

Fig. 7. *Tiaramedon spinosum* (Miers, 1879), new combination. Male, 8.0 by 8.6 mm (WAM 98-93). A, dorsal view; B, ventral view.

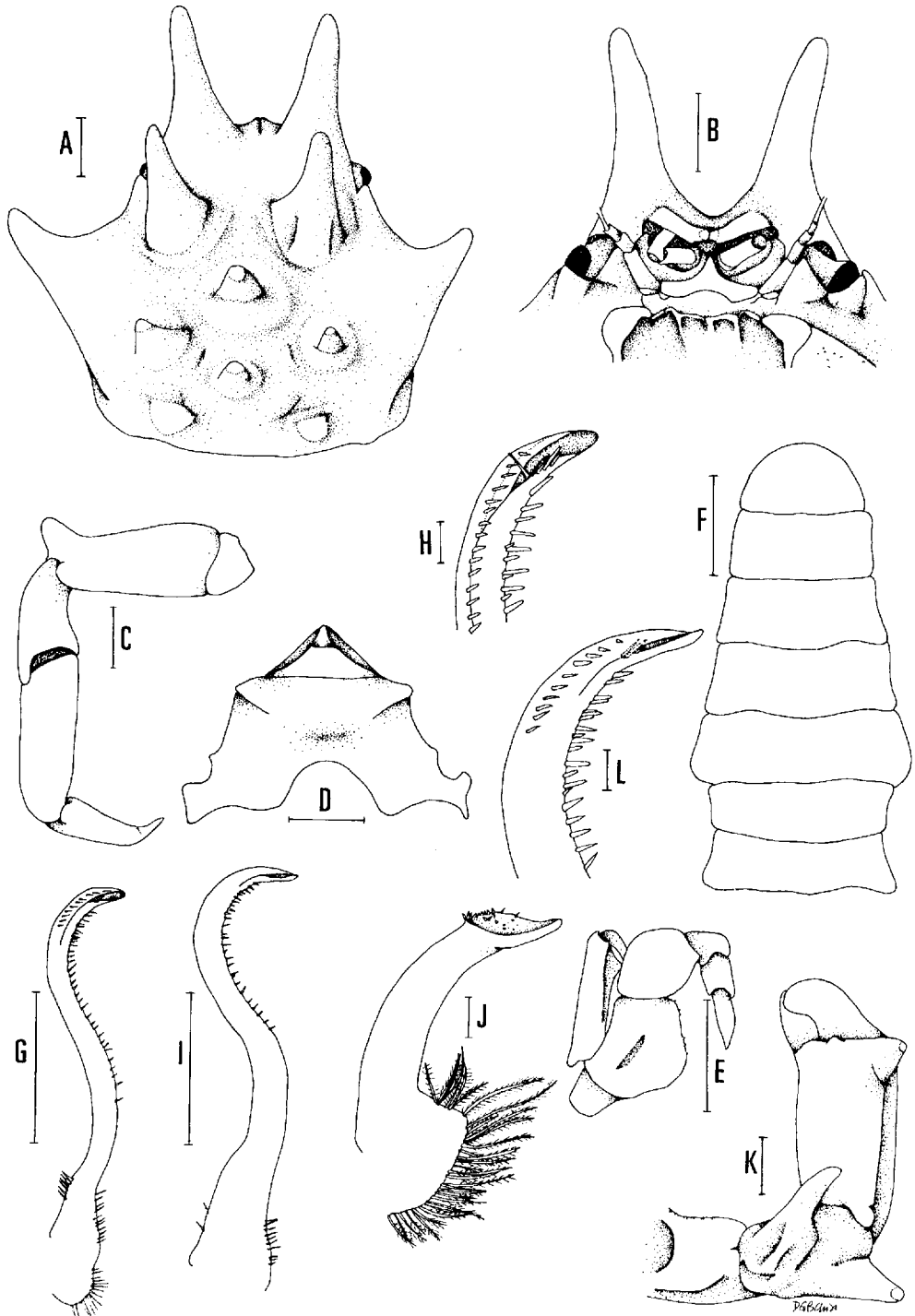


Fig. 8. *Tiaramedon spinosum* (Miers, 1879), new combination. A-H, J, K, male, 8.0 by 8.6 mm (WAM 98-93); I, L, male, 9.9 by 9.9 mm (WAM 105-93). A, dorsal view of carapace; B, face of carapace; C, fourth left ambulatory leg; D, thoracic sternum; E, right third maxilliped; F, abdomen; G, left G1; H, distal tip of left G1; I, left G1; J, left G2; K, postero-dorsal view of right cheliped; L, distal tip of left G1. Scales: A-G, I, K = 1.0 mm; H, J, L = 0.1 mm.

characterised by a very spiniform carapace. Figured here is an adult specimen from Western Australia (Figs. 8A-H, J-K).

From the description and figures by Balss (1924, 1940), Flipse (1930), Gordon, (1934), Sakai (1938a, 1953, 1976), Serène et al. (1958), Suzuki & Kurata (1967), Fishelson (1973, 1974), Serène et al. (1976), Hwang & Yu (1980) and Miyake (1983), their specimens clearly fit the current description of *T. spinosum*.

The carapace of *T. spinosum* is ornamented with very long spines. The length of the spines varies among specimens, but in almost all cases, the protogastric spines are the longest, even in juveniles. The juveniles are generally less spiny when compared to the adults. The frontal margins appear to be fused at all ages. The distal tip of the G1 can be very sharp and pointed (Figs. 8I) or slightly blunt (Fig. 8G). There seems to be two morphs of colour variation, a light yellow form and a brown form, both of which can be found in the same locality.

Larvae. - Not known.

Host records. - Collected from comatulid hosts such as *Clarkcomanthus littoralis*, *Comanthus parvicirra*, *C. suavia* and *Lamprometra klunzingeri*.

Distribution. - This is a widely distributed species, occurring from the Sunda Shelf (continental Southeast Asia) to the Sahul Shelf (continental northern Australia), including Japan, Taiwan, and New Caledonia.

GENUS *HARROVIA* ADAMS & WHITE, 1849

Harrovia White 1847a: 51 [nomen nudum].

Harrovia Adams & White, 1849: 55; Miers, 1879a: 671; Flipse, 1930: 18, 20 [in key]; Gordon, 1934: 65, 67; 1947: 113; Balss, 1957: 1631; Serène et al., 1958: 139 [in key], 172, 194, 199, 231, 238. Sakai, 1976: 294 [in key], 298 [English text], 180 [Japanese text]; Takeda, 1979a: 70; Wu, 1983: 165 [name in Chinese]; Stevcic & Ng, 1988: 4; Stevcic et al., 1988: 1311, 1318; Tirmizi & Kazmi, 1988: 190 [in key], 193.

Ceratocarcinus - Stimpson, 1858: 221 (part); 1907: 32 (part); Balss, 1922: 136 (part); Sakai, 1938b: 329 [in key], 350 (part) [not *Ceratocarcinus* White, 1847].

Type species. - *Harrovia albolineata* Adams & White, 1849, by monotypy.

Etymology. - The origins of the name are uncertain. Gender is feminine by inference from the type species name 'albolineata'

Diagnosis. - Carapace quadrate, usually broader than long; frontal margin short, not as strongly deflexed downwards; inner supraorbital teeth prominent, but short, usually level with or slightly projecting beyond frontal margin; regions not as well defined, protogastric and branchial regions more distinct, usually swollen; surfaces of carapace relatively smooth or covered with scattered small granules; dorsal surface of carapace usually covered with very thin pubescence, with longer setae on protogastric regions. Anterolateral and posterolateral margins clearly demarcated; anterolateral margin usually lamelliform, with four teeth (including external orbital angle), first three teeth sharp to truncate, separated by deep, broad or narrow fissures or clefts, sometimes tightly adjoining each other and appearing fused, last tooth well developed, sharp, laterally directed. Infraorbital and subhepatic teeth developed.

Antennules folding obliquely, ca. 45° from horizontal. Second antennal segment short, length to width ratio of second antennal segment 2.0-3.4. Chelipeds granular to rugose; carpus usually without spine or distinct tubercle on inner angle; chelae elongated, length ca. 4 times length of fingers, height ca. 4-5 times height of fingers; fingers not carinate, pollex not distinctly bent downwards. Dactylus of first ambulatory leg elongated, very slender, ca. 2 times length of that on other legs; dorsal margin of merus lined with granules or spinules, not cristate. G1 long, slender.

Sexual dimorphism. - Males usually have disproportionately larger and stouter chelipeds.

Remarks. - The redefined genus *Harrovia* is the largest known eumedonid genus, with seven species: *H. albolineata* Adams & White, 1849, *H. cognata*, new species, *H. elegans* De Man, 1887, *H. japonica* Balss, 1921, *H. longipes* Lanchester, 1900, *H. ngi* Chen & Xu, 1992, and *H. tuberculata* Haswell, 1880. Two other species, *H. purpurea* Gordon, 1934, and *H. egeriae* Gordon, 1947, have been transferred to two new genera respectively on the basis of their carapace structures and extremely short second antennal segments. *Harrovia frontodentata* Shen, Dai & Chen, 1982, is transferred to *Ceratocarcinus*. *Harrovia plana* Ward, 1936, is synonymised under *H. longipes* Lanchester, 1900, after examining a large series of specimens.

Table 2. Ratio of fourth ambulatory merus in seven species of *Harrovia*

Species	Sample size	Adults (range)	Adults (mean)
<i>H. albolineata</i>	21	2.2-3.1	2.6
<i>H. cognata</i>	4	3.1-3.6	3.4
<i>H. elegans</i>	6	2.7-3.6	3.3
<i>H. japonica</i>	11	2.6-3.4	3.0
<i>H. longipes</i>	23	3.0-4.3	3.6
<i>H. ngi</i>	1	3.1	3.1
<i>H. tuberculata</i>	2	2.7, 2.9	2.8

KEY TO THE SPECIES OF *HARROVIA*

1. Merus of fourth ambulatory leg long, length 3.0-4.3 times width (see Table 2)
 *H. longipes* Lanchester, 1900
- Merus of fourth ambulatory leg short, length 2.2-3.1 times width (see Table 2) 2
2. A tubercle either strong, developed into a large spine or low and blunt, on distal inner margin of the cheliped carpus 3
- No strong tubercle on distal inner margin of the cheliped carpus 4
3. 1-2 strong spinules on anterior margin of all ambulatory meri; anterolateral lobes 1 and 2 low and subtruncate, anterolateral lobe 3 lobate, lobe 4 dentiform, both 3 & 4 directing anteriorly; cheliped appears eroded and sculptured, high ridge on median dorsal surface of carpus, strong tubercles along the inner and outer proximal margins of merus; regions of carapace usually more distinct, protogastric, epibranchial, gastric and cardiac regions inflated due to presence of very large tubercles *H. tuberculata* Haswell, 1880
- Anterior margin of all ambulatory meri smooth or lined with blunt and small tubercles; anterolateral lobe 1 low, subtruncate, anterolateral lobe 2 low, blunt, anterolateral lobe 3 subtruncate, lobe 4 large, dentiform, developed, anterolateral lobe 3 smaller than 4, rarely equal in size; cheliped not eroded with high ridges; regions of carapace not as well defined and inflated
 *H. albolineata* Adams & White, 1849

4. Anterolateral lobe 1 and 2 truncate, raised, margins lined with tubercles, anterolateral lobe 3 and 4 distinctly dentiform, subequal in size 5
- Anterolateral lobe 1, 2 and 3 truncate, raised, margins lined with tubercles, anterolateral lobe 1-3 separated by narrow fissures, margin of anterolateral lobe 1 and 2 straight, anterolateral lobe 3 concave, lower edge of anterolateral lobe 3 unequally spiniform, directing slightly anteriorly, anterolateral lobe 4 distinctly dentiform, separated from anterolateral lobe 1-3 by a wide cleft, posterior margin of anterolateral lobe 4 forms a expanded structure which joins at a right angle with posterolateral margin 6
5. Anterolateral lobe 1 and 2 truncate, raised, margins concave, thickly lined with large tubercles, either separated by narrow fissure or fused into one structure, edges of anterolateral lobe strongly spiniform; anterolateral lobe 3 and 4 very large, distinctly dentiform, acute, directing obliquely-anteriorly, subequal in size. Infraorbital and subhepatic teeth very strong. Anterior margin of ambulatory merus lined with strong spinules *H. japonica* Balss, 1921
- Anterolateral lobe 1 and 2 truncate, lower, margins straight, lined with small tubercles, separated by a wide cleft, edges of anterolateral lobe are not spiniform; anterolateral lobe 3 and 4 dentiform though weaker and less acute, directing obliquely outwards. Infraorbital and subhepatic teeth weak. Anterior margin of ambulatory merus lined with weak spinules *H. elegans* De Man 1887
6. Frontal margin lined with many small tubercles; anterolateral lobe 3 highly concave, lower part of anterolateral lobe 3 strongly spiniform, directing slightly forward, margins of anterolateral lobes 1-3 heavily tuberculated, lower part of anterolateral lobe 4 lined with many tubercles; posterolateral margin lined with several spinules; G1 thickens medially thus appearing straighter *H. cognata*, new species
- Frontal margin smooth; anterolateral lobe 3 weakly concave, lower part of anterolateral lobe 3 directs slightly forward, margins of anterolateral lobes 1-3 lined with occasional small tubercles, margins appearing smooth, no tubercles on posterior margin of anterolateral lobe 4 and posterolateral margin; G1 appearing more slender medially, thus more sinuous in appearance *H. ngi* Chen & Xu, 1992

***Harrovia albolineata* Adams & White, 1849**

(Figs. 9-11)

- Harrovia albo-lineata* White, 1847a: 51 [nomen nudum; type locality 'Cageyan, Philippines'].
- Harrovia albo-lineata* Adams & White, 1848-1849: 56, pl. 12: Figs. 5, 5a, 5b [type locality Borneo and Philippine islands]; Estampador, 1937: 559 [list only]; Estampador, 1959: 121 [list only].
- Harrovia albolineata* - Miers, 1879a: 671, plate 13: Fig. 11 [list only]; Lanchester, 1900: 728 [Singapore]; Balss, 1922: 136 [list only]; Gee, 1925: 166 [Hong Kong]; Flipse, 1930: 76, 77, 80, 90 [list only]; Gordon, 1934: 63, Fig. 33c [type re-examined]; Buitendijk, 1950: 70 [Straits of Malacca]; Serène et al., 1958: 199 [in key], 200, 232, 239, Fig. 7E [Vietnam] (part); Serène, 1968: 63 [list only] (part); Wu, 1983: 165 [name in Chinese]; Stevcic et al., 1988: 1311 [list only] (part); 151, 177, Fig. 9A [Ryukyu islands, Japan]; Chia et al., 1993: 261, pl. 1A, figs 1A, 2, 4A, C, 5A, B, E, F, 6A, C, 7A-J, 8B-K [Singapore, Malaysia, Vietnam].
- Harrovia elegans* - Lin, 1949: 17 [Taiwan]; Wang & Chen, 1981: 152 [list only] [not *Harrovia elegans* De Man, 1887].
- Harrovia tuberculata* - Lanchester, 1900: 729 [Singapore]; Chen & Xu, 1991: 85, Figs. 29-1 - 29-4 [Nansha = Spratly Islands, South China Sea] [not *Harrovia tuberculata* Haswell, 1880].
- Harrovia* sp. - Buitendijk, 1950: 71 [Singapore]; Johnson, 1962: 288 [Singapore] (part).
- Ceratocarcinus albolineatus* - Stimpson, 1858: 221 [Hong Kong]; Stimpson, 1907: 33 [list only]; Shen, 1940: 218 [list only].
- Ceratocarcinus* sp. - Johnson, 1962: 288 [Singapore and Peninsular Malaysia] (part).

Material examined. - Singapore: 1 male (ZRC 1997.172), Johore Shoal, 17.6 m, coll. D. Chia et al., 12 Sep. 1994. - 1 male, 1 juvenile female (ZRC 1997.173-174), Johore Shoal, 17.6 m, coll. D. Chia et al., 12 Sep. 1994. - 1 female (ZRC 1985.1434), Singapore Straits, south of Singapore, B58, 59 m, sand, stone substratum, coll. SRFRS (Singapore Regional Fisheries Research Station), 6 Jan. 1955.

Vietnam, Gulf of Tonkin: 1 female (MNH B21547), Ozlik, Station 19, 17°47'5N, 111°53'0E, 106

m, coll. Zarenkov, 23 Apr. 1960. - 3 females (IOAS K284 B-31), 21st Voyage, Station 6223, 25 m, sand substratum, coll. Shen, 23 Oct. 1960. **Philippines:** 1 male (NMW), Bohol. - 1 juvenile female (WAM 103-73), southwest Malanipa Island, Basilan Straits, Sulu Archipelago, 48-51 m, sand, coral, rubble substratum, coll. B.R. Wilson, R.V. 'Pele', 12 Feb. 1964. - 1 female (MNHN B25631), 14°15.0'N, 120°31.2'E, Station 73, 76-70 m, coll. MUSORSTOM, 28 Mar. 1976. - 1 female (MNHN B25632), 13°53.1'N, 120°08.9'E, Station 56, 129-134 m, coll. MUSORSTOM, 26 Mar. 1976. - 1 female (MNHN B25633), Station CP134, 12°01'N, 121°57'E, 92-95 m, coll. MUSORSTOM, R.V. Coriolis, 5 Jun. 1985. - 15 males (6.7 by 8.5 mm), 13 females (SMF ZMG684), northeast Lanpinin, Bohol, 11-28 m, coll. Semper, 1863-4. - 1 male (USNM), Marengas Island, coll. ALBATROSS Philippine Expedition. - 1 male, 1 female (USNM 50897), Jolo Lt., vicinity of Jolo Island, coll. ALBATROSS Philippine Expedition, 14 Feb. 1908. - 1 male (USNM 5098), station 5174, Jolo Lt., vicinity of Jolo, 20 fms, coll. ALBATROSS Philippine Expedition, 5 Mar. 1908. - 1 female (USNM 50896), station 4929, northeast point, Yaku Shima, in Colnett or Vincennes Strait, 84 fms, coll. 1906. **Taiwan:** 1 male (7.0 by 9.9 mm) (NMW), coll. Novarra. - 1 female (7.3 by 10.1 mm) (TMCD 263), Heng Chun, south Taiwan, coll. J. Y. Wei, 25 Aug. 1955. - 1 female (TMCD Cr 475), Tainan Fish Port, southeast Taiwan, Feb. 1971. **Papua New Guinea:** 1 male (7.3 by 10.6 mm) (IRSNB I.G. n°26.253), southeast Duangit, muddy substratum, 53-54 m, coll. J. Pierret, 14 Sep. 1980. **Indonesia:** 1 female (MNHN B25634), Corindon, Makassar Straits, Station DR 293, 2°38'S, 117°49'E, 45 m, Moluccas, coll. MUSORSTOM. - 1 male (7.9 by 10.3 mm) (ZMUC), Station 38, 35 m, trawl, sand substratum, coll. Danish Expedition, 24 Apr. 1922. - 1 female (ZMUC), Doe Roa, Station 31, 50 m, sand substratum, coll. Danish Expedition, 18 Apr. 1922. - 1 female (ZMUC), Jolo, 20-30 m, sand, coral substratum, coll. Dr T. Mortensen, 19 Mar. 1914. - 1 female (ZMUC), south of Doe Roa, Station 14, 40 m, sand substratum, coll. Danish Expedition, 10 Apr. 1922. - 1 male (ZMUC), Ambon, Moluccas, coll. Danish Expedition, 2 Mar. 1922. (For types and material from Singapore, Malaysia and China, see Chia et al., 1993).

Description. - Carapace quadrate, slightly broader than long; frontal margin with small median fissure, not as strongly deflexed, appearing straight from dorsal view; inner supraorbital teeth prominent; regions not as well-defined, usually with two tubercles on protogastric and two tubercles on branchial regions, but sometimes absent; surface usually pubescent. Anterolateral margins separated into four teeth; separated by shallow (sometimes deep, in larger specimens), narrow fissures, the first low, subtruncate, second low, blunt, third and fourth large, third subtruncate (rarely dentiform), fourth distinctly dentiform, strongly developed, third slightly smaller than fourth, rarely equal in size. Antennules folding obliquely, ca. 45° from horizontal; antennular fossae oblique. Antenna free, does not fill orbital hiatus, reaching into orbit; antennal basal segment rectangular; length to width ratio of second antennal segment 2.4-3.2. Eyes well developed, filling orbit; cornea distinct, pigmented; infraorbital teeth distinct. Anterior surface of epistome depressed; posterior margin appears entire because of 2 fused truncate median lobes. Pterygostomial, subhepatic, suborbital regions smooth with scattered tubercles. Third maxilliped quadrate; ischium rectangular, median oblique sulcus shallow; merus squarish; exopod just reaches antero-external edge of merus. Sutures between thoracic sternite segments 1 and 2 indistinct, 2 and 3 distinct, shallow; between 3 and 4 interrupted medially; lateral clefts small. Abdomen 7 segmented, sutures for all segments visible. Chelipeds elongate, cylindrical, surfaces granular; carpus with sharp spine or low, rounded tubercle on inner distal angle; several tubercles on the inner and outer proximal margin of merus; chelae elongated, length ca. 3 times length of fingers, height ca. 2 times height of fingers; fingers not carinate, pollex does not bend downwards. Dactylus of first ambulatory leg elongated, other segments subcylindrical, not cristate; ambulatory legs short and stout, ratio of length to width of fourth ambulatory merus 2.2-3.1, anterior margin of ambulatory merus smooth or lined with blunt and small tubercles. G1 long, slender, distal part lined with short spines, tip bends at approximately, 45°, 90° or at about 110°. G2 relatively short, distal segment short.

Remarks. - For a detail discussion of this species, see Chia et al. (1993).

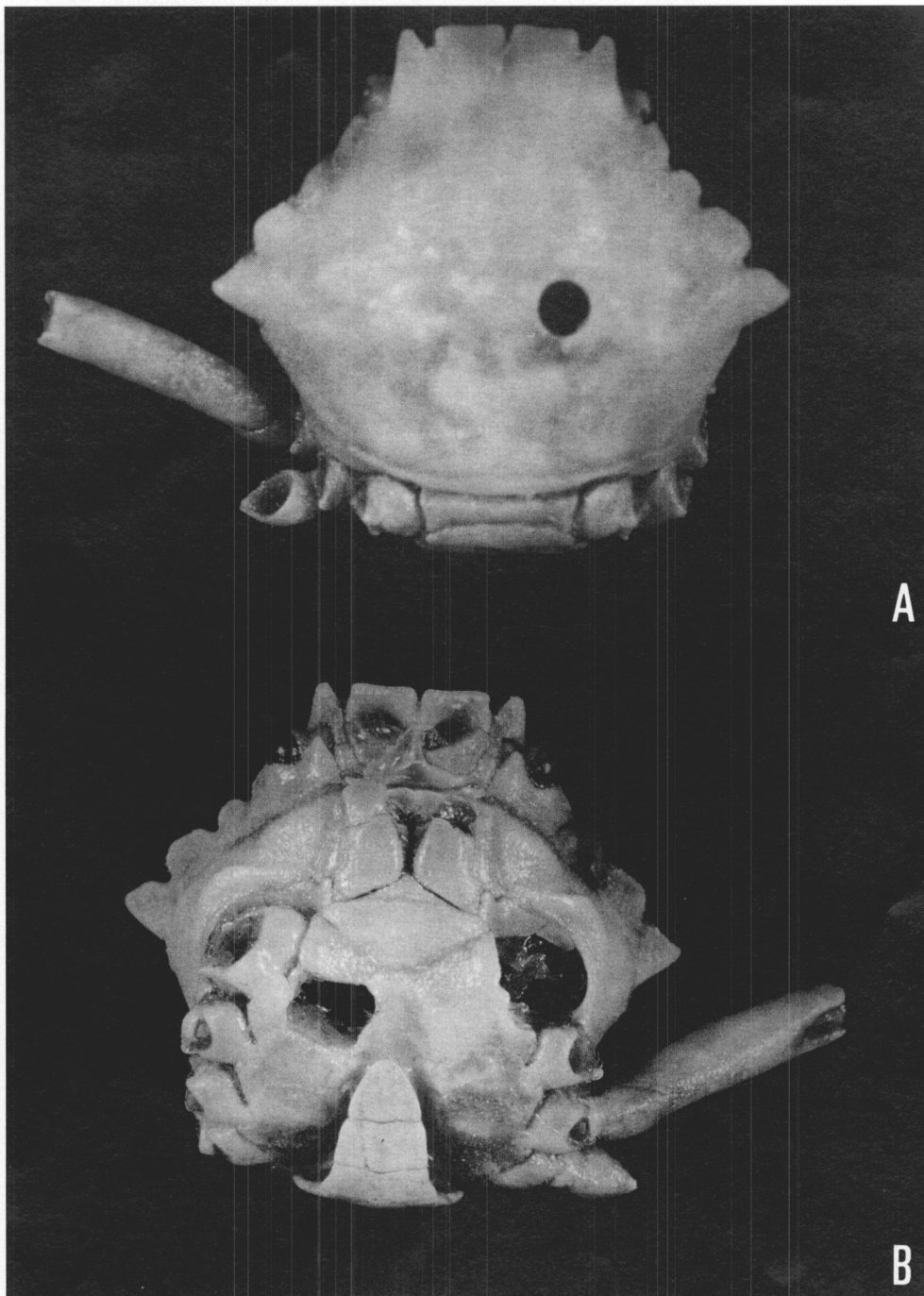


Fig. 9. *Harrovia albolineata* Adams & White, 1849. Lectotype male, 7.0 by 8.9 mm (BMNH 43.6). A, dorsal view; B, ventral view (hole indicates ex-position of pin).

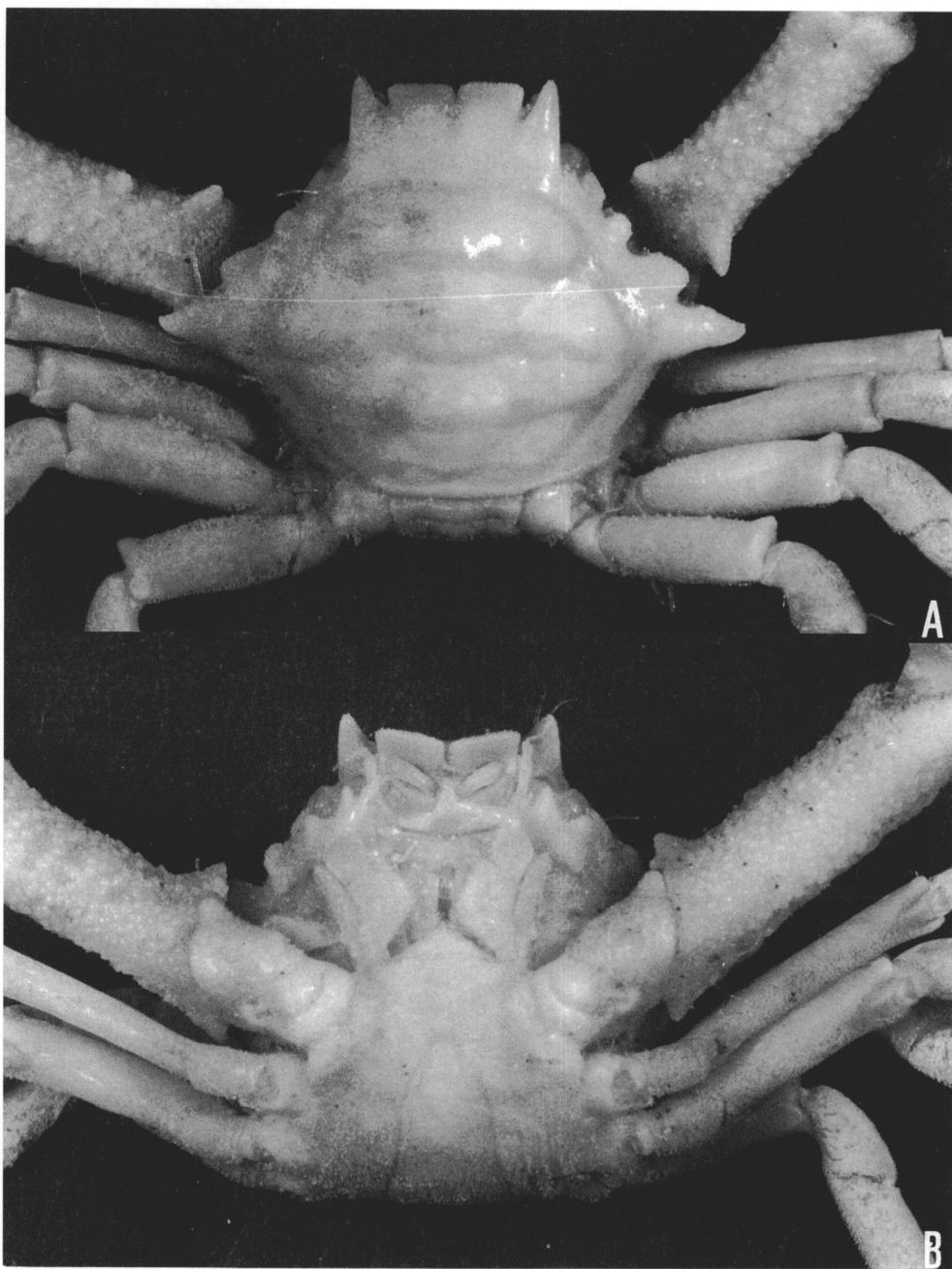


Fig. 10. *Harrovia albolineata* Adams & White, 1849. Male, 7.3 by 10.6 mm (IRSNB I.G. no 26.253). A, dorsal view; B, ventral view.

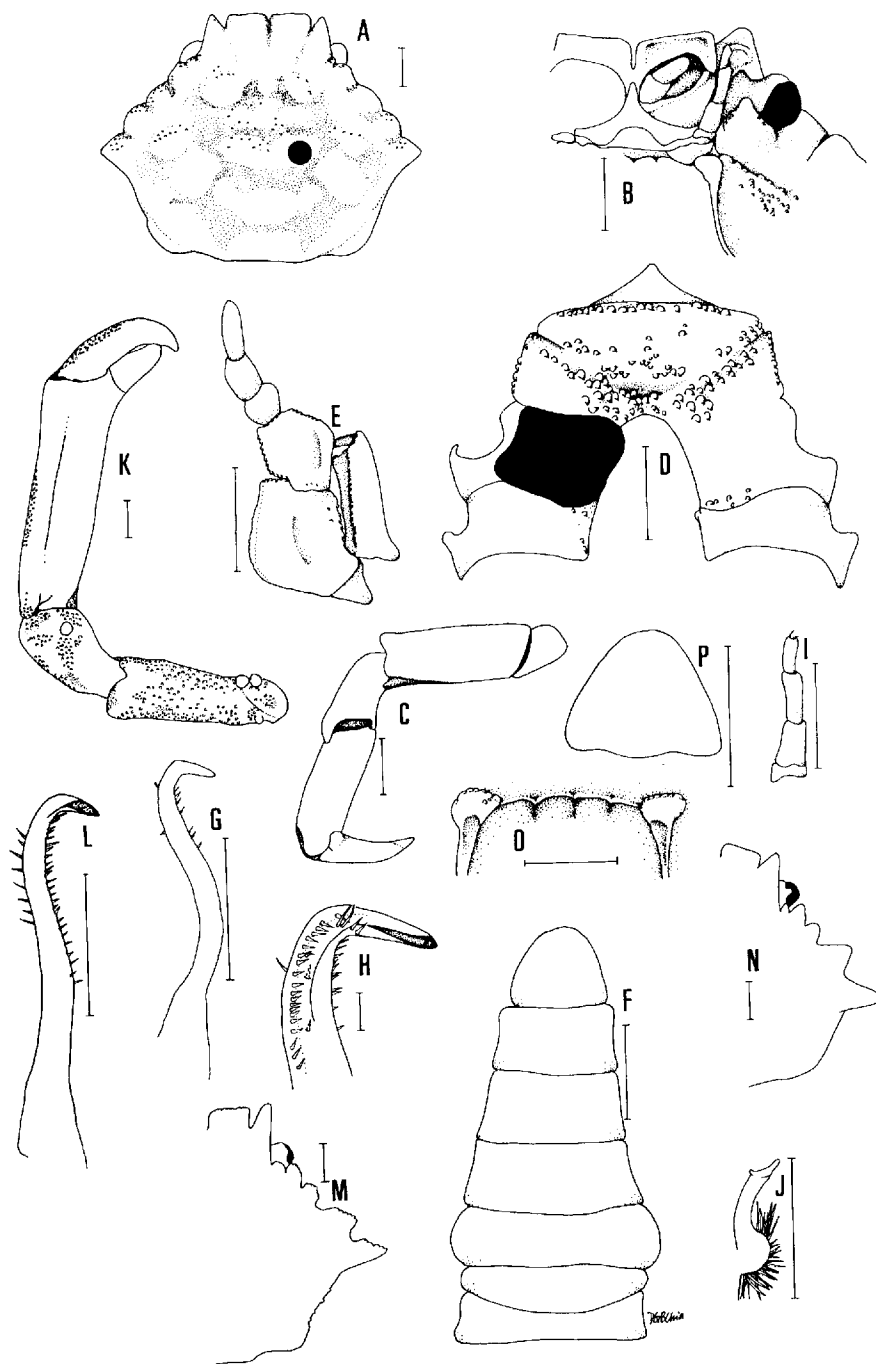


Fig. 11. *Harrovia albolineata* Adams & White, 1849. A-E, G-I, K, O-P, lectotype male, 7.0 by 8.9 mm (BMNH 43.6); F, J, male, 6.7 by 8.5 mm (SMF ZMG 684a); L-M, male, 7.3 by 10.6 mm (IRSNB I.G. n_26.253); N, male, 7.0 by 9.9 mm (NMW), dorsal view of carapace (schematic). A, dorsal view of carapace (solid circle indicates ex-position of pin); B, face of carapace; C, fourth ambulatory leg; D, thoracic sternum (solid circle indicates ex-position of pin); E, left third maxilliped; F, abdomen; G, left G1; H, distal tip of left G1; I, antenna; J, left G2; K, postero-dorsal view of left cheliped; L, left G1; M, dorsal view of carapace (schematic); N, male, 7.0 by 9.9 mm (NMW), dorsal view of carapace (schematic); O, endostome; P, 7th abdominal segment. Scales: A-G, I-P = 1.0 mm; H = 0.1 mm.

The specimen, reported by Wang & Chen (1981: 152) as *Harrovia elegans* has been examined and re-identified as *H. albolineata*.

Amongst the present lot of specimens examined, the large male specimen (7.3 by 10.6 mm) from Papua New Guinea (IRSNB I.G. n°26.253), seems to have unusually incised anterolateral lobes and a rather long and laterally directed fourth lobe (Figs. 10A, 11M). The surfaces of the chelipeds of this individual are rather tuberculated, the dorsal margins of all its ambulatory legs end in a triangular lobe and its infraorbital and subhepatic teeth are rather strong (Figs. 10A, B). The length to width ratio of its last ambulatory leg reaches 3.1, thus stretching the maximum range of this species. With only one specimen on hand, these observed differences seem to represent the extreme variation of the species when measuring large specimens (as compared to some larger males of SMF ZMG684). The third lobe of a male specimen from Taiwan (7.0 by 9.9 mm, NMW) appears to be more lobate than truncate and directed forwards (Fig. 11N). In other aspects, viz. the distinctive chelipedal carpus spine and rather smooth ambulatory legs, this specimen agrees with the current definition of the species. Hence, the differences observed in these specimens are hereby regarded as infraspecific variation. A female specimen (7.5 by 10.6 mm, MNHN), collected from the Philippines, has one to two spines present on the right second and third ambulatory legs but none on the left ambulatory legs. This specimen thus represents the extreme spinose condition of the species.

Harrovia albolineata is close to a poorly known species, *H. tuberculata*. Differences are as follow, in *H. albolineata*: the protogastric, metagastric, branchial and cardiac tubercles of the carapace are less prominent and sometimes absent; the third anterolateral lobe varies from truncate to dentiform (Chia et al., 1993); the anterior margin of the ambulatory meri are not spiny, being at most tuberculated (Chia et al., 1993); the chelipeds are not as highly eroded and sculptured, and there is no high median ridge on the carpus or strong tubercles along the margins of the merus. In *H. tuberculata*, however, the protogastric, metagastric, branchial and cardiac regions of carapace are prominent; the third anterolateral lobe is lobate and anteriorly directed; chelipeds are highly rugose and sculptured with a high median ridge on the carpus and several strong tubercles along the inner and outer proximal margins of the merus; and there are one to two strong spines present on each of the ambulatory meri. These characters work for the series of specimens examined. As previously mentioned, *H. tuberculata* is a poorly known species and more specimens need to be obtained to better define it.

Larvae. - The first zoea has been described by Chia et al. (1993).

Host records. - Found only on crinoids.

Distribution. - Sunda Shelf (continental Southeast Asia) and with present record extending to the Sahul Shelf (continental Australia and Papua New Guinea). It is often found in deeper water (10-140m) than many other species of *Harrovia*

***Harrovia cognata*, new species**

(Figs. 12, 13)

Material examined. - Holotype: male (6.5 by 9.1) (QM W18689) (left G1 is missing, right G1 is broken), Northwest Shelf, Western Australia, Australia, Station 03D03BT, 19°59.0'S, 117°50.7'E, 41-42 m, trawled, marine, sublittoral, coll. CSIRO (Commonwealth Scientific and Industrial Research Organisation), R.V. 'Soela', 26 Jun. 1983.

Paratypes: 1 male (5.6 by 7.9 mm) (QM W18690), Northwest Shelf, Western Australia, Australia, Station 02B05S, 19°05.2'S, 118°51.3'E, 83 m, epibenthic sledge, marine, sublittoral, coll. CSIRO, R.V. 'Soela', 27 Apr. 1983. - 2 males (3.7 by 5.0 mm, 4.5 by 6.0 mm) (QM W18692), Northwest Shelf, Western Australia, Australia, Station 05B07BT, 19°30.9'S, 118°49.2'E, 38-39 m, trawled, marine, sublittoral, coll. CSIRO, R.V. 'Soela', 25 Oct. 1983. - 1 male, 2 females (5.7 by 7.2 mm, 4.4 by 5.7 mm, 4.5 by 6.0 mm) (QM W18691), Northwest Shelf, Western Australia, Australia, Station 02B07BT, 19°30.9'S, 118°48.7'E, 39-40 m, trawled, marine, sublittoral, coll. CSIRO, R.V. 'Soela', 26 Apr. 1983. - 2 males, 1 female (5.4 by 7.3 mm, 4.3 by 5.7 mm, 4.6 by 5.5 mm) (QM W18693), Northwest Shelf, Western Australia, Australia, Station 05B09BT, 19°28.2'S, 118°55.4'E, 35-37 m, trawled, marine, sublittoral, coll. CSIRO, R.V. 'Soela', 25 Oct. 1983. Others: **Australia**: 1 juvenile female (3.2 by 4.7 mm) (QM W18654), Northwest Shelf, Western Australia, Australia, Station 03D01BT, 19°59.1'S, 117°49.0'E, 43 m, trawled, marine, sublittoral, coll. CSIRO, R.V. 'Soela', 25 Jun. 1983. - 1 juvenile male (3.1 by 3.9 mm) (WAM 107-93), 41 miles north of Port Hedland, Northwest Shelf, Western Australia, Australia, 19°38'S, 118°30'E, trawled, marine, sublittoral, coll. LMM or Solla, 17 Apr. 1982.

Etymology. - The name is derived from the Latin "cognatus" for kindred, alluding to the close affinities of this species with *H. ngi*.

Diagnosis. - Carapace hexagonal, regions well-defined, with tubercles on protogastric and cardiac regions; surface covered with thin pubescence. Anterolateral margins separated into four lobes, margins of lobes tuberculated; separated by deep, narrow fissures, the first, second and third lobes generally lobiform, subtruncate, the margins usually straight or slightly concave, heavily tuberculated; lower part of the third lobe, strongly dentiform, directs slightly forward; fourth lobe distinctly dentiform, lower part expanded, abrupt, plate-like, lined with many tubercles. Frontal margin with small median fissure, slightly deflexed, appearing straight from dorsal view, shallow median cleft, lined with many tubercles. Posterolateral margin with large spines. Surface of third maxilliped highly tuberculated. Chelipeds cylindrical, carpus without large tubercle or spine on distal inner margin of carpus, surface of chelipeds lined with numerous small tubercles. Ambulatory legs long and slender, ratio of length to width of fourth ambulatory merus 3.1-3.6, anterior margin of the ambulatory merus lined with small spinules. Distal part of G1 bends approximately 90°, median part straight.

Sexual dimorphism. - Chelipeds of male specimens are stouter and longer in proportion to the body size.

Remarks. - *Harrovia cognata* is closest to *H. ngi* but the two species can be separated by several distinct characters. The median part of the G1 of *H. ngi* is more sinuous (Fig. 25G), the frontal margin of *H. ngi* is not lined with strong tubercles, the outer margin of the inner supraorbital teeth of *H. ngi* is not lined with strong tubercles, the margins of the anterolateral lobes are rather smooth in *H. ngi*, the lower part of the third anterolateral lobe of *H. ngi* is less spiniform, the lower part of the fourth anterolateral lobe of *H. ngi* is smooth (Fig. 25A), the surface of the third maxilliped is quite smooth in *H. ngi* (Fig. 25E), the posterolateral margin of *H. ngi* is smooth (Fig. 25A) and the second antennal segment is proportionately shorter, the ratio of length to width being 2.0 (vs. 2.6 in *H. cognata*).

The main difference between *H. cognata* and *H. ngi* lies in the extent of tuberculation on the carapace and the length of the second antennal segment. In *H. cognata*, the carapace is always heavily tuberculated, especially along the frontal margin, inner supraorbital teeth, margins of anterolateral lobes and posterolateral margins (Fig. 13A). This is true even of juveniles (Fig. 13N). The median part of the G1 of *H. cognata* is also almost straight (Figs. 13L, M) (vs. sinuous in *H. ngi*). The characters discussed are constant for the series of specimens of