

RHOPALOCERA OF WEST VIRGINIA¹

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ABSTRACT. A current summary of the records of the butterflies (Rhopalocera) of West Virginia is given. Published records, including references to the state's fauna discussed in William Henry Edwards' *Butterflies of North America*, provided distribution data for 71 species. These records are indexed in order that the sources of information may be easily traced. Extensive collecting by the authors from 1972 to 1977, records of museum specimens and contributions of data by other collectors resulted in records of 40 additional species, making a total of 111 butterflies now known from West Virginia. A listing of 34 species which are expected to occur in the state is also included.

The distribution of Rhopalocera has been of continuous concern to lepidopterists. Within the past century, many state and national checklists have been compiled. This is an important step toward monitoring population levels and range changes of species. Recently, these lists have become valuable to conservationists attempting to define endangered species. Without the basic information these checklists provide, few studies relating to other aspects of Rhopalocera can be undertaken.

While butterflies of most of the states have already been studied, the fauna of West Virginia has, until now, been neglected. Faunal studies of the states bordering West Virginia allude to species which should occur here. With regard to West Virginia, Field et al. (1974) list 38 publications, 34 of which were written by W. H. Edwards. The information in the Edwards publications is best summarized in his three volumes of *Butterflies of North America* (1868, 1884 and 1897). Edwards mentioned 35 species with specific reference to West Virginia in his voluminous work. Many of these 35 species were taken at Coalburg in Kanawha County. Brooks (1905) listed 24 species in the Cranberry River area. Additional published records of West Virginia butterflies not given by Field et al. (1974) include those of Holland (1913), Burns (1964), Clench (1972), Irwin (1972) and those by contributors to the Field Summaries in the Lepidopterists' News and the News of Lepidopterists' Society: Allen (1976), Boscoe (1976), Butler (1976), Drees (1974, 1976), Jensen (1976), Lavy (1974), Nicolay (1953), Parshall (1974), Preston (1951) and Showalter (1975). These publications provide distributional data for 71 species of butterflies which occur in West Virginia. Clark and Clark

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as that from H. A. Freeman and A. B. Klots has not only enhanced the accuracy of this paper, but has made valuable contributions to the listing of 34 additional species expected to be found in West Virginia. All of the species in the following list have already been reported from one or more of the bordering states (Covell, 1967, 1974; Covell and Straley, 1973; Fales, 1974; Clench, unpublished; Wood and Gottschalk, 1942).

Hesperiidae: *Lerodea eufala* (Edwards), *Atrytonopsis hiana hiana* (Scudder), *Euphyes dion dion* (Edwards), *E. dukesi* (Lindsey), *E. conspicua conspicua* (Edwards), *Poanes massasoit massasoit* (Scudder), *P. viator* (Edwards), *Polites vibex vibex* (Geyer), *Hesperia metea* Scudder, *Thymelicus lineola* (Ochsenheimer), *Lerema accius* (Smith), *Erynnis persius persius* (Scudder), *E. zarucco zarucco* (Lucas), and perhaps *Panoquina ocula* (Edwards), *Calpodis ethlius* (Stoll), *Poanes yehl* (Skinner), *Problema byssus* (Edwards), *Hesperia attalus attalus* (Edwards), *Thorybes confusus* Bell and *Urbanus proteus* (Linnaeus).

Pieridae: *Colias cesonia* (Stoll) and *Nathalis iole* Boisduval.

Riodinidae: *Calephelis muticum* McAlpine.

Lycaenidae: *Satyrium caryaevorus* (McDunnough), *Euristrymon ontario ontario* (Edwards), and perhaps *Satyrium acadica acadica* (Edwards), *Callophrys irus irus* (Godart), *Panthiades m-album* (Boisduval and LeConte) and *Lycaeides melissa samuelis* Nabokov.

Nymphalidae: *Anaea andria andria* Scudder, *Nymphalis vau-album* (Denis and Schiffermüller) and *Chlosyne harrisii harrisii* (Scudder).

Satyridae: Perhaps *Lethe creola* (Skinner) and *Euptychia areolata areolata* (Smith).

The following list of the Rhopalocera of West Virginia follows basically the sequence and nomenclature of Dos Passos (1964) and his revisions (1969, 1970), but includes further changes and additions by Cardé et al. (1970), Clench (1972, 1975), Field (1971), Freeman (1973) and Howe (1975). County records and extreme collecting dates for more than 1340 specimens are included. Location of counties is shown on the West Virginia map (Fig. 1). Index numbers given in parentheses in the species list refer to notes at the end. Counties with index numbers do not necessarily represent single collection records. The authors would greatly appreciate any corrections or additional data for future revision of this initial summary.

Hesperiidae

Amblyscirtes samoset (Scudder)—Monongalia, Pocahontas (2); V-8.

A. vialis (Edwards)—Mineral, Monongalia; V-4 to 24.

Euphyes bimacula (Grote and Robinson)—Pendleton (11), Webster; VIII-5 to 8.

E. vestris metacomet (Harris)—Braxton, Pocahontas, Randolph; VI-30 to VII-10.

Poanes massasoit hughi Clark (5).

P. hobomok (Harris)—Barbour, Berkeley, Braxton, Brooke, Grant, Mineral, Monongalia, Pendleton, Pocahontas, Preston, Randolph; V-12 to VII-4.

P. zabulon (Boisduval and LeConte)—Monongalia, Ritchie (5, 12); V-20 to VII-18.

Atrytone delaware delaware (Edwards)—Monongalia, Pendleton (11); VII-22.

Atalopedes campestris (Boisduval)—(5), Calhoun, Putnam; IX-19 to X-11.

Pompeius verna verna (Edwards)—(10) Braxton, Fayette, Gilmer, Hampshire, Hardy, Mercer, Mineral, Monongalia, Pendleton, Pocahontas; VI-24 to VIII-10.

- Wallengrenia egeremet* (Scudder)—Berkeley, Braxton, Fayette, Mineral, Monongalia, Pendleton; VI-8 to VII-11.
- Polites coras* (Cramer)—Berkeley, Cabell, Grant, Mineral, Monongalia, Pendleton, Preston, Randolph, Webster, Wetzel; V-20 to IX-9.
- P. themistocles* (Latreille)—Cabell, Monongalia; V-23 to VIII-13.
- P. origenes origenes* (Fabricius)—Mineral, Putnam; VI-25 to IX-19.
- P. mystic* (Scudder)—Preston, Randolph, Webster; VI-5 to VII-8.
- Hesperia sassacus sassacus* Harris—Preston, Randolph; VI-5 to 19.
- H. leonardus* Harris—(5), Kanawha, Lewis; VIII-1 to 7.
- Hylephia phyleus* (Drury)—Kanawha, Lewis; VIII-22.
- Ancyloxypha numitor* (Fabricius)—Berkeley, Brooke, Gilmer, Grant, Mason, Monongalia, Preston; V-24 to IX-15.
- Nastra lherminier* (Latreille)—Monongalia; VII-3.
- Pholisora catullus* (Fabricius)—Monongalia; VII-22.
- Pyrgus centaureae wyandot* (Edwards)—Hardy, Kanawha; IV-16.
- P. communis communis* (Grote)—Monongalia, Pendleton; VIII-25 to X-2.
- Erynnis icelus* (Scudder and Burgess)—Barbour, Berkeley, Fayette, Grant, Hampshire (1), Kanawha, McDowell, Mineral, Monongalia, Pendleton (11), Preston, Pocahontas (1), Summers, Tucker; IV-11 to VI-25.
- E. brizo brizo* (Boisduval and LeConte)—Hampshire (1), Kanawha, Monongalia (1), Pendleton (11); IV-22 to VI-2.
- E. lucilius lucilius* (Scudder and Burgess)—(1), Pendleton (11); V-5.
- E. baptisiae* (Forbes)—Berkeley; VIII-3.
- E. martialis* (Scudder)—Hampshire (1); V-29.
- E. horatius* (Scudder and Burgess)—Berkeley, Hampshire (1), Hardy, Upshur (1); V-7 to VIII-3.
- E. juvenalis juvenalis* (Fabricius)—Barbour, Grant, McDowell, Hampshire (1), Monongalia (1), Pendleton (11), Pocahontas (1), Preston, Summers, Tucker, Webster; IV-15 to VIII-3.
- Staphylus mazans hayhurstii* (Edwards)—(5).
- Thorybes bathyllus* (Smith)—Mineral, Monongalia, Preston; VI-27 to VII-13.
- T. pylades* (Scudder)—Gilmer, McDowell, Mineral; V-21 to 24.
- Achalarus lyciades* (Geyer)—(7), Kanawha, Lewis, Mineral; V-24 to VIII-7.
- Autochton cellus* (Boisduval and LeConte)—Kanawha (5); V-15.
- Epargyreus clarus clarus* (Cramer)—Barbour (15), Berkeley (15), Braxton (15), Fayette, Gilmer, Grant, Hardy, Kanawha, McDowell, Mercer, Mineral, Mingo, Monongalia, Pendleton (11), Preston, Wayne; V-7 to VIII-18.
- Papilionidae
- Battus philenor philenor* (Linnaeus)—Barbour (15), Braxton, Boone, Greenbrier, Hardy, Marion, McDowell, Randolph, Summers, Wayne, Webster (3); IV-30 to X-4.
- Papilio polyxenes asterius* Stoll—Braxton, Fayette (15), Greenbrier, Kanawha, Lincoln, Monongalia, Pocahontas, Randolph; V-11 to IX-13.
- P. cresphontes cresphontes* Cramer—Jefferson (15), Monongalia; VII-3 to IX-1.
- P. glaucus glaucus* Linnaeus—Barbour, Berkeley, Boone, Braxton, Brooke, Clay, Fayette, Gilmer, Grant (15), Hardy, Kanawha (5), Marion, McDowell (15), Mercer, Mineral, Mingo, Monongalia (12), Preston, Putnam, Randolph, Summers (15), Tucker, Upshur, Wayne, Wetzel; IV-16 to IX-19.
- P. troilus troilus* Linnaeus—Barbour (15), Berkeley, Braxton, Boone, Cabell, Fayette, Gilmer (15), Grant (15), Hardy, Hampshire, Kanawha, Marion, McDowell (15), Mercer, Mineral, Mingo, Monongalia (12), Pocahontas, Preston, Randolph, Summers (15), Taylor, Wayne, Webster (3), Wetzel, Wood; IV-15 to IX-20.
- Graphium marcellus* (Cramer)—Boone, Braxton, Clay, Gilmer, Hampshire, Jack-

- son, Kanawha (5), Monongalia, Randolph, Ritchie, Roane, Wayne, Webster (3); IV-21 to VIII-22.
- Pieridae**
- Pieris protodice protodice* Boisduval and LeConte—Kanawha (5), Webster (3); VII-2 to VIII.
- P. virginiensis* Edwards—Kanawha (5), Monongalia, Preston, Randolph (14), Tucker, Webster; IV-10 to V-14.
- P. rapae* (Linnaeus)—Berkeley, Braxton (15), Cabell, Grant, Hampshire, Mingo, Mineral, Monongalia, Preston, Randolph, Gilmer, Roane, Webster (3); III-19 to IX-12.
- Colias eurytheme eurytheme* Boisduval—Barbour, Berkeley, Braxton, Gilmer (15), Mercer, Mingo, Mineral, Monongalia, Pendleton, Pocahontas, Preston, Putnam, Randolph, Summers (15), Tucker, Wetzel; IV-27 to X-25.
- C. philodice philodice* Godart—Cabell, Braxton, Gilmer, Grant, Greenbrier, Hardy, Kanawha (5), Marion, Mason, McDowell, Mercer, Mingo, Mineral, Monongalia, Pocahontas, Preston, Putnam, Randolph, Summers (15), Tucker, Webster (3), Wetzel; V-20 to X-25.
- C. interior interior* Scudder—Randolph (13); V-7 to VII-31.
- Phoebis sennae eubule* (Linnaeus)—Upshur; VI-12.
- Eurema lisa* Boisduval and LeConte—Boone, Clay, Kanawha, Lewis, Monongalia; VIII-6 to X-9.
- E. nicippe* (Cramer)—Hardy, Kanawha, Lewis, Pendleton, Summers; VIII-6 to X-4.
- Anthocaris midea* Hübner—Greenbrier, Hampshire (12), Hardy, Kanawha (5), Mineral, Monongalia, Pendleton, Wood, Pocahontas; III-30 to V-30.
- Euchloe olympia olympia* (Edwards)—Hampshire (12), Hardy, Kanawha (5), Mineral; IV-16 to V-10.
- Riodinidae**
- Calephelis virginiensis virginiensis* (Guérin-Méneville)—(5).
- C. borealis* (Grote and Robinson)—Greenbrier (7), Hampshire, Monongalia; V-22 to VII-14.
- Lycaenidae**
- Harknellenus titus mopsus* (Hübner)—Fayette, Mineral, Pendleton (11), Pocahontas, Randolph; VI-25 to VII-11.
- Satyrium liparops strigosa* (Harris)—Fayette, Kanawha (5), Monongalia; VI-11 to VII-7.
- S. calanus falacer* (Godart)—Fayette, Mineral, Monongalia, Pendleton (10), Pocahontas; VI-25 to VII-19.
- S. edwardsii* (Saunders)—Greenbrier (14), Hampshire, Randolph; VII-12 to 26.
- Calycopis cecrops* (Fabricius)—Lewis, Nicholas; VII-8 to 14.
- Callophrys polios polios* Cook and Watson—Kanawha; IV-20.
- C. henrici henrici* (Grote and Robinson)—Hampshire, Kanawha; IV-25 to VII-28.
- C. augustinus croesioides* Scudder—Hampshire, Kanawha; IV-23 to V-3.
- C. nippon nippon* (Hübner)—Berkeley, Hampshire (12), Pendleton (11); V-5 to 28.
- C. gryneus gryneus* (Hübner)—Hampshire; IV-25 to V-10.
- Strymon melinus humili* (Harris)—Berkeley, Fayette, Greenbrier (14), Hardy, Mineral, Monongalia, Pendleton, Pocahontas, Randolph, Wood; VI-8 to IX-9.
- Eroria laeta* (Edwards)—Cabell (6), Greenbrier (6), Kanawha (5, 6), Pendleton (11), Randolph; V-5 to VII-26.
- Feniseca tarquinius tarquinius* (Fabricius)—Mineral, Monongalia, Pendleton (11), Ritchie (12), Upshur, Webster (3); V-4 to IX-11.
- Lycaena hyllus* (Cramer)—Brooke, Monongalia; V-28 to IX-13.
- L. phlaeas americana* Harris—Barbour, Hampshire (12), Marion, Mason, Mineral,

- Monongalia, Pendleton (11), Randolph, Taylor, Webster (3), Wood; V-11 to IX-30.
- Everes comyntas comyntas* (Godart)—Braxton, Grant, Greenbrier, Hardy, Mineral, Monongalia, Pocahontas, Preston, Randolph, Webster (3), Wetzel, Wood; V-2 to X-4.
- Glaucopsyche lygdamus nittanyensis* Chermock—Greenbrier, Kanawha (5), Ohio, Pendleton (11), Webster, Wood; V-5 to VI-15.
- Celastrina argiolus pseudargiolus* (Boisduval and LeConte)—Braxton, Boone, Cabell, Fayette, Gilmer, Grant, Greenbrier, Kanawha (5), McDowell, Mineral, Monongalia, Pendleton (11), Preston, Tucker, Wayne, Webster (3) Wetzel; III-30 to VIII-20.
- C. ebenina* Clench—Kanawha (4, 5), Pendleton (4); IV-17 to V-5.
- Libytheidae
- Libytheana bachmanii bachmanii* (Kirtland)—Kanawha (5), Mercer (14), Monongalia, Randolph; VII-26 to IX-10.
- Nymphalidae
- Asterocampa celtis celtis* (Boisduval and LeConte)—Kanawha, Mercer, Mineral (14), Monongalia, Morgan, Wayne, Wood (15); V-24 to IX-10.
- A. clyton clyton* (Boisduval and LeConte)—Mingo, Monongalia, Wayne; VII-17 to 27.
- Limenitis arthemis arthemis* (Drury)—Mineral (15).
- L. arthemis astyanax* (Fabricius)—Berkeley, Boone, Braxton (15), Gilmer (15), Grant, Greenbrier, Hardy, Marion, Mason, McDowell, Mercer, Mineral, Mingo, Monongalia, Pocahontas, Preston, Wayne, Webster (3), Wetzel; V-12 to X-9.
- L. archippus archippus* (Cramer)—Barbour (15), Boone, Braxton, Grant, Kanawha (5), Mason, McDowell (15), Mineral, Mingo, Monongalia, Randolph, Upshur, Webster (3), Wetzel, Wood; V-12 to IX-13.
- Vanessa atalanta* (Linnaeus)—Braxton (15), Hampshire (15), Marion, Monongalia, Pocahontas, Preston, Randolph, Tucker (15), Webster (3), Wetzel; V-1 to IX-20.
- Cynthia virginicensis* (Drury)—Barbour, Grant (15), Hampshire, Kanawha, McDowell, Mercer, Monongalia, Randolph, Tucker, Webster (3), Wood; V-7 to VIII-23.
- C. cardui* (Linnaeus)—Kanawha, Monongalia, Randolph; VII to VIII-30.
- Junonia coenia* (Hübner)—Grant, Randolph; IX.
- Nymphalis milberti milberti* (Godart)—Monongalia; X-21.
- N. antiopa antiopa* (Linnaeus)—Brooke (14), Greenbrier, Kanawha, Mineral, Monongalia, Pocahontas, Randolph, Tucker (15), Webster (3); III-10 to IX-4.
- Polygonia interrogationis* (Fabricius)—Barbour (15), Boone, Braxton, Gilmer (15), Grant, Kanawha (5), Marion, Mineral, Mingo, Randolph, Ritchie, Webster, Wetzel; IV-18 to IX-20.
- Polygonia comma* (Harris)—Barbour (15), Boone, Kanawha (5), Marion, McDowell (15), Monongalia, Monroe, Pendleton (11), Putnam, Randolph, Ritchie, Webster (3); V-5 to IX-20.
- P. faunus faunus* (Edwards)—Fayette (5), Webster (3); VIII.
- P. progne* (Cramer)—Cabell, Mercer, Mineral, Mingo, Monongalia, Pendleton, Wayne, Webster; VI-29 to X-14.
- Chlosyne nycteis nycteis* (Doubleday)—Boone, Braxton, Fayette, Grant, Hampshire, Hardy, McDowell, Mercer, Mineral (14), Monongalia, Pendleton, Ritchie, Wetzel; VI-18 to VIII-28.
- C. gorgone carlota* (Reakirt)—Kanawha; V-4.
- Phyciodes tharos tharos* (Drury)—Barbour, Berkeley, Boone, Cabell, Fayette, Greenbrier, Hampshire, Hardy, Kanawha (5), Marion, McDowell, Mineral, Mingo, Monongalia, Pocahontas, Preston, Putnam, Randolph, Summers, Wayne, Webster (3); IV-27 to IX-19.

- P. batesii* (Reakirt)—Kanawha; V-22 to 28.
Euphydryas phaeton (Drury)—Kanawha (5), Monongalia, Randolph (14); VI-1 to VII.
Boloria bellona bellona (Fabricius)—(10), Boone, Braxton, Greenbrier, Hampshire, Hardy, Jackson, Kanawha, Marion, Mineral, Monongalia, Pendleton (11), Pocahontas, Randolph, Webster (3), Wood; IV-18 to X-4.
B. selene myrina (Cramer)—Grant, Kanawha, Randolph; V-24 to VII.
Speyeria idalia (Drury)—Braxton, Clay, Hampshire, Lewis, Monongalia, Pendleton (11); VI-25 to IX-20.
S. atlantis atlantis (Edwards)—Monongalia, Pendleton (11), Randolph, Webster (3); VI-18 to IX-14.
S. diana (Cramer)—Boone (14), Fayette (5), Kanawha (5), Mercer, Webster (3); VI-13 to VII-2.
S. cybele cybele (Fabricius)—(10), Berkeley, Braxton, Cabell, Fayette, Gilmer, Grant, Greenbrier, Hardy, Kanawha (5), Marion, Mercer, Mineral, Mingo, Monongalia, Pendleton (11), Pocahontas, Preston, Putnam, Randolph, Summers, Wayne, Webster (3), Wetzel, Wood; V-24 to IX-19.
S. aphrodite aphrodite (Fabricius)—Fayette, Greenbrier, Hampshire, Kanawha (5), Monongalia, Pendleton (11), Preston, Pocahontas, Randolph, Tucker, Webster (3); VI-3 to X-9.
Euptoieta claudia (Cramer)—Berkeley, Monongalia, Pendleton (11), Preston, Randolph; VII-5 to IX-26.
- Danaidae
Danaus plexippus plexippus (Linnaeus)—Berkeley, Kanawha, Marion, Monongalia, Preston, Putnam, Randolph, Webster (3); V-28 to X-10.
- Satyridae
Lethe anhedon (Clark)—Berkeley, Boone, Gilmer, Grant, Greenbrier, Hampshire, Kanawha (5), Mason, McDowell, Mineral (14), Monongalia, Pendleton (11), Ritchie; V-24 to IX-12.
L. eurydice eurydice (Johansson)—Greenbrier, Kanawha (5); VI.
L. appalachia Chermock—Fayette, Greenbrier (14); VII-7 to VIII-13.
Euptychia gemma gemma (Hübner)—Boone, Kanawha (5, 8); VI-11 to VII-8.
E. hermes sosybius (Fabricius)—Boone; VI to VIII-24.
E. cynela cynela (Cramer)—Berkeley, Braxton, Brooke, Cabell, Fayette, Gilmer, Grant, Hancock, Hardy, Marion, Mason, McDowell, Mercer, Mineral, Mingo, Monongalia, Preston, Randolph, Wayne, Wetzel; IV-23 to VIII-13.
Cercyonis pegala pegala (Fabricius)—Barbour, Greenbrier, Hampshire, Hardy, Kanawha (5), Mercer, Mineral, Monongalia, Nicholas, Pendleton (11), Pocahontas, Randolph, Ritchie; VI-25 to IX-3.

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