SUBFAMILY
PODONOMINAE 3

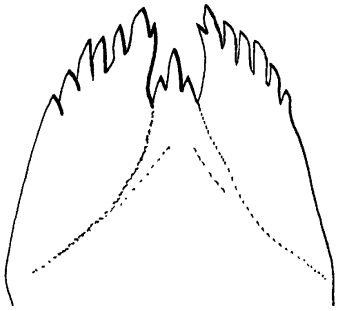
DIAGNOSIS: Antennae 4 or 5 segmented, with annulated 3rd segment (in eastern North American species); last segments very small. **Labrum** with well developed, simple, sickle-shaped S I and S II setae, S III similar in size and shape or more slender. Labral lamellae absent. Premandibles absent. **Mentum** with simple or trifid median tooth and 7-15 pairs of lateral teeth; ventromental plates weakly developed; beard absent. **Prementum** with numerous rows of small pectinate scales apically. **Body** with well developed anterior and posterior parapods. Procerci well developed. Anal tubules present.

NOTES: Podonomine larvae are often associated with mosses in springs, brooks and small streams; recent evidence also indicates that at least one genus, *Paraboreochlus*, may be hyporheic. Two genera of Podonominae occur in the Carolinas: *Boreochlus* and *Paraboreochlus*. Three other genera occur in North America and are included in the key below; although not recorded from the Carolinas, some of these other genera may eventually be found in the Smoky Mountains. In eastern North America, *Trichotanypus* is recorded from Greenland; *Lasiodiamesa* from New Hampshire, New York, Ontario and Quebec; and *Parochlus* from Maine, New York, New Brunswick, Ontario, Quebec and Greenland.

Key to the genera of larval Podonominae of eastern North America

1 Median tooth/teeth deeply recessed from anterior margin of mentum ..... ***Trichotanypus***
(not recorded from the Carolinas and not included in this manual)

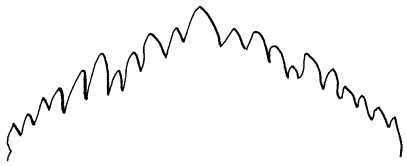
1' Median tooth/teeth not deeply recessed 2



Trichotanypus

2(1') Mentum with 15 pairs of lateral teeth; each procercus with more than 10 setae ..... ***Lasiodiamesa***
(not recorded from the Carolinas and not included in this manual)

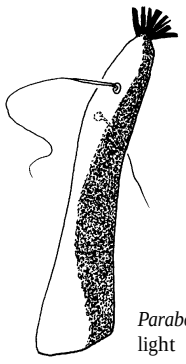
2' Mentum with 6-8 pairs of lateral teeth; each procercus with less than 10 setae 3



Lasiodiamesa

3(2') Procercus uniformly colored, either completely light or completely dark ..... ***Parochlus***
(not recorded from the Carolinas and not included in this manual)

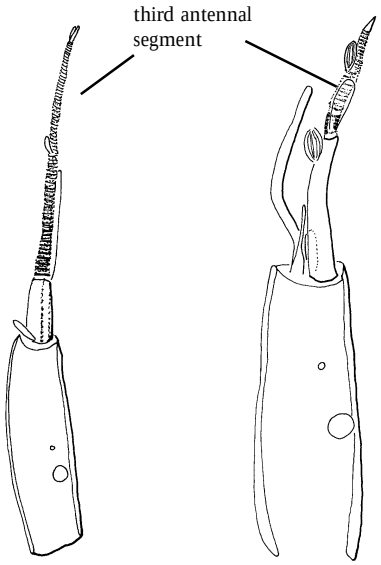
3' Procercus light anteriorly, darkened posteriorly 4



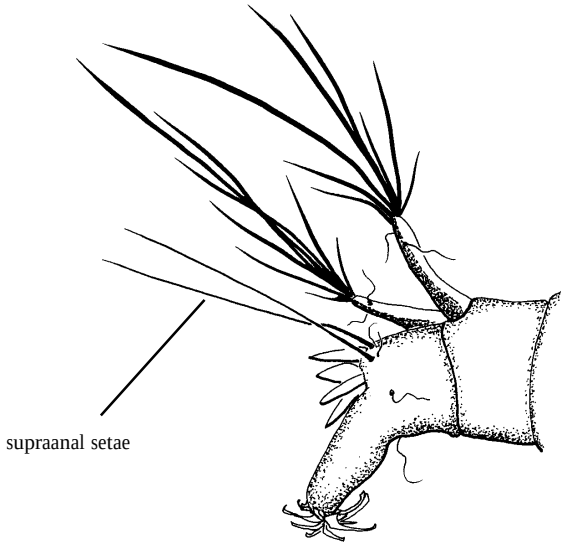
Paraboreochlus procercus
light anteriorly, dark posteriorly

4(3') Annulate 3rd segment of antenna long; supra-anal setae absent or reduced; each procercus with 5 setae ..... ***Boreochlus***

4' Annulate 3rd segment shorter; supraanal setae long and dark; each procercus with 7-8 setae ..... ***Paraboreochlus***



Boreochlus *Paraboreochlus*



Paraboreochlus

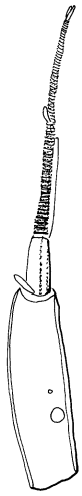
Genus *Boreochlus*

DIAGNOSIS: This genus is separated from other podonomines by long annulate third antennal segment (much longer than segment 2); mentum with 6-8 lateral teeth; mandible without small spines on outer margin; supraanal setae not developed as long dark setae; and procerci lighter anteriorly, darker posteriorly, each procercus with 5 setae.

NOTES: There apparently is only one species, *B. persimilis*, in eastern North America. I've seen numerous adults from several locations in Great Smoky Mountains National Park and northern Georgia. *Boreochlus* larvae are usually found living among mosses, etc., in springs and small streams.

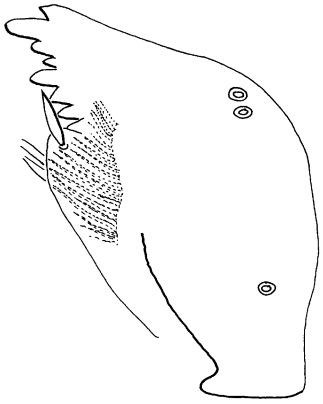
The larvae illustrated below were collected at springs in Ohio and Pennsylvania and are not associated with an adult. An interesting character not mentioned in any previous description of a podonomine larva is the large style (or Lauterborn organ?) at the apex of the annulated 3rd segment that is subequal to the accompanying 4th segment, giving the appearance of a bifid apex

ADDITIONAL REFERENCES: Brundin 1966.

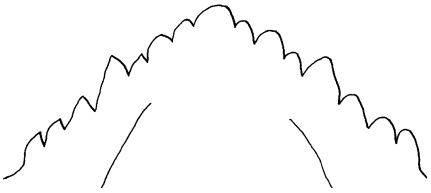


antenna

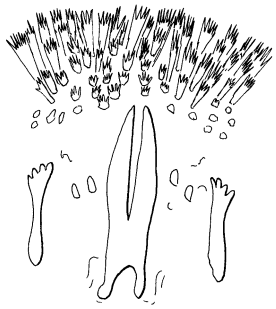
apex of antenna



mandible



mentum



premento-hypopharyngeal area

B. persimilis, larval structures

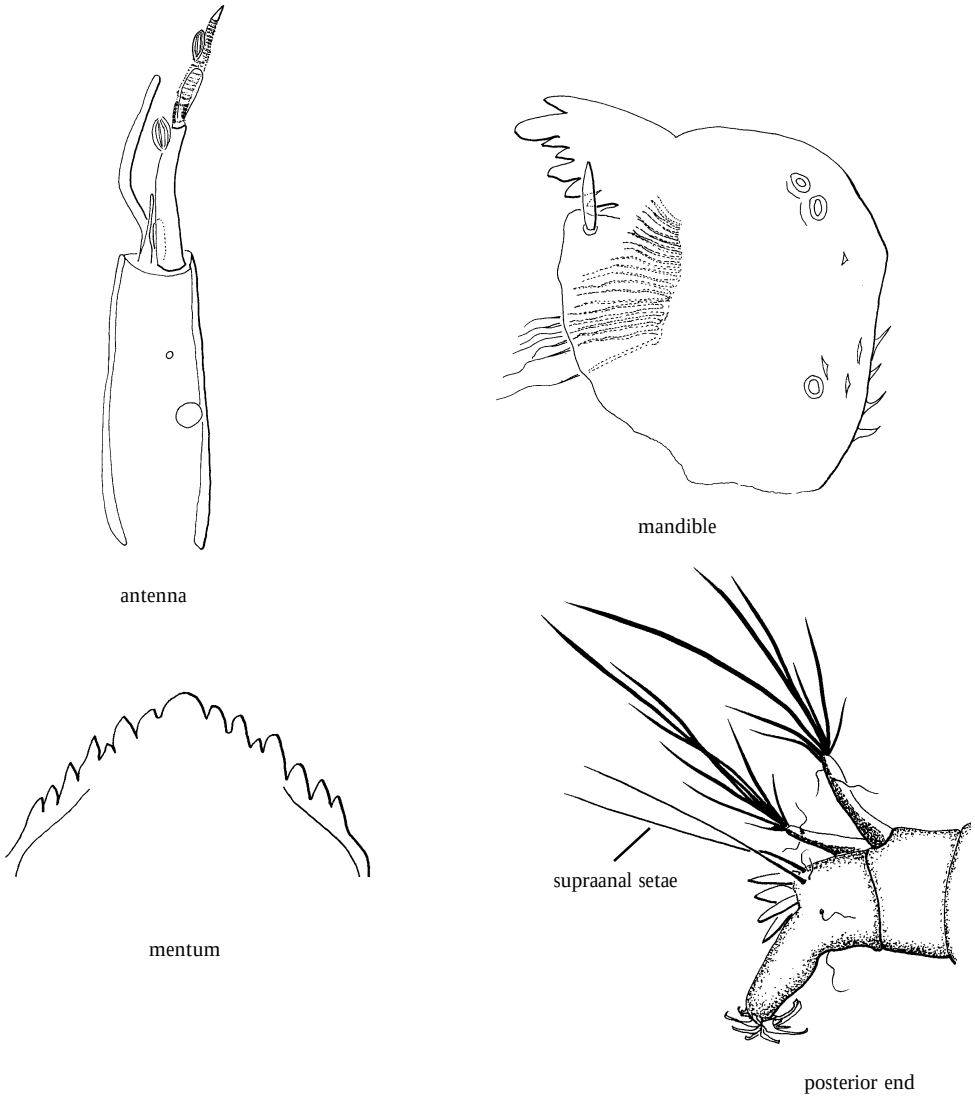
Genus *Paraboreochlus*

DIAGNOSIS: This genus is separated from other podonomines by the shorter annulate third antennal segment (slightly longer than segment 2); mandible with small spines on or near proximal outer margin; mentum with 6-8 lateral teeth; supraanal setae well developed as long dark setae; and procerci lighter anteriorly, darker posteriorly, each procercus with 7-8 setae.

NOTES: One species, *P. stahli*, is known from eastern North America. This genus is recorded from the Smoky Mountains in North Carolina by Beck (1980), based on a single larva from an unnamed stream in Swain Co. I have not seen any material of this genus from the Carolinas; the larva illustrated below was collected in Maine and agrees well with the description of *P. stahli*.

Larvae are reported to occur in mosses in cold springs, seeps and small streams. I collected the larva figured below from a gravel-bottomed stream near a peat bog in Maine. There is some evidence that larvae are hyporheic (Donley, et al. 1999).

ADDITIONAL REFERENCES: Brundin 1966; Coffman et al. 1988; Donley et al. 1999.



P. cf. *stahli*, larval structures