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Redescription of the giant mud worm *Paraleonnates uschakovi* Khlebovich and Wu, 1962 (Polychaeta: Nereididae) with special reference to the synonymy of *Periserrula leucophryna* Paik, 1977 and the difference from *Paraleonnates bolus* (Hutchings and Reid, 1991)

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Abstract

There has been a long-standing taxonomic confusion over the name of a giant nereidid worm living in Asian intertidal mud flats. To clear up the confusion, we examined the type specimens of *Paraleonnates uschakovi* Khlebovich and Wu, 1962 described from China as well as *Periserrula leucophryna* Paik, 1977 described from Korea (Polychaeta: Nereididae), together with additional non-type materials newly collected from Korea, China, Taiwan, and Thailand. Our results confirmed that *Periserrula leucophryna* should be reduced to a junior synonym of *Paraleonnates uschakovi* as previously noted, and that this species is widely distributed in Asia, newly recorded from Taiwan and Thailand. We also present new information about the arrangement of three kinds of chaetae in the parapodia as a characteristic of this species. We also compared this species with *Paraleonnates bolus* (Hutchings and Reid, 1991) described from Australia and concluded that these are different species. Based on our examination, we propose the amended diagnosis of the genus *Paraleonnates* Khlebovich and Wu, 1962. *Paraleonnates* Amoureux, 1985 erected as a monotypic genus for *P. guadalupensis* Amoureux, 1985 was judged as a junior homonym of *Paraleonnates* Khlebovich and Wu, 1962, and *P. guadalupensis* is transferred to the genus *Leonnates* Kinberg, 1865.

Key words: Annelida, *Leonnates*, taxonomy, synonym, homonym, China, Korea, Asia, Australia

Introduction

A nereidid polychaete *Paraleonnates uschakovi* Khlebovich and Wu, 1962 was described as a new genus as well as a new species, based on the specimens collected from the Chinese coasts of the Yellow Sea and South China Sea. Later, *Periserrula leucophryna* Paik, 1977 was described as a new genus as well as a new species, based on the specimens from the Korean coast of the Yellow Sea. However, both of their descriptions are very similar and share the same unique characteristics, i.e., continuous rows of “paragnath” (partly sclerotized papillae, according to Bakken *et al.*, 2009) in both dorsal and ventral surfaces of the maxillary ring, as well as digitate soft papillae in both the dorsal and ventral surfaces of the oral ring. Thus, Khlebovich (1996) synonymized *Periserrula leucophryna* with *Paraleonnates uschakovi*. However, a few differences between the original descriptions of these two species have been reported. Paik (1977) described that *Periserrula leucophryna* has uniramous parapodia in the first and second chaetigers, as well as both spinigers and falcigers in parapodia, whereas Khlebovich and Wu (1962) described that *Paraleonnates uschakovi* has uniramous parapodia in only the first chaetiger, as well as only spinigers in both notopodia and neuropodia.

In the present study, we examined the type specimens of both species as well as additional non-type materials newly collected from Korea, Taiwan, and Thailand. We confirmed that both are synonyms and that the name *Paraleonnates uschakovi* has priority, as suggested by Khlebovich (1996). We also compared this species with *Paraleonnates bolus* (Hutchings and Reid, 1991) described from Australia, and judged that these are different species, which supports the previous assessment by Qiu and Qian (2000).