ABLEPTEMETES: A NEW GENUS OF TRICORYTHODINAE (EPHEMEROPTERA: LEPTOHYPHIDAE) FROM MEXICO AND CENTRAL AMERICA[1]

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ABSTRACT: *Ableptemetes*, n. gen., is described for the Mexican and Central American species *A. dicinctus*, n. comb., and *A. melanobranchus*, n. comb., which were previously considered in either *Leptohyphes* or more recently *Tricorythopsis*. The new genus is known only from larvae and can be distinguished among North and Central American genera of the subfamily Tricorythodinae, by the presence of minute posteromarginal spines on abdominal terga 1-10 along with numerous other characteristics such as a double row of submarginal claw denticles. *Tricorythopsis* appears to be confined to South America. The recent keys to the subfamilies and revised genera of North and Central American Leptohyphidae as well as the larval characterization of the subfamily Tricorythodinae are slightly modified to accommodate the new genus and new morphological data associated with it.

KEY WORDS: *Ableptemetes*, Ephemeroptera, Leptohyhiidae, Tricorythodinae, Mexico, Central America.

Wiersema and McCafferty (2000) in their revision of the North and Central American genera of the mayfly family Leptohyphidae transferred the species originally described as *Leptohyphes dicinctus* Allen and Brusca and *L. melanobranchus* Allen and Brusca to the genus *Tricorythopsis* Traver. These species are known only as larvae (Allen and Brusca 1973). Their recombination had been based on the fact that they clearly did not belong to *Leptohyphes* Eaton, along with their apparent similarity with the first description of a larval exuviae associated with an adult *Tricorythopsis* from South America by Molineri (1999). This latter larval representative, although initially ascribed to *T. fictilis* Molineri, has proven to be the type of the genus, *T. artigas* Traver. Wiersema and McCafferty (2000) cautioned that the placement of the Allen and Brusca species in *Tricorythopsis* was contingent on verification from the discovery of their adults, or at least a study of mature larval specimens that may or may not confirm the descriptions of Allen and Brusca (1973) and provide additional descriptive data such as was deemed important in the revisionary work of Wiersema and McCafferty (2000).

Recently, a more comprehensive review of *Tricorythopsis* in South America has become available (Molineri 2001a). Also recently, a large series of mature larvae of *T. dicinctus* has been attained from Belize. The study of these larvae as well as the types of both species in question has revealed numerous characters that were not treated in the original descriptions and in some instances not even apparent in the poorly preserved type material. The newly available data make it obvious that the Allen and Brusca species in question should be removed from *Tricorythopsis* sensu stricto and placed in the newly described genus of the subfamily Tricorythodinae that follows.

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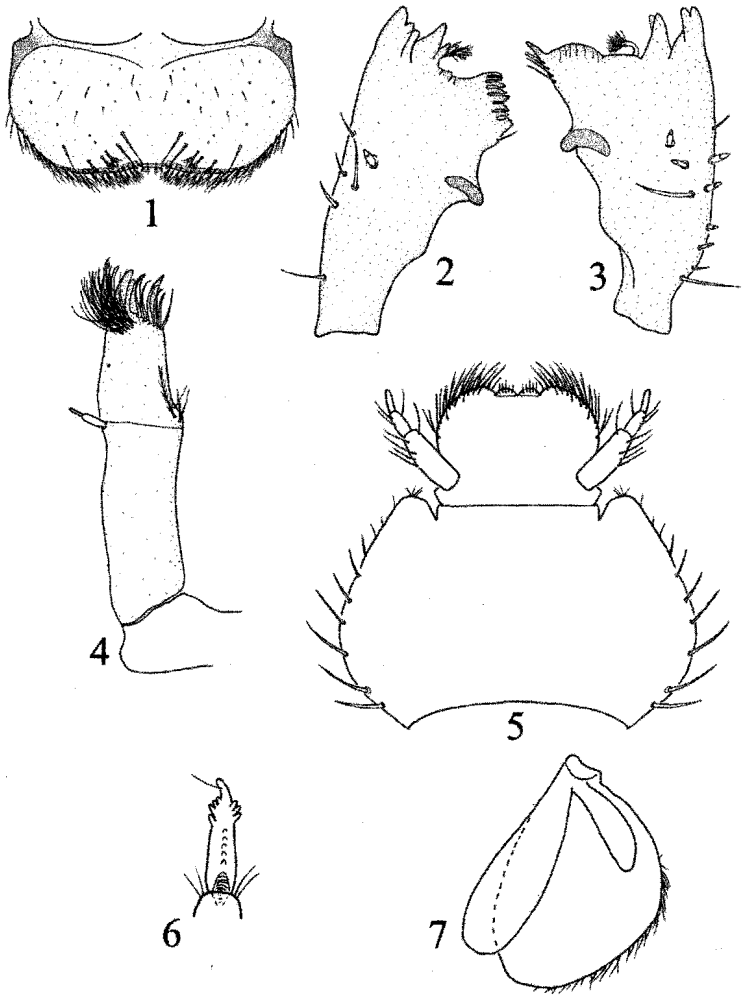
Ableptemetes, NEW GENUS

Larva. Body relatively elongate, known species ranging in mature length from 2.8 to 3.5 mm. Head (Fig. 1 Allen & Brusca 1973) with well-developed frontal shelf, genal projections and frontoclypeal projection (all fringed with stout setae); vertex without tubercles. Compound eyes not sexually dimorphic. Labrum (Fig. 1) width nearly one and one-half times length. Mandibles (Figs. 2 & 3) with reduced molae. Galealaciniae (Fig. 4) with apical denticles pointed in same axis as that of galealaciniae (crown poorly developed). Hypopharynx with lingua slightly emarginate; superlinguae broadly rounded. Labium (Fig. 5) with short, defined glossae; submentum with lateral aspect rounded basally and constricted distally, with basal three-fourths of margin sparsely fringed with stout, medium-length setae, and distal one-fourth essentially bare. Thoracic nota without tubercles, fringed with setae. Hindwingpads absent in both sexes. Legs with anterior and posterior margins with both long and short, stout, bristlelike setae. Forefemora with short and broad, dorsally with transverse row



Figures 1-7. *Ableptemetes dicinctus*, n. comb., 1. Labrum. 2. Left mandible. 3. Right mandible. 4. Maxillae. 5. Labium. 6. Claw. 7. Gill two (ventral view).

of stout, bristlelike setae; hindfemora length subequal to that of hindtibiae and hindtarsi combined. Claws (Fig. 6) with basal denticles, and with two rows of submarginal, subapical denticles, sometimes reduced to one or two denticles on one side. Abdomen more or less triangular in cross-section, with peaked dorsum; terga 1-10 with long, fine, marginal setae laterally and posterolaterally and with short, apically truncate or rounded, posteromarginal spines; middle terga each with medioposterior protuberance fringed with stout setae. Gills present on abdominal segments 2-6; operculate gills (Fig. 7) large, subtriangulate with rounded borders, without submedial or subdistal, unsclerotized bands; ventral gill lamellae without fringes or flaps, length of inner lamellae approximately one-half that of out outer lamellae. Caudal filaments with whorls of setae at each segmental joining.

Adult. Unknown.

Type species. *Leptohyphes dicinctus* Allen and Brusca.

Species included. *Ableptemetes dicinctus* (Allen and Brusca), NEW COMBINATION; *Ableptemetes melanobranchus* (Allen and Brusca), NEW COMBINATION.

Etymology. From the Greek noun "ableptema" (mistake[n]) and the masculine suffix "etes" (one who [was]).

Distribution. Mexico and Central America.

DISCUSSION

The following combination of characteristics will serve to distinguish *Ableptemetes* larvae from known larvae of other defined genera of Leptohyphidae: lack of hindwingpads in both sexes; hindtarsi that are three-fourths to subequal in length to that of their respective tibiae; a mature body length of less than 3.6 mm.; abdominal terga 1-10 with minute posteromarginal spines; an abdomen that is triangulate in cross-section; operculate gills with an inner ventral lamellae approximately one-half of the length of the outer lamellae, and with both lamellae lacking fringes or flaps; and operculate gills that are subtriangulate and devoid of submedial or subdistal, unsclerotized bands.

Couplet 1 of the larval key to the North and Central American genera of Leptohyphidae (Wiersema an McCafferty 2000:356), and thus the larval characteristics associated with the subfamilies Tricorythodinae and Leptohyphinae in North and Central America, require modification to accommodate the new genus and new morphological data presented herein. The modified couplet 1 follows.

1 Posterior margin of abdominal terga 1-6 either without spines, or, in certain small larvae, with minute spines. Hindtarsi more than one-half length of hindtibiae. Hindwingpads absent ..... Tricorythodinae 2

1 Posterior margins of abdominal terga 1-6 or 2-6 with spines. Hindtarsi approximately one-half to much less than one-half length of hindtibiae. Hindwingpads present in males, present or absent in females ..... Leptohyphinae 7

In addition, in the first half of couplet 4 in the larval key, *Tricorythopsis* should be changed to *Ableptemetes*. In using couplet 1 of the adult key to genera (Wiersema and McCafferty 2000: 358), users should go directly to couplet 3, rather than couplet 2 as indicated, if the adult specimen keys to Tricorythodinae. Couplet 2 can be entirely deleted from the adult key.

It is important to reiterate that the key in Wiersema and McCafferty (2000), and as slightly modified herein, is intended for the North and Central American Leptohyphidae only. This was stated emphatically by Wiersema and McCafferty (2000), because of their prediction that numerous genera in South America were yet to be discovered and described. This prediction is now being borne out with recent discoveries of additional genera, for example, by Molineri (2001b, 2002).

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