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Redescription and mitochondrial identification of *Chiromantes boulengeri* (Calman, 1920) (Decapoda: Brachyura: Sesarmidae) based on fresh material from the Persian Gulf, Iran

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Abstract

Chiromantes boulengeri (Calman, 1920) is redescribed based on fresh material from Iran. The species is morphologically more similar to *C. dehaani* (H. Milne Edwards, 1853) than both of these species are to the type species of the genus, *C. haematocheir* (De Haan, 1833). Results from mitochondrial DNA, however, propose a closer sister species relationship of the two East Asian species, *C. haematocheir* (De Haan, 1833) and *C. dehaani*.

Key words: Brachyura, Sesarmidae, *Chiromantes*, molecular phylogeny, mtDNA

Introduction

The Persian Gulf is a semi-enclosed sea which forms part of the northwestern Indian Ocean. Harsh environmental conditions result from high evaporation and low fresh water input. Nevertheless, it has several marine habitats with remarkably high biodiversity (Jones, 1985). The main freshwater source of the Persian Gulf is Shat Al Arab River ("Arvandroud" in Iran) which discharges into the northern Persian Gulf, having great influence on the biological and physical factors of the intertidal and subtidal habitats. Two sesarmid crab species, *Parasesarma plicatum* (Latreille, 1806) and *Chiromantes boulengeri* (Calman, 1920), are typical decapod crustacean inhabitants of the river. *Parasesarma plicatum* is a predominant crab of the marshes and mangroves in the Gulf. It is an entirely marine species, but also thrives along the banks of the lower reaches of the river. In contrast, adults of *C. boulengeri* are exclusively freshwater crabs that inhabit the upstream areas of the river, although it remains unclear how far from the sea. *Chiromantes boulengeri* is poorly known and was collected for the first time from the Ashar Creek, Basra (Iraq) about 96 kilometres from the mouth of Shat Al Arab. It was briefly described by Calman (1920) with just one figure of the cheliped of this species, and comparing it mainly to *C. dehaani* (H. Milne Edwards, 1853). During the last nine decades, there was no further record of this species. Apel & Türkay (1999) merely listed this species in their treatment of "grapsoid crabs" of the Persian Gulf. Therefore, more information on the taxonomy and other aspects of this species is clearly needed.

Material and methods

A research program is being undertaken since October 2007 to investigate the biophysical structure of the intertidal habitats and their crustacean decapods along the Iranian coast of the Persian Gulf, with particular emphasis on the Brachyura. In addition to the sea shore, two main rivers discharging into the northern Persian

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