



***Andiorrhinus meansi* sp.n., a new giant earthworm from the Wokomung Massif, Guyana (Clitellata: Glossoscolecidae)**

SAMUEL W. JAMES

Biodiversity Institute University of Kansas 1345 Jayhawk Drive, Lawrence, Kansas 66045 USA. E-mail: sjames@ku.edu

Abstract

A new species of *Andiorrhinus* Cognetti, *Andiorrhinus meansi* sp. n. from the Wokomung Massif, an isolated sandstone tepui in the Guyanan interior, in cloud forest with a thick organic soil, is described and named for its collector, D. B. Means. This giant earthworm with last hearts in the 11th segment is placed in the subgenus *A. (Turedrilus)* Righi, but is not otherwise morphologically similar to other members of the subgenus. It differs in the numbers and locations of spermathecae, the form of the calciferous glands, and body size. In consideration of the morphology of the newly described species and after reviewing the majority of *Andiorrhinus* species, it is proposed to abandon the subgenera within *Andiorrhinus* pending more detailed study and a revision of the genus.

Key words: *Andiorrhinus*, Glossoscolecidae, tepui, Guyana, cloud forest

Introduction

Most of the Amazon Basin and neighboring areas, such as the interior of the countries bordering Brazil to the north, is poorly known with respect to the terrestrial invertebrate fauna. Within this sparsely explored region are places almost totally unknown for all biota. Among these until recently was the Wokomung Massif in Guyana, a 300 km² sandstone tepui rising almost a thousand meters above the surrounding lowlands. In July 2003, D. Bruce Means, a herpetologist and explorer, walked to Wokomung on a newly created trail, as a botanical exploration and trail cutting party was walking out. Here I report the first earthworm known from Wokomung.

Giant earthworms are common and diverse in South America, occurring from lowland forests up to paramo at 5000 meters (e.g. James 1990). Ecological factors responsible for the evolution of large body size in earthworms are not clearly understood, but the subject is briefly discussed in James and Brown (2005).

Methods

The specimens were collected on the soil surface and preserved in 10% formalin. After receiving them from Dr. Means, they were transferred to 80% ethanol. Material was examined by external observation of characters and by dorsal dissection. Parts of one decapitated specimen were removed to trace the paths of some ducts and to remove genital setae. Genital setae were removed from the coelomic side of the body wall, separated from the setal follicle musculature and mounted in glycerin on a microscope slide. Drawings were traced from digital photographs. Body colors were described by haphazardly sampling CMYK values taken from seven points total from three individuals photographed in the field by the collector, and averaging the CMYK color values thus obtained. These can be reproduced in a photo editing software package by entering the CMYK values. Colors of preserved specimens were also matched to the color codes of Seguy (1936).