



A review of *Ophthalmitis* Fletcher, 1979 in China, with descriptions of four new species (Lepidoptera: Geometridae, Ennominae)

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Abstract

The genus *Ophthalmitis* Oberthür in China is reviewed and four new species are described: *O. dissita* **sp. nov.**, *O. longiprocessa* **sp. nov.**, *O. brevispina* **sp. nov.**, and *O. tumefacta* **sp. nov.** Two subspecies of *O. albosignaria* -- *O. albosignaria juglandaria* and *O. albosignaria isophnia* -- are newly synonymized with the nominate subspecies. A key is provided to the Chinese *Ophthalmitis* and diagnoses for Chinese species. Illustrations of external features and genitalia are presented.

Key words: *Ophthalmitis*, taxonomy, new species, Geometridae, Lepidoptera

Introduction

Guenée established the genus *Ophthalmodes* with two species *Ophthalmodes herbidaria* Guenée, 1858 and *Ophthalmodes diurnaria* Guenée, 1858, without designating a type species. Moore (1887) subsequently designated the former as the type species of the genus. However, Wehrli (1941) treated *Ophthalmodes* as a subgenus of *Boarmia*. Fletcher subsequently discovered that the generic name was occupied by *Ophthalmodes* Fischer, 1834 (Orthoptera), and so proposed the replacement name of *Ophthalmitis* Fletcher, 1979.

Ophthalmitis is currently treated in the tribe Boarmiini within the subfamily Ennominae. The genus has some typical features of Boarmiini: the male forewing often has a fovea; the male abdomen generally has a setal patch on the third sternite, but sometimes it is absent; in the male genitalia, the uncus is almost triangular; the socii are usually absent; the terminal of the costa often bears a large area of setae; the valvae are usually modified; the juxta is often well-developed (Holloway 1994; Pitkin 2002; Young 2008).

The species of *Ophthalmitis* are widely distributed in eastern and southern Asia. Most species were identified in the nineteenth to twentieth centuries. For example, eight new species were described from India and Myanmar (Guenée 1858; Walker 1860; Felder & Rogenhofer 1875; Swinhoe 1891, 1893; Hampson 1902); eleven new species were described from Sundaland (Walker 1860, 1866; Warren 1897; Prout 1925; Holloway 1976, 1994; Sommerer & Stüning 1994); seven new species were described from China (Bremer & Grey 1853; Leech 1897; Oberthür 1913; Prout 1916; Wehrli 1924, 1941; Sato 1992). Parsons *et al.* (1999) summarized the previous works and listed 26 species and six subspecies. Later, Sato (2005) described one new species *O. ogatai* Sato, 2005 from Thailand. Two years later, Sato & Wang (2007) raised *O. lectularia siniherbida* (Wehrli, 1943) to species status and designated *O. lectularia* (Swinhoe, 1891) and *O. lushanaria* Sato, 1992 as junior synonyms of *O. irrorataria* (Bremer & Grey, 1853) and *O. sinensium* (Oberthür, 1913) respectively.

Until now, 26 species and four subspecies in the genus *Ophthalmitis* have been recognized, with ten species and four subspecies recorded in China (Bremer & Grey 1853; Leech 1897; Oberthür 1913; Prout 1915; Wehrli 1924; Wehrli 1941; Zhu 1981; Sato 1984, 1992; Xue 1992a, 1992b, 2001; Wang 1998; Kim *et al.* 2001; Han & Xue