



A new genus and species of ototretine firefly from Borneo (Coleoptera: Lampyridae)

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Abstract

Emasia n. gen. is proposed within the Ototretinae together with one new species *Emasia dentata* n. sp. from Malaysia (Borneo). Principal apomorphic features are listed and illustrations of diagnostic characters provided.

Key words: Taxonomy, Ototretinae, *Emasia dentata*, new genus, new species, Oriental Region

Introduction

The Ototretinae was established as a subfamily of Lampyridae (fireflies) by McDermott (1964). With the exception of *Brachylampis* of North America, the group has an Asiatic distribution.

Lampyridae are known for their ability of bioluminescence that is often used in sexual display and sexual selection. The Ototretinae represent a group of fireflies whose adults do not emit light or their light emission is very weak. Crowson (1972) considered ototretines to be a basal split of Lampyridae, and thereby the luminosity of the firefly ancestor in the adult stage was questioned. The problem of evolution of adult light signals in fireflies has not been unambiguously solved yet. Two leading molecular analyses (Bocakova *et al.* 2007; Stanger-Hall *et al.* 2007) gave different results with regard to whether the primitive condition was a luminescent or non-luminescent adult.

The constitution of Ototretinae has changed considerably in the last few decades. McDermott (1964, 1966) included only *Brachylampis* Van Dyke, 1939 and *Ototreta* Olivier, 1900, the latter considered to be a synonym of *Drilaster* Kiesenwetter, 1879 (Satô 1968; Geisthardt and Satô, 2007). Expanded concepts of the subfamily were presented by Crowson (1972) and Lawrence and Newton (1995), involving the transfer of several taxa formerly placed in the Drilidae to Ototretinae (Lampyridae) because of external similarities. The Ototretinae as understood by Lawrence and Newton (1995) included the genera *Brachylampis*, *Harmatelia* Walker, 1858, *Lamellipalpus* Maulik, 1921, *Drilaster* (= *Ototreta*), and *Stenocladus* Deyrolle & Fairmaire, 1878. Lawrence and Newton's concept of Ototretinae was further accepted by Brancucci and Geiser (2007, 2009) and is followed in this paper. Recently, molecular analyses of some elateroid taxa (Bocakova *et al.* 2007; Stanger-Hall 2007) supported this view as well as the inclusion of the Ototretinae in the Lampyridae.

The material used for DNA analysis by Bocakova *et al.* (2007) included a sample of an unidentified ototretine from Malaysia (Borneo: Mt. Emas). After examination of ototretine genus-group taxa (*Drilaster*, *Flabellototreta* Pic, 1911, *Harmatelia*, *Hyperstoma* Wittmer, 1979, *Lamellipalpus*, *Lamellipalpodus* Maulik, 1921, *Picodrillus* Wittmer, 1938, *Stenocladus*) and considering relationships within the group, we propose a new genus and species. The descriptions of these taxa follow.