical for both sizes: proximal 20% mostly smooth, followed by a region occupying about 40% with very short setules arranged in closely spaced bands, then a region occupying about 25% where setules increase rapidly in size distally forming a dense bunch, and finally the distal 15% is smooth, slightly curved or angled, and narrows to an acute tip.

A shallow frontal carapace groove separates a pair of low rounded protuberances, and then divides into separate grooves which gradually become more faint. Just in front of cardiac region two laterally-directed grooves originate: first groove (cervical) arises separately from small pits curving anteriorly on to branchial region, while second groove extends across mid-line and initially runs almost directly towards lateral margin but then splits into an anterior portion which follows the first groove for a short distance, while the second portion curves posterolaterally, bordering anterior cardiac region. In effect groove crossing mid-line, connects two crescent-shaped grooves. Mid-way along cardiac groove begins a faint branchial groove which runs towards base of last tooth on lateral margin. Posterior cardiac area outlined by a faint groove. Anterolateral carapace margin begins at level of postorbital corner, is evenly convex and bears four distinct, sharply pointed, equidistant teeth, first two of which are directed anteriorly and last two directed more laterally. Near beginning of posterolateral border there is another smaller tooth which lacks a sharp spine. Thus lateral margin has five teeth in total. Posterior carapace margin recessed in order to accommodate first segment of abdomen which is visible dorsally.

Frontal margin continuous without orbital notch, V-shaped, ventrally-directed, joined to epistome (which separates orbits). Supraorbital margin not projecting, continuous above orbits; towards postorbital corner are about five small acute spines and another five spines continued on suborbital margin, which is essentially straight. Orbits clearly exposed dorsally.

First article of antennule large, filling a large part of ventral region; distal margin obliquely angled and not continuous with distal margin of second antennal article. Remainder of antennule folded into orbit. First article of antenna moveable, wider than long, medially beaked; inferior tooth well developed, blunt; superior tooth above opening of antennal gland is scarcely produced. Second article wider than long, distal margin widest, to which exopod is fixed, curving over base of eyestalk and becoming broader but terminating as a sharp point.

Third antennal article longer than wide, and attached to remaining distal border of second article, slotting in behind exopod, and together with small fourth article just matches length of exopod. Remaining antennal articles directed laterally, extending about as far as postorbital corner, and can be partially folded under supra-orbital margin. Ratio of length of antennal flagella to CW = 0.24. Eyestalk can be completely folded into orbit, and the cornea is well developed, occupying all of tip. Epistome broadly triangular, surface concave; dorsal arm, joined to tip of carapace, very elongate and narrow; lateral arms shorter and thicker. Joint between epistome and carapace marked by a suture which can be clearly seen on inner surface of orbit.

Subhepatic area slightly convex. A groove begins near base of antenna, curving round under branchial region without a cervical branch and meeting lateral carapace margin just anterior to tooth on posterolateral border and connecting with branchial groove. Third maxillipeds operculiform; bases widely separated by tip of sternum. Crista dentata has only five or six small, distally placed teeth on each side. Female sternal sutures 7/8 short, ending wide apart on low tubercles just behind bases of second walking legs.

The branchial formula is 19 gills and 7 epipodites on each side:

Somite	VII (Mxp1)	VIII (Mxp2)	IX (Mxp3)	X (P1)	XI (P2)	XII (P3)	XIII (P4)	XIV (P5)
Pleurobranchiae	-	-	-	-	1	1	1	-
Arthrobranchiae	-	1	1	2	2	2	2	-
Podobranchiae	-	1	1	1	1	1	1	-
Epipods	1	1	1	1	1	1	1	-

Gills are unequal (anterior half larger) violin-shaped plates, marginally notched, and joined together along central axis which carries afferent and efferent blood channels. Epibranchial corners thickened and bluntly pointed. Towards base of each arthrobranch and pleurobranch there are pairs of elongate epibranchial lobes which increase in length proximally. A transverse section near base shows two plates separated, on epibranchial surface, by two lobes, while a section mid-way shows only two plates. Hypobranchial setae at posterior end of branchial chamber poorly developed. Posterior margin of scaphognathite with two long setae. Hypobranchial margin of podobranchs bears same setae as on epipod.

Cheliped only slightly longer than first leg. Merus trigonal; inner face smooth and fitting closely against pterygostomial region of carapace; borders with small granules; outer face with a subterminal groove separating a thickened ridge on which there are three larger granules. Outer face of carpus convex with several small granules, two more prominent distal tubercles; inner superior border with a flattened, distomedially directed, granulated spur which abuts against distal inner surface of propodus thereby restricting closure of cheliped against frontal area. In a similar way, inferior carpal margin is produced as a smooth obtuse flange fitting against merus when limb is withdrawn. These two structures give carpal article an unusual shape. Transverse section of propodus decreases in area distally; outer and superior faces with 6-7 rows of small granules, inner and inferior faces smooth. Fixed finger almost straight with two large teeth; moveable finger curved with a single, large tooth opposite first tooth on fixed finger; both fingers, thick, hollowed out internally, touching only at tips which are without interlocking teeth. Just below teeth on fixed finger is a distinct pit in which several long setae are inserted with a similar group of setae on inner margin. Larger groups of long stiff setae, inserted near base of dactyl and fixed finger, are directed across space between the two fingers. On dorsal surface of dactyl there are several small distal granules.

First three pairs of walking legs decreasing in length posteriorly. Meri elongate, both faces of meri of first two legs and anterior face third leg merus smooth and nacreous, inferior distal margin hollowed out to accommodate carpal article. Superior border of meri of these legs with a row of four or five small teeth and scattered granules, and a shallow subterminal restriction; length of merus of second leg about 1.5 times its width and equal to about a third of CL. Carpi inflated, dorsal surface bearing three longitudinal rows of granules, and produced distally to overhang base of propodi. Dorsal surface of propodi granulated. Dactyli curved, inferior margin armed with 5-6 small spines, tip brown and subacute.

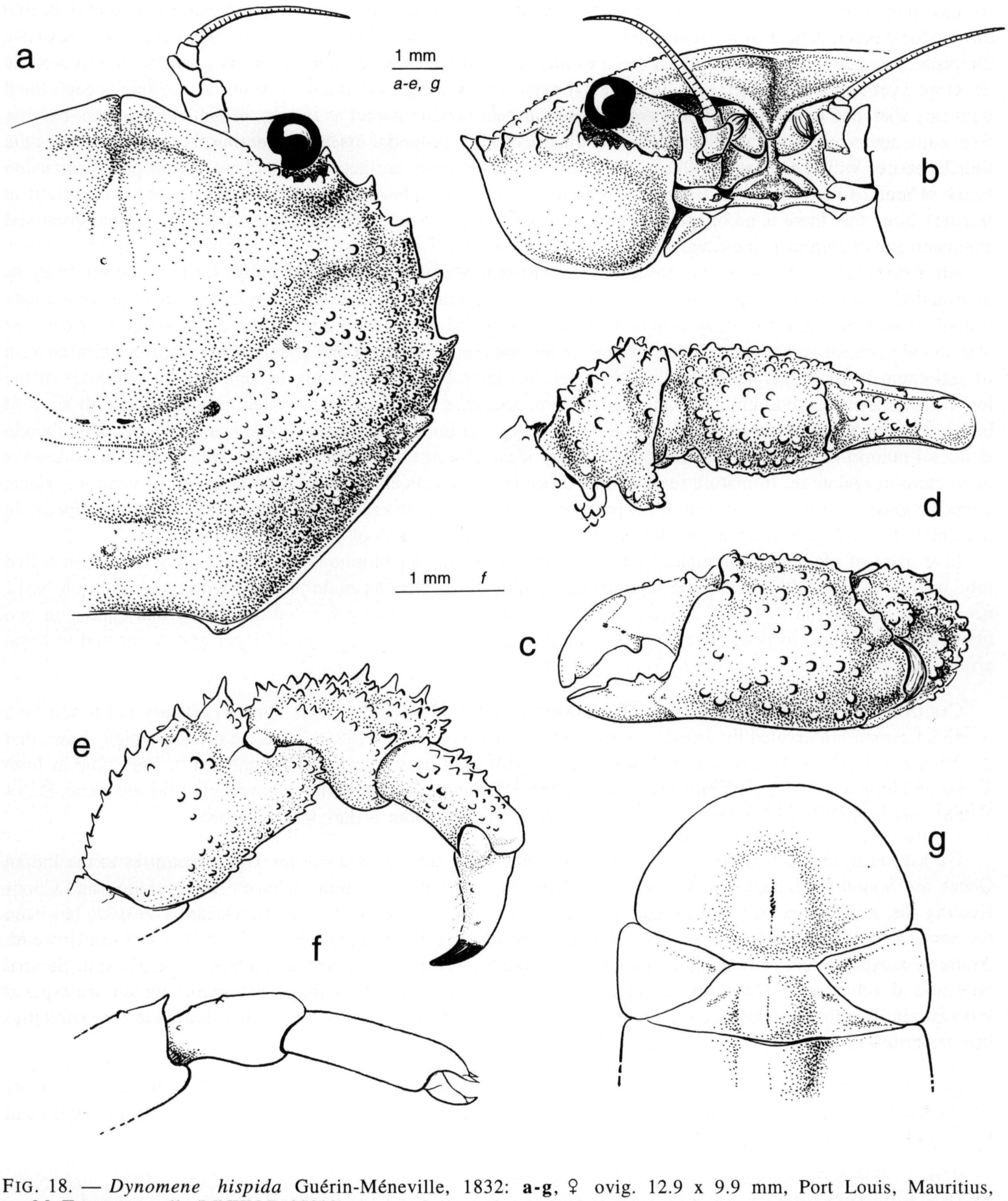

FIG. 18. — *Dynomene hispida* Guérin-Méneville, 1832: **a-g**, ♀ ovig. 12.9 x 9.9 mm, Port Louis, Mauritius, M. THIRIOUX coll. (MNHN-B 22088): **a**, dorsal view of right half of carapace; **b**, ventral view of right orbital area; **c**, outer face of left cheliped; **d**, dorsal view of left cheliped; **e**, posterior view of terminal articles of right fourth pereopod; **f**, posterior view of terminal articles of right fifth pereopod; **g**, ventral view of telson and terminal segments of female abdomen.

Last pair of legs greatly reduced, lying along posterolateral border of carapace, reaching only as far as two thirds along meral article of preceding limb; borders of articles unarmed. Last pair of legs subchelate, sexually dimorphic: female with well developed distal extension of propodus which opposes dactyl, male with only weakly developed propodal extension. Female propodal extension bearing four, unequal, stout, acute, spines each lined with tiny flattened teeth along almost entire inner surface. Female dactyl as long as propodal extension, bearing five stout, acute spines whose inner surface is unarmed. Male propodal extension bearing five unequal spines the four largest of which are lined with tiny teeth along most of inner surface. Near its base the propodal extension bears an area of rasp-like teeth which are present on only one side of limb (these structures are not present in female). Note that there is no opposing area of similar teeth on base of dactyl. Male dactyl longer than propodal extension and ending in a single acute claw.

All abdominal segments freely moveable, increasing in length and breadth distally; surface smooth; margins unarmed but fringed with long setae. Telson much wider than long, anterior margin angled to accommodate uropod, posterior margin broadly rounded. In female uropod plates are large, filling all of space between last abdominal segment and telson, entirely excluding last abdominal segment and telson from reaching lateral margin of abdomen. In male last abdominal segment reaches lateral margin but only occupies about a quarter of the length. No effective abdominal locking mechanism: abdomen only loosely held against sternum in all sizes of both sexes (see GUINOT, 1979, pl. 21, figs 8-9). In males and immature females, there is a small rounded tubercle at lateral margin of sternum, between first walking legs, adjacent to uropods, but this simply restricts sideways movement of abdomen. In mature females this tubercle disappears and abdomen occupies all of ventral surface, covering entire sternum and coxae of all pereopods with telson covering proximal half of third maxillipeds. In male abdomen not quite so broad and telson only extends as far as bases of third maxillipeds.

Five pairs of pleopods in female, first pair vestigial, remainder biramous. First male pleopod a semi-rolled tube ending in a curved apical plate surrounded by long setae. Second male pleopod with an exopod on basis, needle-like distally, armed with a series of five tiny, acute, inset spines directed terminally and ending in two hooked spines. Third to fifth male pleopods rudimentary and biramous; exopod longer and connected to basal article by a joint.

COLOUR. — The coloured figure by DESMAREST [1823, pl. (18), fig. 2] is almost certainly not based on a living specimen but created by artistic license. NAGAI and NOMURA (1988: 92) have a picture which shows that the body and legs are dark brown or black, fringed with light brown setae. Some patches of light blue in limb joints, and bluish and pale pink patches on the carapace. Specimens from Somalia have light blue antennae. BABA (1986) contrasts *D. hispida* with *D. pilumnoides* saying that its colour is dark blue or brown.

GEOGRAPHIC DISTRIBUTION. — Type locality: Mauritius, east of Madagascar. Other localities in the Indian Ocean are Somalia, Madagascar, Coetivy (Seychelle Ids), Aldabra, Salomon (Chagos Archipelago), and Cocos Keeling Ids. Indonesian localities include Kupang, Timor and Ambon. In the Pacific Ocean *D. hispida* has been recorded from Salawati Id (north west New Guinea), New Caledonia, Elizabeth Reef (Tasman Sea), Lord Howe Id, Aranuka & Apamama (Gilbert Ids), Xisha Ids (Taiwan), Ryukyu Ids (Japan), Enewetak Atoll, Hawaii, Samoa, Howland Id, Johnston Id, Ocean Id, French Polynesia (Marutea-Vaitutaki, Tuamotu, Moorea). This is a widespread Indo-Pacific, shallow water species, inhabiting coral reefs and rocky bottoms, whose distribution is very similar to that of *Dynomene praedator*.

DEPTH. — Most of the recorded specimens of *D. hispida* come from intertidal and shallow subtidal coral reefs and rocks. The deepest reliable depth records are from *Acropora humilis* at 30 m, La Réunion (RIBES, 1978) and from dead *Acropora* sp. at 24 m, Tuléar Reef, Madagascar (PEYROT-CLAUSADE, 1981).

SIZE. — The maximum size for males is greater than for females: 19.0 x 14.0 mm (SAKAI, 1976) and 15.6 x 12.3 mm (this study). The smallest ovigerous female is 6.5 x 5.4 mm recorded from Oahu, Hawaii (this study). Records of ovigerous females (mostly from Hawaii) extend from January to July. Despite living in tropical waters *D. hispida* seems to be a seasonal breeder. Newly laid eggs were found on females throughout the period January to July, suggesting that the egg bearing season extends beyond July. The only females with eggs ready to hatch were recorded in May and June. The smallest ovigerous females (CW = 8 mm) carried around 70 eggs and the largest ovigerous females (CW = 14 mm) carried around 900 eggs. The average egg diameter was 0.44 mm, indicating that there is a planktotrophic larvae (larval stages have not been described). This is to be expected from the very wide distribution of *D. hispida* which occurs throughout the Indo-Pacific area.

DISCUSSION. — Different authors have attributed the name of this species to LATREILLE (e.g. WARD, 1942), DESMAREST (e.g. PEYROT-CLAUSADE & SERÈNE, 1976), or H. MILNE EDWARDS (e.g. GUINOT, 1979). However, MANNING and HOLTHUIS (1981) point out that while the first latinized use of the generic name *Dynomene* was by DESMAREST (1823), the first latinized use of the specific name *hispida* was by GUÉRIN-MÉNEVILLE (1832). Thus this species should be known as *Dynomene hispida* Guérin-Méneville, 1832.

The above description is based upon the same material (MNHN-B 22086) used by A. MILNE EDWARDS (1879) who gave the first detailed description of *D. hispida.* The specimens examined are of very similar size to the original dimensions given by A. MILNE EDWARDS (1879, pls 12-13) who illustrated some of the features of a male specimen, but his figs 14 and 15 clearly show a fifth leg which must belong to a female and not a male as is implied by the plate caption.

A. MILNE EDWARDS (1879) was the first to treat *Dynomena latreillii* Eydoux & Souleyet, 1842 as a synonym of *D. hispida* Guérin-Méneville, 1832, stating that the supposed differences were due to the fact that it was based on a juvenile specimen. The type specimen of *D. latreillii* is not in fact a juvenile (7.9 x 6.0 mm, although it is not possible to determine the sex because the ventral surface has been glued to a stub) and was collected from Hawaii in 1836 by EYDOUX and SOULEYET, two doctors on the corvette *"La Bonite"*. In their original description of *D. latreillii* they list the differences between this species and *D. hispida.* Among these differences are: ".. les bords latéro-antérieurs sont courbes, entiers, sans aucune trace de dents,... Les orbites, ovalaires, n'ont pas de dents à l'angle externe et sont ouverts à l'angle interne." I have examined this specimen and there are in fact four anterolateral teeth and small spines around the supra- and suborbital margins. Thus it agrees well with *D. hispida* where the anterolateral carapace margins have small well defined, acute teeth and there are small acute spines on the orbital margin. The characters highlighted by EYDOUX & SOULEYET are in fact typical of *Dynomene praedator* A. Milne Edwards, 1879 and both these species are known from Hawaii. Therefore it was essential to check the type of *D. latreillii.* In treating it as a synonym of *D. hispida*, A. MILNE EDWARDS (1879) pointed out that the type specimen was small and stated that in *D. hispida* anterolateral teeth "..les bords antérieurs ne sont pas aussi nettement découpés qu'ils le deviennent par les progrès de l'âge." (i.e. become more distinct with age). I have examined a large series of *D. hispida* specimens from Hawaii and even when small the anterolateral teeth are distinct and easily seen, provided that the setae are cleared away. Therefore, I agree with PEYROT-CLAUSADE and SERÈNE (1976) who supported the synonymy of A. MILNE EDWARDS. It is important to clarify these differences between *D. hispida* and *D. praedator* so as to avoid confusion and the erection of unnecessary new names.

After examining material from Hawaii and Mauritius (the type locality of *D. hispida*) WARD (1942) disputed the synonymy of *D. latreillii* and *D. hispida.* He argued that the Hawaiian species should remain distinct but it is possible that his specimens from Hawaii were in fact *D. praedator.* I have examined many of the collections made by EDMONDSON and deposited in the Bishop Museum, Hawaii, and found that they contain both *D. hispida* and *D. praedator,* sometimes mixed together and sometimes mis-identified. Thus the records of EDMONDSON (1925, 1933, 1946) may well be for either *D. hispida* or *D. praedator* but it is clear that both species occur in Hawaiian waters.

Dynomene granulobata Dai *et al.* (1981) was described for a small male specimen from the Xisha Ids, Taiwan. The illustrations of this animal closely resemble *D. hispida.* The distinctive features alluded to by the authors relate to the cheliped and second pleopod. However the cheliped features are allometric, changing with size, while the distal characters of the second pleopod (see DAI *et al.*, 1981, figs 13-14, DAI *et al.*, 1986, fig. 12, 1-2, and DAI & YANG, 1991, fig. 12, 1-2) are the same as found in *D. hispida.* The habitat of *D. granulobata*, "coral reefs in shallow waters", is the same as that of *D. hispida.* For these reasons I think that *D. granulobata* is a synonym of *D. hispida.*

A detailed discussion of the gills and epipods of *Dynomene hispida* is given above (see Morphology of the Dynomenidae). The branchial formula is 19 gills + 7 epipods. The gill structure of *D. hispida* is especially interesting since they show both phyllobranchiate and "trichobranchiate" shapes. A section mid-way along an arthrobranch or pleurobranch shows a pair of plates surrounding the afferent and efferent blood vessels as seen in the phyllobranchiate Brachyura. The only differences are that the plates are bluntly pointed, as well as being thickened, at their epibranchial corners and mid-way along each side is a notch. The thickening probably helps to keep the lamellae separated. However, a section near the base of the gill shows the same two plates separated by a pair of elongate epibranchial lobes thus giving the gill a "trichobranchiate-like" appearance. The podobranchs bear only elongate lobes and their hypobranchial margins bear the same cleaning setae as found on the epipods to which the gills are attached. Thus within one species and one gill we have both kinds of gill structure present. As in all dynomenids, *D. hispida* has an epipodal gill cleaning mechanism aided by two long setae extending from the posterior end of the scaphognathite. The field of hypobranchial setae on the posterior body wall of the branchial chamber seen in some other dynomenids, e.g. *Paradynomene tuberculata,* is scarcely developed in *D. hispida.*

Previous work by PEYROT-CLAUSADE and SERÈNE (1976, text-fig. 1, pl. 5, A-B, F) showed the general features of the male pleopods including light microscope photo-micrographs. Further details were provided by DAI *et al.*, (1986, fig. 11, 2-3) and DAI and YANG (1991, fig. 11, 2-3). This study presents the first scanning electron microscope pictures of the male pleopods of *D. hispida* and these confirm the observations of DAI and YANG (1991): there is a well developed curved apical plate on the tip of the first pleopod and there are five subterminal and two terminal spines on the second pleopod. The subterminal spines are arranged in a series which curves around to the inferior margin of the pleopod. Each spine is apically directed and lies in a triangular depression. The terminal spines are larger than the others, unequal and curved sharply upwards at their tips. Near the base of this article, beside the exopod, is the opening of a secretory gland which may provide additional seminal fluid to aid sperm transfer. MINIGAWA (1993) has reported similar tegumental glands in the first and second pleopods of *Ranina ranina.* The last three pairs of pleopods in *D. hispida* are rudimentary and biramous with the exopod being longer. The endopod lacks a joint and appears to be an extension of the basal article. This condition is found in most of the other dynomenids.

A. MILNE EDWARDS (1879) illustrated examples of the long and short plumose setae found on the carapace. His figures (pl. 12, figs 8-9) show the fine setules forming the dense distal band on the long setae as being similar to more proximal setules, while those forming the dense band on the short setae are shown as being much stouter. Furthermore, the tip of the short setae is shown as being angled while that of the long setae is shown as being straight. Examination with a scanning electron microscope confirms most of the features illustrated by A. MILNE EDWARDS but shows that stout distal setules are found on both setal types and the tips of the both setae can be angled. There is a great deal of variation in setule development between setae.

In both females and males the tip of the last leg is fashioned into an obsolete subchelate mechanism but there are significant differences between the sexes. The female has a dactyl which bears several unarmed spines while the male has only a simple dactyl. The female propodal extension has four toothed spines while the male has five spines on which the teeth are fewer and smaller, and there is an area of rasp-like teeth near the base of the propodal extension. Perhaps these structures are a vestige of what was a grasping or cleaning limb and perhaps the female has lost the rasp-like teeth but still has better developed remnants of the claws. It does not seem sensible to hypothesize that formerly these limbs had different roles in males and females. What their exact role was is still a matter for speculation.

Marco VANNINI kindly supplied the *D. hispida* specimens from the coast of Somalia and data about their habitat. Whole coral heads (n=119) of *Pocillopora* sp. were enclosed in plastic bags, removed and the fauna extracted. A total of 36 dynomenid specimens were collected: 22 *D. hispida* and 14 *D. praedator.* Of the 19 corals inhabited by dynomenids only 2 were alive, the others being encrusted and more or less dead. Despite being relatively common, the dynomenids did not co-occur with the typical decapod inhabitants of live *Pocillopora* sp. such as *Trapezia* spp., *Cymo* spp., *Alpheus lottini* and *Synalpheus charon.* Perhaps these data indicate that more recently evolved brachyurans have replaced the ancient dynomenids from the more productive live-coral habitat. Furthermore, *D. hispida* occurred in 13 corals and *D. praedator* in 7 corals so that in only one case did the two species occur together, suggesting that there may be some competitive exclusion between these two species.

EDMONDSON (1946) found that Hawaiian *D. hispida* are very abundant in crevices of porous rocks. Gut contents of two specimens (CW = 13.5 and 15.0 mm) from Hawaii included mostly fine organic particles, sand grains, a few cut lengths of tubular hydroid(?) and a chitinous fragment that may have come a decapod leg. The groups of stiff setae on the cheliped fingers may act as a sieving device for collecting food particles.

Massive corals from Enewetak Atoll contained relatively few dynomenids: *Goniastrea retiformis*, only one *D. hispida* among 36 decapods from 18 coral heads; *Porites lutea*, no dynomenids amongst 77 decapods from 43 coral heads (HIGHSMITH, 1981). Of 2722 Brachyura and Anomura (except pagurids), collected from seven stations on the barrier reef of Moorea, PEYROT-CLAUSADE (1977) found only three specimens of *D. hispida* (approx. 0.11%). The fauna was dominated by xanthid crabs (approx. 70%), and galatheids (approx. 17%). PEYROT-CLAUSADE (1981) recorded *D. hispida* from clumps of dead *Acropora* from 1.5-24 m, Tuléar Reef, Madagascar, and RIBES (1978) found only single specimens in *Pocillopora damicornis*, *Favia stelligera*, *Acropora clathra*, *A. humilis*, *A. variabilis*, and *Oulophyllia crispa* from La Réunion. Above is also listed a Taiwan specimen collected from *Seriatopora hystrix*. These data suggest that *D. hispida* inhabits a variety of corals but is comparatively rare in some reef communities.

Dynomene praedator A. Milne Edwards, 1879

Figs 3 b, 8 a-b, 11, 12 d, 14 b, 17 b, 19 a-g

Dynomene praedator A. Milne Edwards, 1879: 8, pl. 14, figs 20-26. — MIERS, 1884: 13. — DE MAN, 1888: 409. — ORTMANN, 1892: 543, pl. 26, fig. 3. — ALCOCK, 1901: 75 (list). — RATHBUN, 1911: 196. — IHLE, 1913: 92 (list). — BALSS, 1938: 7. — MIYAKE, 1938: 194, text-fig. 4, 2; 1939: 198 (list); 1983: 195 (list). — BUITENDIJK, 1939: 227, pl. 7, fig. 4. — TWEEDIE, 1947: 30; 1950: 106. — LIN, 1949: 12. — GUINOT, 1967: 241 (list). — SERÈNE, 1968: 36 (list). — TAKEDA, 1973: 81; 1977: 35 (list). — MONOD & SERÈNE, 1976: 25 (list). — MIYAKE, 1983: 195 (list). — GUINOT, 1985: 448 (list). — GARTH, HAIG & KNUDSEN, 1987: 241. — RODGERS & OLEROD, 1988: 302. — POUPIN, 1996a: 24 (list).
Dynomene sinense Chen, 1979: 9, fig. 1; 1980: 119, pl. 1, fig. 1. — DAI & YANG, 1991: 31 (key).
Dynomene sinensis - ODINETZ, 1983: 208. — GUINOT, 1985: 448 (list).
Dynomene sp. - NAIM, 1980: 55.
Dynomene tenuilobata Dai, Yang & Lan, 1981: 118, figs 5-9. — DAI, YANG, SONG & CHEN, 1986: 29, text-fig. 12, 3-4, pl. 3, fig. 4. — DAI & YANG, 1991: 33, text-fig. 12, 3-4, pl. 3, fig. 4.
Dynomene huangluensis Dai, Cai & Yang, 1996: 234, fig. 1.
Dynomene hungluensis - DAI, CAI & YANG, 1996: 251 (err.).
?*Dynomene* sp. - CALMAN, 1909: 703.
Not *Dynomene praedator* - SAKAI, 1976: text-fig. 17. — NAGAI & TSUCHIDA, 1995: 108, pl. 1, fig. 2 [= *Metadynomene tanensis* (Yokoya, 1933)].

MATERIAL EXAMINED. — **Somalia**. Gesira, 18 km south of Mogadishu: stn 20, habitat unknown, low tide level, G. CHELAZZI coll., 1980: 1 ♀ ovig. 9.0 x 7.0 mm (MZUF).

M. VANNINI coll.: stn 7, on dead *Pocillopora* sp., low tide level, 1981: 1 ♀ 6.0 x 5.0 mm. — Stn 8, on dead *Pocillopora* sp., low tide level, 1981: 1 ♂ 9.5 x 7.2 mm (bopyrid isopod in right gill chamber, *Gigantione* sp. nov.). — Stn 9, on dead *Pocillopora* sp., 1981: 1 ♂ 6.7 x 6.1 mm. — Stn 10, on dead *Pocillopora* sp., low tide level, 1981: 1 ♀ 8.7 x 6.7 mm. — Stn 14, on dead *Pocillopora* sp., low tide level, 1981: 1 ♂ 10.8 x 8.5 mm. — Stn 15, on dead *Pocillopora* sp., low tide level, 1981: 1 ♀ 10.0 x 8.0 mm. — Stn 19, reef locality, low tide level, 1981: 3 ♂ 5.9 x 5.1 - 9.6 x 7.8 mm; 4 ♀ 5.1 x 4.2 - 8.0 x 6.4 mm. (All Somalia material from MZUF, see VANNINI, 1985).

Glorieuses Islands. Intertidal zone, low tide level, A. CROSNIER coll., 29.01.1971: 1 ♂ 8.7 x 6.7 mm; 1 ♀ ovig. 9.6 x 7.5 mm.

Madagascar. *Nosy Be*: stn 899, no location, low intertidal, 02.1962: 1 ♂ 12.0 x 9.6 mm (MNHN-B 6863). — Stn 961, no location, low intertidal, 02.1962: 3 ♂ 5.1 x 4.4 - 12.4 x 9.5 mm; 2 ♀ 8.7 x 7.2, 11.0 x 8.0 mm; 1 ♀ ovig. 9.0 x 7.5 mm (MNHN-B 6864). — Intertidal zone, 03.1971: 2 ♀ 9.1 x 7.3, 9.5 x 7.7 mm (MNHN-B 6903). — Madirokely, intertidal zone, no date: 1 ♂ 13.5 x 10.7 mm.

Seychelles (Aldabra). Reef West, A. J. BRUCE coll., no date: 1 ♂ 9.8 x 8.0 mm; 1 ♀ 7.8 x 6.5 mm; 1 ♀ ovig. 8.2 x 6.6 mm.

Reunion. On *Acropora* sp., no locality, 10 m, no date: 1 ♂ 6.8 x 6.0 mm. — On coral, no locality, 20 m, no date: 1 ♂ 5.0 x 4.2 mm. — On *Pocillopora* sp., no locality, 10 m, S. RIBES coll., no date: 1 ♀ 5.0 x 4.1 mm.

Cocos Keeling Islands. No locality, no depth, C.A. GIBSON-HILL coll., 1941, M. W. F. TWEEDIE det.: 1 ♂ 8.0 x 6.4 mm; 1 ♀ 6.2 x 5.1 mm. (ZRC 19646129-10). See TWEEDIE (1950). — NW end of N. Keeling Id, 0-28 m, 23.02.1989: 1 ♂ 5.9 x 4.8 mm; 2 ♀ 6.7 x 5.4, 7.0 x 5.7 mm; 1 ♀ ovig. 6.9 x 5.5 mm (WAM 137-94).

Christmas Island. No locality, no depth, C.A. GIBSON-HILL coll., 1940, M. W. F. TWEEDIE det.: 5 ♂ 6.1 x 5.0 - 7.9 x 6.4 mm; 1 ♀ 6.7 x 5.3 mm; 2 ♀ ovig. 6.5 x 5.0, 7.0 x 5.8 mm (ZRC 19646121-8). — No locality, no depth, C.A. GIBSON-HILL coll., 1947, M. W. F. TWEEDIE det.: 2 ♂ 7.3 x 6.1, 7.5 x 6.1 mm; 1 ♀ ovig. 10.0 x 7.9 mm (ZRC 1970.1.20.51-54). See TWEEDIE (1947).

Indonesia. *Moluccas*. RUMPHIUS 2: stn 902 (26), Gorong, east of Seram, on *Porites*, 1975: 1 ♂ 5.4 x 4.3 mm. — *Amboina*. No details (see DE MAN, 1888), J. BROCK coll., 7.09.1885: 1 ♂ 9.8 x 7.9 mm (SMF 163). — *North Celebes*. Lembek Strait, no depth, no date: 1 ♀ 9.8 x 7.9 mm (USNM 122953).

Mariana Islands (coll. H. T. CONLEY). Guam, Piti Reef, 13°27'N, 144°47'E, among rocks, 1.5 m, 22.07.1993: 2 ♂ 8.5 x 6.5, 13.0 x 10.3 mm (UGM). — *Ibidem*, among rocks, 1 m, 1.08.1993: 1 ♀ 7.8 x 7.0 mm (UGM).

Solomon Islands. Bougainville, Tiop, no depth, coll. H. SCHOEDE, 4.11.1909: 10 ♂ 4.1 x 3.6 - 9.3 x 7.6 mm, 14 ♀ 4.3 x 3.6 - 7.5 x 6.2 mm (ZMB 14407).

New Caledonia. Exact locality unknown, probably intertidal, M. BALANSA coll., 1873: 1 ♀ (probably the ♀ paratype) 10.2 x 8.1 mm (MNHN-B 7029). — Exact locality unknown, probably intertidal, M. BALANSA coll., 1873: 6 ♂ 6.5 x 5.4 - 9.6 x 7.5 mm; 2 ♀ 6.5 x 5.5, 9.8 x 7.3 mm (MNHN-B 22075).

LAGON: stn 585, île des Pins, 22°46.0'S, 167°32.0'E, 43 m, B. RICHER DE FORGES coll., 18.07.1985: 1 ♂ 10.4 x 8.2 mm; 1 ♀ 5.7 x 4.2 mm.

Récif Mbéré: 22°19.9'S, 166°13.2'E, 10 m, P. BOUCHET coll., 5.05.1993: 2 ♂ 6.2 x 5.1, 8.7 x 6.8 mm; 4 ♀ 5.0 x 4.1 - 10.4 x 8.1 mm.

OPÉRATION MONTROUZIER. Koumac, récif Infernet, B. RICHER DE FORGES coll., 7.10.1993: 1 ♂ 8.7 x 7.1 mm.

French Polynesia. *Society Ids*. Tahiti. No details, 2 ♂ 9.8 x 8.1, 11.2 x 9.3 mm; 2 ♀ ovig. 10.2 x 8.3, 11.6 x 9.1 mm. (SMF 4855). ORTMANN (1892) reported 2 ♂ from Tahiti, but under *Dynomene hispida* he also reported 2 ♂ and 2 ♀ from Oshima, Japan, so it is possible that he confused the material of these two species. — *Moorea*. On algae (*Amphiroa foliacea*), O. NAIM coll., 1978, : 1 ♀ ovig. 11.6 x 8.9 mm (MNHN-B 20203) (see NAIM, 1980). — Associated with *Pocillopora damicornis* and *P. elegans*, O. ODINETZ coll., 1981, D. GUINOT det. in 1982 as *Dynomene sinensis*. : 1 ♂ 11.2 x 9.1 mm (MNHN-B 17090) (see ODINETZ, 1983).

McDonald Volcano. 28°58'S, 140°16'W, approx. 50 m, B. RICHER DE FORGES coll., 19.05.1979: 3 ♀ 4.3 x 3.9 - 4.4 x 4.0 mm.

Line Islands. WHIPP EXPEDITION: *Washington Id*, 4°43'N, 160°21'W, no depth, 1924: 1 ♂ 5.0 x 4.3 mm (BPBM 2359). — *Christmas Id*, 1°51'N, 157°23'W, no depth, 1924: 1 ♂ 11.1 x 8.2 mm (BPBM 2313).

Johnston Island. 16°45'N, 169°30'W, northwest side of outer reef, F. M. BAYER coll., 28.08.1947: 3 ♀ 4.8 x 4.0 - 5.7 x 4.5 mm (USNM 176603).

Hawaii. *Oahu Id*, Kawela Bay: no depth, C. EDMONDSON coll., 17.07.1935: 2 ♂ 8.0 x 6.6, 9.0 x 7.0 mm (BPBM 4038). — No depth, 03.1936: 3 ♂ 7.0 x 5.7 - 10.0 x 8.1 mm, 1 ♀ 10.0 x 8.0 mm (BPBM 4212). — No depth, 10.07.1937: 2 ♂ 8.6 x 7.2, 10.7 x 8.4 mm; 3 ♀ 7.6 x 6.4 - 10.4 x 8.4 mm (BPBM 4312).

Oahu Id, Black Point: no depth, C. EDMONDSON coll., 12.07.1937: 1 ♂ 9.2 x 7.3 mm (BPBM 3844). — No depth, L. R. WOODWARD coll., 1937: 1 ♂ 5.6 x 4.5 mm (USNM 175882).

Oahu Id, Waikiki Reef: no depth, C. EDMONDSON coll., 1921: 1 ♂ 10.6 x 8.8 mm, 1 ♀ ovig. 12.0 x 9.6 mm (BPBM 572). — No depth, C. EDMONDSON coll., 1922: 1 ♂ 12.0 x 10.2 mm (BPBM 739). — Off Waikiki, 5 m, 1.01.1945: 2 ♂ 6.0 x 5.0, 6.6 x 5.7 mm; 2 ♀ 5.2 x 4.0, 7.7 x 6.6 mm; 1 ♀ ovig. 9.7 x 7.3 mm (BPBM 5096).

Oahu Id, Kahala Bay: no depth, C. EDMONDSON coll., 7.03.1930: 10 ♂ 6.2 x 5.5 - 10.3 x 8.4 mm; 8 ♀ 6.4 x 5.2 - 9.8 x 7.4 mm; 3 ♀ ovig. 9.4 x 7.4 - 9.5 x 7.7 mm (BPBM 3168). — No depth, C. EDMONDSON coll., 05.1931: 1 ♀ ovig. 10.3 x 8.1 mm (BPBM 3414). — No depth, C. EDMONDSON coll., 28.06.1934: 5 ♂ 7.0 x 5.7 - 12.0 x 9.8 mm; 1 ♀ 8.6 x 7.3 mm; 2 ♀ ovig. 8.2 x 6.8, 8.6 x 7.2 mm (BPBM 3780).

Oahu Id, Kahe Point: no depth, S. COLES coll., 06-07.1977: 2 ♂ 4.6 x 4.0, 4.8 x 4.0 mm; 7 ♀ 4.5 x 3.8 (parasitic isopod attached to pleopods) - 7.0 x 5.6 mm (BPBM 1977.554).

Oahu Id, no locality, no depth, C. EDMONDSON coll., 1932: 1 ♂ 9.2 x 7.4 mm; 1 ♀ ovig. 9.4 x 7.5 mm (BPBM 3601). — No locality, no depth, W.A. BRYAN coll., no date: 1 ♂ 11.0 x 9.3 mm (BPBM 184). — No depth, 1973: 1 ♂ 9.0 x 7.2 mm (BPBM 510492).

Kauai, Anahola Bay, 15 m, 7.09.1959: 1 ♂ 7.6 x 6.1 mm; 1 ♀ 8.8 x 7.1 mm (BPBM 6819).

Hawaii, no locality, no depth, B. DEGENER coll., 21.09.1929: 1 ♀ 5.6 x 4.4 mm (USNM 108395).

Japan. Kuroshima Ids. In dead coral branches, inner reef, 1992: 1 ♀ 10.3 x 8.0 mm; 1 ♀ ovig. 9.1 x 7.3 mm. — No locality, coll. M. OSAWA, 1993, 1 ♀ 10.1 x 7.8 mm (collection of C. McLAY).

TYPES. — *Dynomene praedator* A. Milne Edwards, 1879: holotype is a male 13.0 x 10.0 mm, collected by M. BALANSA from the intertidal, New Caledonia, 1873, but it probably no longer exists (see Discussion below under this species). However there is a paratype female 10.2 x 8.1 mm, from the same collection, and held at the Muséum national d'Histoire naturelle, Paris, registration number MNHN-B 7029.

Dynomene sinense Chen, 1979: holotype is a female 9.2 x 7.5 mm, collected from Shenhang Dao, Xisha Ids, South China Sea, 13.04.1958, held by the Beijing Natural History Museum, registration number IOAS-C00801. A paratype male collected from Shi Dao, Xisha Ids, 6.04.1958, is held at the same institution, registration number IOAS-C00802.

Dynomene tenuilobata Dai, Yang & Lan, 1981: holotype is a male 6.4 x 5.6 mm, collected from Jinyindao, Xisha Ids, South China Sea, 5.12.1974, held by the Beijing Natural History Museum, under number 74073.

Dynomene huangluensis Dai, Cai & Yang, 1996: holotype not designated from among the five specimens (4 males and 1 female) collected from three different reefs of the Nansha Ids, South China Sea (6°56'N, 113°35'E - 10°50'N, 114°10'E). Specimens deposited in the Bejing Natural History Museum.

DESCRIPTION. — Carapace wider than long (CW/CL = 1.25 approx.), broadly rounded in outline but frontal and posterior margin truncated, surface minutely granulated and evenly convex. Carapace surface and pereopods covered with coarse, plumose setae of two lengths: short setae clothing surface, but interspersed with longer setae (0.08 x CW) which also fringe limbs. Setae not arranged in clumps. The setae give this crab a yellowish colour but their density is not sufficient to completely obscure body surface. Structure of setae identical in both sizes: proximal 65% of shaft with many short setules, then a region occupying about 10% where there are approximately a dozen long setules projecting almost at right angles to setal axis, and finally the distal 25% which is smooth, slightly curved, and narrows to an acute tip.

A shallow frontal carapace groove separates a pair of low rounded protuberances, and then divides into separate grooves which gradually become more faint. Just in front of cardiac region two laterally-directed grooves originate: the first groove (cervical) arises separately from small pits curving anteriorly on to branchial region, while second groove extends across mid-line and initially runs almost directly towards lateral margin but then splits into an anterior portion which follows the first groove for a short distance, while the second portion curves posterolaterally bordering the anterior cardiac region. In effect the groove crossing the mid-line, connects two crescent-shaped grooves. No branchial groove is evident. Anterolateral carapace margin begins at level of postorbital corner, evenly convex and usually adorned with small granules, although there are two (sometimes three) larger blunt granules interrupting margin at equidistant intervals and near beginning of postero-lateral border there is a small group of similarly prominent granules. Development of granules on anterolateral margin is quite variable among individuals collected from the same site and often differs between the left and right sides of the carapace of individual crabs. But there are never well defined, acute teeth as found in *D. hispida*. Posterior carapace margin is recessed in order to accommodate first segment of abdomen which is visible dorsally.

Frontal margin continuous, V-shaped, ventrally-directed, joined to epistome (which separates orbits). Supraorbital margin not projecting, continuous above orbits without a notch, towards postorbital corner are a few minute granules which are continued on suborbital margin, which is bluntly produced as a small lobe, making the border sinuous. Orbits clearly exposed dorsally.

First article of antennule large, filling a large part of ventral region; distal margin almost adjacent to distal margin of second antennal article, the two of them continuing the line of the suborbital margin. Remainder of antennule folded into orbit. First article of antenna moveable, wider than long, medially beaked; inferior tooth well developed, blunt; superior tooth above opening of antennal gland is scarcely produced. Second article wider than long; distal margin longest, to which is fixed exopod curving over base of eyestalk and becoming broader. Third antennal article longer than wide, and attached to remaining distal border of second article, slotting in beside exopod, and together with small fourth article just matches length of exopod. Remaining antennal articles directed laterally, extending about as far as postorbital corner, and can be partially folded under supra-orbital margin. Ratio of length of antennal flagella to CW = 0.23. Eyestalk can be completely folded into orbit, and cornea well developed, occupying all of tip. Epistome broadly triangular, surface concave; dorsal arm, joined to tip of carapace, very elongate and narrow; lateral arms shorter and thicker.

Subhepatic area slightly convex with a few minute granules. A groove begins near ventromedial corner of carapace, curving round, without a cervical branch, under branchial region and meeting lateral carapace margin just anterior to tubercle on posterolateral border. Third maxillipeds operculiform, bases widely separated by tip of sternum. Crista dentata has only five or six small, distally placed teeth on each side. Female sternal sutures 7/8 short, ending wide apart on low tubercles just behind bases of second walking legs.

There are 19 gills and 7 epipodites on each side. Distribution of gills and epipods as for *D. hispida*. Gills are unequal (anterior half larger) violin-shaped plates, marginally notched, and joined together along central axis which carries afferent and efferent blood channels. Epibranchial corners thickened and bluntly pointed. Towards base of each arthrobranch and pleurobranch there are pairs of elongate epibranchial lobes which increase in length proximally. A transverse section near base shows two plates separated, on epibranchial surface, by two lobes, while a section mid-way shows only two plates. Setae on inner posterior wall of branchial chamber poorly developed. Posterior margin of scaphognathite with two long setae. Hypobranchial margin of podobranchs bear same setae as on epipod.

Cheliped only slightly longer than first leg, merus trigonal, inner face smooth and fitting closely against pteryogostomial region of carapace; borders with small granules; outer face has a subterminal groove separating a thickened ridge without granules. Outer face of carpus convex with several small granules, two more prominent distal tubercles; inner superior border with a flattened, distomedially directed, unornamented spur which abuts against distal inner surface of propodus thereby restricting closure of cheliped against frontal area. In a similar way, inferior carpal margin produced as a smooth obtuse flange fitting against merus when limb is withdrawn. These two structures give carpal article an unusual shape. Transverse section of propodus decreases in area distally; outer and superior faces covered in small granules; inner and inferior faces smooth. Fixed finger of female almost straight with two small teeth; moveable finger curved with a single, larger tooth opposite first tooth on fixed finger; both fingers hollowed out internally, touching only at tips which may be faintly divided into three or four blunt, interlocking teeth. In mature male (CW = 12.0 mm) chelipeds more massive and teeth are similar to female except that near point of articulation with dactyl there is a tooth-like projection directed distally. This projection seems to occur in males with CW > 10.0 mm. Left and right chelipeds are sometimes different in number of teeth. Just below teeth on fixed finger is a distinct pit in which several long setae are inserted with a similar group of setae on inner margin. Small groups of long stiff setae, inserted mid-way along dactyl and fixed finger, are directed across space between the two fingers.

First three pairs of walking legs decreasing in length posteriorly. Meri elongate; both faces of meri of first two legs and anterior face third leg merus smooth and nacreous; inferior distal margin hollowed out to accommodate carpal article. Superior border of meri of these legs with several minute granules, a shallow subterminal restriction; length of merus of second leg about three times its width and equal to about half CL. Carpi inflated and produced distally to overhang base of propodi. Dactyli curved, inferior margin armed with 5-6 small spines, tip brown and subacute. Borders of all leg articles minutely granulated.

Last pair of legs greatly reduced, lying along posterolateral border of carapace, reaching only as far as mid-way along meral article of preceding limb; borders of articles unarmed. Last pair of legs subchelate, sexually dimorphic: female with well developed distal extension of propodus which opposes dactyl, male with only weakly developed propodal extension. Female propodal extension bearing four, unequal, stout, acute, spines each lined with tiny flattened teeth along almost entire inner surface. Female dactyl as long as propodal extension, bearing fourteen unequal, stout, hooked spines (arranged asymmetrically around perimeter of the dactyl) whose inner surface is wrinkled and mostly devoid of tiny teeth. Male propodal extension bearing five unequal hooked spines the four largest of which are lined with many tiny flattened teeth along most of inner surface. Male dactyl longer than propodal extension and ending in a single acute claw.

All segments of abdomen freely moveable, increasing in length and breadth distally, surface smooth, margins unarmed but fringed with long setae. Telson much wider than long, anterior margin angled to accommodate uropod, posterior margin broadly rounded. In female uropod plates large, filling almost all space between last abdominal segment and telson, excluding most of last abdominal segment and telson from reaching lateral margin of abdomen. In male last abdominal segment reaches lateral margin but only occupies about a quarter of the space. No effective abdominal locking mechanism: abdomen only loosely held against sternum in all sizes of both sexes. In males and immature females, there is a small rounded sternal tubercle between first walking legs, adjacent to uropods, but this simply restricts sideways movement of abdomen. In mature females this tubercle disappears and abdomen occupies all of ventral surface, covering entire sternum and coxae of all pereopods with telson covering proximal half of third maxillipeds. In male, abdomen not quite so broad and telson only extends as far as bases of third maxillipeds.

Five pairs of pleopods in female, first pair vestigial, remainder biramous. First male pleopod a semi-rolled tube with a very small apical plate surrounded by long setae. Second male pleopod with an exopod on basis, needle-like distally, armed with a series of five tiny, curved, acute, inset spines and ending in three larger spines. Terminal spines slightly curved at their tips and last two form a cheliped-like structure. Third to fifth male pleopods uniramous and rudimentary.