

NEW EASTERN SPECIES AND A NEWLY REPORTED
INTRODUCTION OF TYPHLOCYBA
(HOMOPTERA, CICADELLIDAE)

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During the procedure of identification of material in the genus *Typhlocyba* in the course of preparation of the second part of the "Leafhoppers of Illinois," a few interesting new species have been encountered which are described in this paper. To aid in comparison, illustrations of two other species are added.

The species of *Typhlocyba* have previously been grouped by McAtee¹ on the basis of differences in wing venation. The variation of the venation in individuals is sufficient, however, to frequently warrant the placing of individuals of the same species in different groups as defined by McAtee. It would appear that it will be necessary eventually to group the species of the genus on the basis of male genital characters rather than upon the basis of wing venation. No attempt has been made, therefore, in describing these species to place them in the groups established on the basis of wing venation.

We wish to thank Dr. R. H. Beamer for his opinions concerning certain of the species, and Dr. P. W. Oman who has very kindly compared material and drawings of *eurydice* with McAtee's type which is now in the U. S. National Museum.

In the interests of clearer description, it has seemed advisable to introduce an additional term with regard to the aedeagus, a term which will be found useful throughout the Cicadellinae. The aedeagus is divided into three fairly distinct parts, the base (*socle* of Ribaut), which is the part actually set in the membrane which connects the aedeagus to surrounding body members; a freely projecting portion usually termed the "free part of the aedeagus" or some equivalent phrase, and for this part we propose the term *phalicata*; and various style-like processes arising from the base itself or from the area where the *phalicata* joins the base. These latter processes have been called ventral processes, appendages of the aedeagus, and other phrases; for these it seems very convenient to use the term processes, which can be modified by various adjectives to indicate numbers and positions.

Unless otherwise specified, types described in this paper are in the collection of the Illinois Natural History Survey.

***Typhlocyba tortosa* new species**

This species appears most closely related to *cassiopeia* Knull, but differs from it radically in the shape of the pygofer and the shape of the *phalicata*, which in *cassiopeia* has a pair of very long lateral processes and a large mesal lobe, but in *tortosa*, fig. 1, has the apex divided into a pair of quite short lateral processes with no appreciable mesal lobe. Length male 3 mm.

Color, white without markings.

Male pygofer broad at apex with a slight indication of a spine on the dorsal caudal margin. The aedeagus in lateral view has a *phalicata* which is gradually tapered to a slender attenuated apex. In ventro-caudal view the *phalicata* is elongate, rather uniform in width to the apical

¹Revision of the American Leaf Hoppers of the Jassid Genus *Typhlocyba*. Proc. U. S. N. M. 68: 1-47, 6 pl. 1926.

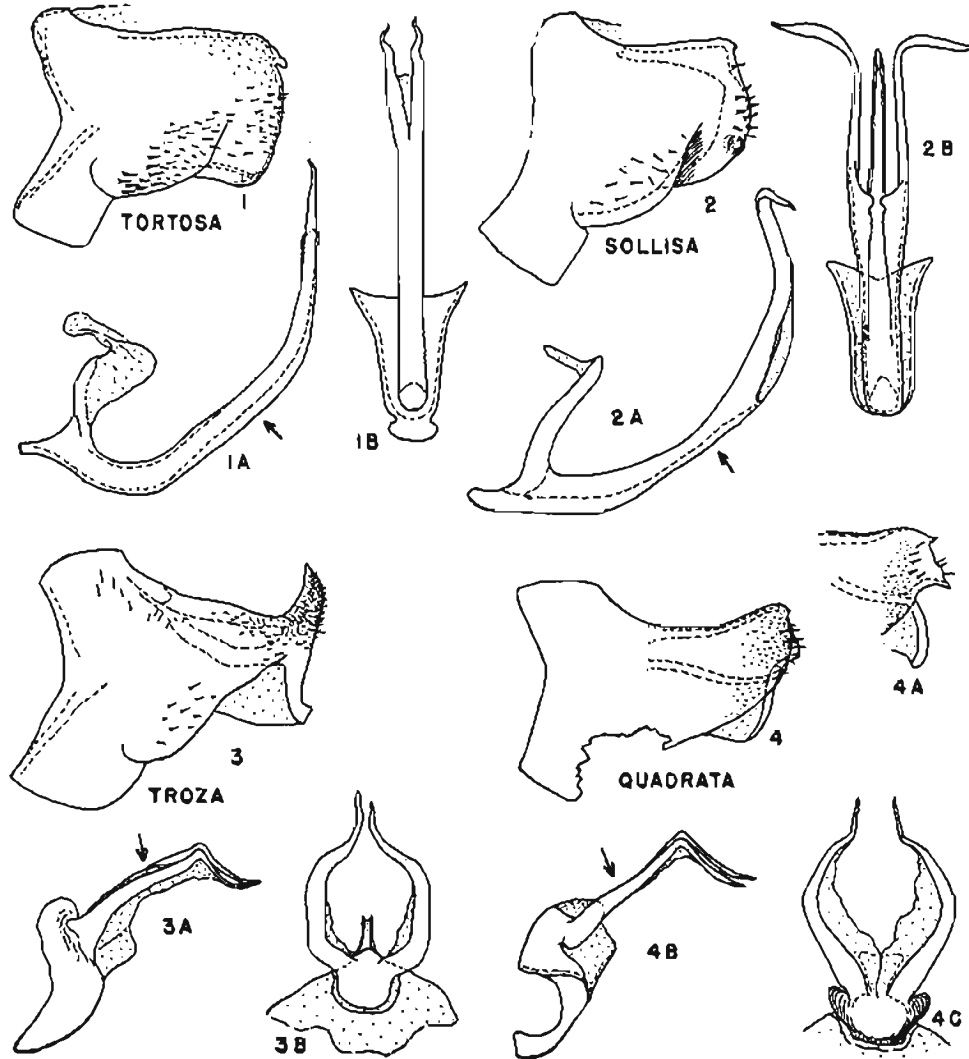
portion which is divided on the apical fourth, forming a pair of somewhat divergent, tapered, pointed apical processes.

Holotype, male—Oakwood, Illinois, June 14, 1936, C. O. Mohr.

Typhlocyba sollisa new species

This species is most closely related to *putmani* Knull, differing in having the phallicata subdivided less than half way to its base in forming the mesal and pair of lateral processes, fig. 2. The lateral processes are also curved to nearly a right angle and the base of the aedeagus is narrow in lateral view. Length male 3.5 mm.

Color, pale yellow, with paler areas on vertex, pronotum and scutellum. The wings darker yellow subhyaline to the cross veins. The veins conspicuously yellow. Apex subhyaline, not tinted.



Male Genitalia of *Typhlocyba*

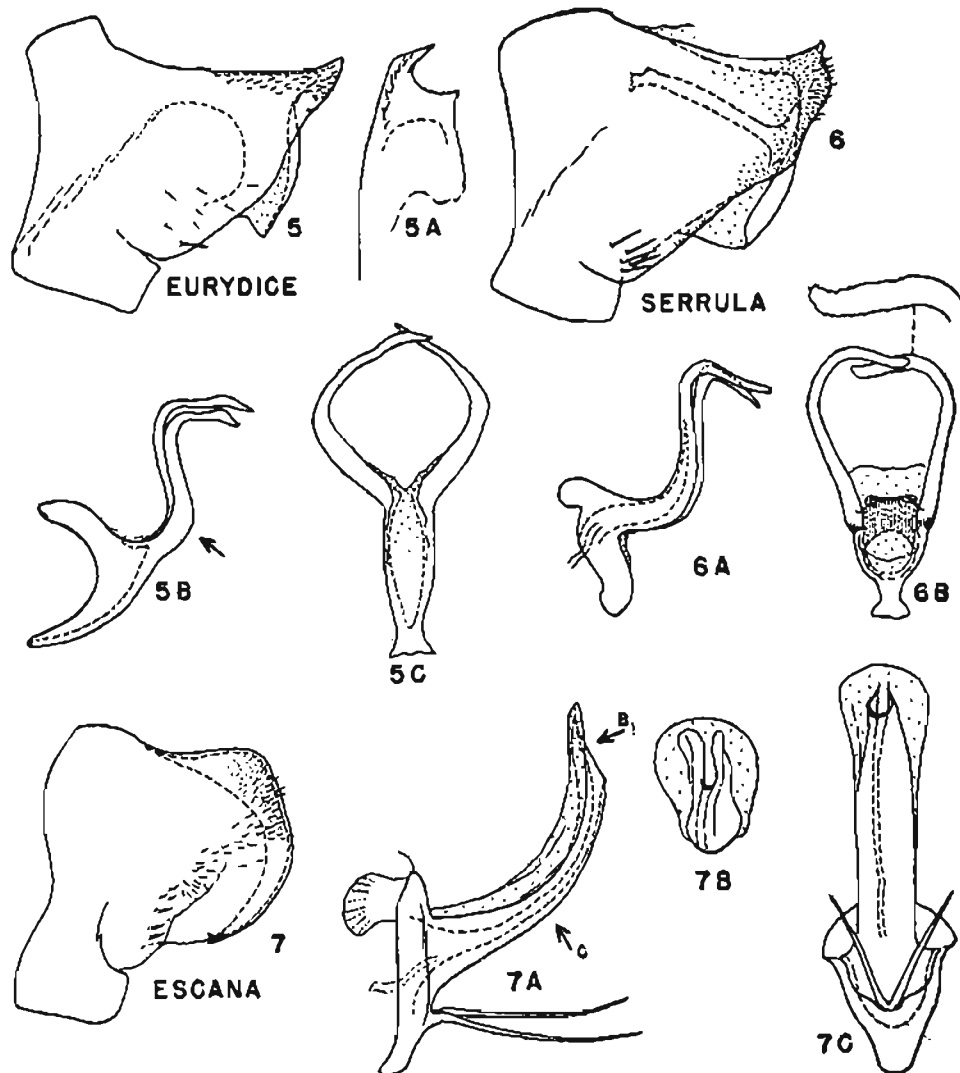
FIG. 1. *T. tortosa* n. sp., pygofer, lateral aspect; 1A, aedeagus, lateral aspect; 1B, aedeagus, posteroventral aspect from direction of arrow in 1A. FIG. 2. *T. sollisa* n. sp., pygofer, lateral aspect; 2A, aedeagus, lateral aspect; 2B, aedeagus, posteroventral aspect from direction of arrow in 2A. FIG. 3. *T. troza* n. sp., pygofer, lateral aspect; 3A, aedeagus, lateral aspect; 3B, aedeagus, dorsal aspect from direction of arrow in 3A. FIG. 4. *T. quadrata* D. & J., pygofer, lateral aspect; 4A, tip of pygofer, posterolateral aspect; 4B, aedeagus, lateral aspect; 4C, aedeagus, dorsal aspect from direction of arrow in 4B.

Male pygofer rather broad at apex without apical spine. Aedeagus with the phallicata divided at more than half its length to form three processes, a slender mesal process and a pair of lateral processes which are slender, rather widely separated, extending apically almost parallel to near apices which are divergent and curved apically.

Holotype, male—Grand Tower, Illinois, May 30, 1935, Ross and Mohr.

Typhlocyba troza new species

The curious shape of the aedeagus indicates a very close relationship between this species and *quadrata* D. & J., but the two differ markedly in characters of the pygofer. In *troza* this structure ends in a long vertical sharp projection which continues ventrad into a stout arm,



Male Genitalia of *Typhlocyba*

FIG. 5. *T. eurydice* McAtee, pygofer, lateral aspect; 5A, pygofer, posterior aspect; 5B, aedeagus, lateral aspect; 5C, aedeagus, posteroventral aspect from direction of arrow in 5B. FIG. 6. *T. serrula* n. sp., pygofer, lateral aspect; 6A, aedeagus, lateral aspect; 6B, aedeagus, posterolateral aspect, same orientation as for 5C. FIG. 7. *T. escana* n. sp., pygofer, lateral aspect; 7A, aedeagus, lateral aspect; 7B, phallicata from direction of arrow B in 7A; 7C, aedeagus, ventral aspect from direction of arrow C in 7A.

In Figs. 1-7 illustrations of the aedeagus are 1.5 times the magnification of the pygofer.

Fig. 3; in *quadrata* the pygofer has no such projection, but instead curves mesad and forms an irregularly and obliquely truncate lobe, Figs. 4, 4A. The two differ also in details of the aedeagus. In *troza* the dorsal part of the base of this structure is narrow and the lateral arms form an almost rectangular enclosure, Figs. 3A, 3B; in *quadrata* the dorsal part of the base extends laterally beyond the base of the arms, and the lateral arms themselves are more parenthesis-shaped. In both species it is difficult to identify the phallicata with certainty, but it appears to be a membranous projection arising between and beneath the large lateral arms. Length 3.5 mm.

The vertex is strongly produced and somewhat conical.

Color, white strongly tinted with yellow on the vertex, pronotum and scutellum. Wings distinctly yellow, subhyaline, a broken brownish band composed of four spots just before the cross nervures anterior to the apical cells.

Holotype, male—Karnak, Illinois, June 14, 1934, DeLong and Ross.

***Typhlocyba serrula* new species**

This species is most closely related to *eurydice* McAtee, from which it differs in characters of the pygofer and aedeagus. The pygofer is pointed, Fig. 6, somewhat as in *eurydice*, Fig. 5, but lacks the mesal flap with its sharp dorsal point which is characteristic of *eurydice*, Fig. 5A. In *serrula* the aedeagus is much more sharply sinuate in lateral view, Fig. 6A, and has longer arms and a shorter base in postero-ventral view, Fig. 6B. Length 4 mm.

Color, white without markings, wings white subhyaline.

The aedeagus in postero-ventral view has a shorter basal portion, the arms are longer, more widely separated at the base, and the apices are thicker and more blunt than in *eurydice*.

The female sternite is roundedly produced.

Holotype, male, allotype female and female paratypes—Waynesburg, Pennsylvania, July 17, 1919, D. M. DeLong. Male paratype—N. Bloomfield, Pa., July 16, 1920, J. G. Sanders. Holotype, allotype and paratypes in DeLong collection, paratype in Illinois Natural History Survey collection.

***Typhlocyba escana* new species**

In characteristics of pygofer and style this species belongs to the *rubriocellata* group but differs from *rubriocellata* and related species in the undivided long curved phallicata and the pair of slender ventral processes, Figs. 7A, 7B, 7C. Length, male 4 mm.

Color, white, scutellum embrowned. Wings white, the claval area unmarked, apical portion smoky, intensified anteriorly to form a broad brownish band across the cross nervures. A transverse yellowish band is just anterior to the brownish portion. There is a reddish area on the median basal half of the wing just anterior to the clavus. The costal margin is white.

Male pygofer broad at apex. The aedeagus phallicata in lateral view is rather broad, curved dorsally and tapered to a narrow apex. The postero-ventral portion is convexly inflated, not reaching the apex of the anterior portion and open at the middle at apex. There is a pair of rather long slender processes which arise below the phallicata at base and extend caudally.

Holotype, male—Alum Cave parking area, Great Smoky Mountains National Park, Tennessee, August 31, 1948, on *Aesculus*, Ross and Stannard. Allotype female—Chimneys Camp Ground, Great Smoky Mountains National Park, Tennessee, August 30, 1948, on *Aesculus*. Paratypes—Same data as for holotype, 1 male; same data as for allotype, 2 females.

***Typhlocyba quercus* (Fabricius)**

A series of this palearctic species was taken in western British Columbia on Queen Anne cherry, and apparently constitutes a new record for North America. The data of collection are Vancouver, B. C., July 15, 1946, H. H. Ross.

This pretty species is brightly colored with a mottled red pattern, and superficially looks very much like some of the showy members of the *Comes* group of *Erythroneura*. The short style, elongate and cylindrical phallicata, and the long twisted ventral processes of the aedeagus distinguish this species from any North American members of the genus. These characters have been illustrated in detail by Ribaut 1936 (Faune De France 31:123, figs. 317-323). We are indebted to Dr. Oman for confirming the identification of this new introduction. The species is recorded in Europe on oak, plum, cherry, and other hosts.