A List of Fireflies Known of Likely to Occur in Ohio, with Special Notes on Species of Ellychnia (Lampyridae: Coleoptera)

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A LIST OF FIREFLIES KNOWN OR LIKELY TO OCCUR IN OHIO; WITH SPECIAL NOTES ON SPECIES OF ELLYCHNIA¹, ²
(LAMPYRIDAE: COLEOPTERA)

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ABSTRACT

This paper provides a check list of Ohio Lampyridae. The species are listed in phylogenetic order and distribution records are given by counties. This study reveals 8 genera and 24 species recorded from Ohio. Pyropyga minuta LeConte is a new state distribution record.

Examination of male genitalia of specimens of the genus Ellychnia LeConte clearly shows that E. corrusca (Linnaeus), E. autumnalis (Melsheimer), and E. lacustris LeConte should each be classified as a distinct species.

During the course of this investigation, 2,271 specimens were examined. I collected a total of 1,374 of these specimens between 1960 and 1962 in Athens and neighboring counties in southeastern Ohio. The remaining specimens examined were in the collections of Ohio University (141), The Ohio State University Department of Zoology and Entomology (498), and The Ohio State Museum, Natural History Division (258). My field notes, data from museum specimens and literature records were combined to give information on ecology and distribution of Ohio species.

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"North American Fireflies of the Genus Photuris" was published by H. S. Barber in 1951. This paper contains descriptions of 10 new species and 2 new varieties of American fireflies. Prior to this work, Photuris pensylvanica DeGeer was the only species of this genus recorded from Ohio. Barber’s system of classification is based primarily on variation in the flashing behavior of the males of the species, and to a lesser degree on seasonal variation in population between species. I made limited observations on the Ohio species of this genus. It was noted that variation does occur in the flashing behavior of the males, but no definite pattern could be detected. Most specimens collected exhibited a single green flash given at varying intervals; however on several occasions, specimens were collected which had given a series of short quick flashes. Due to insufficient data on behavior, the studied specimens of this genus were not identified to species by Barber’s arrangement, but have been placed in a Photuris pensylvanica complex.

Using an earlier system of classification, F. O. Hazard (1929) in his work on the Ohio Lampyridae, reported 7 genera, 17 species, and 1 variety of the tribe Lampyrini as occurring in Ohio. This tribe has now been raised to the family Lampyridae, and 2 of the species and the 1 variety reported by Hazard have since been reduced to synonymy. My study revealed 8 genera and 24 species recorded from Ohio with 1 genus and 7 additional species of possible occurrence. One specie is newly recorded from the state.

The species in the following list are arranged phylogenetically, and the distribution records are given by county. When a county is represented by one or two specimens, the date of collection and deposition of each specimen is included;

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when represented by a larger number, the total number of specimens examined for that county is listed with the collections in which they were found. Collections have been abbreviated in the following manner: Ohio University (OU), The Ohio State University (OSU), the Ohio State Museum (OSM), and author’s collection (AC). Additional information on relative abundance, seasonal occurrence, biological and ecological notes, and habits is included when sufficient data permit.

CHECK LIST OF OHIO LAMPYRIDAE

**Lucidota** Castlenau

* L. *atra* (Fabricius)
  - Ashland, 7-VII–40 OSM 1–VI– OSU
  - Ashtabula, -VI–09 OSU
  - Belmont, 5 specimens OSM
  - Champaign, 13–VI–61 OSM
  - Columbiana, 21–VI–32 OSM
  - Delaware, 3 specimens OSM
  - Fairfield, 19–VII–38 OSM 29–VI–35 OSU
  - Franklin, 17–VI–35 OSM 16–VII–35 OSM
  - Greene 15–VI–53 OSU
  - Licking, 27–VI–46 OSM
  - Muskingum, 4–VII–33 OSM
  - Summit, 1–VII–20 OSM
  - This species is a diurnal form often occurring in large colonies. June 15 to August 1.

* L. punctata* LeConte
  - Ashland 1–VII OSU
  - Belmont, 24–VI–39 OSU
  - Delaware, 21–VI–50 OSU 24–VI–52 OSM
  - Hocking, 12 specimens OSM
  - Scioto, 9–VI–45 OSU
  - June 10 to July 20.

**Ellychnia** LeConte

* E. autumnalis* (Melsheimer)
  - Champaign, 8–X–35 OU

* E. lacustris* LeConte*
  - No state record, but known to occur in Michigan, Minnesota, and Wisconsin.

* E. corrusca* (Linnaeus)
  - Ashland, 27–V– OSU
  - Champaign, 7–V–43 OSM
  - Columbiana, 9–IX–33 OSM
  - Erie, 6–VIII–02 OSU
  - Franklin, 6–IV–32 OSM
  - Harrison, 2–IV–39 OSM
  - Jackson, 5–XI–35 OU 12–VI–32 OSM
  - Licking, 21–V–33 OSM
  - Pike, 14–X–34 OSM
  - Scioto, 10–VI–44 OSM
  - This species is a common diurnal woodland form, usually found in shady locations, and overwinters as an adult. Most abundant in early spring and fall.

**Pyropyga** Motschulsky

* P. nigricans* (Say)
  - Athens, 24–VI–61 AC
  - Franklin, 10–VII–51 OSM
  - Lucas, 29–VI– OSU
  - June 25 to August 15.
P. decipiens (Harris)
Ashtabula, literature record
Champaign, 2-VIII-51 OSM
Defiance, literature record
Fairfield, 29-VI-35 OSU
Geauga, 17-VII-36 OSM
Guernsey, literature record
Huron, 1-VII-32 OSM
Licking, 17-VII-35 OSM
Portage, 21-VI-32 OSM
Williams, literature record
Athens, 106 specimens AC, OU, OSM
Clinton, literature record
Delaware, 9 specimens OSU
Gallia, 4-IX-45 OU
Greene, 22-VII- OSU
Holmes, 2-VIII-32 OSM
Knox, literature record
Pickaway, 24-VI-51 OSM
Ross, literature record
This is the most common species of this genus; collected in open grassland fields near small streams or ponds. June 20 to August 1.

P. minuta LeConte
Athens, 24-VI-61 AC 3-IX-61 AC 16-VIII 33 OU
Meigs, 28-VII-39 OU
New state record.

Photinus Castlenau
P. cooki Green*
No state record, but known to occur in Kentucky and Tennessee.

P. sabulosus Green
Athens, 13 specimens AC, OU
Champaign, 18-VI-59 OSU
Delaware, 2-VII- OSU
Green, 8-VII-50 OSU
Hocking, 5 specimens OSU
Meigs, 29-VI-35 OU
Scioto, 10-VI-44 OSU 17-V-44 OSU
This species occurs in small numbers in early evening near marginal woodland vegetation.

P. marginellus LeConte
Athens, 23-VI-39 OU
Fairfield, 5-VII-51 OSM
Greene, 4 specimens OSU
Madison, 4-VII-51 OSM
Pickaway 7-VII-31 OSM
Summit, 16 specimens OSU
Athens, 64 specimens OSU
Franklin, 10-VII-39 OSU
Hocking, 8 specimens OSU, OSM
Marion, 10 specimens OSM
This species emits a short yellow flash at about 5-sec intervals. June 1 to August 1.

P. curtatus Green
Athens, 11 specimens AC
Franklin, 15 specimens OSM
Highland, 7-VII-53 OSM
This species inhabits moist woodland areas. June 15 to July 5.

P. scintillans (Say)
Summit, literature record
Female not similar to male, brachypterous.

P. pyralis (Linnaeus)
Adams, 25-VI-33 OSM
Athens, 521 specimens AC, OU
Champaign, 27-VII-35 OSM 18-VI-51 OSU
Coshocton, 22-VI-32 OSM
Defiance, 6-VII-48 OSM
Erie, 18-VII-38 OSM
Franklin, 15 specimens OSU, OSM
Highland, 10-VII-29 OSM 20-VIII-35 OU
Hocking, 12 specimens, All collections
Huron, 1-VII-32 OSM
Licking, 11-VII-37 OSM 6-VII-31 OSM
Lucas 3-VIII-35 OSM
Muskingum, 3-VII-32 OSM
Preble, 6-VII-50 OSM 11-IX-29 OSM
Allen, 5 specimens OSM
Butler, 1-VII-38 OSM
Crawford, 1-VII-39 OSM
Delaware, 32 specimens OSU
Fairfield, 11-VIII-39 OSM
Greene, 8 specimens OSU
Jackson, 6-VII-35 OSM
Meigs, 23-VII-38
Pickaway, 19-VII- OSU
Ross, 20-VI-34 OSM  Scioto, 17-VI-44 OSU
Warren, 21-VI-36 OSM
This is the most abundant Ohio species of firefly, occurring in large numbers from June to September. Most frequently found flying over lawns and open meadows.

*P. brimleyi* Green
No state record, but known to occur in Kentucky. Female not similar to male, brachypterous, larviform.

*P. indictus* (LeConte)
Ashtabula, 23-VI-37 OSM  Delaware, 2-VII- OSU
Fairfield, 3-VI-34 OSM  Ross, 10-VIII-32 OSM
Summit, 15-VII-20 OSM  28-VI-60 OSM

*P. consanguineus* LeConte
Ashtabula, literature record  Scioto, 10-VI-44 OSU  17-VI-44 OSU

*P. consimilis* Green
Athens, 24-VIII-61 AC  Holmes, literature record

*P. ardens* LeConte
Athens, 24-VIII-33 OU  Champaign, 27-VII-35 OSU
Erie, 7-VI-32 OSM  17-VI-32 OSM
Holmes, 17-VI-31 OSM  18-VI-31 OSM

*Pyroctomena* LeConte

*P. angulata* (Say)
Adams, 3-VI-30 OSM  22-VI-35 OU
Athens, 6 specimens OU, AC  Champaign, 8 specimens OSU, OSM
Delaware, 19 specimens OSM  Franklin, 9-VI-38 OSU
Hocking, 42 specimens OSM, OSM  Jackson, 28-VI- OSU
Lucas, 9-VI-38 OSU  Ross, 20-VI-34 OSM
Scioto, 17 specimens OSU

This is probably the most widely distributed species of this genus. June 1 to August 1.

*P. lucifera* (Melsheimer)
Clinton, literature record  Fairfield, 23-VII-39 OSM
Hamilton, literature record  Summit, 27-VI- OSM  26-VI-01 OSU

*P. sinuata* Green*
No state record, but known to occur in Pennsylvania and Illinois.

*P. borealis* (Randall)
Champaign, literature record  Warren 4-VI-52 OSU

This species is the largest firefly in Ohio, ranging from 12-19 mm.

*P. marginalis* Green*
No state record, but known to occur in New York, Pennsylvania, Virginia and Illinois.

*P. linearis* Green
Holmes, 19-VI-31 OU

*P. dispersa* Green
Athens, 21 Specimens AC OU  Greene, 12-VI-53 OSU
Hocking, 2-VI-57 OSU  20-V-57 OSU

This species can be collected just at dusk, in open fields and lawns. June 1 to July 1.

*Phausis* LeConte

*P. splendidula* (Linnaeus)*
No state record, but known to occur in Maryland and Illinois.

*P. inaccensa* LeConte*
No state record, but known to occur in Indiana.

*Pleotomus* LeConte

*P. davisi* LeConte
Franklin, 26-VI-36 OSM  Probably this species.

*Photuris* Dejean

*P. pensylvanica* (DeGeer) Complex
Adams, 3-VI-30 OSM  11-VI-39 OSM
Figures show male genitalia of species of *Ellychnia* LeConte; dorsal, lateral, and ventral views are arranged in that order from left to right.

**FIGURE 1** (at top). *Ellychnia corrusca* (Linnaeus).
**FIGURE 2** (in middle). *Ellychnia autumnalis* (Melsheimer).
**FIGURE 3** (at bottom). *Ellychnia lacustris* LeConte.
Ashtabula, 6-VI-34 OSU
Belmont, 21-VI-39 OSM
Crawford, -VII-39 OSM
Erie, 17-VI-37 OSM
Franklin, 30-VI-31 OSM 14-VI-35 OSM
Hocking, 9 specimens, all collections
Knox, 22-VI-32 OSM
Meigs, 27-VI-36 OSM
Summit, 15-VII-20 OSU
Washington, 4-VI-39 OU

This complex of species is common throughout Ohio. June 1 to September 10.

*Polyclasis* LeConte

*P. bifaria* (Say)

Athens, 26-VII-35 OU 15-VII-61 AC

Champaign, 9-VI- OSU

Hamilton, ——OSU

This diurnal, woodland species is not common in Ohio.

NOTES ON SPECIES OF *Ellychnia* LeConte

Little has been published concerning species of the genus *Ellychnia* LeConte, and the exact taxonomic position of certain species has been in question for some time.

LeConte (1881) considered *autumnalis* (Melsheimer) and *lacustris* LeConte as subspecies of *E. corrusca* (Linnaeus). W. S. Blatchley (1910) raised *lacustris* to the species level, but continued to treat *autumnalis* as a subspecies. In the Catalogue of Coleoptera (1920) Leng followed LeConte's treatment. McDermott (1958) states that though *autumnalis* is often given as a "variety" of *E. corrusca*, it should be considered as a distinct species.

The male genitalia of seven specimens of *E. autumnalis*, and 17 specimens of *E. lacustris* from the collection of W. C. Stehr, were examined. Larger numbers of genitalia extractions were made from *E. corrusca*. The genitalia of these forms may be described as follows:

*E. corrusca* (Linnaeus), figure 1; large and broad, with lateral lobes deeply incurved near apex; color entirely black.

*E. autumnalis* (Melsheimer), figure 2; oblong with inner margins of lateral lobes deeply notched at base; color black, with grey area near apex of lateral lobes.

*E. lacustris* LeConte, figure 3; long and narrow, lateral lobes straight with inner margins finely serrate; color dark piceous, with lighter area near apex of lateral lobes.

The distinct differences discovered in the male genitalia of *E. corrusca* (Linnaeus), *E. autumnalis* (Melsheimer), and *E. lacustris* LeConte support the view that these three should be considered as separate species.

REFERENCES


