

Description of a new species of *Tymolus* (Crustacea: Decapoda: Brachyura: Cyclodorippidae) from Taiwan

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陳瑞熙 黃榮富 記臺灣產一新種鬼蟹(甲殼綱：十足目：短尾類：圓形關公蟹科) 國立臺灣博物館專題論著第 10 輯：135-140, March 2000

摘要

本報告描述臺灣的一新種鬼蟹 *Tymolus hirtipes* sp. nov. 毛足鬼蟹。本新種體型較大，與相近種鉤突鬼蟹 *T. uncifer* 主要差異在其頭胸甲較寬及後兩對步足較短。鬼蟹屬亦是臺灣的新記錄。

關鍵詞：鬼蟹、新種、十足目、短尾類、圓形關公蟹科、臺灣。

Abstract

A new species of *Tymolus* is described from Taiwan. This relatively large size species, resembles *T. uncifer* (Ortmann, 1892) but can easily be differentiated from it by its carapace shape, which is broader than long, and very reduced third and fourth pair of ambulatory legs and shape of the male second pleopod. This is also the first record of this family from Taiwan.

Key words: *Tymolus*, new species, Decapoda, Brachyura, Cyclodorippidae, Taiwan.

Introduction

Tavares (1991, 1992, 1997) reviewed the genus *Tymolus* Stimpson, 1858, describing two new species (*T. brucei* Tavares, 1991, and *T. daviei* Tavares, 1997), resurrecting *T. dromioides* (Ortmann, 1892) and transferring *T. truncatus* (Ihle, 1916) from *Cyclodorippe* A. Milne-Edwards, 1880, into the genus. A total of seven species are now recognized in the genus.

A specimen of *Tymolus* recently obtained

from the northeastern part of Taiwan by the second author could not be keyed down to any of the seven species of *Tymolus*. Due to its relatively large size, this specimen superficially resembles *Tymolus uncifer* (Ortmann, 1892), but on closer examination, it differs from that species in several important aspects, mainly in the shape of the carapace, which is broader than long, as well as the very short last two ambulatory legs. The carapace shape of this new species is strongly reminiscent of *T. brucei*, but can be

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distinguished from it by its relatively large size, proportionately shorter P2 and P3, and the absence of the meral spines on these two pairs of legs. The specimen is herein described as a new.

Abbreviations used: P1-P5 refers to the first to the fifth pereopods; G1 and G2 refers to the first and second male pleopods respectively; Smithsonian Institution - USMN; Chiba Museum-CBM; and Collection of Seiji Nagai-CSN. Measurements are of the carapace width and length respectively.

The holotype is deposited in the Raffles Museum of Biodiversity Research, Zoological Reference Collection (ZRC), National University of Singapore.

Taxonomy

Tymolus hirtipes, new species

(Figs. 1, 2, 3, 4B)

Material examined: Holotype, male (10.2 by 8.5 mm) (ZRC), Taiwan: Ilan County, fishing port at Nangfangau, coll. J.-F. Huang, 2 IV 1992.

Diagnosis: Carapace subcircular, broader than long; dorsal surface finely tuberculated, flattened dorso-ventrally, regions well defined. Anterolateral margins smooth, without tubercles; about half length of posterolateral margin; epibranchial tooth present. Rostrum not projecting strongly outwards; 'neck'-like structure posterior to rostrum absent. Chela stout; carpus granulated, inner margin with blunt spine; dorsal surface smooth. P2 and P3 long, slender, about five times length of P4 and P5; P2 about 1.9 times carapace length; meri without dorsal terminal spine; propodus and dactylus slightly flattened; propodus with long hair. P4 and P5 very short, merus not reaching posterolateral margin. Male abdomen with segment six and telson fused, segment three broadest; telson broadly triangular, apex

blunt, lateral margins slightly concave. Male G1 bean-shaped, inner margin of basal segment slightly expanded. G2 stout, short, tip extending into fine filament.

Remarks: The present new species closely resembles *T. uncifer* (Ortmann, 1892) which has been reported from China and Japan (Sakai, 1976; Nagai, 1989; Dai and Yang, 1991; Tavares, 1991). *Tymolus hirtipes*, new species, however, can easily be differentiated from *T. uncifer* by its carapace shape. In *T. hirtipes*, the carapace is broader than long, whereas the carapace width is subequal to the length in *T. uncifer*. The carapace of *T. hirtipes* is also considerably less inflated when compared to *T. uncifer*. This character is particularly distinct when comparing similar sized specimens of both species, and can be used reliably to distinguish both species.

The P2 and P3 of both *T. hirtipes* and *T.*

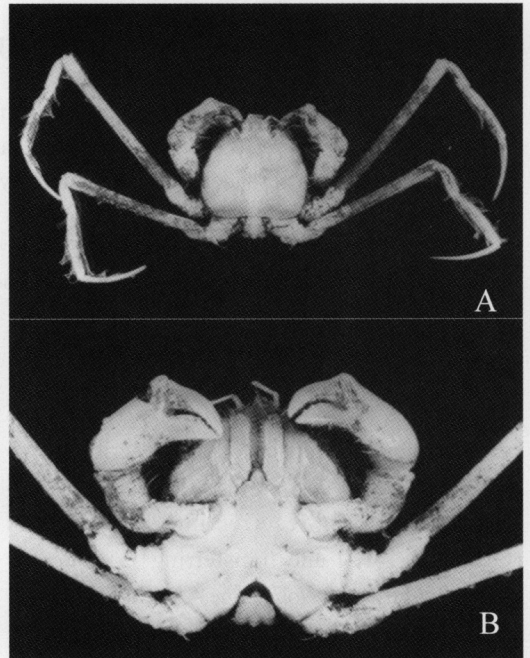


Fig. 1. *Tymolus hirtipes*, new species. A, Dorsal view B, Ventral view. Holotype, male (10.2 by 8.5 mm) (ZRC), Taiwan: Ilan County, fishing port at Nangfangau, coll. J.-F. Huang, 2 IV 1992.

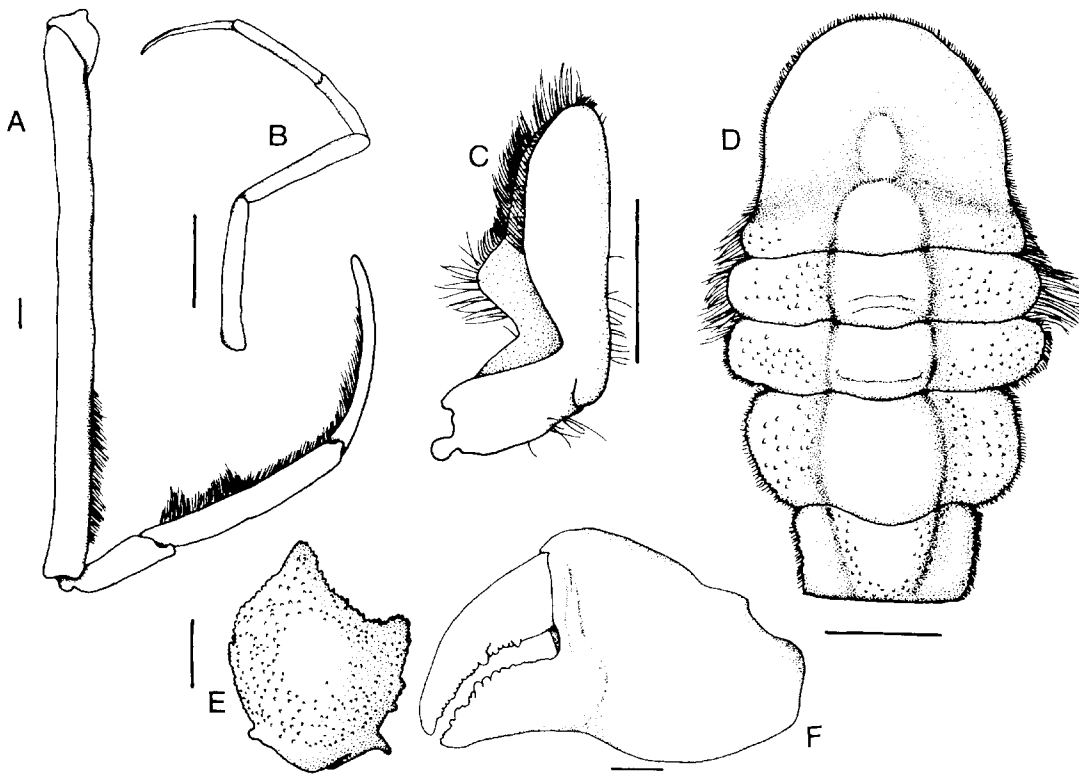


Fig. 2. *Tymolus hirtipes*, new species. A, Left P2; B, Left P5; C, Left G1; D, Abdomen; E, Left cheliped carpus; F, Left cheliped. Holotype, male (10.2 by 8.5 mm) (ZRC), Taiwan: Ilan County, fishing port at Nangfangau, coll. J.-F. Huang, 2 IV 1992. Scale bar: 1 mm.

uncifer are similar in length relative to the carapace length. However, *T. hirtipes* possess long setae along the margins of P2 and P3, especially on the carpus, propodus and dactylus. These setae are either absent or very short in *T. uncifer* as well as all known species of *Tymolus*. The P4 and P5 of *T. hirtipes* are also useful in differentiating these two species, with those of *T. hirtipes* being very short, while that of *T. uncifer* are considerably longer.

The lateral spines of the rostrum of *T. hirtipes* are also considerably blunter than that of *T. uncifer*. The rostral tip of the holotype of *T. hirtipes* appears to be damaged. As such, a direct comparison with *T. uncifer* is not possible at the

moment.

The G2 of *T. hirtipes* and *T. uncifer* are also different, with that of *T. hirtipes* appearing stouter than that of *T. uncifer* (fig. 4). In *T. hirtipes*, the basal region of the G2 appears bulbous, with a small constriction near the middle. The basal region of the G2 is less bulbous in *T. uncifer* and the constriction is absent.

The carapace shape of *T. hirtipes* is reminiscent of that of *T. brucei*, both of which are broader than long. On the basis of the original description and a pair of *T. brucei* from China, several differences can nevertheless be observed. *Tymolus brucei* appears to be a smaller-sized species, with the holotype measuring only 5.0 by

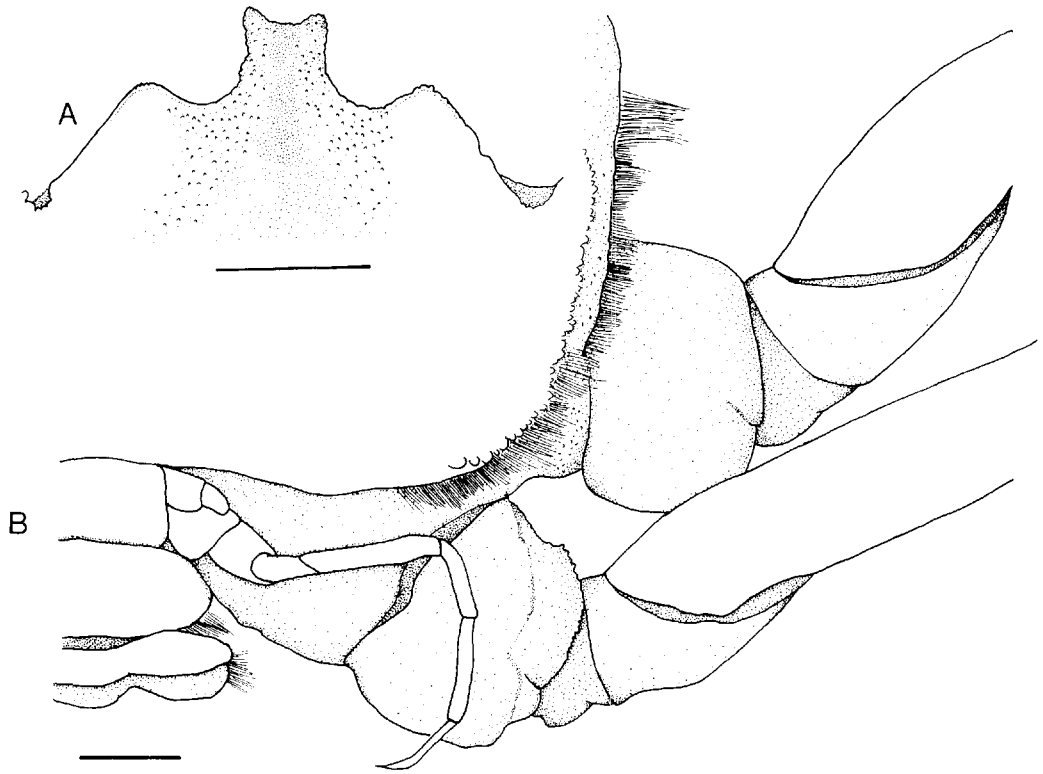


Fig. 3. *Tymolus hirtipes*, new species. A, Rostrum; B, Relative length of right P4 versus P2 and P3. Holotype, male (10.2 by 8.5 mm) (ZRC), Taiwan: Ilan County, fishing port at Nangfangau, coll. J.-F. Huang, 2 IV 1992. Scale bar: 1 mm.

4.0 mm and the female paratype 6.0 by 5.5 mm (Tavares, 1991). The present pair of specimens of *T. brucei* from China are also rather small, with the male specimen measuring only 5.0 by 4.0 mm, and the ovigerous female 5.7 by 5.1 mm. The holotype of *T. hirtipes* is twice the size of any *T. brucei* recorded thus far.

Comparison of the P2 and P3 reveal that those of *T. brucei* are relatively longer than those of *T. hirtipes*. The ratio of the length of the P2 to the carapace length of *T. brucei* is about 2.7 whereas it is about 1.9 in *T. hirtipes*. There are also dorsal distal meral spines present on the P2 and P3 of *T. brucei*, which are absent in *T. hirtipes*. The P4 and P5 of both these two species are, however, similar in size, with both being very

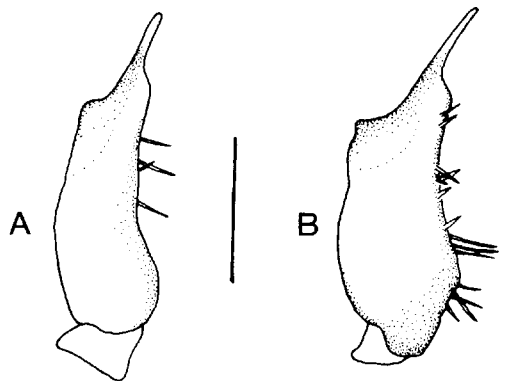


Fig. 4. Comparison of the G2 of similar size specimens. A, *T. uncifer*, male (10.0 by 10.1 mm) (USMN 120712), Japan: Tosa Bay, Shikoku Island, coll. T. and K. Sakai, 9 IX 1965. B, *T. hirtipes*, holotype, male (10.2 by 8.5 mm) (ZRC), Taiwan: Ilan County, fishing port at Nangfangau, coll. J.-F. Huang, 2 IV 1992.

short. The presence of *T. brucei* in China, incidentally, is a new record for the country.

The very short P4 and P5 of *T. hirtipes* are reminiscent of those of *T. daviei* Tavares, 1997. The ratio of the length of the P2 to the carapace length is similar in both species (1.9 versus 2.2 respectively). Characters that serve to differentiate *T. hirtipes* and *T. daviei* include the blunter lateral frontal spines of *T. hirtipes* and the absence of dorsal distal meral spines on the P2 and P3 (very prominent in *T. daviei*).

In his review, Tavares (1991) considered *T. glaucomma* (Alcock, 1894) as junior synonyms of *T. uncifer*. However, this synonymy has to be examined in greater detail. Firstly, Tavares (1991) did not examine the type specimens, and secondly, there are certain differences in their carapace shapes from *T. uncifer*. As it can be seen from this study, the shape of the carapace seems to be a good character in separation of species. According to the figure of *T. glaucomma* by Alcock and Anderson (1896: pl. 14, fig. 9, 9a), it can be seen that the carapace shape approaches that of *T. brucei* and *T. hirtipes*, in that the carapace is broader than long. The P2 and P3 also appear to be much longer proportionately in *T. glaucomma* than that in *T. uncifer*. Therefore, we are not so certain whether if *T. glaucomma* is a junior synonym of *T. uncifer*. Nevertheless, a reexamination of Alcock's material is clearly necessary to conclusively resolve this matter. However, comparing the figures of *T. glaucomma* by Alcock and Anderson (1896: pl. XIV, fig. 9, 9a) with *T. hirtipes*, the lateral rostral spines are considerably longer in *T. glaucomma*. *Tymolus glaucomma* also have prominent dorsal distal meral spines on the P2 and P3, which are absent in *T. hirtipes*. Tavares (1991) also synonymised *T. uncifera* forma *melanomma* Doflein (1904) with *T. uncifer* and we concur with this action.

Etymology: The specific name is derived

from the Latin words "hirsutes", which means hairy, and "pes", meaning foot. It is here used as a conjugated noun, specifically in reference to the relatively hairy P2 and P3 of this new species.

Comparative material.

***Tymolus uncifer*:** 4 males, 4 females (largest male 10.0 by 10.1 mm) (USMN 120712), Japan: Tosa Bay, Shikoku Island, coll. T. and K. Sakai, 9 IX 1965. - 3 females (CBM-ZC 4507), Japan: Boso Peninsular, Tateyama Bay, coll. T. Komai, 24 X 1996. - 1 female (ovigerous) (CSN), Japan: Off Shio-Misaki, Wakayama-kem, 33°24.75' N, 135°40.44'E to 33°24.70'N, 35°40.44'E. - 1 male (7.2 by 7.5 mm) (ZRC), Japan: Sagami Bay, coll. 1980s. - 2 males, 1 female (largest male 10.2 by 10.0 mm) (ZRC), Japan: Suruga Bay, off Heda, 380-980 m, coll. National Science Museum, Tokyo, 26 X 1993.

***Tymolus brucei*:** 1 male (5.0 by 4.0 mm), 1 female (ovigerous) (5.7 by 5.1 mm) (ZRC), China: East China Sea, mudsand substratum, 30°30'N, 127°56'E, coll. Tang and Xu, 1 VII. 1978.

***Tymolus daviei*:** 1 male, 1 female (ovigerous) (ZRC.1997.365), New Caledonia: Bathus 4, N/O "Alis", stn. CP 950, 705-750 m depth, 20° 31.93'S 164°56.11'E, 10 VIII 1994.

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