



Tibiodrepanus tagliaferrii—a new Afrotropical Drepanocerina species (Coleoptera: Scarabaeidae: Oniticellini), with notes on phylogeny and distribution of the genus

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Abstract

We examined the genera *Tibiodrepanus* Krikken, 2009 (four Oriental and one Palearctic species) and *Sulcodrepanus* Krikken, 2009 (one Afrotropical species), using type specimens and non-type specimens, in order to assess the systematic consistency of the two taxa. Within this framework, we also considered the genera *Afrodrepanus* Krikken, 2009 (two species) and *Drepanocerus* Kirby, 1828 (two species) employing sets of traits from external morphology, the genitalia of both sexes and the epipharynx. The genus *Cyptochirus* Lesne, 1900 was chosen as an outgroup. A new species—*Tibiodrepanus tagliaferrii* sp. nov.—was described based on four females from Cameroon and Namibia. The phylogenetic analyses confirmed that the *Tibiodrepanus* and *Sulcodrepanus* species were closely related, yet it did not support the hypothesis of a generic or subgeneric separation of the two taxa. Hence, we establish *Sulcodrepanus* as a junior synonym of *Tibiodrepanus*, **new synonymy**. The genus *Tibiodrepanus* shows a disjunct Afrotropical-Oriental (common to many other Drepanocerina genera) and Southeastern Palearctic (Hindu Kush, Afghanistan) distribution pattern.

Key words: Scarabaeoidea, Afrotropical, Oriental, *Drepanocerus*, new species, new synonymy, *Sulcodrepanus*

Introduction

The genus *Tibiodrepanus* was described by Krikken (2009) for four Oriental and one Palearctic species (Fig. 1) previously assigned to the genus *Drepanocerus* Kirby, 1828, i.e. *Tibiodrepanus setosus* (Wiedemann, 1823), *T. hircus* (Wiedemann, 1823), *T. sinicus* (Harold, 1868), *T. kazirangensis* (Biswas, 1979) and *T. simplex* (Kabakov, 2006). All of these species share a unique feature within the Drepanocerina subtribe: a peculiar shape and insertion of the distal outer tooth of the protibiae (Krikken 2009: 15). Furthermore, Krikken (2009) also established the genus *Sulcodrepanus* for an Afrotropical species, *S. sulcicollis* (Laporte, 1840), which is very similar to the former species, but bearing an unmodified distal outer tooth of the protibiae. Since the author (Krikken 2009) claims that the two genera are “genuinely related, for instance in a paraphyletic way, rendering a joint subgeneric level classification perhaps more appropriate”, it remains unclear why he chose to assess two distinct genera.

However, the systematic statements proposed by Krikken (2009) were mainly founded on a set of characters that merely regarded the external morphology and were not supported by a phylogenetic analysis. A revision of such a complex taxon like *Drepanocerus* must have the aim of investigating the phylogenetic relationships among the groups of species, basing the analysis on an extensive set of characters (Figs. 2–9), dealing with external, genital and epipharyngeal morphology.

Material and methods

In the present paper, we mainly follow the latest taxonomy of Drepanocerina (Krikken 2009), in which the previous species groups of Janssens (1953) were elevated to the genus level, with some modifications to the classification scheme.