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**A NEW SPECIES OF PROCLOEON FROM TAIWAN  
(EPHEMEROPTERA : BAETIDAE)<sup>1</sup>**

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**ABSTRACT.** Following a recent review and redefinition of the genus *Procloeon* Bengtsson a new Oriental species, *Procloeon tatalis* sp. nov., is described based on larval material. The new species apparently represents a new generic record for Taiwan. Prior to revisionary studies, the species would have been assigned to the enigmatic genus *Centroptilum* Eaton due to its possession of hind wing pads. The new species is most closely related to the *P. pulchrum* (Eaton) species cluster of Europe.

During revisionary studies of the mayfly family Baetidae numerous undescribed species were predictably encountered. As a part of these studies, our investigations pertaining to the recently redefined genus *Procloeon* Bengtsson (Waltz and McCafferty, in press) resulted in the discovery of a new species. This species represents apparently the first report of this genus from Taiwan as described below.

***Procloeon tatalis*, sp. nov.**

**Larva:** Antennae ca. 1.5x length of head capsule. Labrum (Fig. 1) with 1+2-3 submarginal setae; anterior setae (Fig. 1a) deeply bifurcate, apically broadened and laterally roughened; lateral setae apically furcate or simple. Prosthema of left mandible (Fig. 2) stout with some dentes blunt and digitate and some dentes pointed; setal tuft present between incisors and molar area. Prosthema of right mandible (Fig. 3) stout and dentate with pointed dentes; setal tuft present between incisors and molar area. Maxillary palp three segmented; terminal segment (Fig. 4) ca. 0.5x length of segment 2, conical. Hypopharynx as in Fig. 5. Terminal segment of labial palps (Fig. 6) broadly truncate, with stout bristles apically; segment 2 with four to five dorsal setae; interior margin of paraglossa with eight to ten ventral marginal setae and eight to ten dorsal marginal setae; glossa with 20-25 interior setae.

Prothorax uniformly pigmented. Hind wing pads present and reduced in size. Femora parallel sided with dorsal apical bristles and with subapical vertical row of long, fine setae and no ventral femoral setal patch; tibiae and tarsi without dorsal spines; tarsi with ca. 15 ventral spines; claw of fore leg ca. 0.42x tarsus length, with four to six paired microspines basally; claws of middle and hind legs ca. 0.60x tarsus length, with paired microspines basally.

Dorsal abdominal pattern as follows: segment 1 pale cream; segment 2 with diffuse pigment and with medial pale "V" mark and pair of small, dark, rectangulate spots on posterior margin; segment 3 darkly pigmented with inverted pale "U" mark medially; segment 4 darkly pigmented with cream anterolateral corners; segment 5 with posterior third darkly pigmented and with medial triangulate spot projecting anteriorly to middle; segment 6 dusky with

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two large, medial, subquadrate pale areas; segments 7-10 dusky with poorly defined pale areas. Posterior marginal row of spines present on all tergites, increasing in length posteriorly and alternately large and small, more uniform ventrally; abdomen with scales and random, fine setae and loosely formed ventral setal tuft. Gills present on abdominal segments 1-7; gills 1-6 each with small dorsal flap; dorsal flap greater in size on gills 1 and 2 but less than 0.5x length of lower lamella; dorsal flaps of gills 5 and 6 rudimentary.

**Type material:** Holotype: male larva, Taiwan, Ta-tu River, 4 km. N. of Tsaotun, 11.x.1978. G. F. and C. H. Edmunds, whole specimen in alcohol, deposited in the University of Utah, Salt Lake City, Utah. Paratype male larva, slide mounted in euparal (solvent: abs. alc.), same data as for holotype, deposited in Purdue University Entomological Research Collection, West Lafayette, Indiana.

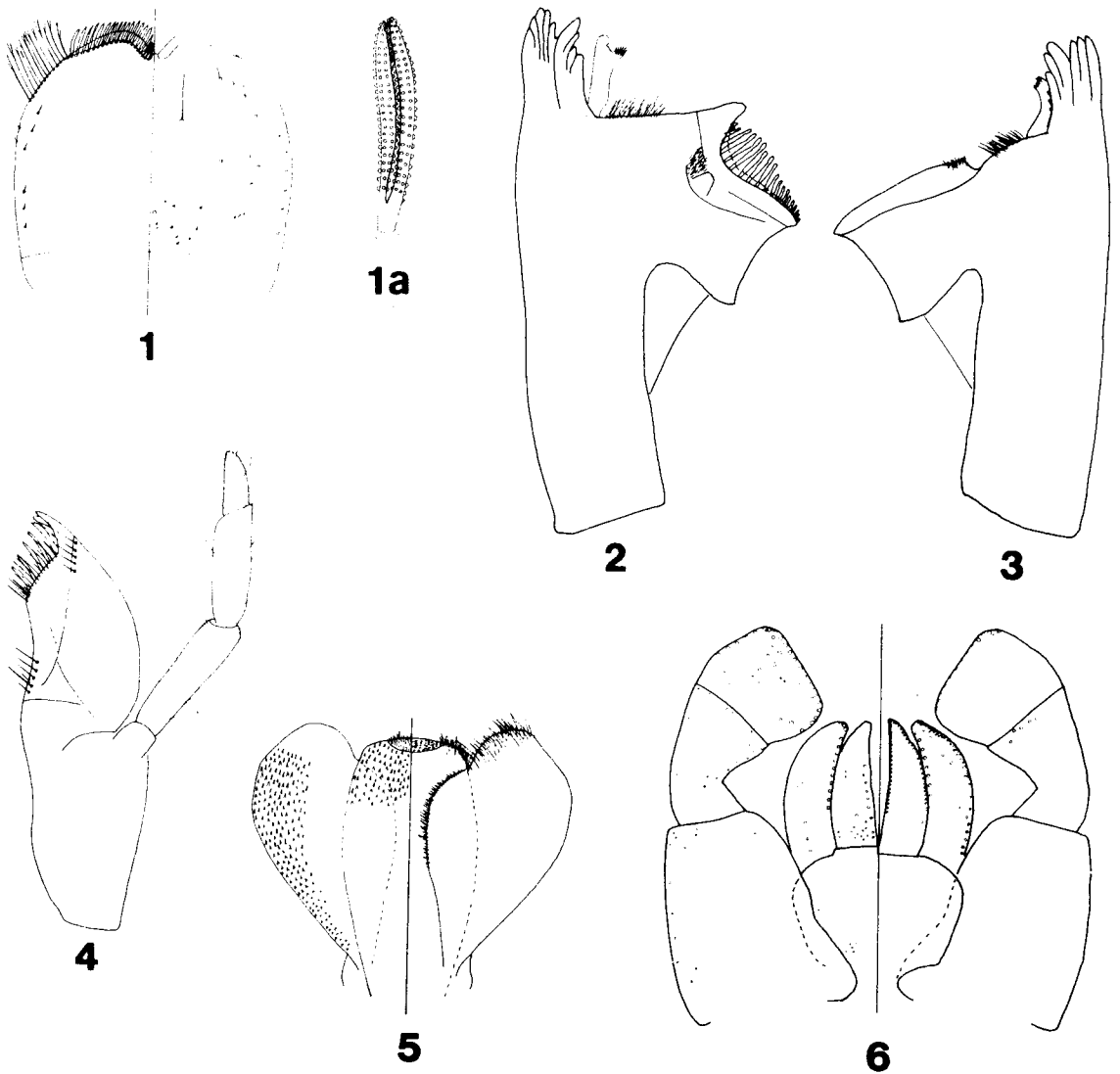
**Remarks:** *Procloeon tatalis*, sp. nov., is closely related to *P. pulchrum* (Eaton) of Europe and will key to this species as characterized by Keffermuller and Sowa (1975, 1984). Key characteristics useful for the separation of *P. tatalis* from *P. pulchrum* include the following: (1) a reduction in the length of the antennae to just beyond the prothorax (extends to the posterior margin of the mesothorax in *P. pulchrum*), and (2) a reduction in the size of the dorsal flap for all gill pairs compared to those illustrated for *P. pulchrum* (c Keffermuller and Sowa, 1975). The adult is unknown.

Although the larva of *P. tatalis* clearly possesses hind wing pads, they are reduced in size. It is conceivable that the adult of this species does not possess hind wings. This latter phenomenon we have documented (unpublished data) in at least one Nearctic *Pseudocloeon* species.

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#### REFERENCES

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Figs. 1-6. *Procloeon tatalis*, sp. nov., larva: 1, labrum (left, ventral; right, dorsal); 1a, enlargement of anterior seta; 2, left mandible; 3, right mandible; 4, maxilla; 5, hypopharynx; 6, labium (left, ventral; right, dorsal).