



## A new subfamily of the Rhabdophoridae (Orthoptera: Stenopelmatoidea), with description of a new species of the genus *Anoplophilus* Karny, 1931 from Korea

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### Abstract

A new subfamily Anoplophilinae Storozhenko & Paik **subfam. nov.** of the Rhabdophoridae is established for two genera, *Anoplophilus* Karny, 1931 (type genus) and *Alpinanoplophilus* Ishikawa, 1993, distributed in Japan and Korea. Keys to the subfamilies of the Rhabdophoridae and the genera of the new subfamily are provided. An annotated list of known genera and species of the Anoplophilinae is given. *Anoplophilus koreanus* Storozhenko & Paik **sp. nov.** is described from Korea.

**Key words:** Orthoptera, Rhabdophoridae, taxonomy, new taxa, Republic of Korea

### Introduction

Karny (1931) established the genus *Anoplophilus* with two species from Japan, however, the systematic position of the genus has been under discussion (Karny, 1935, 1937; Furukawa, 1938; Gorochoy, 1988, 1995; Ichikawa, 1997; Otte, 2000; Gorochoy, 2001; Kim & Kim, 2002; Sugimoto & Ichikawa, 2003; Ichikawa *et al.*, 2006; Storozhenko & Paik, 2007). Another genus closely related to *Anoplophilus* was also described from Japan (Ishikawa, 1993). The subfamily name Anoplophilinae was used by Ichikawa (1997) and Ishikawa (2000) without any diagnosis and description. However, Otte (2000) placed the genus *Anoplophilus* in the subfamily Troglophilinae, but the genus *Alpinanoplophilus* in another subfamily Tropidischinae.

Gorochoy (2001), characterizing the family Rhabdophoridae, wrote: “The systematic position of the genera *Anoplophilus* Karny and *Alpinanoplophilus* Ishik. (Japan), united by Ichikawa (1997) in the invalid group Anoplophilinae (without description and diagnosis), of this family is rather unclear... Moreover I cannot exclude the possibility that the endemic Japanese genera *Anoplophilus* Karny and *Alpinanoplophilus* may be recent representatives of the Protroglophilinae, as the peculiarities of their structure are not opposite to the diagnosis of fossil Protroglophilinae.” It needs to be stressed that both fossil species of Rhabdophoridae, *Protroglophilus sukatshevae* Gorochoy, 1989 and *Proraphidophora antiqua* Chopard, 1936, were described from the Eocene of East Europe based on the specimens imbedded in amber (Chopard, 1936; Gorochoy, 1989). Nothing was known of the male and female terminalia and some other important taxonomic characters of these fossil forms.

Later Ishikawa (2002) agreed with Gorochoy and included the genus *Anaplophilus* in the subfamily Protroglophilinae based on the arrangement of dorsal spines of hind tibiae, but stressed that “the existence of small movable spines near apical ventral surface of hind tibiae suggest close relationship to the Ceuthophilinae”. In the key to the Japanese Rhabdophoridae (Sugimoto & Ichikawa, 2003) the genera *Anoplophilus* and *Alpinanoplophilus* were placed into the subfamily Protroglophilinae, which was separated from Rhabdophorinae by the knee of the fore and mid femora without long movable spines (in Rhabdophorinae, knee of fore and mid femora with one or two long movable spines). At the same time Kim & Kim (2002) placed *Anoplophilus* in the Troglophilinae.