

***Demania unispinosa* Chen & Ng, 1999 (Crustacea, Decapoda, Brachyura), a newly recorded xanthid crab for Taiwan**

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**Abstract**

The xanthid crab, *Demania unispinosa* Chen & Ng, 1999 is recorded from Taiwan for the first time. This species belongs to the *D. rotundata* species group but could be distinguished from other included species by the lateral angle of the carapace having a distinct spine, the ambulatory merus having a distinct and sharp distal tooth on the dorsal margin and the fused segments 3-5 of male abdomen being proportionately shorter, with the lateral margins more deeply concave. Color illustration for the Taiwanese specimen and the key to the *D. rotundata* species group from Taiwan is provided.

**Key words:** *Demania*, new record, Taiwan

**Introduction**

Ng & Yang (1989) noted that there was one group of species in the genus *Demania* Laurie, 1906, united by the following morphological characters: the frontal margin is distinctly sinuous, lobulated and extends anteriorly well beyond the orbits; the anterolateral margin of the carapace is divided into four low, rounded lobes; the chelae are glabrous;

and the meri of the ambulatory legs are distinctly crested. They included two species in this group, *D. rotundata* Serène, in Guinot, 1969, and *D. wardi* Garth & Ng, 1985. After examining a series of specimens from the East and South China Seas, *D. japonica* Guinot, 1977, and *D. unispinosa* were added to this species group by Chen & Ng (1999). *Demania japonica* and *D. rotundata* are known

from the East China Sea, South China Sea, and Japan (Chen & Ng, 1999), and both of them have been reported in Taiwan waters (Ng et al., 2001). Recently, we examined a series of specimens deposited in the National Museum of Marine Biology and Aquarium (NMMBA) and those collected by trawling from Donggang fishing port, southern Taiwan. It was determined that some specimens identified as *D. rotundata* or *D. reynaudi* (H. Milne Edwards, 1834) were misidentified as an unrecorded species, *D. unispinosa*.

The present work is the first record of *Demania unispinosa* from Taiwan and also provides a key to three similar species of the *D. rotundata* species group

from Taiwan. The nomenclature of the carapace regions follows that of Garth & Ng (1985) and Chan et al. (2009).

Measurements given are of carapace width and length respectively, the width measured from the base of spines (if lateral angle spiniform); the total length of the ambulatory legs (base of coxa to tip of dactylus) was measured in one go with the legs stretched out. Specimens are deposited in the National Museum of Marine Biology and Aquarium (NMMBA).

#### **Taxonomy**

Xanthidae MacLeay, 1838

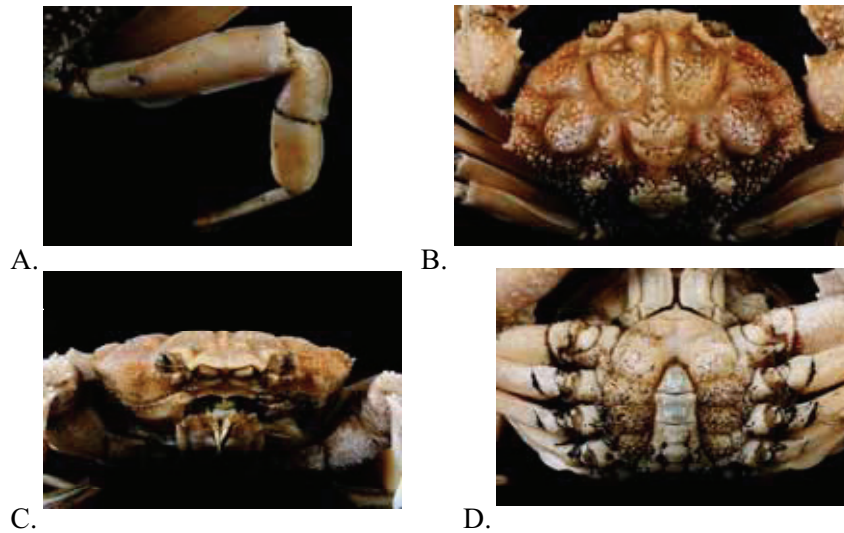
*Demania* Laurie, 1906

*Demania unispinosa* Chen & Ng, 1999

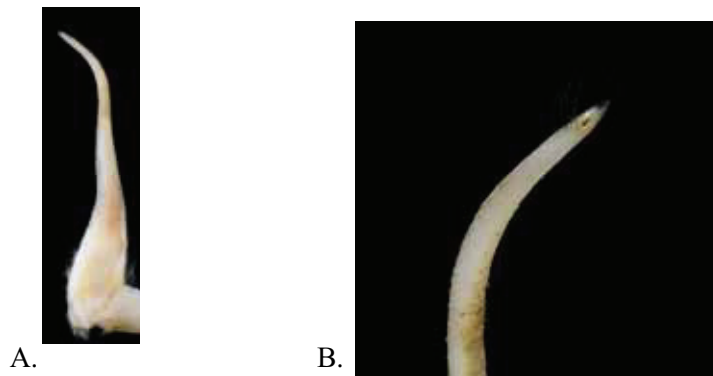
(Figs. 1–3)



**Fig. 1.** *Demania unispinosa* Chen & Ng, 1999, male, 38.4 by 31.8 mm (NMMBCD3411), habitus, dorsal view.



**Fig. 2.** *Demania unispinosa* Chen & Ng, 1999, male, 38.4 by 31.8 mm (NMMBCD3411), A, right fourth ambulatory leg, dorsal view; B, carapace, dorsal view; C, carapace, frontal view; D, carapace, ventral view.



**Fig. 3.** *Demania unispinosa* Chen & Ng, 1999, male, 38.4 by 31.8 mm (NMMBCD3411), right G1, A, external (ventral) view; B, distal tip, internal (dorsal) view.

*Demania unispinosa* Chen & Ng,  
1999: 144, figs. 5,6,7c,7f. – Ng et al.,  
2008: 202 (list).

### Material examined

Donggang, Pingtung county, southern  
Taiwan, 180 m, coll. S.C. Chun, 21 Sep.  
2004: 1 female, 44.1 by 35.4 mm

(NMMBCDA824); coll. P.H. Kuo, 3 Nov. 2011: 1 male, 38.4 by 29.7 mm (NMMBCD3411); coll. R.L. Chen, 22 Jul. 2012: 1 female, 48.5 by 36.6 mm (NMMBCD3995); coll. P.H. Kuo, 20 Aug. 2012: 2 males, 45.9 by 36.4 mm, 41.5 by 31.7 mm (NMMBCD3996); coll. P.H. Kuo, 9 Sep. 2012: 1 male, 41.2 by 32.7 mm (NMMBCD3997).

Comparative material:

*Demania rotundata* Serène, in Guinot, 1969 - Donggang, Pingtung county, southern Taiwan, coll. S.C. Chun, 22 Sep. 2004: 1 male, 36.7 by 31.1 mm (NMMBCDA693); coll. S.C. Chun, 23 Sep. 2004: 1 female, 36.0 by 29.4 mm (NMMBCDA 670); coll. P.H. Kuo, 25 Aug. 2012: 1 male, 36.1 by 29.6 mm (NMMBCD3998).

*Demania japonica* Guinot, 1977 - Donggang, Pingtung county, southern Taiwan, coll. P.H. Kuo, 28 Nov. 2012: 1 female, 38.7 by 31.99 mm (NMMBCD3410); coll. P.H. Kuo, 8 Jun. 2012: 1 female, 20.0 by 16.6mm (NMMBCD3999); 29 Aug. 2012: 1 male, 35.1 by 29.1 mm (NMMBCD4000); 3 Sep. 2012: 1 male, 34.3 by 27.84 mm (NMMBCD4002); 5 Sep. 2012: 1 female, 29.3 by 24.3 mm (NMMBCD4001); 24 Dec. 2012: 1 male, 29.1 by 23.7 mm (NMMBCD3409).

#### Diagnosis

Carapace subpentagonal. Front projecting beyond orbits, bilobate, anterior margin of

each lobe sinuous. Regions of carapace well defined, separated by deep, smooth grooves; dorsal surface granular, 2M-4M, 2L-5L, 1P uniformly covered with distinct squamate granules, 1R-3R, 2P covered with smaller, rounded to blunt granules. Anterolateral margins granular, nearly entire or not distinctly divided into lobes or teeth; but lateral angle (junction between anterolateral and posterolateral margins) with distinct, blunt spiniform tooth, directed laterally.

Chelipeds almost symmetrical; outer surfaces of palm, carpus, merus distinctly covered with large, subconical granules. Merus with distinct crest along dorsal margin, surface gently granular. Carpus with strong sharp tooth on inner distal angle, with small but distinct basal granule. Dorsal margin of palm with 4 or 5 lamelliform teeth, becoming more acute proximally.

Ambulatory legs laterally compressed; second pair longest. Length of first ambulatory leg about 0.9–1.4 times carapace width. Merus of last ambulatory leg relatively slender, surface smooth to minutely granulose; dorsal margin with low but distinct crest, minutely serrated, ending in small but distinct sharp distal tooth; ventral margin with 2 low, subparallel crests, gently serrate, proximal part of inner crest expanded, appearing subfoliaceous. Carpus with dorsal margin cristate, surface gently granulose. Propodus ovate, margin gently cristate.

Dactylus short, gently curved, covered with short, stiff setae.

External surface of male abdomen with numerous, scattered, rounded granules, tubercles; those on proximal somites generally sharper, more prominent; somites 1, 2 strip-like; somites 3–5 completely fused, immovable, trapezoidal, lateral margin concave; somite 6 quadrate, lateral margins gently concave; telson margins strongly concave. G1 long, slender, with dilated basal part, median part almost straight, distal part gently curved, surfaces lined with scattered, small, sharp granules; distal tip simple, rounded, with several supple, plumose, subterminal setae.

**Remarks**

*Demania unispinosa* Chen & Ng, 1999, was originally described from 4 male and 3 female specimens collected from the South China Sea: off Hainan Island, the coast of Guangdong and the Spratly (Nansha) Islands. The specimens were collected at a depth range of 160–182 m, from substrate consisting of soft or sandy mud. The specimens from Taiwan generally agree with the original description by Chen & Ng (1999). This is the first record of *Demania unispinosa* from Taiwan and only the second reliable record for this species, although it is very likely that *D. unispinosa* may have been erroneously identified and reported as *D. rotundata* before in Taiwan. *Demania*

*unispinosa* can easily be distinguished from its allied congeners, *D. rotundata* and *D. japonica* by having the last anterolateral tooth distinctly produced and spiniform, the ambulatory merus always with a distinct and sharp distal tooth on the dorsal margin, and the lateral margins of male abdomen segments 3–5 distinctly concave.

A key to *Demania rotundata* species group from Taiwan

1. Carapace lateral margins granular, with junction of anterolateral and posterolateral margins angular; anterolateral margin either divided into lobes or armed with distinct teeth ----- 2
  - Carapace lateral margins granular, but junction of anterolateral and posterolateral margins rounded; anterolateral margin entire, not divided into lobes or teeth ----- *D. japonica*
2. Carapace anterolateral margin divided into four low, but distinct lobes; anterior margin of ambulatory merus without distal spine; lateral margins of telson straight to slightly concave --- -----*D. rotundata*
  - Carapace anterolateral margin not divided into lobes, but with prominent, acute tooth at junction with posterolateral margin; anterior margin of ambulatory merus with distinct distal spine; lateral margins of telson strongly concave----- *D. unispinosa*

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## 記台灣扇蟹新紀錄一種

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### 摘 要

此為單刺鱗斑蟹首次在台灣被記錄到，單刺鱗斑蟹屬於圓型鱗斑蟹種群的一員，但可以藉由頭胸甲側緣有一明顯棘刺、步足長節背側具有明顯尖起的末端刺以及雄性第 3-5 腹節融合成一比例較短且側緣明顯凹陷的節板。本篇也提供台灣圓形鱗斑蟹種群的檢索表以及新鮮標本照。

**關鍵詞：** 鱗斑蟹、新紀錄、台灣