# TWO NEW SPECIES OF *OECETIS* OCCURING IN EASTERN NORTH AMERICA (TRICHOPTERA, LEPTOCERIDAE)

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ABSTRACT.—Two new species of caddisflies occurring in eastern North America resemble *Oecetis inconspicua* (Walker) to a remarkable degree: *O. nocturna* from Ark., D. C., Ill., Ind., Mo., Okla., Penn., and Tenn.; and *O. ditissa* from Ill., Ind., Ohio, and Tenn. Illustrated keys differentiate these three species.

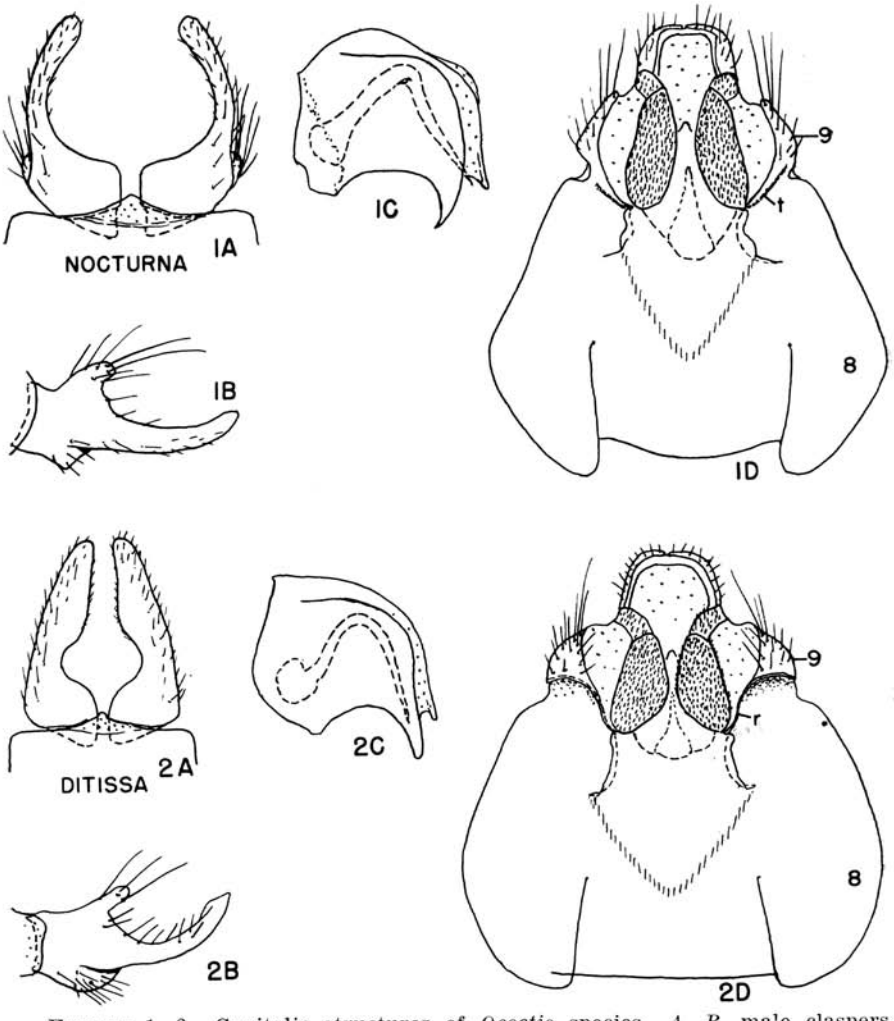
Among the more abundant elements of the midwestern caddisfly fauna are members of the genus *Oecetis*, whose species are long and slender, and have unusually long antennae. Most of the species are colored alike—yellowish brown with some obscure spotting. Diagnostic characters are to be found in the male and female external genitalia. Two midwestern members of the genus appear to be new to science and are here formally named.

The two species described in this paper are remarkably similar to *Oecetis inconspicua* (Walker), and it is likely that all three species are masquerading under this name in many collections. Characters to differentiate the three are given following the new descriptions. Unlike the transcontinental range of *O. inconspicua*, the ranges of the two new species appear to be restricted to the central part of the eastern temperate deciduous forest. From central Illinois south through Tennessee and from western Arkansas to Washington, D. C., all three species may occur in the same locality and in some instances have been taken together in the same light trap. The two new species have not been reared but it should be assumed that their larvae may be extremely similar to those of *O. inconspicua*.

Types described in this paper are deposited in the collection of the Illinois Natural History Survey except as noted. Illustrations are of the holotypes and allotypes, respectively.

## *Oecetis nocturna*, new species

*Male.*—Length from tip of head to end of folded wings, 9 mm. Color brown with a reddish cast, the ventral areas of body and the legs lighter, almost straw color. Wings also light brown with a distinct darker bar across the cord. General structure typical for genus. Genitalia, Fig. 1 *A-C*, similar in general shape to those of *O. inconspicua* (Walker), diagnostic characters being present in the claspers and the aedeagus. Cerci, tenth tergite, and shape of ninth segment as in *O. inconspicua*. Clasper with a narrow profile; mesal aspect with a broad base tapering rapidly to an almost tubular long apical portion; the bases of the two claspers almost meeting on the meson and slightly overlapped by a small, wide, membranous projection of the eighth sternite. Aedeagus deep and




FIGURES 1, 2.—Genitalic structures of *Oecetis* species. *A*, *B*, male claspers, ventral and lateral aspects, respectively; *C*, aedeagus, lateral aspect of left side; *D*, female terminalia, ventral aspect. 8, 9, eighth and ninth segments, respectively. *r*, *t*, ventral ridge and thickening along posterior margin of ninth segment.

in general somewhat ovoid, its apex projecting ventrally into a down-pointed beak whose tip is pointed in posterior view; internal curved spine large and heavily sclerotized.

*Female.*—Length 8.5 mm. Color and general structure similar to male. Sides of ninth segment tapering ventrally to narrow points that join the bases of the subgenital lobes, Fig. 1 *D*. Ventral face of each subgenital lobe elongate and covered with a dense mass of short spines, the anterior end of each lobe joined to smooth triangular area of eighth sternite by a short, arcuate flange. Spermatheca well defined, its base slightly trianguloid, with a prominent anteroventral slender sclerotized process.

*Holotype* male, *allotype* female, and one male and one female *paratypes*.—Hollister, Mo., May 16, 1938, at light, Mrs. Vitae Kite. *Paratypes*. — ALA-

BAMA: Collinsville, June 20, 1960, at light, H. B. Cunningham, one male; Columbiana, July, 1941, C. M. Wetzel, two males, one female; ARKANSAS: Mt. Pine, June 5, 1937, H. H. Ross, one male; DISTRICT OF COLUMBIA: Washington, at light, May 31, 1956, C. A. Ross, one male; ILLINOIS: Benton, June 10, 1946, H. H. Ross, two males; Carbondale, May 6, 1938, at light, Frison and Ayars, one male; LaRue, McCann School, May 26, 1939, Burks and Riegel, one male, one female; Meredosia, May 14, 1934, Frison and Ross, one male; Quincy, near Cave Spring, July 6, 1939, Mohr and Riegel, two males, three females; St. Marie, September 11, 1956, Ross and Selander, two males; Urbana, July 22, 1958, light trap, R. Klatt, one male; Ziegler, August 21, 1933, J. Karlovich, one female; INDIANA: 2 miles east of Loogootee, at light, August 5, 1958, F. Schmidt, one female; Rogers, September 8, 1936, at light, Ross and Burks, six males; Shoals, White River, September 10, 1936, Ross and Burks, three males; MISSOURI: Hollister, June 5, 1938, Mrs. Vitae Kite, three males; Hollister, July 14, 1938, Mrs. Vitae Kite, three males; OHIO: Cambridge, September 13, 1936, T. H. Frison, one male; OKLAHOMA: Mt. Fork River, Hochatown, May 6, 1939, R. and K. Weddle, two males; Reagan, Pennington Cr., October 15, 1937, K. and R. Weddle, eight males; PENNSYLVANIA: Willow Hill, at light, June 8, 1959, Ross and Ross, two males; TENNESSEE: Jackson, May 13, 1957, light trap, Ross and Stannard, two males; Perryville, small stream, May 21, 1959, Ross and Stannard, one female; Springfield, May 13-27, 1957, light trap, Ross and Stannard, four males (one abdomen only).

## *Oecetis ditissa*, new species

*Male.*—Lenth, color, and general structure similar to the preceding species. Genitalia, Fig. 2*A-C*. similar in general shape to those of *O. inconspicua* (Walker), diagnostic characters being present in the claspers and the aedeagus. Clasper profile with a moderately broad bamse, a dorsal thumb-like projection, and a long curved apical arm; mesal aspect broad, the mesal margins deeply incised and the apical portion wide and flat; the bases of the two claspers close together on meson, separated by only a small membranous projection of the ninth sternite. Aedeagus short and deep, its apex bent ventrally and forming a fairly long narrow beak; internally there is a stout, heavily sclerotized, twisted rod.

*Female.*—Length 8.5 mm. Color and general structure similar to male. Sides of ninth tergite tapering ventrally to narrow points that join the bases of the subgenital lobes, Fig. 2 *D*. From the base of each subgenital lobe arises a short anterior flange and another sinuate thin flange that proceeds posteriorly and curves laterally around the ninth segment; this latter flange is also the posterior border of a marked concavity. Spermatheca well defined, its anterior margin ovoid.

*Holotype* male, *allotype* female, and one male and one female *paratypes*.—Grand Tower, Jackson County, Illinois, May 30, 1935, at lights, H. H. Ross and C. O. Mohr. *Paratypes*.—ILLINOIS: LaRue, McCann School, May 26, 1939, Burks and Riegel, five male, three female; Libertyville, July 18, 1938, Burks and Boesel, one female; Quincy, near Cave Spring, July 6, 1939, Mohr and Riegel, three males; Urbana, July 8, 1930, H. H. Ross, one female; Urbana, June 29, 1958, at light, R. Klatt, one male; Urbana, August 22, 1958, light trap, R. Klatt, two males; Urbana, August 1-5, 1959, one male; INDIANA: Hovey Lake, Ent. Recon. Stn. 1, July 31-October 3, 1958, sixteen males, seven females; Jeffersonville, July 7, 1957, light trap, F. Schmidt, one male; 2 miles east of Loogootee, at light, August 5, 1958, F. Schmidt, one male; OHIO: Englewood, Stillwater River, July 31, 1939, T. H. Frison and T. H. Frison, Jr., one male, two females; TENNESSEE: Alcoa, May 6, 1957, light trap, two males; Columbia, May 6 and 13, 1957, light trap, two males; Greeneville, April 29-May 27, 1957, light trap, nine males (two, abdomens only), two females (abdomen only); Jackson, May 13-20, 1957, light trap, three males; Loretto, May 13, 1957, light trap, one male; Springfield, May 13-27, 1957, light trap, seven males (one, abdomen only); Sweetwater, May 6, 1957, two males.

### Diagnosis

In existing keys both of these new species will key to *Oecetis inconspicua*. In the key given by Ross (1944, p. 237), males of the two new species will key readily to couplet 9. The following couplets will separate

the males of *O. inconspicua, ditissa,* and *nocturna,* and the related *O. immobilis* (Hagen):

9. Aedeagus considerably longer than deep, with a large, ventral, preapical beak (Ross 1944, Fig. 823*A*) ..... *immobilis* (Hagen)
Aedeagus very deep, almost as deep as long, with a ventral beak of various proportions but always near apex, Figs. 1*C*, 2*C*..... 9A

9A. Ventral beak of aedeagus short; apical margin of ninth segment forming a sclerotized rounded or truncate lobe between the bases of the claspers (Ross 1944, Figs. 824*A*, *B*); the process of the ninth sternite may be smaller than in this figure ..... ..... *inconspicua* (Walker)
Aedeagus with the ventral beak longer, Figs. 1*C*, 2*C*; apical margin of ninth segment forming only a minute membranous projection between the bases of the claspers, Figs. 1*A*, 2*A*..... 9B

9B. Ventral aspect of claspers with the apical portion narrow and almost finger-like, Fig. 1*A*; beak of aedeagus sometimes slightly recurved at tip, Fig. 1*C*..... ..... *nocturna* Ross
Ventral aspect of claspers with apical portion beyond the central constriction expanded and forming a flat wide area, Fig. 2*A*; ventral beak of aedeagus not at all reflexed, Fig. 2*C*..... ..... *ditissa* Ross

The females of both new species will key in Ross (1944, p. 239-240) to the species *O. inconspicua,* in the first alternative of couplet 16. *O. inconspicua* and the two new species may be separated by the following additional couplets:

1. Lateral-ventral portions of ninth segment wide and bandlike, terminating ventrally in a long flange (Ross 1944, Fig. 831)..... ..... *inconspicua* (Walker)
Lateral-ventral portions of ninth segment narrowed to thin straps that connect with the base of the subgenital plates, Figs. 1*D*, 2*D* ..... 2

2. Ventral strap of ninth segment having a sinuate ridge (*r*) from base of subgenital plate and proceeding laterally across the base of the segment; anterior to this ridge is a concavity, Fig. 2*D*.... ..... *ditissa* Ross
Ventral strap of ninth segment having a fairly straight sclerotized thickening (*t*) proceeding from the base of the subgenital plate toward the lateral margin, Fig. 1*D* ..... *nocturna* Ross

ACKNOWLEDGMENT

This investigation was supported by a research grant from the National Science Foundation.

I wish to acknowledge the very able assistance of Dr. J. M. Kingsolver, formerly with the Illinois Natural History Survey, in making some of the preliminary drawings for this paper and for his help in sorting out much of the material on which this paper is based.

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*Manuscript received July 1, 1965.*