



The identity of *Pilumnus dofleini* Balss, 1933 (Crustacea: Decapoda: Brachyura: Pilumnidae), with descriptions of three new species from the Western Pacific

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Abstract

The identity of the pilumnid crab, *Pilumnus dofleini* Balss, 1933, is reassessed based on the female holotype and additional male specimens from Sagami Bay and the Sea of Japan, Japan. Three new species allied to *P. dofleini* are described and illustrated: *P. curvipenis* **n. sp.** from the Izu Islands, Japan; and *P. armatus* **n. sp.** and *P. bohol* **n. sp.** from the Bohol Sea, the Philippines. These four species are diagnosed, compared and differentiated from the related *P. acanthosoma* Ng, 2000.

Key words: Crustacea, Decapoda, Brachyura, Pilumnidae, *Pilumnus*, redescription, new species, Japan, Philippines

Introduction

The pilumnid crab *Pilumnus dofleini* was originally described by Balss (1933) on the basis of a single female specimen from off Boshu (= Boso Peninsula), Sagami Sea, Japan. Since the original description, it has been reported from the Pacific coast of the Japanese mainland, including Sagami Bay, Izu Islands, Shima Peninsula in Mie Prefecture, and Tosa Bay (Sakai 1939, 1965, 1976; Miyake 1983; Ng 2000; Marumura & Kosaka 2003), as well as from the Bohol Sea in the Philippines (Takeda & Manuel 2000; Ng *et al.* 2008). Ng (2000) provided a detailed description of specimens from the Izu Islands, just south to the type locality, which he had referred to *P. dofleini*.

This study was originally initiated to identify a single male specimen of a pilumnid crab collected from off Hashidate, Ishikawa Prefecture, Sea of Japan. It soon became apparent that the identities of *Pilumnus dofleini* and *P. acanthosoma* Ng, 2000, known from southwestern Taiwan and the South China Sea, are central to the task. These two species are characteristic for the genus in having numerous distinct, small spines or spiniform tubercles on the dorsal surface of the carapace and row(s) of prominent spines on the dorsal or extensor surfaces of the ambulatory meri, carpi and propodi. However, careful comparison with photographs of the holotype kindly provided by Stephan Friedrich of the Zoologische Staatssammlung, München, has showed that the present specimen from the Sea of Japan is the true *P. dofleini* Balss, 1933; and the material referred to this species by Ng (2000) actually belong instead to an unnamed species. Furthermore, specimens from the central Philippines sent to the authors from the Raffles Museum of Biodiversity Research, National University of Singapore (ZRC), revealed the presence of two other undescribed species closely related to *P. dofleini*. A new diagnosis for *P. dofleini* s. str. and descriptions of three new species, *P. curvipenis* **n. sp.** from the Izu Islands, Japan, as well as *P. armatus* **n. sp.** and *P. bohol* **n. sp.** from the Bohol Sea, the Philippines, are given herein. Morphological differences for species recognition among *P. dofleini*, *P. acanthosoma* and the three new species are discussed.

The material used in this study is deposited in the National Museum, Manila (NMCR), National Museum of Nature and Science, Tokyo (NSMT), Natural History Museum and Institute, Chiba (CBM), the Zoological Reference Collection, Raffles Museum of Biodiversity Research, National University of Singapore (ZRC), and the Zoologische Staatssammlung, München (ZSM). Measurements provided are of carapace length and width. Although full descriptions are available for *Pilumnus acanthosoma* and *P. curvipenis* **n. sp.** (as *P. dofleini*) in Ng (2000), abbreviated descriptions are provided for these two species for comparison with the other three species treated herein.