



A revision of the subgenus *Parasphingonotus* Benediktov & Husemann, 2009 (Orthoptera: Oedipodinae: Sphingonotini)

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Abstract

The recently erected subgenus *Parasphingonotus* is revised. The diagnostic characters are given and the species *Sphingonotus* (*Parasphingonotus*) *radioserratus* **comb. n.**, *Sphingonotus* (*Parasphingonotus*) *femoralis* **comb. n.** and *Sphingonotus* (*Parasphingonotus*) *turkanae* **comb. n.** are assigned to the subgenus. *Sphingonotus* (*Parasphingonotus*) *airensis* is synonymized with *S. (P.) femoralis*, making the latter species the new type species of *Parasphingonotus*. Keys to the subgenera (*Sphingonotus*, *Neosphingonotus*, and *Parasphingonotus*) of the genus *Sphingonotus* and to the species of *Parasphingonotus* are presented. All *Parasphingonotus* species are re-described and further information on the distribution of the species are given.

Key words: *Sphingonotus*, Sphingonotini, Africa, stridulatory organs, intercalary vein, radial vein

Introduction

The genus *Sphingonotus* Fieber, 1852 is a highly diverse and widely distributed group of band-winged grasshoppers, currently including ca. 140 species (Eades *et al.* 2011). The species differ in many characters (e.g. pronotum shape, wing venation, wing shape and coloration), but the most intriguing trait is the diversity of their stridulatory mechanisms (Hochkirch & Husemann 2008). While most *Sphingonotus* species possess a serrate intercalary vein on the fore wing, which is the usual type of stridulatory apparatus in Oedipodinae (Oedipodinae type), there are two apomorphic stridulatory mechanisms found in two well defined subgenera. One group (*Neosphingonotus* Benediktov, 1998) has thickened cross-veinlets between medial vein and radius of the fore wing and the other subgenus (*Parasphingonotus* Benediktov & Husemann, 2009) has a serrated radius instead of a serrated intercalary vein (Johnsen & Schmidt 1982; Johnsen 1985). Due to its high significance for species recognition, the stridulatory apparatus has a great value for taxonomy and phylogeny in the genus *Sphingonotus* (Hochkirch & Husemann 2008).

Discussions about the taxonomic and systematic status of Sphingonotini with specialized stridulatory apparatus reach back to Bey-Bienko's (1948) description of *Sphingonotus paradoxus* Bey-Bienko, 1948. This species shares most of its general morphology with *Sphingonotus savignyi* Saussure, 1884, but differs in the structure of its stridulatory apparatus (Johnsen 1985). While *S. savignyi* shares the serrate intercalary vein with most other Oedipodinae, *S. paradoxus* has elevated cross veinlets between radius and media (*Neosphingonotus* type). After more than half a century of repeated systematic reorganization (reviewed in Benediktov 1998, 2009), twelve species with this stridulatory structure are meanwhile grouped in the subgenus *Neosphingonotus* (Benediktov 2009).

In contrast to the *Neosphingonotus* type, the third type of stridulatory apparatus has received relatively little attention. Johnsen and Schmidt (1982) first noted that *Sphingonotus turkanae* Uvarov, 1938 possesses an epiproct unique to the genus, as well as a smooth intercalary vein and a serrate radius. The same authors mentioned that this trait is shared with a species from Tunisia, which was later described as *Sphingonotus radioserratus* Johnsen, 1985 (Johnsen 1985). Johnsen (1985) also added *Sphingonotus airensis* Chopard, 1950 to this species group without for-