



<http://dx.doi.org/10.11646/zootaxa.3911.1.8>

<http://zoobank.org/urn:lsid:zoobank.org:pub:00669CAD-D0A5-4DCA-B83D-407D908168EC>

Report on two deep-water caridean shrimp species (Crustacea: Decapoda: Caridea: Alvinocarididae, AcanthePHYRIDAE) from the northeastern South China Sea

XINZHENG LI

Institute of Oceanology, Chinese Academy of Sciences, 7 Nanhai Road, Qingdao 266071, China. E-mail: lixzh@qdio.ac.cn

Abstract

Two deep-water species of caridean shrimps collected during recent dives by the Chinese manned submersible “Jiaolong” represents new records for the South China Sea: *Alvinocaris longirostris* Kikuchi & Ohta, 1995 (Alvinocarididae) and *AcanthePHYRYRA faxoni* Calman, 1939 (AcanthePHYRYRIDAE). Specimens of these two species were collected from Jiaolong Cold Seep I, off Guangdong Province, China (depth 1138 m). *Alvinocaris longirostris* is known to be associated with chemosynthetic community, whereas *AcanthePHYRYRA faxoni* is a bathypelagic inhabitant, of which the occurrence in seep site is merely opportunistic. An identification key to species of *Alvinocaris* is provided.

Key words: Crustacea, Decapoda, Caridea, Alvinocarididae, AcanthePHYRYRIDAE, *Alvinocaris longirostris*, *AcanthePHYRYRA faxoni*, deep-sea, cold seep, South China Sea, new record

Introduction

The genus *Alvinocaris* Williams and Chace, 1982 is most speciose among the eight genera of the family Alvinocarididae Christoffersen, 1986. Thirteen species were known in the genus to date (WoRMS, <http://www.marinespecies.org/aphia.php?p=taxdetails&id=378084>), and one species was recently added (Yahagi *et al.*, 2014). Most of them are geographically or bathymetrically separated (Komai & Segonzac, 2005), i.e., they are mostly endemic species (the knowledge on geographical ranges of many species is still limited), which are exclusively found from hydrothermal vents or/and cold seeps: *Alvinocaris alexander* Ahyong, 2009 and *A. niwa* Webber, 2004, from Rumble V Seamount and Brothers Caldera, southern Kermadec Ridge, New Zealand, 367–1196 m; *A. brevitelsonis* Kikuchi & Hashimoto, 2000 and *A. dissimilis* Komai & Segonzac, 2005, from hydrothermally influenced area, Depression C of the Minami-Ensei Knoll, Mid-Okinawa Trough, 705 m (see Fujikura *et al.* (2008) book); *A. chelys* Komai & Chan, 2010, from northeastern Taiwan, 252–300 m; *A. komaii* Zelnio & Hourdez, 2009, from Eastern Lau Spreading Center, southwest Pacific, 1880–2700 m; *A. longirostris* Kikuchi & Ohta, 1995, from hot vents and cold seeps, Iheya Ridge, Okinawa Trough and Sagami Bay, 1120–1627 m (Webber 2004 referred material from Kermadec Ridge to *A. longirostris*); *A. lusca* Williams & Chace, 1982, from Rose Garden, Galapagos Rift, East Pacific Rise, 2450–2520 m; *A. markensis* Williams, 1988, from Mid-Atlantic Ridge, 1693–3650 m; *A. methanophila* Komai, Shank & Van Dover, 2005, from Blake Ridge Diapir, northwestern Atlantic, 2155–2167 m; *A. muricola* Williams, 1988, from cold seeps, West Florida Escarpment, Gulf Mexico, 3277 m, and south Barbados, tropical western Atlantic and Regab, west equatorial African margin, 1697–3150 m (see Teixeira *et al.* 2013); *A. stactophila* Williams, 1988, from cold seep area at Louisiana Slope, Gulf of Mexico, 534 m; *A. williamsi* Shank & Martin, 2003, from hot vents at Menez Gwen site, Mid-Atlantic Ridge, 850–865 m; *A. solitaire* Yahagi *et al.*, 2014, the only representative species from the Indian Ocean, found from hydrothermal vent field in Central Indian Ridge at 2606 m depth.

In the summer of 2013 (June to July), the author participated in the scientific cruise of the Chinese manned submersible “Jiaolong” to the South China Sea. A cold seep, named Jiaolong Cold Seep I, located at a ridge between continental shelf and slope off Guangdong Province, China and southwestern to Taiwan Island, was the



FIGURE 6. *Acantheephyra faxoni* Calman, 1939. Photo of the shrimp body.

Acknowledgements

I am grateful to all the scientists and crew of the Vessel “Xiangyanghong 9” and the submersible “Jiaolong”, for help in the collection of the shrimp specimens. This work was supported by funding from the IOCAS (No. 2012IO060105) and the Strategic Priority Research Program of the Chinese Academy of Sciences (No. XDB06010101). Thanks are due to Dr. Qi KOU (IOCAS), who helped preparing the figs 4 and 5.

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