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## Notes on two rare and little-known Indo-Pacific snapping shrimps, *Alpheus percyi* Coutière, 1908 and *A. pseudopugnax* (Banner, 1953) (Decapoda, Alpheidae)

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### Abstract

Two uncommon, morphologically similar snapping shrimps, *Alpheus percyi* Coutière, 1908 and *A. pseudopugnax* (Banner, 1953), are reported from various localities across the Indo-West and Central Pacific. Both species are re-diagnosed based on type specimens and recently collected material; a lectotype is designated for *A. percyi*. The range of *A. pseudopugnax*, previously known only from the type locality in Hawaii, is extended considerably to French Polynesia and Reunion Island in the western Indian Ocean. Both *A. percyi* and *A. pseudopugnax* present a significant variation in the post-rostral region of the carapace, making identification of specimens based solely on morphology rather difficult. In the field, however, the two species can be easily separated by their diagnostic and very striking colour patterns. Colour patterns also suggest that *A. percyi* may be more closely related to the species of the *A. gracilipes* Stimpson, 1860 complex than to *A. pseudopugnax*.

**Key words:** Alpheidae, Caridea, snapping shrimp, Indian Ocean, Pacific Ocean, lectotype, colour pattern, range extension

### Introduction

*Alpheus percyi* Coutière, 1908 and *A. pseudopugnax* (Banner, 1953) are two little-known, morphologically very similar snapping shrimps associated with shallow-water coral reefs and adjacent habitats in the Indo-West and Central Pacific. *Alpheus percyi* was originally described based on specimens from Cargados Carajos Shoals, Amirante and Coëtivy Islands in the western Indian Ocean (Coutière 1908, 1921) and subsequently reported from a few localities in the western and central Pacific Ocean (Banner 1953, 1957; Banner & Banner 1968; Hayashi et al. 1994). *Alpheus pseudopugnax* was described from Hawaii (Banner 1953) and until now remained known only from the type locality. Both species are characterised by the posteriorly flattening and broadening rostral carina; presence of a short postrostral tubercle; mostly smooth, subcylindrical major chela, with a deep transverse groove on the distodorsal surface of the palm; and merus of the third and fourth pereopods bearing a sharp distoventral tooth.

During the last decade, a relatively scarce material referable to *A. percyi* or *A. pseudopugnax* was collected in the Mascarene Islands, Micronesia, French Polynesia and Hawaii. While some specimens matched well the original descriptions of these two species, others appeared to be different in some important details. A thorough morphological study of the new material in conjunction with colour photographs and DNA sequencing of some specimens, as well as examination of the type specimens of *A. percyi* and *A. pseudopugnax*, enabled to confirm the validity of both species, but also revealed a rather significant intraspecific variation. In the present report, *A. percyi* and *A. pseudopugnax* are re-diagnosed and illustrated, including for the first time their unique and striking colour patterns.

The material examined for this study is deposited in the collections of the Florida Museum of Natural History, University of Florida, Gainesville, USA (UF); Muséum National d'Histoire Naturelle, Paris, France (MNHN); and National Museum of Natural History, Smithsonian Institution, Washington DC, USA (USNM). The carapace