

**North American Butterfly Association (NABA)  
Checklist & English Names  
of North American Butterflies**

Second Edition

NABA Names Committee  
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Ann Swengel, Guy Tudor**

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Cover photographs by Jeffrey Glassberg:

Dina Yellow, Oct. 3, 1995, Bauer Park, Miami-Dade County, Florida

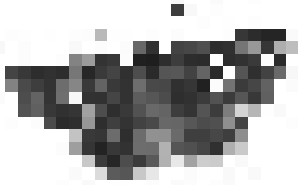
American Copper, May 20, 1990, Chappaqua, Westchester County, New York

Sonoran Blue, Feb. 27, 1998, Plum Canyon, Anza-Borrego Desert State Park, San Diego County, California

Sandía Hairstreak, May 30, 1999, Pine Canyon Trail, Big Bend National Park, Brewster County, Texas

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# Introduction

This checklist includes all 722 species of butterflies that have naturally occurred in North America, north of Mexico, and in Hawaii. This list can serve both as a means of keeping your “life list” (or year list, or state list, or photo list) and as a vehicle for standardizing the names of North American butterflies. We hope that the availability of this checklist will serve to spur the growth of butterflying in North America.

The North American Butterfly Association (NABA), a non-profit organization founded in the summer of 1992, is by far the largest group of people in North America interested in butterflies. NABA’s mission is to increase public enjoyment and conservation of butterflies. One of the factors that has discouraged public involvement with butterflies has been the bewildering multiplicity of butterfly names, both English and scientific.

Butterfly names are used for communication. Communication occurs at the level of the community, not at the individual or small group level, and language only has meaning when the community has a consensus about what those words mean. Prior to NABA’s formation, each author of a book used whatever names he/she preferred, resulting in a Babel of names. In many cases enthusiasts could not understand how names in different books related to each other and became frustrated, leaving butterfly study to a handful of people.

So, one of the first actions of the nascent North American Butterfly Association was to form an English Names Committee. The results of that committee’s work were published in 1995 as the First Edition of *the Checklist and English Names of North American Butterflies* (hereafter *First Edition*). Please see the Introduction to that publication for a discussion of policies regarding the selection of English names. In a remarkably short time, the publication of the *First Edition* has led to much greater agreement in the names used for butterflies in publications, and both the English and scientific names have been adopted by many publications. Butterfly enthusiasts have quite reasonably assumed that

this publication would be the basis for any future changes in the nomenclature of North American butterflies.

The choice of scientific names used in the *First Edition* was not the result of species by species decisions — the committee focused on English names. Rather than produce an independent evaluation of the correct status for each taxon, the committee decided to follow the scientific nomenclature that had been used by Opler in Peterson *Field Guide to Eastern Butterflies* (1992) and, for species not treated in that book, to follow Scott’s *The Butterflies of North America* (1986).

In constructing this Second Edition of the NABA Checklist, the NABA Names Committee<sup>1</sup> has now independently evaluated the status of scientific names. At the back of this checklist, all changes from the *First Edition* are listed and discussed. An asterisk following an entry in the checklist indicates that this name is discussed in the Commentary section (but note that many names that were discussed were not changed). Votes of the Committee are included. In addition, the Committee evaluated the inclusion of a number of Neotropical taxa in the *First Edition*, and moved some of these taxa to the Dubious occurring list.

The Committee was guided by the following important principles. First, the starting point for all discussion was the *First Edition*. The status of a taxon was not changed (e.g. from subspecies to species), unless the Committee found compelling evidence that the status given in the First Edition should be changed.<sup>2</sup>

Second, in considering information relevant to a possible change in status, the Committee only considered published data.<sup>3</sup> The Committee endeavored to locate all publications that contained data arguing for a status other than the one presented in the *First Edition* and contacted various forums frequented by butterfly enthusiasts and lepidopterists requesting notification of any such publications. The list of publications considered is fairly lengthy and is presented at the end of the Commentary section.

In some cases we have decided to retain the status of a taxon given in the *First Edition*, even though the authors of a published article, or articles, treat the taxon differently. In many of these articles, for example those dealing with the genera *Celastrina* and *Euphilotes*, although the authors present much valuable new information about the biology of various species, we do not believe that, *given the ground rules for this checklist*, that there is enough conclusive evidence to change the *First Edition* status.

Many individuals provided advice and/or information that was helpful to our deliberations. We gratefully thank George Austin, Richard Bailowitz, Jim Brock, Andy Brower, John Burns, John Calhoun, John Emmel, Greg Forbes, Don Harvey, Ed Knudson, Norbert Kondla, Don LaFontaine, Gerardo Lamas, Harry LeGrand, Dave Parshall, Ken Philip, Adam Porter, Gordon Pratt, Bob Robbins, Art Shapiro, Jon Shepard, Felix Sperling, Andy Warren, Ward Watt, and David Wright for their help, although this is not intended to imply that any of these individuals agree with any particular decision.

Of course, almost everyone will disagree with some Committee decision or another (no one on the Committee agrees with all decisions), and some people may disagree with many of the Committee's decisions. It is not our intention to stifle the opinions of those who disagree as to the validity of particular name choices. Rather, we ask all those who care about the future of butterflies to use the name set adopted by the Committee and, if they disagree with a Committee choice to say so. This gives the large number of people interested in butterflies a road map, enabling them to easily compare information in one book with that in another, while at the same time making clear to the public the views of a particular author.

Regarding the capitalization, or lack thereof, of English names of butterfly and plant species, the Committee has followed the style of NABA's magazine, *American Butterflies*. Names are capitalized when they are taken from the official names list of an organization, e.g., NABA, American Ornithologists' Union, Dragonfly Society of America. Otherwise, except for proper nouns, lower case is used.

## Subspecies

There are thousands of named subspecies of North American butterflies. In many cases, these names have little, if any, biological meaning. In general, we have not listed subspecies. Exceptions include subspecies that are considered by some to warrant full species status or, in a few cases, subspecies that are particularly well-marked or are well-known for other reasons. Subspecies are indicated by single quotation marks around the subspecific English name, e.g. 'Sierra Nevada' *Phoebus Parnassian*. For some subspecies, e.g. 'Rocky Mountain' *Phoebus Parnassian*, we have deleted the species name to save space, not because we believe that the status of these taxa is different from other subspecies. Nominated subspecies are listed only if their English name differs from that of the species as a whole.

<sup>1</sup> The NABA Names Committee consists of Brian Cassie, NABA Director, founder of the NABA-Massachusetts Butterfly Club, and author of numerous butterfly and natural history books; Jeffrey Glassberg, NABA President, author of the *Butterflies through Binoculars* series of field guides and numerous scientific publications; Ann Swengel, NABA Director, Editor of the 4th of July Butterfly Count Program, and author of numerous scientific publications relating to butterfly population biology; and Guy Tudor, NABA Director, President of the New York City Butterfly Club and co-author of a forthcoming book about butterflies (in preparation).

The committee is composed of people who are knowledgeable about and professionally involved with butterflies, but are not actively publishing on the systematics of butterflies. There are a number of reasons for not having butterfly systematists on this committee. One reason is that it is impossible to objectively evaluate the strength of one's own research. A second reason is that this leads to fiefdoms. A predictable result of having active butterfly systematists on a committee charged with developing a stable nomenclature is that each committee member, to be collegial, will ordinarily defer to the committee member whose expertise is in a particular group. A third reason is that

because single individuals become responsible for the taxonomy of different groups, there will be an unevenness in the treatment of these different groups - one individual may tend to lump in the group he/she treats while another individual may tend to split in the group he/she treats.

<sup>2</sup> Re-evaluating the status of each taxon based upon a preponderance of the evidence (rather than compelling evidence) leads to nomenclatural instability. Imagine a pair of taxa for which there is disagreement as to whether they are well-defined subspecies or a single species. There are many such pairs among North American butterflies. Now imagine that one could objectively quantify the published evidence (one cannot) regarding the species-subspecies question for these taxa and that at the time of the First Edition the evidence was ambiguous but, on balance, slightly favored the hypothesis that the two taxa were subspecies; that at the time of considering information for the Second Edition the evidence was still ambiguous but, on balance, slightly favored the hypothesis that the two taxa were species; and that at the time of considering information for the (future) Third Edition, the evidence was still ambiguous but, on balance, slightly favored the hypothesis that the two taxa were subspecies. Many, perhaps most, taxonomists would treat the two taxa as subspecies on the first list, as species on the second and as subspecies again on the third.

The major purpose of names, whether they are English or scientific, is to allow people to communicate with each other. Our very strong belief is that this purpose is best served by being conservative in name changes. So, in the imaginary case just presented, we would treat the two taxa as subspecies on all three lists. The two modes of evaluating evidence thus eventually lead to the same result, but making changes based only on compelling evidence results in more stability along the way.

Two somewhat analogous uses of data are in professional football and United States law. In professional football, referees make decisions on the field that can be overturned by an examination of a videotape replay. But, for the initial decision to be overturned, the replay must pres-

ent very strong evidence that the original decision was incorrect. In United States law, in lawsuits between private individuals, juries decide the case based upon the preponderance of the evidence — if the weight of the evidence tilts ever so slightly toward one side, that side is declared the winner. But in criminal cases, where there is a strong public interest in fairness, there is a presumption of innocence and cases are decided against the defendant only if there is no reasonable doubt, i.e., the evidence is truly compelling.

We believe that given the rapidly burgeoning interest in butterflies by the public, and the concomitant increase in the use of butterfly names by many thousands of individuals, by environmental organizations, and by government entities, that these names should no longer be decided by the predilections and whims of individual authors. There are some who argue that “nomenclature changes and that to seek a stable names set as NABA does is wrong.” This creates a straw man — that the NABA Checklist will not change even in the face of fresh knowledge. The truth is that the NABA Checklist has changed and will continue to change in response to welcome increases in our knowledge of butterfly populations. However, the NABA Checklist does not necessarily change in response to each butterfly taxonomy-related hypothesis that is put forward.

<sup>3</sup>We believe that publishing conclusions in formats such as books and checklists, based upon unpublished data, is highly unscientific. Unfortunately, this is the approach that has been taken by a number of authors of butterfly guides. Unpublished data, if it exists at all, cannot be evaluated by scientists to determine if the data lead to the conclusion(s) that the author(s) has reached, or if the data are reproducible. In addition, because the same data may be interpreted in different ways, the important component of scientific publications is the presentation of actual data, not the conclusions that authors may draw from those data. Unfortunately, many butterfly-related publications present little or no data, instead presenting the author’s conclusions in the guise of data.

## Commentary

**Phoebus Parnassian** *Parnassius phoebus*. Shepard and Manley (1999) illustrated scanning electron microscope images of eggs from *P. phoebus smintheus* (Rocky Mountains), *P. phoebus behrii* (California Sierra Nevadas) and *P. phoebus phoebus* from the Yukon. They stated that the arrangement of the divisions surrounding the micropyle differs among *phoebus*, *behrii* and *smintheus* with *phoebus* and *behrii* having cuboidal-shaped wedges and with *smintheus* having pie-shaped wedges. Although they stated that the number of wedges surrounding the micropyle in *smintheus* varies from 6 to 8, the Committee could not confirm this by a visual examination of their illustrations. While there does appear to be a subtle difference in the structure of the egg surrounding the micropyle, from their illustrations, there also appears to be variation in *smintheus*.

The real question is, even if there is a subtle but consistent difference in the structure of the egg surrounding the micropyle, what is the evidence that this means these populations are separate species. So far as the Committee is aware, there is no thorough scientific study examining micropyle variation within, for example, siblings, nor any study showing a strong correlation between micropyle structure and species status determined by other means. Given the foregoing, the Committee voted to continue to treat North American *phoebus*-group populations as one species. Vote 4-0.

**Old World Swallowtail** *Papilio machaon*. Sperling and Harrison (1994) examined mitochondrial DNA polymorphisms and presented strong evidence that Baird's Swallowtail is best viewed as a subspecies of Old World Swallowtail. Accordingly, the Committee has decided to change the status of Baird's Swallowtail to a subspecies of Old World Swallowtail, *Papilio machaon bairdii*. Vote 4-0. One Committee member believes that the name Old World Swallowtail is inappropriate for a native American taxon, but the majority decided to retain the current name.

**Chinese Swallowtail** *Papilio xuthus*.

Introduced into Hawaii, this species is native to northeastern Asia, found in northeastern China, Korea, Siberia and Japan. It has been called Asian swallowtail by Scott (1986a), citrus swallowtail by Holland (1931), and xuthus swallowtail by Tilden and Smith (1986) and Opler (1999). None of these names is well established or in widespread use. Many swallowtails use citrus as a caterpillar foodplant, and xuthus has no English meaning. After deliberating, the Committee decided to adopt the name Chinese Swallowtail, referring to the main country of origin. One Committee member preferred streak-celled swallowtail as being useful for identification, given that this is one of the very few swallowtails in the world that have a set of streaks in the FW cell above. Vote for Chinese Swallowtail, 3-1.

**Magnificent Swallowtail** *Papilio garamas*. Bordelon and Knudson (2000) recently reported about and illustrated a clearly identifiable specimen collected in Cameron County, Texas in Sept.-Oct. 1967 by B. Finley following Hurricane Beulah, listing it as *Papilio garamas abderas*. While *abderas* is clearly very closely related to *garamas*, a number of recent authors have treated *abderas* as a distinct species. Because there is little published information about the degree of relatedness of these allopatric taxa and because the Committee's default position is to consider extremely similar taxa that replace each other geographically as being one species, the Committee decided to follow DeVries (1987) and Tyler et al. (1994), and treat them as one species.

This species now needs an English name. The only English names used heretofore have been "black giant swallowtail," used by Tyler (1975) and avocado swallowtail used by Warren and Llorente (1999) for *garamas* (but each of these authors treated *garamas* and *abderas* as separate species, not providing any English name for *abderas*). Since this species is not closely related to Giant Swallowtail and males have very prominent yellow bands, the Committee did not consider black giant swallowtail to be appropriate. There are reports of *garamas*

*garamas* using avocados, but no information is available about the taxon that enter the United States and it is not known whether avocado is necessarily the major foodplant for this species or if other tropical swallowtail also use avocado. A variety of other names were considered. Finally, the Committee decided to name this species Magnificent Swallowtail, because it is one of the largest (the root word of magnificent means large) and most striking swallowtails found in North America. One Committee member preferred splendid swallowtail. Vote 3-1.

#### **Mustard White** *Pieris napi*.

Bowden (1988) crossed British *napi* with *macdunnoughii* from Colorado. He reported that male *napi* “seemed rather unwilling to pair with *macdunnoughii* females, but one cage pairing occurred within a quarter of an hour. The reciprocal pairing is easy. In either case fertility is very good.” But, he reported that three large broods of female *napi* x male *macdunnoughii* produced no F1 daughters, although an earlier cross (of *marginalis* from Oregon with *napi*) did yield both sexes. No control crosses of *napi* x *napi* nor of *macdunnoughii* x *macdunnoughii* were presented. It might have been more appropriate to cross individuals from a Siberian population with those of a Pacific Northwest population. The author concluded that *napi* is specifically distinct from both *marginalis* and *macdunnoughii*. But, given the fairly extensive non-forced mating that occurs when *napi* is placed with either *marginalis* or *macdunnoughii* and the resulting fertile offspring, we believe that these data also provide support for a one species concept.

Geiger and Shapiro (1992) examined allozymes of *napi* species group populations from Japan, Alaska and the western United States and tentatively concluded that there might be two *napi*-group species in Alaska, *angelika* and *meckya* (both distinct from European *napi*) and from the *napi*-group species in western United States and Canada, *marginalis*. There are acknowledged difficulties in determining the correct size of various allozymes for comparison. In addition, the sample sizes of the popula-

tions examined in this study were small. Shapiro reports (personal communication) that this 1992 paper presented preliminary work and that it was intended mainly to raise questions for further study. In addition, there is ongoing research using newer techniques that will almost certainly lead to significant changes in our understanding of this group in the near future.

In view of the inconclusive nature of existing evidence and the prospect of new data generation in the near future, the Committee decided to maintain *First Edition* status. Vote 4-0.

#### **Giant White/Howarth's White**

*Ganyra josephina/howarthi*.

Bailowitz (1988) provided evidence for considering *Ganyra howarthi* as a species distinct from Giant White, describing a number of phenotypic differences, including the wing placement of androconial scales. The Committee has decided to recognize Howarth's White, *Ganyra howarthi* as a full species. Vote 4-0.

#### **Green Marble** *Euchloe naina*.

Recently reported from North America by Kondla and Pelham (1995), this species has been called green marble by Layberry et al. (1998) and by Opler (1999). One Committee member argued that because most marbles are “green” that we should name this species for the scree slopes that it inhabits in North America. However, in Siberia, where this species is common, it flies in alpine meadows throughout the taiga and is not restricted to scree slopes (Tuzov et al.1997). The Committee decided to adopt the already used name, Green Marble. Vote 3-1.

#### **Sonoran Marble** *Euchloe guaymasensis*.

There is a recent record from Bisbee, Arizona in late March, 1997. This species has been called Sonoran marble by Opler (1999) and by Glassberg (2001). The range of this Mexican endemic is restricted to the state of Sonora, Mexico other than the one U.S. stray, flying in the Sonoran Desert. The Committee decided to add this species to the list of species occurring north of Mexico and to name this species Sonoran Marble. Both votes 4-0.

**Pearly Marble** *Euchloe hyantis*.

A few recent authors have treated *hyantis* and *lotta* as distinct species. To our knowledge, there are no published data that would strongly argue that these taxa are separate species and no published data of any kind that has appeared subsequent to the *First Edition*. Vote 4-0.

**Desert Orangetip** *Anthocharis cethura*.

The Committee mistakenly treated *cethura* and *pima* as distinct species on our first list. On that list, the Committee intended to adopt the taxonomy used in Scott (1986a) for non-hairstreak species not treated by Opler (1992) and Scott treated these taxa as one species. Because the status listed in the *First Edition* was a mistake, and because a large blend zone exists between *cethura* and *pima* in western Arizona and Nevada, the Committee has decided to treat *pima* as a subspecies of *cethura*. Vote 4-0.

**Sara Orangetip** *Anthocharis sara*.

Geiger and Shapiro (1986) demonstrated that populations of *sara* on the western lower slopes of the California Sierra Nevada are genetically distinct from populations of *stella* flying at higher altitudes. A small sample from Colorado, said to be of the subspecies *julia*, appears to be distinct from either of the two California populations. However, there is no published information about the genetics of populations in the Pacific Northwest, nor has there been a genetic examination of populations occurring geographically between Colorado *julia* and California *stella* to see whether there is a gradual change in the presence of various genetic markers or a marked discontinuity. In addition, in the Pacific Northwest, where there are two taxa in the complex, *flora* and *stella*, basically west and east of the Cascades respectively, very experienced observers maintain very different views. Some are of the opinion that *flora* and *stella* are not really distinguishable and that they form a cline. Others are of the opinion that *flora* and *stella* are distinguishable and are separate species, with *flora* as a subspecies of *sara*. Still others are certain that *flora* and *stella* are one species, but that this species is distinct from *sara*. Until it is ascertained whether or not there is a cline or

a genetic disjunction between *sara* and *flora* in southern Oregon, or between *flora* and *stella*, along the crest of the Cascades, it seems premature to split this taxon.

In Colorado, the relationships between high elevation *julia* to pinyon-juniper populations (*ingrahami*) and to *stella* to the northwest is very little understood. To the south, *ingrahami* in northern New Mexico superficially more closely resembles *julia* than it does *thoosa* of the California-Nevada desert ranges.

Opler (1999) lumped subspecies in New Mexico, Arizona, southeastern California, and Nevada and treated them as *thoosa*. There are no published data that bear upon this taxonomic arrangement. The Committee decided to retain the *First Edition* treatment of this species. Vote 4-0.

**Western Sulphur** *Colias occidentalis*.

Ferris (1989a) described *pseudochristina*, from Idaho and northern Utah as a separate species, but he also detailed (1993, page 43) a population in Grant County, Oregon that appears to be intermediate between *occidentalis* and *pseudochristina*. Considering the confusing state of *Colias* systematics, that *occidentalis* and *pseudochristina* are allopatric, that a possible hybrid or intermediate population exists, and that many knowledgeable individuals continue to treat *pseudochristina* as a subspecies of *occidentalis*, the Committee has decided to retain *First Edition* status, treating *pseudochristina* as a subspecies of *occidentalis*. Vote 4-0.

**Queen Alexandra's Sulphur/Christina's Sulphur** *Colias alexandra/christina*.

The situation regarding the taxonomy of the *alexandra* group is very complicated. Kondla (1995) documented the confusing and conflicting welter of features that various authors have given as diagnostic of *christina* and *alexandra*. Scott (1986) treated *christina* as a subspecies of *alexandra* and this was the basis for the *First Edition* status. Ferris (1988) in a revision of this group continued to treat *christina* as a subspecies of *alexandra*, as did Klassen et al. (1989) and Acorn (1993). Ferris (1993) revisited this group and now treated *christina* as a full spe-

cies, citing differences in UV reflectance patterns, in the red rim around the central spot on the hindwing below, and in the hindwing below ground color – green on *alexandra*, yellow on *christina*. He listed specimens of each taxon examined from some of the same locations – indicating that these taxa are sympatric in some areas. Kondla (1995) reported that the ground color on the hindwing on *christina* can be either yellow or green. Although he mentioned that antennal color is a useful character in Alberta (pink for *christina*, buffy for *alexandra*), unmentioned was that nearby *alexandra columbiensis* has pink antennas.

According to Kondla (1995), Queen Alexandra's Sulphur and Christina's Sulphur apparently can be separated as follows: Males generally with orange above – Christina's; Hindwing below with central spot without red rim or with very narrow red rim – Queen Alexandra's Sulphur; Hindwing below with central spot with moderate to thick red rim – Christina's Sulphur; Hindwing fringe without extensive pink – Queen Alexandra's Sulphur; Hindwing fringe with extensive pink – Christina's Sulphur. On the basis of data presented by Ferris (1993) and Kondla (1995), the Committee decided to change the status of Christina's Sulphur to that of a full species. Vote 4-0.

Ferris (1993) also treated *krauthi* (occurring in the Black Hills of South Dakota) as a distinct species from *alexandra*, but treated *harfordii* as a subspecies of *alexandra*. Opler (1999) treated *harfordii* and *christina* as distinct species, but not *krauthi*. Regarding *harfordii*, because there are no definitive data, nor any new data, relevant to this question, published subsequent to the publication of the *First Edition*, the Committee decided to retain *First Edition* status. Vote 4-0.

Regarding *krauthi*, it is obviously very closely related to other populations in the *alexandra* complex but is allopatric, occurring in the Black Hills of South Dakota. Ferris (1993) also included as a subspecies of *krauthi* populations in Yukon named *kluanensis*. Layberry et al. (1998) state that "We now have many more Yukon specimens of this group...show a complete cline in all of the characters that sepa-

rate *kluanensis* from *christina*. The Committee decided to retain *First Edition* status. Vote 4-0.

### **Mead's Sulphur/Coppermine Sulphur**

*Colias meadii/johanseni*.

Scott (1986a) treated the single known specimen of the Mead's Sulphur group from near Bernard Harbour, Northwest Territories as being a Mead's Sulphur. Troubridge and Philip (1990) examined newly obtained specimens from near Bernard Harbour and described *Colias johanseni* as distinct from *C. meadii*.

*Johanseni* is very similar to Mead's Sulphur and these two, together with another extremely similar taxon, *hypoborea* (found in Siberia), are the only species with the character that males have a patch of androconial scales on the hindwing above. In terms of wing pattern alone, *johanseni* is also very similar to *hecla*, with which it flies and which is also a member of the Mead's Sulphur group, but *hecla* lacks male androconial patches.

Ferris (1993) detailed subtle differences in the UV reflectance patterns of *meadii*, on the one hand, and *johanseni* and *hypoborea* on the other. *Johanseni* flies on tundra hillsides on drumlins (elliptical hills dropped by glaciers) while *hypoborea* flies in Siberian taiga, where it can be common along dirt roads through the woods. There is a distance of about 1000 miles between the only known population of *johanseni* and any known *meadii* population, and a greater distance between *johanseni* and populations of *hypoborea*.

Interestingly, the 2 drumlins at Bernard Harbour are estimated to be only 6-12,000 years old – before that time this land was under the ocean – implying that the taxon has evolved within that time. Victoria Island (just across the strait) has not been checked for the presence of this species and, given that there are innumerable drumlins on Victoria Island, this taxon may yet prove to be widespread there.

Because this taxon is clearly distinct from *hecla*, flying with it, is separated by large distances from *meadii* and *hypoborea* and is generally distinguishable from them, the Committee decided to recognize this taxon as a species. Vote 4-0.

This species has been called Johansen's sulphur by Layberry et al. (1998), but the Committee prefers not adopting patronymic names except for those that are long established and in widespread use. The nearest largish town to the locality where this butterfly is found is Coppermine, which is also the name of a large river in the area. The portion of the Beaufort Sea that approaches the type area is Coronation Gulf. Also considered was that, so far as is known, this species is found on drumlins. One Committee member preferred the name drumlin sulphur but the majority preferred Coppermine Sulphur. Vote 3-1.

#### **Booth's Sulphur** *Colias boothi*.

This taxon was not on the first NABA list since Scott treated this as representing hybrids between *hecla* and *nastes*. Ferris (1993) continued to treat *boothi* as a probable hybrid swarm. Layberry, et al. (1998) treated this taxon as a distinct species, citing unpublished recent field work in northern Canada, but lumped it with the Old World *tyche* (citing unpublished work by Mikkola in Russia). However, they stated that there may be some hybridization. Given that there are no published data indicating that *boothi* merits species status, the Committee decided to retain *First Edition* status. Vote 4-0.

#### **Ghost Yellow** *Eurema albula*.

Found through much of tropical Americas, this species was reported to have strayed to the Rio Grande Valley of Texas in November, 1993 by Chuah and Cushing (1995) who provided a clearly identifiable illustration of the specimen.

This species has been called small white by Barcant (1970) and white sulphur by Riley (1975). The Committee discarded the name small white since this species is a "yellow" not a "white" and it is not particularly smaller than other yellows.

Of the roughly 63 species of *Eurema* (37 in the New World) this species appears to be the whitest, both above and below. A few other species are white above, but these are usually more well-marked below with an off-white ground color. The Committee decided that the name white yellow (using Riley's name, but convert-

ing his "sulphur" to "yellow" since we have already decided to use "yellow" for the genus *Eurema*) would perhaps be too confusing. The Committee believes that the name Ghost Yellow gives the right idea without having another color in the name. This name has already been used by Mike Quinn, in the U.S. Fish & Wildlife Service checklist to butterflies of the Santa Ana NWR. Vote to add *Eurema albula* to the United States list, 4-0. Vote to name *Eurema albula*, Ghost Yellow, 4-0.

#### **Ruddy Copper** *Lycaena rubidus*.

Opler (1999) treated White Mountains of Arizona population, *ferrisi*, as a distinct species although there is no new published information bearing on this subject. The Committee decided to retain *First Edition* status. Vote 4-0.

#### **Dorcas Copper** *Lycaena dorcas*.

Layberry, et al. (1998) cited unpublished field research of L. Handfield and R. Webster and elevated salt marsh populations in eastern Canada, *dospassosi*, to species status. Because there exist no published data, the Committee voted to retain *First Edition* status. Vote 4-0.

#### **Sooty Hairstreak** *Satyrium fuliginosa*

Edwards (1861), in his original description, spelled the species name as *fuliginosa* and so the Committee decided to amend the name to *fuliginosa* from *fuliginosum*. Vote 4-0.

#### **Oak Hairstreak** *Satyrium favonius*

from Southern Hairstreak.

Prior to the *First Edition*, almost all authors treated *Satyrium favonius* and *Satyrium ontario* as separate species, using the English names, southern hairstreak and northern hairstreak, respectively. When these taxa were lumped in the *First Edition*, the Committee tried to develop an acceptable English name for the combined taxa, but was unable to do so (read discussion in *First Edition*). The Committee then decided to use the name Southern Hairstreak for the lumped taxa. This has created quite a bit of confusion and awkwardness, causing people to refer to the 'Northern' Southern Hairstreak and 'Southern' Southern Hairstreak.

In an attempt to make this situation clear, the Committee has decided to change the English name of this species to Oak Hairstreak. *Satyrium favonius favonius* is now the ‘Southern’ Oak Hairstreak and *S. f. ontario* is now the ‘Northern’ Oak Hairstreak. Vote 3-1.

**Bramble Hairstreak** *Callophrys dumetorum*. Emmel, Emmel and Mattoon (1999b) treated the *dumetorum* complex as being composed of four species – *dumetorum* (= *viridis*), *perplexa*, *affinis*, and *apama*. The authors stated that “we feel that there are ample life history and biological differences as well as significant phenotypic adult differences, between the two entities [*perplexa* and *affinis*] to consider them separate species.” No independently assessable data were presented. Opler (1999) placed most of what was considered as *dumetorum* in the *First Edition* as *affinis* (including *apama* here) and split the populations on the northern California coast that were previously referred to as *viridis* (now called by Opler *dumetorum*); however, he provided no data in support of these treatments.

Scott (1986) stated that “J. Emmel found that both species [*viridis* and *dumetorum*] fly together at one coastal site in Monterey Co. Calif... where less than 10 percent of the adults are intermediate in appearance.” Since these species are extremely similar in appearance, the criteria by which intermediates were determined would be important to know, but one might expect that the 10% number would be an underestimate of the actual number of hybrid types. We consider large-scale hybridization at the only site where these two taxa are known to meet as supporting evidence for keeping the status of these taxa as subspecies.

Emmel, Emmel and Mattoon (1999a) speculated that the type specimen of *dumetorum* Boisduval was actually collected in San Francisco, based upon unpublished rearing experiments that reportedly show that, contrary to Clench’s view, the phenotype of the type specimen of *dumetorum* is within the range of phenotypes exhibited by San Francisco area coastal *Callophrys* populations. They then fixed the type locality of *dumetorum* as San Francisco and, since there is only one *Callophrys* taxon that

occurs within San Francisco, and the type locality of *viridis* Edwards has been designated as San Francisco by Clench, they therefore placed *viridis* Edwards as a junior synonym of *dumetorum* Boisduval. But, other taxa in the *Callophrys dumetorum* complex fly just outside of San Francisco, in Marin County, California, for example, and there has been no published demonstration that the type of *dumetorum* Boisduval could not have come from one of these populations.

Although a cursory examination of the type specimen of *dumetorum* and other museum specimens by a Committee member corroborated the view of Emmel, Emmel and Mattoon, given that the arrangement of taxa in this group in the *First Edition* was based on the understanding that *dumetorum* was described from non-coastal California material, that fixation of type localities is not binding under the ICZN, and given the uncertainty outlined above, we believe that the most conservative course is to continue to view *viridis* as referring to the San Francisco coastal populations until such time as published evidence clearly shows that this is incorrect. The Committee decided to retain the status used in the *First Edition*. Vote 4-0.

**Sheridan’s Hairstreak** *Callophrys sheridanii*. Several recent authors have treated the *sheridanii* group as consisting of either three species – *sheridanii*, *comstocki*, and *lemberti* (Emmel, Emmel and Mattoon. 1999b) or of two species – *sheridanii* and *comstocki* (Opler. 1999). To our knowledge there are no definitive data in support of these treatments and none have been published subsequent to the *First Edition*. The Committee decided to retain the status used in the *First Edition*. Vote 4-0.

**Juniper Hairstreak** *Callophrys gryneus*.

Opler (1999) treated non-juniper-feeding populations as distinct species, applying names previously used for phenotypes to refer to food-plant-specific populations – *nelsoni*, *muii*, and *thornei*. However, there is no information, published subsequent to the *First Edition*, to support this treatment. The Committee decided to retain *First Edition* status. Vote 4-0.

### **Mallow Scrub-Hairstreak**

*Strymon istapa* from *Strymon columella*.

Recent authors have treated *Strymon columella* (Fabricius, 1793) as a common and widespread species. Not having access to the type specimen, Comstock and Huntington (1943) re-described *columella* as *antigua*. But Robbins and Nicolay (1998) examined the type of *columella* and showed that it is the same species described as *antigua* by Comstock and Huntington and that it is limited to the West Indies. Comstock and Huntington described *antigua* based upon consistent wing pattern differences between it and other *Strymon*. Robbins and Nicolay confirm these differences and also describe consistent differences in the structures of female genitalia. Thus *columella* refers to the species restricted to the eastern West Indies, and the name *istapa*, formerly considered a junior synonym of *columella* now applies to the wide-ranging, common species that enters the United States. Based upon this information, The Committee has decided to change the scientific name of Mallow Scrub-Hairstreak to *Strymon istapa*. Vote 4-0.

### **Pea Blue** *Lampides boeticus*.

This widespread Old World species was introduced to Hawaii. The species has been called long-tailed blue by almost all British authors and by Migdoll (1988); Lucerne blue by Pinhey (1965) and by Migdoll; peablue by Smith (1989), by Wynter-Blyth (1957) and by Corbet, Pendlebury and Eliot (1978); and pea blue by Gay, Kehimkar, and Punetha (1992) by Larsen (1991), by Opler (1999) and by Glassberg (2001). The tails on this blue are not longer than on our tailed-blues (there are many Asian species of blues that have longer tails) and the name long-tailed blue would create confusion with the tailed-blues. Lucerne blue is a harmless but meaningless name. Pea Blue, which refers to the fact that when shelling peas in Asia one frequently finds caterpillars of this species inside, has the virtue of being short, is not confusing, and aligns the name of the species in Hawaii with Asia, which was the source of the introduction. Vote for Pea Blue, 4-0.

### **Nickerbean Blue** *Hemiargus ammon*.

Glassberg (1999), reported the first occurrence of this species in the United States and related that this Committee had decided to use the name Nickerbean Blue, based upon what was universally reported to be the major caterpillar food-plant in the West Indies (Riley 1975, Alayo and Hernández 1987, Smith et al. 1994). It now appears that, in Florida, this species is preferentially using acacia rather than nickerbean. However, the name Nickerbean Blue is now in usage (Glassberg, Minno and Calhoun 2000) and is still preferable to the only other English name used, by Riley (1975) and Minno and Emmel (1993) – Lucas' blue because the Committee prefers not to adopt patronymic names except for those with long-established and widespread usage. The Committee received input strongly arguing that because the name Nickerbean Blue was of recent coinage and was (in the member's opinion) misleading, the name should be changed to acacia blue. However, the majority considered that reports of this species using nickerbean in the West Indies were probably true, that many species of blues use acacias, and that it may yet use nickerbean in Florida. Vote to retain Nickerbean Blue, 3-1.

### **Spring Azure** *Celastrina ladon*.

Pratt et al. (1994) described average differences among various populations of *Celastrina*. They did not treat the species status of any taxon differently than it was treated in the *First Edition*.

*Celastrina ladon humulus* is listed as 'Hops' Spring Azure in the *First Edition*. It was described by Scott and Wright (1998) mainly on the basis of flying several weeks after a flight of Spring Azures at the same localities and on the basis of using hops (*Humulus lupulus*) as the main caterpillar foodplant – but some populations use lupine (*Lupinus argenteus*). Although there are average differences between *humulus* and the other local populations of Spring Azure, *C. l. sidrara*, many individual adults of *humulus* and *sidrara* are phenotypically indistinguishable and can be assigned unambiguously to population only by association with the foodplant. Scott and Wright state that "Electrophoresis of adults..proved that *C. humulus* is most closely

related to whitish eastern U.S. taxa, not to *sidrara* [another *ladon* subspecies present in Colorado].” However, electrophoretic data were not shown and remain unpublished. Although it is likely from data presented that *humulus* is not a second brood of *sidrara*, it is possible that populations using different foodplants would have different average developmental schedules and different average phenotypes while still hybridizing to a fair extent. The Committee decided to wait until more substantial data, indicating genetic isolation, were published before considering this taxa a separate species. Vote, 4-0.

*Celastrina idella* was described by Wright and Pavulaan (1999) as a new species of azure feeding on hollies, *Ilex*. They stated that 3-6% of individuals in southern New Jersey are near “lucia” and may represent hybrids with *ladon* and that areas of hybridization with *ladon* occur in Virginia and the Carolinas but that the width of the hybridization zone is presently unknown and that “Should the hybridization zone [between *idella* and *ladon*] on the inner coastal plain prove to be substantially large, then the two taxa are not separated at the species level in the south. In that case, southern New Jersey would harbor endemic populations of *C. idella*.”

Phenotypically indistinguishable spring individuals occur within the range of “*idella*” but not on *Ilex*. Wright and Pavulaan attributed these individuals to early spring emergers of [normally] summer-flying *ladon*. However, no data were presented to support this conclusion. Given the lack of knowledge of possible hybridization and concomitant gene flow occurring among these populations, the Committee believes that it is premature to treat this taxon as a full species and has decided to treat it as a subspecies – *Celastrina ladon idella* – until further work clarifies its status. Vote, 4-0.

Some have used the English name “holly azure” for these populations. However, the widespread European species, *Celastrina argiolus*, is called holly blue, and by a North American would reasonably be called holly azure. Therefore, the Committee, considering the distribution of these populations along the Atlantic Coast, decided to name the subspecies, ‘Atlantic’ Spring Azure. Vote 4-0.

Populations of Spring Azures that fly throughout the summer have been treated as a full species, “summer azures,” *Celastrina neglecta*, by some. Pavulaan and Wright (2000) stated that there are differences in male forewing scale structure between *C. ladon ladon* and *C. ladon neglecta*. However, developmentally regulated structures such as male androconial scales are sensitive to changes in environmental conditions, and the presence or absence of male androconial scales is known to be variable within individuals of a species (Berger 1986).

Although a number of authors have stated that the spring-flying azures are univoltine (and there exists anecdotal evidence consistent with this hypothesis), there are no published rearing studies that establish this. A number of unpublished rearing studies show that, at least under artificial conditions, a significant percentage of caterpillars found in April, pupate and emerge as adults in June.

The significance of these studies is not known, because rearing conditions were artificial and results, being unpublished, cannot be analyzed. In addition, there exist other unpublished studies indicating that up to one-half of *Celastrina* caterpillars found in September and kept under natural conditions, pupated and emerged the following April (the other one-half emerged in June)(personal communication from David Wright). In light of the Committee’s view that published data do not conclusively establish that *Celastrina ladon neglecta* is genetically isolated from spring-flying populations, we decided to retain *First Edition* status. Vote 4-0.

#### **Hawaiian Blue *Vaga blackburni*.**

This species is an endemic Hawaiian native. It has been called Blackburn’s bluet and Hawaiian blue by Pyle (1981), Blackburn’s blue by Tilden and Smith (1986) and green Hawaiian blue by Scott (1986), Hawaiian blue by Opler (1999) and Hawaiian blue by Glassberg (2001). Although a species of blue, related to the azures, this butterfly is green below and purplish above. There are very few butterflies found on the Hawaiian Islands, and only two species that are

native. With so few butterflies, it would be a shame to use the uninformative patronymic name Blackburn's blue (or bluet) for this species. The Committee decided to name this species Hawaiian Blue. Vote 4-0.

*Euphilotes* Blues. The *Euphilotes* blues present special problems. It is clear that the relationships among the many populations, often separated by geography and caterpillar foodplant selection, are very complex. Each local population is exquisitely adapted to its caterpillar foodplant – a species or variety of buckwheat (*Eriogonum*), timing the emergence of adults to coincide with the flowering of the plant. Because the flowering of buckwheats varies greatly from species to species, the flight times of local populations of *Euphilotes* also varies dramatically. The interactions (and lack thereof) among these populations lead to exceedingly interesting population biology.

A number of recent authors have provided important information that takes us down the road toward a more thorough understanding of this group. However, the Committee believes that relationships in these groups are so complex that, given our present knowledge of this group, attempts to split Square-spotted or Dotted Blues into multiple species will likely be wrong in detail, even if it is eventually determined that more than one species is included in each of these names.

**Square-spotted Blue** *Euphilotes battoides*. Mattoni (1988) elevated *Euphilotes battoides bernardino* to species status. Mattoni stated that “Synapomorphic characters of the species include: 1) exclusive hostplants *Eriogonum fasciculatum*, *E. cinerium* and *E. parvifolium* 2) small mean adult size and 3) fourth instar larva morphology and pattern (Pratt, unpub.)” However, the “exclusive” hostplants are not found in regions where other subspecies of *battoides* occur, small mean adult size is a very weak indication of species status, and the stated differences in caterpillars are unpublished. No other information is presented relevant to species status. Mattoni says “...recognition of *E. bernardino* as a “species” is based on weak wing

characters, size and larval hostplant, and larval characters which may not stand up to scrutiny of the many populations not surveyed....” Although it is stated that there is “parapatry (sympatry?) and synchrony of *glaucon* [another *battoides* subspecies] and *bernardino* at several sites along the east slope of the southern Sierra Nevada” no data are presented to support this statement.

Pratt (1994) treated *bernardino*, *centralis*, *baueri*, and *ellisii* as subspecies of *E. battoides*. Pratt and Emmel (1999) treated these taxa as distinct species, largely based upon caterpillar foodplant use and adult flight period. Opler (1999), in addition to the above mentioned taxa, also treated *E. b. intermedia* as a distinct species. Because the variability of any given population tends to be greater than the average differences among populations, it is usually not possible to assign an individual to a particular taxa based upon an examination of the phenotype of that individual (see, for example, the range of wing characters given by Pratt 1994). The importance of this fact is that, in most cases, it would be difficult or impossible to recognize hybrid individuals where two of these taxa meet. Based upon available evidence, the Committee believes that it is entirely possible that there is significant gene flow among all of these populations. The Committee has decided to await convincing published data that show that particular populations are clearly genetically isolated from others before splitting this taxon. Vote 4-0.

**Dotted Blue** *Euphilotes enoptes*.

Pratt and Emmel (1999) treated *enoptes*, *mojave* and *ancilla* as distinct species, citing Pratt's unpublished 1988 doctoral dissertation. However Pratt (1994) himself continued to treat all three of these taxa as one species.

Pratt and Emmel (1999) stated that caterpillars of *mojave* are “more reliably different [than are adult characters] from the other taxa of the *E. enoptes* complex,” and added that “This taxon [*E. mojave*] appears to be acting as a semispecies.” They grouped various populations under the name *ancilla*, on the basis of using *Eriogonum umbellatum* as the caterpillar foodplant, but stated that phenotypically, adults are variable and that “it may be presumptuous to include

all of those subspecies which use *Eriogonum umbellatum* (as their exclusive host) under a single biotype, since adults from different populations which use *Eriogonum umbellatum* appear quite different.” They stated that “There are some areas (such as along the east slopes of the Sierra Nevada) where both *E. enoptes* and *E. ancilla* are found together, one on *Eriogonum nudum* (*E. enoptes*) and the other on *Eriogonum umbellatum* (*E. ancilla*). They also co-occur in Oregon, southern Washington, and western Nevada. *Probably*, [emphasis added] *E. ancilla* is a distinct species, and we so treat it here.” The meaning of “co-occur” was not defined (some have used similar terms to mean being found in the same general vicinity, as opposed to the same or adjacent sites) and documentation for the statement was not provided. Although *enoptes enoptes* and *ancilla pseudointermedia* (to use the terminology of Pratt and Emmel) are stated to co-occur, it is unclear to us how the presence of each was determined, since they listed twenty-six variable wing characters for *Euphilotes*, and in each case there exists a complete overlap for the character. In other words, individual *enoptes enoptes* and *ancilla pseudointermedia* are phenotypically indistinguishable, at least considering the characters given in this work.

The Committee agrees with Pratt and Emmel (1999) when they say that “The distinctions among the various taxonomic entities (species, subspecies, races) applied to *Euphilotes* often are not clear-cut.” The Committee decided to maintain *First Edition* status. Vote 4-0.

#### **Rita Blue** *Euphilotes rita*.

The status of *Euphilotes rita pallescens* has been controversial. Shields (1975) described the taxon *emmeli* as a subspecies of *rita* and also (1977) treated *pallescens* as a subspecies of *rita*. Scott (1986) did likewise, stating that “The ssp. [of *rita*] all seem to intergrade (*pallescens* with *emmeli* in Washington Co., Utah and ssp. *emmeli* is intermediate between the W and E ssp. in the number of teeth on the male valva, for example.)” More recently, Pratt (1994) has treated *pallescens* as a full species, placing *emmeli* as a subspecies of *pallescens*. Relying

on unpublished allozyme data, he states that *rita* and *pallescens* differ as much from each other as either does from *Euphilotes spaldingi* (generally considered to be a closely-related full species). *Pallescens* and *rita* are not distinguishable except by dissection. Because these taxa are clearly very closely related and because there has been historic uncertainty over the placement of *emmeli*, a taxon that in many ways seems phenotypically and geographically intermediate between *pallescens* and *rita*, the Committee believes that it is best to await further published studies of this group before treating *pallescens* as a full species. Vote 4-0.

#### **Small Blue** *Philotiella speciosa*.

Hammond and McCorkle (2000) described a population of *Philotiella* from Klamath County, Oregon as a new species – *P. leona*. In both wing pattern and genitalic characters, the recently described *P. speciosa purissima* (Priestaf and Emmel 1999) appears to be intermediate between *P. speciosa speciosa* and *leona*. The reported foodplant of *leona* is *Eriogonum spergulinum*, a close relative of a known foodplant of *P. speciosa speciosa* – *Eriogonum reniforme*. The wing patterns of Small Blues are known to be very variable (see, for example, the photo of a mated pair in Opler 1999 and the illustrations in Glassberg 2001) and the illustrated phenotypes of *leona* fall within that variation. *Leona* is allopatric with other *philotiella* populations (although it would not be surprising if *Philotiella* populations occurred between *leona* in southern Oregon and *speciosa* in northwestern Nevada – these might be intermediate), is phenotypically extremely similar, and so far as known has similar biology. It is clearly closely related to *speciosa* and, pending further study, the Committee decided to treat *leona* as a subspecies of *speciosa*. Vote, 4-0.

#### **Acmon Blue/Lupine Blue**

*Plebejus acmon/lupinus*.

These taxa are extremely closely related, and although they seem to behave as separate species in southern California, even there many people believe they are inseparable. It is possible that when enough information is available

they will be considered to be one species. Scott (1998) suggested that *Plebejus acmon texana* and *P. a. lutzi* should be treated as subspecies of Lupine Blue, *Plebejus lupinus*. It is not impossible that this is correct. However, no new information was presented in support of this radical realignment. One argument given was that “Acmon” in much of the West outside of California uses only buckwheats as caterpillar foodplants, as does Lupine Blue, while “Acmon” in California uses legumes in addition to buckwheats. However, in both Alberta and Arizona knowledgeable butterfly enthusiasts are fairly certain that the Acmon Blues in their areas (*lutzi* and *texana* respectively) are using legumes in addition to buckwheats. This is based on their finding Acmon populations to be common in certain areas where they are unable to locate any buckwheats, but that have a profusion of the suspected leguminous foodplants. Until there is a reliable scientific study of the situation, it is best to adhere to the traditional view of all lepidopterists for the past 50 years. The Committee voted to list Acmon Blue as including *texana* and *lutzi*. Vote 4-0.

#### **Arctic Blue** *Agriades glandon*.

Emmel and Emmel (1999) cited an unpublished study of first instar caterpillars of *Agriades* by Greg Ballmer and Gordon Pratt as evidence that *podarce* is distinct from other North American *Agriades*. In the absence of any newly published data relevant to the status of *Agriades glandon podarce* the Committee decided to continue to treat this taxon as a subspecies of Arctic Blue. Vote 4-0.

#### **Heather Blue** *Agriades cassiope*

Emmel and Emmel (1999) described *Agriades cassiope* as a cassiope-feeding, scree inhabitant of the California Sierra Nevada and Trinities. On the basis of their published evidence of differences in wing shape and hostplant of sympatric populations, the Committee has voted 4-0 to treat *Agriades cassiope* as a distinct species from *Agriades glandon*. Because this seems to be the only species of blue whose caterpillar foodplant is a heather (*Cassiope mertensiana* – white mountain heather), the Commit-

tee decided to name this newly described species Heather Blue. Vote 4-0.

#### **Rounded Metalmark**

*Calephelis perditalis* from *Calephelis nilus*. McAlpine (1971) showed that the type of *nilus* is from Venezuela, but the type specimen is missing its abdomen. Because determination of *Calephelis* to species often requires an examination of the genitalia, we do not know whether the specimen represented by this type is the same species that flies in southern Texas, and there is good reason to assume that it is not. Because it is impossible to know what species the name *nilus* actually refers to, the name of the species in the United States should not be *nilus* even if it is the same species as one that flies in Venezuela. The next available name for the United States population is *perditalis* Barnes and McDunnough 1918. The Committee voted 4-0 to call this taxon *Calephelis perditalis*.

#### **Arizona Metalmark/Rawson’s Metalmark** *Calephelis arizonensis/rawsoni*.

Opler (1999) treated these taxa as conspecific. Because there exist no definitive data nor any data published subsequent to the *First Edition*, the Committee decided to retain *First Edition* status. Vote 4-0.

#### **Mormon Metalmark** *Apodemia mormo*.

Pratt and Ballmer (1991) described three biotypes (multiple brooded populations; univoltine spring-flying populations; and univoltine fall-flying populations) of *Apodemia mormo*. They stated that “Perhaps these three biotypes, which occur sympatrically, are distinct species.” They showed that various wing pattern differences among populations do not correlate with their biotypes. To the Committee’s knowledge, there is nothing published that demonstrates a lack of significant gene flow among these populations.

Opler (1999) treated *duryi* as a distinct species “on the recommendations of Greg Forbes and Richard Holland,” and said “Further research will no doubt modify this treatment.” There are no published data that lead to the conclusion that *duryi* is a separate species. The Committee voted to retain *First Edition* status. Vote 4-0.

**Nais Metalmark** *Apodemia nais/chisosensis*. Opler (1999) treated *A. chisosensis* as a full species. Because there exist no data published subsequent to the *First Edition*, the Committee decided to retain the status of the *First Edition*. Vote 4-0.

**Julia Heliconian** *Dryas iulia* from Julia.

The Committee prefers providing group names for species, so that it is clear to which group of butterflies a species belongs. Because this species is a heliconian, the Committee decided to add a group name, making this species Julia Heliconian (see Zebra Heliconian, below). Vote 4-0.

**Zebra Heliconian** *Heliconius charithonia* from Zebra *Heliconius charitonius*.

Brower (1994), has shown that the spelling of this species' name in its original description by Linnaeus was *charithonia* and that this spelling was formally placed on the official list of specific names by the International Commission on Zoological Nomenclature (1956). Accordingly, the Committee has decided to amend the scientific name of this species from *charitonius* to *charithonia*. Vote 4-0.

A number of NABA members contacted the Committee expressing the opinion that it would be a mistake to leave the English name for *Heliconius charithonia* as the one word "Zebra" because this name is confusing and does not provide any group information. In our original list, we had intended to name this species zebra heliconian, to match the names Erato Heliconian, Isabella's Heliconian, and Banded Orange Heliconian. But, a Committee member at that time objected.

The group name heliconian has been used by Klots (1951)(in his introduction to the group, but not actually as part of the name of any of the species), by Brown and Mielke (1972) and by Holland (1930) who called this species the Yellow-barred Heliconian. This group name relates directly to the scientific name which is derived from Mt. Helicon, home of the muses, a number of whom turn up as names of heliconian species. Au contraire, longwing lacks any poetry at all. Those two g's at the end of long and wing clog

up the works (One Committee member strongly disagrees with this statement). In addition, numbers of other groups of butterflies also have "long" wings. Ithomiines, widespread in the American tropics have wings shaped liked heliconians. The wings of African actinotes, of mimic-whites (pierids in the subfamily Dismorphinae), and of skippers in the genus *Panoquina* are all long. And, not all heliconians have long wings – see Banded Orange Heliconian.

We realize that it may be an uphill battle to establish the name Zebra Heliconian since the butterfly is called zebra longwing in the many butterfly zoos that display it and as the state butterfly of Florida. But the botanical community doesn't necessarily embrace a name that has been promulgated by horticultural interests and state birds, i.e., cardinal, aren't necessarily identical to American Ornithologists' Union names.

The options that we considered were: 1. Leave the name alone. 2. Rename the species Zebra Heliconian and leave the names of all other species in the group as is. 3. Rename the species zebra longwing and leave the names of all other species in the group as is. 4. Rename this species zebra longwing and rename the other species erato longwing, Isabella's longwing, and large orange longwing. One Committee member's preference was for option 3, the other three members preferred option 2. Thus the vote was 3-1 to rename this species Zebra Heliconian.

**Zerene Fritillary** *Speyeria zerene*.

Emmel and Austin (1999) treated *carolae*, an isolated greater fritillary population in the Spring Mountains of Nevada usually treated as a subspecies of *Speyeria zerene*, as a separate species, describing features that they state resemble features found in the species *Speyeria coronis*. In many areas it is very difficult to distinguish Zerene Fritillary, an extremely variable species, from *Coronis* Fritillary. Even if the *Speyeria* population in the Spring Mountains has some features that seem *Coronis*-like it seems premature to treat it as a separate species. The Committee decided to retain the status of the *First Edition*. Vote 4-0.

### Atlantis Fritillary *Speyeria atlantis*.

From the available published evidence it appears that there may be two species of Atlantis Fritillary in parts of Manitoba, Alberta, Colorado and the Black Hills of South Dakota because at each of these localities people have reported the presence of *atlantis* group fritillaries that fall into two phenotypes. However, knowledge of the relationships among these populations is murky. Scott (1988), focusing on silvered versus unsilvered forms of *atlantis* concluded that they were most likely polymorphic forms of one species. Klassen et al. (1989) treated populations in this group as two species, Atlantis Fritillary, *Speyeria atlantis* and Northwestern Fritillary, *Speyeria electa*, saying “Some authors consider... *electa* to be actually a subspecies of the Atlantis Fritillary and not a true species.” Bird et al. (1995) also treated *atlantis* and *electa* as two species, saying “[*atlantis*] is duller and more heavily marked than [*electa*]” and that “*S. atlantis hollandi* is larger .. than *S. electa beani*.”

Hooper (1973) stated that “At Meadow Lake Park the author [Hooper] found evidence of cross breeding between *S. a. hollandi* and *S. a. Helena*,” however he failed to publish that evidence. Scott et al. (1998) said “Hooper (1973) wrote that the two interbreed at Meadow Lake Park Sask., lending hope to the one-species theory. However, N. Kondla recently examined those Meadow Lake Park specimens and found them to represent merely unusually dark *Speyeria aphrodite manitoba*, thus this was a case of misidentification, not intergradation.” The foregoing is unfortunately an example of what occurs far too often, an author makes a statement, presenting no actual data to support it, then another author states that the first author was wrong, presenting no actual data to support that statement.

Scott et al. (1998) stated that “Much exploration by Klassen et al. (1989), Jim Troubridge, and others has *proved* [italics added] that in the Duck Mtn.-Riding Mts. Area of Manitoba, *denisi* and *hollandi* occur within flight distance of each other yet do not interbreed.” However, Klassen et al. provided no data about possible hybridization and did not discuss this at all,

and if any proof does exist it remains – to our knowledge – unpublished. Scott et al. provided a narrative describing how they see the relationships in the *atlantis* group, but they provided almost no data to substantiate that narrative.

Scott et al. described differences between caterpillars of *atlantis* and *hesperis* and said “The *hesperis* larva is almost solid black (thus the two middorsal lines are brown and not very noticeable) with black-tipped orange scoli (branching spines)(Fig. 40) whereas *sorocko* [stated to be a subspecies of *atlantis* in the southern Rockies] has more of a pattern (mottled black & brown) with two middorsal creamy lines and black-tipped orange-tan scoli (Fig. 41).” But it does not appear that these differences can be used to identify a caterpillar as *hesperis* or *atlantis*. Scott et al. reported that “larvae of *hesperis* and *sorocko* reared by Spomer ...were identical to Scott’s larvae of these ... except the photo of *hesperis* larva has the scoli only orangish-tan.” Scott et al. then reported that “Spomer reared Black Hills *lurana* and his photos (Fig. 39) prove that it is identical to Colorado *hesperis*, although the scoli may be a bit paler (orange-tan).” Thus one can conclude that orange versus orange-tan scoli does not allow identification. In addition, an examination of Scott et al.’s Fig 39 shows two quite noticeable middorsal lines on the reported *lurana* caterpillar, which appears much more similar to their illustration of *atlantis hollandi* (Fig. 42) than to their illustration of *hesperis* (Fig. 40). Thus noticeable middorsal lines do not allow one to characterize a caterpillar as *atlantis* or *hesperis*.

Among those who believe there are two species of the *atlantis* group occurring sympatrically in Manitoba-Alberta, in Colorado, and in the Black Hills of South Dakota, there are differing opinions as to which population to associate with eastern *atlantis* and which to associate with “*hesperis*.” For example, if there are two species in the Black Hills, there is no strong published evidence that would show which of the two should be associated with *hesperis* (Scott et al. place *lurana* with *hesperis*, others disagree) or if possibly one of them should be treated as a full species in its own right. In addition, the

description of caterpillars, by Scott et al., of *nausicaa*, *dorothea* and *capitanensis* as quite different from more northern populations, together with the finding by Glassberg (2000) that the eye color of *nausicaa* is unique among the *atlantis* group (*dorothea* and *capitanensis* have yet to be checked) suggest that these three taxa may together be a distinct species.

Statements in Scott et al. (1998) such as “So the subspecies scheme we propose works out best if *nikias* is a ssp. of *S. hesperis*, and if “*electa*” (*sorocko*) is a spp. of *S. atlantis*” clearly indicate that scientific research is needed to determine the validity of these hypotheses. The Committee decided to maintain *First Edition* status as a stopgap – that status quite possibly is incorrect but any change made at this time will also quite possibly be incorrect. Vote 4-0.

#### **Mountain Fritillary** *Boloria napaea*.

The type locality of *napaea* is the Tyrolean Alps, in Austria. Recently, Tuzov et al. (2000) treated northern populations, including those in North America, as a distinct species, *alaskensis* (Holland 1900). While possibly correct, we know of no definitive data nor any recently published data supporting this treatment and decided to maintain *First Edition* status. Vote 4-0.

#### **Astarte Fritillary** *Boloria astarte*.

Tuzov et al. (2000) treated the far northern subspecies *distincta* as a full species. We know of no definitive data nor any recently published data supporting this treatment and decided to maintain *First Edition* status. Vote 4-0.

#### **Purplish Fritillary** *Boloria montinus*

from *Titania* Fritillary *Boloria titania*/

#### **Arctic Fritillary** *Boloria chariclea*.

Shepard (1999) showed that New World populations are not *titania*. He illustrated drawings of male genitalia of true *titania* and *chariclea* from Europe as well as examples of all named North American subspecies in the complex. A comparison of the drawings show that none of the North American populations matches *titania* but that they are similar to *chariclea*.

Shepard stated that the male genitalia of all North American populations are identical and

that they are therefore one species – *chariclea*. Examining the drawings it would be possible to conclude that there are differences between most populations previously considered to be *titania* and those previously considered to be *chariclea*. No information was provided about the number of specimens from each population whose genitalia were examined. Even if, upon further study, the genitalia of all populations is found to be essentially identical, a conclusion that all populations are part of the same species would not be warranted. There are many clearly distinct species that have very similar genitalia.

Some workers still believe that there are two species, one boreal zone (former “*titania*”) and one tundra zone (*chariclea*). Layberry et al. (1998) state “the tundra form flies in alpine meadows with the taiga form occurring in the boreal forest of nearby valleys with no evidence of hybridization. In central Alaska the tundra form is strictly biennial, but the taiga form flies every year. In other areas of northern Canada the two habitat forms intergrade completely.” There do not appear to be any published scientific data that bear on this question. The Committee decided to retain the traditional status of the *First Edition*, that there are two species in North America – *chariclea* and a more southerly taiga-dwelling species. Vote 4-0.

Since Shepard has shown that *titania* (an Old World species) is not in the New World, this species needs both a new scientific and new English name (because the name *Titania*’s Fritillary is used for *Boloria titania* in Europe). The oldest available scientific name (for populations previously referred to as *titania*) is *montinus* (Scudder) *Argynnis*. *Proc. Essex Inst.*, 3: 166 (1863). TL White Mtns., New Hampshire. Thus the scientific name of populations previously referred to as *Boloria titania* now becomes *Boloria montinus*, while far northern populations remain *Boloria chariclea*. Vote 4-0.

An English name that has been used for a number of the populations of *Boloria montinus* (in its current sense) is purple or purplish fritillary. Because many of the populations do have a purplish cast (but aren’t really purple) the Committee has decided to re-name this species Purplish Fritillary. Vote 4-0.

**Arachne Checkerspot/ Dotted Checkerspot**  
*Polydryas arachne/minuta*.

Opler (1999) treated these taxa as conspecific. Because there exist no definitive data, nor data published subsequent to the *First Edition*, the Committee decided to retain the status of the *First Edition*, treating these taxa as distinct species. Vote 4-0.

**Chinati Checkerspot/Theona Checkerspot**  
*Thessalia chinatiensis/theona*.

Austin and Smith (1999) illustrated a number of specimens collected in western Texas that they believe are hybrids between *chinatiensis* and *theona*. *Theona* is an extremely variable species, and looking at the individuals illustrated, it is not clear that most of them necessarily are of a hybrid origin. If there is occasional hybridization between these taxa, that, in and of itself, is not sufficient grounds for treating them as conspecific. Recently, seemingly pure populations of both *chinatiensis* and *theona* have been seen at the same location within Big Bend National Park, but not at the same time (Wauer, 2001). The Committee decided that it was premature to lump these taxa and decided to retain the status of the *First Edition*. Vote 4-0.

**Cuban Crescent/Pale-banded Crescent**  
*Phyciodes frisia/tulcis*.

The Caribbean taxon *frisia* is superficially quite distinct from the mainland taxon *tulcis*. However, following Scott (1986) the Committee treated these taxa as one species in the *First Edition*. We have now examined the overlooked work, relating to this species, of Higgins (1981). In it, he showed that, in addition to wing pattern differences, the male genitalia of the two taxa are identifiably distinct. Based on this information, the Committee has decided to treat *tulcis* as distinct from *frisia*. Vote 4-0.

The newly split *Phyciodes tulcis* needs an English name. This species has been called *tulcis* crescent, a scientific name masquerading as an English name, by Tilden and Smith (1986) and by Opler (1992). A policy of this Committee is a preference for not using a scientific name as an English name. Because this species has one of the most prominent pale hindwing bands of

any crescent, the Committee decided to name this species Pale-banded Crescent. Vote 3-1.

**Chestnut Crescent** *Phyciodes argentea*.

A male of this species was collected by Hoe Chuah on Nov. 14, 1993 at Peñitas, Hidalgo County, Texas and was illustrated by Chuah and Cushman (1995). Other specimens found in the United States are illustrated by Bordelon and Knudson (2000). The overall color of the males above is chestnut, and this feature is unusual among the crescents – perhaps 2 other species (*atronia* and *otanes*, both ranging from Mexico to Panama) of the approximately 40 species share this trait. The Committee decided to name this species Chestnut Crescent. Vote 4-0.

**Northern Crescent** *Phyciodes selenis*. Scott (1994) stated that the name *cocyta* (Cramer) has priority over *selenis*. The basis for this is that, although the type of *cocyta* (Cramer) is lost, it was illustrated in “De Uitlandische Kapellen voorkomende in de drie waerelddeelen Asia, Africa en America, vol 2.” 1777 (1779) and Scott, who illustrated copies of the original illustrations, claimed that they must be *selenis*. There are problems with this conclusion. First, *cocyta* was described as coming from Surinam. Of course, errors in determining locations where species originated were not that rare. To conclude, however, that an illustration was truly of a species from Canada and not Surinam, in our view the illustration would need to be extremely accurate and completely and unequivocally recognizable as the species in question. After looking at the illustration in Scott, we conclude that neither of these conditions are met and that it is speculation to suggest that the painting of *cocyta* was based upon a specimen of Northern Crescent.

Scott (1986b) reared Northern Crescents from the Colorado foothills and released females in front of male Pearl Crescents on the plains. Mating occurred readily with the production of hybrids and there appeared to be no reproductive isolation. This contrasted with attempted natural, un-forced, matings of Pearl Crescent vs. Tawny Crescent and of Pearl Crescent vs. Field Crescent where no matings occurred.

Many observers in a wide geographical band, from New England through Wisconsin, Michigan and Minnesota, report that it is impossible to distinguish these taxa. Porter and Mueller (1999) examined allozymes from populations of crescents from northern Michigan, mapped as completely within the range of Northern Crescent by Scott (1986b) and by Opler (1992) and from Ohio, mapped as completely within the range of Pearl Crescent by Scott and by Opler. Porter and Mueller found that all populations shared similar alleles, indicating that all individuals were part of a single species. Porter (personal communication) reports that some believe that crescents used in the Porter and Mueller study were from two *tharos* populations, although only Northern Crescents are shown on range maps published by Scott and by Opler at the location where Porter and Mueller obtained their “Northern” Crescents.

Although the preponderance of the evidence favors the hypothesis that Northern and Pearl Crescents are a single species, the Committee decided to await more compelling data before lumping these taxa. Vote 4-0.

#### **Gillett’s Checkerspot** *Euphydryas gillettii* from Gillette’s Checkerspot.

This species was described by Barnes in 1897. To the best of our knowledge, the first English name given to this species was Gillett’s checkerspot, by Holland (1931). Ferris and Brown (1980) gave the name as Gillette’s checkerspot and Pyle (1981) and later authors, including the *First Edition*, followed this spelling. Bird et al. (1995) stated that “this species was named after Clarence P. Gillett, who was an entomologist at Colorado State University” in the 1800’s. If Barnes demonstrably did name this species for the Colorado State University entomologist, the English name should remain as Gillette’s Checkerspot because Clarence P. Gillette actually spelled his name with an “e” at the end.

Unfortunately, Barnes, in his original description in 1897, did not give any indication for whom he was naming the butterfly. However, as Zirlin (2001) demonstrates, the available evidence strongly suggests that Barnes intended to name the butterfly after someone in the Gil-

lett family. The woman who financed his and McDunnough’s privately published *Contributions to the Natural History of the Lepidoptera of North America*, was a Jessie D. Gillett and Barnes was married to Jessie Gillett’s sister, Charlotte. We know of no case where an ending “e” was dropped in creating a scientific name from a family name. And finally, Holland, who was a contemporary of Barnes, called this species Gillett’s checkerspot. The Committee decided to change the English name of this species to Gillett’s Checkerspot. Vote 4-0.

#### **Oreas Comma/Gray Comma**

*Polygonia oreas/progne*.

Opler (1999) treated these taxa as conspecific. Because we know of no definitive data regarding the status of these taxa, nor any published subsequent to the *First Edition*, the Committee decided to retain the status of the *First Edition*. Vote 4-0.

#### **Compton Tortoiseshell** *Nymphalis vaualbum* from *Nymphalis vau-album*.

A recent ruling of the International Commission on Zoological Nomenclature said that, in scientific names, hyphens are to be dropped and words combined *except* article 32(b)iii “If the first element of a published compound species-group name is a Latin letter used to denote a character of the taxon, it is to be connected to the remainder of the name by a hyphen.” The example given is *c-album*. Since *vau* is not a Latin letter and the code specifies a “a Latin letter” not letters, using the new rule the correct scientific name for this taxon should be *vaualbum*. Although the Committee believes that this new “rule” is completely unnecessary, we reluctantly agreed to follow it. Vote 3-1.

#### **Kamehameha Lady** *Vanessa tameneamea*.

This species is a Hawaiian Islands endemic. It has been called Kamehameha by Pyle (1981) and by Tilden and Smith (1986), Kamehameha butterfly by Scott (1986) and Kamehameha lady by Opler (1999) and by Glassberg (2001). The Committee has previously decided not to use the word “butterfly” as a group name. But, there should be a group name for this species, rather

than just the naked Kamehameha. Since this species is a lady, we have decided to name it Kamehameha Lady. This keeps a strong connection with the historical name while at the same time letting everyone know what kind of butterfly it is. Vote 4-0.

**Cuban Peacock** *Anartia chrysopelea*  
from Caribbean Peacock.

This species was called Caribbean Peacock in the *First Edition* and by Miller (1992). The Committee used the name because it was our procedure to preferentially use the name chosen in Miller (if the name was an actual English name with wide currency and the name did not have some type of major problem) in order to harmonize as many name sets as possible.

However, Miller incorrectly attributed this name to Opler and Krizek (1984) and to Scott (1986). Opler and Krizek called this species Hübner's anartia, while Scott treated *chrysopelea* as a subspecies of *Anartia lytrea* and called the lumped taxon, Caribbean peacock. Riley called this species Hübner's anartia. So, prior to Miller, no one had called this species, *A. chrysopelea*, Caribbean Peacock, and with good reason – this species is restricted to Cuba. Because the Committee followed Miller in error, and because Caribbean Peacock is a poor name for this species, the Committee has decided to rename it Cuban Peacock. Vote 4-0.

**Rusty-tipped Page** *Siproeta epaphus*.

There is a specimen of this species in the collection of Oregon State University at Corvallis that is labeled "New Mexico: Dona Ana Co., Mesilla (near border), 13 Dec. 1960. Chs. Bruhn." So far as we know, this species has not been recorded from the northern tier of Mexican states, except for Tamaulipas. But, this is a large, powerful butterfly. It has been called rusty-tipped page by Barcant (1970) and by Opler (1999) and orange-tipped peacock by Warren (1999). This species is closely related to Malachite, but does not much resemble it in color or pattern (although it is similar in size and shape). We assume that the name "page" is intended in the usage of the word meaning "attendant" or "servant," although we have no idea of why this thought was applied

to these species (Barcant called Malachite, the bamboo page). The Committee decided not to call this species a peacock, since we have called the genus *Anartia* peacocks and, while *Siproeta* is related to *Anartia*, they do not form a natural group. The Committee decided to name this species Rusty-tipped Page, using the name that has had the widest currency. Vote 4-0.

**Red-spotted Admiral** *Limenitis arthemis*  
from Red-spotted Purple.

Although, with good reason, essentially all authors over the past 50 years have lumped the taxa *L. arthemis arthemis* and *L. arthemis astyanax*, none of them has given an English name to the species, instead referring to each subspecies as White Admiral and Red-spotted Purple respectively (In the *First Edition* the Committee provisionally used the name Red-spotted Purple in reference to the whole species, a solution that the Committee recognized as unsatisfactory at that time). The Committee has now decided to provide a more appropriate English name for the whole species – Red-spotted Admiral. This English name comports with the placement of the species in the genus *Limenitis*, whose members are generally referred to as admirals, and with the fact that this species is the only North American admiral with red spots on the basal underside wing areas. The names of the subspecies will remain Red-spotted Purple and White Admiral, an imperfect solution that maintains continuity with the past. Vote 4-0.

**Lorquin's Admiral/Weidemeyer's Admiral**  
*Limenitis lorquini/weidemeyerii*.

These species have long been known to hybridize where they meet in the western Great Basin. Porter (1990), based upon an estimation of gene flow derived from allozyme frequencies, argued that they should be treated as conspecific. More recently Boyd, et al. (2000) argued that, because the zone of hybridization is much narrower than, for example, that between *L. arthemis arthemis* and *L. a. astyanax*, and because there appears to be significant selection against females in at least one of the hybrid zones, that their specific determinations should be retained. Although arguing for conspecificity, Porter (1990) did say

“there does appear to be a partial intrinsic barrier to genetic exchange.” An examination of the available data clearly indicates that Lorquin’s and Weidemeyer’s Admirals are extremely closely related and that viewing Weidemeyer’s Admiral as a univoltine subspecies of the otherwise multivoltine Lorquin’s Admiral would be justifiable. However, because these taxa have traditionally been treated as separate species, because the hybrid zones appear to be narrow, with significantly fewer hybrid females than expected, the Committee decided to retain First Edition status. Vote 4-0.

**Orion Cecropian** *Historis odius* from Orion. In view of the Committee’s decision to name *Historis acheronta*, Tailed Cecropian (see below), the Committee has decided to provide the group name cecropian to this species. The new name is Orion Cecropian. Vote 3-1.

**Tailed Cecropian** *Historis acheronta*.

This species was placed on the dubious list in the *First Edition*. Kendall and McGuire (1984), illustrated a clearly identifiable specimen reportedly collected by Veryl Board and John Hafernik on August 13, 1969 at Shafter, Presidio County, Texas. Although not yet recorded from northern Mexico, (it is only listed as far north as Veracruz by de la Maza 1987) this is a large species with a powerful flight. It is known to undertake migrations in South America (Williams 1930). In light of the above, the Committee decided to place this species on the main checklist. Vote 4-0.

Its closest relative, *Historis odius*, is called Orion. Both species of *Historis* feed on *Cecropia* trees, a very unusual hostplant for butterflies. Unlike Orion, this species has a small tail. Opler (1999) called it acheronta; Riley (1975) called it cadmus (although he used this as the English name for the whole species, he goes on to talk about *H. a. cadmus* as being the Jamaican subspecies); and Barcant (1970) called it the Venezuela shoemaker (a name that won’t last). Neither acheronta nor cadmus has an English meaning. The Committee decided to use the name Tailed Cecropian, although one member preferred the name cadmus. Vote 3-1.

**Tropical Leafwing/Florida Leafwing**

*Anaea aidea/floridalis*.

Opler (1999) treated these as one species although he treated them as distinct in an earlier work (1992) that was the basis for the status in the *First Edition*. Because we know of no new published data regarding the species status of these taxa, the Committee voted to retain *First Edition* status. Vote 4-0.

**Dusky Emperor** *Asterocampa idyja*.

Freidlander (1987) lumped Mexican (*A. idyja argus*) and Caribbean (*A. idyja idyja*) populations although these populations are allopatric and their appearance is quite different. The Mexican subspecies has strayed into extreme southeastern Arizona on at least three occasions. Because it is not “dusky,” and because it has very prominent pale bands across the forewings that easily differentiate it from other North American emperors, we have decided to name *Asterocampa idyja argus* ‘Cream-banded’ Dusky Emperor, with the thought that further study may well show that it should be considered a separate species. Vote 4-0.

**Little Wood-Satyr** *Megisto cymela*.

Oliver (1982) stated that both *viola* and *cymela* exist in northern and central Florida, but he did not describe in detail how he decided that individual *Megisto* were *cymela* or *viola*. He stated that “*cymela* may have up to four broods” in Florida based upon the existence of specimens labeled as from April, July, October and December. He also reared caterpillars from Pennsylvania and Florida and found that when reared under warm temperatures and a 16 hour light schedule, Pennsylvania caterpillars developed without diapause while those from Florida did diapause. He concluded that development was correlated with *cymela* having multiple broods in Florida, and that *cymela* and *viola* were probably distinct, but his one-page note still treated the two taxa as subspecies. On the basis of Oliver’s note, Opler (1984, 1992) treated *viola* as a separate species. The NABA *First Edition* followed the taxonomy of Opler (1992).

More recently, Catling and Calhoun (1997) showed that all purported phenotypic differ-

ences between *cymela* and *viola* vary continuously and independently. In addition, they provided evidence that the few specimens that Oliver used as a basis for his assertion of multiple broods for *cymela* were either mislabeled or misidentified, and that, contrary to Oliver's belief, there is only one brood of any *Megisto* in Florida. Oliver's finding that Florida *Megisto* entered diapause when reared under warm temperatures is consistent with the fact that there is but a single spring brood of *Megisto* in Florida. The significance of Oliver's finding that Pennsylvania *cymela* do not diapause when exposed to warm temperatures and altered photoperiod is unknown, but, since all Florida *Megisto* are single-brooded, it is of no relevance to the *viola/cymela* question. The Catling and Calhoun paper presents compelling evidence that *viola* and *cymela* are one species. Based upon this evidence, the Committee voted to treat *viola* as a subspecies of *cymela*. Vote 4-0.

#### **Common Ringlet** *Coenonympha tullia*.

Layberry et al. (1998) treated *nipisiquit* as a salt-marsh inhabiting population in eastern Canada, citing unpublished (at that time) work by R.P. Webster. However, upon publishing the work cited by Layberry et al., Webster (1999) stated that further work is needed to determine the status of *nipisiquit* and continued to treat this taxon as a subspecies. The Committee decided to retain *First Edition* status. Vote 4-0.

#### **Taiga Alpine/Disa Alpine**

##### *Erebia mancinus/dis*a.

Layberry, et al. (1998) treated *mancinus* as distinct from *disa*, restricting *disa* to the extreme north (and Eurasia). They reported differences in genitalia as follows: "We found that there are several distinct differences in the genitalia between *disa* (both the North American and Eurasian subspecies) and *mancinus*. For example, the triangular process that projects anteriorly from the bottom of the genitalia (the saccus) is a blunt triangle in *disa*, only slightly longer than its basal width, but it is a long, narrow, spine-like process in *mancinus*, 3-4 times as long as wide." Also, the habitat cited for *disa* is wet boggy tundra while that for *mancinus* was given

as wet, open spruce and tamarack forests around bogs.

On the basis of the reported (but unfortunately not illustrated) significant differences in genitalic structure and habitat, the Committee has decided to recognize *mancinus* as a distinct species from *disa*. The habitat-appropriate name taiga alpine has been used by Layberry et al. and by Opler (1999) and the Committee decided to adopt the name Taiga Alpine. Vote for species status, 4-0. Vote on English name, 4-0.

#### **Magdalena Alpine** *Erebia magdalena*.

Layberry et al. (1998) "reluctantly" treated *mackinleyensis* as a distinct species, saying that "all other arctic butterflies with disjunct ranges in the Rockies are considered to be a single species." They accepted Hilchie (1990) because "populations of *magdalena* show no tendency in variation towards *mackinleyensis*, even in northern British Columbia where the ranges of the two species approach each other."

The closest the two taxa are known to approach each other is approximately 500 miles. The habitats in which the two taxa are found is identical. The major phenotypic difference is that individuals of *mackinleyensis* have a dull, reddish-brown patch on the forewing, although not all individuals can be identified on this basis, and that females have slightly different antennal club color.

On these bases, many taxa with disjunct ranges would need to be treated as separate species. Tuzov et al. (1997) continued to treat *mackinleyensis* as a subspecies of *magdalena*. Pending further study, the Committee has decided to retain *First Edition* status. Vote 4-0.

#### **Four-dotted Alpine** *Erebia dabanensis*.

Layberry et al (1998) and Opler (1999) treated North American populations as *youngi*, distinct from Asian *dabanensis*. No data in support of this treatment were presented. Vote to retain *First Edition* status, 4-0.

#### **Reddish Alpine** *Erebia kozhantsikovi*.

Tuzov et al. (1997), Layberry et al. (1998) and Opler (1999) treated North American populations as *lafontainei*, distinct from Old World

*kozhantshikovi*. No data in support of this treatment were presented. The Committee decided to retain *First Edition* status. Vote 4-0.

#### **Eskimo Alpine *Erebia occulta*.**

Layberry et al. (1998) treated *occulta* as a junior synonym of *anyuica*, (citing Dubatolov. 1992). However, Tuzov et al. (1997, 2000) continued to treat *occulta* and *anyuica* as distinct species. The Committee decided to retain *First Edition* status. Vote 4-0.

#### **Ridings' Satyr *Neominois ridingsii*.**

Scott (1998) described *wyomingo* as a subspecies of *ridingsii*, distinguishing it from the nominate subspecies on the bases of its later flight times and reported gully perching (males of nominate *ridingsii* usually perch on hilltops).

But, males of many butterfly species exhibit different mate-searching behaviors under different conditions. Scott stated that phenotypically the populations are indistinguishable. Scott (1986a) reported flight times of *ridingsii* as June-early July at low altitude and mid July-early August at high altitude. Ferris and Brown (1980) stated that "In some localities Riding's Satyr is always double-brooded, and a favorable year will bring out at least a partial second brood in other localities." Opler (1999) treated *wyomingo* as a distinct species from *ridingsii*. In the absence of any evidence that these populations are genetically distinct, the Committee decided to retain the status of the *First Edition*. Vote 4-0.

#### **White-veined Arctic *Oeneis taygete*.**

Tuzov et al. (1997) treated *taygete* as distinct from *bore* and their illustrations of the genitalia of each show a clear difference. Layberry et al. (1998) treated *taygete* as conspecific with Old World *bore* saying "Populations have been discovered in the east and the west where white-veined and non-white-veined individuals occur together with intermediate forms and a great deal of variation in the sex patch. It seems more likely that the white veins are a characteristic of *Oeneis bore taygete* with a broad area of intergradation in the west, but more work is needed to fully resolve the issue."

The Committee agrees that careful published studies are needed before changing the status of this species. Vote 4-0.

#### **Early Arctic *Oeneis rosovi*.**

Troubridge and Parshall (1988) described *Oeneis philipi* from the Yukon Territory. It is stated to be an inhabitant of open spruce bogs in taiga, feeding on cotton-grass, while the very similar *O. polixenes* is essentially a dry tundra species feeding on sedges and grasses.

Troubridge and Parshall stated that differentiation from *Polixenes* "is easy in some locations and more difficult in others." In general, they are separated by the larger size of *philipi*, by the gray-brown upper surface of *philipi*, usually lacking the orange flush of *polixenes*, and by the more heavily striated hindwing below. Consistent differences between caterpillars of the two species are described. They reported finding *philipi* and *polixenes* flying together at three different locations in Alaska and the Yukon. On the basis of the information presented in Troubridge and Parshall, the Committee decided to recognize this taxon as a full species. Vote 4-0.

Layberry et al. (1998) stated that an examination of the original type of the Siberian *Oeneis rosovi* Kurentzov 1970 [not 1960 as stated] showed that *philipi* is the same species as *rosovi*, which was described first (and from an area of Siberia where *philipi* occurs) and thus has priority as a name. Tuzov et al. (1997) treated *rosovi* as a synonym of *chione* Austaut 1911 which they, in turn, treated as a (probable) subspecies of *Oeneis norna* (Thunberg 1791). Others are of the opinion that *norna* should be treated as a subspecies of *polixenes* Fabricius 1775. Habitat and foodplants given for both are similar (Tuzov et al. 1997, Layberry et al. 1998) and different from that described for *philipi*.

Kurentzov (1970), in his original description (kindly translated from the Russian for the Committee by Boris Yevtshikhevich of Red Shift Technologies), said "Based on size and common habitat, *O. rosovi* is similar to *O. jutta* but its genitalia place it in the group of species that have hook-curved tops of valves." Thus, the habitat given for *rosovi* is spruce bog (similar to *Jutta*), rather than tundra.

Tuzov et al. (1997) stated that there were genitalic differences between *norna* and *polixenes*, but their own illustrations of the genitalia of these species show them to be extremely similar. Since *philipi* is distinct from *polixenes*, if *norna* is treated as a subspecies of *polixenes* then *philipi* must be treated as distinct from *norna*. However, at this time the possible relationship to *chitone* is unknown.

Because neither *philipi*, *rosovi*, *chitone*, nor *norna* were included in the *First Edition*, the Committee decided to accept the preponderance of the evidence (as opposed to a compelling demonstration) and to use the name *rosovi* for this species. Vote 4-0.

This species now needs an English name. Layberry et al. (1998) and Opler (1999) called it “Philip’s arctic.” The scientific name is now *rosovi* and the Committee prefers to avoid new patronymic names whenever possible. The known range in North America is limited, but it also occurs in Siberia. Its habitat is open spruce bog, but Jutta Arctic is found here also, while its cotton-grass foodplant is used by other arctics. The flight period of this species appears to begin earlier than most arctics and to end earlier than almost all. Accordingly, the Committee decided to name this species Early Arctic. Vote 4-0.

#### **Guava Skipper** *Phocides polybius* from *Phocides palemon*.

Although on the cover of the *First Edition* Guava Skipper is listed as *Phocides polybius*, in the list itself it is included as “Guava Skipper *P. palemon* (= *polybius*). The name given in Opler (1992) was *Phocides polybius* and so this should have been the name used. *Palemon* (Cramer) 1777 is a homonym of *Caterocephalus palaemon* (Pallas) 1771 because both were originally described in the genus *Papilio* and because even though differing in the use of “ae” [diphthong] or “e”, they are of the same derivation and meaning [Palaemon (=palemon) was a Greek sea god], and are thus ruled by Article 58.1 of the Code to be homonyms. The Committee decided to correct this error. Vote 4-0.

#### **Mexican Longtail** *Polythrix mexicana*. Freeman (1969), in his original description of

this species, spelled the species name as *mexicanus* and so the Committee decided to amend the name to *mexicanus* from *mexicana*. Vote 4-0.

#### **Valeriana Skipper** *Codatractus mysie* from Valeriana Cloudywing *Thorybes valeriana*. Burns (1996) provided illustrations of a series of genitalic drawings that clearly establish that the species listed as *Thorybes valeriana* in the *First Edition* belongs in the genus *Codatractus*, not *Thorybes*. Also in that paper, Burns argued that the correct scientific species name for this species is *mysie*, not *valeriana*. The species *valeriana* was described by Plötz (1881). Evans (1952) synonymized *mysie* Dyar (described from the “Patagonia Mountains, Arizona”) with *valeriana*. Burns (1996) examined Plötz’s unpublished color painting of his *Eudamus valeriana* and stated that the name *valeriana* cannot apply to *mysie* because “Besides serious discrepancies in color pattern, each antenna of the painted skipper has a club with a long and only moderately swollen body that abruptly dwindles to a very short, delicate and sharply reflexed apiculus. All species of *Codatractus*, including [*mysie*], have an unusual antennal club: it is basally stout and apically tapered but evenly arcuate throughout its length – nothing is sharply reflexed, and it is impossible to distinguish an apiculus.” However, many museum specimens lose antennas, and it is not impossible that, faced with a specimen missing its antennas, the illustrator simply painted in generalized antennas. More recently Burns (2001) illustrated the painting of the type of *valeriana* and showed that it clearly differs in pattern from *mysie*, which is the species that flies in southeastern Arizona.

Based upon the above, the Committee decided to change the scientific name of this species to *Codatractus mysie*. Vote 4-0.

The Committee now considered the question of whether the change in scientific name necessitated a change in the English name. Opler (1999) recently called this species desert mottled skipper, based upon the use of that name by Warren and Llorente (1999). This option made sense to the Committee only if one intended to call members of the genus *Codatractus*, mottled-skipper (as Warren and Llorente did). Thus

we would have white-crescent mottled-skipper and Arizona mottled-skipper. Although some believe that members of the genus *Codatractus* are recognizable as a group in the field, the Committee is of the opinion that few observers would intuitively group Arizona Skipper, White-crescent Longtail, and Valeriana Skipper. In addition, *mysie* is not really a desert inhabitant, being found instead in sparse oak and juniper habitats in mountain foothills. We believe that an advantage of standardized English names is that they will ultimately prove to be more stable than scientific names. Accordingly, the Committee decided to retain the name Valeriana for this species, but change the group name from cloudywing to skipper. Vote 4-0.

**Double-striped Longtail** *Urbanus belli*.

An old specimen was located in the American Museum of Natural History (New York) collection by Warren (1997). It has recently been called Bell's greentail (Warren and Llorente 1999). This species is one of only a few longtails that have two parallel stripes on the hindwing below (most have the stripes broken into spots). Besides Plain Longtail (brown above), *viterboana* from Mexico (which may possibly be conspecific with *belli*) and *dubius* from Colombia, only the newly described *vilhius* from Rondonia seems to share this pattern. The Committee decided to name this species Double-striped Longtail. Vote 4-0.

**Golden Banded-Skipper** *Autochton cellus*

from Golden-banded Skipper.

Although the Committee has generally not changed the group name of well-known species to match newly created English group names, for example keeping Silver-spotted Skipper (not Silverdrop), preferring to consider these changes at some future date, changing the group name of this species to conform to its proper group name – banded-skipper – is easy and painless for almost everyone. A simple orthogonal change makes the new English name of this species Golden Banded-Skipper. Vote 4-0.

**Jalapus Cloudywing** *Achalarus jalapus*.

Steinhauser (1989) erected a new genus, *Thes-*

*sia*, and placed *jalapus* in it. His illustrations of the genitalia of *jalapus* and *athesis* Hewitson (the species that he makes the type of *Thessia*) make clear that these species are closely related. However, he does not demonstrate that leaving and placing, respectively, these two species in the genus *Achalarus* would create a polyphyletic genus and there is no discussion or explanation of why it would be incorrect to leave *jalapus* in the genus *Achalarus*. Scott (1986) illustrated crude drawings of portions of the genitalia of *Achalarus albociliatus*, *toxus* and *jalapus* that, although not necessarily demonstrating close affinity of these species, clearly do not preclude it. The Committee decided to retain *First Edition* status. Vote 4-0.

**Gold-costa Skipper** *Cogia caicus*

from Caicus Skipper.

The Committee discussed, at length, the pluses and minuses of providing new English names for species that currently use a scientific name as the first part of their English name. The Committee decided to move very cautiously in this area, changing these names only when 1. the current “English” name is of uncertain pronunciation and 2. when an extremely suitable actual English name becomes available. In this case, the Committee decided that the name Gold-costa Skipper was greatly preferable to Caicus Skipper because Caicus is of uncertain pronunciation and because the gold-colored forewing costal margin of this species is a very useful mark for identification of this species in the field. One Committee member thought that Caicus was not of uncertain pronunciation and should not be changed. Vote 3-1.

**White Spurwing** *Antigonus emorsus*.

This species was listed in the *First Edition* but without an English name. Because most species in the genus *Antigonus* have a more or less developed “spur” on their hindwing, the Committee decided to name species in this genus spurwings. Because, unlike other spurwings, the species *emorsus* is mainly white (summer form) or with considerable white (winter form), the Committee decided to name this species White Spurwing. One Committee member thought that

this species' wing-shape was not very spur-like and the summer form wasn't very white. Vote 3-0, 1 abstention.

**Red-studded Skipper** *Noctuana stator*.

NABA (2000) reported and illustrated an individual of this species that was photographed at the Santa Ana NWR, Hidalgo County, Texas on October 23, 1999 by Bob Stewart. An English name is needed. Warren and Llorente (1999) have called it red-studded skipper. The individual illustrated in *American Butterflies* was very worn and dull. The orange, or red-orange, spots are much brighter and more prominent on fresh individuals. The Committee decided to name this species Red-studded Skipper. Vote 4-0.

**Sickle-winged Skipper** *Achlyodes thraso*.

Opler (1999) placed this species in the genus *Eantis* and treated our northern population, *tamenund* as distinct from the more southern *thraso* presumably based upon unpublished work by Andy Warren. Because there is no published basis for changing these names, we retain *First Edition* status. Vote 4-0.

**White-patched Skipper** *Chiomara asychis*.

Janzen et al. (1998) treated *georgina* (Central America) as distinct from *asychis* (South American) without presenting data to support this treatment. Although many knowledgeable individuals believe these species to be distinct, there is no published information available. Therefore, we retain *First Edition* status. Vote 4-0.

**Slaty Skipper** *Chiomara mithrax*.

Although this species was listed in the *First Edition*, it was not provided with an English name and the only heretofore used English name we know of is black-spotted skipper, used on a regional list of Mexican species (Warren and Llorente 1999). To our eyes, black spots are not the feature that impresses one upon first viewing this species. Rather, the blue or slate-gray reflectance is what one sees. Names considered included black-spotted skipper, speckle-banded skipper, stone-gray skipper, mysterious skipper and slaty skipper. The Committee decided to name this species Slaty Skipper. Vote 3-1.

**False Duskywing** *Gesta gesta*.

Opler (1999) treated *gesta* and *invisus* as distinct species. Because there is no published information supporting this treatment, we retain *First Edition* status. Vote 4-0.

**Common Checkered-Skipper/  
White Checkered-Skipper**

*Pyrgus communis/albescens*.

The species status of *Pyrgus communis albescens* has been controversial. Burns (2000), in an exhaustive and careful work, illustrating almost 400 individual genitalia (out of over 3000 dissected), now shows for the first time that males of the *Pyrgus communis* complex can be separated into two groups based upon a difference in the genitalia.

That these two taxa retain distinct and diagnostic male genitalia over very large areas suggests that they are separate species. However, a few points make us pause before treating these taxa as separate species. Porter and Shapiro (1990) have shown that differences in male genitalia do not necessarily result in a bar to successful mating. Females of the two putative species remain inseparable by any means. Both genitalic types were found together in limited areas, but there are no data that would exclude the possibility that both types can be the offspring of a single female. Rearing experiments should be conducted. However, given the fact that, to our knowledge, there is no known example of a skipper species that has dimorphic (as opposed to variable) male genitalia, the Committee reluctantly decided to recognize *albescens* as a full species. Vote 3-1.

In the *First Edition* the English name of this taxon was listed as 'White' Common Checkered-Skipper. It now becomes White Checkered-Skipper. Vote 4-0.

**Mojave Sootywing** *Hesperopsis libya* from Mohave Sootywing. The Committee recognized an inconsistency in spelling in the *First Edition*, where in other cases spelling was Mojave but for this species it was Mohave. The Committee decided to rectify this mistake and has renamed this species Mojave Sootywing. Vote 4-0.

**Saltbush Sootywing** *Hesperopsis alpheus*. Opler (1999) treated *gracielae* as distinct from *alpheus*. Because there are no published data to support this treatment, we retain *First Edition* status. Vote 4-0.

**Many-spotted Skipperling** *Piruna cingo*. Opler (1999) treated *aea* (northern population) to be distinct from *cingo* based on unpublished work by A. Warren. Because there are no published data to support this treatment, we retain *First Edition* status. Vote 4-0.

**Banana Skipper** *Erionota thrax*. Introduced into Hawaii from Asia, this species has been called banana skipper by Corbet, Pendlebury and Eliot (1978), by Scott (1986), by Tilden and Smith (1986), by Opler (1992) and by Glassberg (2001). No other known English name has been used. Its caterpillars feed on bananas, and sugar and coconut palms. Since this is one of the few butterflies whose caterpillars feed on bananas (although at least one other species of *Erionota* does), and the English name banana skipper has been widely used, the Committee decided to use the name Banana Skipper. Vote 4-0.

**Violet-patched Skipper** *Monca tyrtaeus* from *Monca telata*. *Telata* was described by Herrich-Schaeffer and has yellow spots; *tyrtaeus* was described by Plötz and has white spots. In preparing the *First Edition* we overlooked the work of Bell (1941) in which he treated *telata* and *tyrtaeus* as distinct species and illustrated drawings that clearly indicate marked differences between the genitalia of the two taxa. Austin, et al. (1996) stated that *telata* and *tyrtaeus* are sympatric at Tikal. *Tyrtaeus* is found in Mexico and Texas.

The Committee now recognizes *tyrtaeus* as a species distinct from *telata* and thus the species entering the United States is *Monca tyrtaeus*. Vote 4-0.

**Common Branded Skipper** *Hesperia comma*. Bird et al. (1995) treated *assiniboia* as a subspecies of *comma* “for consistency with contemporary literature” but said that they are likely

[emphasis added] distinct species on the basis of differences in phenotype, phenology, distribution and habitat. Layberry, et al. (1998) treated *comma*, *assiniboia* and *colorado* as distinct species, stating that “range of *colorado* broadly overlaps with *comma* in British Columbia, although the two rarely occur together.” They stated that *assiniboia* and *comma* “occur together in central Saskatchewan and near The Pas, Manitoba.

Scott (1998a) says “I use the name *Hesperia colorado* here, because J. Donald Lafontaine and Norbert Kondla have written to me that ssp. *assiniboia* and *manitoba* are sympatric in aspen parklands from Alberta (including the Cypress Hills) to Saskatchewan and Manitoba, where they evidently do not interbreed, thus would seem to be distinct species. (However, Paul Klassen wrote to me that specimens from Thompson & Gillam in central Manitoba are somewhat intermediate. Also, the photos of *H. comma assiniboia* and *H. c. “borealis”* in the new Alberta Butterflies book look very similar to each other suggesting that they are conspecific...”

The Committee believes that in controversial cases, statements of sympatry need to be documented by publication of data that clearly show how individuals were determined to belong to each taxon, that essentially all individuals could be reliably classed as belonging to one taxon or the other, without hybridization occurring. The Committee decided to retain *First Edition* status. Vote 4-0.

**Glowing Skipper** *Anatrytone mazai*. This rare stray to the lower Rio Grande Valley of Texas was listed but not named in the *First Edition*. There has been no known English name, but recently Warren and Llorente (1999) called it De la Maza’s skipper. Native from northern Mexico south to Costa Rica, it is a close relative of Delaware Skipper, with the underside of *mazai* an even more luminous orange. Disfavoring patronymic names, the Committee considered two similar names, glowing skipper and sunglow skipper, before deciding to name this species Glowing Skipper. Vote 3-1.

**Toltec Roadside-Skipper** *Amblyscirtes tolteca*  
from Prenda Roadside-Skipper *Amblyscirtes*  
*prenda*.

The Committee mistakenly treated *prenda* as a distinct species from *tolteca* on our first list. On that list, we intended to adopt the taxonomy used in Scott (1986) for non-hair-streak species not treated in Opler (1992), and Scott treated these taxa as one species.

Evans (1955) described *prenda* as a subspecies of *tolteca*. Freeman (1973) elevated *prenda* to species status, saying that it differed in wing pattern, by being smaller in size and lighter in coloration. He noted that “biologically the two are very different, as *prenda* occurs in arid or semi-arid terrain very often flying in the heat of the day, whereas *tolteca* is a jungle species nearly always found in shaded areas; and that there were slight differences in the genitalia.”

Burns (1990) said, “Freeman (1973) raised [prenda] to the rank of species without adequate justification.” More recently Freeman (1993) again placed *prenda* as a subspecies of *tolteca* saying that he now saw no significant differences between them genitally, although the other differences noted still remain. *Prenda* enters the U.S. in southeastern Arizona, while nominate *tolteca* closely approaches the Lower Rio Grande Valley of Texas.

Given the absence of convincing evidence that the two taxa are distinct species, and because procedurally we erred in the *First Edition*, the Committee has decided to treat *prenda* as a subspecies of *tolteca*. The name Toltec roadside-skipper, based upon the scientific name and the Toltec people, has been used by Opler (1999) and by Warren and Llorente (1999) for the lumped species and the Committee decided to adopt this name. Both votes 4-0.

### **Violet-clouded/Olive-clouded Skipper**

*Lerodea arabus/dysaules*.

Although many believe these taxa to be conspecific and they were so treated by Opler (1999), there is no definitive or newly published information to support this treatment. The Committee decided to retain *First Edition* status. Vote 4-0.

**Purple-washed Skipper** *Panoquina sylvicola*.  
Recently, in Robbins et al. (1996), the name *sylvicola* (Herrich-Schaffer, 1865) was treated as a synonym of *lucas* (Fabricius, 1793) on a list of butterflies found in a Peruvian park. Although possibly correct, so far as we know, there is no published information that would justify this treatment and so decided to retain *First Edition* status. Vote 4-0.

**Arizona Giant-Skipper** *Agathymus aryxna*.  
Roever (1999) described *Agathymus gentryi* as a new species. He stated that it is sympatric only with *Agathymus polingi*. Roever said that *gentryi* phenotypically resembles *Agathymus aryxna baueri* but differs in that [in *baueri*] “outer margin of spots comprising the postmedial band in spaces 1-3 does not form a comparatively straight line as in *gentryi* because the spot in space 1 is offset distally,” and that “the well defined postmedial band on the ventral surface of the secondaries in *A. b. freemani* is lacking in *A. gentryi*.”

The foodplant of *gentryi* is given as *Agave deserti* ssp. *simplex* while that of *baueri* is given as *Agave chrysantha* and *A. mckelveyana*. Haploid chromosome number is given as 15, while that of *baueri* is given as 13.

The Committee sees little difference between the specimens of *gentryi* illustrated by Roever (1999) and the specimen of *baueri* illustrated in Tilden and Smith (1986), plate 39, no. 2. The populations described as *gentryi* are allopatric with other populations of *aryxna* and have previously been considered to be subspecies of *baueri* (Emmel and Emmel 1973) or *aryxna* (Bailowitz and Brock 1991). Haploid chromosome numbers are notoriously difficult to determine and the ultimate meaning of differences, even if definite, are uncertain. Many mammal populations with different chromosome numbers are completely capable of interbreeding and are clearly one species. The same has been found for insects (Halliday, et al. 1994).

The Committee decided to continue treat *baueri* and *gentryi* as subspecies of *aryxna*. Vote 4-0.

### ***Dubiously Occurring Species***

The following species have been reported to have occurred in the United States but are likely to have been mislabeled, misidentified, to have been transported to the United States by human agency, or need further verification for other reasons. Some of these species were included on the U.S. list in the *First Edition*, because, in constructing that list, the Committee followed Opler (1992) and Scott (1986). The Committee has now independently examined the bases for inclusion of many species, and in some cases has concluded that there is sufficiently substantial evidence to remove the species from the list of species believed to have occurred naturally in North America north of Mexico.

**Cuban Kite-Swallowtail** *Eurytides celadon*. Although this Cuban species might reasonably be expected to stray northward, so far as the Committee can determine, there exist only a few unsubstantiated sight records as evidence that this species has occurred in the United States. Included on the main list in *First Edition*. Vote to move to the Dubious list, 4-0.

### **large white** *Pieris brassicae*.

This European species was found on Staten Island, New York in September, 2000 (see photo at [www.naba.org/sightings](http://www.naba.org/sightings)) and there have been a number of other reports over the years. The likelihood that it was transported by human agency is extremely high.

### **Apricot Sulphur** *Phoebis argante*.

There are a few specimens of this species in the American Museum of Natural History (New York)(AMNH) labeled as having been collected in Florida. Apricot Sulphurs do occur in Cuba (but are rare there), but there is reason to believe that the AMNH specimens are incorrectly labeled. They are old, from areas other than southern Florida, and labeled as having been collected at localities such as Chokoloskee that Kimball (1965) showed are unreliable. There are a number of unsubstantiated reports from Texas, where it may naturally stray. However, we know of no authentic specimen or photograph. Vote to move to the Dubious list, 4-0.

### **Mexican Cycadian** *Eumaeus toxea*.

The following is largely based upon Kendall and McGuire (1984). Seven specimens in the Los Angeles County Museum are labeled as from Hidalgo County, Texas, March 1915, ex collection Lloyd M. Martin. In March 1981, Martin informed Roy Kendall by telephone that he had obtained the specimens from Louis H. Bridwell. Mr. Bridwell was a dealer. He also supplied a specimen of Three-tailed Swallowtail, labeled as from Cameron County, Texas.

No other known reliable reports of this species exist for Texas (although it does occur not far south of the border). It is possible that Mr. Bridwell was not extremely careful about labeling specimens, or that he received and resold specimens from individuals who were careless. In addition, because specimens from the United States had a higher value, there was incentive for dealers to mislabel specimens, and some were known to do so. We therefore consider these specimens to not be a reliable indication that this species occurred naturally in the United States. One specimen in the U.S.N.M is labeled Burnet County, Texas and probably dates from before 1900. Burnet County is just northwest of Austin, approximately 425 miles north of the nearest known population of this species in southern Tamaulipas, Mexico. Included on North American list in *First Edition*. Vote to move to the dubious list, 4-0.

### *Cyanophrys amyntor*.

Reported by Kendall and McGuire (1984) as being collected from Brewster County Texas, Woodward ranch south of Alpine on March 15, 1977 by Timothy Vogt of Illinois. Mr. Vogt also reportedly collected *Dynamine tithia* at the same locality on the same date. Not included in *First Edition*.

### **Nogales Metalmark** *Calephelis dreisbachi*.

McAlpine (1971) described *dreisbachi* from a series of 5 males and a female collected at San Blas, Sinaloa, Mexico. He made a female, collected by K. Roever along route 93, six miles north of Nogales, Arizona, a paratype. He said that the genitalia of the allotype female from Sinaloa and of the paratype female from

Nogales, are similar and are distinct from other *Calephelis*. He also said that “No other specimens of *C. dreisbachi*...have been collected at Nogales” nor between Nogales and Sinaloa, a distance of about 400 miles “so it is possible that the assumed female paratype...was accidentally transported to Nogales which is the main entry and exit port between Western Mexico and the United States.”

The area of southeastern Arizona where the reported specimen of *dreisbachi* was found has been surveyed for butterflies by many enthusiasts over the past thirty years, without any more *dreisbachi* being located. The Committee therefore decided to place this species on the “Dubious” list. Vote 4-0.

*Lasaia maria*.

Reported as “recently reported for se. Ariz.” by Opler (1999). However, there exists no authenticated report. Not included in *First Edition*.

**Cramer’s Eighty-eight** *Diaethria clymena*.

There are several old, and untrustworthy, reports of this striking South American butterfly in Florida, but at least one record is convincing – a single worn adult found visiting damp soil at Royal Palm Hammock in Everglades National Park in 1944 (Klots. 1951). This species does not occur in the West Indies, ranging from Trinidad south through South America (Neild. 1996) and so it is likely that this individual was transported to Florida by human agency. Included on North American list in *First Edition*. Vote to move to dubious list, 4-0.

*Diaethria anna*. Kendall and McGuire (1984) reported that a Robert C. Simpson informed them that he had seen and collected a specimen of this species at Rio Grande Village in Big Bend National Park on May 6, 1973. He never mounted the specimen and it was presumed destroyed in a fire. Although *anna* does range close to the Lower Rio Grande Valley, and may yet be found there, its known range does not closely approach the Big Bend area (de la Maza and Turrent 1985). Even if the sight record of an eighty-eight in West Texas were to be believed, it would not be certain that the sighting was of

this species. Not included on the North American list in *First Edition*.

**Mexican Eighty-eight** *Diaethria asteria*.

Reported from Hidalgo County, Texas, July 1, 1939, and, according to Kendall and McGuire (1984), collected by a D. Ring. This species is a West Mexican endemic whose range, according to de la Maza and Turrent (1985) and Luis, et al. (1996) is from southwestern Nayarit to Colima. The distance of approximately 650 miles between this known Pacific Coast range and southern Texas makes it unlikely that this species occurred naturally in southern Texas. Included on the North American list in *First Edition*. Vote to move to the Dubious list, 4-0.

*Dynamine tithia*.

Reported as being collected from Brewster County, Texas, Woodward ranch south of Alpine on March 15, 1977 by Timothy Vogt of Illinois. The specimen, clearly identifiable as *tithia*, is illustrated in Kendall and McGuire (1984). Since *tithia* is known only from South America (Neild. 1996), it is almost certain that the specimen did not enter the United States in a natural manner. Not included in *First Edition*.

**Brownish Cracker** *Hamadryas iphthime*

The only known report of this species from the United States is a specimen at the American Museum of Natural History, New York, from the William C. Wood collection labeled as having been collected in August in Burnet County, Texas. According to Jenkins (1983) the nearest known populations are in Tamazunchale and Tuxpan, Mexico, about 600 miles south. The great distance from known populations, coupled with other unusual reports from Burnet County, Texas (see, for example, Mexican Cycadian), creates a high likelihood of mislabeling. Included on North American list in *First Edition*. Vote to move to Dubious list, 4-0.

**Karwinski’s Beauty** *Smyrna karwinski*.

Although cited as occurring in Texas by older authors, we know of no authenticated records. Included on the North American list in *First Edition*. Vote to move to the Dubious list, 4-0.

**Chestnut Leafwing** *Anaea echemus*.

According to Kendall and McGuire (1984) a female of this species, in the Illinois Natural History Survey collection, is labeled as having been collected on May 22, 1938 at Weimar, Colorado County, Texas (located between Houston and San Antonio). No other information is available. The known range of this species is the West Indies. The probability of mislabeling is high. Included on North American list in *First Edition*. Vote to move to the Dubious list, 4-0.

*Opsiphanes boisduvalii*.

A dead individual of this species was found in an RV park in Pharr, Hidalgo County, Texas sometime in the past 10 years. The woman who found it brought it to the Texas Butterfly Festival, held in October 1998 in Mission, Texas, where it was identified.

Individuals of this species were seen in September and October 1998 in the Monterrey, Mexico area, so the natural occurrence of this species in the United States seems reasonable. However, the butterfly was never seen alive in the United States and it is possible that, for example, it was brought northward on the grill of an RV. Accordingly, the Committee declines to add this species to the list of butterflies occurring naturally north of Mexico. Vote 4-0.

*Morpho peleides*.

Two sight records (rather fleeting) of this spectacular Mexican species from the Rio Grande Valley of Texas may well be correct, but we await further substantiation of this species' presence in the United States.

*Greta polissena*.

According to Kendall and McGuire (1984), two specimens of the subspecies *umbrana*, in the Royal Ontario Museum, are labeled "Texas" from a Mr. Belfrage, 1870, ex. Coll. Bethune. This species ranges from Costa Rica to Brazil, with *umbrana* limited to Costa Rica and Panama (DeVries 1987). The probability of mislabeling is high.

*Urbanus prouta*.

Reported by McGuire and Rickard (1976) from Madero, Hidalgo County Texas (but not illustrated). Later dissection proved that the specimen was actually *Urbanus pronus* (Kendall and McGuire 1984).

**Confused Pellicia** *Pellicia angra*.

We have been unable to locate any authenticated records of this species, one that is easily confused with Glazed Pellicia. Included on North American list in *First Edition*. Vote to move to the Dubious list, 4-0.

*Staphylus azteca*.

A specimen reported by Freeman (1977) as a female, collected June 2, 1940 north of Alpine, Brewster County, Texas, was subsequently determined to be a Mazans Scalloping.

*Decinea huasteca*.

This species was listed by Ferris (1989b). We know of no authenticated records.

**Typographical Errors in the *First Edition***

The following changes are due to typographical errors in the printing of the *First Edition*

*Neophasia terlooti* to *Neophasia terlootii*

*Satyrrium fuliginosum* to *Satyrrium fuliginosum*

*Callophrys sheridani* to *Callophrys sheridanii*

*Chlosyn acastus* to *Chlosyne acastus*

Pearly-Eye to Pearly-eye

*Oarisima* to *Oarisma*

*Chiodes* to *Chioides*

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# Notes