



A contribution to the Heptageniidae (Insecta, Ephemeroptera) of Thailand and Malaysia

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Abstract

A brief survey of Heptageniidae (Ephemeroptera) from Thailand and Malaysia is presented. New for science are *Afronurus namnaoensis* **sp. nov.**, *Compsoeuria langensis* **sp. nov.**, *Epeorus inthanonensis* **sp. nov.**, *Epeorus* (*Belovius*) *khayengensis* **sp. nov.** and *Epeorus nguyenbaeorum* **sp. nov.**, from Thailand and *Compsoeuria perakensis* **sp. nov.** from Malaysia; the new species originate from rivers and streams in the north of Thailand and from some streams in peninsular Malaysia. For the first time, the male of *Asionurus primus* Braasch & Soldán, 1986 is described and a larva of supposed *Iron longitibius* Nguyen & Bae, 2004 is illustrated from Thailand. *Compsoeuria* (*Siamoneuria*) *kovaci* Braasch, 2006 was originally not adequately placed in *Compsoeuria* Eaton, 1881. Its true affiliation remains unclear. Supposed *Epeorus hieroglyphicus* Braasch & Soldán, 1984, redescribed by Nguyen and Bae (2004), is renamed to *Epeorus nguyenbaeorum* **sp. nov.** Two new findings of Heptageniidae are reported from Thailand: *Epeorus bifurcatus* Braasch & Soldán, 1979 and *Iron martinus* Braasch & Soldán, 1984. *Rhithrogeniella ornata* Ulmer, 1939 is recorded from Malaysia for the first time.

Key words: Thailand, Peninsula Malaysia, Heptageniidae, taxonomy, distribution, new records, new species

Introduction

Recently, Braasch and Boonsoong (2009) commented on the generic situation in exploring the Heptageniidae (Ephemeroptera) from Thailand. Representatives of the genera *Notacanthurus* Tshernova, 1974 and *Rhithrogena* Eaton, 1881 were recorded the first time from the country (Braasch & Boonsoong 2009). Now, the updated list of Thailand Heptageniidae contains 15 species as follows: *Afronurus cervina* (Braasch & Soldán, 1984), *A. dama* (Braasch & Soldán, 1987), *A. gilliesiana* (Braasch, 1990), *A. rainulfiana* (Braasch, 1990), *A. rubromaculatus* (You, Wu, Gui & Hsu, 1981), *Asionurus primus* Braasch & Soldán, 1986, *Compsoeuria* (*C.*) *thienemanni* (Ulmer, 1939), *C.* (*Siamoneuria*) *kovaci* Braasch, 2006, *Epeorus aculeatus* Braasch, 1990, *E.* (*Belovius*) *unicornutus* Braasch, 2006, *Notacanthurus baei* Braasch & Boonsoong, 2009, *Rhithrogena siamensis* Braasch & Boonsoong, 2009, *Rhithrogeniella tonkinensis* Soldán & Braasch, 1986, *Thalerosphyrus sinuosus* (Navás, 1933) and *Trichogenia maxillaris* Braasch & Soldán, 1988.

Herein, we treat further material mostly originating from the northern and northeastern Thailand and a smaller number of Heptageniidae from mainland Malaysia. Ephemeroptera from the latter country were provided by Bishop (1973) having investigated the limnology of the small Gombak River. *Thalerosphyrus* Eaton, 1881 (sp. A, B + C), *Epeorus* Eaton, 1881 sp. A and *Compsoeuria* (sub nomine *Compsoeuriella* Ulmer, 1939) are cited among the Heptageniidae. Braasch and Soldán (1986b) checked the Heptageniidae from the former Bishop mayfly collections, made available by W.L. and J.G. Peters (Florida A & M University), Tallahassee, USA, and recorded *Epeorus hieroglyphicus* (Braasch & Soldán 1984), *Asionurus petersi*, *Compsoeuria flowersi* and *Thalerosphyrus bishopi* (Braasch & Soldán 1986a,b).

The aim of the present paper is to improve the knowledge of Heptageniidae from Thailand and Malaysia by describing new species and/or unknown stages, and providing comments regarding previously known species and new country records.