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Re-examination of the eastern Pacific and Atlantic material of *Alpheus malleator* Dana, 1852, with the description of *Alpheus wonkimi* sp. nov. (Crustacea, Decapoda, Alpheidae)

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Abstract

The bumpy-clawed snapping shrimp, *Alpheus malleator* Dana, 1852 (Alpheidae), is revised based on the recently collected and older museum material from the eastern Pacific (Panama, Ecuador), Caribbean (Panama, Puerto Rico, Trinidad & Tobago), Brazil (São Paulo), and West Africa (Cape Verde, Senegal, Guinea, Equatorial Guinea, Congo). The eastern Pacific material is assigned to *A. wonkimi* sp. nov., based on one morphological difference in the colour and thickness of the uropodal spiniform seta, as well as previously published molecular data. The Caribbean, Brazilian and West African material is considered to represent a single, widespread, morphologically variable, amphi-Atlantic taxon, *A. malleator*. *Alpheus pugilator* A. Milne-Edwards, 1878 is retained as a junior synonym of *A. malleator*, whereas *A. tuberculosus* Osorio, 1892, *A. malleator* var. *edentatus* Zimmer, 1913 and *A. belli* Coutière, 1898, the latter two based on juvenile specimens, are tentatively placed in the synonymy of *A. malleator*. Illustrations, including colour photographs, are provided for *A. wonkimi* sp. nov. and *A. malleator* and their morphological variability is discussed and illustrated.

Key words: Alpheidae, *Alpheus*, snapping shrimp, cryptic species, transisthmian speciation, Pacific Ocean, Atlantic Ocean

Introduction

The snapping shrimp genus *Alpheus* Fabricius, 1798 is well known for a remarkable diversity in the shape and sculpture of the major and minor chelipeds (e.g., Coutière 1899; Banner & Banner 1982). The bumpy-clawed snapping shrimp, *Alpheus malleator* Dana, 1852, is one of the most distinctive members of the genus. This species can be immediately recognised by the heavily sculptured (covered with large, projecting bumps and small tubercles) and setose major and minor claws. Other diagnostic features of *A. malleator* are the dorsally flattened and posteriorly broadened rostrum, abruptly delimited from the adjacent rostro-orbital furrows; the frontal margin of the carapace with acute orbital teeth and two smaller, acute or blunt adrostral teeth situated between the rostrum and orbital teeth; the antennal basicerite with a very stout distolateral tooth; the antennal scaphocerite with a proximal, large, laterally projecting tooth; the third maxilliped with a very short, broad penultimate article; and the uropodal exopod bearing a stout, dark-coloured, spiniform seta.

The original description of *A. malleator* by Dana (1852a, 1852b) was a very short diagnosis in Latin, but the accompanying figures published three years later in an atlas (Dana 1855: pl. 35, fig. 9) illustrate most of the important diagnostic features of the species. The type locality of *A. malleator* was given with some doubts as “in portu Rio de Janeiro?”, i.e. the harbour of Rio de Janeiro, southern Brazil. Although many of Dana’s crustacean