

AN ANNOTATED LIST OF THE BYTHOSCOPIINAE OF INDIANA (CICADELLIDAE, HOMOPTERA)

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The subfamily Bythoscopinæ is one of the five subfamilies of leafhoppers (Cicadellidae) occurring in Indiana. Thomas Say (1831)² recorded the first Bythoscopinæ from Indiana when he described *Agalliopsis novella* and *Idiocerus verticis*. Since then, Van Duzee (1917) has recorded one additional species (*Aceratagallia sanguinolenta*), Breakey (1932) three additional species (*Macropsis viridis*, *M. erythrocephala*, *M. ferruginoidis*), and Oman (1932) another (*Agallia constricta*), making a total of seven species recorded from Indiana to date. The writer is adding 25 species in this paper, making a total of 32 species which are known to occur in the state.

Several species of Bythoscopinæ are of economic importance. Alfalfa, Japanese and other clovers, beets and other truck crops, soybeans, and pasture grasses are the principal crops attacked. *Aceratagallia sanguinolenta*, *Agallia constricta*, and *Agalliopsis novella* are recognized as pests in Indiana. The species of *Macropsis*, *Oncopsis*, *Idiocerus*, and *Bythoscopus*, in general, feed on woody plants, but, because of the small numbers usually present, they do little damage.

In the following systematic treatment the species are arranged according to the classification of Van Duzee (1917) with systematic changes and additions to bring it up to date for the species known to occur in Indiana.

The initials of collectors of the specimens upon which this work is based are placed in parentheses after the collection record. These collectors and their initials are: D. W. Brinson (DWB), H. E. Brown (HEB), H. L. Cook (HLC), J. J. Davis (JJD), H. O. Deay (HOD), G. E. Gould (GEG), R. R. Heaton (RRH), B. E. Montgomery (BEM), L. I. Musgrave (LIM), F. H. Test (FHT), A. W. Tripple (AWT), Musgrave and Deay (M and D). Records on insects taken from the Purdue student collections are denoted by (PC) and the writers by (DWL). The county is taken as the collecting unit.

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Species marked with an asterisk have not been reported from the state before.

Genus *Agalliopsis* Kirkaldy

1. *Agalliopsis novella* (Say, 1831).

Collection records: Carroll Co., July 28 (GEG); Harrison Co., May 13-Sept. 6 (DWL); Parke Co., June 26-28 (FHT); Porter Co., June 9 (HEB); Tippecanoe Co., May 9-July 11 (HOD, GEG, LIM, PC); Vigo Co., July 31 (HLC).

¹Contribution from the Entomological Laboratories, Purdue University. The data used here were gathered by the writer during the preparation of his undergraduate thesis.

²Numbers in parenthesis refer to literature cited.

Notes: Taken on red beets, sweet clover, smart weed, and willow.

Thomas Say described this species from Indiana specimens as *Jassus novella* in 1831.

Genus *Agallia* Kirkaldy

2. **Agallia quadripunctata* (Provancher, 1872).

Collection records: Kosciusko Co., April 21-June 9 (GEG); Knox Co., May 30 (JJD); Lake Co., June 28 (GEG); Morgan Co., May 14 (PC); Parke Co., June 24 (FHT); Porter Co., June 9-21 (HEB); Rush Co., June 30 (RRH); Tippecanoe Co., April 14-Aug. 25 (GEG, RRH, LIM, AWT, PC); Warren Co., May 20 (GEG).

Notes: Taken on beets, horse radish, and lettuce.

3. *Agallia constricta* Van Duzee, 1894.

Collection records: Carroll Co., Aug. 31 (JJD); Harrison Co., May 15-Oct. 1 (DWL); Jefferson Co., July 15-Aug. 20 (DWB); Kosciusko Co., Aug. 11 (GEG); Lawrence Co., July 11-Aug. 16 (GEG, LIM); Morgan Co., May 14-July 23 (LIM); Parke Co., July 25 (FHT); Posey Co., Sept. 2 (HOD); Porter Co., July 8 (HEB); Rush Co., June 29 (RRH); Tippecanoe Co., April-Aug. 16 (HOD, GEG, LIM, AWT, PC); Vigo Co., July 31 (HLC); Warren Co., May 20 (HOD).

Notes: Taken on alfalfa, red beets, blue grass, red clover, locust, oak, potato, smartweed, and willow, and at "light trap."

Recorded as occurring in Indiana by Oman (1933).

Genus *Aceratagallia* Kirkaldy

4. **Aceratagallia accola* Oman, 1933.

Collection records: Harrison Co., Jan. 1-July 3 (DWL); Morgan Co., Nov. 7 (LIM); Noble Co., July 20 (HEB).

Notes: Taken on locust and meadow grass.

5. *Aceratagallia sanguinolenta* (Provancher, 1872).

Collection records: Bartholomew Co., Oct. 15, 1932 (GEG); Carroll Co., July 15 (GEG); Crawford Co., Aug. 30 (JJD); Harrison Co., Jan. 1-Sept. 16 (DWL); Jefferson Co., July 28-Aug. 20 (DWB); Johnson Co., Oct. 15 (HOD); Knox Co., June 23 (GEG); Kosciusko Co., June 22-July 20 (GEG); LaPorte Co., May 14 (JJD); Morgan Co., July 13-Nov. 7 (RRH, LIM); Noble Co., July 20 (HEB); Parke Co., July 12 (FHT); Porter Co., July 4-Aug. 12 (JJD); Rush Co., June 29-Sept. 28 (PC); St. Joseph Co., June 17-Sept. 7 (AWT, PC); Starke Co., May 22-Aug. 24 (PC); Tippecanoe Co., Jan. 13-Nov. 14 (HEB, HOD, RRH, LIM, PC, M and D); Warren Co., May 20 (HOD).

Notes: Taken on alfalfa, crabapple, red beets, blue grass, buckwheat, red clover, cottonwood, coxcomb, grape, mullein, potato, smartweed, tomato, and willow.

Recorded as occurring in Indiana by Van Duzee (1917).

6. **Aceratagallia vulgaris* Oman, 1933.

Collection records: Morgan Co., Nov. 7 (LIM); Tippecanoe Co., Nov. 6 (AWT).

Notes: Taken from mullein.

Genus *Idiocerus* Lewis

7. **Idiocerus nervatus* Van Duzee, 1894.
Collection records: Harrison Co., July 1-12 (DWL); Tippecanoe Co., Aug. 4-Sept. 25 (HOD, GEG).
Notes: Taken on willow and cedar.
8. **Idiocerus pallidus* Fitch, 1851.
Collection records: Harrison Co., July 1-12 (DWL); Morgan Co., July 9 (LIM); Rush Co., June 26 (RRH); Wabash Co., July 11 (GEG).
Notes: Taken on clover and willow and by sweeping grass.
9. **Idiocerus suturalis* Fitch, 1851.
Collection records: Porter Co., July (HEB); Tippecanoe Co., July 23-Oct. 8 (HOD).
Notes: Taken on willow.
10. **Idiocerus alternatus* Fitch, 1851.
Collection records: Harrison Co., June 27-Sept. 6 (DWL); Morgan Co., May 14 (PC); Rush Co., April 19-June 30 (RRH); Tippecanoe Co., April 19-Oct. 4 (GEG, LIM, PC).
Notes: Taken on locust and willow.
11. **Idiocerus moniliferae* Osborn and Ball, 1898.
Collection records: Harrison Co., Aug. 3 (DWL); Lawrence Co., Aug. 16 (BEM); Tippecanoe Co., Jan. 13-18 (HEB, GEG).
Notes: Taken on mulberry and willow and from under hickory bark.
12. **Idiocerus scurra* (Gemar, 1834).
Collection record: Tippecanoe Co., June (PC).
13. **Idiocerus formosus* Ball, 1902.
Collection record: Kosciusko Co., July 25 (GEG).
14. **Idiocerus lachrymalis* Fitch, 1851.
Collection records: Porter Co., June 2-July 8 (HEB).
Notes: Taken on blackberry and poplar.
15. **Idiocerus ramentosus* (Uhler, 1877).
Collection records: Clark Co., Aug. 31 (JJD); Harrison Co., June 20 (DWL); Kosciusko Co., May 14 (GEG); Morgan Co., May 14 (LIM); Tippecanoe Co., Apr. 19-Oct. 8 (HOD, RRH).
16. *Idiocerus verticis* (Say, 1931).
Collection records: Kosciusko Co., Aug. 10 (GEG); Morgan Co., Aug. 7-Oct. 14 (LIM, PC); Tippecanoe Co., May 3-Oct. 4 (GEG, LIM, PC).
17. **Idiocerus snowi* Gillette and Baker, 1895.
Collection records: Carroll Co., July 28 (GEG); Clay Co., June 21 (GEG); Tippecanoe Co., July 7-Sept. 30 (HOD, PC); Warren Co., June 27 (HOD).
18. **Idiocerus fitchi* Van Duzee, 1851.
Collection record: Harrison Co., June 10 (DWL).

Genus *Macropsis* Lewis

19. **Macropsis reversalis* (Osborn and Ball, 1898).
Collection records: Harrison Co., June 17-July 12 (DWL).
Notes: Taken from willow.

20. **Macropsis fumipennis* var. *gleditschiae* (Osborn and Ball, 1898).
Collection records: Adams Co., June 18 (GEG); Kosciusko Co., June 4 (GEG); Knox Co., May 30 (JJD); Morgan Co., June 10-12 (LIM); Tippecanoe Co., May 21-July 12 (GEG, LIM, M and D); Wells Co., June 18 (GEG).
Notes: Taken on honey locust.
21. **Macropsis virescens* (Gmelin, 1788).
Collection record: Morgan Co., June 10 (LIM).
22. *Macropsis viridis* (Fitch, 1851).
Collection records: Carroll Co., June 28 (HOD); Harrison Co., June 24-July 12 (DWL); Jefferson Co., June 5-23 (DWB); Morgan Co., May 28 (LIM); Noble Co., June 21 (HEB); Rush Co., June 20-30 (RRH); Tippecanoe Co., June 1-July 23 (HOD, M and D, AWT); Wells Co., June 18 (GEG).
Notes: Taken on willow and at "light trap."
23. *Macropsis erythrocephala* (Gillette and Baker, 1895).
Collection records: Harrison Co., June 20-27 (DWL); St. Joseph Co., July 11-22 (AWT); Tippecanoe Co., June 1-July 20 (GEG, BEM, AWT, M and D).
Notes: Taken on willow and at "light trap."
24. **Macropsis bicolor* (Osborn, 1915).
Collection records: Orange Co., May 26 (PC).
25. *Macropsis ferruginoides* (Van Duzee, 1889).
Reported from Indiana by Breakey (1932).
26. **Macropsis trimaculata* (Fitch, 1851).
Collection records: Allen Co., June 17 (JJD).
Notes: Taken on grape.
27. **Macropsis osborni* Breakey, 1932.
Collection records: Tippecanoe Co., June 2 (LIM).
Notes: Taken on willow.
28. **Macropsis insignis* (Van Duzee, 1889).
Collection records: Noble Co., July 20 (HEB).
Notes: Taken on cottonwood.

Genus *Oncopsis* Burmeister

29. **Oncopsis distinctus* (Van Duzee, 1890).
Collection records: Harrison Co., Sept. 6 (DWL); Noble Co., Sept. 4 (HEB); Rush Co., June 8-18 (RRH); St. Joseph Co., June 17 (PC); Tippecanoe Co., June 26-Oct. 1 (HOD, GEG).
Notes: Taken on willow, walnut, and mint.
30. **Oncopsis nigrinasi* (Fitch, 1831).
Collection records: Parke Co., July 29 (GEG).

Genus *Bythoscopus* Germar

31. **Bythoscopus apicalis* (Osborn and Ball, 1898).
Collection records: Carroll Co., July 15 (GEG); Harrison Co., June 16 (DWL); Knox Co., June 23 (GEG); Tippecanoe Co., July 4 (GEG).
32. **Bythoscopus alabamensis* (Baker, 1900).

Collection records: Harrison Co., Sept. 7 (DWL); Knox Co., June 23 (GEG); Tippecanoe Co., June 12-Oct. 4 (LIM, M and D).

Notes: Taken on alfalfa and willow.

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