

The nymph of *Habrophlebiodes gilliesi* Peters
(Ephemeroptera : Leptophlebiidae)*

By PHILIP T. P. TSUI and WILLIAM L. PETERS

Florida A & M University, Tallahassee, Florida

SYNOPSIS

The previously unknown nymph of *Habrophlebiodes gilliesi* Peters from Hong Kong is described and compared with *Habrophlebiodes prominens* Ulmer from Sumatra.

ULMER (1939, 1940) described the first Oriental species of *Habrophlebiodes*, *H. prominens*, from adults and nymphs collected in Java and Sumatra. Later Peters (1963) described *H. gilliesi* from adults collected in Hong Kong. Although *Habrophlebiodes* was established by Ulmer (1919) for the North American species *H. americana* (Banks), Peters (1963) pointed out that the two Oriental species are congeneric with the North American representatives. As *H. gilliesi* was known only from the adults, one of us (Tsui) revisited the type locality and collected the nymphs. The nymphs are associated with the previously described adults on the basis of the venation of the fore wing pads of the nymphs and the colour markings of the abdomen.

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Habrophlebiodes gilliesi Peters (figs. 1-13)

Peters, 1963, *Proc. R. ent. Soc. Lond.* (B) 32: 41-43.

Mature nymph (in alcohol)

General colour light brown. Head capsule light brown with area between ocelli washed with dark brown (figs. 11 and 12). Epicranial suture dark brown, dark brown markings more prominent in female. Eyes black; male with apical portion greenish-black. Ocelli gray, basal third of each ocellus black. Antennae light brown. Mouthparts as in figures 1-7. Mandibles: left prostheta with 2 hairless anterior projections, right prostheta with 1 hairless anterior projection. Lingua of hypopharynx rectangular. Maxillary palpi: second and third segment approximately equal in length. Margins of pronotum dark brown, a narrow transverse band posterior to darker anterior margin. Anterolateral and posterior margins of mesoscutum with dark brown markings. Legs light brown; fore femora with a dark brown macula on dorsal surface (fig. 9); tibiae with a dark brown band near apex. Claws with denticles progressively larger apically (fig. 10). Terga 1-6 (fig. 13) light brown, washed with dark brown markings on the sublateral and posterior margins. Terga 7-9 (fig. 13) light brown with darker brown markings. Tergum 10 light brown with posterior half washed with darker brown. Sterna light brown, sublateral margins of sterna 1-9 washed with darker brown, markings paler on sterna 8 and 9. Gills translucent, tracheae dark gray (fig. 8). Caudal filaments light brown.

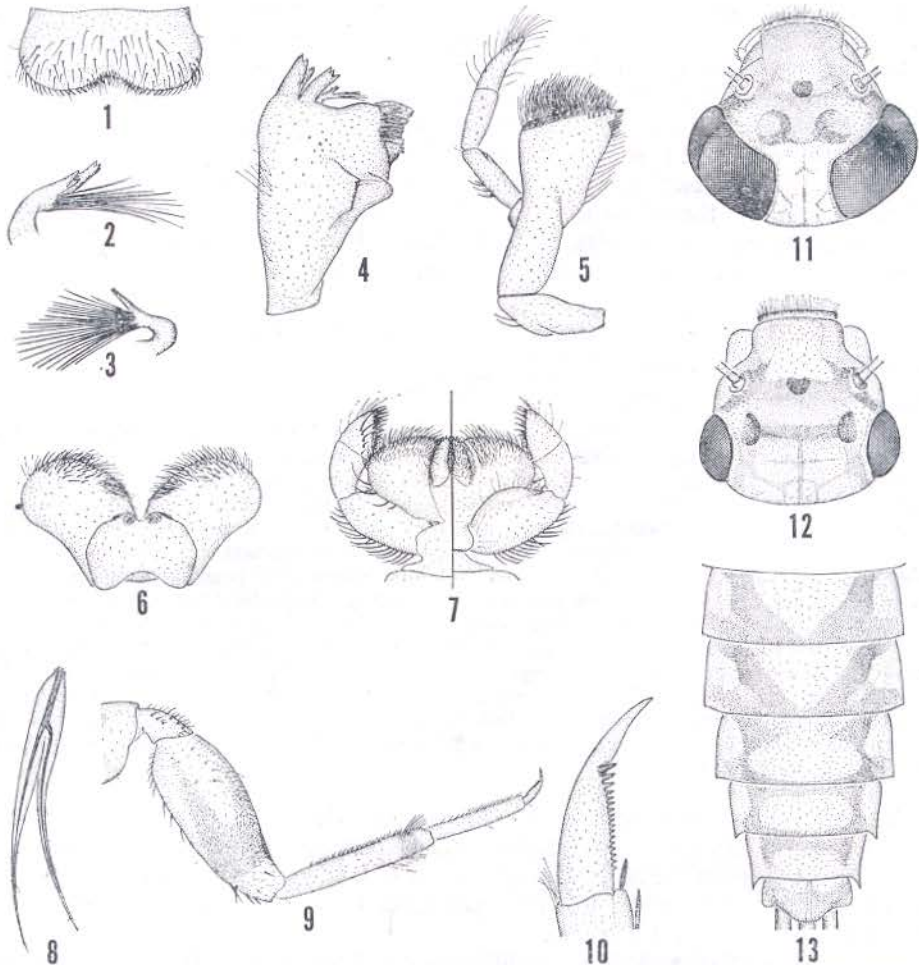
The locality for the nymphs is HONG KONG: Kowloon, New Territory, Fan Ling, 30.viii.1965 (P.T.P. Tsui), ten nymphs. All specimens are in alcohol. Four specimens are deposited in the collections of Florida A & M University, three specimens in the collection of University of Utah, Salt Lake City, and three specimens in the British Museum (Natural History).

The nymphs of *H. gilliesi* can be differentiated from those of *H. prominens* by the following combinations of characters: (1) The prostheta of the left mandible of *H. gilliesi* has two hairless anterior projections, whereas in *H. prominens* there is one anterior projection with hairs. The prostheta of the right mandible of *H. gilliesi* has a hairless anterior projection, which is absent in *H. prominens*. (2) The lingua of the hypopharynx in *H. gilliesi* is more or less rectangular, whereas that of *H. prominens* is cordate. (3) In the maxillary palpi of *H. prominens* the second segment is half the length of the third. In *H. gilliesi* the second and third segments of the maxillary palpi are approximately equal in length. (4) The head capsule of *H. prominens* has dark

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brown markings between the compound eyes that run almost parallel with the epicranial suture; colour patterns of both male and female nymphal head capsules of *H. gilliesi* are as shown in figures 11 and 12. (5) Terga 7-8 of *H. prominens* each bear a M-shaped dark brown marking, whereas in *H. gilliesi* the anterior and lateral margins of terga 7-8 are dark brown. (6) Colour patterns are absent on the legs of *H. prominens*, but *H. gilliesi* has a dark brown macula on the dorsal surface of the fore femora and a dark brown band near the apices of the fore tibiae.

The specimens of nymphal *H. gilliesi* described in this paper were collected from a moderately swift-flowing mountain stream. The nymphs were found beneath rocks and gravels in the shallow part of the stream.



FIGS. 1-13.—Nymphal figures of *Habrophlebiodes gilliesi* Peters. (1-7) Mouthparts: (1) labrum; (2) prostheca of left mandible, enlarged; (3) prostheca of right mandible, enlarged; (4) left mandible; (5) ventral view of right maxilla; (6) hypopharynx; (7) labium. (8) Abdominal gill 4. (9) Fore leg. (10) Fore claw. (11-13) Colour patterns: (11) head of mature female nymph; (12) head of mature male nymph; (13) abdominal segments 5-10.

REFERENCES

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