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The identity of the Sarawak freshwater crab *Parathelphusa oxygona* Nobili, 1901, with description of a new species, *Parathelphusa nobilii*, from Western Kalimantan, Indonesia, Borneo (Crustacea: Brachyura: Gecarcinucidae)

PETER K. L. NG
Raffles Museum of Biodiversity Research, National University of Singapore, Kent Ridge, Singapore 119260, Republic of Singapore. E-mail: peterng@nus.edu.sg

Abstract

The identity of the common lowland freshwater crab in western Sarawak, Borneo, East Malaysia, *Parathelphusa oxygona* Nobili, 1901 (family Gecarcinucidae), is clarified. The species is redescribed and figured, and its taxonomy discussed. Specimens from western Kalimantan, Borneo, Indonesia, which have been referred to *P. oxygona* are here referred to a new species, *Parathelphusa nobilii*. The new species can be differentiated from congeners by its relatively more swollen branchial regions of the carapace, wider and lower external orbital tooth, relatively more slender male abdomen and a straight male first gonopod.

Key words: Crustacea, Brachyura, Gecarcinucidae, *Parathelphusa*, Sarawak, Kalimantan, taxonomy, new species

Introduction

The gecarcinucid freshwater crab genus *Parathelphusa* H. Milne Edwards, 1853, is currently represented by 11 species from Borneo. They belong to two morphological groups easily distinguished by the form of the meri of their first to third ambulatory legs. In one group (*P. nitida* Ng, 1986, and *P. sarawakensis* Ng, 1986), the ambulatory meri are unarmed, the dorsal margin being smooth. In the other group (*P. ovum* Ng, 1995, *P. oxygona* Nobili, 1901, *P. pulcherrima* (De Man, 1902), *P. sabari* Ng, 1986, *P. shelfordi* Nobili, 1901, *P. tera* Chia & Ng, 1998, *P. torta* Chia & Ng, 1998, *P. undulata* Chia & Ng, 1998, and *P. valida* Ng & Goh, 1987), the dorsal margin of the first to third ambulatory merus has a distinct subdistal spine. The armature on the merus of the fourth ambulatory leg can also be used in most cases, although the strength of the subdistal spine sometimes varies.

The most common lowland freshwater crab in western Sarawak and western Kalimantan is *Parathelphusa oxygona* Nobili, 1901. The species has been accepted as valid since Ng & Goh (1987) and Ng (1988), but it has not been redescribed or properly figured, although Ng & Grinang (2004) discussed its taxonomy. Opportunity is taken here to redescribe and figure the species. At the same time, the taxonomy of specimens from western Kalimantan that had been referred to *P. oxygona* by Nobili (1901), Rathbun (1905), Ng (2004) and Ng & Grinang (2004) is re-considered. They are herein shown to belong to a separate species, *P. nobilii* **sp. nov.**

The terminology used here essentially follows that in Ng (1988). Measurements provided, in millimetres, are of the carapace length and width, respectively. The abbreviations G1 and G2 are used for the male first and second gonopods, respectively. Specimens examined are deposited in the Museo Regionale di Scienze Naturali (MZUT), Sezione di Zoologia, Turin, Italy; Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research, National University of Singapore; Sarawak Museum (SM), Kuching, Malaysia; and Naturhistorisches Museum Basel (MBA), Basel, Switzerland.

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nov. are always comparatively more convex (Figs. 2B) than those of *P. oxygona* (Figs. 2A), especially when viewed laterally, giving it a more inflated appearance. The male abdomen of *P. nobilii* **sp. nov.** is relatively more slender than of *P. oxygona*, mainly because the lateral margins of somite 6 are distinctly convex (Fig. 3H) (rather than gently convex in *P. oxygona*, Fig. 3G), and the telson is proportionately longer (Fig. 3H) (rather than relatively shorter in *P. oxygona*, Fig. 3G). The structure of the G1 is perhaps the most effective way of separating the two species, being consistently straighter and the proximal outer margins entire in *P. nobilii* **sp. nov.** (Fig. 4F–I) while in *P. oxygona*, the G1 is gently curved distally and the proximal outer margin is indented (Figs. 4A–D, 5). These differences cannot be explained by the known variation for *P. oxygona* for which we have an excellent series of specimens. The G1 structures of the paratype males of *P. nobilii* **sp. nov.** are not as straight as those of the holotype, being very slightly curved but still less so that those of *P. oxygona*. Most significantly, the proximal outer margin of the G1 of *P. nobilii* **sp. nov.** does not have the distinct cleft (Fig. 4F, G) which is present in *P. oxygona*, even if sometimes it is small (Figs. 4A, B, 5).

Sinkawang, the type locality of *P. nobilii* **sp. nov.** is some 130 km southwest of the Lundu area, the westernmost locality in Sarawak where *P. oxygona* is present. The area between these localities is covered by several mountain ranges that could easily have isolated the two lowland species.

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