

**First Record of the Deep-sea Caridean Shrimp
Family Nematocarcinidae (Crustacea: Decapoda) from Taiwan**

Chia-Wei Lin¹ and Tin-Yam Chan¹

(Received 7 March 2000, Revised 9 May 2000, Accepted 12 May 2000)

ABSTRACT

The classical deep-sea benthic shrimp family Nematocarcinidae Smith, 1884 is reported from Taiwan for the first time. The single specimen collected is damaged and identified as *Nematocarcinus undulatipes* Bate, 1888. Color illustration and line drawings are provided for the Taiwanese specimen.

Key words: Crustacea, Nematocarcinidae, *Nematocarcinus*, new record, deep-sea, Taiwan.

INTRODUCTION

The family Nematocarcinidae Smith, 1884 is mostly well known by the genus *Nematocarcinus* A. Milne Edwards, 1881. Members of *Nematocarcinus* are classical deep-sea benthic shrimps (mostly greater than 500 m deep and as deep as 3931 m, Chace, 1986; Hayashi, 1988) with very long legs (but very often broken when caught). Although the eastern and southern Taiwan are deep-sea areas, no nematocarinid shrimps had been found before, probably due to the sampling depths of local vessels are mostly limited to about 500 m deep. During an ongoing study on the decapod crustacean fauna of Taiwan, a specimen of this family was obtained from the catches of deep-sea commercial trawlers operated off northeastern Taiwan. The Taiwanese specimen collected is damaged and is here identified as *Nematocarcinus undulatipes* Bate, 1888 mainly by following Chace (1986). The record of the family Nematocarcinidae from Taiwan once again shows that the island possess a very diverse deep-sea fauna. The specimen is deposited in the National Taiwan Ocean University, Keelung (NTOU). The measurement cl. is the carapace length excluding rostrum. The synonymy provided is restricted to original description and important references of the species.

¹Institute of Marine Biology, National Taiwan Ocean University, Keelung, Taiwan 202, R.O.C.

Taxonomic account

Nematocarcinidae Smith, 1884

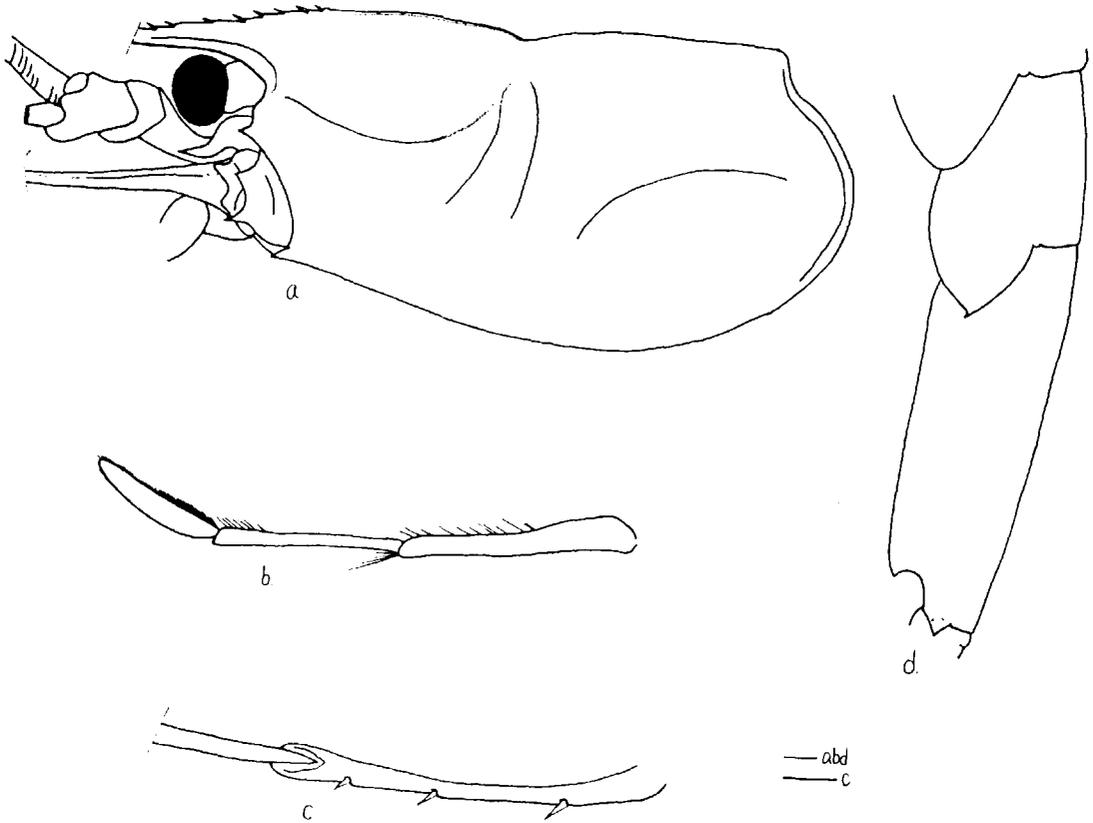
Nematocarcinus A. Milne Edwards, 1881*Nematocarcinus undulatipes* Bate, 1888

Fig. 1. *Nematocarcinus undulatipes* Bate, 1888, male 15.9 mm cl. (a) carapace, lateral view. (b) maxilliped III, (c) ischio-meral joint of pereopod I. (d) abdominal somites V and VI, lateral view. Scale bar = 1 mm.



Fig. 2. *Nematocarcinus undulatipes* Bate, 1888, male 15.9 mm cl., specimen damaged and with pereiopods mostly lost.

Nematocarcinus undulatipes Bate, 1888: 801, pl. 130 [type-locality: the Philippines, Indonesia and Kermadec Islands]; de Man, 1920: 83, pl. 8-fig. 20-20h; Chace, 1986: 76, figs. 41-42; Hayashi, 1986: 90; fig. 51; 1988: 445, fig. 156f, 157a-b.

Material examined.—N.E. Taiwan. I-Lan County, fishing port at Tai-Shi, commercial trawlers, about 600 m, 7 Oct. 1999, 1 male 15.9 mm cl.

Description.—Body slender and integument thin. Rostrum broken at tip, nearly horizontal and with remaining part extending to distal end of antennular segment II, bearing 8 movable dorsal teeth (with 4 situated posterior to orbital margin). Carapace with distinct dorsal cervical depression and inverted “U” shaped cervical groove, postorbital and branchiocardiac ridges weak, antennal and pterygostomial spines well developed. Eyes moderately large, globular and pigmented. Maxilliped III overreaching antennular peduncle by distal segment; distal segment somewhat flap-like and with inner surface heavily setose, about 0.8 times as long as penultimate segment. Pereopods I to IV bearing short exopods. All pereiopods broken, longest remaining segments in left pereiopod I which broken at merus. Ischium of pereiopod I bearing 3 ventral spines and with ischio-meral joint swollen. Abdomen generally smooth except pleuron V bearing distinct

posteroventral tooth. Abdominal somite VI without tubercle on ventral surface. Telson broken at half, remaining part bearing 3 pairs of dorsolateral spines.

Coloration.—Body generally orange-red and distributed with dense red dots. Eyes pale brown.

Size.—The largest specimen reported for this species is a female of 30 mm cl (Hanamura and Evans, 1996).

Distribution.—Widely distributed in the Indo-Pacific from eastern Africa to Japan, Australia, and Sala-Y-Gomez, at depths of 366-1645 m (Chace, 1986; Hayashi, 1988; Burukovsky, 1990, 1991; Hanamura and Evans, 1996, but also see “Remarks”).

Remarks.—Although the single specimen obtained is damaged (tips of rostrum, scaphocerite and telson broken) and with all pereopods incomplete, it is no doubt a *Nematocarcinus* by the presence of a distinct dorsal cervical depression and the swollen ischio-meral joint. However, the shape of the rostrum is generally treated as a major distinguishing character in *Nematocarcinus* and there are still many problems in the taxonomy of the species in this genus (see Crosnier and Forest, 1973; Chace, 1986). Thus, the present identification is rather tentative. The rostrum of the present specimen is broken, but it is likely that only the most extreme part is missing (fig. 1a). By following Chace (1986), the Taiwanese specimen probably belongs to *N. undulatipes* in having a short rostrum, rather widely spaced dorsal rostral teeth, and the complete absence of ventral tubercle on the abdominal somite VI. Nevertheless, the exact relationships amongst *N. undulatipes* and *N. paucidentatus* Bate, 1888 (sometimes treated as a synonym of *N. undulatipes*) in the Indo-Pacific, and *N. cursor* A. Milne Edwards, 1881 from the Atlantic (older literature often treated *N. cursor* and *N. undulatipes* as synonyms), as well as some recently described species such as *N. bituberculatus* Chace, 1986 (see Takeda and Hanamura, 1994), *N. rectirostris* Burukovsky, 1991 and *N. nudirostris* Burukovsky, 1991 are still very unclear and extremely confusing. Anyhow, the present report is the first record of nematocarcinid shrimp from Taiwan and it is hope that more intact specimens of these shrimps can be collected from local waters in the future.

ACKNOWLEDGEMENTS

This work is a contribution from a research grant supported by the National Science Council, Taiwan, R.O.C.

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臺灣深海線足蝦科之新記錄

林嘉瑋¹、陳天任¹

¹ 國立台灣海洋大學海洋生物研究所

摘 要

線足蝦是典型的深海底棲蝦類，本文首次記錄這科蝦類於臺灣海域。而所採集的一尾殘缺標本鑑定為波形足線足蝦 *Nematocarcinus undulatipes* Bate, 1888。本報告亦提供此種蝦的分類特徵線繪圖及其新鮮時之彩色標本照。

關鍵字：甲殼類、線足蝦科、新記錄、臺灣、深海。