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Additional slipper lobsters of the subfamily Scyllarinae Latreille, 1825 (Crustacea, Achelata, Scyllaridae) from Taiwan

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Abstract

Five scyllarine lobsters are recorded from Taiwan for the first time. They are *Bathyarctus rubens* (Alcock & Anderson, 1894), *Biarctus sordidus* (Stimpson, 1860), *Chelarctus aureus* (Holthuis, 1963), *Crenarctus bicuspidatus* (De Man, 1905) and *Petrarctus veliger* Holthuis, 2002. The distributions of *B. rubens*, *C. aureus* and *P. veliger* are extended northwards to Taiwan. Distinguishing characters of these five species are illustrated and color photographs of all but *B. sordidus* are provided. Altogether, nine genera and 17 species of scyllarine lobsters are now known from Taiwan.

Key words: Scyllarinae, new records, Taiwan

Introduction

Slipper lobsters of the subfamily Scyllarinae Latreille, 1825 are the most diverse group in the family Scyllaridae and even for marine lobsters (see Chan 2010). Previously all members of Scyllarinae were included in a single genus *Scyllarus* Fabricius, 1775 until recently Holthuis (2002) separated them into 14 genera. However, the molecular data of Yang *et al.* (2012) and Bracken-Grissom *et al.* (2014) do not support most of these separations. At present 52 species are known in Scyllarinae (Chan 2010, Yang & Chan 2010, 2012, Yang *et al.* 2011) and one genus created by Holthuis (2002), namely *Antipodarctus* Holthuis, 2002, was formally determined to be a synonym of *Crenarctus* (Chan *et al.* 2013).

Taiwan is a tropical island and with a diverse scyllarine fauna. Scyllarine lobsters were first reported from Taiwan only 30 years ago (Hwang & Yu 1983) with two species. Recent active surveys on the decapod crustaceans of the island greatly increased the number of scyllarine lobsters to 12 species that now belong to eight genera (Chan & Yu 1986; 1993; Hothuis 2002). Records of two species previously reported from Taiwan, *G. aurora* (Holthuis, 1982) and *Chelarctus cultrifer* (Ortmann, 1897), were recognized as different species, namely *G. lipkei* Yang & Chan, 2010 and *C. virgosus* Yang & Chan, 2012, respectively after in depth taxonomic works (Yang & Chan 2010, 2012). Ongoing survey on the decapod crustaceans of Taiwan has further obtained five more scyllarine species new to the island. They are *Bathyarctus rubens* (Alcock & Anderson, 1894), *Biarctus sordidus* (Stimpson, 1860), *Chelarctus aureus* (Holthuis, 1963), *Crenarctus bicuspidatus* (De Man, 1905) and *Petrarctus veliger* Holthuis, 2002. The present work reports this finding. Altogether nine genera and 17 species of scyllarine lobsters are now known from Taiwan. Together with the Philippines, this number is the highest in the world for any given country (Estampador 1959; Holthuis 2002; Yang *et al.* 2008). The materials examined are deposited in the National Taiwan Ocean University, Keelung (NTOU), National Museum of Natural Science, Taichung (NMNS) and National Museum of Marine Biology and Aquarium, Pingtung (NMMBA). The measurement given is carapace length (cl), which is measured along the dorsal midline from the tip of the rostrum to the posterior margin of the carapace. The

Diagnosis. Body robust and rough, with tubercles high and depressions deep. Rostrum sharp. Pregastric tooth absent. Gastric and cardiac teeth highly elevated as large triangles. Anterior and posterior branchial carinae well developed, separated by wide but shallow cervical groove. Medial incision at posterior margin of carapace deep. Abdomen with wide transverse grooves and high median carinae. Articulating surfaces of abdominal tergites without setose grooves. Non-articulating surface of abdominal tergites distinctly covered with many flattened tubercles on either side of transverse grooves. Abdominal median carinae highest on somite III. Posterior margins of abdominal tergites I–III medially incised, that at tergite III rather weak. Abdominal pleura II–IV terminating in blunt angle. Anterior margin of antennal segment VI with 6 long blunt teeth. Antennal segment IV without additional ridge, anterior and outer margins each bearing 3 or 4 teeth. Dactylus of pereopod II longest in all pereopods. Anterior end of thoracic sternum with deep “U”-shaped notch followed by a medial suture, lateral border highly elevated. Thoracic sternites without median tubercle.

Coloration. Body generally dark greenish brown. Anterior half of carapace covered with a large wide “V”-shaped white marking. Eyes dark brown. Abdominal tergite I orange with large median black spot.

Distribution. Known with certainty from the Andaman Sea, the Philippines and Taiwan, at depths of 69–300 m.

Remarks. The genus *Petrarctus* includes four species of which two were reported from Taiwan, namely *P. brevicornis* (Holthuis, 1946) and *P. rugosus* (H. Milne Edwards, 1837). *Petrarctus veliger* can be readily distinguished from the other species of the genus in the gastric and cardiac teeth being excessively high and triangular. The coloration of the present species is known for the first time and differs from *P. brevicornis* and *P. rugosus* in the abdominal tergite I being orangish with a median black spot instead of evenly bluish (see Chan & Yu 1986, 1993).

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