

TINGOIDEA OF OKLAHOMA (HEMIPTERA)

W. A. Drew and Don C. Arnold

Department of Entomology, Oklahoma State University, Stillwater, Oklahoma

Keys, distribution, and plant hosts are presented for the 20 species of the families Piesmidae and Tingidae that occur or are likely to occur in Oklahoma.

INTRODUCTION

The species of the superfamily Tingoidea are often overlooked owing to their small size and the tendency to stay on the underside of leaves. Often the first indication of their presence is made known by the result of their feeding on the leaves of plants. Various of the species are recognized plant pests in various parts of the world. Here in Oklahoma we have, among other species, the following common named pests: *Corythucha arcuata* (Say) – oak lace bug, *Corythucha ciliata* (Say) – sycamore lace bug, *Corythucha cydoniae* (Fitch) – hawthorn lace bug, *Corythucha marmorata* (Uhler) – chrysanthemum lace bug, *Corythucha ulmi* O & D. – elm lace bug, and *Gargaphia solani* Heid. – eggplant lace bug. Besides their being pests, the reticulations and markings of various of the lace bugs make them interesting.

The host plant information, unless otherwise indicated, is from Drake and Ruhoff (1). For information regarding synonymy one should also see that reference. In general, the tingids overwinter as adults. The eggs are laid on the leaves of the host plants. There may be two or more generations a year.

County distribution of some species are not given. In these cases, the species has not been collected in Oklahoma but has a distribution such that it likely occurs here.

KEY TO THE SPECIES

1. Ocelli absent; pronotum produced posteriorly (Tingidae)----- 2
Ocelli present; pronotum not produced posteriorly (Piesmidae) ----- *Piesma cinerea*
2. Hood (prothoracic covering of head) present ----- 8
Hood absent ----- 3
3. Pronotum unicarinate ----- 4
Pronotum with three carinae ----- 6
4. Costal margin of elytra flattened and reflexed ----- *Leptoypha elliptica*
Costal margin not flattened; narrow and deflexed ----- 5
5. 3rd segment of antennae nearly four times as long as the 1st segment ----- *Leptoypha mutica*
3rd segment of antennae less than three times the length of the first ----- *Leptoypha ilicis*
6. Head with 3-5 distinct spines ----- *Teleonemia nigrina*
Head without spines ----- 7
7. Third segment of antennae with basal fourth or more black ----- *Atheas mimeticus*
Third segment with extreme base only black ----- *Atheas austroriparius*
8. Lateral carinae of pronotum not reaching the hood ----- 13
Lateral carinae of pronotum reaching the hood ----- 9
9. Median groove of sterna (the groove in which the beak may be found) not interrupted by a transverse carina ----- 11
Median groove of sterna interrupted by a transverse carina ----- 10
10. Segment one of antennae dull yellow ----- *Gargaphia tiliae*
Segment one of antennae black ----- *Gargaphia solani*
11. Costal area of hemelytra broadly curving out at middle ----- *Leptodictya plana*
Costal area of hemelytra nearly parallel at middle ----- 12
12. Costal area with a premedian black cross-bar ----- *Leptopharsa clitoriae*
Costal area without a premedian cross-bar ----- *Leptopharsa heidemanni*
13. Pronotal hood nearly 3 times as high as median carina; paranota with a large, dark brown blotch on outer half ----- *Corythucha cydoniae*

- Pronotal hood not more than 2 times as high as median carina----- 14
14. 1st segment of antennae twice or slightly more than twice the length of segment 2----- 15
 1st segment of antennae 3 or almost 3 times the length of the 2nd segment----- 17
15. Hemelytra whitish, only brown marking a spot on each tumid elevation on hemelytra----- *Corythucha ciliata*
 Hemelytra with more extensive brown markings----- 16
16. Body entirely black ----- *Corythucha juglandis*
 Body with posternal margins, humeral area and last abdominal segment brownish----- *Corythucha pergandei*
17. Globose portion of hood less than twice as broad as triangular portion at the constriction-----
 ----- *Corythucha marmorata*
 Globose portion of hood twice or more as broad as the triangular portion at the constriction ----- 18
18. No apical cross-bar on hemelytra ----- *Corythucha u1mi*
 Apical cross-bar present, but may be ill-defined ----- 19
19. Apical cross-bar weak, ill defined ----- *Corythucha arcuata*
 Apical cross-bar distinct, well defined ----- *Corythucha aesculi*

Atheas austroriparius Heidemann 1909.

Distribution: Ellis Co. (May-Aug.). Host Plants: *Desmodium*, *Schrankia*.

Atheas mimeticus Heidemann 1909.

Distribution: Garvin Co. (June). Host Plants: *Desmodium*, *Petalostemon*.

Corythucha aesculi Osborn and Drake 1916.

Distribution: McCurtain Co. (June). Host Plants: *Aesculus*.

Corythucha arcuata (Say) 1832.

Distribution: Adair, Comanche, Pawnee, Payne, and McCurtain Counties (April-August). Host Plants: *Quercus*, *Castanea*, *Pyrus*, *Acer*, *Rosa*.

Corythucha ciliata (Say) 1832.

Distribution: Choctaw, Delaware, Hughes, McCurtain, LeFlore, Oklahoma, Osage, Payne, and Sequoyah Counties (Feb.-Sept.). Host Plants: *Platanus*, *Broussonetia*, *Carya*, *Chamaedaphne*, *Fraxinus*.

Corythucha cydoniae (Fitch) 1861.

Distribution: Adair, Choctaw, McCurtain, Muskogee, Oklahoma, Ottawa, Payne, and Tulsa Counties (April-October). Host Plants: *Amelanchier*, *Cephalanthus*, *Chaenomeles*, *Cotoneaster*, *Crataegus*, *Pyracantha*, *Pyrus*, *Malus*, *Quercus*.

Corythucha juglandis (Fitch) 1857.

Host Plants: *Amelanchier*, *Carya*, *Juglans*, *Rubus*, *Sorbus*, *Tilia*.

Corythucha marmorata (Uhler) 1878.

Distribution: Delaware, Dewey, Ellis, Hughes, Okmulgee, Major, McCurtain, Murray, Payne, Pottawatomie, and Sequoyah Counties (May-September). Host Plants: *Ambrosia*, *Aster*, *Chrysanthemum*, *Echinops*, *Helianthus*, *Rudbeckia*, *Solidago*, *Tanacetum*.

Corythucha pergandei Heidemann 1906.

Distribution: LeFlore County (June). Host Plants: *Alnus*, *Betula*, *Celtis*, *Corylus*, *Prunus*, *Pyrus*, *Ulmus*.

Corythucha u1mi Osborn and Drake 1916.

Distribution: Carter, Oklahoma, Noble, and Payne Counties (July-September). Host Plants: *Ulmus*.

Gargaphia solani Heidemann 1914.

Distribution: Canadian, Cherokee, Mayes, Muskogee, Noble, Okfuskee, Payne, Wagoner, and Washington Counties (Jan.-Dec.). Host Plants: *Amphiachyrus*, *Cassia*, *Gossypium*, *Lycopersicum*, *Salvia*, *Solanum*, Hollyhock.

Gargaphia tiliae (Walsh) 1864.

Host Plants: *Cercis*, *Prunus*, *Tilia*.

Leptodictya plana Heidemann 1913.

Distribution: LeFlore County (July). Host Plants: *Gramineae*.

Leptopharsa clitoriae (Heidemann) 1911.

Host Plants: *Clitoria*, *Meibomia*, *Lespedeza*, *Lappula*, *Alnus*.

Leptopharsa heidemannii (Osborn and Drake) 1916.

Distribution: LeFlore County (June). Host Plants: *Baptisia*.

Letoypha elliptica McAtee 1917.

Host Plants: *Ilex*.

Leptoypha ilicis Drake 1919.

Host Plants: *Ilex*, *Vaccinium*.

Leptoypha mutica (Say) 1832.

Distribution: Carter and Payne Counties (September). Host Plants: *Adelia*, *Chionanthus*, *Fraxinus*.

Teleonemia nigrina (Champion) 1898.

Distribution: Creek, Garvin, Major, Murray, and Payne Counties. (May-November). Host Plants:

Adeonstegia, *Eriogonum*, *Helenium*, *Plantago*, *Rhus*, *Sphaeralcea*, *Verbena*, sugarbeets, snapdragons.

Piesma cinerea (Say)

Distribution: Caddo, Garfield, Major, Payne and Sequoyah Counties (Feb.-Sept.). Host Plants: *Amaranthus*.

REFERENCES

1. C. J. DRAKE and F. A. RUHOFF, Bull. U. S. Nat. Mus. 243:1-634 (1965).