

RECORDS OF INDIANA DRAGONFLIES, VIII¹, 1934

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Although only a limited amount of dragonfly collecting was done in Indiana during 1934, a considerable number of specimens were secured. These, together with some material collected in former years but not previously identified or recorded, made a total of 2,105 specimens representing 62 species, studied during the year. Only the more interesting captures and those representing new county records are listed in this paper. The addition of one species new to the state (* starred in the list of species) brings the number of species of Odonata known from Indiana to 136.

In addition to collections made by the author (3411-3439), who was assisted at times by Esther Barrett Montgomery and R. Boner Barrett, the material studied during 1934 included several small lots of specimens from various sources: a few collections (1-2, and others not further referred to in this paper) accumulated over a period of years by the late E. B. Williamson but not previously identified; specimens collected in Wayne and Randolph counties by A. W. Trippel (3-4), in Jefferson County by D. H. Brinson (5), in Harrison County by D. W. LaHue (6), in Porter County by H. E. Brown (7-8), and in Morgan County by L. I. Musgrave; specimens, chiefly from Clark and Tippecanoe counties, included in collections made by students of Purdue University as a part of their class work (P. U.); and a small collection chiefly from Parke and Wayne counties, belonging to Earlham College (E. C.), made by Hurst Shoemaker and his students. All specimens were identified by the author.

In order that the data may be presented in as compact a form as possible, collector's numbers, referred to in the enumeration of collections above, have been assigned to all the larger collections. A list of these numbers with full explanations is given immediately below, and these numbers are used instead of the complete data in the list of species. Records of specimens not included in these collections are given in more complete form, and collectors are indicated by initials, if the collector is named above, or by name, in parentheses following the record. The records from the Purdue Student Collection and the Earlham College Collection are indicated by the initials P. U. and E. C., respectively.

All dates without indication of the year refer to 1934.

1. Lake Maxinkuckee, undated. The collection was made many years ago by Howard North and M. K. Williamson, but had not been determined and recorded previously.

2. Veedersburg, June 4-5, 1905. C. C. Deam, collector.

¹ The last previous paper in this series was published last year (Proc. Ind. Acad. Sci., 43:211-217).

3. A small stream crossed by state road 27, a few miles north of Richmond, July 4.
4. Funk's Lake, near Winchester, July 4.
5. Small creek about four miles north of North Madison, dates as given.
6. Blue River and small ponds, seven to eight miles northwest of Corydon, dates as given.
7. Dunes State Park at Tremont, dates as given.
8. Tamarack swamp at Mineral Springs, August 9.
3411. City Lake, Huntingburg, June 13.
3413. Bog and creek at Monument City, June 19.
3414. White River, about three miles northwest of Winchester, June 22.
3415. Bog and creek at Monument City, June 25.
3416. Pool along state road 28, about four miles west of Tipton, June 26.
3417. Creek about four miles northeast of Lebanon, July 5.
3418. Small stream crossed by state road 14, nine miles west of Rochester, July 6.
3420. Pools along state road 45, three miles north of Huntingburg, July 31.
3421. City Lakes, Huntingburg, July 31.
3425. Old water supply lake, Oakland City, August 7.
3427. Small pool along state road 64, one-half mile west of Oakland City, August 8.
3428. City Lakes, Huntingburg, August 29.
3429. Pools along state road 45 and Patoka River, three miles north of Huntingburg, August 30.
3430. City Lakes, Huntingburg, August 30.
3432. Pool along state road 62 in northwest corner of Perry County, August 30.
3433. Stream bed with occasional pools of water, one mile south of Birdseye, August 30.
3434. Deep pool with heavy growth of willows, cattails, and other plants around the margins, along state road 64, two miles west of Birdseye, August 30.
3435. Creek crossed by state road 64, two miles east of Huntingburg, August 30.
- 3436, 3437. Pools along state road 64, two to three miles east of Oakland City, September 1.
3439. Wabash River a few miles north of Crowleyville, September 1.

List of Species

- 3.² *Agriön maculatum* Beauvois. **Fulton**³ (3418); **Porter**, (7), June 9, 21; **Randolph** (3414).
4. *Hetaerina americana* Fabricius. **Morgan**, creek, Green Twp., Apr. 25, 1932, Sept. 17, 1931 (L. I. M.); **Wayne** (3), Middleboro, Sept. 16, 1933, and Clear Creek, Oct. 4, 1934 (E. C.).

² The numbers of Williamson's list of 1917 (Univ. of Mich., Mus. of Zool. Misc. Publ. 2) are used in the papers of this series.

³ Names in bold face type refer to counties.

11. *Lestes rectangularis* Say. Dubois (3428); Porter (7), June 21.
13. *Lestes unguiculatus* Hagen. Wayne, Tachet Pond, near Center-ville, Sept. 24, 1933 (E. C.).
15. *Argia apicalis* Say. Wayne (3).
16. *Argia moesta* Hagen. Marshall (1), Wayne (3).
17. *Argia sedula* Hagen. Wayne (3).
18. *Argia tibialis* Rambur. Boone (3417); Randolph (3414); Wayne (3).
20. *Argia violacea* Hagen. Boone (3417); Dubois (3420, 3429, 3435); Fulton (3418); Jefferson (5), June 18, 1933; Randolph (3414); Tipton (3416); Wayne (3).
21. *Enallagma antennatum* Say. Boone (3417); Dubois (3420, 3421); Randolph (3414); Tipton (3416).
- 22a. *Enallagma basidens* Calvert. This species was found in Du-bois, Gibson and Warrick counties in even greater numbers than were observed last year.
24. *Enallagma carunculatum* Morse. Marshall (1).
25. *Enallagma civile* Hagen. Harrison (6), several dates; Jefferson (5), June 18, 1933; Randolph (4, 3414); Tipton (3416); Wayne, Crescent Lake near Richmond, Oct. 13 (E. C.).
29. *Enallagma exsulans* Hagen. Boone (3417); Dubois (3420, 3421, 3430, 3435); Fulton (3418) Marshall (1) Randolph (3414); Wayne (3).
30. *Enallagma geminatum* Kellicott. Marshall (1); Randolph (3414).
31. *Enallagma hageni* Walsh. Marshall (1).
33. *Enallagma vesperum* Calvert. R. Boner Barrett and the author made a trip to the old water supply lake at Oakland City in the late afternoon of August 7, to secure specimens of this species. Just after sunset a male was taken when a net was swept through the branches of a tree about 50 feet from the lake. Further examination revealed a considerable number of both males and females of this species resting in the foliage of the tree from the lowest branches about three feet from the ground to a height of nine or ten feet. With decreasing light after sunset, individuals could be found in the grass beneath and around the tree, then down the slope toward the lake. Finally a few were taken at the lake margin, but collecting was then stopped because of darkness. A total of 29 males and 10 females of *vesperum* and three males and seven females of *E. signatum* were taken. A trip to the city lakes at Huntingburg at dusk, August 29, for the same purpose was unsuccessful. Three specimens of *E. signatum*, but none of *E. vesperum*, were secured by sweeping the foliage of a tree near one of the lakes.
34. *Enallagma signatum* Hagen. Harrison (6), Sept. 5; Randolph (4, 3414).
38. *Amphiagrion saucium* Burmeister. Fountain (2).
41. *Ischnura posita* Hagen. Harrison (6), Sept. 5, 6; Marshall (1); Randolph (3414); Wayne (3).
43. *Ischnura verticalis* Say. Harrison (6), many dates; Jefferson (5), June 18, 1933; Porter (7), June 21; Randolph (4, 3414); Tipton (3416).

44. *Anomalagrion hastatum* Say. Dubois (3411, 3429); Tipton (3416).
45. *Tachopteryx thoreyi* Hagen. Huntington (3413) 2 ♂, (3415) 1 ♂.
48. *Cordulegaster obliquus* Say. Clark, state forest near Henryville, June 18, 1933, 1 ♂ (J. W. Hamilton).
49. *Progomphus obscurus* Rambur. Parke, Turkey Run, July 26 (E. C.) 1 ♂; Posey, Black River Creek, July 16, 1933, 1 ♂ (Robert W. Montgomery).
52. *Erpetogomphus designatus* Hagen. Gibson (3439) 1 ♂; Posey, Black River Creek, July 16, 1933, 1 ♂ (Robert W. Montgomery).
56. *Gomphus fraternus* Say. Marshall, Donaldson Lake, June 25, 1931, 1 ♂ (A. W. T.).
58. *Gomphus grasinellus* Walsh. Morgan, Martinsville, May 30, 1931, 1 ♂ (L. I. M.); Wayne, June 25, 1 ♂ (E. C.).
- 59a. *Gomphus notatus* Rambur. Parke, Turkey Run, July 26, 1 ♂ (E. C.).
64. *Gomphus vastus* Walsh. Tippecanoe, West Lafayette, May 3, 1933, 1 ♀ (P. U.).
66. *Gomphus villosipes* Selys. Parke, pond near Rockville, July 6, 1931, 1 ♂; Randolph (4); St. Joseph, Boy Scout Camp, South Bend, June 15, 1932 (G. Walker Daubenspeck).
70. *Boyeria vinosa* Say. Dubois (3433); Wayne, July 18 (E. C.).
72. *Anax junius* Drury. Boone (3417); Dubois (3411); Harrison (6), July, 1932; Morgan, ponds, Green Twp., April 29, 1932, and Martinsville, May 20, 1932 (L. I. M.); Owen, along State Rd. 43, south of Spencer, Aug. 29.
81. *Epiaschna heros* Fabricius. Dubois (3420) 1 ♂; Tippecanoe, West Lafayette, Oct. 1, 1933, 1 ♂ (P. U.); Wayne, July 23, 1 ♀ (E. C.).
85. *Macromia taeniolata* Rambur. Dubois (3420), 4 ♂.
87. *Epicordulia princeps* Hagen. Marshall (1); Steuben, Lake James, Aug. 10, 1915; Wayne, June 27 (E. C.).
96. *Libellula cyanea* Fabricius. Jefferson (5), June 18, 1933; Marshall (1); Warrick, lake at Boonville, Aug. 8.
99. *Libellula luctuosa* Burmeister. Boone (3417); Harrison (6), July, 1932; Jefferson (5), July 1, 1933; Marshall (1), Randolph (4).
100. *Libellula pulchella* Drury. Boone (3417); Dubois (3411, 3433); Harrison (6), July, 1932; Jefferson (5), several dates; Perry (3432); Porter (7), June 21 (8); Randolph (4); Tipton (3416); Wayne, Clear Creek, Oct. 4 (E. C.).
104. *Plathemis lydia* Drury. Fountain (2); Harrison (6), Aug. 28; Jefferson (5), June 18, 1933; Tipton (3416); Wayne, June 24, 27 (E. C.).
105. *Perithemis tenera* Say. Marshall (1); Randolph (4); Wayne, July 19 (E. C.).
- *106b. *Erythrodiplax umbrata* Linne. Gibson (3437) 1 ♂; Pike (3436) 1 ♀. This is one of the most interesting and unexpected records of Indiana Odonata. Previously this species has not been recorded north of Georgia and Oklahoma. Both specimens were very teneral and had probably spent their immature stages in one of the pools in the vicinity

where they were captured. These pools were formed by water collecting in excavations made for road building within the last three years.

107. *Erythemis simplicicollis* Say. **Jefferson** (5), July 1, 1933; **Randolph** (4).

108. *Sympetrum ambiguum* Rambur. **Parke**, Turkey Run, July 26, 1 ♀ (E. C.); **Porter** (8), 1 ♂, "resting on dead snag in woods"; **Wayne**, Tachet Pond, Sept. 24, 1933, 1 ♂ (E. C.)

109. *Sympetrum corruptum* Hagen. **Noble**, Cromwell, July 15, 1932, 1 ♂ (H. E. B.).

111. *Sympetrum obtrusum* Hagen. **Wayne**, Tachet Pond, Sept. 24, 1933, 1 ♂ (E. C.).

115. *Pachydiplax longipennis* Burmeister. **Boone** (3417); **Dubois** (3421, 3434); **Fountain** (2); **Jefferson** (5), June 18 and July 1, 1933; **Marshall** (1); **Morgan**, pond at Martinsville, May 20, 1932 (L. I. M); **Randolph** (4, 3414).

118. *Celithemis elisa* Hagen. **Dubois** (3411); **Marshall** (1); **Randolph** (4).

119. *Celithemis eponina* Drury. **Marshall** (1); **Randolph** (4).

121. *Pantala flavescens* Fabricius. **Gibson**, pond, 3 miles northwest of Poseyville, July 16, 1933, 1 ♂ (Robert W. Montgomery), (3427) 1 ♂.

124. *Tramea lacerata* Hagen. **Boone** (3417); **Harrison** (6), June, 1932; **Randolph** (4).

125. *Tramea onusta* Hagen. **Tippecanoe**, West Lafayette, May 12-30, 5 ♂ (P. U.).