



## Records of Naididae and Lumbriculidae (Clitellata) from Tibet, China, with description of a new species of *Nais*

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### Abstract

The Tibetan Plateau is considered to have a unique fauna of fish and invertebrates. However, little taxonomic work has been conducted on the aquatic Oligochaeta of Tibet, China. Based on the surveys of rivers and lakes in this region between 2010 and 2011, we recorded 25 species of oligochaetes belonging to 2 families and 15 genera. This paper provides an overview of the species composition of different waterbodies, the description of one new species, *Nais longidentata* sp. n., and re-descriptions of four previously described species. Hitherto, 30 species of aquatic oligochaetes have been recorded from Tibet. The oligochaete fauna is similar to that of the Holarctic, but has several endemic elements.

**Key words:** Aquatic Oligochaeta, new species, *Nais*, Tibet, China

### Introduction

Freshwater oligochaetes have been studied in China for almost one hundred years (Chen 1940; Wang & Cui 2007). Altogether 117 species, representing 7 families and 47 genera have been recorded. Initial research was mainly focused on eastern and central China (Wang & Cui 2007), with only scant research on southwest China, including Tibet. The Tibetan Plateau is considered as one of the global biodiversity hotspots for its unique natural environment (Li & Fang 1999), which accounts for the rich occurrence of endemic species of various taxa in this region (Chiang *et al.* 1983; Cao & Zhu 1988; Chen & Chen 2010). The history of taxonomic work on oligochaetes in Tibet has been reviewed in He *et al.* (2012) and Peng *et al.* (2014).

Between 2010 and 2011, we carried out an investigation of oligochaetes in Tibet, sampling a wide range of waterbodies, including rivers, lakes and wetlands, with the aims of collecting new species and obtaining a better understanding of the distribution patterns across a range of different habitats. Altogether, 25 species belonging to 2 families and 15 genera were identified in these surveys, including two species new to science, *Tubifex conicus* and *Isochaetides palmatus*, described in He *et al.* (2012). This paper gives an overview of the species found in the different waterbodies, with the aim of providing useful baseline data for future studies. We further describe one additional new species of *Nais*. References in the species section are restricted to those dealing with records and descriptions from China.

### Description of sampling sites

Sixty-two sites were sampled from six regions, such as the mainstem of the Yarlung Zangbu River, Lhasa River, Niyang River, Lake Yamzhao Yumco, Lake Namco and Lalu Wetland in Tibet (Fig. 1). At each site a range of physical parameters were measured, including water temperature (WT, °C), dissolved oxygen (DO, mg/L), pH, and conductivity (Cond, µS/cm) at the sampling date (Table 1). Water temperature was measured with a waterproof