RESEARCH PAPER

Agneta den, a new species of perlid stonefly (Plecoptera: Perlidae) from Vietnam

Thi Kim Thu CAO and Yeon Jae BAE

Department of Biology, Seoul Women’s University, Seoul, Korea

Abstract

A new species of perlid stonefly, Agnetina den, is described from Vietnam. Male adults of this species can be easily distinguished by their black body color pattern, submedian patches of sensilla basiconica on hemitergites 7–8, and clusters of long dense fine setae on the inner sides the abdominal tergites. Illustrations of habitat and diagnostic characters are presented.

Key words: Agnetina den, description, Perlidae, Plecoptera, stonefly, Vietnam.

Introduction

The stonefly genus Agnetina, belonging to the subfamily Perlinae and family Perlidae, was established by Klapalek in 1907. The genus is distributed in the Nearctic, Palearctic and Oriental regions, including mainland South-East Asia and Taiwan (Sivec et al. 1988). Stonefly taxonomists such as Zwick (1984), Stark (1986), Sivec et al. (1988, 1997), Stark and Sivec (1991), Sivec and Zhiltzova (1997), Du and Chou (1998), and Du et al. (1999) studied Chinese and South-East Asian Agnetina, and one species, Agnetina jarai Stark and Sivec, 1991, is known in Vietnam. In the present paper, a new species of Agnetina is described from Vietnam based on adult male specimens.

Materials and methods

Adult specimens were collected by light trapping in the buffer zone of Pu Mat National Park (Figs 1, 2) in Nghe An Province, central Vietnam, in April 2002. Specimens are deposited in the Aquatic Insect Collection of Seoul Women’s University (SWU-AIC). The description of the adult male given here is based on external morphology, and line drawings and macro photographs of key characters are provided. Morphological terminology follows that of Sivec et al. (1988).

Description

Agneta den sp. nov. (Figs 3–6)


Description. Male. Body length 16.0 mm; forewings 16.2 mm; hindwings 14.1 mm. General body color blackish brown to black (Fig. 3).

Head. Head (Fig. 4) black, as wide as pronotum, with subquadrate darker marking enclosed over three ocelli. Antenna blackish brown.

Thorax. Pronotum (Fig. 4) black, with laterally irregular dark stripe on both sides; anterior margin lighter and slightly convex. Legs (Fig. 3) relatively long; distal half of femora, tibiae, and tarsi black. Wings (Fig. 3) somewhat smoky, darker at tip; veins blackish brown; 2A of hindwing three-branched.

Abdomen (Figs 5, 6). Tergite V with a pair of small round marginal lobes posteriorly; marginal lobes covered with sensilla basiconica. Tergites VI–IX anterolaterally slightly sclerotized, tergites VII–VIII with patches of sensilla basiconica submedially; patches of sensilla basiconica more dense on...
tergite VII. Tergite IX with a small triangular keeled median sclerite. Hemitergites (Fig. 6) relatively long, reaching nearly to anterior margin of tergite VIII, gradually tapering, with dense cluster of long fine setae on inner sides; apices covered sparsely with sensilla basiconica (Fig. 6). Epiproct sclerite prominent, X-shaped, and strongly sclerotized. Sternites VI–VII with ventral hair brushes. Cerci simple, blackish brown to black, darker distally.
New perlid stonefly from Vietnam

Adult female and nymph. Unknown.

**Etymology.** The specific epithet is derived from the Vietnamese word *den*, meaning black, which refers to the black body color pattern.

**Diagnosis.** *Agnetina den* sp. nov. is similar to *Agnetina jarai* Stark and Sivec, 1991, but can be distinguished by the following characters: blackish brown to black body color pattern (Figs 3, 4), abdominal tergites VII–VIII with submedian patches of sensilla basiconica (Figs 5, 6), and hemitergites with a cluster of long, dense fine setae on their inner sides (Fig. 6).

**Habitat.** Adults of *A. den* were found in a riparian area of a tropical natural stream at 700 m a.s.l. (Fig. 2). The stream was mid-sized (width approximately 10 m and depth 20–50 cm), the water was clean and moderately fast, and the substrate consisted of boulders, pebbles, gravel, and sand with fallen leaves. The adults were attracted by black light.

**Distribution.** Vietnam (Nghe An Province).

**Acknowledgments**

We thank Van Vinh Nguyen (Hanoi University, Hanoi, Vietnam) and Duc Huy Hoang (Ho Chi Minh University, Ho Chi Minh City, Vietnam) for providing material and the habitat photograph. This work was supported by a Korea Research Foundation Grant (KRF-2005-212-C00002).

**References**


