



Distribution and morphological variation of *Synalpheus superus* Abele and Kim, 1989 and notes on the distribution of *S. fritzmuelleri* Coutière, 1909 (Decapoda: Caridea: Alpheidae)

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Abstract

A significant intraspecific morphological variation was observed in the eastern Pacific snapping shrimp *Synalpheus superus* Kim & Abele, 1989, especially in the proportions of some cephalothoracic appendages. The northern limit of the distribution of *S. superus* is expanded from Panama to Guerrero, Mexico. We also consider that *Synalpheus fritzmuelleri* Coutière, 1909 is most probably not an amphi-American species. Its former status as such was due to taxonomic misinterpretations by Hernández Aguilera *et al.* (1986) and probably by Coutière (1909) himself, although his questionable record of a single specimen of *S. fritzmuelleri* from the Gulf of California could not be verified, because the specimen could not be located and may be lost.

Key words: Alpheidae, *Synalpheus*, snapping shrimp, intraspecific variation, range extension, amphi-American

Introduction

The taxonomy of the snapping shrimp genus *Synalpheus* is challenging due to the apparent uniform morphology and frequent intraspecific variations in the morphometric characteristics of the cephalothoracic appendages (Coutière 1909; Banner & Banner 1975; Chace 1972; Christoffersen 1979; Dardeau 1984; Hermoso Salazar *et al.* 2008). Over 160 species of this genus are distributed in the tropical and subtropical seas of the world, mainly in the intertidal and shallow subtidal habitats (Dardeau 1984; Wicksten 1983; Morrison *et al.* 2004). In the eastern Pacific, 22 species of *Synalpheus* have been recorded so far, mostly in coralline algae, dead or living corals and rocky shores (Abele & Patton 1976; Reed *et al.* 1982; Snelgrove & Lewis 1989; Wicksten & Hendrickx 2003; Hermoso & Alvarez 2005; Hermoso Salazar *et al.* 2005; Hermoso Salazar & Hendrickx 2005; Hermoso Salazar *et al.* 2008).

The type material of two species reported from the eastern Pacific, *S. fritzmuelleri* Coutière, 1909 and *S. superus* Abele & Kim, 1989 – the focus of the present study – are deposited in the National Museum of Natural History, Smithsonian Institution, Washington, DC, USA (USNM). Additional specimens studied here are part of the Colección de Crustáceos de la Dirección General de Oceanografía de la Secretaría de Marina, México, D.F., México (SMIOM).

***Synalpheus* Bate, 1888**

***Synalpheus superus* Abele & Kim, 1989**

Synalpheus superus Abele & Kim, 1989: 18, figs. 9, 10.