



A review of the taxonomy and distribution of *Plagiotaphrus* Attems 1914 (Diplopoda, Spirostreptida, Spirostreptidae)

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Abstract

Plagiotaphrus is a monophyletic genus which formerly included three species, *P. sulcifer* Attems 1914 (the type species), *P. improvisus* (Attems 1934) and *P. longius* Attems 1928. *Plagiotaphrus longius* is a *nomen dubium* and is here excluded from the genus. A key to the species based on gonopod morphology is also presented. The distribution of *Plagiotaphrus* is disjunct. Given that several localities in Africa have not been surveyed it is likely that *Plagiotaphrus* species occur in more localities.

Key words: savanna, millipedes, gonopod, conservation, southern Africa, central Africa

Introduction

The important role played by millipedes in breaking down organic matter and improving soil structure has been extensively reported (see Crawford 1992; Dangerfield & Telford 1989; Sierwald & Bond 2007; Edwards *et al.* 1970). Given that several biomes are under threat because of human activities (New 1995) several millipede species face possible extinction because millipedes have poor dispersal abilities and because there are many endemics (Hopkin & Read 1992; Hamer & Slotow 2002).

Some of the most conspicuous and yet poorly known millipedes in the tropics belong to the Tribe Spirostreptini. Hoffman (2008) diagnosed the Spirostreptini as having a gonopod telopodite with a distally bifid or trifid prostatic groove, with each branch ending separately. The Spirostreptini are known for their relatively large body size; they include *Spirostreptus* Brandt 1833, *Plagiotaphrus* Attems 1914, *Archispirostreptus* Silvestri 1895, *Limnostreptus* Hoffman 2008 and *Choristostreptus* Hoffman 2008. A key to these genera is presented in Hoffman (2008). Recently, Mwabvu *et al.* (2009) added a new genus, *Namibostreptus* Mwabvu *in* Mwabvu, Hamer, Slotow & Barraclough, 2009, thus bringing to six the number of genera in the tribe.

The genus *Plagiotaphrus* is not adequately described (Krabbe 1982). It has fewer species than the closely related genera (*Spirostreptus* and *Archispirostreptus*) and these are, in addition, poorly known: hence the taxonomic validity of the genus is questionable. In addition, *Plagiotaphrus* is probably the least studied member of the Spirostreptini. Only three species, *P. improvisus* (Attems 1934) from central Angola, *P. longius* Attems 1928 from Umtali (Mutare) in eastern Zimbabwe and *P. sulcifer* Attems 1914 (the type species) from a doubtful locality in East Africa, have been described.

The unknown or doubtful localities of type species, the paucity of new material and the inaccessibility of several areas, particularly in central and the western half of Africa, have hindered efforts to collect and study *Plagiotaphrus*. Therefore, the actual species richness in the genus may be several times more than the number of species described; and the known distribution patterns may reflect a collecting bias. This implies that the