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New and little known species of the subgenus *Aegialia* (*Silluvia*) (Coleoptera, Scarabaeidae: Aphodiinae) from the Sino-Tibetan mountains

ANDREY V. FROLOV

Laboratory of Insect Systematics, Zoological Institute, Russian Academy of Sciences, Universitetskaya nab., 1, 199034 Sankt-Petersburg, Russia. E-mail: afrolov@zin.ru

Abstract

Three new species of the subgenus *Aegialia* (*Silluvia*) Landin, 1949, are described from China: *A. (S.) gansuensis*, **sp. n.**, *A. (S.) igori*, **sp. n.**, and *A. (S.) yunnanica*, **sp. n.** Notes on the distribution and variability of *A. (S.) kabaki* Frolov, 2002, are given.

Key words: scarab beetles, taxonomy, new species, distribution, China

Introduction

The *Aegialia* subgenus *Silluvia* Landin, 1949, comprises a number of externally uniform dark brown to black, elongate, small-sized beetles. They are putatively detritophagous and occur in high altitudes in Himalaya and Sino-Tibetan mountains. As a taxonomic group, *Silluvia* was only recognized in the mid-20th century. It was originally described as a genus and a separate subfamily, Silluviinae Landin, was proposed for it. A few species of *Silluvia* from China were later described by Petrovitz (1963), Stebnicka (1977), and Frolov (2002). Stebnicka (1977) analyzed the data available to her and attempted reconstruction of phylogeny of the tribe Aegialiini. On the basis of this analysis, she considered *Silluvia* a subgenus of *Aegialia* Latreille, 1807. In the recent catalogs (Dellacasa 1988, Stebnicka 2006), however, the group is listed as a separate genus. Until a more comprehensive phylogenetic analysis is conducted I have decided to treat the group as a subgenus of *Aegialia*.

Silluvia specimens are extremely rare in collections, but some have turned up among material from China that has accumulated in the Zoological Institute of Russian Academy of Sciences (ZIN) over a few past years. In this material, I found three distinct species that cannot be classified as any of the described species. They are different from known species in the shape of the parameres and internal sac sclerites and are therefore described as new in this paper. Additional specimens of *A. (S.) kabaki* Frolov, 2002, showed considerable variability in the pronotal shape and provided locality data to better define the range of this species.

Taxonomic study of the subgenus *Silluvia* is complicated by the fact that most of the nominal species were described from single specimens and, in half of the cases, from females. Species described from females were separated on the basis of the punctation of the head and the shape of stilus. Interspecific variability of these characters was not, however, studied by the authors. Examination of the material now available in the ZIN shows that these characters vary considerably and reliable identification of females is not always possible.

Habitus photographs were taken with a Leica MZ12 stereo microscope and photographs of aedeagi and internal sacs were taken with a Leica DMLB compound microscope from specimens in glycerol. Distribution map was generated with ArcGIS software. Coordinates of the localities were taken from the labels, if avail-

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