



A review of Ascodipterinae (Diptera: Streblidae) of the Oriental and Australasian regions with a description of three new species of *Ascodipteron* Adensamer and a key to the subfamily

MICHAEL W. HASTRITER

Monte L. Bean Life Science Museum, Brigham Young University, 290 MLBM, P.O. Box 20200, Provo, Utah 84602-0200, U.S.A.
E-mail: michaelhastriter@comcast.net

Table of contents

Abstract	1
Introduction	2
Material and methods	3
List of Old World species of the subfamily Ascodipterinae	4
Key to recognized species of world Ascodipterinae based on dealate females	7
Descriptions of Oriental and Australasian Ascodipterinae	8
<i>Ascodipteron egeri</i> sp. nov.	8
<i>Ascodipteron longiascus</i> sp. nov.	11
<i>Ascodipteron phyllorhinae</i> Adensamer, 1896	13
<i>Ascodipteron siamense</i> Speiser, 1903	18
<i>Ascodipteron speiserianum</i> Muir, 1912	18
<i>Ascodipteron wenzeli</i> sp. nov.	22
<i>Ascodipteron</i> sp.	24
<i>Maabella stomalata</i> Hastriter and Bush, 2006.....	25
Notes on extralimital species	28
<i>Ascodipteron lophotes</i> Monticelli, 1898	28
<i>Ascodipteron megastigmatos</i> Jobling, 1956.....	29
<i>Ascodipteron tabulatum</i> Speiser, 1908	29
Biology and Host-Parasite relationships	29
Acknowledgments	30
References cited	31

Abstract

The Ascodipterinae of the Oriental and Australasian regions are reviewed. Three new species, each known only from dealate females, are described: 1) *Ascodipteron egeri* **sp. nov.** from Malaysia, ex. *Megaderma spasma* (Linnaeus) attached in urogenital area; 2) *Ascodipteron longiascus* **sp. nov.** from southern China, ex. *Hipposideros armiger* (Hodgson), attachment site unknown; and 3) *Ascodipteron wenzeli* **sp. nov.** from Vietnam and Malaysia, ex. *Rhinolophus* spp. attached in urogenital area. A neotype and lectotype are designated for *Ascodipteron phyllorhinae* Adensamer and *Ascodipteron speiserianum* Muir, respectively. A neotype is designated for *Ascodipteron archboldi* Maa and a lectotype for *Ascodipteron emballonuræ* Banks; the former an objective synonym of *A. phyllorhinae* and the latter a junior synonym of *A. phyllorhinae*. A neotype is also designated for *Ascodipteron australiansi* Muir which is regarded as a junior synonym of *A. speiserianum*. *Ascodipteron lophotes* Monticelli, *A. megastigmatos* Jobling, *A. siamense* Speiser and *A. tabulatum* Speiser are considered *nomina dubia*. The genus *Paraascodipteron* is tentatively referred to the subfamily

Brachytarsiniinae. The distribution of *Maabella stomalata* Hastriter and Bush is extended from China and Vietnam to Borneo, Java, Malaysia, Myanmar, Papua New Guinea, Philippine Islands, and West Papua on numerous species of *Hipposideros* and *Rhinolophus*. A key to the recognized species of Ascodipterinae is provided. There are fifteen valid species of *Ascodipteron*.

Key words: bat flies, *egeri*, *longiascus*, *Maabella*, *wenzeli*

Introduction

These unique bat parasites belonging to the subfamily Ascodipterinae (Streblidae) occur only in the tropical and subtropical areas of the Old World. Muir (1912) first described the life cycle of these pupiparous flies while describing *Ascodipteron speiserianum* from Amboina, Indonesia. Males have been described for only four species of Ascodipterinae as cited in Hastriter and Bush (2006: 28). Consequently, the taxonomy of the group is based almost entirely on dealate (wingless) endoparasitic females.

Currently there are two recognized genera in the subfamily Ascodipterinae: *Ascodipteron* Adensamer, 1896 and *Maabella* Hastriter and Bush, 2006. A third genus, *Paraascodipteron* Advani and Vazarani, 1981 (known from a single winged male from Rajasthan, Jadhpur, India) was not available for examination. Based on Advani and Vazarani's description and meager illustrations, Hastriter *et al.* (2006) and Hastriter and Bush (2006) argued that the placement of *Paraascodipteron* in the subfamily Ascodipterinae was inappropriate. Although Hastriter *et al.* did not specify a subfamily, Brachytarsiniinae is the only other subfamily in the Old World. A definitive answer to the placement of *Paraascodipteron* will require study of the male type specimen (now unavailable) and females (currently unknown) from the type locality. Maa (1965a) revised the African species of *Ascodipteron* and Theodor (1968) subsequently enhanced some descriptions based on material from the Afrotropical Region and the Palaeartic Region (Mediterranean Subregion). Twelve species of *Ascodipteron* have previously been recognized from the Afrotropical Region and the Palaeartic Region (Mediterranean Subregion), four from the tropical areas of the Oriental Region, and two from the Australasian Region. About 67% of the described species occur in the Palaeartic (Mediterranean Subregion) and the Afrotropical regions. The descriptions of most were described from only a few specimens. The collection of additional material to substantiate, support and understand the taxa from the Afrotropical Region and the Mediterranean Subregion is an area for future research. The ascodipterine fauna of tropical and semitropical India also remains essentially unexplored. As a result of nomenclatural changes and the description of three new species, the number of *Ascodipteron* species recognized herein is 15.

During the course of examining material from China and Vietnam (Hastriter *et al.* 2006; Hastriter & Bush 2006), it became evident that species from the Oriental and Australasian regions are extremely poorly defined. Approximately 900 specimens preserved in ethanol were obtained from the Bernice P. Bishop Museum (BPBM). These materials had been amassed by the late Professor T.C. Maa. The material is representative of the entire tropical and subtropical areas of the Oriental and Australasian regions. Some of the BPBM material had been on loan from various other museums. Additional material was also obtained from The Bohart Museum, University of California, Davis. These specimens made it possible to clarify the systematics of the Ascodipterinae endemic to the Oriental and Australasian regions, provide a key to the species of the subfamily Ascodipterinae, and enhance our understanding of their biology and host/parasite relationships. Although this paper does not address taxa west of the Indian Subregion, a comparison of these taxa relative to Oriental and Australasian species was essential. The questionable validity of three of these extralimital species was considered and is discussed herein.