A Review of *Ephemerella (Danella)*
and the Description of a New Species

(Ephemeroptera: Ephemeroellidae)*

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Allen and Edmunds (1962), in a revision of *Ephemerella (Danella)*, characterized the adult and nymphal stages of the taxon based on the known species, *E. simplex* McDunnough, 1925, and *E. lita* Burks, 1937. The nymphs were characterized as follows: (1) semioperculate gills on segments 4-7, with rudimentary gill on segment one; (2) without denticles on tarsal claws; and (3) without paired dorsal abdominal tubercles. In 1965, they published a key to the adults and nymphs of the North American subgenera of *Ephemerella*, including *Danella*, and the nymphs were keyed to subgenus on the basis of the absence of denticles on the tarsal claws.

Recently, nymphs of an undescribed species of *Danella* were collected in Lake Huron which do not fit the published characterization of this developmental stage. *Ephemerella bartoni* n. sp. has operculate gills on segment 4 and a rudimentary gill on segment one, but possesses denticles on the tarsal claws and paired dorsal abdominal tubercles. In the key to the subgenera, Allen & Edmunds (1965), the nymph of *E. bartoni* will not key beyond couplet 8 (p. 245) as the tarsal claws possess denticles.

The nymphal stage of *Danella* is recharacterized as follows: (1) operculate or semioperculate gills on segments 4-7 and rudimentary gills on segment 1; (2) abdominal segments 8-9 subequal in length; (3) maxillary palpi reduced or absent; (4) abdominal terga with or without paired dorsal tubercles; (5) tarsal claws with or without denticles; and (6) head, body, and appendages with long conspicuous setae.

The following key will serve to distinguish all North American *Ephemerella* subgenera with lamellate gills on segments 4-7.

**Key to the Subgenera of Ephemerella**

1. Abdominal gills imbricated (fig. 1) .................. *Attenella*

Abdominal gills operculate (fig. 3) or semioperculate as in fig. 8 .............................................. 2

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Fig. 1. *Ephemera (Attenella) attenuata*, abdomen, dorsal view. Fig. 2-3. *Ephemera (Dannelia) bartoni*, nymphal parts: fig. 2, tarsal claw; fig. 3, abdomen, dorsal view. Fig. 4. *Ephemera (Timpanoga) hecuba*, fore femur. Fig. 5. *Ephemera sp?*, fore femur. Fig. 6. *Ephemera (Timpanoga) hecuba*, head. Fig. 7. *Ephemera sp?*, head. Fig. 8. *Ephemera (Eurylophella) bicolor*, abdomen, dorsal view.
2(1). Apex femora terminating in sharp spine (fig. 4); head with broad frontal shelf (fig. 6); segment 1 without rudimentary gill.

........................................... *Timpanoga*

Apex femora broadly rounded, not terminating in sharp spine (fig. 5); head without frontal shelf (fig. 7); segment 1 with rudimentary gill as in figs. 1 and 3 .......................... 3

3(2). Abdominal segment 9 distinctly longer than segment 8 (fig. 8); head, body and appendages with short inconspicuous setae

........................................... *Eurylophella*

Abdominal segments 8-9 subequal in length (fig. 3); head, body and appendages with long conspicuous setae .......................... *Dannella*

**Ephemerella (Dannella) bartoni**, new species

Nymphs. Length: body 7.0-8.0 mm; caudal filaments 3.0-4.0 mm. General color yellow to light brown. Head yellow to light brown, vertex with brown markings; maxillae without palpi. Thoracic nota yellow to brown, without distinctive markings; legs pale, tarsal claws with 6-7 small marginal denticles (fig. 2). Abdominal terga yellow to light brown, often with paired sublateral brown maculae on terga 3-7; terga 5-7 with small paired dorsal abdominal tubercles (fig. 3); operculate gills brown; abdominal segments 2-9 with well-developed posterolateral projections (fig. 3). Caudal filaments pale with narrow brown annulations near base.

**Types.** Holotype. male nymph, Howdenvale, Lake Huron, Ontario, Canada, 29-V-74, David A. Barton, in collection Canadian National Collection, Ottawa. Paratopotypes. 3 male and 5 female nymphs, 1 male and 1 female in collection David A. Barton, University of Waterloo, Waterloo, Ontario, and 1 male and 1 female in collection California State University, Los Angeles.

**Ephemerella bartoni** is the third species in the subgenus *Dannella* described from North America and appears to be most closely related to *E. lita* by the development of the posterolateral margins of segments 2 and 3. This species is named in honor of David R. Barton, collector of the type series.

**Literature Cited**
