THE NYMPH OF DIPTEROPHLEBIODES SP. (LEPTOPHELEBIDAE: EPHEMEROPTERA)1

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Since Demoulin (1954) established Dipteroaphlebiodes for D. sara-
wasensis (which was described from one male subimago), the imagos
and nymph of the species from Sarawak have remained unknown.
Peters and Edmunds (1970) in their revision of the Eastern Hemis-
phere genera delineated the genus based on Demoulin's description.

From material collected in West Malaysia, a new species of Dip-
teroaphlebiodes has been discovered. As the new species is known
only from nymphs, female imagos, and male subimagos, the new spe-
cies is not described herein. However the nymph of Dipteroaphle-
bioses sp. is described and the relationships of the genus to other
genera are discussed. The descriptions and figures correspond to those
given by Peters and Edmunds (1970).

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Genus Dipteroaphlebiodes

Dipteroaphlebiodes Demoulin, 1954:189; Peters and Edmunds,

Mature nymph. Head prognathous. Antennae 1 1/2 times as long as maxi-
mum length of head. Mouthparts (figs. 1-7): dorsal hair on labrum as in fig. 4;

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Figs. 1-10, Nymph of Dipteryphlebiodes sp. Fig. 1, left mandible. Figs. 2-3, prosthecae of mandibles: Fig. 2, left; Fig. 3, right. Fig. 4, dorsal view of labrum. Fig. 5, hypopharynx. Fig. 6, ventral view of right maxilla. Fig. 7, labium (ventral surface on left; dorsal surface on right). Fig. 8, claw. Fig. 9, gill 4. Fig. 10, dorsal view of right margin of abdomeinal segments 7-10.

Submedian area of hair ventrally. Left mandible as in fig. 1. Linguæ of hypopharynx rectangular (Fig. 5); superlingua of hypopharynx as in Fig. 5, with row of hair along anterior margin. Segment 2 of maxillary palp shorter than length of segment 1; segment 3 a little longer than 1/2 times length of segment 2; triangular; hair on maxilla as in Fig. 6. Labium as in Fig. 7; segment 2 of palp a little longer than 1/2 length of segment 1; segment 3 subequal in length to segment 2, triangular; glosae ventral to paraphrageme. Legs (Fig. 8): apex of claw banded and narrow, denticles on claws progressively larger apically, apical denticles near apex of claw. Gills (Fig. 9): gills on segments 1-7 alike; gills long, slender and deeply forked. Well developed postero lateral spines on segment 9 only (Fig. 10). Terminal filament longer than cerci.

The above description is based on the following specimens: 4 nymphs, West Malaysia, inh. of Gunlock Riv., Univ. of Malaya Field Studies Center, 10 1/2 mi.
Dipterophlebioides appears to be most closely related to Habrophlebioides and Gillissia. The nymphs of Gillissia are unknown, but the nymphs of Dipterophlebioides can be distinguished from those of Habrophlebioides by the following combination of characters: (1) well developed postero-lateral spines occur on abdominal segment 9 only (Fig. 10), (2) no metathoracic wing pads are present, and (3) the denticles on the claws occur almost the entire length of the claws (Fig. 8). The nymphs of Dipterophlebioides can be distinguished from those of all genera of the Leptophlebiidae by the following combination of characters: (1) the head is prognathous, (2) the lingua of the hypopharynx is rectangular (Fig. 5), (3) the abdominal gills are long-sleender and deeply forked (Fig. 9), and (4) well developed postero-lateral spines occur on abdominal segment 9 only (Fig. 10).

The male subimagines of the undescribed species from West Malaysia appears congruent with D. saracencris; however, the penes of the undescribed species are straight while those of D. saracencris are apically hooked. The female imagines of the undescribed species possess a ninth sternum which is deeply cleft apically and does not possess an ovipositor or egg guide. The undescribed species can be differentiated from D. saracencris by the dark brown body color and the dark brown clouds surrounding the cross veins in the fore wings.

The knowledge of the nymph of Dipterophlebioides supports the probable phylogeny of the genus as given by Peters and Edmonds (1970). The nymph of Dipterophlebioides retains the pleiostrophic Panaeolittus-like characters as does Habrophlebioides and both...
genera certainly possessed the same ancestry. The wings of the adults of both genera are reduced and the body size is smaller than Para-
leptophlebia.

Literature cited


2.0146 The nymph of Dipterophlebiodes sp. (Leptophlebiidae: Ephemeroptera).

Abstract.—The nymph of Dipterophlebiodes is described for the first time from material collected in West Malaysia. As the Malaysian species is known only from nymphal female images, and male subimagines, the new species is not described. The relationships of Dipterophlebiodes to Habrophlebiodes and Gil-
horse are discussed.—William L. Petson, Florida A&M University, Tallahassee, FL. 32307.

Description: Ephemeroptera; Leptophlebiidae; Dipterophlebiodes sp., description of nymph, phylogeny of genus, SE. Asia.