



A new genus and species of Heptageniidae (Ephemeroptera) from Borneo, with revisions to the classification of the Ecdyonurinae

J.M. WEBB¹ & W.P. MCCAFFERTY²

¹Department of Entomology, Purdue University, West Lafayette, Indiana 47907-2089, USA. E-mail: jmw975@yahoo.com

²Department of Entomology, Purdue University, West Lafayette, Indiana 47907-2089, USA. E-mail: mccafferty@purdue.edu

Abstract

Darthus vadorus n. gen. n. sp. is described from larvae and eggs from Borneo, Indonesia. Larvae are differentiated from those of all other genera of Heptageniidae by the combination of the absence of lamellae on gills 1, sickle shaped lamellae on gills 2–6, a median ridge terminated with a sharp spine on abdominal terga 2–9, a slightly thickened anterior margin of the head capsule, two rows of long, fine setae on the mid and hindtibiae, and scattered simple setae on the ventral surface of galealaciniae. *Darthus* is included in the tribe Afronurini Webb & McCafferty n. trib. with *Afronurus* Lestage and *Parafronurus* Zhou & Braasch. Atopopini Wang & McCafferty is restricted to the genera *Atopopus* Eaton, *Thalerosphyrus* Eaton, and *Asionurus* Braasch & Soldán.

Key words: Ephemeroptera; *Darthus*; Heptageniidae; new genus; new species; Afronurini; Atopopini

Introduction

Heptageniidae (Ephemeroptera) is a relatively species rich family distributed throughout the Holarctic, Afrotropical, and Oriental biogeographical realms. Due to the recent revisions of the family (Kluge 2004; Wang & McCafferty 2004; Webb *et al.* 2006) most genera can now be relatively easily recognized. The diversity of the Ecdyonurinae Ulmer remains poorly explored, however, particularly in southeast Asia, and the generic placement of many species is uncertain. In a review of the knowledge mayflies from East Kalimantan, Borneo, Sartori *et al.* (2003) reported a species possibly related to *Notacanthurus* Tshernova. We examined a series of these distinctive larvae and found they could not be placed to any known genus. Herein, we describe these larvae as a new genus and species and hypothesize their phylogenetic relationship to other Ecdyonurinae genera.

Material examined is housed in the following collections: Purdue Entomological Research Collection, West Lafayette, Indiana (PERC); Royal Ontario Museum, Toronto, Ontario (ROM); Museum Zoologi Bogor, Bogor, Indonesia (MZB); and Musée de zoologie, Lausanne, Switzerland [MZL].

Darthus Webb & McCafferty n. gen.

Larval description: Head: Subquadrate, anterior margin of head capsule slightly thickened (Fig. 2). Outer incisor of planate mandible with single terminal denticle. Hypopharynx with well developed lateral projections. Maxilla with scattered simple setae on ventral surface of galealacinia, distal dentiseta branched near base (Fig. 7). Labium with palps pointed apically, glossae subquadrate (Fig. 8).

Thorax: Pronotum without posterolateral extensions. Hind supracoxal sclerites rounded. Femora with regular row of strong setae (Fig. 9). Middle and hindtibiae with two rows of long, fine setae and row of long, clavate setae on lateral ridge (Fig. 9).