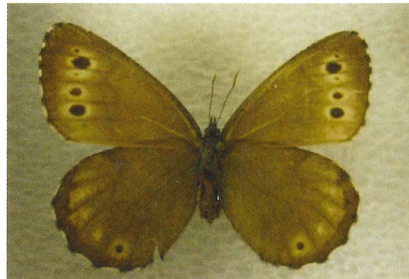




Male (left) and female (right) of Nabokov's Northern Blue, *Plebejus (Lycaeides) idas nabokovi* Masters, photographed at McNair, Lake County, Minnesota (type-locality) by Robert P. Dana on 5 July 2002 (male) and 8 July 2000 (female).



Male (left) and female (right) of the Jutta Arctic, *Oeneis jutta ascerta* Masters & Sorenson, collected along the West White Pine Truck Trail, Solana State Forest, Aitkin County, Minnesota (type-locality) on 17 June 1967 (male) by E.M. Brackney and on 14 June 1965 (female) by J.S. Nordin.

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**AN UPDATED, ANNOTATED CHECKLIST  
OF MINNESOTA BUTTERFLIES**

by

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**INTRODUCTION**

It has been 30 years since the last checklist update (Huber, 1981). That checklist was based upon the scholarly catalog/checklist of Miller and Brown (1981) with only minor modifications. The intervening years have seen a plethora of publications on the North American butterflies. Many of these have been along popular lines and, as might be expected, the nomenclature used exhibits little concordance from one publication to the next. Many of the authors simply offer their *opinion* with little or no relevant discussion. Others have performed more scholarly research and offer strong evidence, including figures of genitalic dissections, to support their views.

A review of recent literature on lepidoptera reveals that the opposing philosophies of the lumpers and the splitters continue unabated and, to some extent, may be intensifying. Some concessions are made to *both* sides in this update, based upon (illusory ?) reasonableness. In general, the lumping is at the family and generic levels, while the splitting is at the species level. For example, recent research on foodplant specializations has shown that the former Spring Azure (*Celastrina ladon*) now appears to be a species swarm, of perhaps six species. Further research at the molecular level may shed additional light on this.

This newest update now follows the massive, incredibly well-researched new Catalogue by Pelham (2008) with some very minor tweaking from more recent revisions. The Pelham Catalogue is now available online [<http://butterfliesofamerica.com/US-Can-Cat-1-30-2011.htm>; latest update 8 July 2011]. Generic names that have been in use since the 1981 checklist have in several cases been dropped to subgenera (or even synonyms) in the Pelham Catalogue, perhaps in an attempt to satisfy both the lumpers and the splitters. Vernacular names follow Miller (1992) with the exception of occasional newer findings. Where nomenclature departs noticeably from the earlier checklist (Huber, 1981), **NOTES** are offered as appropriate, generally citing the more scholarly papers alluded to above.

Some of the more problematic species are given fuller discussion under a separate second part of the checklist for Erroneous / Hypothetical records.

As of this writing, 174 species of rhopalocera (53 skippers, 121 butterflies) have been reported for Minnesota. A potential 175th species, either *Pontia sisymbrii* (Boisduval, 1852) or *P. beckerii* (W.H. Edwards, 1871) was taken in Washington County in the early 1970's, but the collector became defensive when questioned and would not allow access to the specimen for accurate identification. Three of the 174 species (*Nastra therminier*, *Poanes zabulon* and *Papilio rutulus*) are now considered erroneous. Another eight species are considered Hypothetical because their

occurrence here is problematic, *i.e.*, they may not have arrived here by natural means. Thus, there are 163 species reports (50 skippers, 113 butterflies) that are considered fully acceptable. Thirteen of these are accidental strays into the state that may or may not occur again. The "regular" list therefore currently stands at about 150 species that could be expected here in any given year. This total is expected to change (up or down) by one or two species, depending upon taxonomic "adjustments," in the near future.

It appears that several "regular" taxa may have disappeared from Minnesota in recent years. *Pyrgus centaureae freija*, *Hesperia uncas*, *Hesperia ottoe*, and *Oeneis uhleri varuna* have not been recorded for almost two decades, and *Oarisma poweshiek* disappeared about eight years ago. Conversely, it may be possible to add six or seven more species to the Minnesota list, especially along the extreme northern and western borders of our state. We need to keep looking!

### ACKNOWLEDGEMENTS

Voucher specimens or photographs have been personally examined for all but three species, *Hesperia metea*, *Plebejus (Icaricia) acmon*, and *Mestra amymone*. Many records have been provided by Norm Baker, George Balogh, Bob Bartelt, Bill Bergman, Betsy Betros, Janet Bodas, E.M. Brackney (now deceased), Patrick Conway (now deceased), Lars Crabo, Bruce and Lucy Cutler, Robert Dana, Dick Day, Mel Doner (now deceased), Norm Flagstad, Jr., Ray Glassel (now deceased), Otto Gockman, Ralph Gunderson, Dean Hansen, Clark Hanson, Paul Hanson, Chad Heins, Holly Hertel, Cathy (Lundeen) Huber, Harding Huber, Bob Janssen, Val Javorski, Kyle Johnson, Walter Johnson, Kevin Kelleher, Kristin Kerr, Ruth Klossner, Gary P. Korsmo (now deceased), Herb Kulman, Kathy Laska, Fred Leshner, Willis Linscheid, David MacLean, John Masters, Wally Mattson, Judi Maxwell, Tim McCabe, Lee Joseph Melton III, Tom Middagh, Andrés Morantes, Jim Muggli, John S. Nordin, Philip Nordin, Dick Oehlenschlager, Ellen Ordway, Jim Phillips, Floyd and June Preston, Neil Raab (now deceased), Steve Roman, Jeff Slotten, Jim Sogaard, John T. Sorensen, Dennis Swanson, Orley R. (Chip) Taylor, and many others whose names do not immediately spring forth from this aging brain.

Photographs for the frontispiece were supplied by Robert Dana (Nabokov's Northern Blue) and Matt Edling, Collections Technician II, Science Museum of Minnesota (mounted specimens of the Jutta Arctic). Matt also formatted the frontispiece.

Special thanks to Andrew Warren, Curator at the McGuire Center for Lepidoptera in Gainesville, Florida, for proofreading and greatly improving the checklist.

Finally, without the financial support of the Jessie Richardson Trust, this checklist would still be in limbo.

## Part 1: Checklist

### Superfamily **HESPERIOIDEA** Latreille, 1809

Family **HESPERIIDAE** Latreille, 1809

Subfamily **EUDAMINAE** Mabille, 1877

Genus *Epargyreus* Hübner, [1819]

*E. clarus clarus* (Cramer, 1775)(Silver-spotted Skipper)

Genus *Achalarus* Scudder, 1872

*A. lyciades* (Geyer, 1832)(Hoary Edge)(2 records; stray from S.)

Genus *Thorybes* Scudder, 1872

*T. bathyllus* (J.E. Smith, 1797)(Southern Cloudy Wing)

*T. pylades pylades* (Scudder, 1870)(Northern Cloudy Wing)

Subfamily **PYRGINAE** Burmeister, 1878 (1877)

Tribe **Carcharodini** Verity, 1940

Genus *Pholisora* Scudder, 1872

*P. catullus* (Fabricius, 1793)(Common Sooty Wing)

Tribe **Erynnini** Brues & F. Carpenter, 1932

Genus *Erynnis* Schrank, 1801

*E. icelus* (Scudder & Burgess, 1870)(Dreamy Dusky Wing)

*E. brizo brizo* (Boisduval & LeConte, [1837])(Sleepy Dusky Wing)

*E. juvenalis juvenalis* (Fabricius, 1793)(Juvenal's Dusky Wing)

*E. horatius* (Scudder & Burgess, 1870)(Horace's Dusky Wing)

*E. martialis* (Scudder, [1870])(Mottled Dusky Wing)

*E. baptisiae* (W.Forbes, 1936)(Wild Indigo Dusky Wing)

*E. lucilius* (Scudder & Burgess, 1870)(Columbine Dusky Wing)

*E. persius persius* (Scudder, 1863)(Persius Dusky Wing)

Tribe **Pyrgini** Burmeister, 1878

Genus *Pyrgus* Huebner, [1819]

*P. centaureae* (Rambur, 1842), ssp. *freiya* (B. Warren, 1924)(Grizzled Skipper)

*P. communis communis* (Grote, 1872)(Checkered Skipper)(migrant from S.)

Subfamily **HETEROPTERINAE** Aurivillius, 1925 (1879)

Genus *Carterocephalus* Lederer, 1853

*C. palaemon* (Pallas, 1771), ssp. *mandan* (W.H. Edwards, 1863)(Arctic Skipper)[\*\*\*NOTE 1\*\*\*]

Subfamily **HESPERIINAE** Latreille, 1809

Tribe **Thymelicini** Tutt, 1905

Genus *Ancyloxypha* C.Felder, [1863]

*A. numitor* (Fabricius, 1793)(Least Skipper)

Genus *Oarisma* Scudder, 1872

*O. poweshiek* (Parker, 1870; emend. Pelham 2008)(Poweshiek Skipperling)

*O. garita* (Reakirt, 1866)(Garita Skipperling)

Genus *Thymelicus* Hübner, [1819]

*T. lineola* (Ochsenheimer, 1808)(European Skipper)(introduced)

Tribe **Moncini** A. Warren 2008

Genus *Amblyscirtes* Scudder, 1872

*A. hegon* (Scudder, 1863)(Pepper and Salt Skipper)

*A. vialis* (W.H. Edwards, 1862)(Roadside Skipper)

Genus *Nastra* Evans, 1955

*N. lherminier* (Latreille, [1824])(Swarthy Skipper) [\*\*\*see Erroneous List\*\*\*]

Genus *Lerodea* Scudder, 1872

*L. eufala eufala* (W.H. Edwards, 1869)(Eufala Skipper)(migrant from S.)

Family **HESPERIIDAE** (cont.)  
Subfamily **HESPERIINAE** (cont.)  
Tribe **Hesperini** Latreille, 1809

Genus *Hylephila* Billberg, 1820

*H. phyleus phyleus* (Drury, 1773)(Fiery Skipper)(migrant from S.)

Genus *Hesperia* Fabricius, 1793

*H. uncas uncas* W.H. Edwards, 1863 (Uncas Skipper)(else new ssp.?)

*H. comma laurentina* (Lyman, 1892)(Laurentian Skipper)

*H. assiniboia* (Lyman, 1892)(Assiniboia Skipper)

*H. ottoe* W.H. Edwards, 1866 (Ottoe Skipper)

*H. leonardus*: [\*\*\*NOTE 2\*\*\*]

*leonardus* T.W. Harris, 1862 (Leonard's Skipper)

*stallingsi* H.A. Freeman, 1944

*H. pawnee* Dodge, 1874 (Pawnee Skipper)[\*\*\*NOTE 2\*\*\*]

*H. pahaska pahaska* Leussler, 1938 (Pahaska Skipper)(1 record)(Stray from West)

*H. metea metea* Scudder, 1863 (Cobweb Skipper)(1 record; Hypothetical?)

*H. dacotae* (Skinner, 1911)(Dakota Skipper)

*H. sassacus*:

*sassacus* T.W. Harris, 1862 (Indian Skipper)(SE corner MN)

*manitoboides* (Fletcher, 1889)("Northwest Indian Skipper")(NE, NC MN)

Genus *Polites* Scudder, 1872

*P. peckius peckius* (W.Kirby, 1837)(Peck's Skipper)

*P. themistocles*:

ssp.? (small, dark)(boreal MN)[ *ahaton* (T.W. Harris, 1862), or *turneri* H. Freeman, 1944 ? ]

*themistocles* (Latreille, [1824])(Tawny-edged Skipper)(rest of state)

*P. origenes origenes* (Fabricius, 1793)(Crossline Skipper)

*P. mystic*:

*mystic* (W.H. Edwards, 1863)(Long Dash)(NE half MN)

*dacotah* (W.H. Edwards, 1871)("Dakota Long Dash")(SW half MN)

Genus *Wallengrenia* Berg, 1897

*W. egeremet* (Scudder, 1863)(Northern Broken Dash)

Genus *Pompeius* Evans, 1955

*P. verna* (W.H. Edwards, 1862)(Little Glassywing)

Genus *Atalopedes* Scudder, 1872

*A. campestris* (Boisduval, 1852), ssp. *huron* (W.H. Edwards, 1863)(Sachem)(migrant from S.)

Genus *Atrytone* Scudder, 1872

*A. arogos* (Boisduval & LeConte, [1837]), ssp. *iowa* (Scudder, 1868)(Arogos Skipper)

Genus *Poanes* Scudder, 1872

*P. hobomok hobomok* (T.W. Harris, 1862)(Hobomok Skipper)

*P. zabulon* (Boisduval & LeConte [1837])(Zabulon Skipper)[\*\*\*see **Erroneous List**\*\*\*]

*P. massasoit massasoit* (Scudder, 1863)(Mulberry Wing)

*P. viator viator* (W.H. Edwards, 1865)(Broad-winged Skipper)

Genus *Anatrytone* Dyar, 1905

*A. logan logan* (W.H. Edwards, 1863)(Delaware Skipper)

Genus *Euphyes* Scudder, 1872

*E. conspicua* (W.H. Edwards, 1863), ssp. *?buchholzi* (P.Ehrlich & Gillham, 1951) (Black Dash)

*E. dion* (W.H. Edwards, 1879)(Dion Skipper)

*E. bimacula* (Grote & Robinson, 1867), ssp. *?illinois* (Dodge, 1872) (Two-spotted Skipper)

*E. vestris* (Boisduval, 1852), ssp. *metacomet* (T.W. Harris, 1862)(Dun Skipper)

Genus *Atrytonopsis* Godman, 1900

*A. hianna* (Scudder, 1868), ?ssp. *turneri* H. Freeman, 1948 (Dusted Skipper)

Superfamily **PAPILIONOIDEA** Latreille, [1802]

Family **PAPILIONIDAE** Latreille, [1802]

Subfamily **PAPILIONINAE** Latreille, [1802]

Tribe **Troidini** Talbot, 1939

Subtribe **Battina** Munroe & Ehrlich, 1960

Genus *Battus* Scopoli, 1777

*B. philenor philenor* (Linnaeus, 1771)(Pipe-vine Swallowtail)(2 records)(stray from S)  
Tribe **Leptocircini** W.F. Kirby, 1896

Genus *Eurytides* Hübner, [1821]

Subgenus *Neographium* Möhn, 2002

*E. marcellus* (Cramer, 1777)(Zebra Swallowtail)(stray from S)  
Tribe **Papilionini** Latreille, [1802]

Genus *Papilio* Linnaeus, 1758

*P. polyxenes* Fabricius, 1775, ssp. *asterius* Stoll, 1782 (Black Swallowtail)

Subgenus *Heracles* Hübner, [1819]

*P. cresphontes* Cramer, 1777 (Giant Swallowtail)(migrant from S.?)

Subgenus *Pterourus* Scopoli, 1777

*P. canadensis* Rothschild & Jordan, 1906 (Canadian Tiger Swallowtail)

*P. glaucus glaucus* Linnaeus, 1758 (Eastern Tiger Swallowtail)

*P. rutulus* Lucas, 1852 (Western Tiger Swallowtail) [See **Erroneous List**]

*P. troilus troilus* Linnaeus, 1758 (Spicebush Swallowtail)(stray from S)

Family **PIERIDAE** Swainson, 1820

Subfamily **COLIADINAE** Swainson, 1821

Genus *Nathalis* Boisduval, 1836

*N. iole iole* Boisduval, 1836 (Dainty Sulphur)(migrant from S.)

Genus *Eurema* Hübner, [1819]

*E. mexicana mexicana* (Boisduval, 1836)(Mexican Yellow)(stray from S.)

Genus *Pyrisitia* Butler, 1870

*P. lisa lisa* (Boisduval & LeConte, [1830])(Little Sulphur)(migrant from S.)

Genus *Abaeis* Hübner, [1819]

*A. nicippe* (Cramer, 1779)(1 occurrence; stray from S)

Genus *Colias* [Fabricius], 1807

*C. philodice philodice* Godart, 1819 (Clouded Sulphur)

*C. eurytheme* Boisduval, 1852 (Alfalfa Butterfly)

*C. gigantea* Strecker, 1900, ssp. *mayi* F. & R. Chermock, 1940 (Giant Sulphur)(1 record) [\*\*\*NOTE 3\*\*\*]

*C. interior* Scudder, 1862 (Pink-edged Sulphur)

Genus *Zerene* Hübner, [1819]

*Z. cesonia cesonia* (Stoll, 1790) (Dog Face)(migrant from S.)

Genus *Phoebis* Hübner, [1819]

*P. sennae* (Linnaeus, 1758), ssp. *ebule* (Linnaeus, 1767)(Cloudless Sulphur)(stray from S.) [\*\*\*NOTE 4\*\*\*]

*P. philea philea* (Linnaeus, 1763)(Orange-barred Sulphur)(1 record)(stray from S.)

Subfamily **PIERINAE** Swainson, 1820

Tribe **Anthocharidini** Scudder, 1889

Genus *Euchloe* Hübner, [1819]

*E. ausonides* (Lucas, 1852), ssp. ?*coloradensis* (Hy. Edw., 1881) or *mayi* F.&R. Chermock, 1940 (Large Marble)

*E. olympia* (W.H. Edwards, 1871)(Olympia Marble)

Tribe **Pierini** Swainson, 1820

Subtribe **Aporiina** Chapman, 1895

Genus *Neophasia* Behr, 1869

*N. menapia menapia* (C & R Felder, 1859)(Pine White)(1 record)(accidental? Hypothetical?)

Subtribe **Pierina** Swainson, 1820

Genus *Pieris* Schrank, 1801

*P. oleracea oleracea* (T.W. Harris, 1829) (Mustard White)

*P. rapae rapae* (Linnaeus, 1758)(Cabbage Butterfly)(introduced)



Family **PIERIDAE** (cont.)  
Subfamily **PIERINAE** (cont.)  
Tribe **Pierini** (cont.)  
Subtribe **Pierina** (cont.)

Genus *Pontia* [Fabricius], 1807

*P. protodice* (Boisduval & LeConte, [1830])(Checked White)(migrant from S.)

[+ early Spring form *vernalis* (W.H. Edwards, 1864)]

*P. occidentalis occidentalis* (Reakirt, 1866)(Western White)

Genus *Ascia* Scopoli, 1777

*A. monuste* (Linnaeus, 1764), ssp. *phileta* (Fabricius, 1775)(Great Southern White)(1 record)(Stray from South)

Family **LYCAENIDAE** [Leach], [1815]  
Subfamily **MILETINAE** Reuter, 1896 (1886)  
Tribe **Miletini** Reuter, 1896 (1886)  
Subtribe **Spalgina** Toxopeus, 1929

Genus *Feniseca* Grote, 1869

*F. tarquinius tarquinius* (Fabricius, 1793)(Harvester)

Subfamily **LYCAENINAE** [Leach], [1815]  
Tribe **Lycaenini** [Leach], [1815]

Genus *Lycaena* [Fabricius], 1807

Subgenus *Lycaena* [Fabricius], 1807

*L. phlaeas* (Linnaeus, 1761), ssp. *hypophlaeas* (Boisduval, 1852) (American Copper) [\*\*\*NOTE 5\*\*\*]

Subgenus *Chalceria* Scudder, 1876 [\*\*\*NOTE 6\*\*\*]

*L. dione* (Scudder, 1868)(Dione Copper)

Subgenus *Epidemia* Scudder, 1876

*L. hyllus* (Cramer, 1775)(Bronze Copper) [\*\*\*NOTE 7\*\*\*]

*L. epixanthe* (Boisduval & LeConte, [1835]), ssp. *michiganensis* Rawson, 1948 (Bog Copper)

*L. dorcas dorcas* W.Kirby, 1837 (Dorcas Copper) [or ssp. *michuron* Scott, 2006?]

*L. helloides* (Boisduval, 1852)(Purplish Copper)

Subfamily **THECLINAE** Swainson, 1831 (1820)  
Tribe **Eumacini** E. Doubleday, 1847  
Subtribe **Eumacina** E. Doubleday, 1847

Genus *Satyrium* Scudder, 1876

Subgenus *Satyrium* Scudder, 1876

*S. acadica acadica* (W.H. Edwards, 1862)(Acadian Hairstreak)

*S. titus* (Fabricius, 1793), ssp. ? *campus* (Gatrelle, 2004) (Coral Hairstreak) [\*\*\*NOTE 8\*\*\*]

*S. edwardsii edwardsii* (Grote & Robinson, 1867)(Edwards' Hairstreak)

*S. calanus* (Hübner, [1809]), ssp. *falacer* (Godart, [1824])(Banded Hairstreak)

*S. boreale* (Lafontaine, 1969)(Boreal Hairstreak) [\*\*\*NOTE 9\*\*\*]

*S. caryaevorus* (McDunnough, 1942)(Hickory Hairstreak)

*S. liparops* (LeConte, 1833)(1793)

*strigosa* (T.W. Harris, 1862)(Striped Hairstreak)(austral MN)

*fletcheri* (Michener & dos Passos, 1942)("Fletcher's Hairstreak")(boreal MN)

Genus *Callophrys* Billberg, 1820

Subgenus *Mitoura* Scudder, 1872 (as *Mitouri* ; emended Pelham 2008) [\*\*\*NOTE 10\*\*\*]

*C. gryneus gryneus* (Hübner, [1819])(Olive Hairstreak)

Subgenus *Incisalia* Scudder, 1872 [\*\*\*NOTE 10\*\*\*]

*C. augustinus augustinus* (Westwood, 1852)(Brown Elfin)

*C. polios polios* (Cook & F. Watson, 1907) (Hoary Elfin)

*C. irus irus* (Godart, [1824])(Frosted Elfin)(1 record; Hypothetical)

*C. henrici henrici* (Grote & Robinson, 1867)(Henry's Elfin) [\*\*\*NOTE 11\*\*\*]

*C. nippon* (Hübner, [1819]), ssp. *clarki* (T.N. Freeman, 1938) (Eastern Pine Elfin)

*C. eryphon eryphon* (Boisduval, 1852)(Western Pine Elfin)

Genus *Strymon* Hübner, 1818

*S. melinus* Hübner, 1818, ssp. *humuli* (T.W. Harris, 1842)(Gray Hairstreak)(migrant from S.)

Subfamily **POLYOMMATINAE** Swainson, 1827

Tribe **Polyommataini** Swainson, 1827

Genus *Leptotes* Scudder, 1876

*L. marina* (Reakirt, 1868)(Marine Blue)(4 records)(stray from S.)

Genus *Cupido* Schrank, 1801

Subgenus *Everes* Hübner, [1819]

*C. comyntas comyntas* (Godart, [1824])(Eastern Tailed Blue)

*C. amyntula* (Boisduval, 1852), ssp. *albrighti* (Clench, 1944) (Western Tailed Blue)

Genus *Celastrina* Tutt, 1906

*C. lucia lucia* (W.Kirby, 1837)(Northern Azure)

*C. ladon* (Cramer, 1780)(Spring Azure)

*C. neglecta* (W.H. Edwards, 1862)(Summer Azure)

Genus *Glaucopsyche* Scudder, 1872

*G. lygdamus*:

*lygdamus* (E. Doubleday, 1841)(Silvery Blue)(austral MN)

*couperi* Grote, 1873 ("Couper's Blue")(boreal MN)

Genus *Echinargus* Nabokov, 1945

*E. isola* (Reakirt, [1867])(Reakirt's Blue)(migrant from S.) [\*\*\*NOTE 12\*\*\*]

Genus *Plebejus* Kluk, 1780

Subgenus *Lycaeides* Hübner, [1819]

*P. idas* (Linnaeus, 1761), ssp. *nabokovi* (Masters, 1972) (Northern Blue)

*P. melissa melissa* (W.H. Edwards, 1873)(Melissa Blue)

*P. samuelis* (Nabokov, 1944) (Karner Blue)[\*\*\*NOTE 13\*\*\*]

Subgenus *Plebejus* Kluk, 1780

*P. saepiolus* (Boisduval, 1852), ssp. *amica* (W.H. Edwards, 1863)(Greenish Blue)

Subgenus *Icaricia* Nabokov, 1945 [\*\*\*NOTE 14\*\*\*]

*P. icarioides* (Boisduval, 1852), ssp. *pembina* (W.H. Edwards, 1862)("Pembina Blue")(Hypothetical)

*P. acmon* (Westwood, [1851]) (Acmon Blue)[now *P. lupini* (Boisduval, 1869)](Hypothetical)

Family **RIODINIDAE** Grote, 1895 (1827)

Subfamily **RIODININAE** Grote, 1895 (1827)

Tribe **Riodinini** Grote 1895 (1827)

Genus *Calephelis* Grote & Robinson, 1869

*C. muticum* McAlpine, 1937 (Swamp Metalmark)(1 record)(Hypothetical)

Family **NYMPHALIDAE** Rafinesque, 1815

Subfamily **LIBYTHEINAE** Boisduval, 1833

Genus *Libytheana* Michener, 1943

*L. carinenta* (Cramer, 1777), ssp. *bachmanii* (Kirtland, 1851)(Snout Butterfly)(migrant from S.)

Subfamily **DANAINAE** Boisduval, [1833]

Tribe **Danaini** Boisduval, [1833]

Subtribe **Danaina** Boisduval, [1833]

Genus *Danaus* Kluk, 1780

*D. plexippus plexippus* (Linnaeus, 1758)(Monarch)(migrant from S.)

Subfamily **HELICONIINAE** Swainson, 1822

Tribe **Heliconiini** Swainson, 1822

Subtribe **Heliconiina** Swainson, 1822

Genus *Agraulis* Boisduval & LeConte, [1835]

*A. vanillae* (Linnaeus, 1758), ssp. *incarnata* (N. Riley, 1926)(Gulf Fritillary)(stray from S.)

Tribe **Argynnini** Swainson, 1833

Subtribe **Euptoietina** Simonsen, 2006

Genus *Euptoieta* E. Doubleday, 1848

*E. claudia* (Cramer, 1775)(Variegated Fritillary)(migrant from S.)

Subfamily **HELICONIINAE** (cont.)

Tribe **Heliconiini** (cont.)

Subtribe **Boloriina** B. Warren, dos Passos & Gray, 1946

Genus *Boloria* Moore, 1900

Subgenus *Procrossiana* Reuss, 1926

*B. eunomia* (Esper, 1800), ssp. *dawsoni* (W. Barnes & McDunnough, 1916)(Bog Fritillary)[\*\*\*NOTE 15\*\*\*]

Subgenus *Clossiana* Reuss, 1920

*B. selene* ([Denis & Schiffermüller] 1775)(Old World):

*myrina* (Cramer, 1777)(Silver-bordered Fritillary)(austral MN)

*atrocotalis* (Huard, 1927)(boreal MN)

*B. bellona*:

*bellona* (Fabricius, 1775)(Meadow Fritillary)(austral MN)

*toddi* (W. Holland, 1928)(boreal MN)

*B. frigga* (Thunberg, 1791), ssp. *saga* (Staudinger, 1861)(Frigga Fritillary)

*B. freija* (Thunberg, 1791), ssp. ? (Freija Fritillary)[\*\*\*NOTE 16\*\*\*]

*B. chariclea* (Schneider, 1794), ssp. *grandis* (W. Barnes & McDunnough, 1916)(Purple Lesser Fritillary)

Subtribe **Argynnina** Swainson, 1833

Genus *Speyeria* Scudder, 1872

*S. cybele*:

*cybele* (Fabricius, 1775)(Great Spangled Fritillary)(all but NW corner)

*pseudocarpenteri* (F & R Chermock, 1940)(NW corner)

*S. aphrodite*:

*aphrodite* (Fabricius, 1787)[or *winni* (Gunder, 1932)?](Aphrodite Fritillary)(EC MN)

*alcestis* (W.H. Edwards, [1877])(S-1/3 MN)

*manitoba* (F. & R. Chermock, 1940)(boreal MN)

*S. idalia* (Drury, 1773), ssp. *occidentalis* B. Williams, 2002 (Regal Fritillary)

*S. atlantis atlantis* (W.H. Edwards, 1862)(Atlantis Fritillary)

*S. mormonia* (Boisduval, 1869), ssp. *eurynome* (W.H. Edwards, 1872)(accidental? Hypothetical?)

Subfamily **LIMENTIDINAE** Behr, 1864

Tribe **Limentidini** Behr, 1864

Subtribe **Limentidina** Behr, 1864

Genus *Limentis* [Fabricius], 1807

Subgenus *Basilarchia* Scudder, 1872 [\*\*\*NOTE 17\*\*\*]

*L. arthemis* [\*\*\*NOTE 18\*\*\*]:

*artemis* (Drury, 1773)(White Admiral)(N-2/3 MN)

*rubrofasciata* (W. Barnes & McDunnough, 1916 ("Banded Purple"))(?extreme N)

*astyanax* (Fabricius, 1775)("Red-spotted Purple")(S-2/3)

*L. archippus archippus* (Cramer, 1775)(Viceroy)

[+ form *lanthanis* (Cook & F. Watson, 1909)]

Subfamily **APATURINAE** Boisduval, 1840

Genus *Asterocampa* Röber, 1916

*A. celtis celtis* (Boisduval & LeConte, [1835])(Hackberry Butterfly)

*A. clyton clyton* (Boisduval & LeConte, [1835])(Tawny Emperor)

Subfamily **BIBLIDINAE** Boisduval, 1833

Tribe **Biblidini** Boisduval, 1833

Genus *Mestra* Hübner, [1825]

*M. amymone* (Ménétriés, 1857)(Amymone)(1 record)(stray from S.)

Subfamily NYMPHALINAE Rafinesque, 1815

Tribe Nymphalini Rafinesque, 1815

Genus *Vanessa* [Fabricius], 1807

*V. virginiensis* (Drury, 1773) (American Painted Lady)

*V. cardui* (Linnaeus, 1758) (Painted Lady)(migrant from S.)

*V. atalanta* (Linnaeus, 1758), ssp. *rubria* (Fruhstorfer, 1909)(Red Admiral)(migrant from S.) [\*\*\*NOTE 19\*\*\*]

Genus *Aglais* Dalman, 1816

*A. milberti milberti* (Godart, 1819) (Milbert's Tortoise Shell) [\*\*\*NOTE 20\*\*\*]

Genus *Nymphalis* Kluk, 1780 [\*\*\*NOTE 21\*\*\*]

*N. l-album* (Esper, 1781), ssp. *j-album* (Boisduval & LeConte, [1835]) (Compton Tortoise Shell) [\*NOTE 22\*\*]

*N. californica* (Boisduval, 1852) (California Tortoise Shell) (1 record; stray)

*N. antiopa antiopa* (Linnaeus, 1758) (Mourning Cloak)

Genus *Polygonia* Hübner, [1819]

*P. interrogationis* (Fabricius, 1798) (Question Mark)

*P. comma* (T.W. Harris, 1841) (Comma)

*P. satyrus satyrus* (W.H. Edwards, 1869) (Satyr Anglewing)

*P. progne* (Cramer, 1775) (Gray Comma)

*P. gracilis gracilis* (Grote & Robinson, 1867) (Hoary Comma)

*P. faunus faunus* (W.H. Edwards, 1862) (Green Comma)

Tribe Junoniini Reuter, 1896

Genus *Junonia* Hübner, [1819]

*J. coenia coenia* Hübner, [1822] (Buckeye) (migrant from S.)

Tribe Melitacini Newman [1870]

Subtribe Euphydryina Higgins, 1976

Genus *Euphydryas* Scudder, 1872

Subgenus *Euphydryas* Scudder, 1872

*E. phaeton phaeton* (Drury, 1773) (Baltimore)

*E. anicia* (E.Doubleday, 1847), ssp. *bernadetta* Leussler, 1920?(Anicia Checkerspot)(1 record)[\*\*NOTE 23\*\*\*]

Subtribe New Wahlberg (in prep)

Genus *Chlosyne* Butler, 1870

*C. nycteis nycteis* (E.Doubleday, 1847)(Silvery Checkerspot)

*C. gorgone* (Hübner, [1810]), ssp. *carlota* (Reakirt, 1866)(Gorgone Checkerspot)

*C. lacinia* (Geyer, 1837), ssp. *adjutrix* Scudder, 1875 (Bordered Patch)(1 record)(stray from S.)

*C. harrisii*:

*harrisii* (Scudder, 1863)(Harris' Checkerspot)(NE MN)

*hanhami* (Fletcher, 1903)("Hanham's Checkerspot")(NW MN)

Subtribe Phyciodina Higgins, 1981

Genus *Anthanassa* Scudder, 1875

*A. texana texana* (W.H. Edwards, 1863)(Texas Crescent)(1 record; Hypothetical)

Genus *Phyciodes* Hübner, [1819]

*P. tharos tharos* (Drury, 1773)(Pearl Crescent)

*P. cocyta* (Cramer, 1777): (Surinam) [\*\*\*NOTE 24 \*\*\*]

*selenis* (W. Kirby, 1837) (northern MN)

*diminutor* Scott 1998 (extreme southern MN)

*P. batesii* (Reakirt, [1866])(Tawny Crescent)[\*\*\*NOTE 25\*\*\*]

Subfamily SATYRINAE Boisduval, [1833] (1820)

Tribe Satyrini Boisduval, [1833] (1820)

Subtribe Lethina Reuter, 1896

Genus *Lethe* Hübner, [1819]

Subgenus *Enodia* Hübner, [1819]

*L. anhedon*:

*anhedon* A.H. Clark, 1936 (Northern Pearly Eye)

*borealis* A.H. Clark, 1936 [\*\*\*NOTE 26\*\*\*]

Subgenus *Satyrodes* Scudder, 1875

*L. eurydice* (Linnaeus, 1763)(Eyed Brown)

*L. fumosus* Leussler, 1916 (Smoky Eyed Brown) [\*\*\*NOTE 27\*\*\*]

*L. appalachia* R.L. Chermock, 1947, ssp. *leeuwi* Gatrell & Arbogast, 1974 (Appalachian Eyed Brown)

Subtribe Coenonymphina Tutt, 1896

Genus *Coenonympha* Hübner, [1819]

*C. tullia* (Müller, 1764), ssp. *inornata* W.H. Edwards, 1861 (Inornate Ringlet) [\*\*\*NOTE 28\*\*\*]

Subtribe Euptychiina Reuter, 1896

Genus *Megisto* Hübner, [1819]

*M. cymela cymela* (Cramer, 1777)(Little Wood Satyr)

Subtribe incertae sedis

Genus *Cercyonis* Scudder, 1875

*C. pegala* (Fabricius, 1775)(Common Wood Nymph):

*nephele* (W. Kirby, 1837)("Dull-eyed Grayling")(boreal MN)

*olympus* (W.H. Edwards, 1880)("Olympian Wood Nymph")(austral MN)

*C. oetus* (Boisduval, 1869), ssp. *charon* (W.H. Edwards, 1872)(Dark Wood Nymph)(1 record)(Hypothetical)

Subtribe Erebiina Tutt, 1896

Genus *Erebia* Dalman, 1816

*E. mancinus* E. Doubleday, [1849] (Taiga Alpine)

*E. discoidalis discoidalis* (W. Kirby, 1837)(Red-disked Alpine)

Subtribe Satyrina Boisduval, [1833] (1820)

Genus *Oeneis* Hübner, [1819]

Subgenus *Oeneis* Hübner, [1819]

*O. jutta* (Hübner, [1806]), ssp. *ascerta* Masters & Sorenson, 1968 (Jutta Arctic)

*O. macounii* (W.H. Edwards, 1885)(Macoun's Arctic)

Subgenus *Protoeneis* Gorbunov, 2001

*O. uhleri* (Reakirt, 1866), ssp. *varuna* (W.H. Edwards, 1882)(Uhler's Arctic)

## Part 2: Erroneous / Hypothetical List (Remarks)

### Superfamily HESPERIOIDEA

#### Family HESPERIIDAE

#### Subfamily HESPERIINAE

#### Tribe Hesperiiini

Genus *Nastra*

*N. therminier* [reported from Itasca State Park by Azevedo (1970), but the specimen could not be located when confirmation was requested. The record is considered **Erroneous**].

Genus *Hesperia*

*H. metea* [reported by Franzen (1914): "The Academy's collection contains three specimens from Minneapolis, 1894." Those specimens have not been located, but the species occurs just across the border in Burnett Co., Wisconsin in sandy, oak-jackpine barrens. More searching is needed in late May !]

Superfamily **HESPERIOIDEA** (cont.)

Family **HESPERIIDAE** (cont.)

Subfamily **HESPERIINAE** (cont.)

Tribe **Hesperiini** (cont.)

Genus *Poanes*

*P. zabulon* [reported by Franzen (1914): "Common in low swampy places in May and June. From Fort Snelling, May 15, May 22." He also reported two specimens of *P. hobomok* and one of *P. hobomok* var. *pocahontas*, which would suggest that he may have had more than one species in front of him. However, the specimens have not been located, and his assessment of *zabulon* as "common" would suggest some confusion. At present, *P. zabulon* occurs no further north than central Iowa. The record is considered **Erroneous**.]

Superfamily **PAPILIONOIDEA**

Family **PAPILIONIDAE**

Subfamily **PAPILIONINAE**

Tribe **Papilionini**

Genus *Papilio* (*Pterourus*)

*P. rutulus* [all specimens reported by Macy & Shepard, 1942, were located in the Univ. Minnesota collection and all proved to be *P. canadensis* (Rothschild & Jordan)].

Family **PIERIDAE**

Subfamily **PIERINAE**

Tribe **Pierini**

Genus *Neophasia*

*N. menapia* [Masters (1967) argued, after examining the single specimen in the University of Minnesota collection, that the specimen represented the far western subspecies *tau* (Scudder). Masters suggested that the inclusion of this species on the Minnesota list should be done with hesitation].

Family **LYCAENIDAE**

Subfamily **THECLINAE**

Tribe **Eumaeini**

Genus *Callophrys* (*Incisalia*)

*C. irus* [one female bearing an Otto Luggler collection label (but date on label is 6 May 1929 !!) in the Univ. of Minnesota collection was sent to Dr. Harry Clench at Carnegie Museum in the late 1960's by John Nordin. Dr. Clench is now deceased and the whereabouts of that specimen is unknown. This species has been taken along with two other Blue Lupine obligates, *Erymnis persius* and *Lycaeides samuelis*, in adjacent Wisconsin. More searching is needed in late May !]

Tribe **Polyommatae**

Genus *Plebejus* (*Icaricia*)

*I. icarioides pambina* [one female in the Univ. of Minnesota collection is labelled Olmsted County, without date, as taken by C.N. Ainslie. The nearest populations are in the western Dakotas, so it would appear that this specimen might be a windblown stray unless, as seems more likely, it has been mislabelled.]

*I. acmon* [another C.N. Ainslie specimen, in the Univ. of Minnesota collection, is labelled Olmsted County, without date. Opler (2003) determined that *acmon* is monotypic and all subspecies previously assigned now belong under *I. lupini* (Boisduval, 1869). The nearest population, *I. lupini texanus* (Goodpasture, 1973) is in the western Dakotas, so it appears to be another windblown stray or another candidate for mislabelled status. Macy and Shepard (1941) report a Winona County specimen in the collection of Mrs. Robert Milde of Lewiston. If that specimen can be located, it may prove to be a female of the nearby colony of *Plebejus* (*Lycaeides*) *samuelis* ?]

Family **RIODINIDAE**

Subfamily **RIODININAE**

Genus *Calephelis*

*C. muticum* [another C.N. Ainslie specimen, in the Univ. of Minnesota collection, is labelled Olmsted County, with no date. However, this is within the range of the known larval host, Swamp Thistle (*Cirsium muticum*), and the nearest populations of the butterfly are from southern Wisconsin and eastern Iowa. More searching is needed in mid-July !]

Family NYMPHALIDAE  
Subfamily NYMPHALINAE  
Tribe Nymphalini

Genus *Polygona*

*P. gracilis* [although several modern specimens are now confirmed from Cook County, the various records cited by Macy & Shepard (1941) have all been located in the Univ. of Minnesota collection. All have proven to be very pallid specimens of *Polygona progne*.]

Tribe Melitaeini

Genus *Anthanassa*

*A. texana* [one specimen from a 1965 Lac Qui Parle County 4-H collection has now been donated to the University of Minnesota collection. Records from Nebraska and South Dakota suggest that this is reasonably expected to occur as an occasional stray in SW Minnesota.]

Genus *Euphydryas*

*E. anicia* [4 specimens from Otto Lugger in the Univ. of Minnesota collection are labelled Marshall County with dates of July 27 and Aug 14. These are presumably from the very late 1800's. The specimens have been placed, with considerable hesitation, as subspecies *bernadetta* (Leussler). They are uniformly much darker above than known populations from western South Dakota and Nebraska.

Subfamily SATYRINAE

Tribe Satyrini

Subtribe Maniolina

Genus *Cercyonis*

*C. oetus charon* [one male in the collection of the Science Museum of Minnesota was taken in 1967 at the Warner Nature Center in Washington County, during a course taught by Mark Genich. It is a weakly flying species that is seldom known to stray from its range in the western Dakotas. The label-data is considered reliable, but the specimen, if not a windblown stray, may have arrived via human transport (perhaps as a chrysalis attached to a railroad boxcar ? Other western species taken in this area lend some credence to this possibility.)]

NOTES

01. In the previous checklist (Huber, 1981), ssp. *mesapano* was used, even though Miller & Brown (1981) synonymized it. Recently, Mattoon & Tilden (1998) resurrected the name, but restricted it to New England. They used *mandan* for the Great Lakes region.
02. Recent workers (e.g., Spomer, et al, 1993) have suggested, based upon wing patterns from Loess Hills samples in western Iowa, that *H. leonardus* and *H. pawnee* are conspecific. This interpretation assumes (perhaps incorrectly?), that the Ozarkian population is nominotypic. Given the occurrence of three distinct phenotypes in MN (*pawnee* in west, *leonardus stallingsi* in SE, *leonardus leonardus* in extreme N) all of which occupy distinctly different habitats and none of which meet, *H. pawnee* and *H. leonardus* are treated here as distinct species, awaiting more rigorous study (perhaps DNA analysis ?).
03. Hammond & McCorkle (2008) studied the *C. scudderii-gigantea* complex, and suggested that *mayi* F.&R. Chermock is a subspecies of *Colias scudderii* Reakirt, 1865.
04. All recent checklists have shown the southern U.S. race as *eubule* (Linnaeus, 1767), but Lamas (2004a) suggested dropping this name into synonymy.
05. For many years, the American race has been called *L. p. americana* T.W. Harris 1862, but a Lectotype designation for *hypophlaeas* by Emmel et al (1998) dictates this new synonymy.
06. Although the Dione Copper has been placed in *Gaeides* Scudder 1876 for a number of years, Guppy & Shepard (2001:188) have given priority to *Chalceria* Scudder 1876.
07. In older literature, this was called *L. thoe* (Guérin-Méneville, [1832]). Miller & Brown (1979) looked at Lycaenidae on a worldwide basis and determined that *hyllus* (Cramer) was the correct species name. Based upon structural characters (including genitalia) they erected the monobasic genus *Hyllolycaena* for it.
08. Gatrell (2004) revised the taxonomy of this species and named this new subspecies from Iowa.
09. This name has been ignored almost since its inception. Specimens that are a perfect match for the original figures are occasionally found in MN, associated with Butternut trees (*Juglans cinerea* L.). Further study is definitely needed.

## NOTES (cont.)

10. Layberry, *et al* (1998) considered *Mitoura* and *Incisalia*, as belonging under the larger genus *Callophrys* Billberg, 1820, which is followed here [but contrast this with NOTE 11 !].
11. Johnson (1992) included the angiosperm-feeding *I. augustinus*, *I. polios*, *I. irus* and *I. henrici* under his new genus *Deciduphagus*, leaving the gymnosperm-feeding *I. niphon*, *I. eryphon*, and *I. lanoraieensis* in *Incisalia*. Gatrelle (1999) concurred [but contrast this with NOTE 10 !]. As this updated checklist is going to press, Pratt *et al* (2011), using allozyme data, support the return of *Mitoura* and *Incisalia* to full generic status. Stay tuned !
12. For decades the subspecies *alce* (W.H. Edwards, 1871) was recognized for the southern U.S., but Lamas (2004b), dropped it into synonymy.
13. Nice and Shapiro (1999) have found genitalic differences in the two species of *Lycaeides*, but surprisingly found no differences in mitochondrial DNA ! They did not differentiate *melissa* from *samuelis* at the species level. In MN the differences in habitat and larval host preferences strongly indicate that *melissa* and *samuelis* are two distinct species.
14. Both species in this genus are problematic in MN. The first, *P. icarioides pembina*, is possibly a mislabelled specimen and the *P. acmon* may be also. The other *I. acmon* is reported by Macy and Shepard (1941) and may well have been a female of *samuelis* (the specimen has not yet been located). See discussion under **Erroneous / Hypothetical**.
15. Bridges (1989) notes that improved dating for *aphirape* Hübner [1800] could give it priority over *eunomia* (Esper, 1800). If this is appealed to the ICZN, it may change the name that we use.
16. Bridges (1989) notes that the corrected date for *lapponica* (Esper, 1789 not 1793) gives it priority over *freiija*. If this is appealed to the ICZN, it may change the name that we use.
17. Ongoing studies, not yet completed, indicate that larval hostplants for Old World *Limenitis* differ significantly from New World *Basilarchia*, hence the latter is retained here as at least a subgenus.
18. Virtually none of the recent literature treats these as anything more than subspecies. In MN there is broad over-lap between the *arthemis* and *astyanax* morphs with some, but very little, interbreeding. Behaviorally, however, they are remarkably different.
19. Subspecies *rubria* has been used to differentiate the more reddish American race from the more orange nominotypic European race. The difference is not readily apparent.
20. Former subspecies *furcillata* (Say, 1825), originally described from Ft. William, Ontario has been, without explanation, dropped into synonymy.
21. Guppy & Shepard (2001) argued that the Compton Tortoiseshell, based upon larval, genitalic, and molecular evidence, is more or less intermediate between *Polygonia* and *Nymphalis*. They suggested that *Roddia* Korshunov 1995 could be used as a subgenus of *Polygonia* or else as a full genus. They chose the latter.
22. Guppy & Shepard (2001) follow Koçak (1981) in treating *vaualbum* (Denis & Schiffermüller [1775]) as a *nomen nudum*. The next available name is *l-album* (Esper, 1780). Guppy & Shepard also suggest that the American *j-album* may eventually prove to be a full species.
23. Four specimens in the University of Minnesota collection appear to be the ssp. *bernadetta* (Leussler 1920), and a photograph was sent to the late F. Martin Brown. He felt that they were not *bernadetta*, but might be an unnamed subspecies. We have still not found their hiding place in northwestern Minnesota, if they are correctly labeled.
24. Various authors (Oliver, 1980; Higgins, 1981; Scott, 1986, 1994, 1998) have started splitting the old *Phyciodes tharos* into several "distinct" taxa, using at least the following names:
- morpheus* (Fabricius, 1775 not Pallas 1771)
  - cocyta* (Cramer, 1777)
  - selenis* (Kirby, 1837)
  - pascoensis* Wright, 1905
  - orantain* Scott, 1998 and *diminutor* Scott, 1998;
- Unfortunately, the "correct" name seems to change with each new publication and the names are not applied consistently to the same taxa each time. Lack of identifiable types has led to interpretation of almost cartoon-like pictures from very old literature, followed by promiscuous naming of "neotypes" to force each name to fit a particular concept. The *scholarly* review of *Phyciodes* by Higgins (1981) seems to have been under-appreciated.
25. Scott (1994) created three new subspecies of *batesii*, one of which, *lakota*, may possibly occur in Minnesota.
26. Masters (1971) offers excellent morphological and behavioral evidence to support recognition of subspecies *borealis* Clark. Behavioral evidence might even suggest sibling species status ?
27. Cardé *et al* (1970) compared this taxon to nominotypic *eurydice* and illustrated genitalic differences between the two, but did not come right out and declare them as two distinct species. Both fly together in various MN localities as far North as Wadena County (Oehlenschläger *et al*, 2002).



## NOTES (cont.)

28. Guppy & Shepard (2001), based upon genitalic evidence, divided the *C. tullia* complex into two lineages: old world *C. tullia* (reaches BC as ssp. *yukonensis* W.Holland, 1900), and the remaining taxa, with at least five subspecies, which they assign to *C. californica* Westwood, [1851].

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