



Revision of the Afrotropical flea beetle genus *Serraphula* Jacoby and description of *Bechynella*, a new genus from Western and Central Africa (Coleoptera: Chrysomelidae: Alticinae)

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Abstract

In this paper a revision of the Afrotropical flea beetle genus *Serraphula* Jacoby, 1897 is reported. Three species previously attributed to this genus are transferred to the new genus *Bechynella* gen. n. and the following new combinations are established: *Bechynella bohumilae* (Bechyné, 1955) comb. n.; *Bechynella pallens* (Bechyné, 1955) comb. n.; *Bechynella sesengensis* (Bechyné, 1959) comb. n. The genus *Serraphula* includes currently 19 species, 16 of which are new to sci-

ence: *Serraphula aenea* Jacoby, 1897; *S. elongata* Jacoby, 1900; *S. puncticollis* Bryant, 1944; *S. alticola* sp. n.; *S. audisiana* sp. n.; *S. bulirschi* sp. n.; *S. colonnellii* sp. n.; *S. debiasei* sp. n.; *S. drakensbergensis* sp. n.; *S. duplessisi* sp. n.; *S. grobbelaariae* sp. n.; *S. monticola* sp. n.; *S. mpumalangaensis* sp. n.; *S. natalensis* sp. n.; *S. oberprieleri* sp. n.; *S. osellai* sp. n.; *S. transvaalensis* sp. n.; *S. uysi* sp. n.; *S. wittmeri* sp. n. Lectotypes for *S. aenea*, *S. elongata* and *S. puncticollis* are designated. A key to all the species is presented as well as line drawings of male and female genitalia, scanning electron micrographs of some diagnostic morphological characters, and autoecological and distributional data.

Key words: Afrotropical region, *Bechynella* gen. n., biogeography, flea beetles, morphology, new combinations, new genus, new species, *Serraphula*, taxonomy

Introduction

The flea beetle genus *Serraphula* was described by Jacoby (1897) on the basis of the new species *Serraphula aenea* Jacoby, 1897 from Mashonaland (= Zimbabwe). Later, Jacoby (1900) described, on five specimens from Port Alfred (Republic of South Africa – RSA), a second species of this genus, *S. elongata*.

Many years after, Bryant (1944) attributed other two new species to *Serraphula*: the first one, *S. puncticollis*, on eleven specimens from Fort (sic!) (= Port) St. John, Pondoland, while the second one, *S. calcaratum* from Cape Town-Milnerton (RSA), was recently transferred by one of us (Biondi, 1996) to the genus *Psylliodes* Latreille in Berthold, 1827.

Bechyné (1955, 1959) described and attributed to the genus *Serraphula* three new species, *S. bohumilae* and *S. pallens* from Guinea (Bechyné, 1955), and *S. sesegensis* from Belgian Congo (= Democratic Republic of Congo - RDC) (Bechyné, 1959). However, by the examination of the type material, in our opinion these three species do not belong to the genus *Serraphula* but instead they can be attributed to the new genus *Bechynella*, below described. The current understanding of the flea beetle genus *Serraphula* Jacoby is therefore: a) represented by the three species previously described in literature (*S. aenea* Jacoby, *S. elongata* Jacoby, and *S. puncticollis* Bryant), to which are to add the 16 new species described in the present contribution (*S. alticola*, *S. audisiana*, *S. bulirschi*, *S. colonnellii*, *S. debiasei*, *S. drakensbergensis*, *S. duplessisi*, *S. grobbelaariae*, *S. monticola*, *S. mpumalangaensis*, *S. natalensis*, *S. oberprieleri*, *S. osellai*, *S. transvaalensis*, *S. uysi*, *S. wittmeri*) (Figs 1-19); b) distributed only in some areas of southern-western Africa, such as Zimbabwe and the Republic of South Africa, mainly in Limpopo, Kwazulu-Natal and Eastern Cape Province and, marginally, in the eastern part of Western Cape Province (Figs 21–22).

On the basis of the morphology of the apical spur of the hind tibiae, *Serraphula* seems to be closely related to the Asiatic genus *Aphthonoides* Jacoby, 1885. However, this last genus is easily distinguishable from *Serraphula* for many morphological characters (cf. Doeberl, 2005), such as: a) very short hind tibiae; b) apical spur of hind tibiae longer than hind tarsus; c) metatarsomere 2 shorter than metatarsomeres 3 and 4 together.

Among flea beetles, a serrate apical spur of hind tibiae is present also in the genus *Yemenaltica* Scherer, 1985 occurring in Yemen. Many morphological characters allow this genus to be easily distinguished from *Serraphula*: a) elongate and quite flat body shape; b) very weakly impressed elytral punctuation, little visible and only partially arranged in regular rows; c) metatarsomere 1 shorter than half hind tibial length and apically inserted on the hind tibia; d) very short apical spur of the hind tibiae (LHT/LHTS > 8).

MATERIALS AND METHODS

Material consisted of preserved, dried insects courteously supplied by the institutions listed below. Further faunistic and autoecological data on the *Serraphula* species were collected during zoological collecting trips that were part of an Italian research project (PRIN 2004057217) aimed at interpreting the disjunct distribution