



Two new species of *Sericosura* Fry & Hedgpeth, 1969 (Arthropoda: Pycnogonida: Ammotheidae) from a hydrothermal vent on the East Pacific Rise

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Abstract

Between 17th October and 9th November 2009, the third leg of the Chinese DY115-21 cruise on board the R/V *Dayangyihao*, confirmed two new hydrothermal fields near the equatorial East Pacific Rise. Five pycnogonid specimens were obtained by deep-sea TV-grab from one of the new hydrothermal vents named 'Precious Stone Mountain' at 1.22°N 101.49°W. These specimens belonged to two new species of the obligately-vent-associated pycnogonid genus *Sericosura*. Three female specimens represent the new species *Sericosura gemmaemonsis* with large body size. One male and one female were of the second new species, *Sericosura dentatus*; the male specimen has a mid-dorsal femoral cement-gland-tube, like that of *Sericosura dissita*, while the female specimen has more finely-denticulate spines on the oviger strigilis than any other species of the genus.

Key words: East Pacific Rise, Precious Stone Mountain, hydrothermal vent, Pycnogonida, *Sericosura*

Introduction

The pycnogonid genus *Sericosura* Fry & Hedgpeth, 1969 is the only one showing an obligate association with chemosynthetic habitats in the sea, predominantly hydrothermal vents. Nine species of the genus had been described previously. Bamber (2009) reviewed the genus most recently, discussed the characteristics of their morphology and presented an identification key to the species (see also Child & Segonzac, 1996). Five species of *Sericosura* have been recorded from the Pacific Ocean, including *S. venticola* Child, 1987, *S. dissita* Child, 2000, *S. cochleifovea* Child, 1989, *S. cyrtoma* Child & Segonzac, 1996 and *S. verenae* (Child, 1987). In the present paper we describe two new species of *Sericosura* collected from East Pacific Rise (EPR), representing the first record of species of this genus from near the equatorial EPR.

Two new hydrothermal vent-fields were confirmed near the equatorial EPR between 17th October and 9th November 2009, during the third leg of the Chinese DY115-21 cruise on board the R/V *Dayangyihao*. One is the first hydrothermal vent-field to be discovered on the western Galapagos Spreading Center (GSC), which has been named 'Precious Stone Mountain' (101.49°W, 1.22°N), at a depth from 1,450 to 1,700 m (Tao *et al.*, 2011).

In this area, a series of research studies was undertaken, including benthic surveying, water sampling, and grabbing for biological and geological specimens. At station DY115-21III-TVG09 and DY115-21III-TVG11, we obtained many hydrothermal-vent-associated species such as live mussels (*Bathymodiolus thermophilus* Kenk & Wilson, 1985), "yeti crabs" (*Kiwa* sp.), tubeworms (*Tevnia jerichonana* Jones, 1985) and giant clams (*Calyptogena magnifica* Boss & Turner, 1980) by sampling from the top of the active hydrothermal vent. Five specimens of Pycnogonida representing two hitherto undescribed species of the genus *Sericosura* were collected from station DY115-21III-TVG09, and the two new species are described below.