



A revision of *Episothalma* Swinhoe, 1893, with descriptions of two new species and one new genus (Lepidoptera, Geometridae, Geometrinae)

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Abstract

The genus *Episothalma* Swinhoe is reviewed, and two new species are described: *E. irrobustaria*, **sp. nov.** from Thailand, and *E. cuspidata* **sp. nov.** from Hainan Province, China. *E. ocellata* Swinhoe is excluded from *Episothalma* and *Pseudepisothalma* **gen. nov.** is erected based on this species. A lectotype is designated for *P. ocellata*. Descriptions and diagnoses for both genera are given. All the known species are redescribed, and variations in the male genitalia of *E. robustaria* (Guenée) are described and figured. Illustrations of adults and genitalia are presented.

Key words: Geometrinae, *Episothalma*, taxonomy, new species, new genus, *Pseudepisothalma*

Introduction

The genus *Episothalma*, a small genus within Geometrinae, was erected by Swinhoe, 1893, based on *Thalassodes sisunaga* Walker, 1861 from India, which is a junior synonym of *E. robustaria* (Guenée, 1858). Prout (1912) listed five species under this genus name, including *E. robustaria*, *E. ocellata* Swinhoe, 1893, *E. cognataria* Swinhoe, 1903, *E. obscurata* Warren, 1896 and *E. subaurata* Warren, 1899. Prout (1917) added a sixth species, *E. sequestrata* Prout, 1917 to this genus, and Prout (1933) followed this concept. Holloway (1996) moved *subaurata*, *obscurata* and *sequestrata* to the genus *Hemithea* Duponchel. Thus, only three species were listed in *Episothalma* by Scoble (1999): *E. robustaria*, *E. cognataria* and *E. ocellata*. Holloway (1996) gave the diagnostic characters of *Episothalma*, provided the biology of *E. robustaria*, and included *Episothalma* in the worldwide tribe Hemitheini (=Hemitheiti). More than 40 genera are currently placed in this tribe following studies by Inoue (1961), Ferguson (1985), Pitkin (1996), Viidalepp (1996), Hausmann (1996) and Holloway (1996), and the genera in the tribe share the following characters: the socii and uncus are more or less equivalent in size, the former never less than half the length of the latter and usually closely appressed with it; veins M₃ and CuA₁ of the hind wing are usually stalked; the male antennae are often strongly bipectinate (Holloway 1996). In the present work, the tribal placement of *Episothalma* follows Holloway's concept.

An examination of a long series of *Episothalma* from different sources revealed that two undescribed species were present, and that *E. ocellata* is not a member of *Episothalma* on the basis of the male genitalia, and does not fit into any known genus. The purposes of this paper are to provide a taxonomic review of *Episothalma* and to erect one new genus.