

Abstract

Examination of earthworm material collected during the ecological studies from the Western Ghats, a biodiversity hot spot in South India, showed the existence of new genera and new species of octochaetid earthworms. Three new genera, *Senapatiella* with three new species (*S. alfredi*, *S. ghatensis*, *S. herbettuensis*), *Shimodrilus* with two new species (*S. bhatkalensis*, *S. karniensis*) and *Herbettodrilus* containing one new species (*H. bahli*) are erected. Other new species, *Konkadrilus shimogensis*, *K. gatesi*, *Hoplochaetella lavellei*, *Karmiella sulvalliensis* and *Wahoscolex michaelsoni* are also described. Keys to the species of *Senapatiella* and *Shimodrilus* are provided.

Key words: Earthworms, Oligochaeta, Octochaetidae, Western Ghats, Karnataka state, South India, taxonomy, new genera, new species

Introduction

The Western Ghats are a chain of hill ranges, approximately 1400 km long, which stretch from 8°N to 22°N latitudes along the west coast of peninsular India. They constitute one of the major tropical evergreen regions in the country, and are recognised as a 'hot spot' of biodiversity because of their biotic richness in terms of genera, species and endemism as well as threats they face due to man's interference (Lakshminarayana *et al.* 2002). The earthworm diversity of the Western Ghats has been well explored for over 100 years (Bourne 1886; Michaelsen 1907; Stephenson 1915, 1917, 1920, 1923, 1924; Gates 1945; Soota & Julka 1972; Jamieson 1977; Julka & Rao 1982; Julka 1983, 1988; Julka *et al.* 1997), and these efforts have yielded several native species of earthworms from the area. The region now harbours more than half (50.1%) of the known native Indian species of earthworms. The identification of earthworms sampled by the second and third authors to assess the effect of forest ecosystem disturbance on soil macrofauna in the Western Ghats of Shimoga district, Karnataka state, have brought to light three new genera and eleven new species of the family Octochaetidae (*sensu* Gates 1959) that are described below. The holotype and some paratypes of new species are deposited in the National Zoological Collections, High Altitude Zoology Field Station (HAZFS), Zoological Survey of India (ZSI), Solan. A few paratypes shall also be sent to National Museum of Natural History in Paris in due course of time.

Study area

The study was conducted in the Sagar Forest Range on the western side of the Lingannamaki Reservoir (14°00'N, 74°45'E; elevation 105–1012 m) in Shimoga Division of Karnataka state (Fig. 1). The climate is tropical determined by southwest monsoon. Most rainfall is received in June–July, with annual rainfall being about 5000 mm. The dry season