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Two new species of ghost shrimp assigned to the genus *Cheramus* Spence Bate, 1888 (Crustacea: Decapoda: Axiidea: Callianassidae) from the Ryukyu Islands, Japan

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Abstract

Two new species of the callianassid ghost shrimp are described and illustrated on the basis of specimens from the Ryukyu Islands, Japan. These are provisionally assigned to the genus *Cheramus* Spence Bate, 1888, and appear closest to *Callianassa acutirostella* Sakai, 1988, also provisionally transferred to *Cheramus* herewith. These three species can be differentiated by characters of the telson, third maxilliped, chelipeds and uropod. The taxonomic status of *Cheramus* is briefly discussed.

Key words: *Cheramus*, *spinicauda*, *ohuranus*, *acutirostella*, Okinawa Island, Kuroshima Island

Introduction

Burrowing decapods from intertidal to subtidal soft sediments and coral reefs, recently collected by the authors in the Ryukyu Archipelago, revealed many new records and several undescribed species. Komai & Fujita (2014) reported *Paratrypaea maldivensis* (Borradaile, 1904) from Japanese waters for the first time. Komai et al. (2014) dealt with two species of the genus *Raylianassa* Komai & Tachikawa, 2008, including *R. amboinensis* (de Man, 1888) associated with sponges and alcyonacean soft corals, and one new species, *R. rudisulcus* Komai, Fujita & Maenosono, 2014, collected from subtidal soft sediments in Ohura Bay, Okinawa Island. The present article describes two new species of the subfamily Callianassinae from shallow subtidal sediments in Okinawa Island and/or Yaeyama Islands, provisionally assigned to the genus *Cheramus* Spence Bate, 1888. These two new species, *Cheramus spinicauda* **n. sp.** and *Cheramus ohuranus* **n. sp.**, appear closest to "*Callianassa*" *acutirostella* Sakai, 1988, but characters of the telson, third maxilliped, chelipeds and uropod differentiate them. The taxonomic status of *Cheramus* is briefly overviewed.

Material and methods

Specimens examined in this study are deposited in the Natural History Museum and Institute, Chiba (CBM), the University Museum, University of the Ryukyus, Fuju-kan, Ryukyu Islands (RUMF) and Naturhistorisches Museum Wien (NHMW). Illustrations of selected parts of the holotype of "*Callianassa*" *acutirostella* were reproduced from sketches made by Gary C. B. Poore of Museum Victoria. The measurements given in the text is carapace length (cl) measured from the tip of the rostrum to the mid-point of the posterior border of the carapace. Basally articulated, rigid, acute projections are referred to "movable spine(s)" or "movable spinule(s)". During this study, the ornamentation of the dorsal surfaces of the telson and uropods was found to provide potentially diagnostic characters, and thus, careful attention was paid to these structures.

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Specimens assigned to "*Callianassa*" *acutirostella* by Sakai (2005) differ from the holotype of *Cheramus acutirostella* **n. comb.** in the following particulars: the telson is less wider in Sakai's (2005) specimens than in the holotype (about 1.1 times wider than long versus about 1.4 times); the posterior margin of the telson has only a row of sparse setae in Sakai's (2005) specimens, instead of having a row of numerous spinules or spiniform setae in the holotype; the dorsal surface of the telson is devoid of submedian sets of movable spines anterior to the midlength, which are present in the holotype; the eyestalk is devoid of a distomesial process in Sakai' (2005) specimens, whereas a distinct distomesial process is present in the holotype; the ischium-merus of the third maxilliped is distinctly narrower in Sakai' (2005) specimens than in the holotype; the uropodal endopod is relatively wider in Sakai's (2005) specimens than in the holotype. They are very similar to *Cheramus spinicauda* **n. sp.**, in particular, in having a sharp carina on the lateral face of the fixed finger of the cheliped clearly illustrated (Sakai 2005: Fig. 14A, B), though not mentioned in the text. Nevertheless, Sakai's (2005) specimens clearly differ from *Cheramus spinicauda* **n. sp.** in the absence of prominent movable spines on the posterior margin of the telson and the submedian sets of movable spines on the dorsal surface of the telson. It is likely that Sakai's (2005) specimens represent an undescribed species.

It should be noted that two species of *Paratrypaea* Komai & Tachikawa, 2008, *P. bouvieri* (Nobili, 1904) and *P. maldivensis*, are superficially similar to the two new species described in this study. Specifically, the two species of *Paratrypaea* are readily distinguished from *C. spinicauda* **n. sp.** and *C. ohuranus* **n. sp.** by the lack of the dorsal armature of the telson and the different structure of the merus of the male major cheliped, and the presence of a short transverse row of minute spiniform setae laterally on the dorsal surface of the uropodal endopod. In the two species of *Paratrypaea*, the ventral margin of the merus of the major cheliped is expanded into a marginally denticulate lobe (*P. bouvieri*) or armed with a row of sharp teeth (*P. maldivensis*); the posterior margin of the telson is devoid of prominent movable spines, and this distinguishes the two *Paratrypaea* species from *C. spinicauda* **n. sp.**

During this study, we found that details in the armature and ornamentation of the telson and uropods provide diagnostic characters for species differentiation in callianassids, for which little attention has been paid in previous literature. It is advisable to examine those characters for better comparison of species of the family, in particular, Callianassinae.

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