



## MOLECULAR CONFIRMATION OF SPECIES IDENTITY BETWEEN “LARVAL” AND “ADULT” FORMS OF *Amphionides reynaudii* (Caridea: Pandaloidea)

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*Amphionides reynaudii* (H. Milne-Edwards, 1832) is an enigmatic pelagic shrimp inhabiting warm oceans around the world. This species was originally described using a zoeal form, and most of the specimens collected thereafter also showed a zoeal form. The specimen supposed to be an adult form of this species was first described as *Amphionides valdiviae* Zimmer, 1904, but later synonymized with *A. reynaudii*. Since this “adult” form has been rarely found, the identification of the “adult” form has never been confirmed using molecular information. In this study, we collected fresh specimens of *A. reynaudii* in a form of “adult” from off the coast of Tanegashima Island, Japan, and those in a form of “zoeal” from off the Chichijima Island, Ose Beach, and Ainan, Japan. The external morphology of the “adult” form agrees with previous descriptions of the supposed adult females of *A. reynaudii* collected off the east and west coasts of Africa, and the East Pacific. DNA barcodes of 16S rRNA gene strongly support that the species of the present “adult” form is identical to all “zoeal” forms collected in this study as well as the specimen previously obtained off the Canary Islands. Our molecular phylogenetic tree analysis using 16S rRNA, 18S rRNA, and histon 3 regions also supports that *A. reynaudii* is nested inside carideans and close to pandalid species. This study demonstrates that these two different forms are genetically identical and is the first record of the “adult” form of *A. reynaudii* in the Northwest Pacific.

**Keywords:** enigmatic species; Pandaloidea; pelagic shrimp