

Fig. 3. *Geothelphusa chiui* Minei, 1974. Holotype male, 34.0 by 26.7 mm. a: dorsal view; b: dorsal view of G1; c: ventral view of G1. (After Minei, 1974).

Remarks. - The identity of this species causes some problems as we have not been able to find specimens in Taiwan exactly referable to it. Minei (1974) described the holotype from a town called Nanpu in Hsinchu Hsien (northwestern Taiwan) and provided good descriptions and illustrations of the species, including its G1. Fresh collections made in and around Nanpu have not uncovered this but another species instead, *G. olea*, new species. *Geothelphusa olea* differs from *G. chiui* in several aspects, viz. the carapace is more flattened (against distinctly swollen in *G. chiui*), the anterolateral margin of the carapace is distinctly cristate and granulated (indistinctly cristate and smooth in *G. chiui*), the larger male chela of adult males does not have a large gape when the fingers are closed (with a very wide gape in *G. chiui*) and the G1 terminal segment gently curves upwards (curves outwards in *G. chiui*). We have not been able to find any species in the Hsinchu area which has the inflated physiognomy characteristic of *G. chiui* s. str.

The holotype male and one female were supposedly collected by a parasitologist, Dr. Chiu Jui-Kuang in December 1960 (Minei, 1974: 243) but no other data is available. It is interesting to note that in Chiu's (1964) paper detailing his crab collections and their association with *Paragonimus*, there were no records from Nanpu in Hsinchu Hsien. It is possible that the specimens were actually collected from other areas and had been incorrectly labelled.

We have obtained three other new species (*G. albogilva*, *G. ancylophallus* and *G. wangi*) which also have a similar physiognomy to *G. chiui*, but their G1s all differ from that of *G. chiui* substantially (see Minei, 1974: Fig. 6E, F). Only in *G. chiui* is the G1 terminal segment gently curving outwards.

The identities of the other specimens reported by Minei (1974: 243) from Kuanhsi (Hsinchu Hsien), Hsin-I (Nantow Hsien) and "Taiwan" as "*G. chiui*" will have to be checked to ascertain their identities. It is possible that these specimens contain more than one species. We have not been able to obtain the type specimens of *G. chiui* as they are not easily accessible. The collections of the Zoological Laboratory of the Kyushu University, where the specimens were originally deposited, have been transferred to the Kitayushu Museum of Natural History (K. Baba and M. Takeda, pers. comm.), and much of the crab collections have not been properly arranged and cannot be easily located without a detailed search.

Once the types are available, it would be best to redescribe in detail *G. chiui* and sort out the actual identities of Minei's other specimens. For the moment, we feel that it is best to recognize *G. chiui* as a distinct species.

***Geothelphusa albogilva*, new species**
(Fig. 4)

Geothelphusa chiui - Hwang & Mizue, 1985: 13 (part), text fig. 8, pl. IIB (nec *Geothelphusa chiui* Minei, 1974)

Material examined. - Holotype - Male, 42.1 by 32.9 mm (NTOU F10189), PINGTUNG HSIEN: Hengchun, Shehding, coll. J.Y. Shy & P.H. Ho, 19.xii.1990.

Paratypes - PINGTUNG HSIEN: Hengchun, Shehding - 1 male, 2 females (NTOU F10001), coll. J.Y. Shy & P.H. Ho, 19.xii.1990; 1 male, 1 female (NTOU F10003), coll. J.Y. Shy & P.H. Ho, 22.i.1992; 1 male, 2 females (NTOU F10008), coll. J.Y. Shy & P.H. Ho, 23.i.1992; 1 male, 5 females [1 ovigerous] (NTOU F10006), coll. J.Y. Shy & P.H. Ho, 7.v.1992. — Hengchun, Byitztou - 1 male, 2 females

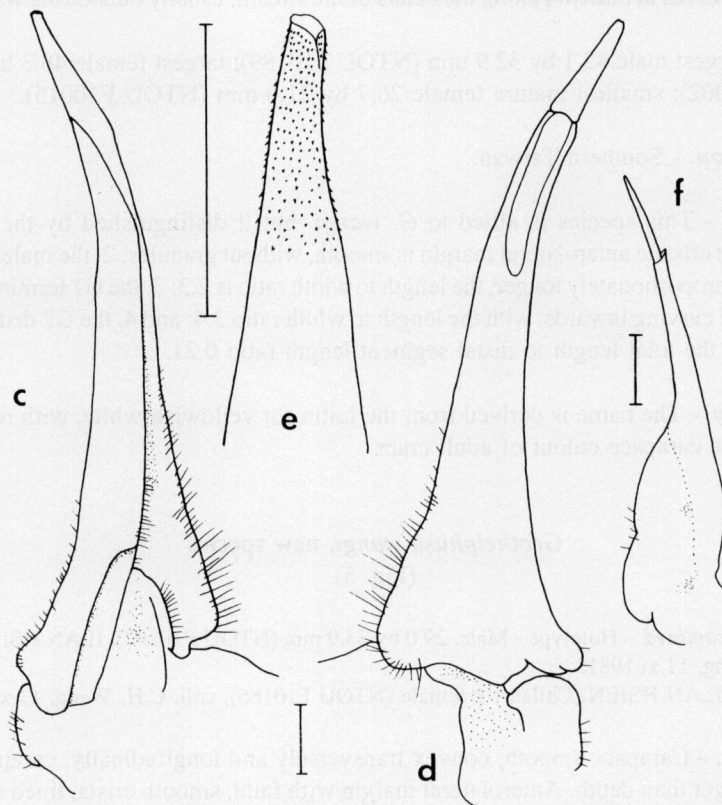
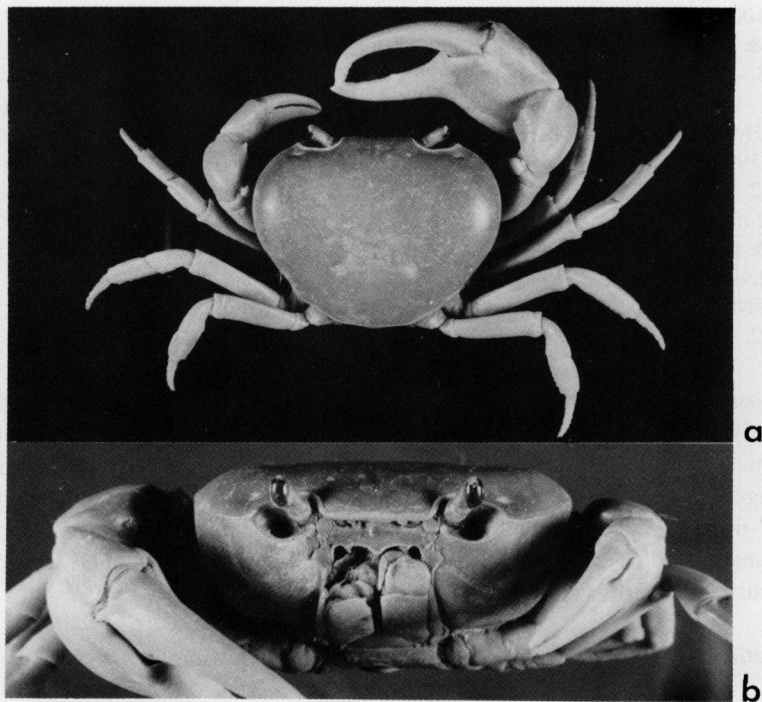


Fig. 4. *Geothelphusa albogilva*, new species. Holotype male, 42.1 by 32.9 mm. a: dorsal view; b: frontal view; c: ventral view of right G1; d: dorsal view of right G1; e: terminal segment of G1; f: ventral view of right G2. Scale = 1.0 mm.

(NTOU F10007), J.Y. Shy & W.L. Tsay, 4.viii.1992. — Chialuohshoei - 1 male (NTOU F10014), coll. J. Y. Shy & P. H. Ho, 22.i.1992. — Kending - 1 male, 2 females (NTOU F10012), coll. J.F. Hwang, 24.vi.1988. — Manchow, Kangkou - 1 male (NTOU F10015), coll. J.Y. Shy, 7.vii.1990. — Manchow, Jeouperng - 1 female (NTOU F10013), coll. J.Y. Shy & P.H. Ho, 22.i.1992; 2 females (NTOU F10017), coll. P.H. Ho, 19.iii.1992. — Manchow, Nanren Lake - 1 male, 2 females (NTOU F10004), coll. J.Y. Shy, 7.vii.1990. — Suchongshi, - 12 males, 12 females (NTOU F10002), coll. H.P. Yu & J.J. Hwang, 14.vii.1982; 1 male (NTOU F10016), coll. J.Y. Shy & H.G. Lai, 11.x.1986; 2 males, 1 female (NTOU F10005), 1 male, 1 female (ZRC 1994.4221), coll. J.Y. Shy, 7.vii.1990; 1 male (NTOU F10011), coll. J.Y. Shy & P.H. Ho, 6.v.1992. — Wutai - 4 males, 1 female (NTOU F10010), coll. H.P. Yu & J.J. Hwang 12.vii.1982.

TAITUNG HSIEN: Tawu - 1 male, 1 female (NTOU F10009), coll. H.P. Yu & J.J. Hwang, 29.xii.1982.

Diagnosis. - Carapace smooth, carapace length 1.5 times longer than depth, strongly convex transversely and longitudinally. Anterolateral margin with faint, smooth crista, without epibranchial tooth. Cervical groove very shallow, faint. Tip of medium lobe of epistome stout. Fingers of chela forming very wide gape when closed. Second ambulatory leg short, about 1.7 times carapace length. G1 subterminal segment gently curved outwards; outer proximal margin with a tooth, inner proximal margin dilated; distal part of G1 terminal segment slightly curved upwards (Fig. 4c-e).

Coloration. - The carapace is generally yellow to yellowish-gray.

Habitat. - Lives in burrows along the banks of the stream, usually outside the water proper.

Size. - Largest male 42.1 by 32.9 mm (NTOU F10189); largest female 48.3 by 36.7 mm (NTOU F10002); smallest mature female 26.7 by 21.0 mm (NTOU F10015).

Distribution. - Southern Taiwan.

Remarks. - This species is allied to *G. wangi*, but it distinguished by the following aspects: 1. the cristate anterolateral margin is smooth, without granules; 2. the male abdominal segment 6 is proportionately longer, the length to width ratio is 2.3; 3. the G1 terminal segment is slender and curving inwards, with the length to width ratio 3.4; and 4. the G2 distal segment is long, with the total length to distal segment length ratio 0.21.

Etymology. - The name is derived from the Latin for yellowish-white, with reference to the distinctive carapace colour of adult crabs.

Geothelphusa wangi, new species

(Fig. 5)

Material examined. - Holotype - Male, 29.0 by 23.9 mm (NTOU F10197), ILAN HSIEN: Chilan, coll. C.H. Wang, 11.xi.1981.

Paratype - ILAN HSIEN: Chilan - 1 female (NTOU F10186), coll. C.H. Wang, 11.xi.1981.

Diagnosis. - Carapace smooth, convex transversely and longitudinally, carapace length 1.5 times longer than depth. Anterolateral margin with faint, smooth crista, lined with small, very low granules, without epibranchial tooth. External orbital angle sharp. Distance between tip of male abdomen and anterior margin of sternite 4 about 1.9 times length of sternites 1-3. Fingers of chela forming very wide gape when closed. Male abdominal segment 7 bell-