

## Short Note

### The First Record of the Turtle-weed Crab *Caphyra rotundifrons* (Decapoda: Portunidae) from Taiwan\*

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**Ming-Shiou Jeng (1994)** The first record of the turtle-weed crab *Caphyra rotundifrons* (Decapoda: Portunidae) from Taiwan. *Zoological Studies* 33(3): 235-236. This paper establishes a new record of the turtle-weed crab *Caphyra rotundifrons* (A. Milne-Edwards, 1869), family Portunidae, collected from Taiwan inshore waters. Unlike other portunid crabs, the turtle-weed crab remains almost permanently ensconced in a tuft of seaweed, *Chlorodesmis fastigata* (C. Agardh) Ducker (1969). Such an association between crabs and algae is uncommon. Photographs, diagnostic characteristics, distribution, and ecological association with seaweed of *C. rotundifrons* are provided.

**Key words:** Portunid crab, New record, Ecological association.

Many reef crustaceans live in permanent symbiotic relationships with a wide variety of animals which enables many species to live closely together in small area (Zann 1980). These associations are a major factor in the enormous crustacean diversity found in coral reef habitats. Although associations between crustaceans and other marine animals are common in tropical waters, similar associations with algae appear infrequently. The color of *Caphyra rotundifrons* (A. Milne-Edwards) (turtle weed crab) suits their tufted green algae environment. The present study is the first record of this crab in the shallow waters of southern Taiwan and Lanyu (Botel Tabago Island).

Specimens were collected with SCUBA equipment at a depth of 20 m, photographs were taken with a Nikon F801 camera. Carapace width measurements (CW) refer to the broadest part of the carapace. Specimens are catalogued and deposited at the Institute of Zoology, Academia Sinica (ASIZ), R.O.C.

#### Family Portunidae

##### *Caphyra rotundifrons* (A. Milne-Edwards, 1869)

(Figs. 1,2)

*Camptonyx rotundifrons* A. Milne-Edwards, 1869: 156, pl. 7, figs. 11, 12 [type locality: New Caledonia].

*Caphyra rotundifrons* A. Milne-Edwards, 1873: 174; Gordon, 1941: 124, figs. 2b,3a, Stephenson and Campbell, 1960: 101-102, figs. 1h, 2j, 3a-c, 3k, pl. 3, fig. 4, pl. 5j; Crosnier, 1962: 30, fig. 39, pl. 1, fig. 2; Sakai, 1976: 326-327, Text-fig. 177; Dai and Yang, 1991: 202, pl. 24(6).

**Materials:** 17 specimens: Wan-li-tung, 18.3 mm (♀), 13.6 mm (♂), Feb. 7, 1990, ASIZ 70031, and 14.1 mm (♂), 7.6 mm (♀), 7.5 mm (♂), Nov. 27, 1992, ASIZ 70037; Nan-wan, 9.1

mm (♂), Apr. 4, 1990, ASIZ 70035; Shan-geo-wan, 18.2 mm (ovig. ♀), Feb. 23, 1992, ASIZ 70032, and 8.0 mm (♂), Sep. 28, 1990, ASIZ 70034; Lei-ta-shih, 14.0 mm (ovig. ♀), 9.6 mm (♂), 6.0 mm (♀), Dec. 8, 1988, ASIZ 70033, 8.4 mm (♂), 6.1 mm (♂), Sep. 28, 1990, ASIZ 70036 and, 12.8 mm (♀), 11.0 mm (♂), Dec. 13, 1991, ASIZ 70038; Lanyu, Hong-tou, 10.0 mm (♂), 7.2 mm (♀), Apr. 20, 1993, ASIZ 70058.

**Diagnosis:** Carapace slightly broader than long, microscopically granulated. Mesobranchial region with pair of obscure ridges. Epibranchia ridge distinct. Conspicuous cervical grooves. Front arched, divided into 2 lobes by shallow notch. Orbit with innerorbital lobe very poorly developed, scarcely separated from front. Anterolateral margin with 4 teeth, sharp and pointing forwards, decreasing in size from front to rear.

Hair on dorsal and outer surface of chelipeds. Five teeth on anterior margin of merus, smooth ventral surface. Carapace with obtuse tooth on dorsal surface anterior margin. Menus with dorsal and outer surface each bearing 2 crests. Fifth legs curved back dorsally over carapace. Dactylus slightly shorter than propodus, about 3.8 times as long as broad, proximally swollen, gradually tapering, hook-shaped. Female abdomen voluminous.

**Distribution:** This species is known to be extant in Taiwan, Xisha Is. (China), Japan, Samoa Is., Fiji Is., New Caledonia, Mariana Is., Torres Strait, Australia, Mauritius, and Madagascar.

**Remarks:** All specimens of this species were collected from seaweed off the southern coast of Taiwan and Lanyu Island. The specimens were collected at depths ranging from 2 to 20 meters. The turtle-weed crab, *C. rotundifrons*, lives among clumps of seaweed, *Chlorodesmis fastigiata* (C. Agardh) Ducker (1969). *Chlorodesmis fastigiata* (turtle weed) a green algae (Division Chlorophyta), is distinct from the majority of

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Fig. 1. *Caphyra rotundifrons* (A. Milne-Edwards) associated with its habitat, seaweed *Chlorodesmis fastigiata* Ducker.



Fig. 2. *Caphyra rotundifrons* (A. Milne-Edwards), 18.2 mm CW (ovig. ♀).

reef algae by the brilliant green of its dense tufts of repeatedly forked filaments. The constriction of the branches at uneven distances is above each fork (Ducker 1969, Mather and Bennett 1993).

Unlike most portunid crabs, the turtle-weed crab is not an active swimmer, but remains almost permanently ensconced in male-female pairs in tufts of *Chlorodesmis fastigiata* seaweed. It is sexually dimorphic, the females growing to almost twice the size of the males. The weed-inhabiting crabs in addition to their color, a bright green similar to the surrounding algae, is extremely efficient at climbing among the weed and ensconcing itself within a seaweed sanctuary.

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## 圓額尖指蟹（十腳目：梭子蟹科），一種台灣新記錄的龜藻蟹

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本報告記述台灣海域新記錄的一種屬於梭子蟹科 (Portunidae) 的圓額尖指蟹 *Caphyra rotundifrons* (A. Milne-Edwards)。它不像其它的梭子蟹科的種類善於游泳，而且都以綠色的帶狀綠毛藻 *Chlorodesmis fastigiata* (C. Agardh) Ducker 為棲所。這種蟹類和藻類密切結合的關係是少見的。本種蟹的生態照片、形態特徵、分佈、以及其棲所藻類在文中皆有記述。

關鍵詞：梭子蟹，新記錄種，共生生態。

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