Blatchley, Willis Stanley.

A catalogue of the butterflies known to occur in Indiana.
BUTTERFLIES OF INDIANA.

BLATCHLEY.
A CATALOGUE

OF THE

BUTTERFLIES

KNOWN TO

Occur in Indiana.

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So far as can be ascertained no attempt has heretofore been made to catalogue the Diurnal Lepidoptera, or Butterflies, found in Indiana. Quite a number of persons have collected in various counties of the State, yet, as far as known, but two local lists have been published. One, "A List of the Butterflies of Decatur County, Indiana," by W. P. Shannon, was read by title before the Academy of Science, at Indianapolis, in December, 1887, and hectograph copies were afterward distributed by the author. The other list was prepared by the present writer, and published in the Hoosier Naturalist, of November and December, 1886, under the title of "Some Southern Indiana Butterflies." It contained the names of, and brief notes concerning, fifty-three species taken in Monroe and Brown counties. Since 1886 the writer has collected more or less each season in various parts of the State, especially in Putnam, Wabash and Vigo counties, where a number of interesting and rare species have been taken. During my study of butterflies I have often felt the need of a catalogue of those species known to occur in the State, and believing that such a work would be of some value to future collectors, the present paper has been prepared. It comprises 108 species that have been taken within the boundaries of the State—no species being included except upon good authority. Of these, 81 are in the writer's collection, and were taken in the counties above mentioned, or in Lagrange, Kosciusko or Montgomery counties.

The remaining 27 species are in the collections of W. H. Edwards, of Coalburg, West Virginia; S. G. Evans, of Evansville, Indiana; C. E. Worthington, of Chicago, Illinois; or Geo. C. Hubbard, of Madison, Indiana. Mr. Edwards, who is one of the leading authorities upon butterflies in the United States, has received specimens from several persons in the State, chief among whom are the late Dr. G. M. Levette, of Indianapolis, and W. C. Gallager, of Ross, and he kindly furnished me a list of those in his collection from Indiana.
Mr Evans has one of the finest private collections in the State, and has taken several species in Vanderburgh County, which have not been taken elsewhere within our limits, among them the large and beautiful Argynnis diana. Mr. Worthington has collected extensively in Lake County, where many rare species occur, and his list and notes have added materially to the value of the catalogue. To the above named gentlemen, as well as to a number of others from whom information was derived, which is duly acknowledged in the proper places, my especial thanks are due.

It will be seen that the counties mentioned, in addition to those of Gibson, Randolph and Fayette, from which lists have been received, represent fairly well all portions of the State; yet twenty-three additional species are given in Mr. Edward's Catalogue of the Butterflies of North America, whose range includes or approaches Indiana, but which, as far as known, have not been taken within our limits, and, therefore, are not included in the present catalogue. Moreover, the known distribution within the State of a number of the species taken is much more limited than it should be; hence additions to the catalogue, as well as information with regard to extension of range within the State, are earnestly requested and will be duly acknowledged.

To make the catalogue as valuable as possible to future collectors, not only has the known range of each species within the State been given, but also its favorite place of resort and the season at which it is most abundant, together with any other information regarding variation or habits which it was thought would be of interest. Prof. G. H. French in his manual of "The Butterflies of the Eastern United States," has treated of the habits of the larvae of most of the species, but has said but little about the habits of the mature insects. To the student of Indiana butterflies this catalogue will perhaps serve as an accessory to French's work, and hence little or nothing is said of the larvae.

The nomenclature adopted is that of Edward's "Revised Catalogue of the Diurnal Lepidoptera of America North of Mexico," published in the Transactions of the American Entomological Society for 1884. The number in parenthesis before each name is that of the species in the catalogue cited.

Finally, I have thought it best to include the synonymy of each of the species which is treated of in the works which the student of Indiana butterflies will be most likely to possess and to which I have had access in preparing the catalogue. Those works are the following:


Harris, Dr. T. W.—A Treatise on some of the Insects Injurious to Vegetation. Third Edition, 1862. (Of the 54 species of butterflies described in this most excellent work, 51 have been found in Indiana.)


Wood, J. G.—“Insects at Home,” 1873.

Blatchley, W. S.—“Some Indiana Butterflies,” in Indiana Farmer, Vols. 21 and 22.

“Some Southern Indiana Butterflies,” in Hoosier Naturalist, November and December, 1886.

* * *

PAPILIONIDÆ.

PAPILIONÆ.

PAPILIO, Linnaeus.

1. (1.) Papilio Ajax, L. Ajax Butterfly. The Zebra Swallow-tail.

Papilio ajax, Morris, Lep. N. A., 1862, 8, 351. (Form walshii, Edw.)

Edwards, But. N. A., I, 1871, pls. 1, 2, 3. (All forms.)


Id., But. E. U. S., 1886, 84. (All forms.)

Blatchley, Indiana Farmer, Oct. 9, 1886.


Papilio marcellus, Morris, Lep. N. A., 1862, 9. (Form marcellus, Bd.)
The three forms, walshii, Edw.; telamonides, Feld., and marcellus, Bd., are doubtless found throughout the State. All have been taken by the writer in Monroe and Vigo counties. Of the three, marcellus is much the more common, walshii being comparatively scarce, though Edwards, loc. cit. p. 9, says "that Dr. G. M. Levette has taken it abundantly in the month of April near Indianapolis." The food plant is pawpaw. The butterfly frequents open woods and winters in chrysalis.

2. (2.) Papilio philenor, L. The Philenor Butterfly. The Blue Swallow-tail.

French, Seventh Rept. State Ento. of Ill., 1878, 136.
Id., But., E. U. S., 1886, 86, figs. 11, 12, 13.
Blatchley, Ind. Farm., Oct. 9, 1886.


Throughout the State. The larvae are said to feed upon the different species of Aristolochia, or pipe vine, but the plants of that genus are rare in Indiana, whereas the butterfly is a common one, hence there must be some other food plant. Found from May 1, to September 20, in open woods and pastures. According to Riley, another food plant of the larvae is Asarum canadense, or wild ginger, a common plant on rich hillsides in Indiana.


Harris, Insects Injur. to Veg., 3d Ed., 1862, 265, Pl. IV.
French, Seventh Rept. State Ento. of Ill., 1878, 137.
Blatchley, Ind. Farm., Oct. 9, 1886.


This handsome Papilio inhabits all parts of the State, but next to P. cresphontes is the least common member of the genus found with us. Its larva is the well-known carrot or parsnip worm found on the various wild and cultivated species of Umbelliferae.

The butterfly is most common in July and August, in open woods, especially those containing thistles. It winters in the chrysalis, the first ones appearing about May 15.

*Papilio troilus*, Harris, Ins. Inj. to Veg., 1862, 3d Ed., 266.
Morris, Lep. N. A., 1862, 5
Blatchley, Ind. Farmer, Oct. 9, 1886.


The larvæ of this species feed upon the leaves of the sassafras, *Sassafras officinale*, Nees, and the spice bush, *Lindera Benzoin*, Bl., and the butterfly is common wherever those plants are found. There are two broods each season, and the winter is passed in the chrysalis state.

It frequents roadsides and open pastures in company with *P. philenor*, and may be taken from May 1 to Oct. 10.

Specimens are frequently taken which expand four inches, and many have the inner row of spots on upper surface of hind wings obsolete. The orange anal spot of this row is, however, always present.


*Papilio turnus*, Harris, Ins. Inj., 1862, 268, figs. 97, 98.
Id., But. E. U. S., 1886, 97, figs. 17, 18, 19.
(All forms.)
Blatchley, Ind. Farmer, Oct. 9, 1886.


(Dimor. form *glaucus*, L.)

Frequent in all parts of the State from May 15 till October. In May and June it is often seen in the vicinity of streams and along the borders of thickets; later on it is more abundant about thistle patches in open woods. The larvæ feed upon a number of plants, chief among which are: ash, tulip or poplar, cherry, apple, and the various species of *Crataegus* or hawthorne. The dimorphic female form, *glaucus*, L., is southern in its range, but has been taken in the State as far north as Kosciusko County. It is usually rare where found, no more than one or two specimens having been seen or taken in any one locality, except in the vicinity of Evansville, Vanderburgh County. Of its distribution...
there Mr. Evans says: "It is quite common, and presents many curious examples of black and yellow blended and mixed in the same insect. I took one in which the left wing and half body were yellow, and the right, black. I saw another last season that seemed to be equally black and yellow, the two colors being almost evenly distributed over the whole insect. There are about half as many glaucus as turnus in the county." In Indiana turnus is double brooded and winters in the chrysalis.


This is our largest and rarest Papilio. Its range, as given by Edwards, is "Southern and Western States, but moving east and north" It is reported as rare by most of the persons who have sent in lists. During the six years which the writer has collected in the State he has seen but two living specimens, one in Montgomery, the other in Wabash County. The food plants of the larvae, Ptelea trifoliata, L., and Xanthoxylum Americanum, Mill (Hop tree and Prickly Ash), are not rare in Monroe and Vigo Counties, yet the butterfly has not been seen in either, although a constant outlook has been kept for it. Where found it is usually near streams, and flies swiftly and high in air, thus rendering its capture difficult.

PIERINÆ.

PIERIS, Schrank.


Blatchley, Ind. Farmer, Oct. 9, 1886.
Id., Hoos. Nat. II, Nov., 1886, 42.


The two forms of this species, *protodice*, Bd.-Lec. and *vernalis*, Edw., are found all over the State, but they are much less common than *P. rapae*, L. It has almost the same habits as the latter, but is more often found at a distance from cultivated grounds. It winters in the pupa state, first appearing as imago about April 15, and may be taken as late as November 1. Food, plants, cabbage, turnip and sweet alyssum. There are three broods each season, and in Vigo County, in the spring of 1891, large numbers of the first brood were seen mating on April 18.


*Pontia oleracea*, Harris, Ins. Inj., 1862, 270, fig. 99.


Scudder, Morris, loc. cit., 315.


Packard, Guide, 8th Ed., 1883, 249, fig. 182.


This species of many names is represented sparingly in the northern part of the State by the above named variety, the range of which is given by Edwards as New York to Michigan.

Specimens in the writer's collection were taken by Mr. A. B. Ulrey in Kosciusko County, in the summer of 1890. Food plants—cabbage, turnip, radish, etc.


Thomas, Ninth Rept. State Ento. Ill., 1880, 8, 31, figs. 1, 2.


Blatchley, Ind. Farmer, Oct. 9, 1886.

Found in large numbers throughout the State, and is our most injurious butterfly, the larvæ literally destroying the cabbage crop in many localities. It winters in the pupa state and the first ones appear about April 1, from which date until heavy frosts it may be taken. It is most abundant in Central Indiana, about July 1, when the second brood appears. In the southern part of the State a third brood appears about September 10, the pupæ of which survive the winter. In this country \textit{P. rapae} is preyed upon by one dipterous parasite, \textit{Exoriste hirsuta}; and by two hymenopterous parasites, \textit{Pteromalus puparum} and \textit{Apanteles glomeratus}. Sometimes as many as one hundred eggs of one of these parasites are deposited within the body of a single caterpillar, and the number of larvæ of \textit{P. rapae} which they prevent from reaching the perfect state, during a single season, is an enormous one.

\textbf{NATHALIS, Boisduval.}

10. (39.) \textit{Nathalis io}, Bd.
\textit{Nathalis irene}, (Fitch), Morris, Lep. N. A., 1862, 22, 351.

This butterfly has been taken only in Jefferson, Lake and Vanderburgh counties. In the latter Mr. Evans reports it as found only one season in November. Its range as given by Edwards is "Illinois, Missouri and westward." Food plant of larva unknown.

\textbf{ANTHOCHARIS, Boisduval.}

11. (43.) \textit{Anthocharis olympia}, Edw.

\textit{Anthocharis olympia} occurs in small numbers about Whiting, Lake County, during the first half of May, where it has been taken by Mr. Chas. E. Worthington, of Chicago. It frequents cultivated grounds, gardens and meadows. Food plant, unknown.

12. (53.) \textit{Anthocharis genutia}, Fab. The Falcate Orange-tip.
\textit{Anthocharis genutia}, French, But. E. U. S., 1886, 118.
\textit{Anthocharis genutia}, Scudder, But. E. U. S. and Can., 1889, II, 1147; III, pls. 15, 26, 65, 76, 84.
Vanderburgh County, by Evans. "This pretty species is single brooded and flies in spring. The eggs are laid upon the species of Cardamine and other Cruciferae, but the life history of the larvae is not well known. It flies low and swiftly, with a peculiar tremulous motion, and is readily distinguished from other Pierids by its flight as well as by the conspicuous coloring of the male." Edwards, loc. cit.

CALLIDRYAS, Boisduval.


A beautiful butterfly, whose range is southern, and which is reported only from Vanderburgh County, where Mr. Evans takes from one to a half dozen almost every season, in open woods during July and August. Food plant, the different species of Cassia or Wild Senna.

14. (56.) CALLIDRYAS PHILEA, L.

(Note by W. H. Edwards.)

A single specimen of the above species has been taken in Jefferson County by Mr. Hubbard. It has been reported heretofore only from Texas, Illinois and Wisconsin.

COLIAS, Fabricius.


French, But. E. U. S., 1886, 127, fig. 32.

This beautiful Colias has been taken only along the western border of the State. It is reported as frequent in Vanderburgh and Lake counties. In Vigo County, in the latter half of October, 1887, three or four specimens were taken from the vicinity of ponds in the Wabash River bottoms, but it has not been seen since. The larvae feed upon clover, and false indigo, Amorpha fruticosa L.
The females, which are on the wing in late autumn, have the underside of the hind wings much more deeply suffused with red than do those which fly earlier in the season.


Id., But. N. A., II, 1884, 103, pl. 21. (All forms.)
Mead, Rep, Wheeler Exp., v. 1875, 748.
Id., But. E. U. S., 1886, 128. (All forms.)
Blatchley, Ind. Farmer, Oct. 9, 1886.


*Colias keewaydin*, Edw., But. N. A., I, 1869, 49, pl. 15.


*Colias edusa*, Id., loc. cit., 27.

*Colias chrysotheme*, Id., loc. cit., 28.

The two forms, *eurytheme*, Bd., and *keewaydin*, Edw., occur occasionally in various parts of the State, but are nowhere common. *Keewaydin* was taken by the writer in Monroe County, in 1887, and *eurytheme* in Putnam County in 1890.

It winters, according to Edwards, in both imago and pupa stage, frequents meadows and roadsides, and is most common in July. Food plant, white and buffalo clover.

17. (68.) **Colias philodice**, Godt. The Sulphur Yellow Butterfly.


French, Sev Rept. State Ento., Ill., 1878, 147.


This is, without doubt, the most common butterfly in the State, being found in abundance from April 10 to November. In May and June they frequent fields of clover, upon which plant the larvae feed, but later on they congregate by hundreds about muddy places in the roads, and along streams. The white female form is often seen, but is much less common than the yellow.
The species varies greatly, and that young collectors may not look upon
some of its forms as distinct species, I quote the following, slightly mod-
ified, from Edwards, loc. cit., p. 97: "They vary in size from an ex-
panse of 1.3 to 2.6 inches; in color, from pale sulphur to lemon and
bright yellow; in the breadth of the black border from .1 to .3 inches;
in the size and shape of discal spot on primaries and secondaries; in the
color of the under surface, and in the row of extra discal spots beneath,
from a complete series across both wings to none at all." Hibernates
usually as pupa, but sometimes as larva. There are three broods each
season, the first of which, in Central Indiana, appears about April 25,
the other two in the latter half of June and August, respectively. A
few individuals have been seen on the wing, in Vigo County, as late as
November 5.

TERIAS, Swainson.

18. (86.) Terias nicippe, Cram. The Nicippus Butterfly. The
Black-bordered Yellow.


Xanthidia nicippe, Scudder, But. E. U. S. and Can., 1889, II,
1066; III, pls. 15, 26, 65, 76, 84.

Throughout the southern half of the State, but not seen by the writer,
nor reported farther north than Vigo and Fayette counties. Quite fre-
quent where found, and especially so in October along sandy banks where
the food plants of the larva, the various species of Cassia, or Wild Senna,
are abundant. Specimens on the wing have been seen in the city of Terre
Haute as late as November 18, and it probably hibernates as a but-
terfly.

19. (90.) Terias lisa, Bd.-Lec. The Lisa Butterfly. The Little
Sulphur.

Terias lisa, Morris, Lep. N. A., 1862, 34.
Id., But. E. U. S., 1886, 139.

Eurema lisa, Scudder, But. E. U. S. and Can., 1889, II, 1087;
III, pls. 7, 15, 26, 65, 76, 84.

Although this little Terias is said by French, in the Seventh Ill. Re-
port, loc. cit., to be "one of the most common butterflies that flits along
roads and over moist places during the summer and fall in Southern Illi-
nois," yet in Indiana it has been noted only in Decatur, Lake and Van-
derburgh counties, in the latter of which Mr. Evans takes "a few each
season." Food plant, clover and Cassia.
NYMPHALIDÆ.

DANAINÆ.

DANAIS, Latreille.


_Danais archippus_, Harris, Ins. Inj., 1862, 280.


Blatchley, Ind. Farm., 1886, Oct. 30.

_Anosia plexippus_, Scudder, But. E. U. S. and Can., 1889, I, 720; III, pls. 1, 16, 18, 64, 74, 83, 87.

One of the largest and most common butterflies throughout the State. Most abundant about June 1 and September 10, when the two broods of the season, respectively, come forth. A few faded individuals may be seen in April as the imago hibernates. This is one of the few species the members of which flock together at certain periods, usually about September 20. These swarms seem to be composed almost wholly of males, and in Indiana gather about the leaves and branches of beech trees. The reasons for these gatherings are, up to the present, unknown. Food plants of larvæ, the various species of milkweed (_Asclepias_).

NYMPHALINÆ.

AGRAULIS, Boisduval and LeConte.

21. (100.) AGRAULIS VANILÆ, Linn.


A handsome species, which inhabits the Southern States, and has been taken in Indiana only in Vanderburgh County.

The food plant of larvæ is the beautiful Southern Passion Flower, _Passiflora incarnata_, L. Those found in this State doubtless fed upon the allied species, _Passiflora lutea_, L.
ARGYNNIS, Fabricius.


*Argynnis idalia*, Harris, Ins. Inj., 1862, 285, fig. 110.
Blatchley, Ind. Farmer, 1886, Nov. 6.

*Speyeria idalia*, Scudder, But. E. U. S. and Can., 1889, I, 535; III, pls. 4, 12, 21, 64, 75, 84.

This fine species is known to occur in but four counties in the State, viz., Monroe, Vanderburgh, Fayette and Lake.

It emerges from the chrysalid formed by the hibernating larva about July 1, and frequents meadows and low grounds near streams. Its larvae, as well as the larvae of all other members of the genus, feed upon the different species of wild and cultivated violets.

23. (102.) **ARGYNNIS DIANA**, Cram. The Diana Butterfly.

*Argynnis diana*, Morris, Lep. N. A., 1862, 42. (Male only.)
Edwards, But. N. A., I, 1868, 63, pl. 20.
Id., But. N. A., II, 1884, 148, pl. 29. (Preparatory stages.)


This large and beautiful Argynnis is a southern species, ranging from West Virginia through Kentucky and Tennessee to Arkansas, but is nowhere common. Mr. S. G. Evans, of Evansville, Ind., has, however, collected them in the vicinity of that city every season for ten or twelve years. He takes them from the middle of June to the middle of August, from upland meadows and borders of woods. This is, as far as known, the most northern station at which the species has been found, and is its only record in the State. Like the other members of its genus, it is single brooded, the larvae feeding on violets and hibernating.


*Argynnis cybele*, Morris, Lep. N. A., 1862, 42.
Blatchley, Ind. Farm., 1886, Nov. 6.
Scudder, But. E. U. S. and Can., 1889, I, 554; III, pls. 4, 21, 64, 75, 84.
Next to *Colias philodice*, Godt, this is the most common butterfly in Indiana from May 20 until September. In any clover field in June vast numbers may be seen gathering honey and chasing one another from bloom to bloom. In July and August they are to be found wherever there are thistles and ironweeds. During the latter month the eggs are laid, and by the middle of September the butterfly has almost wholly disappeared. The larvae pass the winter beneath sticks and pieces of bark in the vicinity of the food plant.

*Argynnis aphrodite*, Harris, Ins. Inj., 1862, 285, fig. 111.  
Morris, Lep. N. A., 1862, 43.  
Edwards, But. N. A., I, 1868, 71, pl. 22.  
Id., But. E. U: S., 1886, 157, fig. 40.  
Packard, Guide, 8th Ed., 1883, 253, fig. 183.  
Scudder, But. E. U. S., 1889, I, 563; III, pls. 4, 12, 21, 64, 72, 84.

*A. aphrodite* has been noted in but five counties, but probably occurs throughout the State, being confounded with *cybele*, which it closely resembles. It may, however, be easily told from that species by the following characters:

Smaller size; less brown on the bases of the upper side of wings; narrower pale band near outer margin of under side of hind wings; narrower space between black bands on outer margin of fore wings above; and deeper tint of ground color, approaching a red. It frequents the same localities as *A. Cybele*, and is most abundant, where found, from June 25 till August.

Id., But. E. U. S., 1886, 158.  
Blatchley, Ind. Farm., Nov. 6, 1886.  
Id., Hoos. Nat, II., Nov. 1886, 42.  

In Indiana this species has been collected in but two counties—Lake, where Worthington reports it as common; and Monroe, where a single specimen was taken from a meadow July 1, 1886. From above it closely resembles *A. cybele*, but on the under side the hinder wings are dark cinnamon brown, without a submarginal yellow band.

It is probably quite common on the prairies in the northern part of the State, and has been overlooked heretofore.

Packard, Guide, 8th Ed., 1883, 262. (*Larvae* and *pupae* described.)
Scudder, But. E. U. S. and Can., 1889, I, 571; III, pls. 4, 21, 61, 84.

This species has been taken in the two widely separated counties of Vanderburgh (Evans) and Lake, but nowhere else in the State. As to its distinguishing characters, I quote the following from Edwards, loc. cit.: "*Atlantis* is readily distinguished from *Aphrodite* by its smaller size, duller color, broad black margins, confluent median band of secondaries and color of same wings below; also, by the longer and narrower fore wings. It is rarely to be seen in the open country where *Aphrodite* abounds, but frequents narrow passes in the mountains and the grass fields which skirt the forests. It is readily attracted by any decaying animal matter, and a piece of meat or a dead bird or snake has irresistible charms for it."


*Argynnis myrina*, Harris, Ins. Inj., 1862, 286, fig. 112.
Morris, Lep. N. A., 1862, 45.
French, But. E. U. S., 1886, 161, fig. 42.

*Brenthis myrina*, Scudder, But. E. U. S. and Can., 1889, I, 593; III, pls. 4, 22, 64, 75, 84.

Vanderburgh County, by Evans. Otherwise only from the northern half of the State, where it is quite frequent in meadows and prairies from June 15 to September. *Food plant*, violets.


*Argynnis bellona*, Harris, Ins. Inj., 1862, 287, figs. 113, 114.
Morris, Lep., N. A., 1862, 45.

*Brenthis bellona*, Scudder, But. E. U. S. and Can., 1889, I, 608; III, pls. 5, 22, 64, 75, 84.

This, the smallest member of the genus, is found throughout the eastern and northern parts of the State, but is very rare if it occurs at all in the Lower Wabash Valley. It is quite common, where found, during July and August, in low meadows and prairies, especially those containing many flowers.
EUPTOIETA, Doubleday.

30. (154.) EUPTOIETA CLAUDIA, Cram. The Claudia Butterfly.


Id., But. E. U. S., 18'6, 165, fig. 43.

Blatchley, Ind. Farm., 18'6, Nov. 6.

Scudder, But. E. U. S. and Can., 1889, I, 519; III, pls. 14, 21, 64, 75, 84.

_Argynnis columbina_, Morris, Lep. N. A., 1862, 44.

In the southern half of the State, but not seen or reported in the northern although it should occur there. Given as rare in most of the lists which mention it. Frequent meadows and borders of thickets from July 15 to October 15, a single specimen having been taken by the writer on the latter date in Vigo County. Food plants, violets, May apples, sedum and portulaca.

MELITÆA, Fabricius.


_Melitaea phaeton_, Harris, Ins. Inj., 1862, 288, fig. 115.


Edwards, But. N. A. II, 1884, 151, pl. 30.

French, But. E. U. S., 1886, 168, figs. 44–47.

Blatchley, Ind. Farmer, 1886, November 6.

_Euphydryas phaeton_, Scudder, But. E. U. S., I, 690; III, pls. 5, 12, 22, 64, 75, 84.

An uncommon species, noted in but four counties, viz.: Decatur, Vanderburgh, Vigo and Monroe, but probably found throughout the State. This is the only butterfly in Indiana whose larvae live in colonies in webs of their own construction. These webs are woven on the food plants, which are snake-head or turtle-head (_Chelone glabra_), and the two monkey flowers (_Mimulus_). The larvae form the webs about the last of July and, after feeding until they have moulted the third time, they pass the winter in a state of lethargy within them. With the first appearance of the food plant in spring they begin feeding again, after which is formed the chrysalis from which the butterfly emerges about June 1. It frequents low, open fields and marshes where the food plants abound, and flits with an irregular and nervous flight close to the earth.
PHYCIODES, Doubleday.


French, But. E. U. S., 1886, 172, fig. 50.
Blatchley, Ind. Farmer, 1886, Nov. 6.

*Charidryas nycteis*, Scudder, But. E. U. S. and Can., 1889, I, 658; III, pls. 5, 22, 64, 75, 84.

Common all over the State, but less so than the next species, which it closely resembles. Found in the vicinity of streams, and during July and August frequents, by hundreds, the flowers of peppermint, *Mentha piperita*, and allied species. Food plants, asters, wild sunflowers and *Actinomeris*. The larva pass the winter, when partly grown, beneath the shelter of objects on the ground, and the imago has been taken in Western Indiana as early as May 17.

33. (190.) *PHYCIODES THAROS*, Drury. The Tharos Butterfly. The Pearl Crescent.


Edwards, But. N. A., II, 1884, 161, pl. 31, 32.
Blatchley, Ind. Farm., 1886, Nov. 6.
Scudder, But. E. U. S. and Can., 1889, I, 629; III, pls. 5, 12, 22, 64, 75, 84.

*Melitaea pharos*, Harris, Ins. Inj., 1862, 289, figs 116, 117.

The two forms of this species, *marcia*, Ewd., and *morpheus*, Fab., are both very abundant, especially the latter. Three or four broods are produced each season, the first one (*marcia*) from hibernating larvae, appearing about the tenth of May, and the others at intervals of six or eight weeks thereafter. In company with *Colias philodice*, they flock about muddy places in the roads and the damp, sandy margins of streams. Food plant, asters.

GRAPTA, Kirby.

34. (207.) *GRAPTA INTERROGATIONIS*, Fab. The Semicolon Butterfly. The Violet Tip.

*Vanessa interrogationis*, Harris, Ins. Inj., 1862, 298, fig. 124 (*fabricii, text-umbrosa*).
Id., But. E. U. S., 1886, 182, fig. 51.
Blatchley, Ind. Farmer, 1886, Nov. 20.


Throughout the State. Of the two forms recognized by Edwards, the paler one, fabricii, is much the more common, especially the members of the brood which emerge about September 10, the individuals of which hibernate. This form is also quite variable, the silver spot on the under surface of the hind wings being often unbroken, and in many specimens the larger and hindmost of the black spots between the cell and hind margin of the fore wings above is double, the additional spot being larger than either of those in the cell. It frequents roadsides, borders of thickets and the vicinity of gardens where hops are cultivated.

Vanessa comma, Harris. Ins. Inj., 1862, 300, pl. 4, fig. 1 (harrisii).

Blatchley, Ind. Farmer, 1886, Nov. 20.

Polygonia comma, Scudder, But. E. U. S. and Can., I, 332; III, pls. 3, 20, 64, 74, 83.


A common species in most parts of the State, but not reported in all the lists. Food plants—hop, elm, and nettles. Like G. interrogationis, the members of the late brood of this species seek some sheltered place, such as a crevice in a rock or a hole in a tree, where they pass the winter in a dormant state, from which they are aroused by the first warm breezes of spring. Specimens have been taken on the wing as late as November 22, and as early as March 4. During the summer three or four may usually be found in company in damp places, alongside of streams or in shaded ravines.
36 (217.) Grapta progne, Cram. The Progne Butterfly.
Vanessa progne, Harris, Ins. Inj., 1862, 301.
Grapta progne, French, But. E. U. S., 1886, 190, fig. 53.
Blatchley, Ind. Farmer, 1886, Nov. 20.
Grapta c-argenteum, Packard, Guide, 1883, 260, fig. 188.
This small Grapta has been taken in six counties in different portions of the State, but is scarce wherever found. In midsummer it frequents rocky ledges and shaded ravines, but in autumn it is more often found along the margins of dense woods. When disturbed it, as well as the two preceding members of the genus, has the habit of making a short circuit and flying back to the self-same spot from whence it was started.
Food plants—gooseberry, currant, blackberry and elm.

Vanessa j-album, Harris, Ins. Inj., 1862, 298.
Vanderburgh, Decatur and Lake. Rare in the three counties. Borders of thickets and along streams during July and August. Hibernates as imago. Food plant unknown. Vanderburgh County is, up to the present, the most southern station at which j-album has been taken.

VANESSA, Fabricius.

Vanessa antiopa, Harris, Ins. Inj., 1862, 296, fig. 121, 123.
Wood, Insects at Home, 1873, 396.
Blatchley, Ind. Farmer, 1886, Nov. 20.
A common and handsome species often seen in spring as early if not earlier than Grapta comma, as it also winters in the perfect state. It is, however, much more abundant than that species for about a month, after which it disappears, and none are seen till the first of June, when it
again becomes common, the first brood of the season having emerged from chrysalid. A second brood appears about the middle of September. In England, where it is rare and considered a great prize by the collectors, it is known as the Camberwell Beauty. The larvae feed upon the leaves of willow, elm and poplar.


*Vanessa milbertii*, Harris, Ins. Inj., 1862, 302, fig. 125.


This brilliantly colored Vanessa has a wide distribution, but appears to be nowhere as common as *Antiopa*, with which species it agrees essentially in habits.

In Indiana it has been taken only in Lake and Vanderburgh counties, from both of which it is reported as rare. Food plant, nettle. Vanderburgh County is, as far as known, the most southern station at which it has been taken.

"The butterfly is found most abundant by the roadside, especially among the hills, and by the margin of forests. It is always found in sunny exposures; is fond of resting on dry leaves scattered over the ground in spring, and, like many other early butterflies, is attracted by the blossoms of the lilac." — Scudder.

**PYRAMEIS**, Doubleday.


*Cynthia atalanta*, Harris, Ins. Inj., 1862, 294, fig. 120.

Id., But. E. U. S., 1886, 196, fig. 55.
Blatchley, Ind. Farmer, 1887, April 23.

*Vanessa atalanta*, Wood, Insects at Home, 1873, 399, pl. 13.
Scudder, But. E. U. S. and Can., 1889, I, 441; III, pls. 2, 12, 20, 64, 74, 83.

A common and showy butterfly, which also hibernates as imago, and comes forth from its winter quarters on the first warm days of March and April. It is most abundant, however, about June 10 and September 20,
when the two broods of the season respectively emerge. It flies everywhere, but especially abounds about clumps of willows, on the trunks of which it delights to rest and enjoy the sunshine, and when disturbed flies away but a short distance and soon returns to the same or an adjacent tree. According to Harris, *atalanta* was probably introduced with its food plant, the common nettle, into this country from Europe, where it is also abundant, and known as the Red Admiral Butterfly.


*Cynthia huntera*, Harris, Ins. Inj., 1862, 292, fig. 119.


Blatchley, Ind. Farmer, 1887, April 23.


Much less common than the preceding, but found throughout the State. The larvae feed upon everlasting (*Gnaphalium polycephalum*), and the various species of *Artemisia*. The butterfly is most often met with in August and September, in fields containing golden rods and wild asters. There are two broods each season; the butterflies and occasionally the chrysalids of the autumn brood hibernating.

42. (224.) **Pyrameis cardui**, Linn. Thistle Butterfly. The Painted Lady.

*Cynthia cardui*, Harris, Ins. Inj. 1862, 291, fig. 118.


Blatchley, Ind. Farmer, 1887, April 23.

*Vanessa cardui*, Wood, Ins. at Home, 1873, 401, pl. 13.

Scudder, But. E. U. S. and Can., 1889, I, 469; III, pls. 2, 12, 21, 64, 74, 83.

The Thistle Butterfly is a rather common species from mid-June until after heavy frosts. During the summer months it is usually found in open pastures where there are thistle patches, but on sunny days in autumn it is often seen in orchards sipping the juices from a bruised or rotten apple. In England, where it is common, it is known as the "Painted Lady," on account of the variety and beauty of its colors. The larvae feed upon thistles, burdock and wild sunflowers, and are therefore more beneficial than otherwise. It passes the winter as imago, and in Vigo County has been taken on the wing as early as April 10.
JUNONIA, Doubleday.


French, But. E. U. S., 1886, 200, fig. 56.
Scudder, But. E. U. S. and Can., 1889, I, 494; III, pls. 14, 21, 64, 74, 83.

Cynthia lavinia, Harris, Ins. Inj., 1862, 293.


A showy insect, abundant in the Southern States, and rarely found as far north as Lake County, Indiana, where it has been taken by Worthington. Single specimens have also been secured in Jefferson and Vigo counties, and a few in Vanderburgh.

It flies from June to November in open fields and low meadows where flowers are abundant. Food plants, plantain, gerardia and snapdragon.

LIMENITIS, Fabricius.

44. (236.) LIMENITIS URSULA, Fab. The Ursula Butterfly. The Red-spotted Purple.

Nymphalis ursula, Morris, Lep. N. A., 1862, 64.

Id., But. E. U. S., 1886, 206, fig. 58.
Blatchley, Ind. Farmer, 1887, April 23.

Basilarchia astyanax, Scudder, But. E. U. S. and Can., 1889, I, 280; III, pls. 2, 19, 64, 74, 83.

Nymphalis ephestion, Harris, Ins. Inj., 1862, 283.

Limenitis ephestion, Packard, Guide, 1883, 262.

Common in the central and southern half of the State, less so in the north. Its usual resorts are the vicinity of streams and about muddy places in roads, although it is often seen in orchards and gardens. It winters in the larva state and is most common as imago in June and the latter half of August. The food plants of the larvae are willow, wild cherry, apple, plum, oak and ironwood.

45. (237.) LIMENITIS ARTHEMIS, Drury. The Banded Purple Butterfly.

Nymphalis arthemis, Harris, Ins. Inj., 1862, 283, pl. I, fig. 7.


Limenitis proserpina, Edwards, But. N. A., I, 1868, 127, pl. 48. (Form proserpina.)
Id., Canadian Entomologist, March, 1891, 49.

Basilarchia proserpina, Scudder, But. E. U. S. and Can., 1889, I, 289; III, pls. 2, 19. (Form proserpina.)

This handsome butterfly is a northern species which has been taken in Lake County, by Worthington. It is found from June to September frequenting the same localities as L. ursula. The larvaè feed upon willow, aspen, basswood, and probably thorn.

Mr. S. H. Scudder, in his But. E. U. S., p. 289, regards the form proserpina as a hybrid between L. ursula and L. arthemis. Mr. Edwards in the Canadian Entomologist, loc. cit., controverts this view, and gives in full his reasons for considering it a dimorphic form of arthemis.

46. (239.) Limenitis disippus, Godt. The Disippus Butterfly. The Viceroy.

Nymphalis disippus, Harris, Ins. Inj., 1862, 281, fig. 109.

Edwards, But. N. A., II, 1884, 227. (Descrip. of larvaè)
Blatchley, Ind. Farmer, 1887, April '23.

Limenitis misippus, Packard, Guide, 1883. 262, fig. 189.

Basilarchia archippus, Scudder, But. E. U. S. and Can, 1889, I, 267; III, pls. 1, 11, 19, 64, 74, 83.

A rather common species in all parts of the State, but by casual observers usually confounded with Danais archippus, Fab., which it closely resembles in color and markings, but from which it may be readily known by the presence of a narrow, curved, black band across the center of the hind wings. There are two broods each season, the larvaè of the second brood constructing from a leaf a tube-shaped retreat into which they enter, head first, and pass the winter. Their dwellings are formed by first fastening, by means of silk, a leaf to the twig upon which it grew. Notches are then cut in the leaf and the edges are bent together and fastened by a silken thread. In the words of Edwards, loc. cit.: "Some caterpillars cover themselves in a web, or bind two leaves together loosely; more conceal themselves under wood or stone, or in the sod; but here is one who has turned tailor, weaver and house builder. It knows just what sort of leaf to choose for its purpose, takes its measurement, cuts out the pattern on a system peculiar but effective;
sews it up; upholsters the interior with silken threads, and takes possession, even having provided against the ingress of water by a flap, shaped when the pattern is cut out.” It is an interesting fact that only the second brood of larvae exhibits an instinct for thus forming homes. The butterfly is most frequent in July, and is usually found in low grounds, about clumps of willows, upon the leaves of which the larvae feed. Additional foot plants are poplar, plum and oak

**APATURA, Fabricius.**

47. (244.) **APATURA CELTIS, Bd.-Lec.** The Eyed Emperor. The Hackberry Butterfly.

Id., But. E. U. S., 1886, 215, figs. 63, 64.
Blatchley, Ind. Farmer, 1887, May 11.

This species is found in the southern half of the State and as far north as Wabash County, where it has been taken by the writer, but it is nowhere abundant. It flies during July and August in low, open woods, especially those where the food plant of the larva, *Celtis occidentalis*, or the hackberry tree, grows. *Celtis* has a swift flight and darts rapidly from one object to another as if actuated by curiosity, often alighting upon the body of the person pursuing it or upon the net, where it opens and closes its wings rapidly for a few seconds, and then starts out on a short circuit soon to return again. The larvae pass the winter hidden among the ridges in the bark of the hackberry and may be found feeding on the buds as soon as the latter appear in spring.

48. (248.) **APATURA CLYTON, Bd.-Lec.** The Tawny Emperor.

Blatchley, Ind. Farmer, 1887, May 11.

*Chlorippe clyton*, Scudder, But. E. U. S. and Can., 1889, I, 241; III, pls. 16, 19, 64, 74, 83.

The range of this species in the State coincides with that of *A. celtis*, the food plant being the same. It is, however, much less common than the latter, having been taken in but five counties, whereas *celtis* is reported in all the lists but two. Neither species is found in the northwestern corner of the State. Of the two forms of clyton, *ocellata*, Edw., is the more common. There is but one brood each season, the butterfly
emerging about June 15. It frequents the vicinity of streams, but is sometimes seen in company with A. celitis about dwellings and orchards, especially towards the close of its season. A single specimen was taken in the heart of the city of Wabash, Ind., August 11, 1890.

PAPHIA, Westwood.

49. (251.) Paphia troglodyta, Fab. The Goat Weed Butterfly.


Edwards, But. N. A., I, 1871, 137, pl. 46.


A southwestern species, the habitat of which is given by Edwards as Illinois to Texas. Very rare in Indiana, a single specimen having been taken in Vigo County, by Prof. B. W. Evermann, on April 24, 1890, and “one or two in three different seasons,” in Vanderburgh County, by Evans. The larvae feed upon species of Croton, and the imago hibernates, there being but one brood each season.

“The butterfly is often seen in orchards resting on the sunny side of the trees, at other times on the road or upon the fences. It is shy and difficult to capture, although it seldom leaves a favorite locality, but continues to fly about until danger has passed.”—EDWARDS, loc. cit.

SATYRINÆ.

DEBIS, Westwood.


French, But. E. U. S., 1886, 229, fig. 70.

Blatchley, Ind. Farmer, 1887, May 11.

Enodia portlandia, Scudder, But. E. U. S. and Can., 1889, I, 180; III, pls. 1, 18, 64, 74, 83.


The Woodland Butterfly has been taken in six counties in as many different portions of the State, but is nowhere common. Its favorite resorts are dense, damp woods and thickets, where, during July and August, it may be found resting on the stump or trunk of a tree in the immediate vicinity of the coarse grasses, which are the food plants of the larvae. In this State it is single brooded and the larvae hibernate.
NEONYMPHA, Westwood

   Hipparchia boisduvalli, Harris, Ins. Inj., 1862, 305, fig. 128.
   Satyrodes eurydice, Scudder, But. E. U. S. and Can., 1889, I, 193; III, pls. 1, 11, 18, 64, 74, 83.
   Noted only in Lake County, where it is common, but should be found throughout the northern half of the State. It is on the wing during June and July, and is found in low open woods and meadows. The larvæ feed upon various kinds of grass and hibernate after the fourth moult.

52. (258.) NEONYMPHA EURYTRIS, Fab. The Wood Nymph Butterfly.
   Hipparchia eurytris, Harris, Ins. Inj., 1862, 306, fig. 129.
   Neonympha eurytris, Morris, Lep. N. A., 1862, 73.
   Blatchley, Ind. Farmer, 1887, May 11.
   Cissia eurytus, Scudder, But. E. U. S. and Can., 1889, I, 214; III, pls. 1, 11, 18, 64, 74, 83.
   This little wood-brown butterfly is rather common throughout the State from May 15 until August. It frequents woods, fence rows, and shady roadsides and flies close to the ground with a queer, jerky flight, often alighting on the grass, or on a log or chip, seldom on a flower or shrub. The larvæ feed upon grass, and the second brood of the season hibernate.

SATYRUS, Westwood.

   Hipparchia alope, Harris, Ins. Inj., 1862, 305, fig. 127. (Form alope, Fab.)
   Satyrus alope, Morris, Lep. N. A., 1862, 76.
   Id., But. E. U. S., 1886, 243, fig. 71. (All forms.)
   Edwards, But. N. A., II, 1884, 261, pls. 41, 42. (All forms.)
Cercyonis alope, Scudder, But. E. U. S. and Can., 1889, I, 163; III, pls. 1, 11, 18, 67, 74. (Form alope.)

Erebia nephele, Morris, Lep. N. A., 1862, 76. (Form nephele, Kirby.)


Hipparchia nephele, Harris, Ins. Inj. 1862, fig. 130. (No text.)

Cercyonis nephele, Scudder, But. E. U. S. and Can., 1889, I, 171; III, pls. 1, 11, 18, 64, 83. (Form nephele.)

Three forms of this handsome butterfly, viz., alope, Fab., nephele, Kirby, and olympus, Edwards, are found in the northern part of the State. It ranges as far south as the southern border of White and Wabash Counties. Olympus has been noted only in Lake County. All the forms are on the wing during July and August, and frequent open woods, meadows and prairies. The larvae feed upon the various species of wild grasses and hibernate.

LIBYTHEINÆ.

LIBYTHEA, Fabricius.


Edwards, But. N. A., II, 1884, 289, pl. 46.

Blatchley, Ind. Farmer, 1887, May 11.

Hypatus bachmanii, Scudder, But. E. U. S. and Can., 1889, I, 760; III, pls. 4, 21, 64, 75, 84.

This curious little fly, with its long, beak-like palpi and angled fore wings, once seen will ever after be recognized at first sight. It doubtless inhabits all parts of the State, having been taken in six widely separated counties, yet but few are found each season in any one locality. It frequents low grounds and the vicinity of streams, and flies from June to September. Food plant, hackberry.
LYCÆNIDÆ.

LYCÆNINEÆ.

THECLA, Fabricius.

This large genus is represented in Indiana, so far as known, by ten species, but one of which may be said to be common. All are comparatively small in size, of a blue, smoky brown or black color, and have wings of a delicate texture. The habits of all are essentially the same. They mostly pass the winter in the pupa stage, and the imagoes are to be found from May 15 until frost. They are seldom seen except along fence rows and the borders of woods and thickets, where they flit rapidly to and fro with a restless, jerking flight, pausing every few moments on leaf of brier or shrub to bask in the sunlight, and then as suddenly starting onward again.

55. (326.) THECLA HALEUS, Cram. Great Purple Hair-streak.

   A western and southern species, not before reported east of Illinois. Found in small numbers in Lake County by Worthington. Food plant, oak.


   An eastern Thecla, not before reported west of Ohio. Rare in Jefferson and Decatur counties. Food plant, oak.

   *Thecla humuli*, Harris, Ins. Inj., 1862, 276, pl. IV, fig. 3.

Thecla hyperici, Morris, Lep. N. A., 1862, 94.

Uranotes melinus, Scudder, But. E. U. S. and Can., 1889, II, 850; III, pls. 6, 14, 23, 65, 75, 84.

Throughout the State, but rather scarce. The larvae feed upon the hop, bean and thorn, and the butterfly frequents the vicinity of these plants from May to September.


Scudder, But. E. U. S. and Can., 1889, II, 892; III, pls. 6, 24, 65, 75, 84.

Thecla falacer, Harris, Ins. Inj., 1862, 276.

Found up to the present only in the northern part of, but probably exists throughout the State. Scarce. Food plant, hawthorne and oak.

59. (341.) Thecla Calanus, Hub. The Oak Thecla. The Banded Hair-streak.

Thecla calanus, French, But. E. U. S., 1886, 263, fig. 73.
Scudder, But. E. U. S. and Can., 1889, II, 885; III, pls. 6, 14, 24, 65, 75, 84.


This is our most common Thecla and is found in all parts of the State. The larvae feed upon the various species of oak, and hibernate, the imago emerging from chrysalid in June and July.

60. (343.) Thecla Strigosa, Harr. The Streaked Thecla. The Striped Hair-streak.

Thecla strigosa, Harris, Ins. Inj., 1862, 276.
Id., But. E. U. S., 1886, 266, fig. 74.

Thecla liparops, Scudder, But. E. U. S. and Can., 1889, II, 877; III, pls. 6, 24, 65, 75, 84.

All over the State, but found only in small numbers in the counties in which it has been taken. Food plants, oak, apple and willow. There is but one brood each season, the butterflies appearing about July 10.


Thecla smilacis, Morris, Lep. N. A., 1862, 98.
Thecla auburniana, Harris, Ins. Inj. 1862, 277

Lake County. Rare. (Worthington.) Food plant, the red cedar, Juniperus Virginiana, Linn., about which the imago is almost always found. There are two broods each season which appear in May and August, respectively.

62. (357.) Thecla poeas, Hub. The Least Purple Hair-streak.
Thecla poeas, Morris, Lep. N. A., 1862, 103.

This, one of the prettiest of the Theclas, is southern in its range and rare in our State. A single specimen was taken by the writer from an oleander bush, in Monroe County, August 17, 1890. Mr. Edwards has also received it from Indiana, but is unable to give the locality. Food plant, unknown, but probably one of the species of huckleberry, Vaccinium, of which two or three kinds grow in Monroe County.

63. (367.) Thecla henrichi, Gr-Rob. The Plum Thecla. The Horary Elfin.

This species, which, according to Edwards, has been previously recorded only from West Virginia and Maine, has been taken in Jefferson County by Mr. Hubbard. The larva feed upon wild plum, and the perfect insects, appearing about May 1, frequent the flowers of the red bud, Cercis Canadensis, Linn., and the borders of sandy roads.

64. (376.) Thecla titus, Fab. The Wild Cherry Thecla. The Coral Hair-streak.
Thecla titus, French, But. E. U. S., 1886, 278.
Strymon titus, Scudder, But. E. U. S. and Can., 1889, II, 809; III, pls. 6, 23, 65, 75, 84.
Thecla mopsus, Harris, Ins. Inj., 1862, 278.
Packard, Guide, 1883, 266.

In all parts of the State, but scarce where found. It is one of the handsomest and largest members of the genus. Food plant, wild cherry. It passes the winter in the egg state, and flies as imago during July and August, frequenting the flower of golden rod, milkweed and thistle.
FENISECA, Grote.

65. (377.) FENISECA TARQUINIUS, Fab. The Wanderer.


Taken only in Jefferson County, where it is rare, but should occur all over the State. The larvae are remarkable for their carnivorous habits, as they feed only upon plant lice or aphids, and are especially fond of the species of these insects which frequent the common alder, Alnus incana, Willd. Hence the butterfly is most often found in the vicinity of streams, along the banks of which the alder grows. It is on the wing at intervals from May 15 to mid-September, as there are three broods each season.

CHRYSOPHANUS, Doubleday.

66. (385.) CHRYSOPHANUS THEOE, Bd.-Lec. The Theoe Butterfly.

The Bronze Copper.


This handsome species is rare where found, and has been taken in four widely separated counties. There are two broods each season which emerge in June and August. The butterfly is to be found in low meadows and about the borders of ponds. The food plant is curled dock, Rumex crispus.


Lycaena epixanthe, Harris, Ins. Inj., 1862, 274.

Lake County. Rare. Probably throughout the northern half of the State. It is single brooded, the butterflies emerging in June and July, when they are found only in the vicinity of cranberry bogs and peaty meadows.
68. (392.) Chrysophanus hypophleas, Bd. The American Copper Butterfly.

*Chrysophanus hypophleas*, French But E. U. S., 1886, 283, figs. 75-77.

Blatchley, Hoos Nat., II, 1886, 62.


*Lycæna americana*, Harris, Ins. Inj., 1862, 273; fig. 104.


Quite common in the Lower Wabash Valley, but rare in the northern and eastern parts of the State. It flies from May 1st to October, and is most often met with in lowland meadows or along sandy roadsides, where in small parties of two to four it flies close to the ground, stopping ever and anon to rest upon a blade of grass or to sip the moisture from the margin of a puddle left by some recent rain. The larvae feed upon a small dock, known as sheep sorrel, *Rumex acetosella*.

LYCÆNA, Fabricius.


*Polyommatus pseudargiolus*, Harris, Ins. Inj., 1862, 274, text. (neglecta, Edw.).


*Lycæna pseudargiolus*, Edw., But. N. A., I, 1869, 153, pl. 50 (*pseudargiolus*).

Id., But. N. A., II, 1884, 315, pls. 50, 51. (All forms.)


Id., But. E. U. S., 1886, 286, figs. 78-80. (All forms.)


*Cyaniris pseudargiolus*, Scudder, But. E. U. S., II, 927; III, pls. 6, 13, 24, 65, 75, 84.
Four forms of this variable and much described species are found in Indiana, three of which, viz., *Pseudargiolus*, Bd.-Lee., *neglecta*, Edw., and *violacea*, Edw., are found throughout the State, while *lucia*, Kirby, has been taken only in Lake County. Of the four, *violacea*, which flies in early spring, and *neglecta*, in late summer, are the most common. The black male, var. *nigra* of *violacea*, has been taken by the writer in Wabash County, but is not reported elsewhere. *Pseudargiolus* is said by Worthington not to occur in Lake County, and when found in other parts of the State is comparatively rare.

All these forms have essentially the same habits, and are seldom found except in low, shady places, and especially in the vicinity of small streams. *Violacea* winters in the pupa state, and Mr. Edwards has given a pleasing description of its habits, as follows: “By the 3d or 4th of April we usually have one or two very warm days, the mercury at 80°, and then these little butterflies swarm along the sunny sides of creeks, gathering in clusters as close as they can stand, in favorite spots, motionless, with wings erect and closed, wholly intent in extracting from the sand some fluid, no doubt delightful. These are all males, for the females do not appear until some days after, or about the 10th. By this time the peach trees are in full bloom and the females are especially attracted to them. But, as a general thing, this species is not partial to flowers.” The larvae feed upon various plants, chief among which are *Actinomeris*, *Cornus* or dogwood, and *Cimicifuga*, or black snake root.


*Polyommatus comyntas*, Harris, Ins. Inj., 1862, 275.


*Polyommathus comyntas*, Scudder, But. E. U. S. and Can., 1889, II, 911; III, pls. 6, 14, 24, 65, 75, 84.
Very common from June to September, collecting with *Colias philodice* and the two species of *Phaeiodes* about muddy spots in the roads. Also, often found in fields of clover, upon which plant the larvae feed, or along dry hillsides, where grow the other food plants, species of *Deemodium* and *Lespedeza*.

**HESPERIDÆ.**

**ANCYLOXYPHA,** Felder.

71. (448.) **ANCYLOXYPHA NUMITOR,** Fab. The Bordered Skipper. The Least Skipper.

*Pamphila numitor,* Morris, Lep. N. A., 1862, 120.


*Heteropterus marginatus,* Harris, Ins. Inj., 1862, 308, fig. 131.

This, the smallest species of *Hesperideae,* is a very common butterfly from mid-June until October. It is found hovering among the tall grasses and sedges which grow along the margins of ditches and ponds. There are three broods each season, and chrysalids from the last one hibernate.

**THYMELICUS,** Speyer.

72. (455.) **THYMELICUS POWESHIEK,** Park.


A Western species, not before recorded east of Illinois. It occurs in small numbers about Whitings, Lake County.

**PAMPHILA,** Fabricius.

This genus of butterflies, which outranks all others in point of numbers, is represented in Indiana by twenty-two known species, the majority of which occur throughout the State.

Many species are usually overlooked by tyro collectors, as they are small in size, dull in color, and are usually seen at rest rather than in active motion. When disturbed, they fly low and but a short distance at a time, moving with a peculiar jerking flight similar to that of the *Neonymphas*. In repose the hind wings, instead of being folded above the body, are spread horizontally and meet the fore ones, which are also held in a peculiar position, so as to form a right angle.

But few are to be found before June 1, but about that time certain species become common among the tall, rank grasses and sedges which grow in damp places and upon which most of the larvae feed. Others
are found abundantly in clover fields, and later on the flowers of thistles, ironweeds, marigolds, and other showy Compositae attract them in large numbers.

73. (456.) Pamphila massasoit, Scudd. The Mulberry Wing.

Ranges from New England to Nebraska, but noted in Indiana only in Lake County, where it is rare.

74. (457.) Pamphila zabulon, Bd.-Lec. The Zabulon Skipper.
   The Mormon.
   French, But. E. U. S., 1886, 303, figs. 82, 83.
   Atrytone zabulon, Scudder, But. E. U. S. and Can., II, 1617;
   III, pls. 10, 13, 30, 66, 77. (All forms.)

74. (a.) Pamphila zabulon hobomok, Harris. Hobomok Skipper.
   Hesperia hobomok, Harris, Ins. Inj., 1862, 313, fig. 137.

74. (b.) Pamphila zabulon quadraquina, Scudder.

   A variable and common species. The three varieties, whose synonymy
   is given above, are found in Indiana. Of these zabulon is by far the most
   common. Var. hobomok has been taken only in Decatur County. This
   is the first Pamphila to be seen in spring in Central Indiana, numerous
   specimens of zabulon having been taken from the flowers of violets on
   May 15, 1891. The female form quadraquina was seen a week later.

75. (466.) Pamphila sassicac, Harris. The Sassacus Skipper.
   Hesperia sassicac, Harris, Ins. Inj., 1862, 315.
   Erynnis sassicac, Scudder, But. E. U. S. and Can., 1889, II,
   1641; III, pls. 10, 30, 66, 73.

   A common species in the northern part of the State, but not found as
   yet in the southern. The larvæ feed upon crab grass, Panicum sanguinale,
   and the butterfly may be taken during June and the first half of
   July.


A fairly common Pamphila throughout the State. On October 28, 1890, a large number were taken by the fingers from the heads of thistles. They seemed to be in a comatose condition, although the day was quite warm and pleasant. It is triple brooded, the imagoes appearing in May, July and September.

77. (493.) *Pamphila phylæus*. Drury. The Fiery Skipper.

*P. phylæus*, Morris, Lep. N. A., 1862, 118.


A southern species, which in Indiana has been taken only in Jefferson County.

78. (499.) *Pamphila otho egeremet*, Scudd. The Otho Skipper.


In all parts of the State, but scarce and variable.

With us it flies from June 20 till mid-September, and frequents low, open meadows and roadsides.


*Hesperia peckius*, Harris, Ins. Inj., 1862, 315, fig. 139.

Id., But. E. U. S., 1886, 317, fig. 84.


*Hesperia canus*, Harris, Ins. Inj., 1862, 318, fig. 141.
Morris, Lep. N. A., 1862, 111.
The most common species of *Pamphila* throughout the State, and the one most frequently found in upland woods on the flowers of *Composite*. It flies from June till October, and winters as chrysalis or mature larva.

80. (504.) **Pamphila cernes**, Bd.-Lec. The Cernes Skipper.


*Hesperia ahaton*, Harris, Ins. Inj., 1862, 317, fig. 140.

Morris, Lep. N. A., 1862, 111.


*Pamphila arogos*, Morris, loc. cit., 1862, 118.


Next to the preceding in abundance, and one of the prettiest of the genus. In this State it is on the wing from May 25 until October, and frequents open woods where flowers abound.


*Hesperia cernes*, Harris, Ins. Inj., 1862, 316.

Very common in the northern part of the State, but much less so in the southern, where it has been taken only in Vigo County.

82. (506.) **Pamphila verna**, Edw. The Vernal Skipper. The Little Glass Wing.


Edwards records this species from Indiana, but gives no locality. It has been taken by Worthington in Lake County. Otherwise unknown in the State.

83. (507.) **Pamphila vestris**, Bd.


Two males of this species are in the writer's collection, one of which was taken in Monroe, the other in Putnam County, both in the month of August, from the flowers of ironweed. One was sent to Edwards for verification, as it had been taken before only in California, Colorado and Florida.
84. (508.) **Pamphila metacomet**, Harris. The Metacomet Skipper.  
*Hesperia metacomet*, Harris, Ins. Inj., 1862, 317.  
Morris, Lep. N. A., 1862, 111.  
Taken occasionally in all parts of the State, but scarce where found. The spots on the under side of the hind wing are wanting more often than they are present.

This is a species of southern range. It was taken by the writer in Monroe County on July 3, 1886, two worn specimens being secured.

86. (517.) **Pamphila ocola**, Edw. The Ocola Skipper.  
Recorded by Edwards as occurring at Whitings, Lake County, where Worthington has found it in small numbers.

87. (523) **Pamphila bimaculata**, Gr.-Rob. The Bright Rayed Skipper.  
Rather common in the northern part of the State, but not known to occur in the southern half. The butterflies may be taken on the wing during July and August, and are most frequently found in low, damp meadows.

88. (524.) **Pamphila pontiac**, Edw. The Pontiac Skipper. The Black Dash:  
Taken in Jefferson and Lake counties, and, therefore, probably found throughout the State. It has a northern range, and Jefferson County is the most southern station at which it has been taken.
89. (525.) **Pamphila dion**, Edw. The Dion Skipper.


A northern butterfly recorded by Edwards, from Lake County, where it has been collected by Worthington.

90. (530.) **Pamphila delaware**, Edw. The Delaware Skipper.


Noted in three widely separated counties, and probably it is to be found all over the State. Scarce.

91. (534) **Pamphila osyka**, Edw. The Osyka Skipper.


Recorded by Edwards, from Whittings, Lake County. Locality verified by Worthington, who reports it rare.

92. (538.) **Pamphila fusca**, Gr.-Rob. The Dusky Skipper.


A single specimen taken by the writer, in Monroe County, was referred to this species, and the identification was verified by Mr. Edwards, to whom it was sent. It has hitherto been collected only in the Gulf States.

93. (540.) **Pamphila hianna**, Scudd. The Hianna Skipper. The Dusted Skipper.


Lake County, Lagrange County. Rare. Not taken south.

94. (541.) **Pamphila viator**, Edw. The Viator Skipper. The Broad-winged Skipper.


Taken in Putnam and Lake Counties, but not elsewhere. Scarce. The habits and food plants are unknown.
AMBLYSCIRTES, Speyer.

95. (542.) AMBLYSCIRTES VIALIS, Edw. The Roadside Skipper.  

This neat little butterfly is frequent in the southern part of the State, but seems to be unknown in the northern. It is found from May 10 till September, along shady roads and fence rows, and is especially attracted by the flowers of ground ivy, *Nepeta glechoma.* The larvae feed upon grass. There are often four antecapital dots on fore wings, instead of three, the number given in the descriptions cited above.

PYRGUS, Westwood.

96. (554.) PYRGUS TESSELLATA, Scud. The Tessellated Skipper.  
Id., But. E. U. S., 1886, 352, fig. 86.  
*Syrichthus vilus,* Morris, Lep. N. A., 1862, 121.  

This species should occur throughout the State, but has been taken only in Vigo and Jefferson Counties in the southern half. It appears most common in late fall, when it is found about the borders of streams and thickets. The food plants are different species of the *Malvaceae,* as hollyhock and Indian mallow, and the winter is supposed to be passed in chrysalis.

NISONIADES, Speyer.

97. (561.) NISONIADES BRIZO, Bd.-Lec. The Brizo Skipper.  
*Thanaos brizo,* Harris, Ins. Inj., 1862, 309, fig. 132.  
Scudder, But. E. U. S. and Can., II, 1500; III, pls. 9, 13, 28, 77, 85.  

Vigo and Lake counties. Probably throughout the State, but rare. Most commonly met with in midsummer and early fall in low ground meadows. The larvae, according to Harris, feed upon leguminous plants, such as *Lathyrus,* or vetchling, and the ground nut, *Apios tuberosa.*
41

98. (562.) **Nisoniades icelus**, Lintn. The Dreamy Dusky Wing.


Frequent in the northern half of the State, but not yet taken in the southern. Habits same as preceding. Food plants, aspen, *Populus tremuloides*, and willow. It is single brooded and hibernates as a full fed larva in a nest which it forms from a leaf and lines with silk.

99. (564.) **Nisoniades lucilius**, Lintn. Lucilius’s Dusky Wing.

Scudder, But. E. U. S. and Can., 1889, II, 1458; III, pls. 9, 28, 77, 82.


Putnam and Lake counties. Scarce. Probably elsewhere as its food plant, *Aquilegia canadensis*, or wild columbine, is found in all parts of the State. It winters as larva and the imago may be taken from May to September.

100. (565.) **Nisoniades persius**, Scudd. Persius’s Dusky Wing.


Known to occur only in Lake County, but is probably present throughout. Food plants, willow and poplar.

“The butterfly is fond of alighting on wet sand, and may most frequently be found by shady roadsides, near woods. It flies with a strong, rapid movement, especially when disturbed, and seldom passes from one spot to an adjacent one without describing several irregular, rapid circles. At such a time it rarely rises more than two or three inches above the ground.”—**Scudder**.


A rather frequent species in most parts of the State. It may be taken in June and July, in high, open woods and copses.

102. (570.) **Nisoniades juvenalis**, Fab. Juvenal’s Skipper.

*Thanaos juvenalis*, Harris, Ins. Inj., 1862, 309.


This seems to be the most common species of the genus within our limits, having been taken in all parts of the State. Its habits, and food plants, with the addition of oak, are essentially the same as those of N. brizo. It winters as larva, and there are two broods each season.

PHOLISORA, Speyer.

103. (580.) Pholisora catullus, Fab. The Sooty Wing.
Id., But. E. U. S., 1886, 367, fig. 87.

Very common in the southern counties, but less so north. Its favorite resorts are the damp, sandy places along streams where it may be taken in numbers from May to September.

The number, position, and size of the white spots on the fore wings vary exceedingly. The larvæ feed upon the various species of Monarda, Chenopodium and Ambrosia, and those of the second brood of the season hibernate in nests which they form of a folded leaf.

104. (583.) Pholisora hayhurstii, Edw. The Southern Sooty-wing.

Most common in southern counties, but found in small numbers throughout. Its habits are the same as those of the preceding. Food plant, unknown, but probably pigweed, Chenopodium album.

EUDAMUS, Swainson.

Eudamus pylades, French, But. E. U. S., 1886, 368, fig. 88.
Eudamus bathylalus, Harris, Ins. Inj., 1862, 312, fig. 132.

Rather rare, but has been taken in four counties. It flies during June and July in meadows and along the edges of woods. Food plants, are clover, ground-nut, etc.
EUDAMUS BATHYLLUS, Sm.-Abb. The Southern Cloudy-wing.


Also a rare species, but probably found throughout. It frequents fence rows and thickets from May 15 to September, and has been taken in Monroe, Randolph and Lake counties. The larvae feed upon different species of Leguminosae.

EUDAMUS LYCIDAS, Sm.-Abb. The Hoary Edge.


Rather frequent throughout. Most common in brier patches and along the border of woods. May to September. The larvae feed upon Desmodium and allied plants, and the winter is passed in chrysalis.

EUDAMUS TITYRUS, Fab. The Tityrus Skipper. The Silver Spot.

Eudamus tityrus, Harris, Ins. Inj., 1862, 310, figs. 133, 134, pl. V, fig. 1.
Id., But. E. U. S., 1886, 374, figs. 89, 90.
Epargyreus tityrus, Scudder, But. E. U. S. and Can., 1889, II 1399; III, pls. 9, 15, 27, 76, 82, 85.

Common in all parts of the State. The larvae feed upon the leaves of many leguminous plants, chief among which is the common locust, and the butterfly may usually be found near those trees, or hovering over some bright colored flower in yard or garden. Another favorite resort is a clump of blackberry bushes, about which it will flit for hours on a hot day in midsummer. In Indiana it is single brooded, and hibernates in the chrysalis. In the spring of 1891 the first specimen was taken May
10, and from that date onward it was frequently seen, even in the streets of the city of Terre Haute.

**

Collectors should be on the lookout for the following species whose range, according to Edwards, includes Indiana or territory adjacent to Indiana, but which have not as yet been taken within the State:

1. Terias mexicana, Bd. Taken in Iowa and Illinois.
5. Grapta faunus, Edw. Atlantic to Pacific. (Northern range.)
15. Lycaena striata, Edw. Texas to Wisconsin.
18. Pamphila uncaes, Edw. Delaware to Dakota.

JUNE 25, 1891.
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