



## Variability in trunk segmentation in the centipede order Scolopendromorpha: a remarkable new species of *Scolopendropsis* Brandt (Chilopoda: Scolopendridae) from Brazil

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### Abstract

Of the two centipede orders that complete segmentation during embryogenesis, most species belonging to Geophilomorpha have an intraspecifically variable number of trunk segments, whereas those of the Scolopendromorpha have been assumed to have a fixed segment number, with minor variation (21 or 23 segments) across the group as a whole. Trunk segment numbers are used as a taxonomic character as high as the familial or subordinal level in Scolopendromorpha. The first known instance of variability in trunk segment numbers within a scolopendromorph species has recently been proposed for the Brazilian *Scolopendropsis bahiensis* (Brandt, 1841), which has either 21 or 23 segments in different parts of its geographic range. Here we document a closely related scolopendrid from Tocantins State, central Brazil, *Scolopendropsis duplicata* n. sp., which differs from *S. bahiensis* in having either 39 or 43 segments. This unique segment count is incorporated into a revised diagnosis of the order Scolopendromorpha. The deeply nested position of *Scolopendropsis* within the Scolopendridae implies that the geophilomorph-like trunk segment number in *S. duplicata* is convergent with similar segmentation in Geophilomorpha.

**Key words:** Chilopoda, trunk segmentation, Scolopendrinae, taxonomy, Tocantins

### Introduction

Centipedes of the order Scolopendromorpha exhibit minor interspecific variability in segment numbers, until now all known species having either 21 or 23 leg-bearing trunk segments. The two alternative states have been regarded as phylogenetically conservative and are given considerable taxonomic weight in current classificatory schemes, i.e., in part used to divide the Scolopendromorpha into families (Shelley 2002) or even a basal split in the order between 21- and 23-segmented groups (Schileyko 1992).

Fundamental to the taxonomic importance assigned to 21- versus 23-segmented conditions in different scolopendromorph lineages is the observation that trunk segment numbers are invariant within species. The factual basis for this observation has recently been challenged for the first time. The first claim of a variable number of segments within a scolopendromorph species was made by Schileyko (2006) in the case of a scolopendrid from Brazil, *Scolopendropsis bahiensis* (Brandt, 1841). The type material of this species has 23 leg-bearing trunk segments, but following its recent taxonomic revision, *S. bahiensis* has been shown to have 21 segments throughout most of its geographic range, which includes southeastern, northeastern and central Brazil, in the cerrado and caatinga biomes, as well as the Atlantic forest. The 21-segmented populations had for-