

FIG. 12. *Neosarmatium rotundifrons* (A. Milne Edwards, 1869), ♂ holotype of *N. fryatti* (Tesch, 1917). A, dorsal view; B, chela; C, abdomen and sternum. Scale line in mm.

malabaricum, but this rim is much less distinct on *punctatum*; 3, *N. malabaricum* is c.1.16-1.22 times broader than long, compared with 1.26-1.35 for the type series of *N. punctatum*. This last character is usually quite conservative within other species of this genus and is independent of size except for very small specimens.

These two species are very similar but I believe the differences are significant enough to maintain them as separate species. It is also interesting to note that these two species also conform to the

pattern of some other *Neosarmatium* and *Sarmatium* species of having closely related sister species in the south-western Pacific Ocean e.g. *N. meinerti* and *N. fourmanoiri*; *N. smithi* and *N. trispinosum* sp. nov. (see Figs 16, 18). The distributional boundaries and/or overlap zones between *N. malabaricum* and *N. punctatum* still remain to be properly resolved.

Henderson (1893) used a number of characters to separate *S. malabaricum* from specimens of *S. punctatum* in the British Museum which had been

collected from the Indo-Malayan region and earlier identified by E.J. Miers. It is clear however that Miers also had misidentified his material and that they were really specimens of *S. indicum* that Henderson was comparing with his specimens. Serène (1975) similarly thought that the specimens from Indo-Malaya that he and Tweedie had seen in the Zoological Reference Collection, Singapore, were *S. punctatum* whereas in fact they too are *N. indicum*. This is why he erroneously restated the differences already listed by Henderson to separate *N. malabaricum* from *N. punctatum*.

HABITAT

Habitat information was not recorded for the type specimens; the most recent example was collected dead from a garden in Anse Vata, a suburb of Noumea.

DISTRIBUTION

Only definitely known from the type locality, New Caledonia. Possible records from Indonesia, and Japan, more likely refer to *N. indicum*.

***Neosarmatium rotundifrons* (A. Milne
Edwards, 1869)
(Figs 2A, B; 12; 18)**

Sesarma rotundifrons A. Milne Edwards, 1869: 30; De Man, 1887: 648 (no specimen); Tesch, 1917: 198, 230, 246 (no specimen).

Sesarma (Sarmatium) rotundifrons: De Man, 1929: 111, fig. 3, 4a, 4b.

Sarmatium fryatti Tesch, 1917: 216-220, figs 6-8.

Sesarma meinerti: De Man, 1887: 648, 668-69, in part, (fide De Man, 1929).

? *Sesarma (Episesarma) meinerti*: De Man, 1895: 166 (in part: three females only).

Neosarmatium rotundifrons: Serène & Soh, 1970: 398: 406 (in list).

TYPE INFORMATION

N. rotundifrons: holotype, ZMH-K4195. Type locality: Upolu, Samoa.

N. fryatti: holotype, NNM-1955. Type locality: Nias, off the western coast of Sumatera, Indonesia.

MATERIAL EXAMINED

HOLOTYPE: ZMH-K4195, ♀ (34.3 x 27.1mm), Upolu, Samoa (Museum Godefroy No. 2361).

OTHER MATERIAL: Holotype of *S. fryatti*, NNM-1955, ♂ (32.6 x 25.3mm), Nias, E.E.W. Schröder, 1908.

DIAGNOSIS

Carapace smooth and shining, finely pitted, bearing short setae in small tufts; c.1.2-1.3 times broader than long. Lateral margins sinuous; a single prominent epibranchial tooth, second tooth present but reduced to a trace; greatest carapace width across second epibranchial teeth. Frontal border strongly sinuous with a deep median concavity, less than half (c.0.45) carapace width; postfrontal lobes strongly indicated. Posterior border straight, width subequal to front. Merus of cheliped without subdistal tooth developed on posterior margin. Inner surface of palm of male cheliped with prominent vertical granular crest; outer surface with short, prominent, sub-median, transverse crest; outer edge of upper border of palm without obvious longitudinal rim; superior margin of dactyl with 4-5 distally directed spines, evenly spaced over the proximal half; a broad gape between fingers of mature males. Meri of walking legs broad (merus of third pair c.2.5 times longer than wide), anterior borders only slightly convex, with acute subdistal spine, dorsal face with short transverse striae; carpi and propodi with dense covering of short setae around superior margin. Male abdomen narrow; segment 6 longer than telson, and c.1.3 times broader (at base) than long.

REMARKS

De Man (1929) compared the type material of *Sarmatium fryatti* with the holotype of *Sesarma rotundifrons* and was the first to establish that these two species were synonymous. I have also re-examined the two holotypes and agree with De Man. When Tesch described *S. fryatti* in 1917, he had not seen specimens of *Sesarma rotundifrons* A. Milne Edwards, and it had still not at that time been figured. He believed it to belong to *Sesarma (Sesarma)* not to *Sarmatium*, and for this reason he failed to compare it with his new species of *Sarmatium* which he naturally thought to be undescribed. The type of *N. fryatti* is used here to illustrate the male morphology of *N. rotundifrons* for the first time.

DISTRIBUTION

Upolu, Samoa (A. Milne Edwards, 1869); Indonesia: Nias, off west coast of Sumatera; Java; Obi Is., Moluccas (Tesch, 1917, as *N. fryatti*)

Neosarmatium smithi (H. Milne Edwards,
1853)
(Figs 2J, K; 13; 18)

- Sesarma smithi* H. Milne Edwards, 1853: 187; Hofmann, 1874: 24; De Man, 1887: 652-653; Bürger, 1893: 618, pl. 21, fig. 2; Ortmann, 1894b: 722; Haig, 1984: 128.
- Sesarma smithii*: H. Milne Edwards, 1854: 149, pl. 9, fig. 2; A. Milne Edwards, 1868a: 71; De Man, 1880: 29; Kingsley, 1880: 217.
- Sesarma (Sesarma) smithi*: Rathbun, 1910: 328; Miyake, 1936: 497, pl. 35, figs 1, 2; Sakai, 1939: 686.
- Sesarma (Sesarma) smithii*: Tesch, 1917: 199-200; Barnard, 1950: 124; Crosnier, 1965 [in part]: 59, pl. 4, fig. 2 [not figs 74, 79, 86, 102 = ? *N. trispinosum*].
- Sesarma (Sarmatium) smithii*: Tweedie, 1936: 68.
- Sesarma oceanica*: Chhappgar, 1957: 58, pl. 16, figs d-g [not *S. oceanica* De Man, 1889 = *Pseudosesarma rotundatum*].
- Neosarmatium smithi*: Serène & Soh, 1970: 398, 405, pl. 5A, B; Sakai, 1976: 665-666, text-fig. 364; Hirata et al. 1988: 26, colour plate; Dai et al., 1986: 496, fig. 279(3), pl. 70(2); Dai & Yang, 1991: 543, fig. 279(3), pl. 70(2).

TYPE INFORMATION

Holotype, MNHN-B3962. Type locality: Port Natal, South Africa.

MATERIAL EXAMINED

HOLOTYPE: MNHN-B3962, ♀ (37.1 x 33.1mm), Port Natal, South Africa.

OTHER MATERIAL: SOUTH AFRICA: QMW8861, 2♂ (30.0 x 27.9; 36.2 x 34.0mm), ♀ (35.8 x 33.3mm), Inhaca Island, Aug. 1963, W. Macnae. MADAGASCAR: MNHN-B16764, ♀ (29.6 x 27.8mm), Nosy Bé, A. Crosnier, c.1964. ZANZIBAR: MNHN-B3685, ♂ (dry), (35.6 x 32.6mm), M. Grandidier. MALAYSIA: QMW8865, ♂ (37.3 x 3.0mm), Kuala Selangor, A. Sasekumar, 1979. PHILIPPINES: NNM32716, ♀, Maribago, Mactan Island, near Cebu, coll. Gomez, 1979; ZMG628, 5♀ (29.0 - 32.8mm), 4♂ (25.8 - 30.0mm), Manila, Luzon, 3°24'N, 101°12'E, C. Semper, April 1860 - Nov. 1861.

DESCRIPTION

Carapace. c.1.1 times broader than long. Fronto-orbital width c.0.95 times carapace length. Depth c.0.8-0.85 times carapace width. Lateral margins slightly convergent posteriorly; sinuous. Anterolateral margins with two forwardly directed teeth behind the exorbital angle; exorbital angle sharp and outer margin straight; first

anterolateral tooth triangular; larger than exorbital angle; second anterolateral tooth blunt, minute but obvious. Front c.0.45 times carapace width; c.0.5-0.6 times fronto-orbital width; lateral margins slightly concave, lateral angles obtuse. Post-frontal lobes distinct, laterals c.half width of medians, poorly separated from orbit. Branchial ridges prominent; first follows from posterior edge of last epibranchial tooth; relatively long; second arising from lateral margin; third arising from, or just short of, lateral margin. Posterior margin c.0.45 times carapace width. Carapace surface smooth, shining, punctate; setae in short tufts on anterior half and posteriorly in rows along branchial lines. Upper orbital border evenly, finely, granular; oblique, slightly sinuous; inner angle rounded. Lower orbital border straight; evenly granular. Inner orbital tooth minutely granular. Inter-antennular septum c.0.3 times width of front.

Third maxilliped. Suture between merus and ischium horizontal. Ischium sub-triangular; inner margin smooth. Exopod narrow, not much visible in frontal view, reaching about half length of merus; c.0.4 times width of ischium.

Chelipeds. Merus with posterior border minutely granulate and faintly striated; with distinct subdistal spine; lower border minutely granulate; anterior border with small granules or tubercles mesially on outer edge of lip; carpus with inner angle armed with a few sharp granules; inner margin unarmed except for a row of granules, and a tuft of long setae proximally on secondary ventral ridge of inner margin; granules present on inner face of carpus just below inner angle; outer margin with granular striations. Upper surface of palm defined anteriorly by a swollen longitudinal ridge. Outer surface of palm naked; with a median longitudinal row. Inner surface of palm smooth except for strongly raised granular vertical crest continuing obliquely for about two-thirds of fixed finger. Immobile finger slightly flattened on outer surface; moderately long. Length cutting edge c.0.5 times length propodus. Ventral border of chela slightly convex, coarsely granular posterior to fixed finger. Dorsal surface of dactyl bearing a small blunt proximal tubercle on inner edge, followed by a large, truncate, chitinous tooth, followed by a smaller tooth of similar form, all three evenly separated over proximal half; otherwise smooth.

Walking legs. Second and third pairs sub-equal and longer than others. Longest leg c.1.7 times maximum carapace width. Merus of third leg c.2.2-2.5 times as long as wide. Carpus c.2.3-2.5

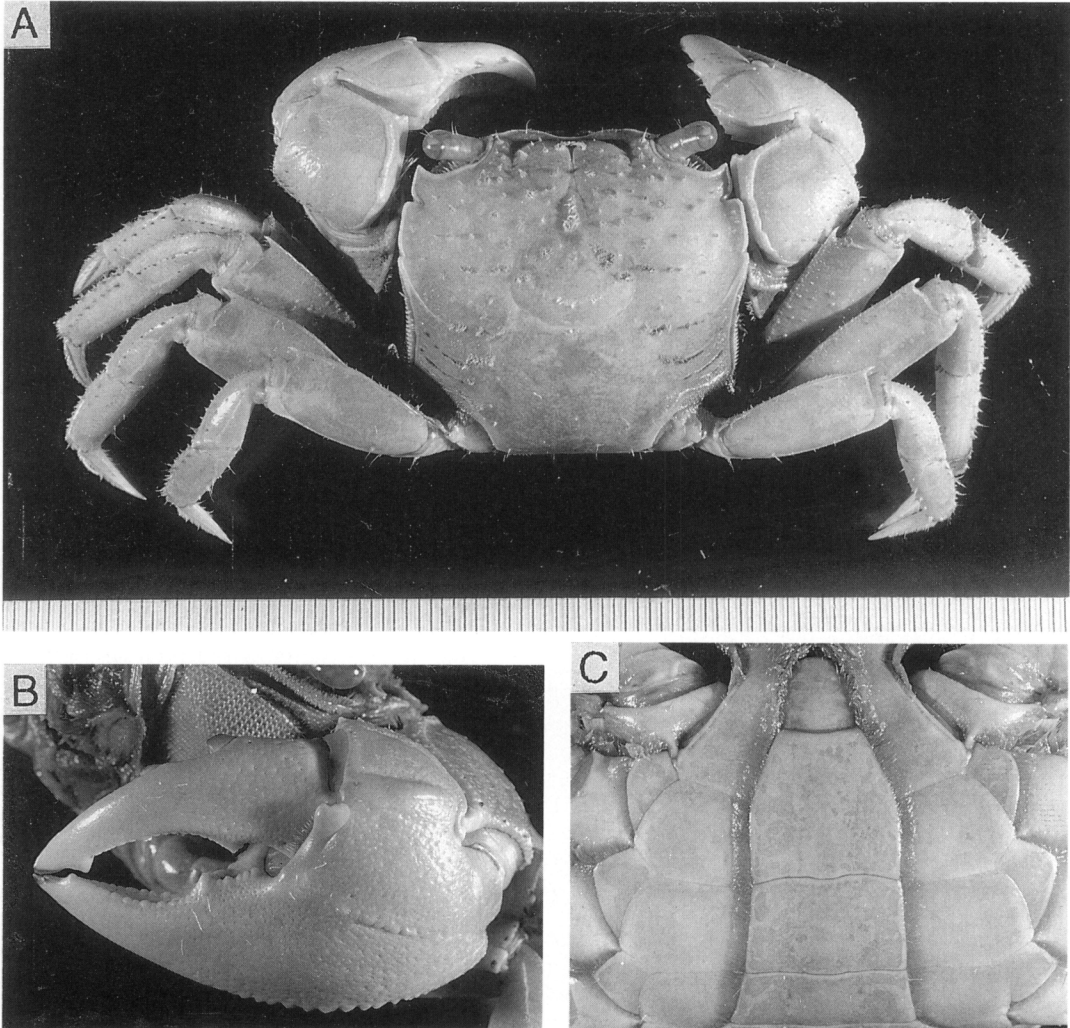


FIG. 13. *Neosarmatium smithi* (H. Milne Edwards, 1853), ♂, QMW8861. A, dorsal view; B, chela; C, abdomen and sternum. Scale line in mm.

times as long as wide. Propodus c.2.2-2.4 times as long as wide. Dactyli c.0.8-0.9 times length of propodus.

Male abdomen. Width segment 3 c.3.2-4.0 times length. Segment 6 elongated, longest, length and width subequal. Telson not longer than preceding segments, sub-equal to segment 5; 1.3-1.5 times longer than wide; evenly rounded.

Gonopods. G1 inner-dorsal margin straight. Dorsal surface of stem flattened, concave; completely calcified. Palp present, poorly developed, not separated from stem, large, narrow, rounded, calcified. Outer dorsal margin of stem convex.

Distal part of the stem narrow. Apical process present, corneous, strongly produced, straight. Gonopore terminal. Setae present, short, simple, lie around corneous tip and apical part of stem obscuring structural detail. G2 short, evenly tapering, slightly twisted, apically rounded.

COLOUR

Dorsal carapace, legs, and merus and carpus of chelipeds, dark purple; outer face of chela and fingers bright red, but with dark dorsal dactylar teeth.

REMARKS

This widespread species has been wrongly identified in the south-western Pacific region, where it is replaced by a sister species *Neosarmatium trispinosum* sp. nov. In part, this has been caused by the fact that the holotype is a female, and the arrangement of the spines on the superior border of the dactyl of the cheliped is unclear. On *N. smithi* the dorsal surface of dactyl bears a small blunt proximal tubercle on the inner edge, followed by a large, truncate, chitinous tooth, and then a smaller tooth of similar form, all three evenly separated over proximal half. On *N. trispinosum* however, there are also three teeth but they take the form of large, acute, conical, chitinous spines, set close together in proximal two-fifths, the smallest being near the articulation as in *N. smithi*, but it is the third, most distal tooth, that is the largest. Even though these spines are vestigial in the female, traces of them can be found on careful examination, and therefore this is still a good character for discriminating between the species using a specimen of either sex.

Ecological studies referring to this species by Giddins et al. (1986), Neilson et al. (1986), Neilson & Richards (1989) are all actually referring to *N. trispinosum* sp. nov.

HABITAT

Mangroves (Rathbun, 1910; Crosnier, 1965). Pinto (1984) noted that they live in complex burrows that have the entrance protruding above the soil surface as a hollow cylinder reinforced by mangrove roots; they actively built these 'castles' after rains when the burrows were flooded. He found them to be mainly nocturnal.

DISTRIBUTION

Southern Africa and Madagascar - Port Natal (H. Milne Edwards, 1853); Nossi-Faly (near Madagascar) (De Man, 1880); Madagascar (Crosnier, 1965); Aldabra (Haig, 1984). India - Bombay (Chhapgar, 1957 as *Sesarma oceanica*). Sri Lanka (Pinto, 1984). S.E. Asia - Lem Ngob, Thailand (Rathbun, 1910); Singapore (Tweedie, 1936); Malaysia, Philippines (present records); Hainan Is., China (Dai & Yang, 1991); extending as far north as Okinawa, Ryukyu, Japan (Sakai, 1976; Hirata et al., 1988).

***Neosarmatium trispinosum* sp. nov.**

(Figs 2H, I; 14; 18)

Sesarma smithii: A. Milne Edwards, 1873: 305; De Man, 1889: 426; 1890: 94; McCulloch, 1913: 322.

Sesarma (Episesarma) smithi: Nobili, 1899: 267.

Sesarma (Neosarmatium) sp.: Davie, 1982: 207.

MATERIAL EXAMINED

HOLOTYPE: QMW5143, ♂ (31.3 x 29.2mm), Serpentine Ck, Moreton Bay, SE.QLD, 27°24'S, 153°07.0'E, mangroves, on sandy substrate, 11.8.1972, B. Campbell.

PARATYPES: MNHN unreg. ♂ (41.2 x 36.4mm), New Caledonia. [♂ pleopod figured]; QMW19556, 3 ♀ (22.9 x 20.2; 30.8 x 28.3; 39.0 x 35.1mm), mangroves at Pam, northern New Caledonia, 27.2.1992, J.-L. Menou; SMF1987, 2♂ (38.5 x 36.4; 42.3 x 38.6mm), Fiji; NNM743, ♀ (24.7 x 21.7mm), ♂ (24.8 x 21.9mm), Omgeuine Base G, Hollandia, New Guinea, G. Van Hout; MNHN unreg. (Serène colln), ♂ (31.6 x 28.4mm), Vanuatu, R. Serène, 10.10.1971; SMF unreg., ♀ (31.2 x 26.9mm), ♂ (34.6 x 31.6mm), Cape Ferguson, near A.I.M.S., south of Townsville, NE.QLD, mangroves, M. Türkay, 11.6.1980; QMW9137, ♂ (25.9 x 3.2 mm), Annie River, NE.QLD, 14°25'S, 143°34'E, 20.5.1973, B. Campbell, small creek near jetty (Loc 4); QMW8864, ♂ (31.5 x 28.2mm), Endeavour River, Cooktown, NE.QLD, 15°28'S, 145°15'E; QMW8876, ♂ (16.4 x 14.2mm), Barron River, near Cairns, NE.QLD, 16°52'S, 145°42'E; QMW8872, ♂ (36.1 x 33.8mm), Cairns, NE.QLD, 16°55'S, 145°46'E, 5.3.1962; QMW8875, ♂ (13.3 x 11.7mm), Johnstone R., nr Flying Fish Point, nr Innisfail, NE.QLD, 17°3'S, 146°05'E; QMW8866, ♂ (28.7 x 25.9mm), on road to Lucinda (near Ingham), NE.QLD, 18°32'S, 146°2'E, 20.3.1962, W. MacNae; QMW8871, ♂ (33.7 x 31.0mm), Ross Creek, Townsville, NE.QLD, 19°16'S, 146°49'E; QMW8869, ♀ (27.9 x 24.6mm), South Townsville Inlet, NE.QLD, 19°17'S, 146°5'E; QMW8976, 2 ♀ (31.0 x 28.6; 32.2 x 28.8mm), 2 ♂ (31.7 x 28.8; 31.9 x 29.8mm), Chunda Bay, Hinchinbrook Island, off Townsville, NE.QLD, 19°17'S, 147°03'E, I. Kneipp; QMW8870, ♂ (32.7 x 29.7mm), Bassett Creek, Mackay, ME.QLD, 21°09'S, 149°11'E; QMW8838, ♂ (34.4 x 31.6mm), Deepwater Bend, South Pine River, SE.QLD, 27°2'S, 153°E, 1.3.1950, G. Davis; QMW8839, ♂ (30.3 x 27.5mm), Deepwater Bend, South Pine River, SE.QLD, 27°2'S, 153°E, 26.3.1950, G. Davis; QMW8862, ♂ (33.6 x 30.5mm), Fishermen Island, Brisbane River, SE.QLD, 27°23'S, 153°1'E, Nov. 1964, B. Campbell; QMW8863, ♂ (34.0 x 30.5mm), Brisbane River, SE.QLD, 27°23'S, 153°1'E, 1964, B. Campbell; QMW8867, ♂ (34.4 x 30.7mm), Fisherman Island, Brisbane River, SE.QLD, 27°23'S, 153°1'E, Nov. 1964, B. Campbell; QMW8868, ♂ (33.3 x 30.3mm), Fisherman Island, Brisbane River, SE.QLD, 27°23'S, 153°1'E; QMW8873, ♀ (31.2 x 28.0mm), Fisherman Island, Brisbane River, SE.QLD,

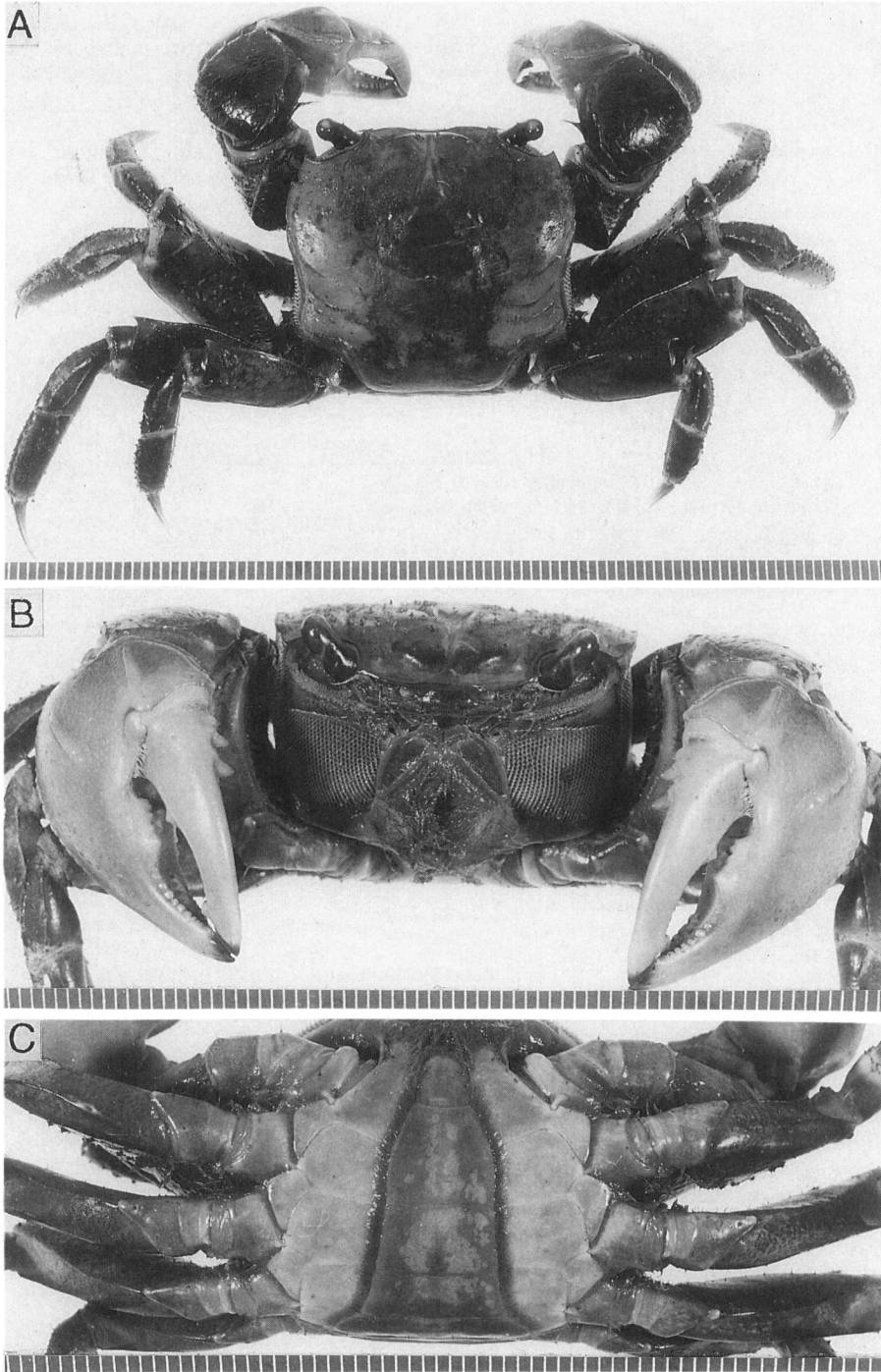


FIG. 14. *Neosarmatium trispinosum* sp. nov., ♂ holotype, QMW5143. A, dorsal view; B, frontal view; C, ventral view. Scale line in mm.

27°23'S, 153°1'E; QMW8874, ♀ (22.8 x 20.7mm), Fisherman Island, Brisbane River, SE.QLD, 27°23'S, 153°1'E, 16.10.1958, B. Campbell, large (75mm) burrows in mud, H.W.S.

OTHER MATERIAL: MNHN-B16763, ♂ (33.6 x 30.4mm), label states 'Provenance inconnue'.

DESCRIPTION

Carapace. c.1.1 times broader than long. Fronto-orbital width c.0.95 times carapace length. Depth c.0.8 times carapace width. Cardiac region indistinct. Lateral margins slightly convergent posteriorly; sinuous. Anterolateral margins with two forwardly directed teeth behind the exorbital angle. Exorbital angle sharp and outer margin straight. First anterolateral tooth blunt; larger than exorbital angle. Second anterolateral tooth minute, blunt. Front c.0.45 times carapace width; c.0.55 times fronto-orbital width; lateral angles obtuse; with slight, small, pre-orbital concavity; lateral margins slightly concave. Lateral post-frontal lobes very narrow, not as swollen as medians. Branchial ridges prominent; first follows from posterior edge of last epibranchial tooth; relatively long; second arising from lateral margin; third arising from, or just short of, lateral margin. Posterior margin c.0.45 times carapace width. Carapace surface smooth, shining, punctate. Setae in short tufts on anterior half and posteriorly in rows along branchial lines. Upper orbital border evenly finely granular. Lower orbital border straight; evenly granular. Inter-antennular septum c.0.3 times width of front.

Third maxilliped. Suture between merus and ischium horizontal. Ischium sub-triangular; inner margin smooth. Exopod narrow, not much visible in frontal view, reaching about a half length of merus; c.0.3 times width of ischium.

Chelipeds. Merus with posterior border minutely granulate and faintly striated; with distinct, small, subdistal spine; lower border granulate; anterior border smooth; carpus with inner angle slightly produced, armed with a few sharp granules; inner margin unarmed, a tuft of long setae proximally on secondary ventral ridge of inner margin; granules present on inner face of carpus just below inner angle; outer margin with sparse granular striations. Upper surface of palm defined anteriorly by swollen longitudinal ridge. Outer surface of palm, naked, punctate; with median longitudinal row. Inner surface of palm mainly smooth; with a strongly raised granular vertical crest, continuing obliquely for about 2/3 of fixed finger. Immobile finger slightly flattened on outer surface; moderately long; length

cutting edge c.0.5 times length propodus. Ventral border of chela slightly convex; coarsely granular posterior to fixed finger. Dorsal surface of dactyl bearing 3 large acute chitinous spines set close together in proximal two-fifths, forwardly directed, conical, smallest near articulation, largest distally; otherwise smooth. Fingers pointed; curved slightly inwards; a wide gap between cutting margins.

Walking legs. Second pair slightly the longest, c.1.6 times maximum carapace width. Merus of third leg c.2.3 times as long as wide. Carpus c.2.5 times as long as wide. Propodus c.2.2 times as long as wide. Dactyli c.0.9 times length of propodus. Short setae in fringing rows and on accessory carinae.

Male abdomen. Segment 1 c.0.95 times width segment 3. Width segment 3 c.3.6 times length. Segment 6 the longest, length and width subequal. Telson c.1.3 times longer than wide; evenly rounded.

Gonopods. G1 inner-dorsal margin straight. Dorsal surface of stem concave; completely calcified. Palp present, poorly developed, not separated from stem, large, narrow, rounded, calcified. Outer dorsal margin of stem convex. Distal part of stem narrow. Apical process corneous, strongly produced, straight. Gonopore terminal. Setae present, short, simple; lie around corneous tip and apical part of stem obscuring structural detail. G2 short, evenly tapering, slightly twisted, apically rounded.

COLOUR

Dorsal carapace, legs, and merus and carpus of chelipeds, dark reddish chocolate; outer face of chela and fingers bright red, but with fingers becoming creamy yellow distally.

REMARKS

The closest relative of this species is *Neosar-matium smithi* (H. Milne Edwards), with which it has been wrongly identified in the past. The most distinctive feature distinguishing *N. trispinosum* from *N. smithi* is the shape and arrangement of spines on the dactyl of the male cheliped (as discussed under *N. smithi*). On *N. trispinosum* the three spines are acute, and placed close together in the proximal two-thirds; whereas in *N. smithi* they are truncate, and spaced out over the proximal half.

The label of the male specimen MNHN-B16763, states 'Provenance inconnue'. This was the specimen that was illustrated by Crosnier (1965: figs 74, 79, 86, 102) as representing a

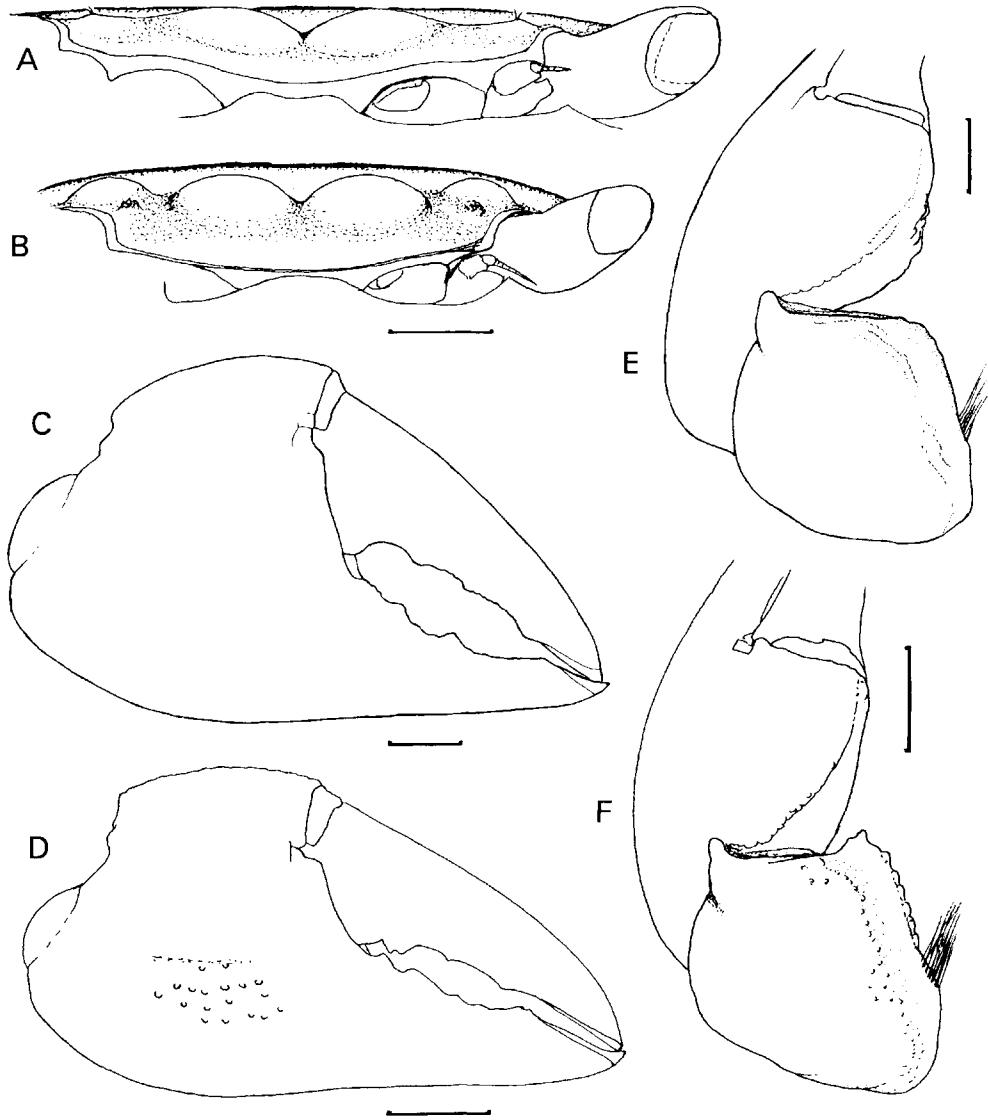


FIG. 15. A, C, E, *Neosarmatium inerme* (De Man, 1887), ♂, ZMH-K4080 (18.5 mm c.b.); B, D, F, *Neosarmatium spinicarpus* sp. nov., holotype. A, B, Frontal view showing shape and size of postfrontal lobes; C, D, right chela, frontal view; E, F, dorsal view of carpus and palm. Scale line = 2mm

Madagascan specimen of *Neosarmatium smithi* (A. Crosnier pers. comm.). It is extremely close to *N. trispinosum* sp. nov. and I consider it to be an aberrant specimen of this species which has simply lost the smallest, most proximal spine on the dactyl of the cheliped. It is more than likely

that the species was collected in New Caledonia, or in nearby French controlled territories in the Western Pacific.

HABITAT

Neosarmatium trispinosum builds large char-

acteristic mounds at the entrance to its burrow. In southeast Queensland it occurs from the mid- to upper-intertidal zones, amongst *Avicennia* and *Ceriops*. Around Townsville, north Queensland, '*Neosarmatium smithi* [= *N. trispinosum*] ... is the dominant crustacean in the *Ceriops tagal australis* zone of mangroves ... 3.1 m above chart datum, and is infrequently immersed. The crab emerges from its burrow at night to remove litter from the surface of the mud...' (Giddins et al., 1986: 147). This species is a major leaf consumer, with vegetable matter comprising over 90% of its diet; it carries leaves into its burrow where they are allowed to age and decay prior to consumption (Giddins et al., 1986; Neilson et al., 1986; Neilson & Richards, 1989).

DISTRIBUTION

From the Brisbane River north to the Annie River, Cape York, in eastern Australia; New Caledonia (A. Milne Edwards, 1873); Vanuatu (present record); New Guinea (Nobili, 1899 & present record); Fiji (De Man, 1889).

Neosarmatium spinicarpus sp. nov. (Figs 15B, D, F; 16)

Sesarma (Sarmatium) inermis: Tweedie, 1940: 109; 1950b: 353.

MATERIAL EXAMINED

HOLOTYPE: ZRC1964.9.3.500, ♂ (15.0 x 12.3mm), Stambak, Saribas, Sarawak, Borneo, L.K. Charles, 1952.

PARATYPE: ZRC1964.9.3.501, ♂ (17.4 x 14.4mm), data as for holotype.

OTHER MATERIAL: ZRC1964.9.3.502, ♂ (10.5 x 8.6mm), Kuching, Sarawak, Borneo, M.W.F. Tweedie, 1950; ZRC1964.9.3.504, ♂ (9.7 x 8.2mm) Sedili River, Johore, Malaysia, M.W.F. Tweedie, 1950.

DIAGNOSIS

This species is extremely similar to *N. inermis* with which it agrees in overall description and appearance, except for the following differences. 1, inner angle of carpus of cheliped marked by acute granular projection (cf. Fig. 15E, F). 2, outer medioventral portion of palm of cheliped with slightly more prominent transverse ridge and more prominent rounded granules below it (cf. Fig. 15C, D). 3, inner face of palm with cluster of rounded granules behind base of fixed finger, but not extending as vertical granular row behind gape as on *N. inermis*. 4, cutting margin of fixed finger bears two uneven granular teeth

proximally, the inner-most (on very edge of joint) is lacking in *N. inermis* (cf. Fig. 15C, D). 5, median frontal lobes of carapace are considerably more swollen, and separated by a broad U-shaped channel; lateral lobes are subacute, topped with a few small granules, and followed posteriorly by a swollen lobe. In *N. inermis* the median lobes are low, and close together, being separated by a shallow V-shaped incision; the lateral lobes are low and smooth, topped with 1-2 stiff, short setae, and not followed posteriorly by an obvious swelling (cf. Fig. 15A, B).

REMARKS

Neither of the type specimens have fully mature chelipeds i.e. there is not yet a significant gape formed, and the fingers are relatively slender, both of which are characteristics of young males. The degree of granulation and the prominence of the inner angle of the carpus are characters that can vary with maturity, however the largest male was larger than comparative specimens of the closely related *N. inermis* and the large series of specimens of *N. inermis* were very consistent in the characters that I have used to separate the new species. No clear differences however could be seen in the male gonopods. The two smaller males examined, one from Sarawak and one from Johore, Malaysia, do not have a strongly acute projection on the inner angle of the carpus, and have very little granulation generally, but they still have very undeveloped chelae. They are considered too juvenile to identify with certainty as either *N. inermis* or *N. spinicarpus*, and therefore are excluded from the type series, and the record from Malaysia should be considered tentative.

HABITAT

Tweedie (1940: 109) recorded what is probably this species (under the name *Sesarma inermis*) 'from among nipah palms beside the river Sedili.'

DISTRIBUTION

Known with certainty only from Sarawak; probable records from Malaysia (see Remarks).

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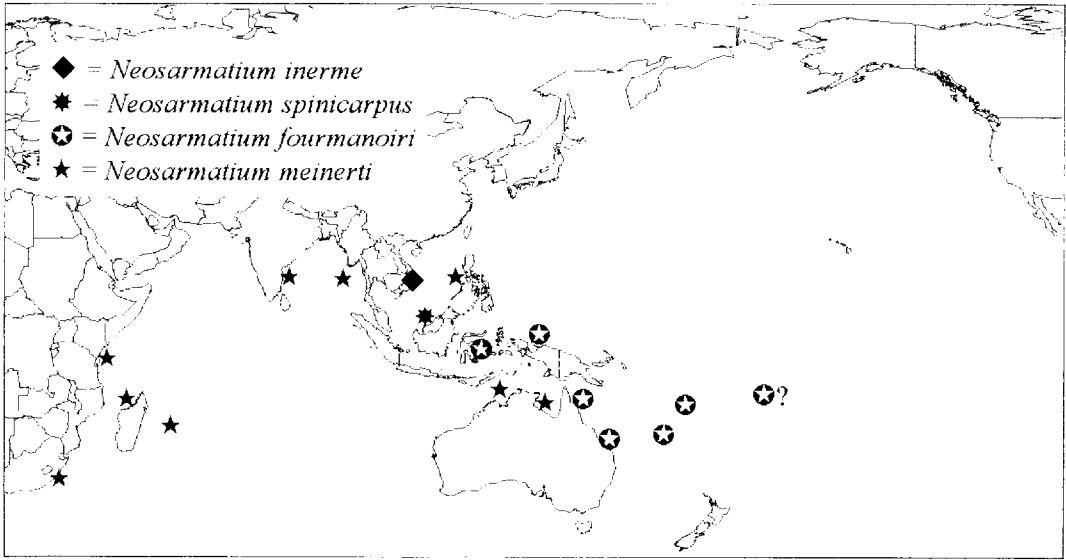


FIG. 16. Map showing the distribution of *Neosarmatium inerme*, *N. spinicarpus*, *N. fourmanoiri* and *N. meinerti*. Symbols are intended to show the major distribution records, and therefore it has not been attempted to show every confirmed record, especially when these are closely adjacent.

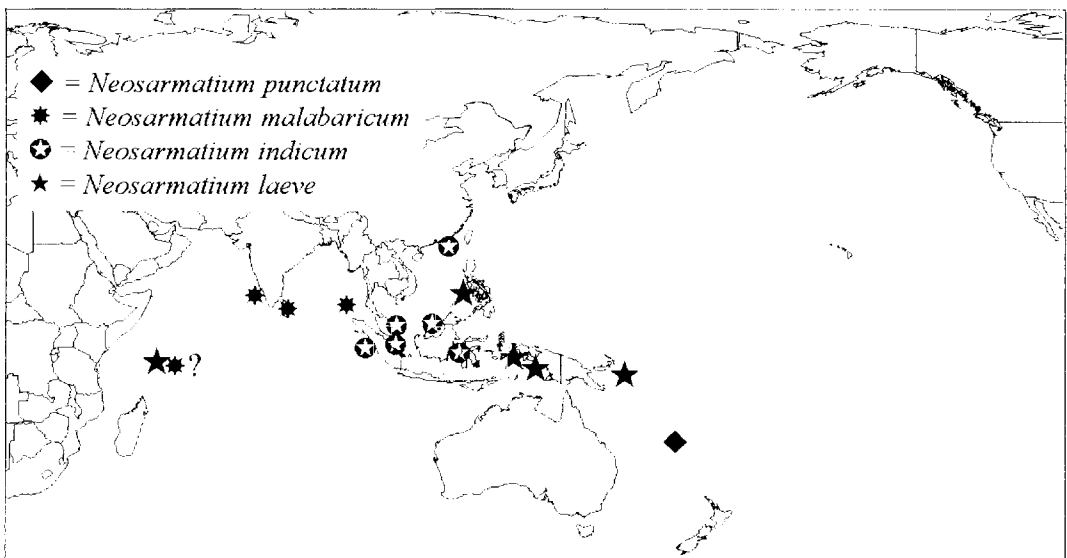


FIG. 17. Map showing the distribution of *Neosarmatium punctatum*, *N. malabaricum*, *N. indicum* and *N. laeve*.

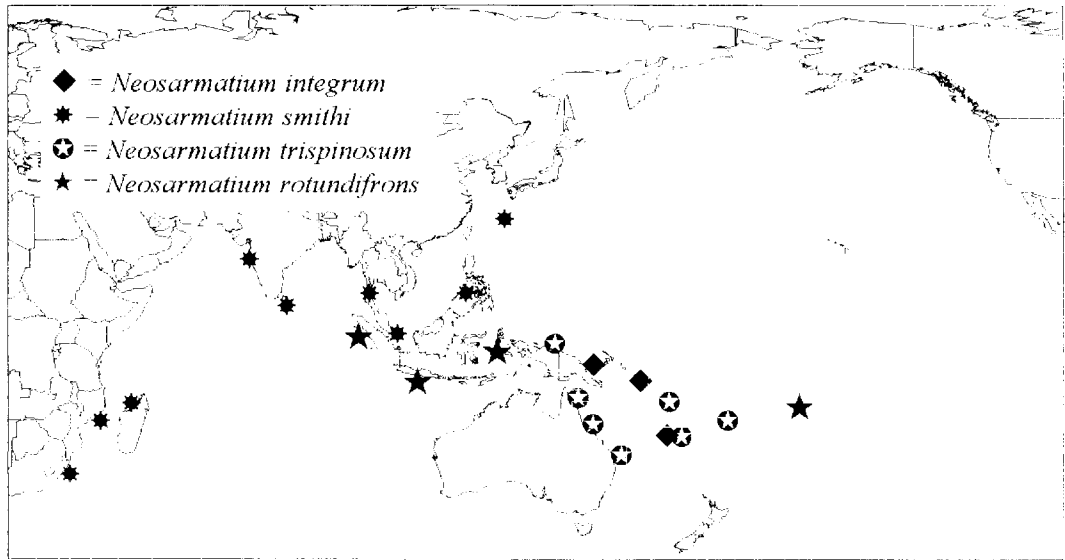


FIG. 18. Map showing the distribution of *Neosarmatium integrum*, *N. smithi*, *N. trispinosum* and *N. rotundifrons*.

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