

Notes and Records of Indiana Odonata, 1953-54

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There was less opportunity to observe and collect Odonata during 1953-1954 than in most previous years. However, 1,960 specimens of 71 species have been studied. One species not previously known from the state was taken and others recorded from Indiana only recently were observed to be well established.

The numbers of Williamson's 1917 list and the later interpolations (Williamson 1921, Montgomery 1925-1953) are used.

List of Collections Made During 1953-1954

(Arranged by counties and collecting stations; collections were made by the author unless otherwise noted.)

Boone. Sugar Creek, Rd. 52, June 22, 1953—species: 17, 18, 20, 21, 29, 43.

Cass. Lake Cicott, Sept. 10, 1953—species: 11, 13, 14, 30, 33, 34, 41, 43, 99, 105, 107, 111, 112, 114, 119, 124.

Clark. Bowen Lake, June 20, 1953—species: 20, 43, 58, 66, 90; June 27, 1954—species: 15, 20, 21, 22a, 29, 30, 41, 43, 44. Francke Lake, June 19, 1953—species: 115; June 26, 27, 1954—species: 10, 11, 33, 34, 41, 43, 44, 81, 89, 90, 119a. Schlamm Lake, June 19-21, 1953—species: 3, 10, 15, 20, 29, 33, 41, 43, 66, 96, 96a, 98, 99, 107, 108, 115, 119a, 120a; June 25-27, 1954—species: 10, 33, 34, 41, 43, 96, 98, 99, 107, 115, 119a, 120a. Stream flowing from Schlamm Lake, June 20-21, 1953—species: 3, 29, 48, 81, 94, 103, 107, 115; June 26, 1954—species: 3, 48, 96, 98, 108. Stream in State Forest flowing from a semi-open area, through woods—species: 41, 94, 107.

Clinton. Creek, Rd. 26, west of Middle Fork, Sept. 18, 1953—species: 4, 25.

Fulton. Fish hatchery ponds at Lake Manitou, July 23, 1953—species: 30, 41, 43, 99, 105, 107, 115, 118, 119, 120; Sept. 18, 1953—species: 22a, 24, 25, 30, 34, 43, 114, 124.

Gibson. Foote's Lake, July 11, 1953—species: 15, 34, 41, 63, 69, 80, 81, 98, 103, 104, 105, 107, 115. Lake, Oakland City, June 11, 1953—species: 20, 25, 34, 41, 43, 44, 81, 96, 104, 105, 107, 111, 115, 118, 124; July 12, 1953—species: 11, 22a, 43, 44, 96, 99, 105, 107, 114, 115, 118; Aug. 23, 1953—species: 13, 22a, 99, 100, 105, 108, 111, 112, 118; Sept. 5, 1954—species: 13, 25, 105, 108, 111. Pool along road near Oakland City, June 11, 1953—species: 7, 43, 44. Patoka River, N. of Princeton, June 11, 1953—species: 3, 18, 29, 43, 49, 104; July 12, 1953—species: 4, 15, 17, 18, 29, 41.

Johnson. Sugar Creek, Rd. 31, June 19, 1953—species: 3, 15, 18, 29; June 25, 1954—species: 4, 15, 16, 18, 20, 25, 29, 43.

Marshall. Open fields on Purdue Sand farm, July 23, 1953—species: 105, 119.

Ripley. Laughery Creek, Friendship, June 19, 1954, L. Chandler, collector—species: 29, 58. Farm pond near Friendship, Sept. 9, 1954, L. Chandler, collector—species: 110.

Starke. Hartz Lake, Sept. 10, 1954—species: 13, 14, 30, 33, 34, 41, 43, 107, 111, 112, 114. Tippecanoe River, Monterey, Sept. 10, 1953—species: 4, 17.

Tippecanoe. Hadley's Lake, July 26, 1953—species: 15, 43, 72, 99, 105, 112, 115; Sept. 11, 1953—species: 25, 105, 112; Sept. 16, 1954—species: 99, 111; Sept. 26, 1953—species: 41, 75, 110, 111, 112; Oct. 2, 1953—species: 110, 111; Oct. 12, 1953—species: 111, 114. Wabash River, N. of Lafayette, July 26, 1953—species: 3, 4, 15, 29, 52a, 115; Wabash River, 10-12 miles S. of Lafayette, Aug. 10, 1954—species: 15, 50, 52, 52a, 59b, 104; Aug. 13, 1954—species: 3, 15, 52, 52a, 59b. Tippecanoe River at Hog Point Bridge, July 23, 1954—species: 68; July 23, 1954—species: 68; July 26, 1954—species: 52a, 68. Flower gardens, Purdue Campus, Sept. 28, 1954—species: 13, 110, 111. Building, Purdue Campus, at night, June 26 and July 20, 1953—Chandler, collector—species: 70.

Warren. Kickapoo Creek, near mouth, four miles W. of Independence, Aug. 10, 1954—species: 3, 43, 52, 104.

Warrick. Lake, Boonville, May 30, 1953—species: 7, 20, 22, 22a, 25, 43.

Wells—Vanemon Swamp, July 8, 1954, BEM and Merrill Cleveland, collectors—species: 9, 11, 12, 104, 107, 112; Aug. 18, 1953, BEM and Kenneth Pruess, collectors—species: 9, 11, 13, 41, 43, 100, 107, 111, 112, 115.

White. Hoagland Ditch, S. of Monon, Sept. 10, 1954—species: 4, 17, 20.

List of Species Collected During 1953-1954

3. *Calopteryx maculata* Beauvois. Clark, Gibson, Johnson, Tippecanoe, Warren.
4. *Hetaerina americana* Fabricius. Clinton, Gibson, Johnson, Pulaski, Tippecanoe, White.
7. *Lestes disjunctus* Selys. Gibson, Warrick.
9. *Lestes forcipatus* Rambur. Wells.
10. *Lestes inaequalis* Walsh. Clark.
11. *Lestes rectangularis* Say. Cass, Clark, Gibson, Wells.
12. *Lestes dryas* Kirby. Wells.
13. *Lestes unguiculatus* Hagen. Cass, Fulton, Gibson, Starke, Tippecanoe, Wells.
14. *Lestes vigilax* Selys. Cass, Starke.
15. *Argia apicalis* (Say). Clark, Gibson, Johnson, Tippecanoe.
16. *Argia moesta* (Hagen). Johnson.
17. *Argia sedula* (Hagen). Boone, Gibson, Pulaski, White.
18. *Argia tibialis* (Rambur). Boone, Gibson, Johnson.
20. *Argia violacea* (Hagen). Boone, Clark, Gibson, Johnson, Warrick, White.
21. *Enallagma antennatum* (Say). Boone, Clark.
22. *Enallagma aspersum* (Hagen). Warrick.
- 22a. *Enallagma basidens* Calvert. Clark, Fulton, Gibson, Warrick.
24. *Enallagma carunculatum* Morse. Fulton.

25. *Enallagma civile* (Hagen). Clinton, Fulton, Gibson, Johnson, Tippecanoe, Warrick.

29. *Enallagma exsulans* (Hagen). Boone, Clark, Gibson, Johnson, Ripley, Tippecanoe.

30. *Enallagma geminatum* Kellicott. Cass, Clark, Fulton, Starke.

33. *Enallagma vesperum* Calvert. Cass, Clark, Starke. Although scattered specimens of this species may be taken in sheltered and shaded areas around lakes during the day, individuals begin to "swarm" over the water and in vegetation along the shore line at dusk—hence, the name given by Calvert to the species. The numbers flying appear to increase as the light decreases and just as it becomes too dark to see them any longer they are most abundant. On June 25-27, 1954, collecting trips were made along the shore of Schlamm Lake in the Clark County State Forest, beginning some time before sundown and continuing until after it was too dark to see an insect flying. On the first evening 13 ♂ and 12 ♀ were collected, on the second, only four of each sex and on the third day 15 ♂ and 13 ♀. The temperature was very high on the second day and did not drop noticeably at dusk as it did on the other two days. Thus, it appears that the flight pattern in this species may have some relationship to temperature.

In 1949 and 1950 I found *Lestes inaequalis* Walsh fairly abundant at Schlamm Lake, although it had not been seen there previously. It has been found each year since that time. It also occurs only in shaded areas during the day and begins to fly freely only near sundown although much earlier than *E. vesperum*. The numbers of this species taken on the three days in June followed the same pattern as *E. vesperum*—12 ♂ 3 ♀ on June 25, 6 ♂ 5 ♀ on the 26th and 11 ♂ 4 ♀ on the 27th.

34. *Enallagma signatum* (Hagen). Cass, Clark, Fulton, Gibson, Starke.

41. *Ischnura posita* (Hagen). Cass, Clark, Fulton, Gibson, Starke, Tippecanoe, Wells.

43. *Ischnura verticalis* (Say). Boone, Cass, Clark, Fulton, Gibson, Johnson, Starke, Tippecanoe, Warren, Warrick, Wells.

44. *Anomalagrion hastatum* (Say). Clark, Gibson, Tippecanoe.

45. *Tachopteryx thoreyi* (Hagen). Tippecanoe; a female of this species is included in a 4-H club insect collection made by David F. Pfendler. It was taken "resting on a tree," in a yard, on the edge of a ravine, about 7 miles west of West Lafayette.

48. *Cordulegaster obliquus* (Say). Clark. This species appears to be increasing in numbers in the State Forest, especially along the stream flowing from Schlamm Lake. The intermittent overflow, maintaining a moist bed in the stream with occasional pools, but usually no continuous flow of water in the summer would appear to be very favorable for this species. Seventeen males and one female were taken in 1953, but only one male in 1954, although others were seen.

49. *Progomphus obscurus* (Rambur). Gibson.

50. *Hagenius brevistylus* Selys. Tippecanoe.

52. *Erpetogomphus designatus* (Hagen). Tippecanoe, Warren.

52a. *Stylurus amnicola* (Walsh). Tippecanoe.

52b. *Stylurus plagiatus* (Selys). Tippecanoe.

58. *Gomphus graslinellus* Walsh. Clark, Ripley.
63. *Gomphus submedianus* Williamson. Gibson.
64. *Gomphus vastus* Walsh. Tippecanoe.
66. *Gomphus villosipes* Selys. Clark.
68. *Dromogomphus spinosus* Selys. Tippecanoe.
69. *Dromogomphus spoliatus* (Hagen). Clark, Gibson.
70. *Boyeria vinosa* (Say). Tippecanoe.
72. *Anax junior* (Drury). Tippecanoe.
75. *Aeshna constricta* Say. Clark, Tippecanoe.
78. *Aeshna umbrosa* Walker. Tippecanoe.
80. *Nasiaeschna pentacantha* (Rambur). Gibson.
81. *Epiaeschna heros* (Fabricius). Clark.
87. *Epicordulia princeps* (Hagen). Clark, Gibson.

*88a. * *Neurocordulia yamaskansis* (Provancher). Tippecanoe; Purdue Electric farm, about 5 miles north of West Lafayette, June 20, 1953, experimental light trap—1 ♀. This is the first record of this species, and the second for the genus, in Indiana. Say recorded *N. obsoleta* from the state, in a paper written sometime before 1834, but not published until 1839, five years after his death. This specimen is referred to *yamaskansis* rather than to *obsoleta* on the basis of general characters—especially the form of the vulvar lamina and the light coloration of the wings. (The specific differentials of the species of the genus are not very distinct and have never received exhaustive study.) There are only traces of brown at the bases of both fore and rear wings, and a brownish border to the subnodus and the subcostal antenodals (all 4 or 5 in rear wings, but only the proximal five—of seven—in the fore wing) with no color at all beyond the nodus.

Walker (1915) has recorded the flight habits of this species “. . . their time of flight is limited to about half an hour a day, commencing soon after sundown (a little after 8 p. m.), and continuing until shortly after 8:30, after which they retire to the shelter of the trees. It is thus nearly coincident with the mayflies, *Ephemera*, *Hexagenia*, *Heptagenia*, etc., upon which they appear to feed exclusively.” The present specimen was taken in a “suction” light trap; no notes are available to indicate if mayflies were taken on the same date, but the specimen was very likely trapped while pursuing prey attracted to the light.

Two other specimens of Odonata, both females, were also taken in light traps in 1953—one of *P. tenera* at the same locality, July 18, and one of *S. ambiguum* near Vincennes, Aug. 8.

89. *Tetragoneuria cynosura* (Say). Clark.
90. *Tetragoneuria cynosura simulans* Muttkowski. Clark, Tippecanoe.
94. *Somatochlora linearis* (Hagen). Clark.
96. *Holotania cyanea* (Fabricius). Clark, Gibson.
98. *Holotania incesta* (Hagen). Clark, Gibson.
99. *Holotania luctuosa* (Burmeister). Cass, Clark, Fulton, Gibson, Tippecanoe.

103. *Holotania vibrans* (Fabricius). Clark, Gibson.

96a. *Ladona deplanata* (Rambur). Clark. This species, first taken at Schlamm Lake, in 1952, was found in 1953 (5 ♂ 1 ♀), but not in 1954.

100. *Neotetrum pulchellum* (Drury). Gibson, Wells.
104. *Plathemis lydia* (Drury). Gibson, Tippecanoe, Warren, Wells.
105. *Perithemis tenera* (Say). Cass, Fulton, Gibson, Marshall, Tippecanoe.
107. *Erythemis simplicicollis* (Say). Cass, Clark, Fulton, Gibson, Starke, Tippecanoe, Wells. Specimens taken at Schlamm Lake, June 20, 1953, seem worthy of note. Of 6 ♂ 5 ♀ taken, 1 ♂ was lightly and 4 ♀ were heavily infested with mites. One male is the smallest specimen of this species I have ever seen—length, 35 mm., abdomen 24 mm., fore wing 27 mm., and rear wing 26 mm., other specimens were of normal size, two representative males, measuring: length 42-43 mm., abdomen 29 mm., fore wing 31 mm., and rear wing 30 mm.
108. *Sympetrum ambiguum* (Rambur). Clark, Knox, Gibson, Tippecanoe.
110. *Sympetrum internum* Montgomery. Ripley, Tippecanoe.
111. *Sympetrum obtrusum* (Hagen). Cass, Gibson, Starke, Tippecanoe, Wells.
112. *Sympetrum rubicundulum* (Say). Cass, Gibson, Starke, Tippecanoe, Wells.
114. *Sympetrum vicinum* (Hagen). Cass, Fulton, Gibson, Starke, Tippecanoe.
115. *Pachydiplax longipennis* (Burmeister). Clark, Gibson, Tippecanoe, Wells.
118. *Celithemis elisa* (Hagen). Fulton, Gibson.
119. *Celithemis eponina* (Drury). Cass, Fulton, Marshall.
- 119a. *Celithemis fasciata* Kirby. Clark.
120. *Celithemis monomelaena* Williamson. Fulton.
- 120a. *Celithemis verna* Pritchard. Clark. This species was first found in the state at Schlamm Lake in 1949; it was noted in 1950, but not in 1951 or 1952. However, it now appears to be well established at this locality, and was observed and collected in 1953 (13 ♂ 2 ♀, including two mated pairs) and 1954 (5 ♂ 2 ♀, including two mated pairs).
124. *Tramea lacerata* Hagen. Cass, Fulton, Gibson.

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