A NEW SPECIES OF THE ALPHEID SHRIMP GENUS SALMONEUS (DECAPODA, CARIDEA) FROM THE RYUKYU ISLANDS, JAPAN, ASSOCIATED WITH A CALLIANASSID GHOST SHRIMP (DECAPODA, THALASSINIDEA)

BY

TOMOYUKI KOMAI1)
Natural History Museum and Institute, Chiba, 955-2 Aoba-cho, Chuo-ku, Chiba 260-8682, Japan

ABSTRACT

A new species of the alpheid shrimp genus *Salmoneus* Holthuis, 1955, *S. brucei* sp. nov., is described and illustrated from Iriomote Island, southern Ryukyu Islands, Japan. The type series was obtained by yabby pump from burrows of the callianassid ghost shrimp, *Lepidophthalmus tridentatus* (Von Martens, 1868). The new species is unique within the genus in the lack of orbital teeth of the carapace, but the presence of numerous setae on the fingers of the chelipeds and the enlarged minor cheliped link it to *S. seticheles* Anker, 2003, known from the Northern Territory, Australia.

INTRODUCTION

The alpheid shrimp genus *Salmoneus* Holthuis, 1955 at present contains 33 named species (Anker, 2003a, b, 2007; De Grave, 2004; Grippa, 2004; Anker &...
Marin, 2006), of which 20 species are known from the Indo-Pacific. Some species inhabit burrows of other crustaceans, such as alpheids or callianassids (e.g., Felder & Manning, 1986; Dworschak et al., 2000; Anker & Marin, 2006; pers. obs.). Seven informal species groups have been recognized in the genus (Anker & Marin, 2006). From Japanese waters, only four species, S. babai Miyake & Miya, 1966, S. gracilipes Miya, 1971, S. serratidigitus (Coutière, 1896), and S. tricristatus Banner, 1959, are known (Hayashi, 1995).

Faunal surveys for shallow-water thalassinideans in the Ryukyu Islands, southern Japan, revealed the existence of some alpheid species inhabiting burrows made by thalassinideans. In this paper, a new distinctive species referred to *Salmoneus* is described and illustrated. It was found to be associated with a callianassid ghost shrimp, *Lepidophthalmus tridentatus* (Von Martens, 1869).

**MATERIAL AND METHODS**

The site where the type series of the new species was collected is a small sand flat in Uehara Port, located on the northern coast of Iriomote Island, Yaeyama Islands. The flat, usually exposed at low tide, is riddled with burrows of callianassid shrimps. Specimens of the present new species were taken from burrows of *Lepidophthalmus tridentatus* with a commercial suction pump (yabby pump). The type series is deposited in the Natural History Museum and Institute, Chiba. Measurements given in millimeters are of carapace length (cl), measured from the tip of the rostrum to the midpoint of the posterodorsal margin of the carapace. Species of *Salmoneus* are known to have an appendix masculina on the second pleopod in females, and therefore sexing is sometimes difficult. In the present paper, non-ovigerous females possibly attaining the spawning moult were identified on the basis of the presence of egg-bearing setae on the pleopodal protopods. The sex of specimens lacking egg-bearing setae could not be determined.

**TAXONOMY**

**Family ALPHEIDAE**

**Genus Salmoneus** Holthuis, 1955

*Salmoneus brucei* sp. nov.  
(figs. 1-5)

Material examined. — Holotype: female (cl 6.0 mm), CBM-ZC 9511, sand flat in Uehara Port, Iriomote Island, Yaeyama Islands, southern Ryukyu Islands, intertidal, burrow of *Lepidophthalmus tridentatus*, yabby pump, 2 July 2007, coll. T. Komai.