



Taxonomic revision of the genus *Eudonia* Billberg, 1820 from China (Lepidoptera: Crambidae: Scopariinae)

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Abstract

The Chinese species of the genus *Eudonia* Billberg, 1820 are revised, and in total 25 species are recognized including 10 new to science as follows: *E. singulannulata* sp. n., *E. rectilineata* sp. n., *E. wolongensis* sp. n., *E. zhongdianensis* sp. n., *E. lijiangensis* sp. n., *E. hexamera* sp. n., *E. furva* sp. n., *E. magna* sp. n., *E. duospinata* sp. n. and *E. cavata* sp. n. *Eudonia persimilis* Sasaki, 1991 and *E. puellaris* Sasaki, 1991 are recorded for the first time from China. *Eudonia altissima* Leraut, 1986, **syn. n.** is synonymised with *E. tibetalis* (Caradja, 1937). Images of the adults and genitalia of the new species are provided, along with keys for the identification of the Chinese species based on both male and female genitalia. A distribution map of *Eudonia* in China is included.

Key words: Lepidoptera, Crambidae, Scopariinae, *Eudonia*, new species, new record, China

Introduction

Eudonia was established by Billberg in 1820 with *Phalaena mercurella* Linnaeus, 1758 as the type species. It contains 252 described species worldwide (Nuss *et al.* 2003–2011). In China, Scopariinae are represented by the genera *Caradjaina* Leraut (1 species), *Cholius* Guenée (1 species), *Dasyscopa* Meyrick (1 species), *Eudonia* Billberg (revised herein), *Hoenia* Leraut (1 species), *Micraglossa* Warren (10 species) and *Scoparia* Haworth (26 species) (Leraut 1986; Nuss 1999; Li *et al.* 2010a, b). Among them, *Eudonia* is one of the most species rich genera in China and has never been taxonomically revised from the country. Members of the genus can be recognized by the absence of free distal process and cornutus in the male genitalia, the long and thin apophyses and the elongate colliculum in the female genitalia. The latter two are supposed to be potential synapomorphies of the genus through our observation.

Some taxonomic contributions to the Chinese *Eudonia* were published by Wileman & South (1919), Caradja (1925), Caradja & Meyrick (1937), Leraut (1986) and Sasaki (1998, 1999). So far, ten species of *Eudonia* have been described from China as type locality: *E. tibetalis* (Caradja, 1937) from Qinghai, *E. altissima* Leraut, 1986 from Yunnan; *E. promiscua* (Wileman & South, 1919), *E. albilinea* Sasaki, 1998, *E. inouei* Sasaki, 1998, *E. gigantea* Sasaki, 1998, *E. owadai* Sasaki, 1998, *E. taiwanalpina* Sasaki, 1998, *E. umbrosa* Sasaki, 1998 and *E. apicifusca* Sasaki, 1999 from Taiwan. Four additional species were mentioned to occur in China: *Eudonia lacustrata* (Panzer, 1804) recorded as "*Scoparia crataegella* (Hübner, 1796)" by Caradja & Meyrick (1935) and Klima (1937) from Hunan; *Eudonia truncicolella* (Stainton, 1849) reported as "*Scoparia truncicolella* Stainton, 1849" by Caradja (1925) and Klima (1937) from western part of China; *Eudonia mercurella* (Linnaeus, 1758) listed as "*Scoparia frequentella* Stainton, 1859" by Klima (1937) from western part of China; and *Eudonia microdentalis* (Hampson, 1907) reported by Song & He (1997) from Hubei Province. In total, fourteen species of this genus have been known in China. However, a comprehensive study of the Chinese *Eudonia* has never been conducted, which is the aim of the present paper.