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An annotated list of the Opostegidae of the Himalaya, with a description of *Pseudopostega brevicaudata* sp. nov. (Lepidoptera: Nepticuloidea)

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Abstract

Seven species of Opostegidae are reported from the Himalaya: *Opostegoides pelorrhoea* (Meyrick, 1915), *Pseudopostega frigida* (Meyrick, 1906), *P. nepalensis* Puplesis & Robinson, 1999, *P. zelopa* (Meyrick, 1905), *Pseudopostega brevicaudata* Remeikis & Stonis, **sp. nov.**, *Opostega chalcophylla* Meyrick, 1910 and one documented but left unnamed *Opostegoides* species. Genital structures of all species treated herein are illustrated with photographs for the first time.

Key words: Himalaya, new species, Opostegidae, *Pseudopostega*, taxonomy

Introduction

Opostegids comprise a morphologically distinct family of small, predominantly white moths whose females possess a primitive, monotrysian reproductive system, with a common terminal anogenital opening. Together with their sister family, Nepticulidae, the Opostegidae (Nepticuloidea) contain some of the smallest Lepidoptera known, with a wingspan ranging from 4–16 mm (Davis 1989; Davis & Stonis 2007).

The process of documenting the world's Opostegidae has a long but uneven history discussed in Puplesis & Robinson (1999). Many factors contribute to the Opostegidae as one of the most difficult families among all Lepidoptera to study. The small size and apparent rarity of most species of Opostegidae, coupled with the great difficulty in locating their usually well concealed plant-mining larvae, undoubtedly have hindered attempts to collect and study this group (Davis & Stonis 2007). Within the last 20 years, notable efforts have appeared to raise this family from obscurity. The first of these was a generic review of the family and world catalogue (Davis 1989), followed by an excellent review of North European fauna (Johansson *et al.* 1990), the first revision of Oriental Opostegidae (Puplesis & Robinson 1999), and more recently by a review and a world catalogue of Nepticuloidea and Tischerioidea (Puplesis & Diškus 2003). However, Davis & Stonis (2007) made the largest impact with their treatment of the Opostegidae of the New World, describing one new genus and 68 new species. The latter revision was shortly followed by Heppner & Davis (2009) who described one more new species from Guatemala, and by Remeikis & Stonis (Remeikis *et al.* 2009) who described one new species from Costa Rica and two new species from Mexico. The contributions by different authors to the species number in Opostegidae (and other related Lepidoptera) was recently reviewed by Navickaitė *et al.* (2011).

Although the Opostegidae are global in distribution, evidence indicates that the greatest diversity occurs in continental tropical or subtropical regions (Davis & Stonis 2007). Of the currently known 202 species, approximately 88% occur in subtropical to tropical regions. Of these, 87 species (or 43% of the world fauna) are known to be restricted to the Neotropical Region, with the most outstanding diversity reported for Costa Rica (Davis & Stonis 2007).

The present paper was prompted by the lack of documentation of species occurring in the Himalaya and by the lack of photographic illustrations of species described by E. Meyrick (1905, 1906, 1910, 1915) or Puplesis & Robinson (1999). Therefore, the main goal of the present study is to reassess the Opostegidae of the Himalaya based on examination of new material collected in India (in 2010) and re-examination of type material.