



Three new species of Tubificinae, Oligochaeta, from two plateau lakes in Southwest China

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Abstract

Three new species of Tubificinae (Naididae, Oligochaeta), *Varichaetadrilus vestibulatus* n. sp., *Aulodrilus apeniatus* n. sp., and *Ilyodrilus mesoprostatatus* n. sp., are reported from Fuxian Lake and Xingyun Lake of Yunnan Province, Southwest China. *V. vestibulatus* differs from its allies by possessing modified spermathecal chaetae and thinner cylindrical penial sheaths. *A. apeniatus* is unique in the genus by having no penis. *I. mesoprostatatus* is distinguishable from congeners by its prostate glands joining middle portion of atria and having concave, cone-shaped cuticular penial sheaths. Twenty-eight species of freshwater oligochaetes have hitherto been recorded from Yunnan Province, including five endemic species from three plateau lakes.

Key words: *Varichaetadrilus*, *Aulodrilus*, *Ilyodrilus*, Tubificinae, taxonomy, new species, Fuxian Lake, Xingyun Lake, Yunnan Province

Introduction

The study of freshwater oligochaetes in China has a history of about one hundred years. Altogether 117 species, representing 7 families and 47 genera have hitherto been recorded. Previous researches, however, were mainly concentrated in eastern and central China (Wang & Cui 2007). Works from Southwest China such as Yunnan Province were scanty.

The earliest taxonomic work on oligochaetes in Yunnan was done by Liang (1963), who described one aberrant species of branchiobdellidans from Erhai Lake. No further oligochaete record from the province was published until Cui and Wang described a new species, *Potamothrix scleropenis*, from Fuxian Lake in 2005. Several papers on macrozoobenthos containing some faunistic information of Oligochaeta were then published (Nanjing Institute of Geography and Limnology 1990; Yang & Chen 1995; Cui et al. 2008; Cui & Wang 2008). At present, 25 species of oligochaetes belonging to 4 families and 13 genera have been recorded from Yunnan.

During the limnological investigation of Plateau lakes in 2002–2003, a number of oligochaete samples were collected from Fuxian Lake and Xingyun Lake, among which three new species of Tubificinae, *Varichaetadrilus vestibulatus* n. sp., *Aulodrilus apeniatus* n. sp., and *Ilyodrilus mesoprostatatus* n. sp., are described herein. Other findings on oligochaetes will be given in a separate paper.

Materials and methods

Located in the Yunnan-Guizhou Plateau in southwest China, Fuxian Lake and Xingyun Lake originated from a common palaeolake in early Holocene Epoch. They were isolated in the middle Holocene Epoch, but a