

**TWO NEW SPECIES OF TRICHOPTERA
FROM TENNESSEE**

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During the past two years, extensive collections of Trichoptera have been made in Tennessee leading toward a comprehensive study of the caddisfly fauna of this state. Two interesting new species which have been discovered in these collections are described in this paper.

I am indebted to Dr. H. H. Ross of the Illinois Natural History Survey for his kindness in providing comparison material and for his comments on the type specimens.

Setodes epicampes n. sp

This species is most closely related to *Setodes incerta* but also shows some similarity to *S. oligia*. It differs from *S. incerta* in that the tenth tergite is produced into a pair of long, tapering, and curved processes which are entirely lacking on *incerta*. Further, this species lacks a pair of filaments which arises at the base of the aedeagus in *incerta*. This new species may be distinguished from both *incerta* and *oligia* by a prominent projection which arises from the mid-dorsal edge of each lateral portion of the aedeagus.

The female of this species closely resembles the female of *oligia* in external appearance, but may be easily distinguished when the internal structures of the posterior abdominal segments are examined. The two pairs of invaginated processes in the ventral portion of the seventh and eighth segments of *S. oligia* females are lacking in this new species.

Male.—Length 6 mm. Wings evenly light brown with hair spread more or less regularly over the surface. The posterior pair of wings evenly cream-colored. The appendages, head, and abdomen are straw-colored, and the thoracic tergites are light brown.

Genitalia as in Figs. 1-3. Tenth tergite produced into a pair of long, tapering processes extending caudally almost to the tips of the claspers. When viewed laterally, these processes are arcuate, bending ventrally from near the midpoint. From the dorsal view, these processes are parallel to near the posterior one-fourth, at which point they curve laterally and then bend sharply mesad, their tips crossing. The claspers are divided into a ventro-mesal quadrate lobe, emarginate to denate at the apex, and a long sinuous, finger-like process arising at its posterodorsal angle. The dorsal process possesses a heavy mesal spine on its basal half, similar to that found in *incerta*. The aedeagus has a cylindrical neck which soon divides into thin lateral sheets, each half with a prominent projection which arises from the

mid-dorsal edge. The long, curved, and sclerotized filaments which originate at the base of the aedeagus in *S. incerta* and *S. oligia* are totally absent in this species.

Female.—Length 6 mm. In gross appearance closely resembling the male although somewhat darker. The anterior pair of wings with cream-colored borders in which few hairs are located. The central area of each wing is darker with a thick covering of hair. The distal end of this darker area is marked by about a dozen small, clear spots in which no hair is found. The posterior pair of wings is evenly cream-colored. The thoracic tergites are light brown, while the head, appendages, and abdomen are straw-colored.

Genitalia as in Figs. 4-5. Tenth tergite hood-shaped, the ninth with a pair of hand-like lobes similar to those of *oligia* but more elongate and somewhat narrower. As has been previously noted, the two pairs of flattened, sclerotized bars which are attached at their posterior ends and lie in the ventral portion of the seventh and eighth segments in *S. oligia* are lacking in this species.

Larva.—Unknown.

Tennessee records of this species are restricted to collections made at Stones River at the Couchville Pike bridge, one and one-half miles west of Couchville. This is about fourteen miles east of Nashville. The species was found to be numerous and appeared in collections from May to September.

Holotype, male.—Stones River at Couchville Pike bridge, one and one-half miles west of Couchville, Davidson County, Tennessee, May 24, 1954. Preserved in alcohol. S. W. Edwards.

Allotype, female.—Same data as holotype.

Paratypes.—Same data as holotype. Three females, four males.

Disposition of the type material.—Holotype and allotype deposited in the U. S. National Museum; paratypes to Illinois Natural History Survey, Vanderbilt University Entomological Collection, and the author's collection.

Agapetus diacanthus n. sp.

Ross (1951) has discussed several aspects of the phylogeny and biogeography of the genus *Agapetus*. He further takes up certain points regarding the dispersal and evolutionary trends of several complexes found in this genus. While, unfortunately, no imagos of the species described in the following paragraphs has been collected, a study of the subimagal genitalia indicates that this species has close affinities with *A. crasmus* and, of course, would be in the American line of *Agapetus* as designated by Ross (1951).

A. diacanthus differs from *crasmus* in the conformation of the tenth tergite which is blunter than that in *crasmus* and is terminated by an apical and a dorsal spine. This dorsal spine is absent in *crasmus*. *A. diacanthus* differs from *illini* in having only a dorsal and apical spine on the apex of the tenth tergite while the tenth tergite in *illini* is irregularly and sharply serrate.

Larva.—Fig. 6. Length 6 mm. Head, pronotum, legs, and anal sclerites light brown. Dorso-posterior edge of the head capsule incised by three shallow notches. Joints of the legs ringed with very narrow bands of dark brown or black. Pronotum with a line of setae on the anterior and posterior margins. Anal hook with one large tooth and one small tooth. Body pinkish to very light brown. Dorsal plate of the ninth abdominal segment with six long, apical setae, as is typical of this genus. The case is oval in outline, 6 mm. in length, and is typical of that found in the Glossosomatinae. The pupal case is about the same size as the larval case, but without the flat ventral strap.

Pupa.—Length 5 mm. Fourth abdominal tergite in the male with an anterior pair of small, ovoid plates bearing two or three spines, and a posterior pair of large rectangular plates which have no spines on them. The fifth abdominal tergite bears an anterior pair of irregularly ovoid plates, as do the sixth and seventh tergites. The abdominal tergites of the female are similarly arranged. The larval sclerites remain in the posterior of the pupal cocoon.

Subimago.—Length 5 mm. Appendages straw-colored. Thoracic tergites dark brown.

Male.—Genitalia as in Figs. 7-8. Claspers short and obliquely truncate, each with a thin black ridge on its inner posterior edge. At the dorso-posterior corner, this black ridge is produced mesally into a short spine. The cerci are short, with rounded ends, their dorsal edges bearing a row of black setae, as in *crasmus*. The tenth tergite is longer than the claspers, and is subtended by a dark, sclerotized bar which is expanded posteriorly into a blunt apical spine and a similarly blunt dorsal spine. This dorsal spine is lacking in *crasmus*.

Female.—Genitalia as in Fig. 9. Rather simple. The eighth tergite is produced posteriorly into a somewhat flattened, elongate projection. The eighth sternite is incised on its posterior margin to form a short, very narrow cleft. Internal apparatus extends anteriorly as far as the posterior edge of the sixth segment. The tenth segment is terminated by a pair of stout bristles, each of which bends sharply laterad to form a right angle midway of its length.

Tennessee records of this species consist of a number of larvae, pupae, and subimagos collected from a cold spring located about halfway up the side of the Cumberland Plateau one and

FIG 1

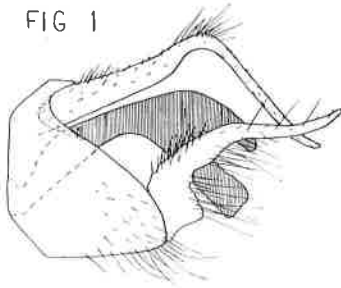


FIG 2

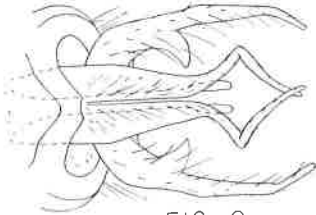


FIG 3

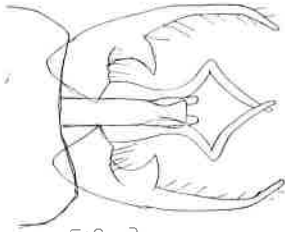


FIG 4

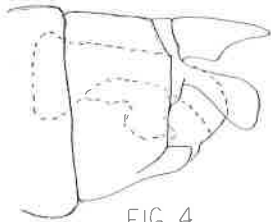


FIG. 5

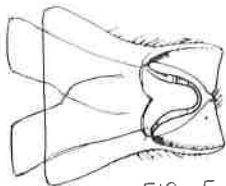


FIG 6



FIG. 7

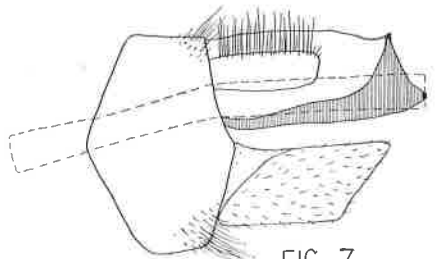


FIG. 8

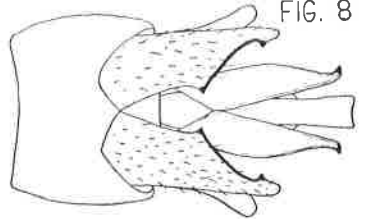
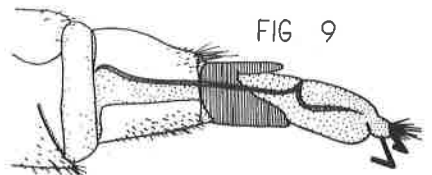


FIG 9



one-half miles northwest of Dunlap, Tennessee, on Tennessee highway 108.

Holotype, male.—One and one-half miles northwest of Dunlap, Sequatchie County, Tennessee, on state highway 108, June 23, 1953. Preserved in alcohol. S. W. Edwards.

Allotype, female.—Same data as holotype.

Paratypes.—Same data as holotype. Seven males, four females.

Disposition of the type material.—Holotype and allotype deposited in the U. S. National Museum; paratypes to Illinois Natural History Survey, Vanderbilt University Entomological Collection, and the author's collection.

LITERATURE CITED

Ross, H. H. 1951. Phylogeny and biogeography of the caddisflies of the genera *Agapetus* and *Electragapetus*. *J. Wash. Acad. Sci.* Vol. 41, No. 11.

Explanation of figures.—Figures 1-5, genitalia of *Setodes epicampes*. Figures 6-9, larva and genitalia of *Agapetus diacanthus*.

Fig. 1. *Setodes epicampes*, male genitalia, lateral view.

Fig. 2. *S. epicampes*, male genitalia, dorsal.

Fig. 3. *S. epicampes*, male genitalia, ventral.

Fig. 4. *S. epicampes*, female genitalia, lateral.

Fig. 5. *S. epicampes*, female genitalia, dorsal.

Fig. 6. *Agapetus diacanthus*, larva, dorsal.

Fig. 7. *A. diacanthus*, male genitalia, lateral.

Fig. 8. *A. diacanthus*, male genitalia, ventral.

Fig. 9. *A. diacanthus*, female genitalia, lateral.

THE TRICHOPTERA OF REELFOOT LAKE WITH DESCRIPTIONS OF THREE NEW SPECIES

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For the past two summers, the writer has made periodic collections of Trichoptera on and around Reelfoot Lake as an adjunct to a taxonomic study of the Trichoptera of Middle and West Tennessee. Reelfoot Lake is a large lake which was formed by a series of earthquakes in 1810-11 and is located in the extreme northwest corner of Tennessee. Emphasis was placed on this lake as an area unique in Tennessee which varies from terrestrial through marsh to aquatic situations, and which may be considered comparable in many respects to certain areas in Illinois, such as the Dead River Marsh (Ross, 1944), where the caddisfly fauna is known. For this reason, it seemed desirable that Reelfoot Lake be studied, both to learn the composition of the caddisfly population of this unusual lake and to supplement the work being done in Middle and West Tennessee.

While there have been several excellent studies on insects of the Reelfoot Lake area, they have been limited to Notonectidae (Rice, 1942), Culicidae (Brown and Pearson, 1938; Quinby, 1941), and the Odonata (Koen, 1937; Wright, 1938, 1946). No previous work has been done on the Trichoptera of this region.