



Description of a new species of *Onychostenhelia* Itô (Copepoda, Harpacticoida, Miraciidae) from the Bohai Sea, China

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Abstract

Onychostenhelia bispinosa **sp. nov.** is described from material collected from the Bohai Sea, China. It differs from the type and only known species of *Onychostenhelia* in the setal formula of the swimming legs, the form of the setae on the baseoendopod of P5 in both sexes, the female rostrum, the structure of the sexually dimorphic P4 exopod in the male, and size.

Onychostenhelia, *Cladorostrata* and *Delavalia* belong to a core group within the Stenheliinae that exhibits an unusual morphology in the maxillule, the exopod and endopod being confluent at base but not actually fused to the supporting basis. Based on this circumstantial evidence it is postulated that in biramous limb patterning both exopodal and endopodal primordia are recruited from a common precursor and, consequently, patterns of axial diversification in crustacean limbs and the mechanisms of segmentation that establish them may have to be reinterpreted.

Previously published evidence supporting the monophyly of the Stenheliinae is reviewed and a dichotomous key to the nine genera of the subfamily Stenheliinae provided.

Key words: *Onychostenhelia bispinosa* **sp. nov.**, Harpacticoida, Miraciidae, Stenheliinae, taxonomy, limb patterning, Bohai Sea, China

Introduction

The genus *Onychostenhelia* was proposed by Itô (1979) for a new species, *O. falcifera*, based on five specimens dredged from a sandy substratum off Oshoro, Hokkaido, Japan. Its relationships clearly lie with the subfamily Stenheliinae (Miraciidae) because of the dorsolateral position of the female genital apertures on the genital double-somite. Itô (1979) suggested that, within this subfamily, *Onychostenhelia* most closely resembled *Pseudostenhelia* in the segmentation and armature of the swimming legs, and that the female P5 was similar to that found in *Delavalia cornuta* (Lang, 1936). However, the genus clearly differed from any other harpacticoid in the peculiar transformation of the P4 exopod in the male.

Specimens belonging to the Stenheliinae were relatively common in the Bohai Sea samples. Most of these belonged to various species of the genera *Stenhelia* Boeck, 1865 and *Delavalia* Brady, 1869 (Mu & Huys 2002). However, one of the most abundant animals could clearly be assigned to the monotypic genus *Onychostenhelia* and comparison with the very detailed description of *O. falcifera* unequivocally indicated that it should be placed in a new species, which is described below.