

Fig. 27. *Geothelphusa ilan*, new species. Holotype male, 27.8 by 22.2 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.

Etymology. - The species is named after its type locality (pronounced as "Nan-Aou") and the name is used as a noun in apposition.

***Geothelphusa ilan*, new species**

(Fig. 27)

Material examined. - Holotype - Male, 27.8 by 22.2 mm (NTOU F10196), ILAN HSIEN: Lotung, coll. J.J. Hwang, 27.xi.1983.

Paratypes - ILAN HSIEN: Lotung - 5 males (NTOU F10077), coll. J.J. Hwang, 27.xi.1983. — Tatung - 3 males, 4 females (NTOU F10078), coll. J.J. Hwang, 27.xi.1983.

Others - ILAN HSIEN: Sanshing - 5 males, 2 females (NTOU F10079), coll. 7.viii.1982; 1 female (NTOU F10080), coll. Wang, 9.viii.1989. — Tatung Jiuntow - 1 male (NTOU F10207), coll. J.Y. Shy & W.L. Tsay, 3.ix.1993; 1 male, 2 females (NTOU F10208), coll. J.Y. Shy & W.L. Tsay, 7.ix.1993. — Tatung Shnagtsukeng - 9 males (NTOU F10188), coll. J.Y. Shy & C.S. Heh, 30.i.1994.

Diagnosis. - Carapace smooth with fine concave pits. Cervical groove distinct; frontal margin divided into 2 lobes. Anterolateral region with fine striae. Anterolateral crista distinct, lined with low, small granules, without epibranchial tooth. Distance between tip of male abdomen and anterior margin of sternite 4 long, about 2.0 times length of sternites 1-3. Fingers of chela forming oval gape when closed. Lateral margins of male abdominal segment 6 slightly convex. G1 moderately curved outwards, outer proximal margin with a tooth, inner proximal margin dilated; terminal segment moderately curved outwards, spinules lining distal one-fifth (Fig. 27c-e).

Coloration. - Anterior half of carapace red-brown, ambulatory legs with fine blue spots.

Habitat. - Lives in shallows under stones near stream.

Size. - Largest male 28.5 by 22.3 mm (NTOU F10077); largest female 30.3 by 23.7 mm (NTOU F10078); smallest mature female 21.9 by 16.4 mm (NTOU F10079).

Distribution. - Northeastern Taiwan.

Remarks. - This species is allied to *G. nanao*, but it distinguished by the following aspects: 1. the carapace is more convex transversely and longitudinally, the carapace width and length being about 2.0 times and 1.6 times of the carapace length respectively; 2. the cervical groove is distinct and the anterolateral crista is lined with small granules; and 3. the total length of the G1 is about 5.8 times that of the terminal segment.

Etymology. - The species is named after the type locality, and the name is used as a noun in apposition.

***Geothelphusa olea*, new species**

(Fig. 28)

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

Material examined. - Holotype - Male, 21.9 by 16.5 mm (NTOU F10026), TAINAN HSIEN: Nanhsia, coll. J.Y. Shy & W.L. Tsay, 7.viii.1992.

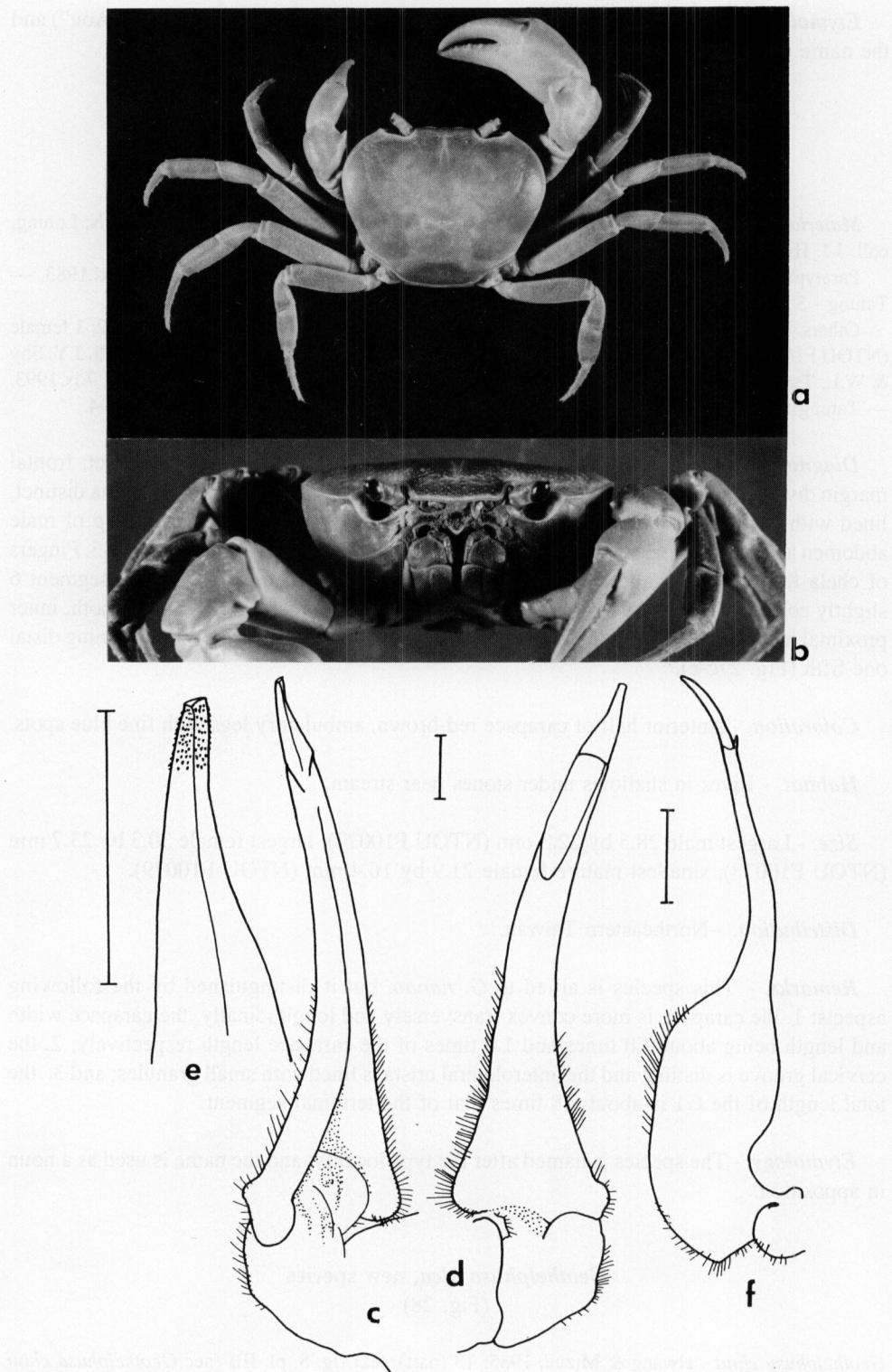


Fig. 28. *Geothelphusa olea*, new species. Holotype male, 30.1 by 23.8 mm. a: dorsal view; b: frontal view; c: ventral view of right G1; d: dorsal view of right G1; e: terminal segment of G1; f: ventral view of right G2. Scale = 1.0 mm.

Paratypes - TAINAN HSIEN: Nanhsia - 2 males, 1 female (NTOU F10026), coll. J.Y. Shy & W.L. Tsay, 7.viii.1992.

HSINCHU HSIEN: Peipu, Nanpu - 10 males, 3 females (NTOU F10046), coll. J.Y. Shy & K. Lee, 15.vi.1993.

Others - TAIPEI HSIEN: Chung-ho - 1 male, 1 female [ovigerous] (NTOU F10041), coll. C.S. Heh, 25.vi.1993; 2 males (NTOU F10032), coll. J.Y. Shy & C.S. Heh, 26.vi.1993. — Tanshui - 2 males, 1 female (NTOU F10118), coll. J.Y. Shy & K. Lee, 30.iv.1993. — Sanchih - 1 male, 2 females (NTOU F10119), coll. J.Y. Shy, 27.vi.1993; 1 male (NTOU F10120), coll. C.L. Lee, iii.1993.

TAOYUAN HSIEN: Fuhsing, Kaoyih - 1 male, 1 female (NTOU F10031), coll. J. Y. Shy & K. Lee, 14.vi.1993.

HSINCHU HSIEN: Herngshan - 1 male (NTOU F10051), coll. J.Y. Shy, 16.vi.1993.

MIAOLI HSIEN: Shanwan, Tahodi - 4 males (NTOU F100430), coll. J.Y. Shy & K. Lee, 15.vi.1993.

TAICHUNG HSIEN: Taiping, Tsao-hu - 1 male, 1 female (TMCD 2844), coll. H.C. Liu, 10.ix.1988; 1 male (TMCD 2847), coll. C.H. Wang, 15.x.1992. — Hoping, Tianlerng - 4 males, 2 females (NTOU F10039), coll. J.Y. Shy & W.L. Tsay, 19.x.1992; 1 male, 2 females (NTOU F10040), coll. J.Y. Shy & K. Lee, 29.vi.1993.

NANTOW HSIEN: Tsao-tun, Jeou-jeou-fong - 2 males, 2 females (NTOU F10028), coll. J.Y. Shy & K. Lee, 25.xi.1992. — Puli - 1 male (NTOU F10037), coll. J.Y. Shy & K. Lee, 27.xi.1992. — Shui-ku - 1 female [ovigerous] (NTOU F10047), coll. J.Y. Shy & K. Lee, 30.vi.1993.

YUNLIN HSIEN: Kukeng - 1 male, 1 female (NTOU F10050), coll. P.H. Ho, 5.ii.1992. — Linnei, Linpei - 1 male, 3 females [1 ovigerous] (NTOU F10042), coll. J.Y. Shy & K. Lee, 30.vi.1993.

CHIAYI HSIEN: Meishan - 1 female (NTOU F10049), coll. H. P. Yu, 9.xi.1982; 1 male, 1 female (NTOU F10033), coll. J.Y. Shy, 1.vii.1993. — Chuchi - 2 females (NTOU F10030), coll. J.Y. Shy & P.H. Ho, 16.xii.1990; 1 female (NTOU F10038), coll. J.Y. Shy & W.L. Tsay, 15.vii.1992; 1 male, 4 females (NTOU F10034), coll. J.Y. Shy, 21.xii.1992. — Chuchi, Paichii - 2 males (NTOU F10036), J.Y. Shy, 19.xii.1992. — Meishan, Yeongshing 2 males, 1 female (NTOU F10029), coll. J.Y. Shy & H.G. Lai. — Tapu, Tamaopu 3 males, 2 females (NTOU F10027), coll. J.Y. Shy & K. Lee, 28.xi.1992.

CHIAYI CITY: Juntou - 1 male, 1 female (NTOU F10048), coll. J.Y. Shy & H.G. Lai, 3.iv.1992. — TAINAN HSIEN: Yuching - 19 males, 2 females (NTOU F10044), coll. H.P. Yu, 12.xi.1983. — Nanshi - 1 female (NTOU F10045), coll. J.Y. Shy, 7.viii.1992.

KAOHSIUNG HSIEN: Sanmin, Minchu - 1 male (NTOU F10035), coll. J.Y. Shy & W.L. Tsay, 6.viii.1992.

Diagnosis. - Gastric region of carapace smooth. Anterolateral region slightly rough, branchial region flat. Epibranchial tooth faint, anterolateral crista distinct, lined with small, low granules. Fingers of chela forming wide, oval gape when closed. G1 slightly curved outwards, base of subterminal segment narrow, total length about 4.1 times width of base, outer proximal margin with a tooth; terminal segment moderately curved inwards, total length about 7.5 times of terminal segment length (Fig. 28c-e).

Coloration. - Carapace and ambulatory legs greenish-gray to yellowish-green. In younger individuals, the ambulatory legs are covered with scattered darker coloured stripes.

Habitat. - Lives in burrows along the banks of streams.

Size. - Largest male 35.4 by 28.2 mm (NTOU F10031); largest female 36.2 by 27.9 mm (NTOU F10030); smallest mature female 21.2 by 17.0 mm (NTOU F10044).

Distribution. - Western Taiwan.

Remarks. - This species is allied to *G. albogilva*, but it distinguished by the following aspects: 1. the anterolateral crista is distinct, lined with small granules and has a small epibranchial tooth; 2. the base of the G1 subterminal segment is narrow and the length of

the synovial membrane is about 4.4 times that of the width; and 3. the distance between the tip of the male abdomen and anterior margin of sternite 4 is about 1.4 times of sternites 1-3 (about 1.7 times in *G. albogilva*).

Etymology. - The name is derived from the Latin for olive, alluding to the colour of the carapace. The name is used as a noun in apposition.

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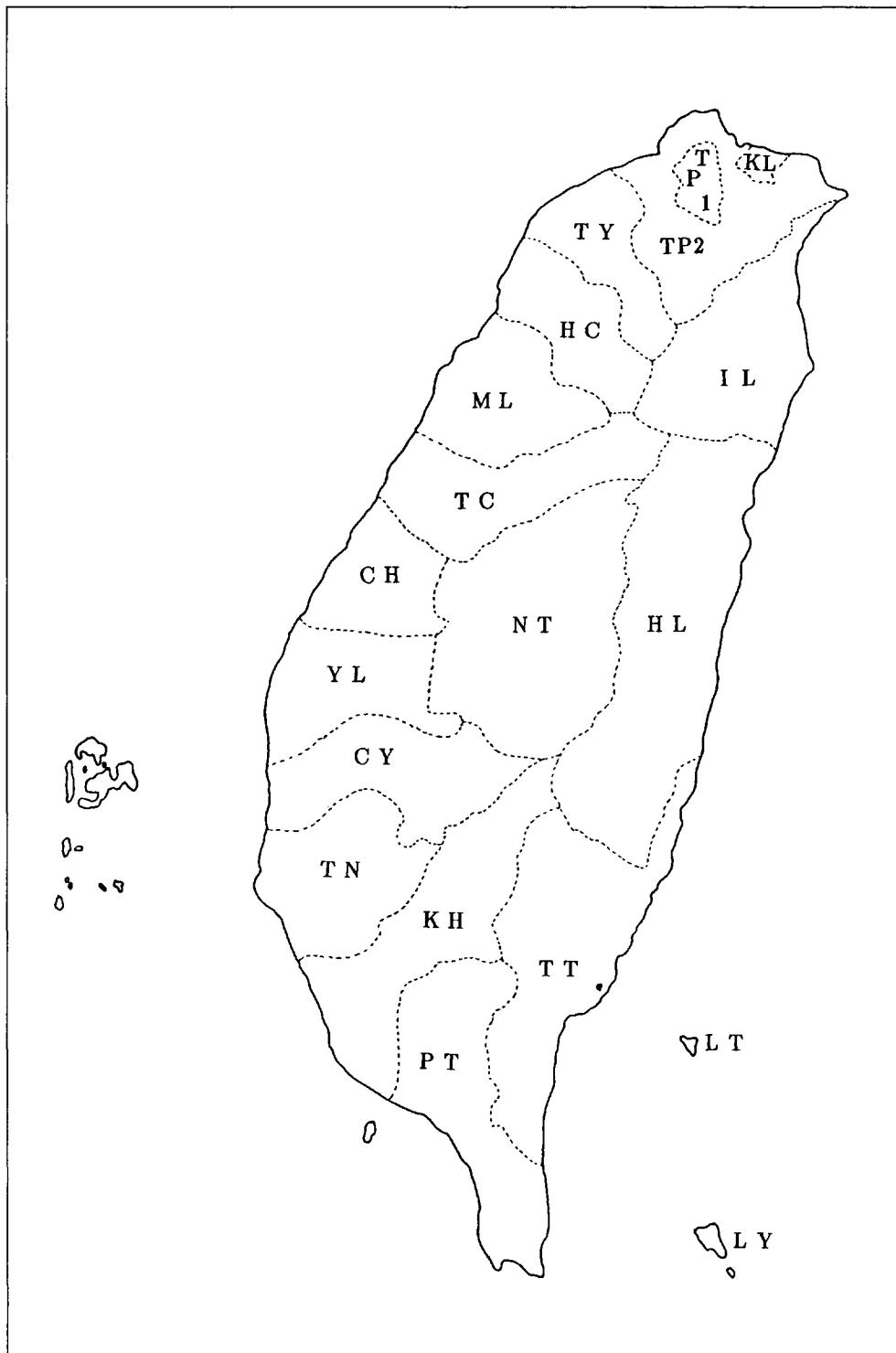


Fig. 29. Map of Taiwan showing main districts.: (TP1) Taipei City; (TP2) Taipei Hsien; (KL) Keelung City; (TY) Taoyung Hsien; (HC) Hsinchu Hsien; (ML) Miaoli Hsien; (TC) Taichung Hsien; (CH) Chunghwa Hsien; (NT) Nantow Hsien; (YL) Yunlin Hsien; (CY) Chiayi Hsien; (TN) Tainan Hsien; (KH) Kaohsiung Hsien; (PT) Pingtung Hsien; (IL) Ilan Hsien; (HL) Hwalien Hsien; (TT) Taitung Hsien; (LT) Lutao; (LY) Lanyu.

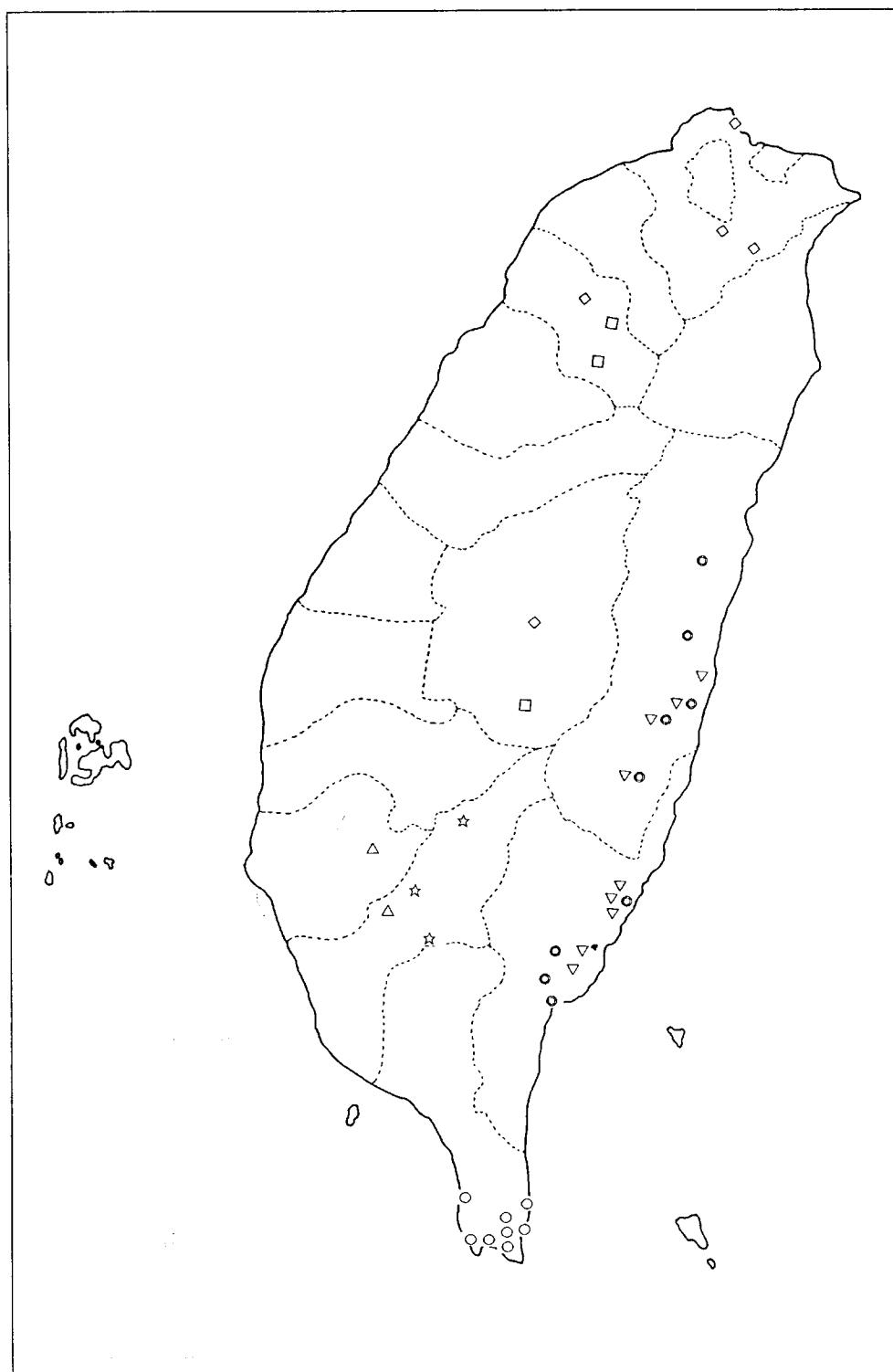


Fig. 30. The distributions of seven species of freshwater crabs in Taiwan.

○ : *G. albogilva*; △ : *G. ancylophallus*; ◎ : *G. bicolor*; ☆ : *G. caesia*;
◇ : *G. candidiensis*; □ : *G. chiui*; ▽ : *G. cinerea*.

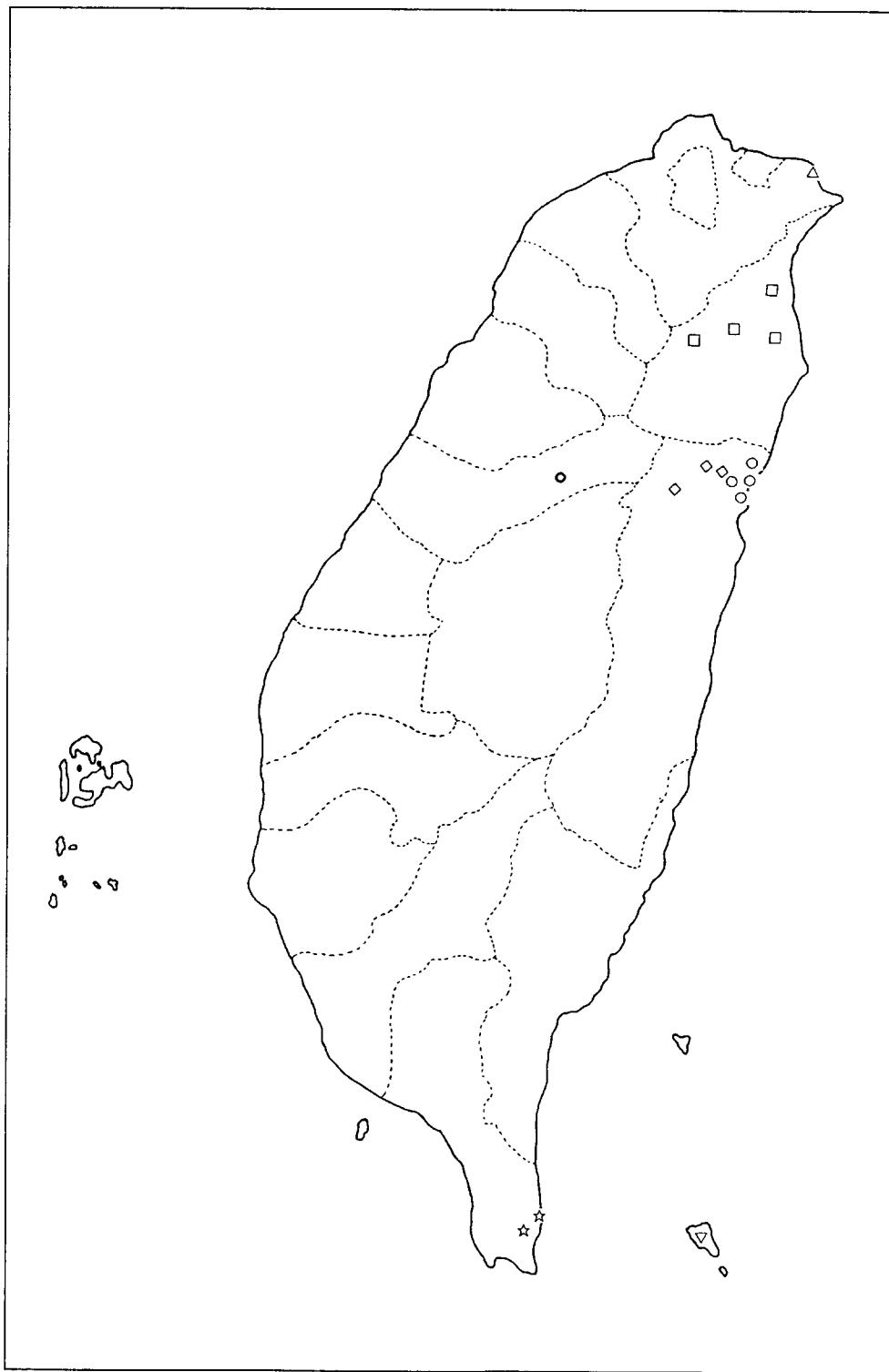


Fig. 31. The distributions of seven species of freshwater crabs in Taiwan.

○ : *G. dolichopodes*; △ : *G. eucrinodonta*; ◎ : *G. eurysoma*; ☆ : *G. ferruginea*;
◇ : *G. gracilipes*; □ : *G. ilan*; ▽ : *G. lanyu*.

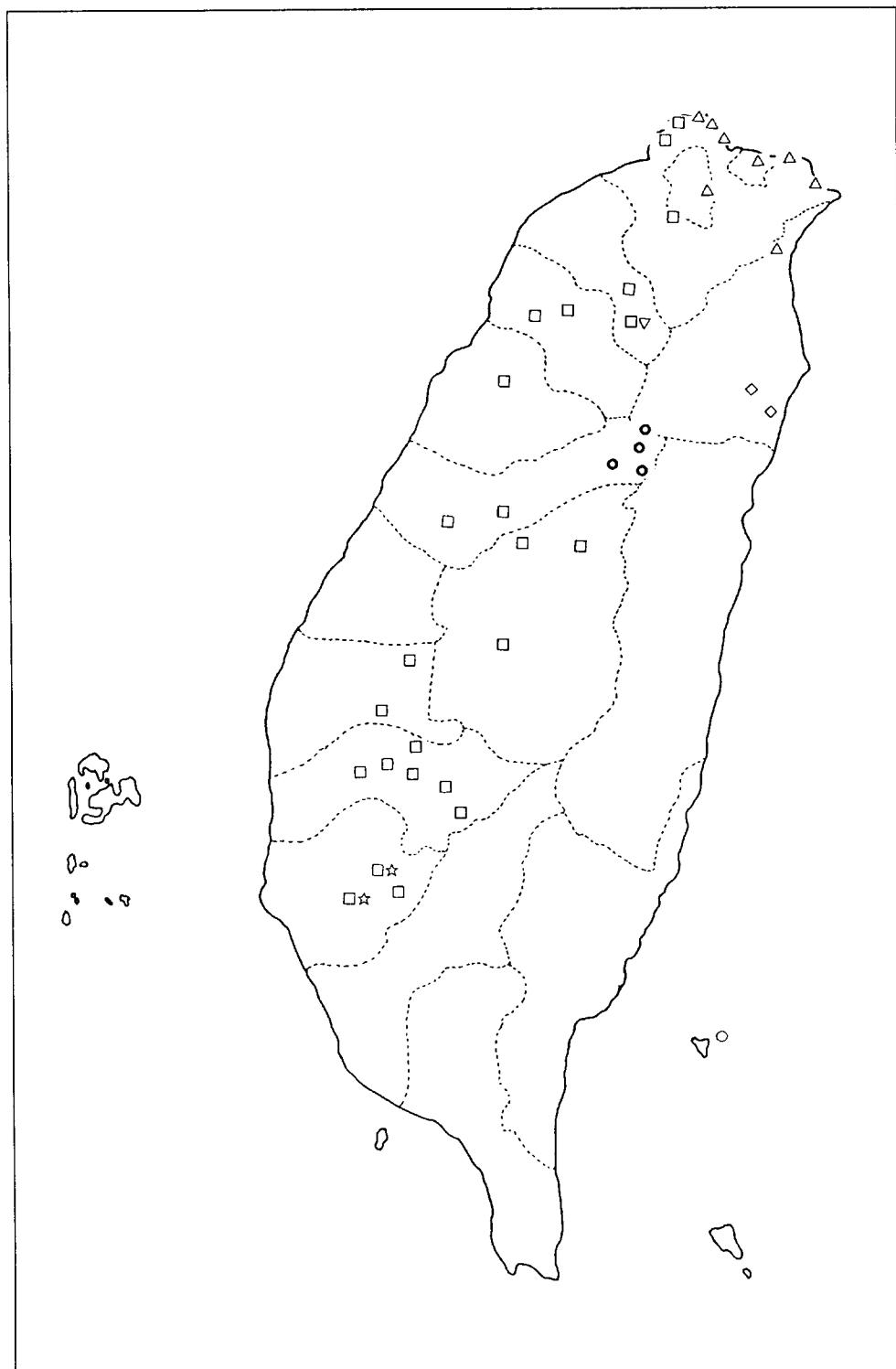


Fig. 32. The distributions of seven species of freshwater crabs in Taiwan.

○ : *G. lutoa*; △ : *G. miyazakii*; ◎ : *G. monticola*; ☆ : *G. nanhsia*;
◇ : *G. nanao*; □ : *G. olea*; ▽ : *G. takuan*.

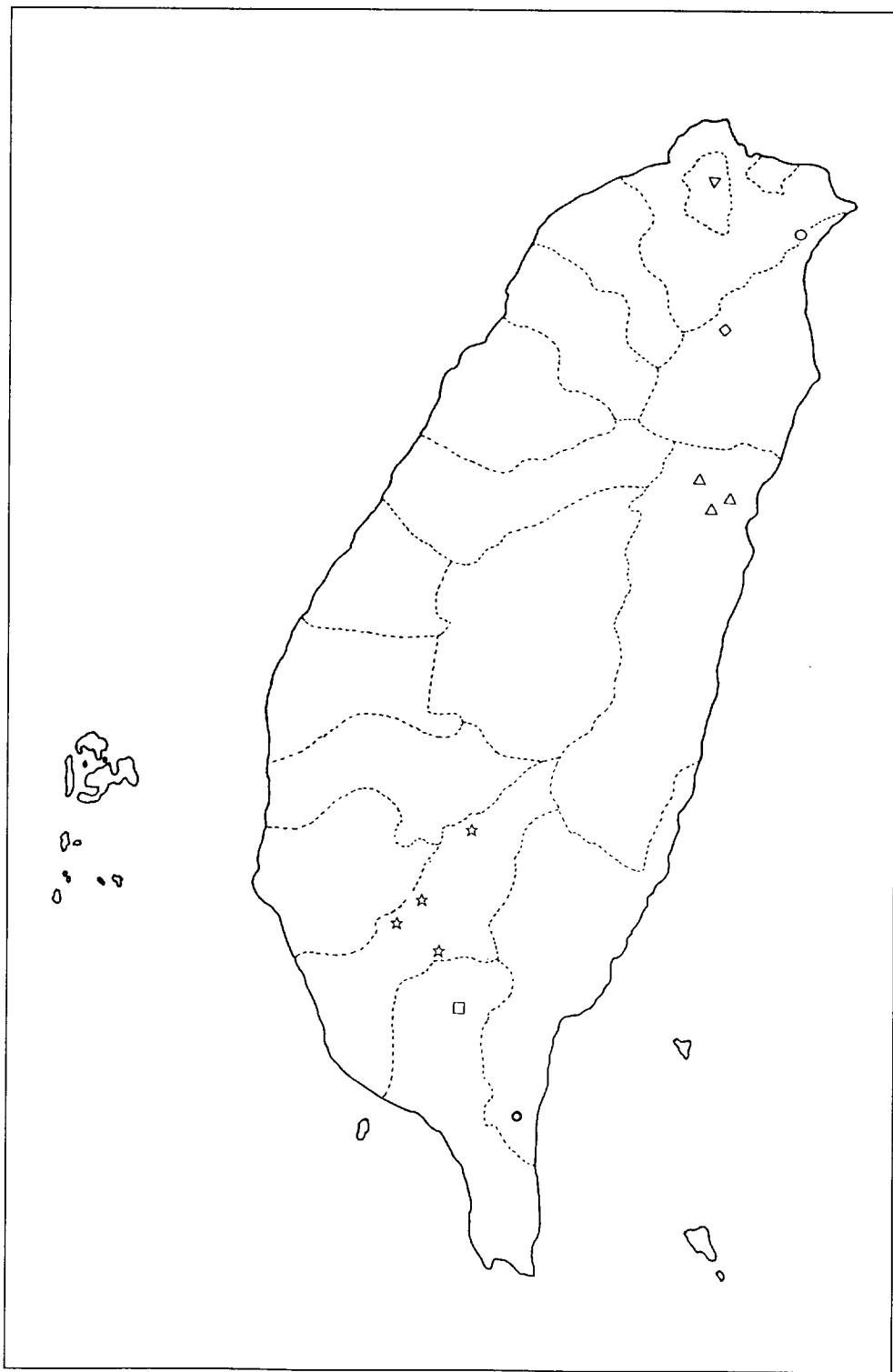


Fig. 33. The distributions of seven species of freshwater crabs in Taiwan.

○ : *G. tali*; △ : *G. taroko*; ◎ : *G. tawu*; ☆ : *G. tsayae*;
◇ : *G. wangii*; □ : *G. wutai*; ▽ : *G. yangmingshan*.

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