



Three new species of the alpheid shrimp genus *Salmoneus* Holthuis, 1955 (Crustacea, Decapoda) from the tropical western Pacific

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Summary

Three new species of the alpheid shrimp genus *Salmoneus* Holthuis, 1955 are described from shallow waters of Guam (Mariana Islands), Moorea (Society Islands, French Polynesia), and Panglao (Bohol, the Philippines). The description of *Salmoneus paulayi* n. sp. is based on three specimens collected on reef flats in the vicinity of Guam's Apra Harbor, Talofofo, and Mangilao. *Salmoneus komaii* n. sp. is described on the basis of a single specimen collected at Barracuda Rock, one of Guam's popular diving sites. Finally, *Salmoneus poupini* n. sp. is described based on eight type specimens from several sites in the Moorea lagoon and one additional specimen from Panglao. The three new species appear to be closely related to each other, sharing several features on the minor and major chelipeds, the most obvious being the presence of widely spaced teeth on the finger cutting edges of the major chela. In addition, *S. paulayi* n. sp. is characterised by the presence of rounded, finely striated convexities intercalated between the teeth on the fingers of the major chela; these convexities are present, but much less developed in *S. komaii* n. sp. and *S. poupini* n. sp. The closest relative of these three new species appears to be *S. sketi* Fransen, 1991 from the eastern Atlantic, the only other species of the genus with widely spaced teeth (instead of serrations) on the cutting edges of the major chela.

Key words: Caridea, Alpheidae, shrimp, new species, Pacific Ocean, Guam, French Polynesia, Philippines

Introduction

The number of species in the alpheid shrimp genus *Salmoneus* Holthuis, 1955 has been steadily increasing over the past decade, increasing from 19 species known prior to 2000 to 38 species assigned to this genus at the end of 2010, effectively doubling the number of species in only 10 years. Among the 19 species described between 2000 and 2010, three species occur in the eastern Atlantic (Dworschak et al. 2000; Grippa 2004); seven in the western Atlantic (Anker 2007; Anker 2010); and the remaining nine in the Indo-West Pacific (Anker 2003a; Anker 2003b; De Grave 2004; Anker & Marin 2006; Komai 2009). As Anker (2010) alluded to the presence of several undescribed species in *Salmoneus*, the actual diversity in this genus appears far from fully known.

The present study deals with the description of three shallow-water species of *Salmoneus* based on specimens collected in Guam (Mariana Islands), Moorea (Society Islands, French Polynesia) and Panglao (Bohol, the Philippines), between 2004 and 2010. All the Guam and Moorea specimens were collected with a dip-net while snorkeling or diving, under coral rubble and under massive coral heads (coral "bommies"). The single Panglao specimen was collected with the aid of a suction pump. Almost all specimens were photographed alive prior to preservation in 75% ethanol; some Moorea specimens were subsampled for DNA sequencing.

The type material is deposited in the Florida Museum of Natural History, Gainesville, FL, USA (FLMNH), Naturalis – Nationaal Natuurhistorisch Museum, Leiden, the Netherlands (RMNH), and Oxford University Museum of Natural History, Oxford, UK (OUMNH). The non-type specimen from Panglao is deposited in the Raffles Museum of Biodiversity Research, National University of Singapore, Singapore (ZRC). Carapace length (CL, in mm) was measured along mid-dorsal line from the tip of the rostrum to the posterior margin of the carapace. The abbreviation "fcn" in the material section stands for field collection number.

All specimens of *Salmoneus* examined so far, including ovigerous individuals, bear a well-developed appendix masculina (e.g. Carvacho 1989; Anker & Marin 2006; Anker 2007, 2010; present study), suggestive of some form