Deep-sea hydrothermal vents are characterized by extreme environmental gradients, which support vent fauna of unusually high biomass/abundance (Ramirez-Llodra et al. 2007). *Pseudorimula* is a genus of the family Lepetodrilidae (Desbruyères et al. 2006), which represents one of the most abundant and diverse family at deep-sea hydrothermal vent fields (Johnson et al. 2008). Studies based on the mitogenome of *Lepetodrilus*, the type genus of this family, revealed a novel gene arrangement in Vetigastropoda, and located this genus as sister to *Granata* and *Haliotis* (Lee et al. 2016; Nakajima et al. 2016). *Pseudorimula* was once placed in Clypeosectidae of Fissurelloidea based on the shell, gill, and some anatomic characters (McLean 1989), but then transferred to Lepetodrilidae of Lepetodrilidae according to some other morphological characters (such as protoconch and radula) and COI fragments (Bouchet et al. 2005; Kano 2007). More robust genetic evidences are needed to resolve its phylogeny and biogeographic history; however, genetic information of *Pseudorimula* is largely unknown. Here, we describe the mitogenome of *Pseudorimula* sp. to better understand the phylogenetic location and the gene arrangement of the family.

During the Chinese cruise DY35 in December 2014, individuals of slit limpets were collected from Tiancheng vent field (63°32′E, 27°57′S, 2760 m depth) using the manned submersible *Jiaolong*, and then deposited in the Repository of the Second Institute of Oceanography, MNR, Hangzhou, China. The specimens were identified as *Pseudorimula* sp.
grouped with *Lepetodrilus*, forming a sister group to *Granata* and *Haliotis* within the Vetigastropoda.

**Disclosure statement**

The authors declare no conflict of interest. The authors alone are responsible for the content and writing of the paper.

**Acknowledgments**

The authors thank all the scientists and crew on the R/V "Xiangyanghong 9", and the submersible *Jiaolong* team for their help in the specimens' collection during the expedition DY35; Chong Chen for his help with the specimens' identification.

**Funding**

This work was supported by the China Ocean Mineral Resources Research and Development Association Program under Grant No. DY135-E2-1-02 and DY135-E2-1-01, and the National Natural Science Foundation of China (NSFC) under Grant No. 41606156.

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