



Four new species of the *Amyntas corticis*-group (Oligochaeta: Megascolecidae) from Hainan Island, China

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Abstract

This paper describes four new species of earthworms from Hainan Island, China: *Amyntas stricosus* **sp. nov.**, *Amyntas fuscus* **sp. nov.**, *Amyntas montanus* **sp. nov.** and *Amyntas genitalis* **sp. nov.** They all belong to the *Amyntas corticis*-group with four pairs of spermathecal pores in 5/6–8/9. *Amyntas stricosus* **sp. nov.** has postsetal genital papillae within the male pore region, single or paired in XVII, XIX and XX, a heart-shaped spermathecal ampulla, and the terminal 0.4 of the spermathecal diverticulum dilated into a band-shaped chamber. *Amyntas fuscus* **sp. nov.** has no genital papillae, an irregular heart-shaped spermathecal ampulla, and the terminal 0.25 of the diverticulum dilated into an elongated ovoid seminal chamber. *Amyntas montanus* **sp. nov.** has two pairs of large ovate and flat-topped genital papillae within the male pore region, diameter 0.7–0.8mm, surrounded by epidermal folds, paired on 17/18, 18/19 and accompanied closely with the male pores, heart-shaped spermathecal ampulla, terminal 0.4 of diverticulum dilated into a rod-shaped chamber, with hairpin-looped stalk. *Amyntas genitalis* **sp. nov.** has four longitudinally arranged pairs of ovate and flat-topped genital papillae within the male pore region, diameter 0.4–0.5mm, one paired postsetal and presetal papillae on XVII and XIX respectively, and two paired on XVIII anterior and posterior to the setal annulet, and small and ovoid spermathecal ampulla, terminal 0.29 of diverticulum dilated into a rod-shaped chamber.

Keywords: Earthworms, Clitellata, Annelida, soil, taxonomy

Introduction

Hainan Island, with an area of approximately 33,900 km², is separated by the Qiongzhou Strait from the Leizhou Peninsula of Guangdong. The island was repeatedly connected with and separated from the mainland of China during the recent Quaternary glacial and inter-glacial periods (Long *et al.* 2006). Notwithstanding that the geographical and meteorological features are similar to the neighboring part of the mainland, the oligochaete fauna is quite a distinct one (Chen 1938). The first extensive collection of the earthworm fauna from Hainan Island, China was made by Yi Chen during an expedition in 1933–1934. The most abundant earthworm species were found to be endemic to this island, with characters quite different from species of the Asiatic mainland or adjacent islands.

After 73 years, we made another broad earthworm collection during a field survey in Diaoluo Mountain, Jianfeng Mountain and Bawang Mountain in Hainan Island, China. In the last four years, we have discovered ten new species. They are *Amyntas diaoluomontis* Qiu & Sun from Diaoluo Mountain (Sun *et al.*, 2009), *Amyntas octopapillatus* Qiu & Sun from Diaoluo Mountain (Sun *et al.*, 2009), *Amyntas zhangii* Qiu & Sun from Diaoluo Mountain (Sun *et al.*, 2009), *Amyntas lingshuiensis* Qiu & Sun from Diaoluo Mountain (Sun *et al.*, 2009), *Amyntas bouchei* Zhao & Qiu from Jianfeng Mountain (Zhao *et al.*, 2009), *Amyntas omodeoi* Zhao & Qiu from Diaoluo Mountain (Zhao *et al.*, 2009), *Amyntas edwardsi* Zhao & Qiu from Diaoluo Mountain (Zhao *et al.*, 2009), *Amyntas trapezoidesi* Qiu & Sun from Jianfeng Mountain (Sun *et al.*, 2010), *Amyntas conchicapillatus* Qiu & Sun from Diaoluo Mountain (Sun *et al.*, 2010), and *Amyntas dongfangensis* Qiu & Sun from Jianfeng Mountain (Sun *et al.*, 2010).