



Taxonomic study of the genus *Glyphipterix* Hübner (Lepidoptera: Glyphipterigidae: Glyphipteriginae) from Mainland China

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Abstract

The genus *Glyphipterix* Hübner is reviewed in mainland China, with eight species and one subspecies treated. *Glyphipterix semicircularis* **sp. nov.**, *G. liui* **sp. nov.**, and *G. miniata continentalis* **ssp. nov.** are described as new to science. *Glyphipterix gamma* Moriuti et Saito, 1964, *G. regula* Diakonoff et Arita, 1976, and *G. gemmula* Diakonoff et Arita, 1976 are firstly recorded from mainland China. The male of *G. rhinocerope* Meyrick, 1935 is described for the first time. *Glyphipterix aritai* **nom. nov.** is proposed for a junior homonym *G. affinis* Arita, 1995. Photographs of adults and genitalia are provided, along with keys for the identification of all the *Glyphipterix* species in mainland China and a checklist of the Chinese *Glyphipterix*.

Key words: Lepidoptera, Glyphipteriginae, *Glyphipterix*, new species, new record, China

Introduction

The systematic position of Glyphipterigidae as a member of Yponomeutoidea was clarified in several important works (Heppner 1982; Kyrki 1984; Diakonoff 1986). The genus *Orthotelia* was transferred to Glyphipterigidae as a monogeneric subfamily Orthoteliinae by Kyrki & Itämies (1986), and this subfamily was extended to include New Zealand genera (Heppner 2003). Recent studies confirmed the affinity of Orthoteliinae and further merged Acrolepiinae into Glyphipterigidae which thus includes three subfamilies, Acrolepiinae, Orthoteliinae, and Glyphipteriginae (Mutanen *et al.* 2010; Nieukerken *et al.* 2011; Sohn *et al.* 2013). The subfamily Glyphipteriginae contains 409 described species and subspecies in 26 genera on a worldwide basis (Diakonoff 1948, 1986; Heppner 1982, 1985, 1997a, 1997b, 2009a, 2009b; Arita 1983, 1985a, 1985b, 1987, 1995, 2011; Mey 1991; Arita & Heppner 1992; Arita & Owada 2006). The Palearctic Glyphipterigidae *auctorum sensu lato* was reviewed comprehensively by Diakonoff (1986) in the series of Microlepidoptera Palaearctica, covering almost the entire Chinese fauna except Hainan Province. Four genera of Glyphipteriginae, *Lepidotarphius* Pryer, 1877, *Carmentina* Meyrick, 1930, *Electrographa* Meyrick, 1912, and *Glyphipterix* Hübner, [1825], are distributed in the Palearctic-Oriental regions (Heppner 1992).

The genus *Glyphipterix* has 331 known species and subspecies, including 136 Palearctic-Oriental species (Diakonoff 1948, 1986; Clarke 1969; Arita 1979, 1983, 1985a, 1987, 1995; Heppner 1985, 1997a, 2009a, 2009b; Mey 1991; Arita & Heppner 1992; Arita & Owada 2006). Diakonoff (1986) grouped 54 species of *Glyphipterix* into 18 species groups, which was followed by Heppner (1992) who rearranged the Palearctic species covered by Diakonoff (1986) and the known Oriental species into 26 species groups. We adopt the arrangement of Heppner (1992) in the present paper, although further studies are apparently needed to get a more reasonable arrangement of the species groups.

So far, rather fragmental work has been carried out on Glyphipterigidae of the Chinese fauna, especially in mainland China. Of the 38 recorded *Glyphipterix* species, 27 were recorded from Taiwan (Diakonoff 1986; Arita & Heppner 1992), and 13 were known from mainland China, in which *G. semiflavana* Issiki, 1930 and *G. ditiorana* (Walker, 1863) were shared by Taiwan (Caradja & Meyrick 1934; Liu 1981; Diakonoff 1986; Lv 1988). This study

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