



Article

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Two new species of Tubificinae (Annelida: Clitellata: Naididae) from Tibet, China

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Abstract

Two new species of Tubificinae (Oligochaeta: Naididae), *Tubifex conicus* n. sp., and *Isochaetides palmatus* n. sp., are reported from Tibet, China. *T. conicus* is unique in the genus by having spindle-shaped atria, large prostates and symmetrically conical penial sheaths. *I. palmatus* differs from its allies by possessing palmate dorsal chaetae, pectinate ventral chaetae and no penial sheaths.

Key words: *Tubifex*, *Isochaetides*, aquatic Oligochaeta, new species, taxonomy, Tibet

Introduction

Formed in the Medio-Pleistocene Epoch of the Quaternary Period, the Tibetan plateau is known to have a unique fauna, from which many endemic insects and fishes have been found (Wang *et al.* 1992; Zhang *et al.* 1995). However, our knowledge regarding Oligochaeta in this plateau is still limited. As the earliest work, Stephenson (1909) described four Tibetan microdrile oligochaetes species, and Černosvitov (1949), in a study mainly based on Stephenson's material, recognized six species: *Chaetogaster diaphanus* (Gruithuisen, 1828) (as *Ch. orientalis* Stephenson, 1909, a synonym of *Ch. diaphanus*), *Nais* sp., *Limnodrilus udekemianus* Claparède, 1862, *Rhyacodrilus stephensoni* Černosvitov, 1941, *Lumbriculus variegatus* (Müller, 1774), and *Henlea ventriculosa* (d'Udekem, 1854). From Changdu in Tibet, Liang (1963) described a new subspecies, *Pristina amphibiotica changtuensis*, and subsequently regarded it as a separate species, *Pristina changtuensis* (Liang, 1963) (Liang *et al.* 1998). A new glacial enchytraeid, *Sinenchytraeus glacialis* Liang & Hsü, 1979, was also described from that region (Liang *et al.* 1979). No further species have been reported up to the present. In this paper, we describe two new species, *Tubifex conicus* n. sp. and *Isochaetides palmatus* n. sp., from Lake Yamzho Yumco, Tibet. Some other new species and discussion of oligochaetes faunal characteristics on Tibetan Plateau will be published separately.

Materials and methods

Sampling sites were located in Lake Yamzho Yumco (N28°16'–29°11', E90°21'–91°05'), which is a tectonic-barrier, high altitude brackish water inland lake at 4442 meters above sea level, belonging to the drainage system of southern Tibet. The lake covers an area of 678 km² in a catchment of 6100 km², its maximum depth is 59 m, its mean depth 30 m, and recharge coefficient is 9.0 (Wang & Dou 1998). Mean water temperature is about 12°C in summer and the ice-cover season spans a period from November to March; in the region around the lake, the annual mean air temperature is 2.6°C (Chinese Academy of Science, The Comprehensive Scientific Expedition to Qinghai-Tibet Plateau 1984).