



Fig. 26. *Harrovia tuberculata* Haswell, 1880. Holotype male, 6.0 by 8.2 mm (AM P40853). A, dorsal view; B, ventral view. (Photograph courtesy of AM)

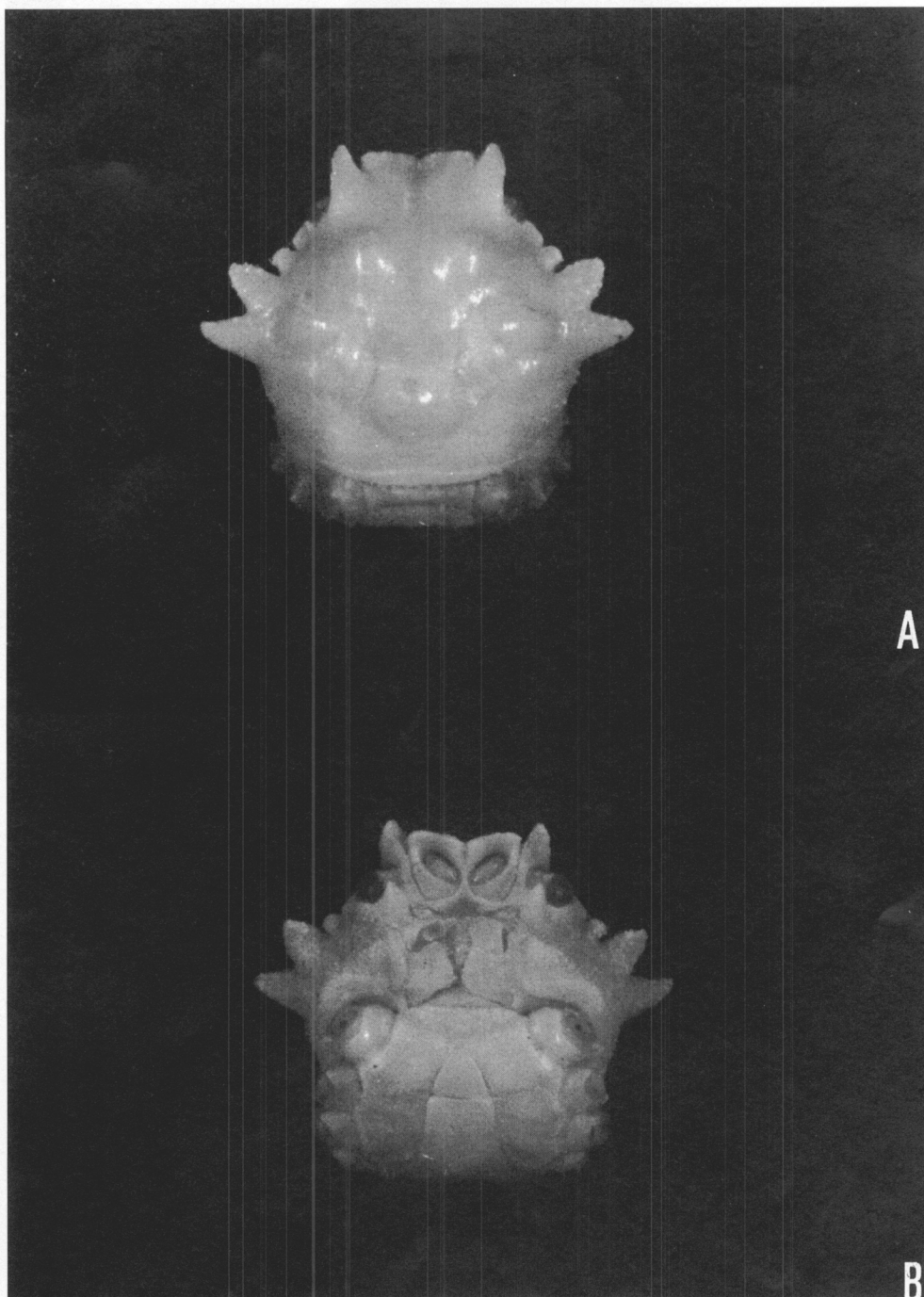


Fig. 27. *Harrovia tuberculata* Haswell, 1880. Male, 4.4 by 5.5 mm (QM W18657). A, dorsal view; B, ventral view.

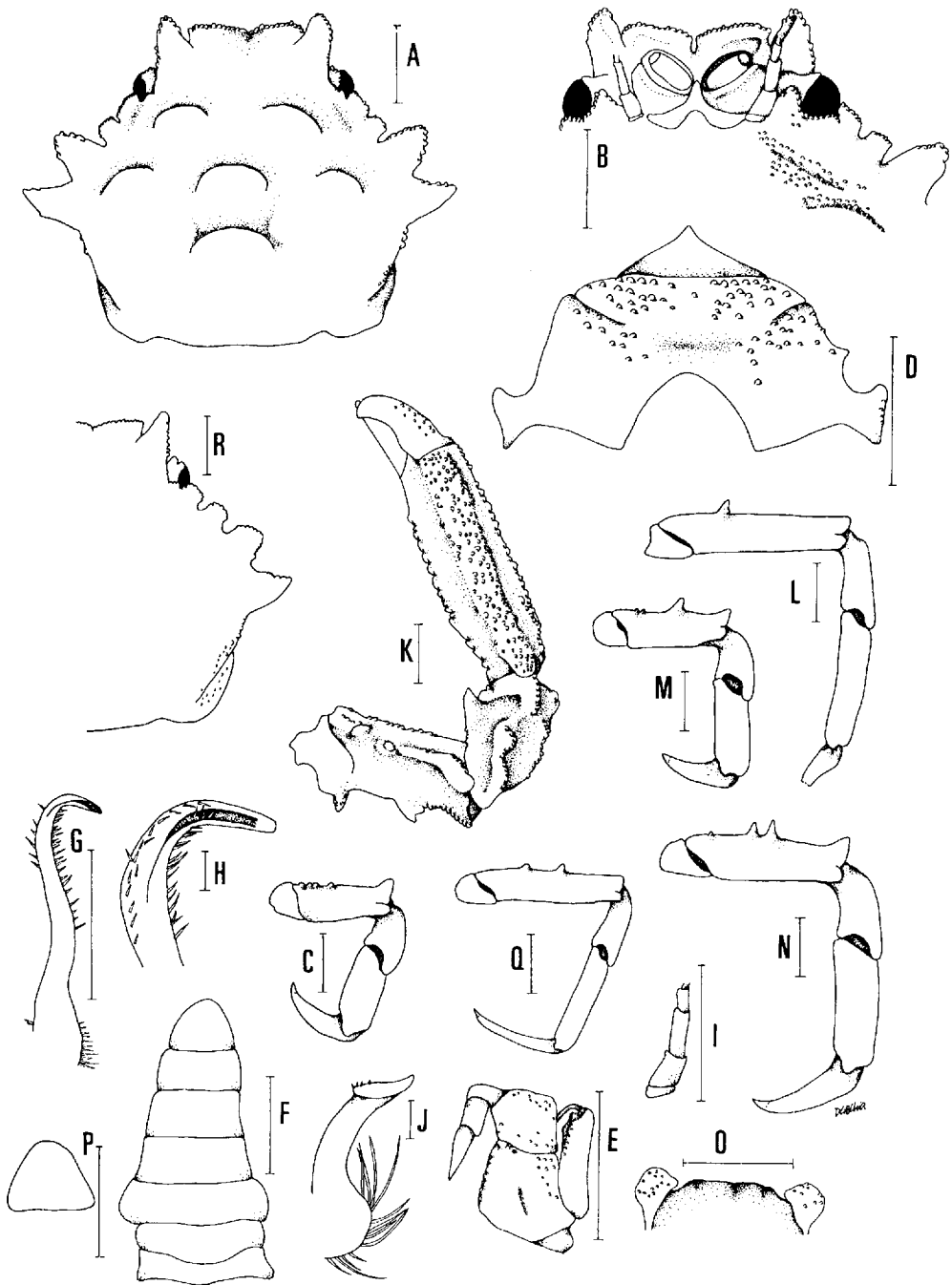


Fig. 28. *Harrovia tuberculata* Haswell, 1880. A-K, O-Q, male, 4.4 by 5.5 mm (QM W18657); L-M, R, female, 6.0 by 7.5 mm (QM W18657). A, dorsal view of carapace; B, face of carapace; C, fourth right ambulatory leg; D, thoracic sternum; E, left third maxilliped; F, abdomen; G, left G1; H, distal tip of left G1; I, antenna; J, left G2; K, postero-dorsal view of right cheliped; L, first right ambulatory leg; M, fourth right ambulatory leg; N, second or third right ambulatory leg, sex indetermined; O, endostome; P, 7th abdominal segment; Q, first right ambulatory leg; R, dorsal view of carapace (schematic). Scales: A-G, I, K-R = 1.0 mm; H, J = 0.1 mm.

of length to width of fourth ambulatory merus 2.7-2.9; anterior margin of all ambulatory meri lined with 1-2 strong, acute spines. Distal part of G1 bends at approximately at about 110°.

**Sexual dimorphism.** - Males have disproportionally large chelipeds.

**Remarks.** - Haswell's illustration (1880: pl. 27: Fig. 4) of the holotype is small and inadequate. Subsequent figures by Chen & Xu (1991: Figs. 29-5, 29-7) provided a clearer depiction of the holotype. The present specimens examined here agree well with the holotype. This is particularly in the aspects of the highly tuberculated carapace, lobate third anterolateral lobe (Fig. 28A), spiny ambulatory meri (Figs. 28C, L, M, N, Q) and highly eroded chelipeds (Fig. 28K). There a consistent presence of one or two strong spinules on the anterior margins on the ambulatory meri which is distinctive for *H. tuberculata*. These characters are also distinguish this species from *H. albolineata* (see *Remarks* under *H. albolineata*).

### **PERMANOTUS, NEW GENUS**

*Harrovia* - Gordon, 1934: 67 (part); Serène et al., 1958: 139 [in key], 172, 194, 199, 231, 238 (part); Dai et al., 1986: 162 [in key], 165 (part); Stevcic et al., 1988: 1311, 1318 (part); Dai & Yang, 1991: 179 [in key], 183 (part) [not *Harrovia* Adams & White, 1849].

**Type species.** - *Harrovia purpurea* Gordon, 1934, by present designation. Gender of genus masculine.

**Etymology.** - The new generic name is derived from the Greek for 'shield' in arbitrary combination with the name 'Eumedonus'. Gender masculine.

**Diagnosis.** - Carapace distinctly broader than long; rostrum short, distinctly deflexed downwards; inner supraorbital teeth distinct but very small, separated from frontal margin by longitudinal groove, folded downwards; frontal margin appearing entire from dorsal view but separated by distinct longitudinal groove; regions well defined, gastric and protogastric regions distinct, cardiac region mildly swollen; hepatic regions slightly depressed; surfaces of carapace relatively smooth to covered with scattered small granules; dorsal surface of carapace usually covered with very thin pubescence. Anterolateral and posterolateral margins clearly demarcated; anterolateral margin rounded, not lamelliform, with four lobes (including external orbital angle), first three lobes truncate, lined with small granules, separated by narrow fissures, tightly adjoining each other, appearing fused, sometimes forming a structure, last tooth confluent with first three teeth but more developed, sharper, laterally directed. Antennules folding obliquely, ca. 45° from horizontal. Second antennal segment short, length to width ratio of second antennal segment 1.4-2.0. Chelipeds smooth or slightly granulated, surface pitted; carpus without spine or tubercle on inner angle; chelae elongated and slender, length ca. 3-4 times length of fingers, height ca. 2 times height of fingers; fingers not carinate, pollex not distinctly bent downwards. Merus of first ambulatory leg more slender than others, dactylus elongated, slender, ca. 2 times length of that on other legs; dorsal margin of merus smooth, not cristate. G1 long, slender.

**Remarks.** - The new genus, *Permanotus*, described here, has very a short second antennal segment (length to width ratio = 1.4-2.0) compared to those of *Harrovia* which varies from 2.0 to 3.4 (Table 1). Although there seems to be a slight overlap in the range of the ratio, the



mean is distinct and separate for both genera, i.e. *Permanotus* at 1.7 and *Harrovia* at 2.6. Also in *Permanotus*, the forms of the carapace structure, inner supraorbital teeth, frontal and anterolateral margins are very different compared to *Harrovia* s. str. In *Permanotus*, the carapace is flattened with distinctly depressed hepatic regions and the frontal, inner supraorbital teeth and anterolateral margins are very rounded and fold downwards. In *Harrovia*, the carapace does not have distinctly depressed regions and the frontal, inner supraorbital teeth and anterolateral margins are lamelliform and planar. The two genera are nevertheless closely related, sharing similar features (i.e. the colour pattern, form of chelipeds and ambulatory legs) and habits (both are crinoid symbionts).

*Permanotus* contains only one species, *P. purpurea* (Gordon, 1934).

***Permanotus purpureus* (Gordon, 1934), new combination**  
(Figs. 29-31)

*Harrovia purpurea* Gordon, 1934: 67, Figs. 33d, 34, 35 [type locality Sorong, western New Guinea = Irian Jaya, Indonesia]; Buitendijk, 1939: 266 [Obilatu Island, Moluccas = Maluku Islands, Indonesia]; Holthuis, 1953: 6 [Kwajalein Atoll, Marshall Islands, central Pacific Ocean]; Serène et al., 1958: 198, 199 [in key], 240, Figs. 7C, 14 [list only]; Serène, 1968: 63 [list only]; Wu, 1983: 165 [name in Chinese]; Nagai & Nomura, 1988: 221 [colour photograph; Okinawa, Ryukyu Islands, Japan]; Stevcic et al., 1988: 1312 [list only]; Castro, 1989: 98 [Koror, Palau Island; Guam, Mariana Islands; Kwajalein Atoll, Marshall Islands, central Pacific Ocean]; Takeda & Marumura, 1994: 26, Fig. 2 (colour) [Kii Peninsula, Japan].

*Harrovia bituberculata* Shen, Dai & Chen, 1982: 146 [Chinese text], 149 [English text], Fig. 4-9 - 11, pl. 2: Fig. 12 [type locality Xincun, Hainan Island, China]; Dai et al., 1986: 165 [in key], 166, Fig. 98, pl. 22: Fig. 6 [list only]; Stevcic et al., 1988: 1311 [list only]; Dai & Yang, 1991: 183 [in key], 184, Fig. 98, pl. 22: Fig. 6 [list only].

**Material examined.** - Holotype: male (3.6 by 4.9 mm) (IRSNB IG9223), Sorong door, western New Guinea (= Irian Jaya), Indonesia, 2 Mar. 1929.

Others: **Malaysia:** 1 female (ZRC 1997.201), Barracuda Point, Sipadan Island, East Malaysia, coll. D. Lane, 21 May 1992. **Indonesia:** 8 males (4.1 by 5.6 mm, 4.8 by 6.4 mm), 4 females (6.6 by 8.3 mm) (MNHN B24760), Bunaken, Sulawesi, 10-15 m, on crinoid, coll. P. Castro, 20 Sep. 1992. - 7 males, 1 female (MNHN B24759), Bunaken, Sulawesi, 2-3 m, on crinoid, coll. P. Castro, 20 Sep. 1992. - 4 males, 6 females (MNHN B24758), Siladen, Sulawesi, 10-12 m, on crinoid, coll. P. Castro, 20 Sep. 1992. - 7 males, 1 female (MNHN B24769), Amed, north Bali, 3-5 m, on crinoid, coll. P. Castro, 3 Oct. 1992. - 1 male (MNHN B24755), Samalona Island, northwest of Ujung Pandang, 5°08'S, 119°26'E, 4 m, fringing reef, coll. P. Castro, 13 Sep. 1992. - 1 male, 1 female (MNHN B24756), Bunaken Island, off Manado, north of Sulawesi, 1°37'N, 124°46'E, 24 m, on crinoid, coll. P. Castro, 18 Sep. 1992. - 1 male, 1 female (MNHN B24757), northwest Mantehage Island, off Manado, north Sulawesi, 124°45'E, 1°46'N, 5 m, on *Comanthus parvicirrus*, reef slope, coll. P. Castro, 19 Sep. 1992. - 1 female (5.3 by 7.6 mm) (RMNH 4467), Station Obi Patoe, Snellius Expedition, 23-27 Apr. 1930. **Papua New Guinea:** 1 male, 3 females, 1 juvenile (MNHN B24740), Tab Island, Madang, 1-6 m, on *Clarkcomanthus littoralis* & *Comanthus parvicirrus*, coll. P. Castro, 18 Aug. 1992. - 1 female (CSPU 1), Southern Pass, Tab. Island, Madang, 5°10'S, 145°50'E, 1-4 m, on *Comatella stelligera*, reef crest, coll. P. Castro, 29 Dec. 1993. - 1 male (CSPU 2), Southern Pass, Tab. Island, Madang, 5°10'S, 145°50'E, 1-4 m, on *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 29 Dec. 1993. - 1 male (5.3 by 7.5 mm), 1 female (MNHN B24745), Wongad Island, Madang, on *Comatella stelligera*, coll. P. Castro, 21 Aug. 1992. - 1 male, 1 female (MNHN B24742), Wongad Island, Madang, 3-5 m, on *Clarkcomanthus littoralis*, coll. P. Castro, 22 Aug. 1992. - 6 males (4.2 by 5.5 mm), 4 females (MNHN B24741), Wongad Island, Madang, 3-6 m, on 4 species of crinoids, coll. P. Castro, 19 Aug. 1992. - 2 females (MNHN B24743), Wongad Island, Madang, on *Clarkcomanthus littoralis*, coll. P. Castro, 19 Aug. 1992. - 1 male, 1 female (MNHN B24747), Wongad Island, 3 m, on *Clarkcomanthus littoralis*, lagoon side, coll. P. Castro, 21 Aug. 1992. - 2 females (CSPU 3), Wongad Natun Reef, Madang, 5°08.31'S, 145°49.36'E, 4 m, on *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 29

Dec. 1993. - 1 female (ZRC), Matazeng Reef, Madang, 2-3 m, on *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 27 Dec. 1993. - 2 females (ZRC), Matazeng Reef, Madang, 2-3 m, on *Comanthina schlegelii*, reef crest, coll. P. Castro, 27 Dec. 1993. - 1 male (ZRC), Matazeng Reef, Madang, 3 m, on *Comanthina schlegelii*, reef crest, coll. P. Castro, 27 Dec. 1993. - 2 males, 3 females (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 3 m, on *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 27 Dec. 1993. - 1 female (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 3 m, on *Comanthina schlegelii*, coll. P. Castro, 21 Dec. 1993. - 1 male, 1 female (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 3 m, on *Comanthina schlegelii*, reef crest, coll. P. Castro, 27 Dec. 1993. - 1 female (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 3 m, on *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 16 Dec. 1993. - 1 juvenile female (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 3 m, on *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 26 Dec. 1993. - 1 male, 2 females (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 3 m, on *Comanthina schlegelii*, reef crest, coll. P. Castro, 19 Dec. 1993. - 1 male, 1 female (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 4 m, on *Comatella stelligera*, reef crest, coll. P. Castro, 15 Dec. 1993. - 1 male (ZRC), Padoz Tinan Reef, Madang, 3 m, on *Comanthus parvicirrus*, reef crest, coll. P. Castro, 15 Dec. 1993. - 1 female (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 3 m, on *Comanthina schlegelii*, reef crest, coll. P. Castro, 15 Dec. 1993. - 3 males, 5 females (ZRC), Padoz Tinan Reef, Madang, 5°09.53'S, 145°48.88'E, 2-3 m, on *Comanthina schlegelii* & *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 23 Dec. 1993. - 1 male, 1 female (ZRC), Padoz Natun Reef, Madang, 5°09.60'S, 145°48.77'E, 2 m, on *Comatella stelligera*, reef crest, coll. P. Castro, 27 Dec. 1993. - 1 male (ZRC), Padoz Natun Reef, Madang, 5°09.60'S, 145°48.77'E, 1-2 m, on *Comanthus parvicirrus*, reef crest, coll. P. Castro, 22 Dec. 1993. - 1 male (ZRC), Padoz Natun Reef, Madang, 5°09.60'S, 145°48.77'E, 2 m, coll. P. Castro, 17 Dec. 1993. - 1 juvenile female (ZRC), Padoz Natun Reef, Madang, 5°09.60'S, 145°48.77'E, 2 m, on *Comanthina schlegelii*, reef flat, coll. P. Castro, 27 Dec. 1993. - 1 female (ZRC), Padoz Natun Reef, Madang, 5°09.60'S, 145°48.77'E, 2 m, on *Comanthina schlegelii*, coll. P. Castro, 13 Dec. 1993. - 1 male (ZRC), Padoz Natun Reef, Madang, 5°09.60'S, 145°48.77'E, 3 m, on *Clarkcomanthus littoralis*, coll. P. Castro, 14 Dec. 1993. - 1 male (IRSNB IG n°26.253), Madang, Bunu, N°17, Capcrosille, 25 m, coll. V. C. Brakman, 19 Sep. 1980. - 1 female (IRSNB), Madang, on crinoid, coll. D. Vandenspiegel, no other data. - 2 males, 3 females (ZRC), Madang, coll. P. Castro, Dec. 1993. - 1 male, 1 female (dismembered) (ZRC), patch reef adjacent to Christiansen Research Institute, Nagada Harbour, Madang, 6 m, on *Comanthus mirabilis*, coll. C. G. Messing, Jul. 1991. - 1 male, 1 female (ZRC), AWAR wreck, coll. D. Vandenspiegel, Aug. 1992. - 1 female (MNHN B24744), Planet Rock (pinnacle), on *Oxycomanthus bennetti*, 8 m, coll. P. Castro, 20 Aug. 1992. - 1 male (MNHN B24746), Rasch Passage, 3-4 m, on *Clarkcomanthus littoralis*, reef crest, coll. P. Castro, 19 Aug. 1992. **Australia:** 1 male (5.8 by 6.9 mm.), 1 female (QM W17512), Cartier Reef, Timor Sea, 12°32.2'S, 123°31.9'E, marine, reef slope symbiotic with crinoid, western side of reef, coll. J. Short, 4 May 1992. - 1 male, 1 juvenile female (AM P39255), west of 'Yoshin Maru Iwaki' wreck, Elizabeth Reef, Tasman Sea, Station 30, 29°57.2S, 159°01.2'E, coll. P. Davie & J. Short, 10 Dec. 1987. **Pacific Ocean:** 1 male (MNHN B25648), Banc Waterwit, southwest Pacific, Station DW 536, 12°31'S, 176°41'W, 27-37 m, coll. MUSORSTOM 7, R.V. 'Alis', 16 May 1992. - 1 female (ZRC), Koror Island, Palau, lagoon along southern tip of island, coll. P. Castro, Jul. 1974. - 1 male (ZRC), Agat Bay, Guam, coll. P. Castro, 1974. - 1 female (6.2 by 9.2 mm) (RMNH 9736), Kwadak, Kwajalein Atoll, Marshall Islands, 5.5-7 m, in *Comanthus bennettii*, coll. P. E. Cloud, 1 Jul. 1951. - 3 males, 1 female (USNM 93855), Kwadak, Kwajalein Atoll, Marshall Islands, 5.5-7 m, in *Comanthus bennettii* (Clark i.d.), coll. P. E. Cloud, 7 Sep. 1951. - 1 female (USNM 359474), Anatahan, Marshall Islands, southwest shore, at base of volcanic cliffs, consolidated substrate, 30-35 feet water, coll. R. Kropp, 7 Jan. 1975.

**Description.** - Carapace distinctly broader than long; rostrum short, distinctly deflexed downwards; inner supraorbital teeth distinct but very small, separated from frontal margin by longitudinal groove, folded downwards; frontal margin appearing entire from dorsal view but separated by distinct longitudinal groove, numerous flat tubercles along the frontal margin; regions well defined, gastric and protogastric regions distinct, slightly swollen with tubercles, cardiac region mildly swollen; hepatic regions depressed; surfaces of carapace relatively smooth to covered with scattered small granules; dorsal surface of carapace usually covered with very thin pubescence. Anterolateral and posterolateral margins clearly demarcated; anterolateral margin rounded, not lamelliform, with four lobes (including external orbital angle), first three lobes truncate, lined with small granules, separated by narrow fissures,

tightly adjoining each other, appearing fused, sometimes forming a structure, last tooth confluent with first three teeth but more developed, sharp, laterally directed. 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 1.4-2.0. Eyes well developed, filling orbit; cornea distinct, pigmented; infraorbital teeth small. Anterior surface of epistome depressed; posterior margin appears entire because of 2 fused truncate median lobes. Pterygostomial regions mildly granulated. Third maxilliped quadrate; ischium rectangular, median oblique sulcus deep; merus squarish; exopod just reaches antero-external edge of merus. Sutures between sternite segments 1 and 2 indistinct, 2 and 3 distinct, shallow; between 3 and 4 interrupted medially; lateral clefts indistinct. Abdomen 7 segmented, sutures for all segments visible. Chelipeds smooth or slightly granular; carpus without spine or tubercle on inner angle; chelae elongated and slender, length ca. 3-4 times length of fingers, height ca. 2 times height of fingers; fingers not carinate, pollex not distinctly bent downwards. Merus of first ambulatory leg more slender than others, dactylus elongated, slender, ca. 2 times length of that on other legs, other segments subcylindrical; anterior margin of merus smooth, not cristate, but may have some very small tubercles at proximal end. G1 long, slender, distal part lined with short spines, tip bends at approximately 90° or 110°. G2 relatively short, distal segment short.

**Sexual dimorphism.** - Males have disproportionately larger chelipeds compared to females. The carapaces of large females are swollen and bulbous.

**Remarks.** - *Permanotus purpureus* new combination, is a very distinct species. The colour photograph provided by Nagai & Nomura (1988) clearly shows the species. Holthuis (1953) reported it from the Marshall Islands. Castro (1989) reported specimens from Palau, Guam and Marshall Island. Specimens from all these localities were re-examined and their identities confirmed.

*Harrovia bituberculata* Shen, Dai & Chen, 1982, was established on the basis of following characters: 1, presence of tubercles on the gastric region of carapace, 2, length of the basal antennal segment not reaching the infraorbital tooth, 3, absence of spines along the posterior margins of all the ambulatory segments, and 4, relatively broad third ambulatory propodus. Examining the present large series of specimens, it is found that the above characters can vary within the species. The swollen gastric region of carapace is evident in almost all specimens. The length of the basal antennal segment varies, sometimes reaching or exceeding the infraorbital tooth. There is no spine along the posterior margin of all ambulatory segments. Gordon (1934: 67) stated (for the holotype of *P. purpureus*) '... the distal half of the propodi and dactyli also bear several rows of what appear to be short spines...' and figure 34c was referred to. On closer examination, the spines that Gordon mentioned are stiff setae resembling spines. In fact, the ambulatory legs of this species are very smooth except for a few very small tubercles which may be present at the proximal anterior margin of the ambulatory meri. As for the relative broadness (measured at length versus width) of the third ambulatory propodus, it varies from 2.8-3.2 (mean 3.1). Indeed, the third ambulatory propodus of the holotype of *P. purpureus* (at 3.6) seems to be more slender, and appears to represent the extreme range of the species. In any case, *H. bituberculata* whose propodal measurement is 3.1, fits into the present concept of the species. Thus, on the basis of what is known, it is clear that *Harrovia bituberculata* Shen, Dai & Chen, 1982, is a junior synonym of *Permanotus purpureus*.

The present series of specimens examined agrees well with the holotype. Although the species

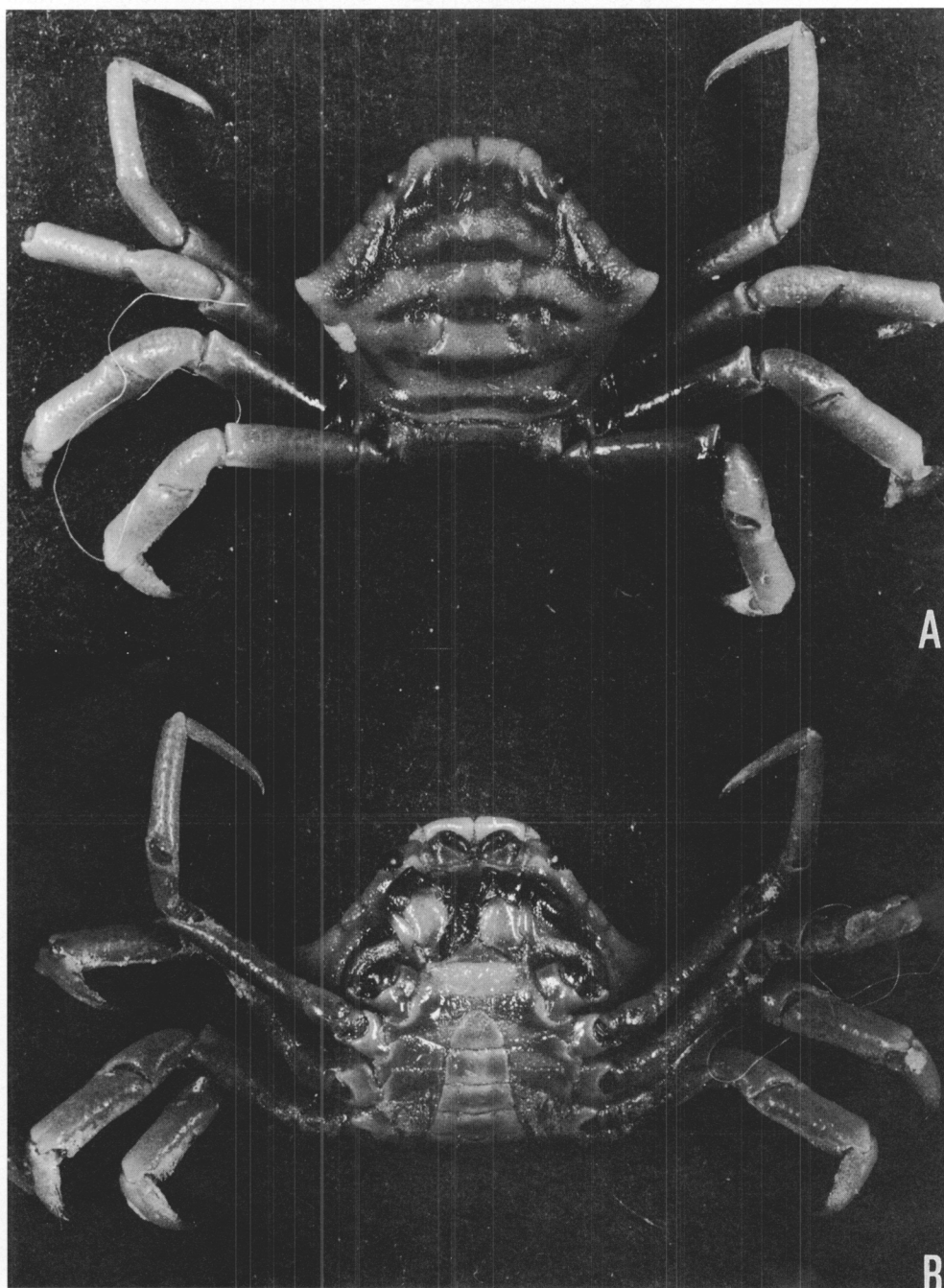


Fig. 29. *Permantotus purpureus* (Gordon, 1934), new combination. Male, 5.8 by 6.9 mm (QM W17512). A, dorsal view; B, ventral view.

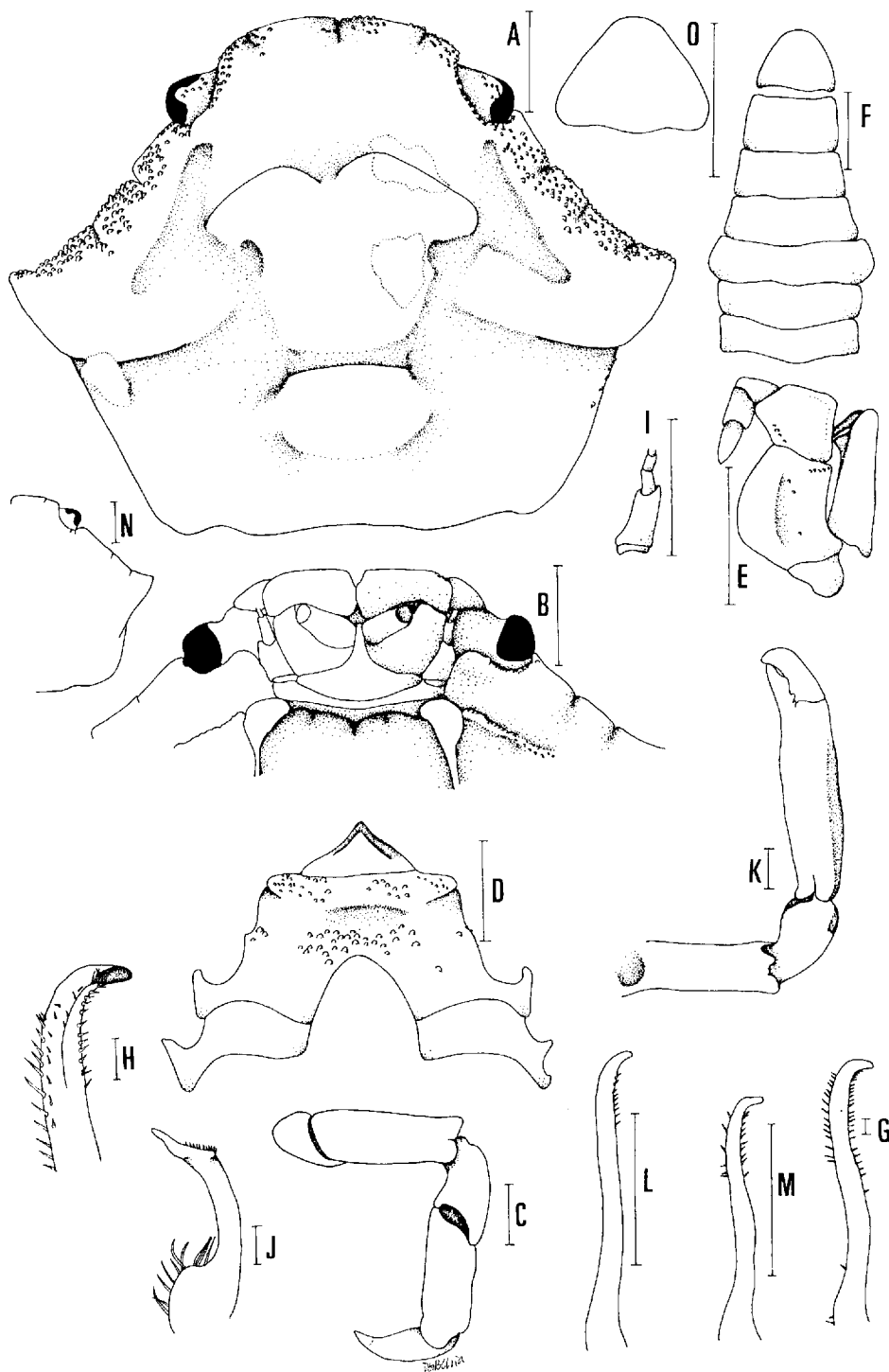


Fig. 30. *Permanotus purpureus* (Gordon, 1934), new combination. A-K, O, male, 5.8 by 6.9 mm (QM W17512); L, N, male, 5.3 by 7.5 mm (MNHN B24745); male, 4.2 by 5.5 mm (MNHN B24741). A, dorsal view of carapace; B, face of carapace; C, fourth right ambulatory leg; D, thoracic sternum; E, left third maxilliped; F, abdomen; G, left G1; H, distal tip of left G1; I, antenna; J, right G2; K, postero-dorsal view of right cheliped; L, left G1; O, 7th abdominal segment; M, left G1; N, dorsal view of carapace (schematic). Scales: A-G, I, K-O = 1.0 mm; H, J = 0.1 mm.

is widely distributed, it is relatively stable with little morphological variation. There seems to be two forms of distal part of G1, bending at either 90° (Fig. 30G, M) or 110° (Fig. 30L), occurring within the same population. All other features of the specimens agree well with the current understanding of the species. Also, the juveniles tend to have small spinules along the anterior margin of ambulatory meri and along the proximal inner and outer margins of the chelipedal meri.

There seems to be three colour morphs, all of which can be found within the same population (e.g. in Sulawesi). The first morph is dominated by dark orange with cream-coloured transverse bands (Fig. 31A). The second morph is dominated by cream colour with dark transverse orange bands (Fig. 31B) and the third morph which is an intermediate between the first two morphs, with equal amount of orange and cream colour (Fig. 31C). Of the three morphs, the first morph (i.e. dominated by dark orange) seems to be the most common whereas the second morph (i.e. dominated by cream colour) appears to be the rarest.

**Larvae.** - The first zoeae of this species has been obtained by P. Castro. They will be described later in another paper.

**Host records.** - Found mainly in shallow water, found together with comasterids.

**Distribution.** - A widely distributed species. Previous records of the species stretched from Irian Jaya (type locality), eastward to central Pacific and northward reaching Japan. Current

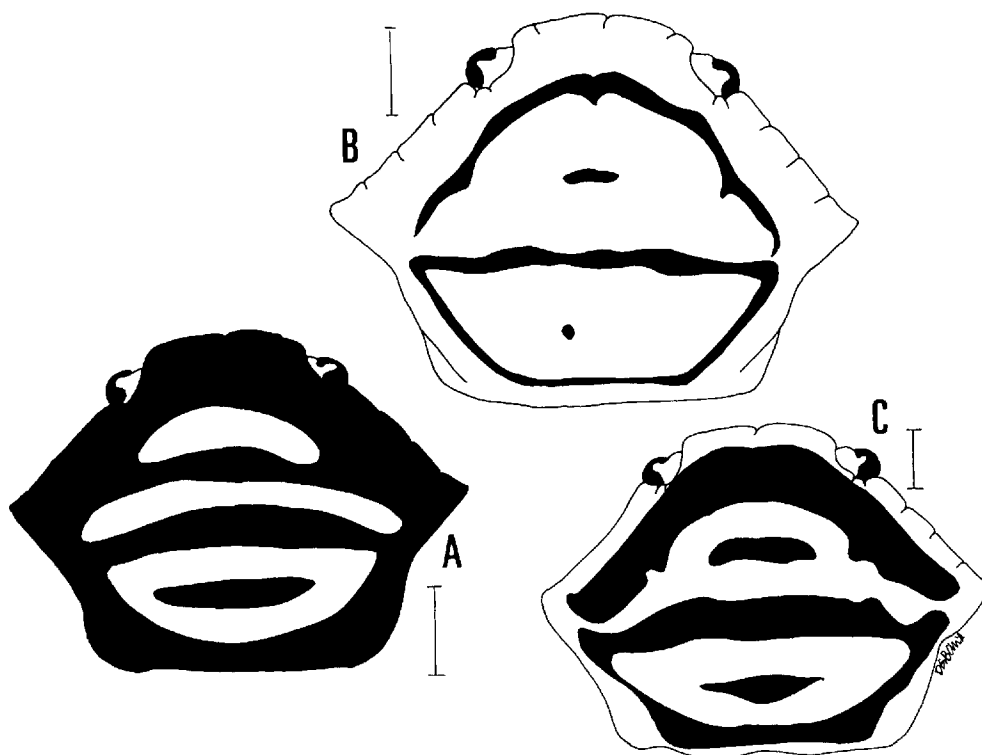


Fig. 31. *Permanotus purpureus* (Gordon, 1934), new combination. Colour morphs (schematic): A, male, 4.1 by 5.6 mm (MNHN B24760a); B, male, 4.8 by 6.4 mm (MNHN B24760b); C, female, 6.6 by 8.3 mm (MNHN B24760c). Portion painted in black ink indicates orange colour in live and unpainted portion indicates cream colour in live specimens. Scale = 1.0 mm.



records include the southwest Pacific, Sulawesi, Papua New Guinea, Australia and East Malaysia. The Tasman sea (Australia) specimens are the southernmost specimens ever recorded. The distribution seems to be disjunct in Australia, this species is found along the northern (Timor Sea) and southeastern coasts (Tasman Sea) but so far not the northeastern (Coral Sea) or western coasts (Indian Ocean).

### TAUROPUS, NEW GENUS

*Harrovia* - Gordon, 1947: 111 (part); Serène et al., 1958: 139 [in key], 172, 194, 199, 231, 238 (part); Stevcic et al., 1988: 1311, 1318 (part) [not *Harrovia* Adams & White, 1849].

**Type species.** - *Harrovia egeriae* Gordon, 1947, by present designation. Gender of genus masculine.

**Etymology.** - The name is derived from the Greek for 'bull', alluding to the shape of the carapace of the type species. Gender masculine.

**Diagnosis.** - Carapace distinctly broader than long; rostrum short, distinctly deflexed downwards; inner supraorbital teeth low but distinct, posterior to frontal margin, folded downwards; regions defined; surfaces of carapace covered with scattered small granules. Anterolateral and posterolateral margins clearly demarcated; anterolateral margin rounded, not lamelliform, with four lobes (including external orbital angle), first three lobes truncate, lined with small granules, separated by narrow fissures, tightly adjoining each other, appearing fused, lobe three very large, lower part expanded laterally, last tooth small, obscured by lobe three, confluent with first three teeth but developed, sharp, laterally directed. Antennules folding obliquely, ca. 45° from horizontal. Second antennal segment short, length to width ratio of second antennal segment 1.4. Surface of chelipeds granular; carpus with strong sharp tooth on inner distal angle; merus and basis-ischium unarmed; chela stocky, stout, length 2 times length of fingers, height ca. 2-3 times height of fingers; fingers not carinate, pollex not bent downwards. Merus of first ambulatory leg as slender as others. G1 not known.

**Remarks.** - This genus is established for a remarkable species which was described from only one specimen. In the general carapace morphology (i.e. having four distinct anterolateral lobes), it bears some resemblance to the genus *Harrovia*. In the form of the folded and rounded anterolateral lobes and inner supraorbital teeth, it resembles *Permanotus*, but in the form of its very stout and stocky ambulatory legs and chelipeds, it is closer to *Eumedonus* and *Gonatonotus* instead. It thus seems to be an intermediate genus between *Harrovia*, *Permanotus* and *Eumedonus*.

This unusual genus has very large, expanded third anterolateral lobe and small, inconspicuous fourth lobe, a character which is not observed in any other eumedonid genus. The other unusual feature is the very short second antennal segment, the length to width ratio being only 1.4.

The new genus contains only one species, *T. egeriae* (Gordon, 1947).

***Tauropus egeriae* (Gordon, 1947), new combination**

(Figs. 32, 33)

*Harrovia egeriae* Gordon, 1947: 111, Fig. 1 [type locality Macclesfield Bank, South China Sea]; Serène et al., 1958: 198, 199 [in key], 239 [list only]; Serène, 1968: 63 [list only]; Stevcic et al., 1988: 1311 [list only]; Takeda & Marumura, 1995: 5, Fig. 5 (colour) [Kii Peninsula, Japan].

**Material examined.** - Holotype: female (11.2 by 16.6 mm) (BMNH 93.11.3.79), Macclesfield Bank, 82 m, coll. Bassett Smith, H.M.S. Egeria.

**Description.** - Carapace distinctly broader than long; rostrum short, distinctly deflexed downwards; inner supraorbital teeth low but distinct, posterior to frontal margin, folded downwards; regions defined; surfaces of carapace covered with scattered small granules. Anterolateral and posterolateral margins clearly demarcated; anterolateral margin rounded, not lamelliform, with four lobes (including external orbital angle), first three lobes truncate, lined with small granules, separated by narrow fissures, tightly adjoining each other, appearing fused, lobe three very large, lower part expanded laterally, last tooth small, obscured by lobe three, confluent with first three teeth but developed, sharp, laterally directed. Antennules folding obliquely, ca. 45° from horizontal; antennular fossae oblique. Antenna free, does not fill orbital hiatus, reaching into orbit; antennal basal segment rectangular; second antennal segment short, length to width ratio of second antennal segment 1.4. Eyes well developed, filling orbit; cornea distinct, pigmented; infraorbital teeth small. Anterior surface of epistome depressed; posterior margin appears entire because of 2 fused truncate median lobes. Pterygostomial, infraorbital and subhepatic regions heavily tuberculated. Third maxilliped quadrate; ischium rectangular, median oblique sulcus shallow; merus squarish; exopod just reaches antero-external edge of merus. Sutures between sternite segments 1 and 2 indistinct, 2 and 3 distinct, shallow; between 3 and 4 interrupted medially; lateral clefts indistinct. Surface of chelipeds granular; carpus with strong sharp tooth on inner distal angle; merus and basis-ischium unarmed; chela stocky, stout, length 2 times length of fingers, height ca. 2-3 times height of fingers; fingers not carinate, pollex not bent downwards. Merus of first ambulatory leg not more slender than that of others; other segments subcylindrical; anterior margin of ambulatory meri smooth, not cristate, ends in a distinct tooth (except for the last meri). G1 not known.

**Sexual dimorphism.** - Not known.

**Remarks.** - The holotype is an ovigerous female. Takeda & Marumara (1995) subsequently reported a second specimen (also a female) from Kii in Japan.

**Larvae.** - Not known.

**Host records.** - Not known.

**Distribution.** - Only known in Macclesfield Banks (South China Sea) and southern Japan.