Butterflies of Virginia

County Distribution

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Notes on the names applied in this list:

*[1] *Achalarus lyciades* revised to *Cecropterus lyciades* (Li, *et. al*., 2019; Pelham, 2019).

*[2] *Thorybes confusis* revised to *Cecropterus confusis* (Li, *et. al*., 2019; Pelham, 2019).

*[3] *Thorybes bathyllus* revised to *Cecropterus bathyllus* (Li, *et. al*., 2019; Pelham, 2019).

*[4] *Thorybes pylades* revised to *Cecropterus pylades* (Li, *et. al*., 2019; Pelham, 2019).

*[5] *Autochton cellus* revised to *Telegonus cellus* (Li, *et. al*., 2019; Pelham, 2019).

*[6] *Erynnis juvenalis* revised to *Gesta juvenalis* (Zhang, et. al., 2019a. 2019b).

*[7] *Erynnis horatius* revised to *Gesta horatius* (Zhang, et. al., 2019a. 2019b).

*[8] *Erynnis martialis* revised to *Gesta martialis* (Zhang, et. al., 2019a. 2019b).

*[9] *Erynnis zarucco* revised to *Gesta zarucco* (Zhang, et. al., 2019a. 2019b).

*[10] *Erynnis funeralis* revised to *Gesta funeralis* (Zhang, et. al., 2019a. 2019b).

*[11] *Erynnis baptisiae* revised to *Gesta baptisiae* (Zhang, et. al., 2019a. 2019b).

*[12] *Erynnis lucilius* revised to *Gesta lucilius* (Zhang, et. al., 2019a. 2019b).

*[13] *Erynnis persius* revised to *Gesta persius* (Zhang, et. al., 2019a. 2019b).

*[14] *Pyrgus communis* revised to *Burnsius communis* (Grishin, 2019; Li, *et. al*., 2019; Pelham, 2019).

*[15] *Pyrgus albescens* revised to *Burnsius albescens* (Grishin, 2019; Li, *et. al*., 2019; Pelham, 2019).

*[16] *Copaeodes minimus* revised to *Oarisma minima* (Zhang, *et. al*., 2019a. 2019b).

*[17] *Polites origenes* revised to *Limochores origenes* (Zhang, et. al., 2019a. 2019b).

*[18] *Polites mystic* revised to *Limochores mystic* (Zhang, *et. al*., 2019a. 2019b).

*[19] *Polites vibex* revised to *Hedone vibex* (Zhang, *et. al.,* 2019a. 2019b).

*[20] *Problema bulenta* revised to *Atrytone bulenta* (Zhang, *et. al*., 2019a. 2019b).

*[21] For the purposes of this list, *Euphyes bimacula* is listed along with two subspecies: nominotypical subspecies *bimacula* which occurs in the mountainous portion of western Virginia; and subspecies

arbogasti, which occurs in the coastal plain region. NABA (2001) does not list subspecies for *E. bimacula*.

*[22] Treatment of *Heraclides* at either the level of genus or subgenus has remained subjective for well over a century. More recent studies remain inconclusive on proper placement of *Heraclides* as either genus or subgenus. For example, Miller & Brown (1981) treated *Heraclides* at genus level, while Pelham (2019) treats *Heraclides* as a subgenus of *Papilio.* NABA (2001) recognized only genus *Papilio* for members of *Heraclides.* The present list opts to follow Tyler, *et. al.* (1994), and Lamas (2004) which place *Heraclides* at genus rank.

*[23] Treatment of *Pterourus* at either the level of genus or subgenus has remained subjective for well over a century. More recent studies remain inconclusive on proper placement of *Pterourus* as either genus or subgenus. For example, Miller & Brown (1981) treated *Pterourus* at genus level, while Pelham (2019) treats *Pterourus* as a subgenus of *Papilio.* NABA (2001) recognized only genus *Papilio* for members of *Pterourus.* The present list opts to follow Tyler, *et. al.* (1994), and Lamas (2004) which place *Pterourus* at genus rank.

*[24] *Pterourus appalachienis* was described in 2002, thus not listed in NABA (2001).

*[25] The treatment of *Pyrisitia* at either the level of genus or subgenus has remained subjective for many decades and has flipped back and forth repeatedly. NABA (2001) recognized only genus *Eurema* for members of *Pyrisitia.* Most recently, Lamas (2004) and Pelham (2019) treat *Pyrisitia* at the rank of genus. Zhang, *et. al.* (2019a. 2019b) resolved this question through extensive genomic analysis and proposed retention of *Pyrisitia* at full genus rank.

*[26] The treatment of *Abaeis* at either the level of genus or subgenus of *Eurema* has remained subjective for many decades and has flipped back and forth repeatedly. NABA (2001) recognized only genus *Eurema.* Most recently, Lamas (2004) and Pelham (2019) treat *Abaeis* at the rank of genus. Zhang, *et. al.* (2019a. 2019b) resolved this question through extensive genomic analysis and proposed retention of *Abaeis* at full genus rank.

*[27] Though Appalachian populations were recently described as subspecies *carolae* (Hammond & McCorkle, 2017), the authors reclassified all *Colias interior* subspecies as subspecies of *Colias pelidne*. This view has not been accepted by the lepidopterological community. Pelham (2019) retained *Colias interior*, and Zhang, et. al. (2019) provided support for retaining *Colias interior* as separate from *Colias pelidne*. The present list follows Pelham (2019).

*[28] The treatment of *Zerene* at either the level of genus or subgenus has remained subjective for well over a century and has flipped back and forth repeatedly. NABA (2001) recognized only genus *Colias* for members of *Zerene.* Hammond & McCorkle (2017) treated *Zerene* as a subgenus of *Colias*. Most recently, Lamas (2004) and Pelham (2019) treated *Zerene* at the rank of genus. Zhang, *et. al.* (2019a. 2019b) resolved this question through extensive genomic analysis and demonstrated considerable distance between *Zerene* and *Colias* at genus rank.

*[29] *Callophrys* has gained "popular" application as a super-genus encompassing several genera in recent years, despite several studies supporting retention of traditional genera. This first became evident when Scott (1986) applied *Callophrys* in place of traditional genera *Incisalia, Mitoura* and others, without explanation or reference. This treatment was followed by Opler & Warren (2003), and Lamas (2004) again without explanation. The present list follows traditional treatment of *Incisalia* and *Mitoura* at generic rank (Miller & Brown, 1981; Hodges, 1983; Ferris, 1989). A recent study (Zhang, *et. al.*, 2019) showed close relationships between genera but members of *Incisalia* and *Mitoura* break out as separate groupings requiring detailed analysis and resolution.

*[30] This list records both *Baptisia* and *Lupinus* feeding populations separately in support of future studies. These currently bear no taxonomic standing.

*[31] This list records locations for both subspecies *henrici* and *viridissima* separately. The common name 'Greenish' Henry's Elfin comes from local usage in the region where ssp. *viridissima* occurs.

*[32] The species *Celastrina lucia* has come to be accepted at species rank in recent years by most authors, in regions where the species occurs. It is distinct from *C. ladon* (which is identified by a unique wing scale structure). NABA (2001) and Glassberg (2017) do not recognize this taxon. Pavulaan (2014) discusses separation of several *Celastrina* taxa in Virginia at species rank. Pelham (2019) lists two subspecies, of which *C. lucia lucia* occurs in eastern North America.

*[33] The species *Celastrina ladon* has been determined to be a distinct Appalachian/Ozarkian region endemic, identified by a unique wing scale structure that separates it from all other eastern *Celastrina* species. This is discussed at length in Pavulaan (2014). NABA (2001) subsumes several species within *C. ladon*. Pelham (2019) separates *C. ladon* from other taxa in this genus. The name "*violacea*" is a junior synonym and applies only to typical *C. ladon*.

*[34] The species *Celastrina idella* has been determined to be distinct from *C. ladon* (which is identified by a unique wing scale structure). NABA (2001) considered *idella* to represent a subspecies of *ladon*, though both are fully sympatric and occur together throughout the range of *C. idella* (sympatric taxa are not considered by biologists to be subspecies). The common name "Holly Azure" was originally proposed (Wright & Pavulaan, 1999) and most authors and websites have adopted this common name. However, NABA (2001) refers to it as 'Atlantic' Spring Azure and Glassberg (2017) does not recognize this taxon.

*[35] The species *Celastrina serotina* has been determined to be distinct from *C. ladon* (which is identified by a unique wing scale structure). The species was described in 2005, thus not listed in NABA (2001). Glassberg (2017) do not recognize this taxon, while most authors accept this as a full species, in regions where the species occurs. The common name "Cherry Gall Azure" was originally proposed (Pavulaan & Wright, 2005) and is widely used.

*[36] The species *Celastrina neglecta* has been determined to be distinct from *C. ladon* (which is identified by a unique wing scale structure). This is discussed at length in Pavulaan (2014). In recent years, *neglecta* has come to be accepted at species rank by most authors. NABA (2001) considered *neglecta* to represent a subspecies of *ladon* (with the common name 'Summer' Spring Azure), though both are fully sympatric and occur together throughout the range of *C. ladon* (sympatric taxa are not considered by biologists to be subspecies). Glassberg (2017) does not recognize *neglecta* at any rank and subsumes it into *C. ladon*. Pelham (2019) separates *C. neglecta* from *C. ladon*. The common name is correctly "Summer Azure".

*[37] The genus name *Everes* has traditionally been applied to North American "Tailed Blues". In recent years, the genus name *Cupido* has gained popular usage (with *Everes* subsumed to the rank of subgenus). This use of the name *Cupido* is based on an elusive list of European butterflies that apparently was never published! However, I have found no actual studies showing that *Cupido* is the correct generic name to apply to our sole member of the genus: *Everes comyntas*. Thus, I retain the genus name *Everes.*

*[38] The species name *Libytheana bachmanni* has traditionally been applied to the butterfly known as the "American Snout". In recent years, the name *L. carinenta* has gained popular usage (with *bachmanii* considered a subspecies of *carinenta*). I have attempted to find an actual study showing this to be the case but such study eludes me. Thus, I retain the status of *L. bachmanni* as a full species.

*[39] The familiar Monarch butterfly is known for its migratory behavior. The nominotypical, migratory subspecies *Danaus plexippus plexippus* occupies the entirety of the North American mainland. However, a sedentary population exists in the Caribbean region, adjacent to Florida, with the subspecies name *D. plexippus megalippe*. The Monarch population of southern Florida variably takes on phenotypical characters of *megalippe* and is fully sedentary. Whether this population is actually *megalippe*, or a blend population, calls for more detailed study. In any event, some Monarch individuals observed in Virginia display some of the characteristics of *megalippe*. However, since these are of migratory nature, they may

likely be hybrids or simply *megalippe*-like variants of nominotypical *plexippus*. Thus, an entry for *megalippe* is included in the list. There is no published common name, thus I have adopted the name "Caribbean Monarch".

*[40] *Agraulis vanillae* revised to *Dione vanillae* (Zhang, et. al., 2019a. 2019b).

*[41] NABA (2001) created the common name "Red-spotted Admiral" as an "imperfect solution" for providing a name for the SPECIES *Limenitis arthemis* while maintaining the subspecies common names "White Admiral" for subspecies *arthemis* and "Red-spotted Purple" for subspecies *astyanax*. Observers are encouraged to use the subspecific common names for reporting either subspecies in Virginia, instead of the SPECIES name "Red-spotted Admiral", though the Red-spotted Purple is the dominant form in Virginia. White Admirals only appear as rare variant forms, mostly in the mountainous western region of the state. [It is important to note that the practice of reporting the species name Red-spotted "Admiral" in some regions of our country, such as in New England, where both forms are equally present, actually masks diversity in the species, and it is not known which subspecies is being reported.]

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