

Crustacea Decapoda : New species and new records of Ethusinae (Dorippidae) from Vanuatu

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ABSTRACT

During the MUSORSTOM 8 cruise in Vanuatu, in September and October 1994, 12 species belonging in the genera *Ethusa* and *Ethusina* were collected. Two of them, *Ethusina microspina* and *E. vanuatuensis*, are new; all the others are recorded for the first time in Vanuatu.

RÉSUMÉ

Crustacea Decapoda : Nouvelles espèces et nouvelles récoltes d'Ethusinae (Dorippidae) en Vanuatu.

Lors de la campagne MUSORSTOM 8 faite en Vanuatu en septembre et octobre 1994, 12 espèces appartenant aux genres *Ethusa* et *Ethusina* (Dorippidae) ont été récoltées. Deux de ces espèces, *Ethusina microspina* et *E. vanuatuensis*, sont nouvelles. Les dix autres sont mentionnées pour la première fois en Vanuatu.

This report is based on the samples collected in Vanuatu during the MUSORSTOM 8 cruise in September and October 1994. A total of 12 species belonging to 2 genera (*Ethusa* and *Ethusina*) of the subfamily Ethusinae have been identified, of which two species, *Ethusina microspina* and *Ethusina vanuatuensis*, are described as new. The other species are reported for the first time from Vanuatu.

Species of genus *Ethusa* were taken from depths of 180-956 m and those of the genus *Ethusina* from 437-1620 m.

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LIST OF SPECIES

Genus *ETHUSA* Roux, 1830*Ethusa furca* Chen, 1993*Ethusa granulosa* Ihle, 1916*Ethusa indica* Alcock, 1896*Ethusa izuensis* Sakai, 1937*Ethusa major* Chen, 1993*Ethusa makasarica* Chen, 1993*Ethusa minuta* Sakai, 1937Genus *ETHUSINA* Smith, 1884*Ethusina desciscens* Alcock, 1896*Ethusina longipes* Chen, 1987*Ethusina microspina* sp. nov.*Ethusina robusta* Miers, 1886*Ethusina vanuatuensis* sp. nov.

SYSTEMATIC ACCOUNT

Subfamily ETHUSINAE Guinot, 1977

Genus *ETHUSA* Roux, 1830*Ethusa furca* Chen, 1993*Ethusa furca* Chen, 1993: 321, fig. 4.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 980, 19°21.02'S, 169°25.22'E, 433-450 m, 22.09.1994: 1 ♂ 5.8 x 5.4 mm (MNHN-B 27493).

DISTRIBUTION. — New Caledonia and Vanuatu.

Ethusa granulosa Ihle, 1916*Ethusa granulosa* Ihle, 1916: 143, fig. 76. — SERÈNE, 1968: 40. — CHEN, 1993: 323, fig. 5.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. DW 1046, 16°53.62'S, 168°11.08'E, 461-480 m, 30.09.1994: 1 ♀ 8.0 x 7.5 mm (MNHN-B 27494). — St. DW 972, 19°21.94'S, 169°28.07'E, 487-507 m, 20.09.1994: 1 ♀ 8.9 x 9.0 mm (MNHN-B 27495). — St. CP 975, 19°23.60'S, 169°28.93'E, 536-566 m, 22.09.1994: 1 ♂ 6.8 x 6.1 mm (MNHN-B 27496). — St. DW 1045, 16°54.50'S, 168°20.37'E, 459-488 m, 30.09.1994: 1 ♂ 8.9 x 8.1 mm (MNHN-B 27497).

DISTRIBUTION. — Indonesia, New Caledonia and Vanuatu.

Ethusa indica Alcock, 1896

Ethusa indica Alcock, 1894: 405; 1896: 283. — ALCOCK & ANDERSON, 1895, pl. 14 fig. 2. — IHLE, 1916: 136. — SAKAI, 1965: 24, pl. 11 fig. 4; 1976: 64, fig. 27. — SERÈNE, 1968: 40. — CHEN, 1985: 189, figs 8-9, pl. 1 fig. 1, pl. 2 fig. 5; 1986: 128, fig. 10(45-49); 1993: 324; 1997: 618. — DAI & YANG, 1991: 59, figs 27(3-4), pl. 6(4).

Ethusa gracilipes - SERÈNE & LOHAVANIJAYA, 1973: 35, figs 56-59, pl. 14 figs c-d. — SERÈNE & VADON, 1981: 119, 121 [Not *Ethusa (Ethusina) gracilipes* Miers, 1886].

Ethusa serenei Sakai, 1983: 4.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 991, 18°51.26'S, 168°52.19'E, 910-936 m, 24.09.1994: 1 ♀ 12.0 x 12.5 mm (MNHN-B 27498). — St. CP 992, 18°52.34'S, 168°55.16'E, 748-775 m, 24.09.1994: 1 ♂ 10.8 x 11.5 mm; 1 ♀ 9.5 x 9.6 mm; 1 ovig. ♀ 11.6 x 12.5 mm (MNHN-B 27499). — St. CP 1007, 18°51.97'S, 168°55.92'E, 720-830 m, 25.09.1994: 1 ovig. ♀ 9.9 x 11.0 mm (MNHN-B 27500). — St. CP 1075, 15°53.26'S, 167°27.21'E, 944-956 m, 04.10.1994: 1 ♂ (broken); 3 ♀ 9.9 x 11.0 - 10.0 x 11.0 mm (MNHN-B 27501). — St. CP 1080, 15°57.30'S, 167°27.73'E, 799-850 m, 05.10.1994: 2 ♂ 8.3 x 8.0, 8.5 x 8.4 mm (MNHN-B 27502).

DISTRIBUTION. — East China Sea, South China Sea, Japan, the Philippines, Indonesia, New Caledonia and Vanuatu.

Ethusa izuensis Sakai, 1937

Ethusa izuensis Sakai, 1937: 80, fig. 4; 1965: 23, pl. 12 figs 1-2; 1976: 66, figs 26d, 29. — SERÈNE, 1968: 40. — TAKEDA & MIYAKE, 1972: 67. — SERÈNE & VADON, 1981: 119. — CHEN, 1985: 193, figs 11-12, pl. 1 fig. 2; 1986: 131, fig. 12(59-61); 1993: 324. — DAI & YANG, 1991: 58, figs 27(5-6), pl. 6(5).

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. DW 1060, 16°13.82'S, 167°20.80'E, 375-397 m, 02.10.1994: 1 juv. ♀ 4.6 x 4.8 mm (MNHN-B 27503).

DISTRIBUTION. — China, Japan, the Philippines, New Caledonia and Vanuatu.

Ethusa major Chen, 1993

Ethusa major Chen, 1993: 326, fig. 8.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 1124, 15°01.72'S, 166°56.51'E, 512-599 m, 09.10.1994: 1 ♀ 15.5 x 15.0 mm (MNHN-B 27504).

DISTRIBUTION. — Coral Sea, Indonesia, Chesterfield Islands, New Caledonia and Vanuatu.

Ethusa makasarica Chen, 1993

Ethusa makasarica Chen, 1993: 327, fig. 9.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 1124, 15°01.72'S, 166°56.51'E, 532-599 m, 09.10.1994: 4 ♂ 14.0 x 15.0 - 15.6 x 16.3 mm; 1 ♀ 17.5 x 19.0 mm (MNHN-B 27505). — St. 991, 18°51.26'S, 168°52.19'E, 910-936 m, 24.09.1994: 2 ♂ 14.0 x 15.0 mm; 16.0 x 17.5 mm (MNHN-B 27506).

DISTRIBUTION. — Indonesia and Vanuatu.

Ethusa minuta Sakai, 1937

Ethusa minuta Sakai, 1937: 81, pl. 11 fig. 2; 1965: 23, pl. 11 fig. 4. — CHEN, 1985: 193, figs 11-12, pl. 1 fig. 2; 1986: 131, figs 12(55-58); 1993: 329, fig. 10. — TAKEDA & MIYAKE, 1972: 68. — DAI & YANG, 1991: 58, figs 27(1-2), pl. 6(3).

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. 1071, 15°36.63'S, 167°16.34'E, 180-191 m, 04.10.1994: 1 ♂ 4.0 x 4.0 mm (MNHN-B 27507). — St CP 963, 20°20.10'S, 169°49.08'E, 400-440 m, 21.09.1994: 2 ♂ 9.0 x 8.7, 7.7 x 7.3 mm (MNHN-B 27508).

DISTRIBUTION. — East China Sea, Japan, the Philippines, Indonesia, Coral Sea, Chesterfield Islands, New Caledonia and Vanuatu.

Genus *ETHUSINA* Smith, 1884

Ethusina desciscens Alcock, 1896

Ethusina desciscens Alcock, 1896: 286. — ALCOCK & McARDLE, 1903: pl. 2 figs 2-2a. — CHEN, 1985: 197; 1986: 136, figs 15(71-73); 1987: 689, fig. 7, pl. 2 F.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 1109, 14°52.20'S, 167°18.00'E, 1550-1620 m, 08.10.1994: 1 ♀ 10.7 x 10.3 mm (MNHN-B 27509).

DISTRIBUTION. — Madagascar, Laccadive Sea, Andaman Sea, Indonesia, the Philippines, China, Vanuatu.

Ethusina longipes Chen, 1987

Ethusina longipes Chen, 1987: 687, fig. 6, pl. 2 D-E.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 1110, 14°49.16'S, 167°15.18'E, 1360 m, 08.10.1994: 1 ♂ 7.8 x 7.1 mm (MNHN-B 27510). — St. CP 956, 20°33.41'S, 169°35.95'E, 1175-1210 m, 20.09.1994: 1 ♂ 7.3 x 7.1 mm (MNHN-B 27511).

DISTRIBUTION. — Madagascar (N.W. coast) and now Vanuatu.

Ethusina microspina sp. nov.

Figs 1-2, 5

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 992, 18°52.34'S, 168°55.16'E, 775-748 m, 24.09.1994: ♂ holotype 6.0 x 6.2 mm (MNHN-B 27512). — St. CC 996, 18°52.41'S, 168°55.73'E, 764-786 m, 24.09.1994: 2 ♀ paratypes 9.0 x 9.2 mm, 8.9 x 9.0 mm ovig. (MNHN-B 27513). — St. CP 1074, 15°48.42'S, 167°24.27'E, 775-798 m, 04.10.1994: 1 ♂ paratype 6.1 x 6.2 mm (MNHN-B 27514).

Carapace slightly broader than long, anterior narrow, posterior broad, female carapace more swollen than male. Dorsal surface covered with short pubescence, mesogastric and branchial regions slightly convex. Middle line of cardiac region depressed, its lateral sides convex. Cervical, branchial and branchiocardiac grooves broad and shallow in male, thin in female. Front divided into 4 teeth by one V-shaped and two U-shaped notches: median teeth and lateral teeth short spine-shaped; outer border of lateral teeth to exorbital spine obliquely straight. Exorbital tooth minutely spined, part of eyestalk visible from dorsal view, more distinct in female than in male. Anterolateral border slightly sinuous, with a small incision located between anterolateral and posterolateral borders. Anterior half of posterolateral borders outwardly swollen, posterior half inwardly convergent. Median part of posterior border concave.

Male right cheliped slightly larger than left. Merus triprismatic. Larger palm swollen, 1.32 times as long as high; smaller palm 1.46 times as long as high. Fingers longer than palm, cutting edges with blunt teeth. Female chelipeds symmetrical.

Second pair of pereopods longest, merus 7 times as long as high. Carpus shorter than propodus. Dactylus longer than propodus. Last two legs slender and short, with sparsely distributed short setae. Merus of last leg 6 times as long as high.

Male abdomen consists of five segments (3rd-5th fused): first segment 3.5 times as broad as long; second segment 8 times as broad as long; distal half of lateral border of fused section (segments 3rd-5th) inwardly convergent, its basal half swollen; sixth segment square, median line of its anterior border concave, anterior outer border of each side bluntly rounded; telson semi-rounded. Female abdomen divided into seven segments: length of segments 1-5 about equal; segments 1-3 gradually broadening; segments 4-6 to telson gradually convergent; sixth segment trapezoid, and telson broadly triangular.

Male first pleopods stout, proximal part stouter than distal part, with 2 blunt processes near distal part. Second male pleopods slender, not thin, distal half narrower than proximal half.

REMARKS. — This new species is similar to *Ethusina brevidentata* Chen, 1993 but it may be distinguished from the latter by its carapace being broader than long, by having short pubescence, lacking sharp granules; only part of eyestalk visible from dorsal view; minutely spined exorbital tooth; asymmetrical male chelipeds; semi-rounded telson of male abdomen; male first pleopods with two processes near distal part and slightly stouter second pleopods.

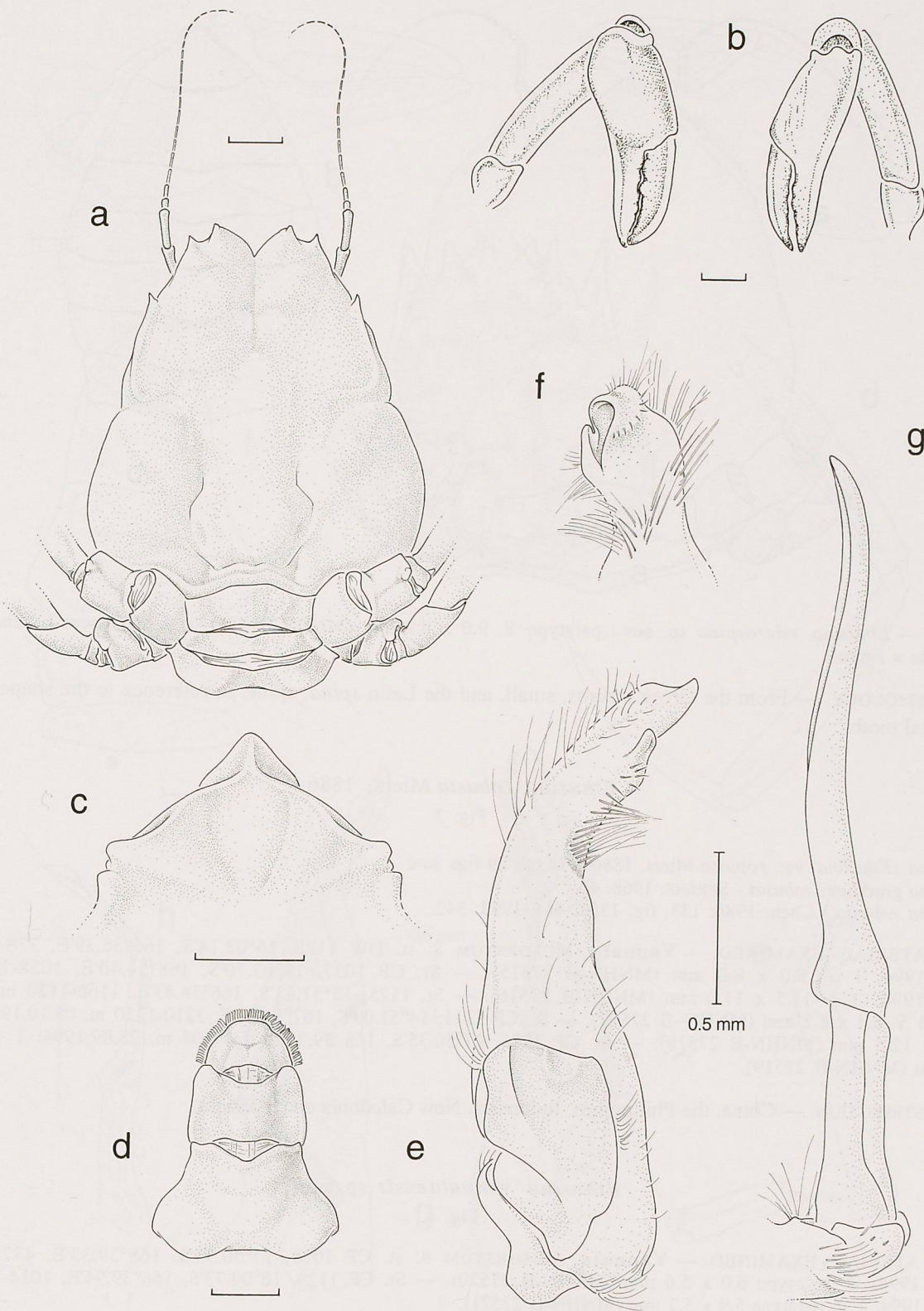


FIG. 1. — *Ethusina microspina* sp. nov.: holotype ♂ 6.0 x 6.2 mm (MNHN-B 27512): **a**, carapace; **b**, chelipeds (ventral view); **c**, anterior sternal shield; **d**, abdomen; **e-f**, first pleopod; **g**, second pleopod. Scales = 1 mm.

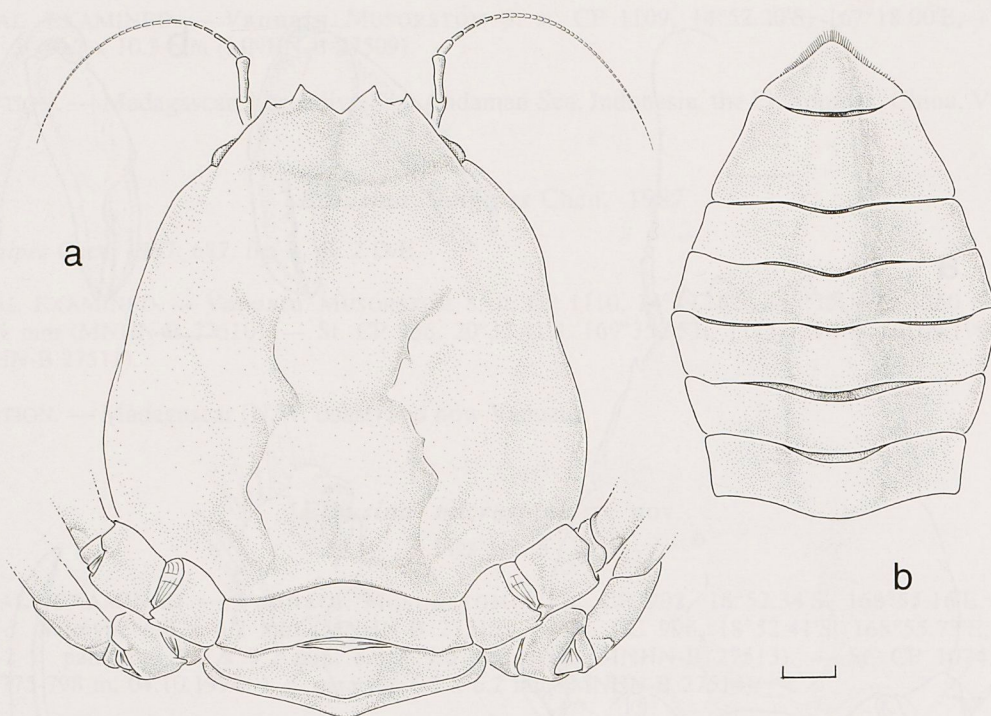


FIG. 2. — *Ethusina microspina* sp. nov.: paratype ♀ 9.0 x 9.2 mm (MNHN-B 27513): a, carapace; b, abdomen. Scale = 1 mm.

ETYMOLOGY. — From the Greek *mikros*, small, and the Latin *spina*, spine, in reference to the shape of the exorbital tooth.

***Ethusina robusta* Miers, 1886**

Fig. 3

Ethusina (Ethusina) var. robusta Miers, 1886: 333, pl. 29 figs 2a-c.

Ethusina gracilipes robusta - SERÈNE, 1968: 40.

Ethusina robusta - Chen, 1986: 133, fig. 13(62-66); 1993: 342.

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. DW 1128, 16°02.14'S, 166°38.39'E, 778-811 m, 10.10.1994: 1 ♀ 8.0 x 8.0 mm (MNHN-B 27515). — St. CP 1037, 18°03.70'S, 168°54.40'E, 1058-1086 m, 29.09.1994: 1 ♂ 11.5 x 11.0 mm (MNHN-B 27516). — St. 1125, 15°57.63'S, 166°38.43'E, 1160-1120 m, 10.10.1994: 1 ♀ 8.1 x 8.2 mm (MNHN-B 27517). — St. CP 1111, 14°51.09'S, 167°14.00'E, 1210-1250 m, 08.10.1994: 1 ♀ 12.3 x 12.5 mm (MNHN-B 27518). — St. CP 1026, 17°50.35'S, 168°39.33'E, 437-504 m, 28.09.1994: 1 ♀ 7.9 x 7.9 mm (MNHN-B 27519).

DISTRIBUTION. — China, the Philippines, Indonesia, New Caledonia and Vanuatu.

***Ethusina vanuatuensis* sp. nov.**

Fig. 4

MATERIAL EXAMINED. — **Vanuatu**. MUSORSTOM 8: st. CP 1026, 17°50.35'S, 168°39.33'E, 437-504 m, 28.09.1994: ♂ holotype 6.0 x 5.6 mm (MNHN-B 27520). — St. CP 1129, 16°00.73'S, 166°39.94'E, 1014-1050 m, 10.10.1994: 1 ♂ paratype 5.9 x 5.7 mm (MNHN-B 27521).

Carapace slightly longer than broad, covered with short pubescence. Cervical groove narrow, branchial groove broad and shallow. Protogastric, mesogastric, metogastric and branchial regions slightly convex. Cardiac region

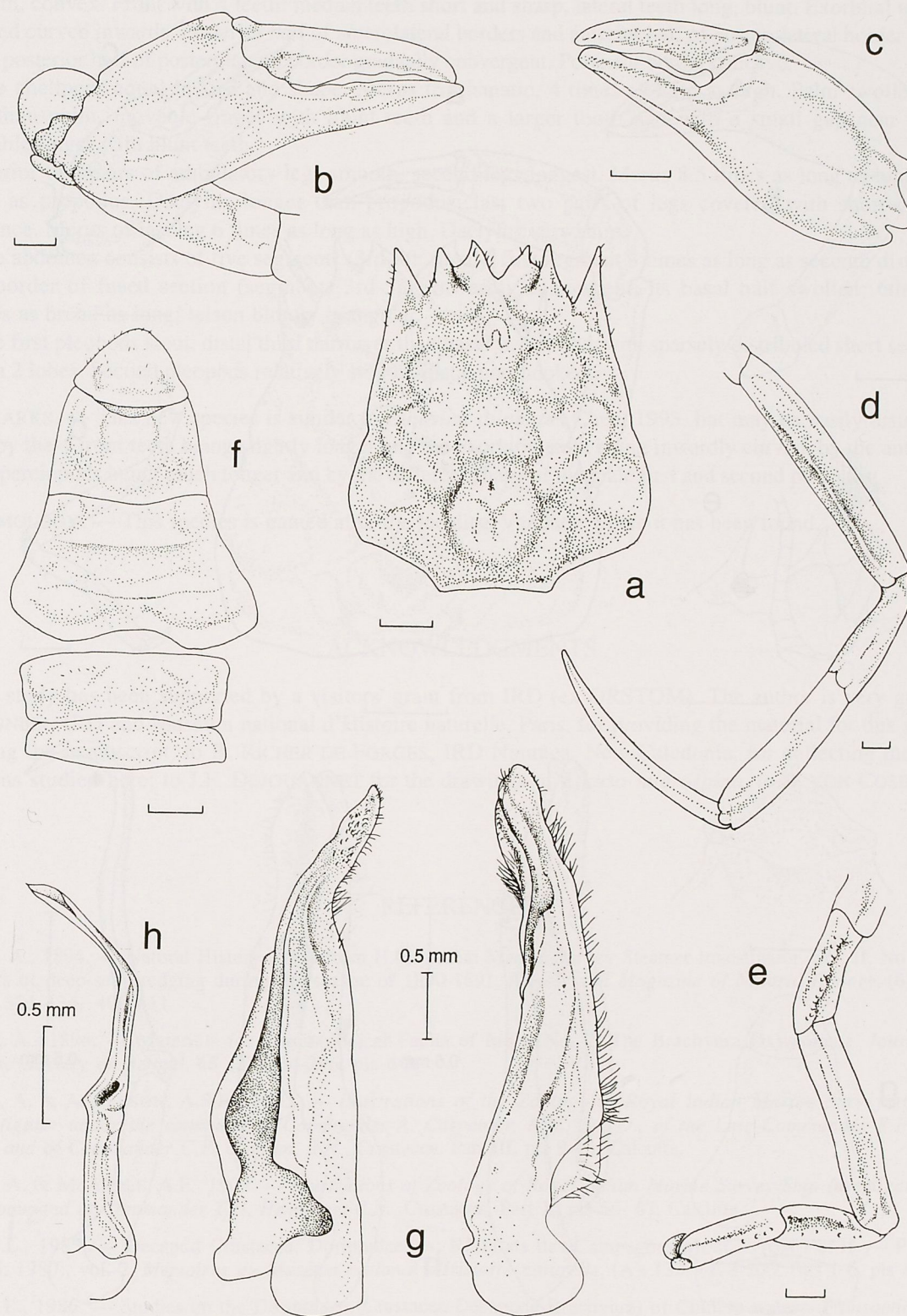


FIG. 3. — *Ethusina robusta* Miers, 1886. ♂ 11.5 x 11.0 mm (MNHN-B 27516): a, carapace; b, right cheliped (ventral view); c, left chela (ventral view); d, right second leg; e, right last leg; f, abdomen; g, first pleopod; h, second pleopod. Scales = 1 mm.

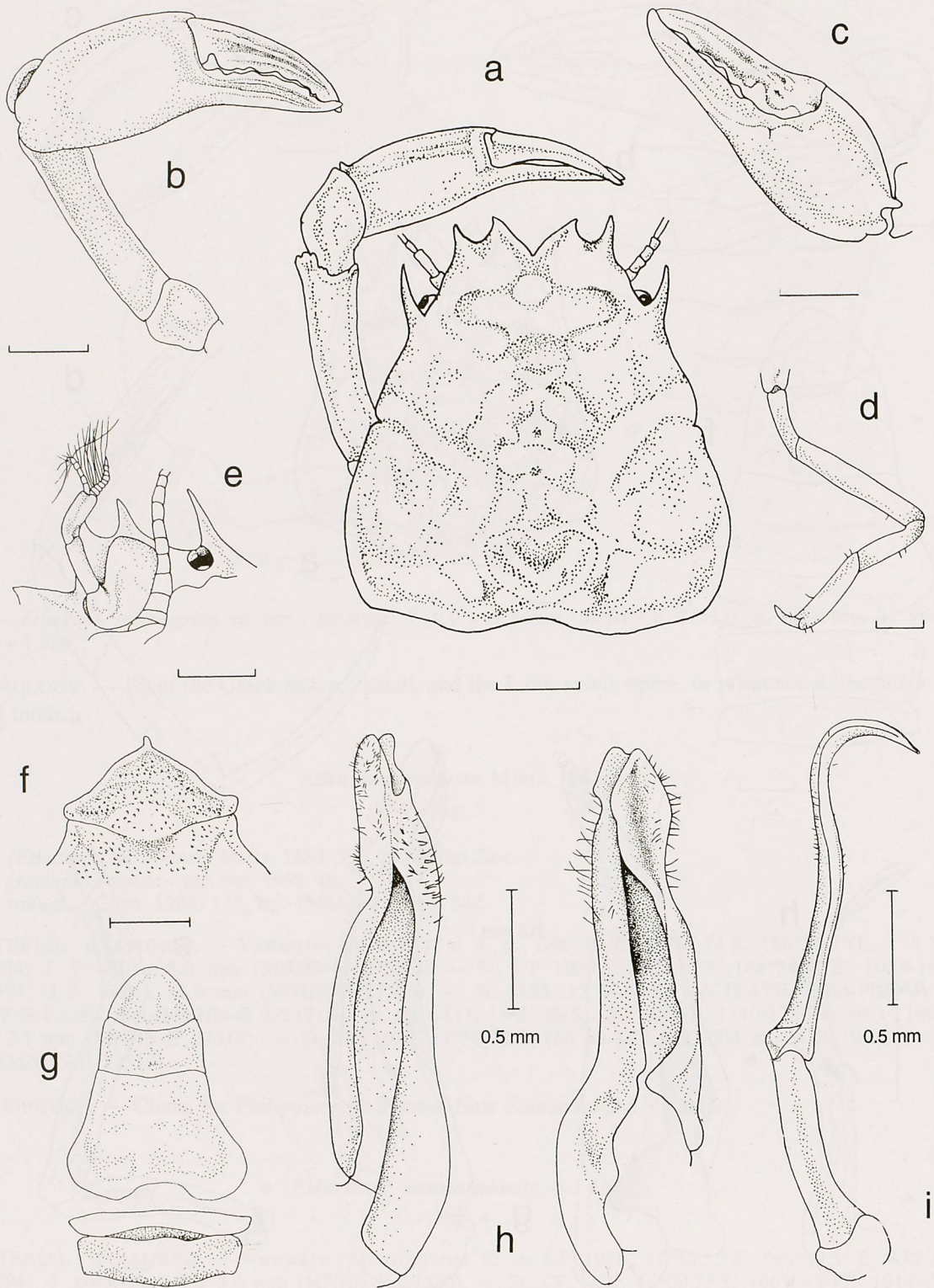


FIG. 4. — *Ethusina vanuatuensis* sp. nov.: holotype ♂ 6.0 x 5.6 mm (MNHN-B 27520): **a**, carapace and left cheliped; **b**, right cheliped (ventral view); **c**, left chela (ventral view); **d**, right fifth leg; **e**, anterior portion of carapace (ventral view); **f**, anterior sternal shield; **g**, abdomen; **h**, first pleopod; **i**, second pleopod. Scales = 1 mm.

cordiform, convex. Front with 4 teeth: median teeth short and sharp, lateral teeth long, blunt. Exorbital teeth long, sharp, and curved inwards. Posterior half of anterolateral borders and anterior half of posterolateral border gradually convex, posterior half of posterolateral border gradually convergent. Posterior border concave.

Male chelipeds equal in size and shape. Merus triprismatic, 4 times as long as high. Palm swollen. Finger longer than palm, movable finger with blunt teeth and a larger tooth and with a small gap near the base; immovable finger with blunt teeth.

Anterior two pairs of ambulatory legs smooth, second legs longest. Merus 8.5 times as long as high. Carpus as long as propodus. Dactylus longer than propodus; last two pairs of legs covered with short and dense pubescence. Merus of last leg 6 times as long as high. Dactylus very short.

Male abdomen consists of five segments (3rd-5th fused): first segment 3 times as long as second; distal half of lateral border of fused section (segments 3rd-5th) inwardly convergent, its basal half swollen; 6th segment 2.2 times as broad as long; telson bluntly triangular.

Male first pleopods stout, distal third narrower than basal two-thirds, with sparsely distributed short setae, distal end with 2 lobes. Second pleopods relatively stouter, distal part hooked.

REMARKS. — This new species is similar to *Ethusina dilobotus* Chen, 1993, but may be easily distinguished from it by the 4 front teeth being slightly longer and the exorbital teeth being inwardly curved, by the anterior two pairs of pereopods being much longer and by the different shape of the male first and second pleopods.

ETYMOLOGY. — This species is named after the locality, Vanuatu, where it has been found.

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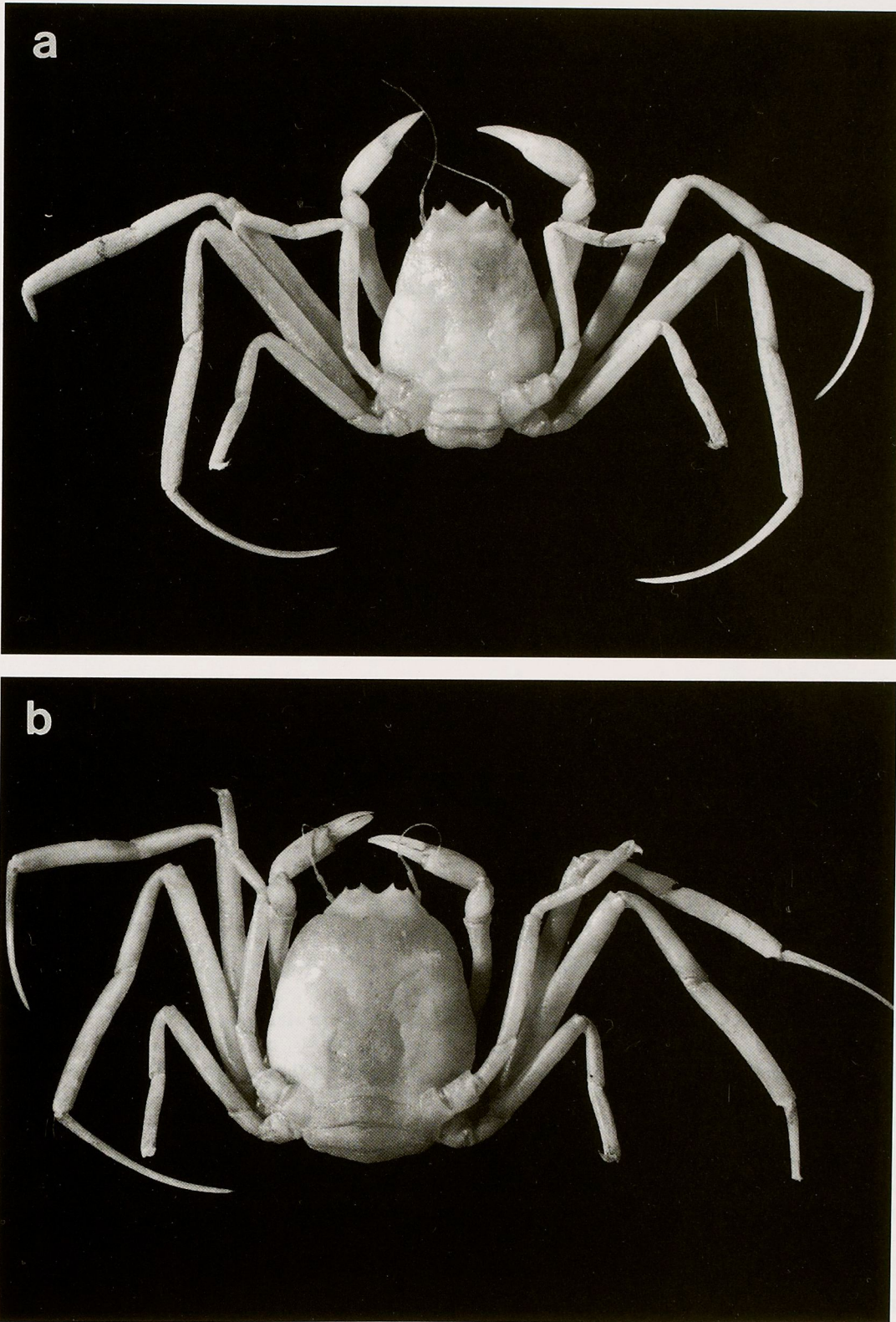


FIG. 5. — *Ethusina microspina* sp. nov.: a, holotype ♂ (MNHN-B 27512); b, paratype ♀ (MNHN-B 27513).

