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A New Abdominally Parasitizing Bopyrid, *Anisarthrus okunoi* sp. nov. (Crustacea: Isopoda), Infesting the Hinge-Beak Shrimp *Rhynchocinetes uritai* Kubo, 1942 (Crustacea: Decapoda: Rhynchocinetidae)

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Anisarthrus okunoi sp. nov., an abdominal parasite of the hinge-beak shrimp *Rhynchocinetes uritai* Kubo, 1942, is described from Awaji Island, central Japan. The new bopyrid, the second species of *Anisarthrus*, is distinguished from *A. pelseneeri* Giard, 1907 from Boulogne, France, by the lateral plates of the concave side being smaller than those of the convex side, the large, lanceolate pleopods 1–2 and slightly bilobed pleopods 3–4, the simple, bulbous pleotelson in the female, the lack of eyes, and the rounded posterior margin of the pleotelson in the male. This is the first record of bopyrid infestation of any member of the family Rhynchocinetidae in the world.

Key Words: Crustacea, Isopoda, Bopyridae, *Anisarthrus okunoi* sp. nov., *Rhynchocinetes uritai*, Awaji Island, Japan.

Introduction

In Japan, 96 species of bopyrid isopod have been recorded (Shiino 1972; Saito *et al.* 2000, 2010; Shimomura *et al.* 2006, 2012; Miura *et al.* 2014). They infest species in various infraorders of decapod crustaceans inhabiting marine, brackish-, or fresh-water habitats. Eleven species of Japanese bopyrids, including two unidentified species, occur on the ventral surfaces of the abdomens of 14 species of caridean shrimp in four families (Saito *et al.* 2000; Shimomura *et al.* 2006; Saito and Motoh 2010) (see Discussion). The hinge-beak shrimp *Rhynchocinetes uritai* Kubo, 1942 (Rhynchocinetidae) is known from southern Japanese and Korean waters and is common subtidally in central Japan (Hayashi 2007), but it has not previously been known to host any bopyrid parasite, either branchially or abdominally (Saito 2002). Junji Okuno, Coastal Branch of Natural History Museum and Institute, Chiba, found an unidentified bopyrid isopod on the ventral surface of the pleon of a specimen of *R. uritai* during a recent survey on the south coast of Awaji Island, central Japan, and kindly made it available for our examination. It proved to represent a new species of *Anisarthrus* Giard, 1907, which we describe herein.

Materials and Methods

A specimen of the hinge-beak shrimp *Rhynchocinetes uritai*, host of the new bopyrid isopod, was caught by a trap in Yura Harbor on the southeastern coast of Awaji Island, central Japan, in 2008. The specimen was preserved in 70% ethanol and examined under a binocular microscope (LEICA MZ 12). Measurements and drawings were made with the aid of an Olympus BHB-Tr microscope equipped with a drawing tube.

Measurements provided are body length (BL: measured from tip of head to posterior end of final pleomere along dorsal mid-line) of the bopyrid and postorbital carapace length (CL: measured from posterior margin of orbit to midpoint of posterodorsal margin of carapace) of the host shrimp. Other measurements and terminology essentially follow those of Markham (1985) for the bopyrid and Hayashi (2007) for the host shrimp. The type specimens of the new bopyrid isopod are deposited in the Kitakyushu Museum of Natural History and Human History (KMNH IvR), Kitakyushu, Japan, and their host shrimp is deposited in the Coastal Branch of Natural History Museum and Institute, Chiba (CMNH), Katsuura, Chiba, Japan.

Family **Bopyridae** Rafinesque, 1815
Subfamily **Hemiarthrinae** Markham, 1972
Genus ***Anisarthrus*** Giard, 1907
Anisarthrus okunoi sp. nov.
[Japanese name: Sarasa-no-harayadori]
(Figs 1–3)

Material examined. Holotype: ovigerous female (BL