

**TWO NEW SPECIES OF CADDISFLIES FROM GEORGIA  
(TRICHOPTERA: POLYCENTROPODIDAE, HYDROPTILIDAE)**

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*Abstract.*—Two new species of Trichoptera from a small, black water stream in central Georgia are described and illustrated. *Polycentropus thaxtoni* n. sp. (Polycentropodidae) is a member of the *confusus* species-group and *Hydroptila roberta* n. sp. (Hydroptilidae) is a member of the *consimilis* species-group.

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Two new species of caddisflies were collected during an inventory of the Trichoptera of Spring Creek, Georgia. Spring Creek is a small, second order, black water stream located about five miles south-southeast of Roberta, Crawford County. Several species of southeastern caddisflies have been described from this area, including the rarely collected *Beraea gorteba* Ross (Beraeidae). The caddisfly fauna of the creek is rather diverse with 99 species in 16 families (Rothschild et al., in prep.).

Types will be deposited in the National Museum of Natural History, Smithsonian Institution (NMNH) and the Clemson University Entomological Collection (CLEM).

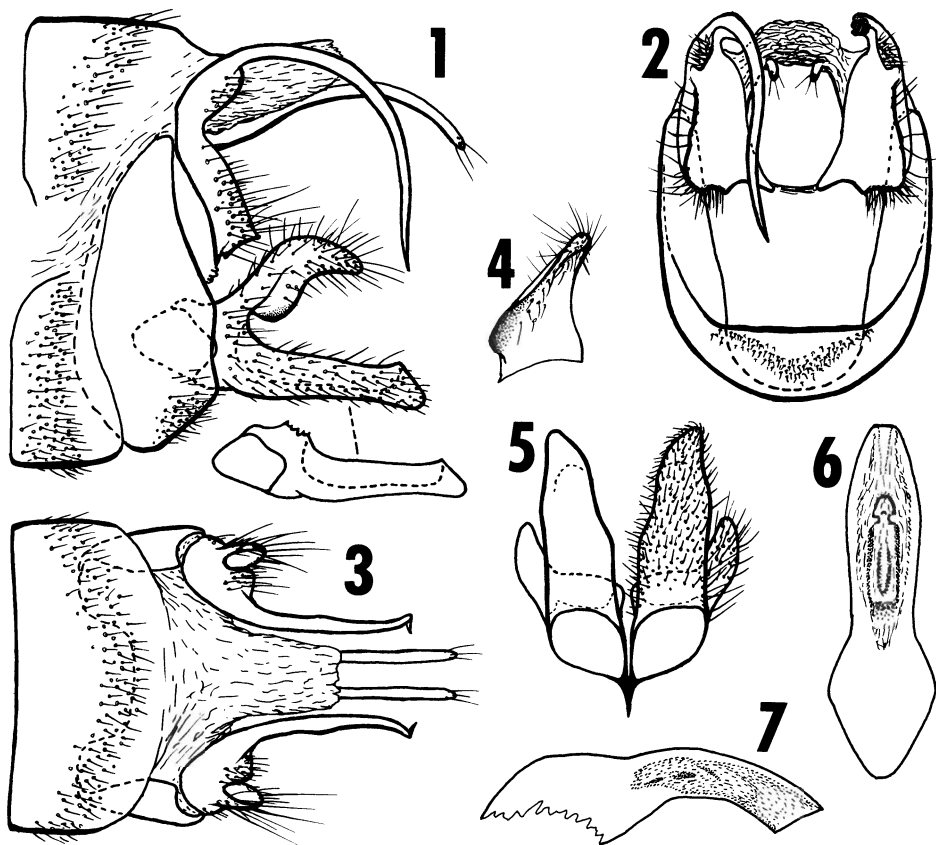
***Polycentropus thaxtoni* NEW SPECIES**

Figs. 1-7

This species is a member of the *confusus* species-group (Ross, 1941 = *maculatus* group, Ross, 1944) of *Polycentropus sensu stricto*, members of which have the following characters: inferior appendages each with a stalked dorsobasal process; preanal appendages each with an elongate, curved dorsal portion; intermediate appendages each slightly curved, elongate, originating from the ventral surface of the otherwise membranous abdominal segment X; phallic apparatus with well developed, sclerotized phallobase, but with the remainder almost completely membranous.

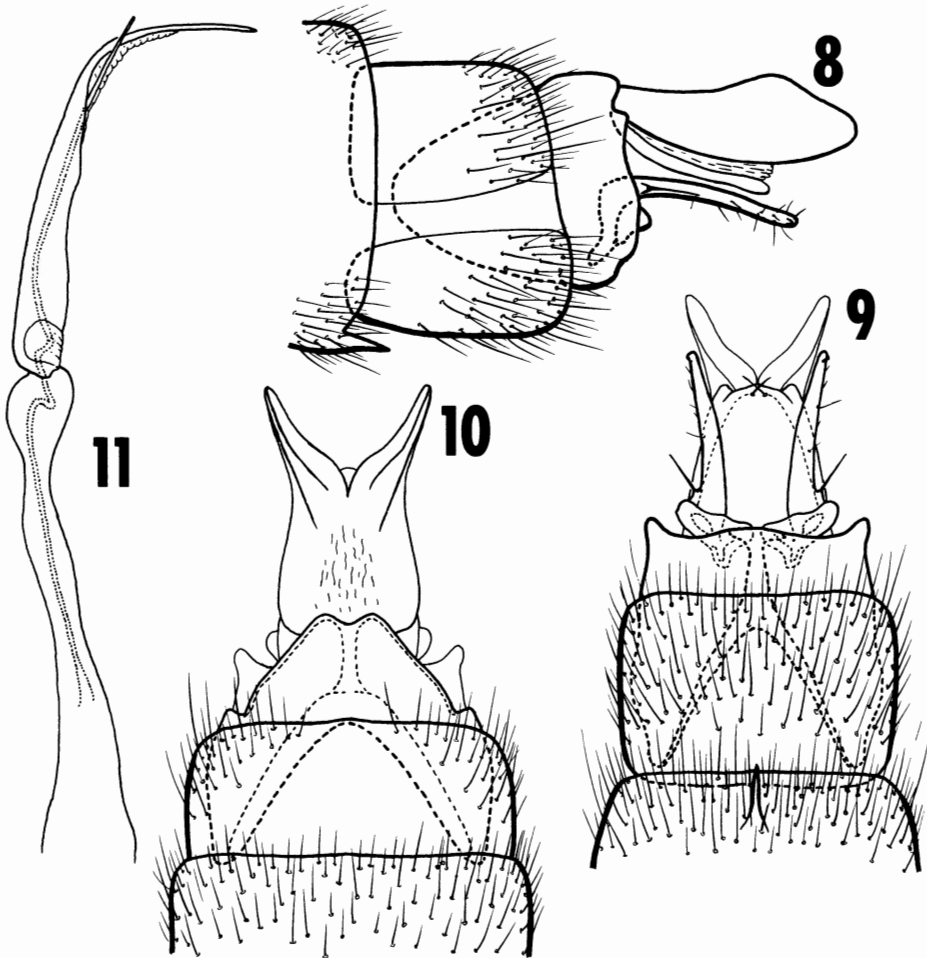
*Polycentropus thaxtoni*, n. sp., is most closely related to *P. chelatus* Ross and Yamamoto, *P. confusus* Hagen, *P. floridensis* Lago and Harris, *P. neiswanderi* Ross, and *P. pentus* Ross. It can be separated from these five species by the long, dorsally excavated ventral portion of each inferior appendage; the broad, posterior emargination on the basal portion of each preanal appendage; and the absence of a basoventral protuberance on the phallobase.

Male.—Length of forewing 5.9 mm. Color and structure typical for *confusus* species-group. Genitalia as in Figs. 1-7. Abdominal segment IX two-thirds height of segment VIII, narrow, acutely angled dorsally, with mesoventral patch of short



Figs. 1-7. *Polycentropus thaxtoni*, male genitalia. 1, Left lateral. 2, Posterior. 3, Dorsal. 4, Dorsobasal process of right inferior appendage, caudoventral. 5, Inferior appendages, ventral. 6, Phallic apparatus, dorsal. 7, Phallic apparatus, left lateral.

setae. Paired intermediate appendages positioned ventrally on segment X; each elongate, narrow, with apex setose, curved gradually posteroventrad. Each preanal appendage composed of basal portion and long, slender dorsal process; basal portion narrow in lateral aspect, with broad emargination just above middle, posteroventral corner pointed, posterodorsal corner broadly rounded; in posterior aspect, basal portion curved mesad below phallocrypt, but not meeting at meson; long, spine-like dorsal process evenly curved caudad, then ventrad, straightening at apex. Inferior appendages each with main, ventral portion and prominent dorsobasal process: ventral portion, in lateral aspect, nearly straight, with dorsomesal surface excavated nearly to apex; in ventral aspect, narrowed slightly distad of middle and again at apex, lateral edge slightly sinuate; dorsobasal process visible laterally in ventral aspect, in lateral aspect, with short, narrow stalk and broad, curved apical portion; in caudoventral aspect, stalk nearly as broad as greatest width of apical portion; apical portion roughly triangular with a meso-basal, darkened, rounded projection. Phallobase well developed and sclerotized; in lateral aspect with bulbous base and narrow, slightly curved apical region; basoventral protuberance lacking; remainder of phallic apparatus membranous except ejaculatory duct sclerite, retracted within phallobase.



Figs. 8–11. *Hydroptila roberta*, male genitalia. 8, Left lateral. 9, Ventral. 10, Dorsal. 11, Phallic apparatus, dorsal.

**Holotype.**—♂, Georgia, Crawford County, Spring Creek above pond at Camp Eunice, approx. five miles SSE of Roberta (ca. 32°40'N, 83°59'W), 8.ix.1983, S. W. Hamilton, R. W. Holzenthal (NMNH).

**Paratypes.**—♂, same data as holotype (CLEM); ♂, same data as holotype except, 29.ix.1983 (NMNH).

**Etymology.**—We take pleasure in naming this species for the late Edgar Thaxton, upon whose property it was discovered, in recognition of his generous hospitality and interest in our research.

***Hydroptila roberta* NEW SPECIES**

Figs. 8–11

This species is a member of the large *consimilis* species-group of Marshall (1979). It resembles *H. strepha* Ross, *H. quinola* Ross, *H. circumgula* Harris, and *H. paralatosa* Harris in the general form of the male genitalia. The narrow, elongate, curved apex of the phallic apparatus; the protruding ejaculatory duct;

the broad, deeply cleft abdominal segment X; and the presence of apicolateral processes on the truncate subgenital plate distinguish it from other *consimilis*-group species.

Male.—Length of forewing 2.3 mm. Genitalia as in Figs. 8–11. Abdominal sternite VII with acuminate apicomesal process. Segment VIII nearly quadrate in lateral aspect, tergite slightly larger than sternite; heavily setose. Segment IX, in lateral aspect, generally triangular, about three-fourths height of VIII; with “T”-shaped, mesoventral apotome, best seen in ventral aspect. Segment X lightly sclerotized, with paired divergent apicolateral extensions; in lateral aspect, widest two-thirds distance from base. Subgenital plate two-thirds length of segment X, three-fourths length of inferior appendages; in ventral aspect, roughly trapezoidal, with short, apicolateral extensions and pair of apicomesal setae. Inferior appendage, in ventral aspect, elongate, narrow, with proximal, mesal flange and very short basolateral seta-bearing process; in lateral aspect, appendage slender, very slightly sinuate, with robust ventral flange proximally and small lateral point apically. Phallic apparatus elongate; basal portion of varying width to bulbous region next to distal portion; distal portion with apical one-third attenuated, curved; ejaculatory duct exceeding membrane, exposed portion sclerotized; paramere absent.

Holotype.—♂, Georgia, Crawford County, Spring Creek below pond at Camp Eunice, approx. 5 miles SSE of Roberta (ca. 32°40'N, 83°59'W), 5.vi.1981, S. W. Hamilton, M. Rothschild, ultraviolet light (NMNH).

Paratypes.—♂, same data as holotype, except above pond, 11.vi.1983, S. W. Hamilton, Malaise trap (CLEM); 5 ♂, same data, except above pond at old log bridge, 27.v.1983, S. W. Hamilton, R. W. Holzenthal, ultraviolet light (CLEM, NMNH); ♂, same data as 27.v.1983 paratype, except 10.vi.1983 (NMNH).

Etymology.—We name this species after the small town of Roberta, about five miles north of the type locality.

#### ACKNOWLEDGMENTS

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#### LITERATURE CITED

- Marshall, J. E. 1979. A review of the genera of the Hydroptilidae (Trichoptera). Bull. British Mus. (Nat. Hist.), Entomol. 39: 135–239.
- Ross, H. H. 1941. Descriptions and records of North American Trichoptera. Trans. Am. Entomol. Soc. 67: 35–126, 13 plates.
- . 1944. The caddisflies, or Trichoptera, of Illinois. Ill Nat. Hist. Surv. Bull. 23: 1–326.
- Rothschild, M., R. W. Holzenthal, and S. W. Hamilton. In prep. The diversity and phenology of Trichoptera from Spring Creek, Georgia.