Zootaxa 3652 (1): 001–059
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3652.1.1
http://zoobank.org/urn:lsid:zoobank.org:pub:CD9BF682-A7CF-4A7B-85E7-A7302148718C

Nepticulidae (Lepidoptera) of East Asia (1). Re-examination of the male genitalia of types deposited at the Russian Academy of Sciences

JONAS R. STONIS* & AGNĖ ROCIENĖ

Division of Biosystematics Research, Department of Biology, Lithuanian University of Educational Sciences, Studentu St., 39, Vilnius LT-08106, Lithuania. E-mail: stonis@leu.lt
**Corresponding author*

Abstract

East Asia is famous for its tremendous overall biodiversity, and the Nepticulidae are no exception. The majority of the currently known fauna of Nepticulidae was described in 1984–1987 by several authors, but R. Puplesis is the author of the largest number of new species from the region. Unfortunately, the genitalia of all species from Primorskiy Kray, Sakhalin, and the Kuril Islands were described from temporary slides in glycerol, and therefore, the drawings do not always show all details of genital armature or may be confusing. Without the baseline data providing morphology of genital armature of type material, it is impossible to continue studies on the East Asiatic fauna of Nepticulidae. In this paper we re-examine and document for the first time with photographs the types of 56 species described by R. Puplesis from the Russian Far East. Details of the morphology is updated for most of the re-examined species.

Key words: East Asia, male genitalia, Nepticulidae, taxonomy, type series

Introduction

A combination of features make Nepticulidae one of the most intriguing families of Lepidoptera: they are the smallest moths on the planet, phylogenetically representing very primitive heteroneurans. Furthermore, they are highly specialized: larvae live inside plant tissues and are predominantly monophagous (Diškus & Stonis 2012). Although Nepticulidae are global in distribution, there is evidence that great diversity occurs in continental East Asia and Japan.

The history of description of Nepticulidae from East Asia is outlined in the next paper of this series (Rocienė & Stonis 2013). R. Puplesis is responsible for the description of the largest number of new species from East Asia (see Navickaitė *et al.* 2011a): 59 new species (51 currently recognized), mostly from Primorskiy Kray (the Russian Far East), and several species from Sakhalin and the Kuril Islands (Puplesis 1984a, 1984b, 1984c, 1984d, 1985, 1987; Puplesis & Ivinskis 1985). All these species were treated by Puplesis (1994). In Nepticulidae, male genitalia usually provide the most reliable and distinctive features for species identification (diagnosis). Unfortunately, all species published by Rimantas Puplesis during 1984–1987 were described and illustrated from temporary slides in glycerol and using poor quality microscopes. In the original descriptions of the species (or even in the later review by Puplesis 1994), the indian-ink drawings of genitalia usually do not show sufficient details of the genital armature or are sometimes confusing.

We made permanent mounts in Euparal and photographed genitalia slides of the holotypes of Puplesis' species for the first time. The morphological descriptions of the re-examined species are updated. The present study is rather significant because these tiny moths have not been extensively studied and, therefore, many species still remain to be discovered and described. Without the baseline data providing detailed morphology of genital armature of the type material, it is impossible to continue studies on the East Asiatic fauna of Nepticulidae.

Accepted by J-F. Landry: 8 Apr. 2013; published: 15 May 2013