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OF THE INTERNATIONAL LEPIDOPTERA SURVEY

THE YOSEMITE BUTTERFLIES

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YOSEMITE BUTTERFLIES
AN UPDATED SURVEY OF THIS SECTOR OF THE SIERRA NEVADA

INTRODUCTION

"Yosemite National Park embraces 1,189 square miles of the most diversified territory to be found in the Sierra Nevada. From the edge of the San Joaquin Valley at near sea level it extends to the crest of the Sierra divide, culminating in Mt. Conness, Mt. Dana and Mt. Lyell, each over 13,000 feet in elevation. Between these extremes occurs a wide range of climatic conditions, giving rise to a wealth of plant and animal life scarcely to be duplicated elsewhere on the North American continent." Thus wrote John S. Garth and J. W. Tilden in their introduction to *Yosemite Butterflies* in their classic publication published by the *Journal of Research on the Lepidoptera* in 1963.

The millions of visitors who enter Yosemite National Park every year are handed a map and information that introduces the visitor to the natural features of the Park. Most will visit Yosemite Valley with its scenic sheer granite cliffs, like El Capitan and Half Dome, and its breath-taking waterfalls like Yosemite, Bridalveil, Nevada and Vernal Falls. The Merced River flows through Yosemite Valley and foot trails make many of these scenic attractions accessible. There are Giant Sequoia (*Sequoiadendron giganteum* (Lindl.) J. Buchholz) groves, impressive granite domes and high elevation roads like the Tioga Road (SR 120) that enable motorists to cross Tioga Pass at 9,945'. The region is a land of majestic mountains, streams and meadows.

The Sierra Nevada was primarily formed by block faulting and gradually gains elevation on the west slope until one reaches the Sierran divide (this is the Californian Province), then drops rapidly into the Mono Basin (the Artemesian or Great Basin Province), many thousands of feet lower. Granite (a plutonic igneous rock) is the dominate "building block" of the range. The wide range of granite in the region is evident and a challenge for study by geologists. Volcanic activity was also a significant force in forming the region (Matthes, 1930; Hill, 1975; Huber, 1989) as seen in the Sonora Pass region just north of the Park and in the Mono Basin east of the Sierra.

The high country of Yosemite is made up of numerous peaks exceeding 12,000', the highest being Mt. Lyell at 13,114'. This region is characterized by granite domes and rock. Precipitous cliffs present serious dangers to hikers and lepidopterists who dare not lose track of where they stand. Streams, flower filled meadows and tundra cover the terrain between the peaks during the area's brief summer creating some of the most beautiful scenery in North America. Winters are long and harsh with heavy snowfall at the middle and higher elevations on the west slopes of the Sierra Nevada. Visitors may feel they are much further north when they find heavy snowbanks, ice covered lakes and snow covered mountains here even in early summer!

When Garth and Tilden did their ecological survey of the Yosemite sector of the Sierra Nevada in 1963, they listed 134 species of butterflies for the region. While their studies (which included Oakley Shields as a contributor) centered inside Yosemite National Park, they included records for the west slope foothills, high country east of Yosemite National Park from the Tioga Pass/Saddlebag Lake region, and the Mono Basin for comparison with the butterfly faunas of other National Parks.

This publication updates the Garth and Tilden study. New species have been described or recognized since 1963, or have been discovered within the region. Common and scientific names have changed. Many new locations for important regional species are now known. The Yosemite sector covered in this publication is widened to include the Sonora Pass Road region (SR 108) and Walker (Mono County) at the north end; Shaver and Huntington Lakes (Fresno County) and the Mono/Inyo County line at the south end. The western boundary extends to the Sierra Nevada foothills at the east end of the San Joaquin Valley. Mono County localities (including Glass Mountain and vicinity to SR 120) at the east boundary of the study area are difficult to characterize, but data from there is needed to provide a full understanding of the region's fauna.

Some of the 1963 *Yosemite Butterflies* records are repeated herein, however, the focus here is supplementary records based on collections (and some sight records) made since Garth & Tilden (1963). Some important records made prior to 1963, but not included in the 1963 publication, are included in the records section herein. Some of Garth & Tilden's records document important county records or species poorly known from the region: these may be included. Some apparent 1963 misidentifications are discussed. The majority of the records given herein are from outside the park boundaries.

Insect collecting within National Parks is only by permit from the National Park Service. However, almost all species occurring in the Park can be collected in surrounding National Forests. Observation and photography can add to our knowledge of Yosemite National Park butterflies. No species limited to the Park are considered endangered or threatened, but some in the region have limited ranges and occur only in or near California. Others are limited to the Sierra Nevada and occur largely in the Yosemite region, though some range somewhat further north or south. One such species is the greenish Sierra Sulphur (*Colias behrii*) of the high Tioga Pass region which ranges south to Sequoia National Park. Such interesting butterflies draw those interested in studying, observing or collecting them to the Yosemite region with its incredible scenic wonders.

THE SURROUNDING NATIONAL FORESTS

"The visitor driving to and from Yosemite Valley commonly arrives by one of three routes from the west and leaves by another. These are California state highways 41 via Coarsegold and Wawona, 140 via Mariposa and El Portal (the All-Year Highway) and 120 via Groveland and Buck Meadows. For many miles one travels through wooded foothills of the Sierra and Stanislaus National Forests, where opportunities for observing butterflies are equal to those within the National Park, while collecting is unrestricted."(Garth and Tilden, 1963). Visitors from the east arrive by making the steep precipitous climb from Lee Vining to Tioga Pass by way of Tioga Road (SR 120) which winds westward towards Yosemite Valley.

Classic areas within these National forests for butterflies have been added and studied since 1963. Oakley Shields has published information about the butterflies found at Briceburg, Jerseydale and Mather. Ken Davenport, Paul Opler, Al Rubbert and others have explored south of the park boundaries at Coarsegold, Oakhurst, Sugar Pine, Fish Camp and the Fresno Dome region. Some of the rarest butterflies in North America are common in this region between 5000' to 6000' elevation. Other lepidopterists (including Michael Smith and James R. Mori) have explored the Sonora Pass Road (SR 108) with Sonora Pass having become a classic locality in which to study butterflies.

Garth and Tilden added the following on collecting prospects in the high country outside the National Parks: "Should he seek an area comparable to the Park's high country he will find it at Saddlebag Lake, accessible by road from Tioga Lake...Other east slope mountain lakes accessible from Highway 395 are Lundy Lake, the Virginia Lakes, and the June Lake circuit." Since then, lepidopterists regularly visit the region east of Tioga Pass, Saddlebag Lake, the north slope of Mt. Dana and various ridges and meadows in the region, all accessible from Tioga Road or trailheads along that or adjacent roads.

Many have also followed Garth and Tilden's example in collecting or watching butterflies in the Inyo and Toiyabe National Forests on the Sierra Nevada east slope and Mono Lake region. Current national policy allows the non-commercial collecting of butterflies in national Forests but some local restrictions may exist.

Much more is now known about the Great Basin fauna and what butterflies occur along U.S. Hwy. 395 at the eastern base of the Sierra Nevada in Mono County. Little of this information has been published or is available to the average person interested in butterflies. James R. Mori, Bruce and Bret Boyd, and George T. Austin have contributed much new information for the area from north of Mono Lake to Walker.

The information obtained in these surrounding National Forests comprises the bulk of the specific collecting localities and dates added in this updated survey of the Yosemite sector of the Sierra Nevada. Some additional records from inside the Park are also added.

LIFE ZONES AND PLANT COMMUNITIES

"The incline from El Portal on the west to the Sierra Crest as the eastern Park boundary may be subdivided into five regions or life zones, each supporting a distinctive flora and fauna. These zones, in ascending order are Upper Sonoran, Transition, Canadian, Hudsonian and Arctic-Alpine." Garth and Tilden explained that the Lower Sonoran zone was found in the adjacent San Joaquin Valley to the west and that only the Subtropical zone (as in Florida and southern Texas) is missing in the Yosemite region.

Garth and Tilden also discussed the plant communities found within those "life zones" and "biotic provinces" that characterize the flora and fauna of various regions in the continental United States. The western slope of the Sierra is the Californian Province while the eastern slope and Mono Basin represents the Artemesian or Great Basin Province. They explained the ties butterfly species have with specific life zones and plant communities and how butterflies can serve as "indicator species" which help the observer to know which zone he is in by observing what species are present. The butterflies found in the Sierra Nevada foothills will be different from those found in the mid-elevation forests which in turn will differ from those found in high elevation forest, and those in turn will differ from those found above timberline on the highest Sierra Nevada Peaks. The butterflies in meadows will differ from those on granite peaks above timberline. Those in dry juniper woodland will be different than the species found in wet Canadian Forest openings.

The butterflies of California and the Great Basin will often differ as well. Indicator species will often be different but similar species. Thus, Lorquin's Admiral (*Limenitis lorquini*) is a common butterfly along streams on the Sierra Nevada west slope but it is replaced in the Great Basin and Rocky Mountains by Weidemeyer's Admiral (*Limenitis weidemeyerii*). Hybridization of these two *Limenitis* species occurs in a limited area east of the Sierra Nevada, including Mono Lake, and is a great example of such a replacement species. (See Boyd, Boyd, Austin & Murphy, 1999 for a discussion of this contact zone, how extensive the contact is, and taxonomic issues.)

Information about habitats and plants is very valuable if the individual trying to locate a specific species or subspecies wants to find the butterflies he or she is looking for. Garth and Tilden stated "The lepidopterist who pursues his interest seriously becomes increasingly aware of the dependence of insects on plants. For not only do butterflies as adults seek flowers for nectar, but as caterpillars they depend on vegetation for sustenance."

Some butterflies (e.g. Moss's Elfin (*Deciduphagus mossii*) and Sonoran Blue (*Philotes sonorensis*)) may rarely stray far from the specialized habitat and plants they require. "Thus the insect combines the fixity of the plant, the mobility of the mammal or reptile, though to a restricted degree, and the periodic wanderings of the bird, although less perfectly developed."

Garth & Tilden provided a chart of characteristic "indicator" species for five life zones in the Californian Province and two for the Artemesian Province (fewer zones because those on the east slope are "compressed" because of steepness and rapid drop in elevation east of the Sierra Nevada Crest. However, some of their "indicator species" are not reliable to establish a zone. For example, the Silver-spotted Skipper (*Epargyreus clarus*) is listed as an Upper Sonoran zone indicator in *Yosemite Butterflies* but has since been found to occur locally in three life zones west of park boundaries.

On the east slope of the Sierra Nevada there are also exceptional localities where west slope species turn up in pockets of vegetation more typical of the west slope. Somewhat unexpectedly, Hoffmann's Checkerspot (*Chlosyne hoffmanni*) and Stella Orange-Tip (*Anthocharis stella*) are now known to both occur in the Mammoth Lakes area in Mono County. Garth and Tilden also explained various anomalous situations in which extremely localized conditions sometimes allow Upper Sonoran butterfly species to occur above timberline or Arctic-Alpine butterflies may show up on glacial moraines or in unlikely locations well below their normal habitat.

SOURCES OF INFORMATION

This author has collected or observed butterflies extensively in the Yosemite region (at least 80 collecting or observation days) since August, 1963. Information for this study began with my obtaining a copy of Garth and Tilden's 1963 *Yosemite Butterflies* in 1970. That publication has been used extensively ever since. The annual Season Summaries for California published in the *NEWS* of the LEPIDOPTERISTS' SOCIETY between 1975 and 2003 have been checked for records. Several individuals have directly contributed much information. These include: George T. Austin, Jim Brock, John F. Emmel, Randy Emmit, Bill Gendron, Robert L. Langston, James R. Mori, the late Michael J. Smith, John G. Pasko, Al Rubbert, Oakley Shields, Paul Opler and Ray Stanford. Many others have contributed specific data on species localities and records. A number of books, publications, and scientific papers were also consulted for information and records pertaining to the Yosemite Region.

NAMES USED IN THIS PUBLICATION

The common English and scientific names used in this publication mostly follow the names used by THE INTERNATIONAL LEPIDOPTERA SURVEY (TILS) except in a few cases where I have used other names which better represent my view of the correct relationships based on my own studies and field research (ie: the *Apodemia mormo* complex). Other taxonomic lists have been consulted such as Ferris, 1989 (names listed in the species accounts herein follow the order given in that publication) and Opler and Warren, 2002. The scientific names used here are based on our best understanding of these butterflies at this time. In such cases, these are brought to the readers attention under the heading "Taxonomic notes" or in the text under the species. Authorities and readers will differ on what is the best nomenclature to utilize.

Common names on the TILS SC-NABN list are based on what names are actually being used regionally. They also usually follow *The Common Names of North American Butterflies*, Jacqueline Y. Miller et. al. (1992). That publication lists what names are commonly used for each species and subspecies. Those using the NABA list of common names will usually find them in this paper. Other names (especially subspecies) are derived from comments made by authors describing new species or subspecies explaining what the new names mean (etymology discussions). Common names were used by Garth and Tilden and in many respects have proven more stable than scientific names that are changed or revised for scientific reasons.

More than one common English name may be used for each species discussed in the butterfly accounts / checklist portion of this paper. The first name used will usually be the common name of the species, other names may be different and represent the common name of the subspecies (in some cases there are no names yet). For example, consider the Sagebrush Checkerspot which is the name for the whole species and the nominotypical subspecies (*Chlosyne acastus acastus*) which occurs in much of the Great Basin. Another well differentiated sub-

species with an obsolete pattern is Neumoegen's Checkerspot (*Chlosyne acastus neumoegeni*) which occurs in much of the Mojave Desert of California. Butterflies of both subspecies are Sagebrush Checkerspots, but none of the Great Basin *acastus* are Neumoegen's Checkerspots. Common names for well differentiated subspecies have long been used, others not so distinctive are frequently little used. Such availability of common names may assist those interested in butterfly conservation to gain public and governmental support to protect butterfly species *or* subspecies that are rare, endangered or threatened.

The scientific nomenclature herein utilizes the full trinomial genus, species and subspecies names as they may apply. (Many species have no known subspecies.) Genus names tend to be a rather subjective matter and so is my use of them. My use of a genus name other than those used by Opler and Warren in their 2002 checklist does not mean they are incorrect. I may simply be using a name with more prevalent use, or my personal persuasion. The correct species names are very important and every effort was made to choose the most scientifically accurate epithet. It is not unusual to find that some names are controversial and under dispute as to their "correct" interpretation due to the differing subjective opinions of taxonomists. Subspecies names are also an important matter because they help us to understand geographic variability and the relationships involved. It also appears likely that some of the Yosemite subspecies will eventually be found to be full species. It should also be noted that most "endangered species" in the United States are subspecies and that the rest of the species they belong to may be common elsewhere and thus not listed.

INTRODUCTION TO THE SPECIES ACCOUNTS AND CHECKLIST OF YOSEMITE REGION BUTTERFLIES IN THE SIERRA NEVADA OF CALIFORNIA.

The current checklist covers the 170 known species and additional 48 subspecies known to occur in the region. This represents a total of 218 taxa (some being undescribed and unnamed) now recognized in the study area. This compares with Garth and Tilden's 1963 survey which recognized 134 species and 16 additional subspecies, a total of 150 taxa. In addition to those, six additional species reported from the region are "questionable or doubtful" and another six species occur just outside the defined region.

It should be noted that one species, the Dryope Hairstreak (*Satyrium dryope*), in the 1963 Yosemite paper is now known to be a subspecies of the Sylvan Hairstreak (*Satyrium sylvinum*) and that the latter was also listed in the 1963 count. Two species included in the 1963 list, (Eastern Tailed-Blue (*Everes comyntas*) and Common Wood-nymph (*Cercyonis pegala*)), may have been based at that time on incorrect identifications. However, those two species have now been found to actually occur in the region. Three "subspecies" in the original study are now recognized as species by many workers. The adjusted number of species known from Yosemite Butterflies in 1963 remains 134; or 136 if one accepts the two questionable species as valid, which they may have been.

Over 60 subspecific butterfly and skipper names in this publication's checklist for the Yosemite region have been changed since the 1963 publication on this region. Two subspecies were known but left out of the 1963 publication. More than 20 species scientific names have changed. Two new species have been described which occur at Tioga pass. A third species was only recently recognized to occur in California, and this region. Several names have been elevated from subspecific to specific status. All in all, these many nomenclatural changes and additions to the knowledge about the butterflies and skippers of the Yosemite region since 1963 makes this current publication timely and much needed. These changes and additions are addressed in the individual species accounts. Information is also included about distributions, life zones, flight periods and host plants (specific species if the butterfly is host specific and has a limited range or is difficult to locate) or other information of interest.

Many comments made by Garth and Tilden in the species accounts are invaluable in helping us to understand these beautiful insects and the country where they live. The 1963 Yosemite publication remains a valuable and classic scientific publication. For detailed information on "life zones" and "plant communities", the reader should have his own copy of Garth and Tilden.

Specific records are given in the species accounts in some cases, especially of those species known from rare strays. Because scientists, collectors, and casual butterfly watchers who use binoculars or cameras need to know specific localities and dates where these insects can be found, the majority of such records will be listed in a separate records section following the species accounts.

Discussion on how to identify these butterflies is generally not covered herein because many field guides are readily available which cover descriptions and field marks. Unfortunately, there is no single publication that covers every species and subspecies. The serious lepidopterist will need a good library and many good references are listed in this paper. However, employing the principle of "a picture is worth a thousand words", the color plates in this publication's Issue Two of virtually all the butterfly and skipper species and subspecies which occur in the Yosemite region should be very helpful, if not invaluable.

AN ANNOTATED CHECKLIST OF THE BUTTERFLIES AND SKIPPERS OF THE YOSEMITE SECTOR OF THE SIERRA NEVADA AND VICINITY

SKIPPERS: HESPERIIDAE

Skippers are often drably colored and patterned and can be difficult to identify. Few have an easy time telling many skippers apart. Often, even experts must make a genitalic examination to make determinations. Unfortunately, many avoid this family as "unattractive" and "too difficult" to study and enjoy. Individuals are encouraged to become more familiar with this interesting family. Thirty-six species in this family occur in the region.

001 CALIFORNIA SILVER-SPOTTED SKIPPER *Epargyreus clarus californicus* MacNeill.

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. This California subspecies was described after Garth and Tilden's *Yosemite Butterflies* appeared. See Howe, 1975 for distinguishing characters. The TL is China Flat, El Dorado County, California with a LT at the California Academy of Sciences (Ferris, 1989).

General. Formerly believed limited to the Upper Sonoran Zone, *E. clarus californicus* occurs in the Transition and Canadian Zones as well. Known to utilize *Robinia* species (Black Locust) as a larval host in much of its range, this large brown skipper with the boldly marked silver spot on each HW most frequently uses *Lotus crassifolius* (Bentham) in this region and in the southern Sierra Nevada. An uncommon but spectacular skipper in the Yosemite region, this species can sometimes be seen inside Yosemite National Park in Yosemite Valley or in various woodland or forested habitats along forest roads visiting flowers (dogbane is a favorite) in forest openings from late May into very early August.

002 ARIZONA HAMMOCK SKIPPER *Polygonus leo arizonensis* (Skinner).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The name *histrio* Röber has sometimes been applied to our populations.

General. This species is not really part of the Sierra Nevada fauna and its inclusion on this list is based on records of two strays to the region. The only record from within the study area was of a single stray at Jerseydale, Mariposa County collected 11 VIII 1984 by Oakley Shields (Shields, 1997). A second record from just south of the Yosemite sector on the east side of the Sierra Nevada is also known: Round Valley 4500' on the Rock Creek Gorge Rd. just south of the Mono County line 26 VIII 83 collected by Sterling and Eileen Mattoon. This migrant is more a part of the Mexican fauna and has been found in some numbers in southeastern Arizona. It is a rarely seen stray even in southern California.

003 CALIFORNIA NORTHERN CLOUDYWING *Thorybes pylades indistinctus* Austin & J. Emmel.

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. Recently described by Austin and Emmel (1998), the TL is given as Boiling Springs, Laguna Mts., San Diego Co., Calif. The name refers to the less distinct pattern on the ventral HW of this subspecies. Austin and J. Emmel applied the name *indistinctus* to populations in the Sierra Nevada.

General. The **California Northern Cloudywing** occurs from the Upper Sonoran Zone foothill woodland into Canadian Zone forest, often in company with *E. clarus californicus* in association with *Lotus crassifolius* as a larval host. It too frequents dogbane or mints for nectar. Some consider *T. pylades* to never occur with the rare **Western Cloudywing** (*Thorybes diversus*) but both occur together (*pylades* prefers drier more open areas) at Fish Camp, Sugar Pine and the lower Fresno Dome Rd. just southwest of Park boundaries in late May and June. The overall flight period ranges from late May to mid-July. *T. pylades* is usually larger than *T. diversus* and is separated by the presence of a costal fold in males along the FW, which *T. diversus* lacks, and the larger more triangular shaped spots on the upper FW.

004 WESTERN CLOUDYWING *Thorybes diversus* Bell.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963,

General. Garth and Tilden (1963) used the common name **Bell's Dusky-Wing**, and the name **Diverse Cloudywing** has also been used (Tilden & Smith, 1986; Garth & Tilden, 1986). This is one of the rarest butterflies in North America and is rarely seen or collected, being limited to northern California and extreme southern Oregon. Garth and Tilden reported records from Aspen, Mather and Jerseydale but the latter record is based on misidentifications of the previous species (Shields, pers. comm.). Fortunately, this species can be abundant (this author once saw over

200 in a single day) south of Yosemite National Park at Fish Camp, Sugar Pine and the Fresno Dome Rd. / Sivels ountain region (above Redwood Camp) up to about 5000' elevation from late May through June. Adults favor streambeds, small wet meadows, forest openings, rocky roadsides at wet spots (even at the base of waterfalls) and small glades, where they alight on bare gound or visit wallflowers for nectar. The larval host is an aquatic clover, *Trifolium wormskjoldii* Lehm. *T. diversus* occurs in upper Transition and lower Canadian Life Zones.

005 NEVADA (MEXICAN) CLOUDYWING *Thorybes mexicanus nevada* Scudder.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL for *T. nevada* is the "Sierra Nevada range, California" (Miller and Brown, 1981).

General. The **Nevada Cloudywing** occurs in the upper tier of life zones (Canadian, Hudsonian and Arctic-Alpine) on both slopes of the Sierra Nevada in a variety of habitats including forest openings, wet meadows, bare ground, wet spots and in alpine fell fields up to 11,000'. It is the most commonly encountered *Thorybes* in the region. The FW above is more heavily spotted than the preceding species and males lack the costal fold. It rarely overlaps habitats with the preceding two species. Host plants are various alpine clovers and vetches. The flight period ranges from mid-June in Canadian forests into late August at high elevations above timberline. Two individuals collected east of US Hwy. 395 on Bald Mountain at 9104', Mono County (27 VI 99) show increased white scaling on the ventral surface and tend towards subspecies *blanca* Scott which occurs in the White Mountains of California and Nevada further east.

006 DREAMY DUSKYWING *Erynnis icelus* (Scudder and Burgess).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This duskywing is one of the rarest species in the Sierra Nevada and Yosemite region. There are reportedly records for Mariposa County on the Sierra Nevada west slope (upper Transition and Canadian Life Zones). Bruce and Bret Boyd have recently found the species in wooded areas on the Sierra Nevada east slope in Mono County. Hosts are likely willows, aspens and poplars with a flight period of late May to mid-July.

007 LACUSTRA (SLEEPY) DUSKYWING *Erynnis brizo lacustra* (W. G. Wright).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. The **Lacustra Duskywing** is very localized on the west slope of the Sierra Nevada (adults often are found on hilltops) in scrub oak association on serpentine outcrops five miles west of Briceburg and in the Jerseydale region at Footman Ridge, Mariposa Co. (Shields, 1978). It often flies with *Hesperia columbia* which occurs in similar habitats with *lacustra* in the California Coast Ranges. Until Shield's paper appeared, few knew these two species ranged into the Sierra Nevada, where scrub oaks are the usual host. Adults fly from late March to May. Both species normally occur in the Coast Ranges as "indicator species" of the Upper Sonoran Zone (and in similar habitats in the southern Sierra Nevada in Tulare and Kern Cos.: Davenport, 2003).

008 PROPERTIUS DUSKYWING *Erynnis propertius* (Scudder and Burgess).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

This is the largest and most common duskywing on the west slope of the Sierra Nevada in the Upper Sonoran, Transition, and lower Canadian Life Zones in the region. It occurs in chaparral communities, woodlands and mixed coniferous forest where oaks (the larval hosts) occur. It is occasionally taken on the east slope of the Sierra Nevada (Swall Meadow, Mono Co.) as well. The flight ranges from March into early August, depending on elevation.

009 MOURNFUL DUSKYWING *Erynnis tristis tristis* (Boisduval).

Regional occurrence. Hypothetically recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Also known as the **Sad Duskywing** by Garth and Tilden, this species was included on their 1963 Yosemite list based on the presumption it *had* to be in the region, though they had no records. This species with white fringes on the HW does occur in the region, but known localities are few in the Upper Sonoran and lower Transition Zones where the appropriate oak host occurs on the west slope of the Sierra Nevada. It appears with the most regularity on the edge of the San Joaquin Valley (Lower Sonoran Zone) and at lower levels of montane woodland. *E. tristis* has two to three broods from April into September. Males will go to ridges and hilltops but also visit various yellow flowers within the oak habitat.

010 DYAR'S (PACUVIUS) DUSKYWING *Erynnis pacuvius lilius* (Dyar).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Dyar's Duskywing occurs in forest openings (Transition, Canadian Zones) mostly on the Sierra Nevada west slope where the *Ceanothus* larval host grows. Often abundant, *lilius* can be easily confused with the less common *Erynnis persius* which utilizes different hosts. It is scarce east of the Sierra Divide. Adults are usually found near the host and often visit wet spots, mud and flowers and frequent hilltops and ridges. The flight ranges from late May to mid-July.

011 FUNEREAL DUSKYWING *Erynnis funeralis* (Scudder and Burgess).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Garth & Tilden treated *funeralis* as a subspecies of *Erynnis zarucco* (Lucas)**.** Most authorities give *funeralis* species status, including Opler & Warren (2002).

General. There are few records for the region for this otherwise widespread duskywing with triangular shaped hindwings with white fringes. Various species of *Lotus* appear to be used in the region. This duskywing should be more widely distributed in the Yosemite region than present records indicate. A population was recently found on a south facing ridge on the north side of the San Joaquin River near Power House in Madera County. The flight period is March into October.

012 PERSIUS DUSKYWING *Erynnis persius* (Scudder).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. I refrain from applying a subspecies name to material from the Sierra Nevada. Burns (1964) discouraged applying subspecies names to this complex pending further study. In personal communication (March 5, 2004 e-mail), John Burns stated: "I prefer to call everything *Erynnis persius* until someone does a really careful, thorough, comparative analysis of this taxon throughout its North American range."

General. Garth and Tilden described this as a "small dark insect with few contrasting markings" which along with the white spotting on the FW differentiates this species from *E. pacuvius lilius.* Hosts are various legumes and include *Lotus crassifolius* in the southern Sierra Nevada. Colonies are found along sandy streambeds (Fresno River at Oakhurst) from relatively low elevation or in well watered riparian areas and forest openings, on both slopes of the Sierra Nevada from Lower Sonoran to the Canadian Zones in the region. The normal flight period ranges from late March into August depending on locality and elevation.

013 TWO-BANDED CHECKERED SKIPPER *Pyrgus ruralis ruralis* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This species prefers forest openings rather than wet meadows in the Canadian Zone forest but is also found on stream benches above streams at Tioga Pass and at the base of talus slides bordering upper limits of Hudsonian Zone forest west of Saddlebag Lake, Mono County (and along wet rocky portion of trail east side of that lake) at 9500' to 10,100'. On the south side of Sonora Pass, *ruralis* is found along rocky streambeds at the lower level of Arctic-Alpine Zone, occurring at higher levels of the Sierra Nevada east slope as well. Hosts include cinquefoils and horkelias (likely *Potentilla glandulosa* Lindl. is a major host) with a flight as early as April (Sugar Pine and Chilkoot Camp in Madera Co.) and as late as mid-July. This small skipper is a very early flier and is easily overlooked by the observer looking for larger or more popular species of the Yosemite region.

014 COMMON CHECKERED SKIPPER *Pyrgus communis* (Grote).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. George T. Austin (pers. comm.) notes *P. albescens* is known from Carson City, Nevada north of the region. Males of the two species are reliably separated only by genitalic examination and females are inseparable. Material from Yosemite has not been closely examined but northern California material as a whole has proven to be *communis* (Burns, 2000).

General. The occasional occurrence of the White Checkered Skipper (*Pyrgus albescens*) in the Yosemite region as strays or transient populations would seem likely. *P. albescens* occurs commonly in the southern San Joaquin Valley. *P. communis* is widespread but uncommonly seen in the region in the Upper Sonoran to lower Canadian Zones, both *P. communis* and *P. albescens* are common in dry lowland wastelands in the lower San Joaquin Valley where the weedy mallow hosts abound. Both species fly from late February into early November.

015 WHITE CHECKERED SKIPPER *Pyrgus albescens* Plötz.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. Burns (2000) established *Pyrgus communis* and *P. albescens* as separate species, *albescens* had been considered a subspecies of *P. communis*.

General. This species is added to the Yosemite list based on Burns (2000) paper. Burns wrote under the range of *P. albescens*: "with one male straying northward in California (Calaveras County)". That area is at the northwest limit of the Yosemite sector of the Sierra Nevada. Burns (pers. comm.) states the Calaveras County record is based on a male specimen at the California Academy of Sciences) collected by F. E. Blaisdell from "Mokel. Hill, Cal." which apparently refers to Mokelumne Hill in Calaveras County, California. There is no date on the label.

016 NORTHERN WHITE SKIPPER *Heliopetes ericetorum* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Long known as the **Large White Skipper**. This species is fairly common on the west slope of the Sierra Nevada in the Yosemite region but is usually scarce on the east slope and Great Basin in Mono County. It favors dry open slopes but can occur in any habitat from the valley floor (Lower Sonoran Zone alfalfa fields and wastelands) to lower levels of the Canadian Zone. Adults visit a variety of flowers for sustenance while larvae utilize various mallows as larval hosts. The flight period for the region ranges from April to October.

017 COMMON SOOTYWING *Pholisora catullus* (Fabricius).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is a common and widespread species in much of the United States but is uncommon in the region. There are several records from the western foothills and there are records from the base of the east slope of the Sierra Nevada in Mono County as well. Host plants are pigweeds and *Amaranthus* species. The flight period is likely May to September in the region. Look for *P. catullus* in dry ravines and canyons.

018 LENA (MOJAVE) SOOTYWING *Hesperopsis libya lena* (W. H. Edwards).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note: Formerly placed in the genus *Pholisora.*

General. The **Lena Sootywing** is poorly known from the region and has not been included in previous discussions of the Yosemite fauna. This species normally occurs in Great Basin Desert and has been recorded from eastern Mono County (Fleishman, Austin, Brussard and Murphy, 1999). Favorable habitat with the *Atriplex* hostplant is present in the Mono Lake region east of the Park and east of Glass Mountain to the southeast. This blackish skipper should be looked for from June into September. Adults favor a number of flowers for nectar, including alfalfa and rabbitbrush.

019 ORICUS (SALTBUSH) SOOTYWING *Hesperopsis alpheus oricus* (W. H. Edwards).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Formerly placed in the genus *Pholisora.*

General. The **Oricus Sootywing** is another species not included for the region by Garth and Tilden (it occurs just SE of their study area). It occurs at the base of the eastern Sierra Nevada in association with *Atriplex canescens* (Pursh) a plant that often occurs in dry sandy soils, often in canyons or along dry roadsides, usually in May. Most records are from the Rock Creek Gorge/Swall Meadow area in southern Mono County. *H. alpheus oricus* tends to be uncommon, highly localized in occurrence and is a highly prized skipper by skipper specialists. The blackish wings are overscaled with white. Adults zip rapidly through the habitat and are difficult to observe or pursue.

020 FIERY SKIPPER *Hylephila phyleus muertovalle* Scott.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. The new subspecies *muertovalle* (TL: Furnace Creek, date grove, Death Valley National Monument (Ferris, 1989)) may be limited in use to populations from the very dry hot locality from where it was described. It may not apply to other California populations. Not all workers accept other California populations as truly different from the nominotypical subspecies *phyleus* (TL: Antigua (Miller & Brown, 1981)).

General. This is a common species in the lowlands of the San Joaquin Valley in city gardens and alfalfa fields wherever the larval host, Bermuda grass grows. It was not included in the 1963 list of the region. It reaches the Yosemite region on the edge of the western foothills and is occasionally transiently established in the Upper Sonoran Zone straying upwards into the upper Transition Zone (Fish Camp) just outside the Park. The flight period is late April into early October.

021 ALKALINE SKIPPER *Pseudocopaeodes eunus* (W. H. Edwards).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The name *obscurus* (Austin & Emmel, 1998a) was tentatively applied to material from the region east of the Sierra Nevada. The *obscurus* TL is Carson City, Eagle Valley, Lompa Lane at Airport Road. In their

description of *obscurus* Austin and J. Emmel comment: "The best known colony is at the type locality. Two others, apparently of this subspecies, are known in Mono County, California: Dechambean Hot Springs at Mono Lake and Hot Springs, Hot Creek, northwest of Lake Crowley." In reviewing this paper, Austin commented that these Mono County populations are not *obscurus* and that too little material exists for these populations to be properly assessed. Another subspecies, *flavus* Austin & J. Emmel (described in the same paper) has a TL of Nevada, Churchill Co., Stillwater National Wildlife Refuge, Loop Road. It occurs commonly in the Owens River drainage around Bishop, Inyo County, California just south of the region covered by this publication.

General. The flight period is probably a single brood from late May into the second week of July. Adults often visit *Heliotropium* flowers for nectar or patrol low spots in the usual saltgrass (Desert Saltgrass is the larval host) habitat. Flight periods and the number of broods of *flavus* vary from year-to-year based on weather conditions, rainfall, flooding or drought.

022 MACSWAIN'S (UNCAS) SKIPPER *Hesperia uncas* near *macswaini* MacNeill.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. Described in 1964 as a new subspecies by MacNeill. I have examined material identified as *macswaini* from the E. slope of the Sierra Nevada at the Natural History Museum of Los Angeles County. It differs somewhat from *macswaini* from the White Mountains (TL: Blancos Corral, White Mtns., Mono Co., Ca.) found in both Mono and Inyo Counties.

General. This is a poorly known species in the Yosemite region, only recently recognized to occur in the state. Records and vouchers for the region are in various museums and private collections. McGuire (1998) reports that this skipper is "associated with *Artemisia* at elevations above 9000 feet. A few specimens near *macswaini* have been recorded from the eastern slope of the Sierra Nevada range, generally west and northwest of Bishop." Bruce and Bret Boyd found the species sparingly in Green, Mill and Wolf Canyons even further north in Mono County. Records range from June into early August.

023 GIULIANI'S (UNCAS) SKIPPER *Hesperia uncas giulianii* McGuire.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. Described by McGuire in 1998, this subspecies occurs east of the Sierra Nevada with a TL of Adobe Hills 5 mi. NW of Adobe Lake, Mono County, California. The type series was collected by Derham Guiliani and William W. McGuire. Hence the name *giulianii*, named after its discoverer.

General. The flight period is late May to mid-June. It normally occurs in open, sparse sage flats in gentle rolling hills with pumice sand soil between 6800-7500' (McGuire, 1998). McGuire (1998) published records from the hills adjacent to Bodie. There are also records from the north end of the Mono Craters (John F. Emmel) and at Silver Lake (Chris Henne) on the June Lake Loop Rd. (John F. Emmel, pers. comm.). It also occurs at several sites off SR 270 from east of US Hwy. 395 to Bodie. This skipper now appears to be far more common and widespread in the region than previously believed.

024 JUBA SKIPPER *Hesperia juba* (Scudder).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is a common species of both west and east slopes of the Sierra Nevada in the region from the Upper Sonoran to the Arctic-Alpine Zone. Adults favor forest openings, bare hillsides, Great Basin sagebrush and rocky slopes, canyons and ridges. There are two broods with adults appearing in the spring and fall on the west slope, with a mid-summer flight in the boreal zones. There are records from May to September where the Sierra Nevada meets the Great Basin.

[WESTERN BRANDED SKIPPER *Hesperia colorado* (Scudder).

Taxonomic note. Workers disagree about whether our North American populations are really the same species as the Old World **Common Branded Skipper** (*Hesperia comma* (Linnaeus)). Layberry, Hall and Lafontaine (2001) split North American material into three species with those found in the Yosemite region being *Hesperia colorado* Scudder, a view I believe is likely correct. James A. Scott accepted the name *colorado* for this species in his 1998 paper cited below but is no longer convinced (pers. comm.) that there is more than one species in North America. So readers of that paper should not cite that publication for recognizing *colorado* as a species separate from *Hesperia comma.* All of the following skippers of the complex feed on grasses.]

025 YOSEMITE (BRANDED) SKIPPER *Hesperia colorado harpalus* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. Garth and Tilden referred to this as "*H. harpalus yosemite* Leussler" in their *Yosemite Butterflies*. Scott (1998) gives the TL for *harpalus* as the "Sierra Nevada Mts., west of Carson City." The name "*harpalus*"

predates and thus replaces "*yosemite*" (TL: near Yosemite) as the correct scientific name (Scott, 1998). I retain the traditional "common" name of **Yosemite Skipper**.

General. It occurs at mid-elevations in both Transition and Canadian Zones on the Sierra Nevada west slope, usually in lush forested habitats. It normally flies from mid-June into September.

026 IDAHO (BRANDED) SKIPPER *Hesperia colorado idaho* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. The TL for *idaho* was given as lowlands E. of the Sierra Nevada in E. California near Doyle in Lassen County by Scott (1998). This was previously referred to as the Harpalus Skipper "*H. harpalus harpalus.*"

General. It occurs as a "blend zone" across the Sierran Divide and in its pure form in the Great Basin. This skipper is commonly seen at yellow flowers and on Great Basin desert "hilltops" east of the Sierra Nevada. It occurs from mid-May into September.

027 UNDESCRIBED BRANDED SKIPPER *Hesperia colorado* Scudder.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Undescribed Sierra Nevada west slope segregate.

Taxonomic note. Workers studying this species complex have reported two separate entities on the west slope of the Sierra Nevada. The population flying from late spring into early fall is the entity now known as *harpalus* (formerly *yosemite*). The other flies from the second half of August into October, often on serpentine outcrops. A similar situation occurs in the southern Sierra Nevada in the Kern River/Sherman Pass region of Tulare County (Davenport, 2003). Shields (1997) wrote under the name *Hesperia harpalus yosemite*: "Flies from early September to mid-October, peaking in mid-September. Though only rarely found in Skelton Canyon and Jerseydale, it is sometimes fairly common on *Haplopappus* blooms on Footman Ridge where the males are territorial while nectaring and perching along the ridgetop." That fits better with the known flight period of the undescribed entity and the serpentine outcrops on Footman Ridge are a prerequisite for its occurrence in this portion of the Sierra Nevada. Since both *harpalus* (formerly known as *yosemite*) and the undescribed west slope segregate are similarly marked and colored, the two biotypes are difficult to distinguish. James A. Scott comments (pers. comm.) that material I have called *tildeni* from the southern Sierra Nevada is rather different from central Coast Range *tildeni* (TL: Cherry Flat Reservoir, Santa Clara Co., California: Miller & Brown, 1981) and that name should not be applied to it. In the southern Sierra Nevada in the Sequoia National/Monument/Sherman Pass region, Tulare County) all three of these "subspecies" occur on the west slope. Obviously, the taxonomic and biological issues here are extremely complex. Much more research is needed in this group.

028 COLUMBIAN SKIPPER *Hesperia columbia* (Scudder).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. A species of limited range (mostly Coast Ranges but also the southern Sierra Nevada (Davenport, 2003)), it was first reported from the Yosemite region by Shields (1978). It is double brooded with flights in the spring and fall. *H. columbia* occurs on serpentine outcrops above Jerseydale and west of the Briceburg area. It flies with *E. brizo lacustra* at Jerseydale in the spring. Hosts are chaparral associated grasses (*Koeleria* species). This skipper is rarely seen, viewed or collected but frequents ridges and hilltops within the habitat. Not known inside the park.

029 LINDSEY'S SKIPPER *Hesperia lindseyi* (Holland).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unknown in the region.

Taxonomic note: Several subspecies of *lindseyi* have been recently described. Until this species is better known in the region, no names are applied to the Yosemite population.

General. This should be a common species of the dry foothill Sierra Nevada grasslands in the open chaparral and oak woodland plant communities. Yet, the only regional record to date is from 1 mi. S. of Glencoe, Calaveras County (19 June 1982 by Richard V. Kelson). Suitable habitat seems to exist on much of the west slope in the region but *lindseyi* tends to occur in habitats that are unappealing to most butterflies, butterfly watchers and collectors. It is likely that **Lindsey's Skipper** is actually locally common in the Yosemite sector of the Sierra Nevada in the favored flight period of late May to early July. It is common in the Coast Ranges (Parkfield Grade) in western Fresno County and is known from the southern Sierra Nevada as well.

030 SIERRA SKIPPER *Hesperia miriamae miriamae* MacNeill.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Known as **Miriam's Skipper** in 1963, the common name changed recently to reflect this species limited range in the Sierra Nevada (nominotypical *miriamae* TL is from near Mono Pass, NW Inyo County, Calif.) and the

White Mountains in eastern Mono County (ssp. *longaevicola* McGuire, 1998). This rarely seen butterfly of the Arctic-Alpine Zone (often above 11,000') usually requires some serious back-packing or hiking to find on the steep rocky slopes and summits of the "high Sierra." Adults fly rapidly in the strong winds on such exposed slopes and peaks and are difficult to observe or capture. The northernmost limit known for *miriamae* in the Sierra Nevada is Sonora Peak, just north of Sonora Pass (John F. Emmel, pers. comm.). The flight is in July and August.

031 WESTERN NEVADA SKIPPER *Hesperia nevada sierra* Austin, Emmel, Emmel and Mattoon.

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. The subspecies *sierra* was recently described and the name applied to populations in the Sierra Nevada (Austin, Emmel, Emmel and Mattoon, 1998). Differences from Rocky Mountain populations were explained in that paper. The TL is "Nevada: Washoe County, Carson Range, Tahoe Meadows, Nevada State Route 431, 2.4 miles west of Mt. Rose (road) Summit, 2695 m."

General. The common name **Western Nevada Skipper** appears to be suggested by the authors in the original description. This skipper is fairly distinctive and not likely to be confused with other *Hesperia* species. Garth and Tilden stated this was a Great Basin species found from above Mono Lake to Tioga Pass. Rocky ridges south above Sonora Pass (July) and at Bald Mountain at 9104' in Mono County (late June) are classic localities for it. "A small species with irregular macular bands on the under side of the hind wings, it frequents open rocky areas at high elevations" (Garth & Tilden, 1963). The flight ranges from June into early August, depending on snow pack and elevation. It occurs in the Canadian to Arctic-Alpine Life Zones.

032 SANDHILL SKIPPER *Polites sabuleti sabuleti* (Boisduval)

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to San Francisco, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This is a poorly known species in the Yosemite region with records from the Great Basin (atypical) at Bridgeport and Mono Lake. It should occur east of Fresno in the low western Sierran foothills. Occurring in saltgrass habitats, it flies from May into September.

033 TECUMSEH (SANDHILL) SKIPPER *Polites sabuleti tecumseh* (Grinnell).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Little Crabtree Meadow nr. Mt. Whitney (Miller & Brown, 1981).

General. The use of non-saltgrass hosts (including sedges and grasses) in the boreal zones where it occurs may suggest *tecumseh* merits species recognition (Shapiro, 1975). This is a very abundant skipper in subalpine meadows at Tioga Pass and elsewhere in the high country with a flight period of late June to September.

034 SONORA SKIPPER *Polites sonora sonora* (Scudder).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is the "Sierra Nevada, California" (Miller & Brown, 1981).

General. This is a common skipper of wet meadows and watercourses in montane habitats from Transition to Hudsonian Zones in the region. The flight period ranges from June into the first part of September. I have taken individuals at Warren Creek east of Tioga Pass above 9000' which resemble the next subspecies though the majority were clearly nominotypical *sonora.*

035 PALE SONORA SKIPPER *Polites sonora longinqua* Austin.

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. Subspecies described in 1998 (Austin 1998a), the TL is "Nevada: Esmeralda County: White Mountains, Trail Canyon 2620 m." Garth and Tilden (1963) mentioned this pale phenotype.

General. This subspecies is found in marshes, wet meadows and along streams in the Great Basin at Mono Lake. The ranges of nominotypical *sonora* and *longinqua* meet on the Sierra Nevada east slope. The flight period is late May to early September.

036 SACHEM or **FIELD SKIPPER** *Atalopedes campestris campestris* (Boisduval).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is another species not included in the 1963 ecological survey. It should be expected near Bermuda Grass where the floor of the San Joaquin Valley meets the west slope Sierra Nevada foothills and in pastures and grassy wastelands along the east slope on the western edge of the Great Basin. While there are valid records from within the region, inexperienced observers often misidentify other skippers as this species. The flight ranges from April into September. The larvae feed on grasses, including Bermuda grass.

037 WOODLAND SKIPPER *Ochlodes sylvanoides sylvanoides* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Queen Lily Campground, near Belden, North Fork Feather River Canyon, Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This is a common grass skipper on much of the Sierra Nevada west slope from the Upper Sonoran to Canadian Zones. Adults frequently "swarm" to nectar on roadside flowers. In the Yosemite region there are relatively few records, probably because few look for this "unappealing" species. The flight period is from July through September.

038 GREAT BASIN WOODLAND SKIPPER *Ochlodes sylvanoides omnigena* Austin.

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. The TL of this new subspecies is: Nevada: Lander County, Toiyabe Mountains., Kingston Canyon (Austin, 1998a). Garth and Tilden (1963) stated that the Mono Lake population was "slightly paler".

General. This pallid subspecies occurs on the east slope of the Sierra Nevada at least as far south as Whitney Portal (Inyo Co.) and in the Great Basin of Mono County. The flight is from July through September.

039 FOREST (RURAL) SKIPPER *Ochlodes agricola nemorum* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Queen Lily Campground near Belden, North Fork Feather River Canyon, Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b). Some have considered *nemorum* a synonym of nominotypical *agricola* (Boisduval) but Sierra Nevada foothill populations are a paler, more orange insect dorsally and have a ventral HW uniformly lacking in markings.

General. The **Forest Skipper** (=**The Farmer** in Garth & Tilden, 1963) flies from May to July at the highest elevations it inhabits. It favors canyons, streamsides, overgrown roadsides and lush forest openings in the Upper Sonoran and Transition Zones on the Sierra Nevada west slope. It does not occur in the Great Basin. It has a spotty distribution in the Yosemite region and is usually uncommon. Limited almost entirely to California, the hostplants of *O. agricola* are grasses.

040 UMBER SKIPPER *Poanes melane melane* (W. H. Edwards).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Burns (1992) transferred this species from genus *Paratrytone* to *Poanes.*

General. This skipper has a very limited distribution (even within its California range) and was not included in Garth and Tilden's Yosemite list. However, it is found in a number of localities in the western foothills of the Yosemite region and occasionally in Transition Zone forests, always near small streams. This species is better known in the Los Angeles Basin and California Coast Ranges.

041 COMMON ROADSIDE SKIPPER *Amblyscirtes vialis* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Recognized as a rarity in the Yosemite region in 1963, this highly prized dark brown skipper continues in that status today. The only *Amblyscirtes* in California, "Roadside Skippers" are rarely seen in the Transition and Canadian Zones. They are usually encountered as singletons in ravines, small glades or patches of bare ground or wet spots, including Yosemite Valley inside the Park and a few other places just outside the southwestern boundaries of the Park. Sometimes important records surface in unexpected publications. An *Amblyscirtes vialis* from Flagstaff, Arizona (Walnut Canyon) collected by Kilian Roever and illustrated in Plate IV in Garth & Tilden's *Yosemite Butterflies* publication was an overlooked STATE record for Arizona. The flight is normally late May and June. It is common in much of the eastern United States

042 EUFALA SKIPPER *Lerodea eufala* (W. H. Edwards).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is another brown skipper with small white spots on the FW. It has been added to the Yosemite regional list on the basis of a few records from the eastern edge of the San Joaquin Valley and western foothills of the Yosemite region. It is common in the San Joaquin Valley from May into October in association with several grasses, including Bermuda grass.

SWALLOWTAILS and PARNASSIANS: PAPILIONIDAE

Swallowtails and Parnassians are among the largest and most beautiful butterflies in the Yosemite region. Parnassians attract the interest of lepidopterists to the high country of granite domes, sheer cliffs and the peaks above timberline. Swallowtails occur at all elevations in the region and four species are especially prized by visitors. Nine species have been recorded in the region, one a very rare stray.

043 BALDUR (CLODIUS) PARNASSIAN *Parnassius clodius baldur* W. H. Edwards.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Yosemite, Sierra Nevada Mts., California, restricted to Tioga Pass (Miller & Brown, 1981). John F. Emmel (pers. comm.) applies the name *baldur* to high elevation populations of this species in the Sierra Nevada.

General. Noted by Garth & Tilden (1963) as "flying to the very rim of the precipitous walls of Yosemite Valley, but does not descend into the valley itself." A widespread butterfly at higher elevations in the region, *baldur* occurs even at higher elevations than stated by those authors, ranging from upper Transition to well above timberline at elevations of over 11,000' in the Tioga Pass/Saddlebag Lake area just east of Yosemite National Park. Adults can be abundant on granitics, but usually do not occupy the same exact spots as *Parnassius behrii* though both may occur within a few feet of each other. Look for *baldur* on decomposed granite, granite domes and blocks in mid-elevation forests. Host plants are various *Dicentras* (including *D. uniflora* Kellogg and *D. pauciflora* S. Watson) and likely not stonecrops, bilberries or Saxifraga as given by Garth and Tilden. The flight is mid-June into early September, depending on season and elevation.

044 SOL (CLODIUS) PARNASSIAN *Parnassius clodius sol* Bryk and Eisner.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is given as Nevada (=Sierra Nevada?) by Miller and Brown, 1981. While this type locality is vague, many authors have applied the name *sol* to lower and mid-elevation Sierra Nevada *clodius* populations.

General. This subspecies is larger and more strikingly patterned than *baldur* and usually occurs at lower elevations than that subspecies. Records from Jerseydale given as "*baldur"* in *Yosemite Butterflies* (1963) actually refer to this subspecies, but *P. clodius* has since become very scarce there (Shields, 1997). This subspecies may reach the southern limits of its range in the Yosemite sector of the Sierra Nevada. A large sized segregate of *Parnassius clodius* (Sequoia/Kings Canyon National Parks and vicinity) occurs to the south (Davenport, 2003) and *sol* may range south to the Balch Park region of Tulare County on a different *Dicentra* host (John F. Emmel, pers. comm.). This Parnassian is common at Fish Camp, Mariposa County (2 miles SW of park boundaries off state Hwy. 41) but recent development and posted "No trespassing signs" everywhere there now make it difficult to observe at that locality. I recently (2004) found *sol* along Big Creek at Summerdale Camp (also off SR 41) eastward to Yosemite National Park boundaries. It likely feeds on a different *Dicentra* species than *baldur* which occurs nearby at higher elevations. Shields (1997) reported the likely host at Jerseydale as *Dicentra formosa* (Haw).

045 SIERRA NEVADA PARNASSIAN *Parnassius behrii* W. H. Edwards.

Regional occurrence. Recorded in 1963.

Taxonomic status. Change in nomenclature from 1963.

Taxonomic note. Long known as a subspecies of *Parnassius phoebus* Fabricius, egg microphyle research (Shepard and Manley, 1998) and phenotypical differences of adults in the *phoebus* complex appear to support splitting the complex into three species in North America: *phoebus, smintheus* Doubleday and *behrii*. The *behrii* TL is within the Yosemite region: "near summit of Mt. Lyell, Yosemite Valley, California, NT from Tioga Pass" (Miller & Brown, 1981).

General. Long known as **Behr's Parnassian**, the common name of this butterfly has changed since this insect was given species status, making it endemic to the California Sierra Nevada (southern limit of range at Mineral King in Sequoia National Park north to Plumas County). This changes the view of *behrii* as being a representative of the "Great Basin fauna". Garth and Tilden stated (1963) that "the arid eastern exposures of many ridges west of the Sierra Divide, with the persistent association of Juniper and Sedum (Stonecrop) have served to lure this butterfly westward through Tioga Pass to Yosemite Creek." The majority of colonies for this parnassian are on the eastern declivity of the Sierra Nevada. Hosts include both stonecrops and Western Roseroot. A major adult nectar source is *Potentilla fruticosa* Linnaeus in the Arctic-Alpine Zone above timberline. This rare and infrequently seen species tends to be highly localized in the Tioga Pass region on basaltic rock, shale or on talus slides and rarely strays to adjacent grassy slopes. Adults also favor ridges where they fly with *Oeneis chryxus ivallda* (ridge SE of Mt. Con-

ness at 10,200' near Tioga Pass). One of the biggest prizes of the Sierra Nevada high country, *P. behrii* is also found very locally in the Canadian and Hudsonian Zones. The flight is usually mid-July into early September.

046 PIPEVINE SWALLOWTAIL *Battus philenor philenor* (Linnaeus).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is "America" (Miller & Brown, 1981). In practice the nominotypical subspecies name *philenor* has been applied to all populations except those from northern California and southern Oregon.

General. This subspecies is not a resident member of the Yosemite fauna, occurring only as a rare stray from Arizona and Mexico. The only regional record is a single individual collected at Jerseydale, Mariposa County, on 12 VII 1983 (an exceptionally wet year in the southern California deserts) by Oakley Shields. A large blackish swallowtail seen by the author on the US 395 upgrade north above Rovena near the Inyo/Mono Co. line one July may have been this taxon.

047 CALIFORNIA PIPEVINE SWALLOWTAIL *Battus philenor hirsuta* (Skinner)

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is "Plumas County, California" (Miller & Brown, 1981). There has been information published (Sourakov and Daniels, 2002) that provides some evidence (including differences in the larvae, hostplant preferences and rearing results) that *hirsuta* may merit species recognition.

General. This subspecies (or species) is found in the Sierra Nevada foothills from Millerton Lake and the nearby San Joaquin River Gorge, Fresno County (recent records by Ray Stanford and the author confirm those localities), northward through the Sierra Nevada. Not recognized by Garth and Tilden as occurring in the region, *hirsuta* is a rarity in the Yosemite sector of the Sierra Nevada. Paul Opler and Ray Stanford found a colony of this species at Bear Creek just south of Sonora (Tuolumne County) near Hwy. 49 in April, 1959. James R. Mori reports that *hirsuta* is common in the upper Tuolumne River Canyon (Tuolumne County) in the vicinity of the Lunsden Bridge. There is also a large colony at Deer Creek crossing on the road to Groveland. Colonies are also found on lava cliffs north and west of Jamestown, Tuolumne County. It is highly localized and rarely strays far from the pipevine host, *Aristolochia californica* Torrey. The flight period is primarily late February to April with a small second brood in June and July. To the north (Auburn and American River, Placer County) *hirsuta* has major flights in the spring and summer.

048 DESERT SWALLOWTAIL *Papilio (polyxenes) coloro* W. G. Wright.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Also known as the **Desert Black Swallowtail** based on the belief *coloro* is a subspecies of *P. polyxenes* Fabricius which is known as the **Black Swallowtail**. This butterfly was formerly known as **Rudkin's Swallowtail** (=*Papilio rudkini* F. & R. Chermock). The TL for *coloro* is Whitewater Hill, west end of Coachella Valley, Colorado Desert, Riverside County, California. Ferris & J. Emmel (1982) also explained their reasons for considering *coloro* to be the western representative of *P. polyxenes.* Eastern *P. polyxenes asterius* Stoll (TL: "America"; Miller & Brown, 1981) is a very black butterfly while western *coloro* tends to be predominately yellow, though it has a smaller black form which resembles *asterius*. Some believe habitat differences, phenotypic differences of adults and other factors suggests *coloro* merits species status.

General. This swallowtail is likely no more than a rare stray to the Yosemite region. A single record exists (11 VII 1965), reportedly collected in the Benton Hills, NE of Lake Crowley, Mono County, California (this locality and date reported to Ray Stanford for inclusion on Mono County list). The label on the male specimen gives the collection data as 5 mi. NE of the Mono Inn and has that same collection date (fide James A. Scott). The above reported locality may be in error if this is the Mono Inn located on the west shore of Mono Lake. Either locality (Mono Lake or Lake Crowley) would be in the study region. The specimen (collector unknown) is in the collection of James A. Scott. It is possible that *coloro* may be far more common in the region than currently recognized but is overlooked because of its similarity to *P. zelicaon.* It may establish transient populations on *Cymopterus* or related species on the east side of the Sierra Nevada in the Yosemite region as it does in the southern Sierra Nevada.

049 ANISE SWALLOWTAIL *Papilio zelicaon zelicaon* Lucas.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This western yellow and black swallowtail ranges through all life zones in a wide range of habitats from the San Joaquin Valley to peaks and ridges well above timberline. Old reports of **Baird's Swallowtail** (*P. bairdii* form "brucei") from Mono Craters and elsewhere in Mono County likely apply to this species. *P. bairdii* does occur in extreme eastern Mono County at the Nevada state line on the northern slope of the White Mtns. and eastward into

Nevada. Males of *P. zelicaon* commonly go to hilltops and are frequently seen at flowers in the spring and early summer months. Hosts are various umbels...citrus in the central valley. The flight period is March into September.

050 INDRA SWALLOWTAIL *Papilio indra indra* Reakirt.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Pike's Peak, Colorado (Miller & Brown, 1981). George T. Austin states (pers. comm.) that subspecies *nevadensis* T. & J. Emmel does not reach the east side of the Sierra Nevada as some have reported. **Phyllis's indra Swallowtail** (*Papilio indra phyllisae*) J. Emmel, was described in 1981, TL Butterbredt Peak (Kern County) and vicinity. Austin reports that *indra* in the Sweetwater range just to the east of the Sierra Nevada appear to be similar to subspecies *phyllisae*. Langston reports that many *indra* he has collected at Saddlebag Lake closely resemble *phyllisae.* **Phyllis's Swallowtail** tends to be larger and have wider yellow bands with longer "tails" than nominotypical *indra.* The northern limits of *phyllisae* in the eastern Sierra Nevada has been reported to be the Mt. Whitney region of Inyo County (J. Emmel, 1981).). Whether *phyllisae* actually occurs in the region or whether these observations indicate a blend zone between nominotypical *indra* and *phyllisae* or is just variation remains to be determined.

General. Garth and Tilden (1963) reported *indra* from the floor of Yosemite Valley, the summit of Yosemite Falls, northwest above Tioga Pass and the west bank of Yosemite Creek. Many new localities and records have been added since then. This black swallowtail with narrow yellow bands is one of the most highly prized and elusive butterflies in the region. Unlike *P. zelicaon, indra* is normally found on drier rocky or sandy slopes with sagebrush below the top of a hill. The larval host in the Yosemite area is usually *Cymopterus terebinthinus* (Hook.). There are records from Upper Sonoran to Arctic-Alpine Life Zones (mostly on the Sierra Nevada east slope) from late April to mid-August. **Indra Swallowtails** are very rapid and erratic fliers and are not easily netted or observed.

051 WESTERN TIGER SWALLOWTAIL *Papilio rutulus rutulus* Lucas.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is a common western swallowtail that favors canyons and riparian streams from the Lower Sonoran to Hudsonian Zones. It often gets the attention of Park visitors and is common in most of the region. Larval hosts are willows, Cottonwood and Aspen. The flight is March to September.

052 TWO-TAILED TIGER SWALLOWTAIL *Papilio multicaudatus pusillus* Austin and J. Emmel.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. TL: "Nevada: Elko County; north end of Independence Mountains (Bull Run Mountains), Nevada State Route 11A, 2.9-6.7 road miles east [northeast] of Nevada State Route 226 (Austin & Emmel, 1998b).

General. It has long been recognized that California populations differed from those in Arizona, New Mexico and Texas. One of the largest butterfly species in North America, Arizona individuals of subspecies *P. m. multicaudatus* Kirby, sometimes reach a wing spread of up to 6 inches. The California populations are smaller (Subspecies *pusillus* could be given the common name Smaller Two-tailed Tiger Swallowtail) but are still very much prized by lepidopterists watching these strong fliers glide down mountain canyons or visiting thistles for nectar. Known only from Jerseydale records in 1963, we now know this relative rarity occurs at Coarsegold (Madera County), Briceburg (Mariposa County), along the San Joaquin River (Fresno County) and commonly at one or two localities in the Sierra Nevada foothills of Tuolumne County. Regarding numbers of this species at Jerseydale, Shields (1997) made this comment: "Usually not more than one or two are found on any given day." This species tends to be relatively scarce throughout the state in contrast to it being a more common and widespread butterfly in much of Arizona. Hostplants include Chokecherry (probably main regional host) and Ash. This butterfly is multivoltine in the region with records from early March to as late as mid-September, depending on locality and yearly weather patterns.

053 PALE SWALLOWTAIL *Papilio eurymedon* Lucas.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Garth & Tilden (1963) treated *albanus* C. & R. Felder as a possible subspecies or form of *P. eurymedon* in the Yosemite region. It is smaller and darker in color. Such individuals with more black found at higher elevations are rarely encountered. The name *albanus* was considered a synonym of *eurymedon* by Miller & Brown (1981) and is currently applied to the form mentioned.

General. This beautiful white and black "tiger" striped swallowtail is common and widespread in the western foothills of Yosemite (including Yosemite Valley) from the Upper Sonoran Zone into the Canadian Zone. It favors heavily wooded hillsides, riparian canyons and hilltops. It is locally common on the Sierra Nevada east slope in Mono County as well. Adults sometimes gather in numbers with *P. rutulus* at wet spots along streams. Host plants are Buckthorn and Coffeeberry. The flight of adults is usually April into early August.

SULPHURS, WHITES and ORANGE-TIPS: PIERIDAE

This popular family of butterflies includes the California state butterfly and a number of beautiful species that fly in the region in the spring and summer months with a few flying even in the fall. Orange-tips and Marbles are highly visible signs of Spring. Members of the *Anthocharis sara* complex present a tremendous opportunity for research in the Yosemite region. The **Sara Orange-tip** was long viewed as one species with geographical subspecies but collecting data indicates range overlaps for members of the *sara* complex on both the western and eastern slopes of the region. Twenty-three species have been recorded in the region, including some that are rare strays or migrants from southwestern deserts.

054 PINE WHITE *Neophasia menapia menapia* Felder and Felder.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for *menapia* was restricted to vicinity of Davis Creek Park, Washoe Valley, Washoe County, Nevada (J. Emmel, T. Emmel & Mattoon, 1998b). The name *tau* (Scudder) (TL of Gulf of Georgia, Washington) used for Yosemite populations in Garth and Tilden's Yosemite publication does not apply to the Sierra Nevada population.

General. This slow flying species of pine forests is common on both slopes of the Sierra Nevada in the region. Adults tend to stay high among the pines (several pines are larval hosts) but are easily observed while visiting milkweeds and various yellow colored flowers for nectar. Numbers vary markedly from year to year. The flight ranges as early as mid-June (Jerseydale) in the low Transition Zone to September in Canadian Zone forests.

055 BECKER'S WHITE *Pontia beckerii* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. In 1963, placed in genus *Pieris*. *Pontia* was considered a subgenus at that time.

General. This "white" suggests one of the marbles with its prominent green margined veins on the HW below. Visitors can find this western desert species most commonly east of the Sierra Divide. It is a common "resident" of the Great Basin but strays high up the Sierra Nevada east slope. Hosts include the bladder pod plants (*Lesquerella* species) and various mustards. The flight period in the region ranges from April into October.

056 SPRING WHITE *Pontia sisymbrii sisymbrii* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Formerly known as the **California White**, the revised name is more appropriate as this species has a wide range in the mountain states of the West. This butterfly is one of the first to appear in the spring (as early as late February) in the Upper Sonoran Zone and progressively appears at higher elevations to above timberline (Arctic-Alpine Zone) in late June or July (rarely August) as the season advances. *P. sisymbrii* favors chaparral, rocky canyons and slopes above timberline and is often a strong "hilltopper" on hills, peaks and ridges. *P. sisymbrii* uses various mustards and *Arabis* as larval hosts.

057 CHECKERED WHITE *Pontia protodice* (Boisduval and LeConte).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Also known as the **Common White**, this is a common species of wastelands and open fields, often near cities but often common in the wild as well. It sometimes occurs in numbers even above timberline as I found it common east above Saddlebag Lake at 10,500' on July 18, 1973. On that occasion the next species was uncommon. Using a wide array of weedy species as hostplants, *P. protodice* flies from February to October.

058 WESTERN WHITE *Pontia occidentalis occidentalis* (Reakirt).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This species is separated from the previous species by its blacker (*protodice* more brownish) and more prominent spotting on the FW, especially in females. nderneath, *occidentalis* has the veins on the HW's more heavily lined with gray-green. Spring form "vernalis" of *protodice* is similar below. Not all individuals can be reliably separated by appearance. There are chemical differences that confirm these are two species (Shapiro and Geiger, 1986). **Western Whites** are found in the boreal zones on the west slope of the Sierra Nevada but occur down to sagebrush habitat in the Great Basin as at Mono Lake and Bridgeport. They often fly to hilltops with the **Chryxus Arctic** (*Oeneis chryxus)* above timberline in both the Tioga and Sonora Pass areas. The flight ranges from June into at least early September.

059 SMALL-VEINED (MARGINED) WHITE *Pieris marginalis microstriata* J. A. Comstock.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Long considered a subspecies of the **Veined White** (*Pieris napi* Linnaeus), this complex in North America was recently divided into three species (treated as such by Opler, 1999 and Opler and Warren, 2002). This new taxonomy is not accepted by all. The name *microstriata* (TL Eldredge, Sonoma Co., California) better applies to this subspecies than the name *castoria* (TL: "California" but the type is lost and the name has still not been restricted to a specific TL: see Miller & Brown, 1981; pers. comm., J. Emmel), the name long applied to the lighter second brood of *Pieris marginalis venosa* Scudder.

General. Garth and Tilden (1963) applied the name *venosa* to Yosemite populations but that name actually applies to the more heavily veined California Coast Range populations which may itself warrant species status. The TL of *venosa* is San Mateo and Mendocino, California. This early flier occurs very locally (sometimes commonly) in the Upper Sonoran, Transition and Canadian Zones on the west slope of the Sierra Nevada in the Yosemite region. Habitats include moist foothill woodland and canyons in chaparral, mixed coniferous forest, riparian and cool deciduous tree woodland associations. The larval hosts are various mustards. Shields (1997) states *Cardamine breweri* Wats. is used at Skelton Canyon near Jerseydale.

060 CABBAGE WHITE *Pieris rapae* (Linnaeus).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is a common and widespread species which occurs as high as Hudsonian Zone forest. It is most often seen in human communities and in wetlands and riparian areas. The larvae utilize a number of cultivated and wild plants. Adults fly from February to November.

061 LARGE MARBLE *Euchloe ausonides ausonides* (Lucas).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is from near San Francisco, California (Miller & Brown, 1981).

General. This coastal/ San Joaquin Valley subspecies occurs locally into the western foothills up to the lower Transition Zone from March into May. The nominotypical subspecies is usually fairly easy to separate from sympatric members of the *Euchloe hyantis* complex based on its larger size and more cream colored (rather than white) ground color. Host plants are tower mustard (*Arabis glabra* (Linnaeus)) and other rock cresses. At higher elevations on the Sierra Nevada west slope and eastward, the next subspecies occurs.

062 MONTANE LARGE MARBLE *Euchloe ausonides transmontana* Austin and J. Emmel.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Smaller than nominotypical *ausonides*, *transmontana* was recently described (Austin & Emmel, 1998a). The TL is: Nevada, Lander County, Toiyabe Mountains, Kingston Canyon, 2050m.

General. This name applies to populations occurring from the higher elevations on the west slope of the Sierra Nevada east through most of the Great Basin to at least western Utah. Garth and Tilden (1963) used the name **Colorado Marble** (*Euchloe ausonides coloradensis)* which applies to a subspecies found in the Rocky Mountains. Many at that time used that name for those high elevation Sierra Nevada populations. Records cited by Garth and Tilden (1963) for the region are what we are now calling *transmontana.* Found in the upper Transition and Canadian Zones on steep rocky slopes and open hilltops from May to July, this species is far more common in eastern Sierra Nevada open forest and sagebrush habitats in Mono County than is generally recognized. This subspecies is easily confused with members of the *Euchloe hyantis/ lotta* complex. Subspecies *transmontana* is not as cream colored and smaller than nominotypical *ausonides.* The large bar at the end of the cell on the FW of desert *lotta* will usually separate *transmontana* from *lotta* in the region east of Yosemite.

063 PEARLY MARBLE *Euchloe hyantis* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Garth & Tilden treated *hyantis* as a subspecies of *Euchloe creusa* (Doubleday), now viewed as a separate species (Opler & Warren, 2002). The TL is restricted to Ukiah, Mendocino Co., California (Miller & Brown, 1981) and Yosemite populations likely differ. This butterfly was listed as **Edward's Marble** by Garth and Tilden but others now use the name **California Marble**. There may be more than one species in the *hyantis* group. Even within what we now refer to as nominotypical *hyantis* there are segregates (one with heavy green marbling and another with sparse marbling) in the region. Such differences also occur in the southern Sierra Nevada in Tulare County. Paul Opler is currently studying this group.

General. This subspecies (including both segregates) occurs mostly on the west slope of the Sierra Nevada from the Upper Sonoran to Canadian Zones in chaparral and foothill woodland, open rocky slopes, ridges and hilltops with

sagebrush. Not enough information is available to separate these two entities here. The flight ranges from March to July. Hosts are jewel flower species (*Streptanthus* species).

064 DESERT MARBLE *Euchloe lotta* Beutenmuller.

Regional occurrence. Recorded afer 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is "Colorado, Arizona, Utah, southern California" (Miller and Brown, 1981). Specialists differ on its taxonomic status. Long viewed as a subspecies of *E. hyantis*, *lotta* is considered a full species by Opler (1999) and Opler and Warren (2002) who are studying the complex. Opler reports (pers. comm.) that preliminary chemical studies support species level separation of *lotta* from *hyantis* from at least one of "*hyantis*" segregates in the Sierra Nevada.

General. Whatever its true status, **Desert Marbles** occur commonly at places on arid rocky hilltops and ridges where the east slope of the Sierra Nevada meets the desert and in desert hills in the Great Basin. It is common in the Rock Creek Gorge/ Swall Meadow area of Mono County from April to early July. Paul Opler has records (May 2003) from both Conway and Sherwin summits (both Mono County) on US 395. This marble was not known in the region when Garth & Tilden wrote *Yosemite Butterflies*. The larval hosts are tansy mustards and rock cresses.

065 SARA ORANGE-TIP *Anthocharis sara sara* Lucas.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Nominotypical *sara* is also known known as the **Pacific Orange-tip**. The TL was restricted to Queen Lily Campground, near Beldon, North Fork Feather River, 2400' elev., Plumas County, California (J. Emmel, T. Emmel & Mattoon (1998b). The work of Geiger and Shapiro (1986) has become the basis of recognizing additional species within nominal species *sara.* Others continue to view this complex as one variable species.

General. This beautiful white butterfly with orange -tips on the apex of the FW's and gray marbling on the HW below is always a welcome sign of spring in the riparian canyons of the chaparral and foothill woodland of the Sierra Nevada west slope. It flies from late February as late as early June at higher elevations. Hostplants are rock cresses and various mustards.

066 SOUTHWESTERN ORANGE-TIP *Anthocharis thoosa pseudothoosa* Austin.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Formerly viewed as a subspecies of *Anthocharis sara*, *thoosa* was recently given full species status by Opler (1999) and Opler and Warren (2002). This move was based on DNA differences between *sara*, *stella* and Colorado *julia* W. H. Edwards (Geiger and Shapiro, 1986), and field and circumstantial evidence that *thoosa* differs as well. Todd Stout's unpublished rearing studies (pers. comm.) of both *sara* and *thoosa* show larval similarities between the two so the issue remains open. Also known as the **Thoosa Orange-tip** (TL of *Anthocharis thoosa thoosa* is Mokiah Pass, Mohave County, Arizona) at the species level. Described as a subspecies of *sara* by Austin (1998b), *pseudothoosa* (TL: Nevada: Douglas County; Sweetwater Mountains, Jackass Creek, 0.5-2 miles southwest of Desert Creek, 2195 m.) was recently believed to be the same as nominotypical *thoosa* and the name means "false *thoosa*", referring to its new separate subspecies status. The common name would likely be the **False Thoosa Orange-tip**.

General. The inclusion of this orange-tip in the Yosemite region was intially based on the original description of *pseudothoosa* by Austin who stated "material representative of this subspecies has been seen from eastern California (White and Inyo Mountains) to the east slope of the Sierra Nevada (Mammoth northward)..." Austin later provided collection records of Bruce and Bret Boyd that indicate both yellow (*stella*) and white forms of "sara"(=*pseudothoosa*?) occur from north of Mono Lake at many of the same localities on the Sierra Nevada east slope from Green Canyon north to the Walker area north of Sonora Junction in Mono County from June to mid-July. What exactly is the relationship of yellow *stella* to the white *pseudothoosa* on the east slope of the Sierra Nevada in the region? Is there hybridization or intergradation taking place? Or do the two stay very separate? This is a great opportunity for research. See records section for specific localities and dates.

067 STELLA ORANGE-TIP *Anthocharis stella stella* W. H. Edwards.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Marlette Peak, Carson Range, Washoe County, Nevada (Miller & Brown, 1981). Treated as a subspecies of *sara* by Garth and Tilden (1963) and most authors until recently, *stella* has been given species status by Opler (1999) and Opler and Warren (2002) long after published research by Geiger and Shapiro (1986) showed DNA differences exist between *stella*, *sara* and *julia*.

General. Davenport and Jim Brock have found both *sara* and *stella* occur in close proximity east of Bass Lake and in the Fresno Dome region in Madera County. Generally, both are well separated by habitat and elevation on the

west slope of the Sierra Nevada. It (*stella*) also occurs on the east slope of the Sierra Nevada in Mono County, often with another member of the *sara* complex, white *pseudothoosa.* This orange-tip has a yellow rather than white ground color (especially in females) and occurs primarily in the Canadian Zone, often along high elevation streams or in small meadows, open forests and canyons with suitable rock cresses. The flight period ranges from late May into July, depending on locality.

068 GRAY MARBLE *Anthocharis lanceolata lanceolata* Lucas.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note: Sometimes placed in the genus *Paramidea* or *Falcapica* by various authors since 1963.

General. Also known as **Boisduval's Marble** and **Lanceolate Marble**, this "orange-tip" species lacks orange tips on the FW and has drab gray HW's below. Limited almost entirely to California, this butterfly is highly sought by Yosemite visitors looking for butterflies. It favors rocky canyons and slopes (Upper Sonoran and Transition Zones) at a few west slope sites in the Yosemite region, including Yosemite Valley (Bridalveil Falls and Happy Isles). The **Gray Marble** is a common species just to the south in the western foothills of the Sequoia National Park region. Adults fly from early March into mid-July. The primary hostplant is *Arabis sparsiflora* Nutt. In T. & G.

069 CLOUDED SULPHUR *Colias philodice Godart.*

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The name *eriphyle W. H. Edwards* may not be the correct name for populations of the region east of the Sierra Nevada and the western Great Basin. Some suspect the name may actually better apply to a form of *C. eurytheme.* The TL for *eriphyle* is Lake Lahache, British Columbia and individuals from that locality seem rather different from California populations. Populations east of the Sierra Nevada were considered in *Yosemite Butterflies* (Garth & Tilden, 1963) to be the "Great Basin" race "*hagenii* Edw."(**Hagen's Sulphur**) which may or may not prove to be a valid name. Currently the name *hagenii* (TL NE corner of South Park, Park Co., Colorado) is considered a synonym of *eriphyle* (Miller & Brown, 1981), a name now applied to the western populations in the United States. It is possible that some western populations are closer to nominotypical *philodice* (TL: "Virginia" (Miller & Brown, 1981) than to *eriphyle.* Obviously, much work needs to be done to sort out what names apply to this transcontinental species. Some believe there may be more than one species in what is now known as *C. philodice.* The use of the common name **Western Clouded Sulphur** could create some confusion with another species: the **Western Sulphur** (*Colias occidentalis* Scudder).

General. Also known as the **Common Sulphur**, this species is now less frequently reported from Mono Lake than it was by Garth and Tilden (1963) but is still seen commonly at times elsewhere in the region (as around Walker, Mono County), especially in alfalfa fields (fide Austin) near the Nevada state line. Hostplants include clovers and alfalfa. The flight period is May to September.

070 ORANGE SULPHUR *Colias eurytheme* Boisduval.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Also known as the **Alfalfa Butterfly**, this is one of the most common butterflies in the region with an unrestricted range in a variety of habitats. It flies from late February to November. Hostplants are a number of legumes, especially alfalfa. The common name for this species given in Garth and Tilden (1963) applies to the previous species.

071 GOLDEN (WESTERN) SULPHUR *Colias occidentalis chrysomelas* Hy. Edwards.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Its status in Yosemite and in the Sierra Nevada is questionable and the collecting of Oakley Shields (Shields, 1966) has failed to substantiate a reported record from Mather (June 30, 1962 by Tilden). There are specimens in the Yosemite National Park collection and reportedly these may have been taken in the upper portion of the trail to Yosemite Falls. I have seen yellow *Colias* in the Fish Camp region but actual specimens will be required to confirm the presence of this species in Yosemite.

072 EDWARD'S (QUEEN ALEXANDRA'S) SULPHUR *Colias alexandra edwardsii* W. H. Edwards.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. A species of the Great Basin sagebrush and desert on the east side of the Sierra Nevada where it is generally uncommon. James R. Mori reports it can be abundant at times on the west facing slopes of the Sweetwater Range not far east of Sonora Junction. It was not reported from the Yosemite region in *Yosemite Butterflies* by Garth and Tilden. The hostplants are various legumes. The flight period for adults is June to August.

073 SIERRA SULPHUR *Colias behrii* W. H. Edwards.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This unusual green colored sulphur (also known as **Behr's Sulphur**) has one of the most highly restricted ranges in North America. The type locality is "Yosemite Mountains" restricted to the vicinity of Tioga Pass in Tuolumne and Mono Cos., California (Miller & Brown, 1981). It ranges from the north facing slope of Mt. Forsythe on the northern boundary of Yosemite National Park (Paul Opler, pers. comm.) south to Mineral King in Sequoia National Park. It can be abundant in Hudsonian Zone meadows at Tuolumne Meadows inside Yosemite National Park and the Tioga Pass / Saddlebag Lake region east of Park boundaries in the high country. This unique species frequently turns up on grassy slopes and high elevation lakes well above timberline, even flying rapidly up or down slopes and across ridges. The larval host is Dwarf Bilberry (*Vaccinium caespitosum* Michaux). The flight is normally July and August, depending on how heavy winter snows were, seasonal weather patterns and when the subalpine meadows become free of snow.

074 CALIFORNIA DOGFACE *Zerene eurydice* (Boisduval)

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Listed as *Colias (Zerene) eurydice* by Garth & Tilden. Some still consider *Zerene* a subgenus.

General. The "official" California state butterfly is a rarity in the Yosemite region with only a single non-specific record ("Yosemite...VI 26") listed by Garth and Tilden. On September 5, 1972 I was hiking the trail to Half Dome above Nevada Falls in "Little Yosemite Valley" (Mariposa Co.) and saw several individuals (all females) of this species. A few additional records exist for Jerseydale, Mariposa County (September 15 & October 21, 1983; both Oakley Shields) and there is an old record for Mather, Tuolumne County (Sept. 1896 by Cottle). There are some additional reports (no specifics available) of the species occurrence from along the Merced River west of the Park.

075 SOUTHERN DOGFACE *Zerene cesonia cesonia* (Stoll).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. A very rare stray to the region, probably reaching the Yosemite area only in years of favorable rainfall in the southeastern California deserts. Several records are cited in the records section. This species occurs sparingly even in the southeastern California deserts. It is far more common in much of Arizona and Mexico.

076 CLOUDLESS SULPHUR *Phoebis sennae marcellina* (Cramer).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Like the preceding species, this is a rare migrant or vagrant to the region and was unrecorded for Yosemite by Garth and Tilden. There are several records from the west slope of the Sierra in the Yosemite region, many in 1992 which was a good influx year for this migrant from Arizona and Mexico. The species likely is entirely absent most years, only reaching the region in favorable years with good rainfall out on the deserts and in Mexico. Several records are cited in the records section.

077 DAINTY SULPHUR *Nathalis iole* Boisduval.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. A rarity in the region where it occurs only as a vagrant from the deserts. Garth and Tilden reported records from "Yosemite" and Warren Creek. Paul Thompson has a record from the junction of Sonora Pass Rd. at Clark Fork Rd. at 5600', Tuolumne Co. (27 VI 1992). James R. Mori has a record from nearby Alpine County (see records section).

HAIRSTREAKS, COPPERS and BLUES: LYCAENIDAE

These brightly colored butterflies are well represented in the Yosemite region (I recognize fifty-four species). A number of rarely seen "coppers" and "blues" can be found in the high country. For many of the blues and hairstreaks, the lepidopterist may need a good field guide to become familiar with "field marks" to correctly identify them.

078 TAILED COPPER *Lycaena (Tharsalea) arota arota* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Hwy. 70 at Soda Creek, E. Branch of N. fork of Feather River Canyon, 2500' elev., Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This subspecies occurs locally (sometimes commonly) in the Upper Sonoran and Transition Zones on the Sierra Nevada west slope in association with the hostplants (*Ribes* =gooseberries). Adults can be seen visiting a variety of flowers, including dogbane from late May into early August.

079 NEVADA TAILED COPPER *Lycaena arota virginiensis* W. H. Edwards.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Virginia City, Nevada (Miller & Brown, 1981).

General. This is the east slope subspecies found commonly in July and August at milkweeds and other flowers at Mono Lake, the Bridgeport area, and along the eastern base of the Sierra Nevada. The larval host is *Ribes*.

080 AMERICAN COPPER *Lycaena (Lycaena) phlaeas alpestris* J. Emmel and Pratt.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Known as subspecies *hypophlaeas* (Boisduval) for many years, but the name is now known to apply to populations which live in the eastern U. S. The Arctic-Alpine populations of what has been considered a subspecies of *phlaeas* in the California Sierra Nevada may actually be a separate sibling species. The TL for *alpestris* is Mono County: north slope of Mt. Dana which is just east of the boundary of Yosemite National Park (Emmel & Pratt, 1998).

General. This is one of the most difficult and dangerous species to collect or observe in the region. It usually occurs well above timberline in harsh habitats and terrain such as on steep talus slides, avalanche slopes and glacial cirques. On one occasion while collecting this butterfly on a north facing slope south of Sonora Pass, I had to take refuge behind a huge boulder while an avalanche of small to large rocks and boulders came down the mountain right at me. Other populations occur above timberline bordering precipices. The best known localities are the north slope of Mt. Dana, the slopes bordering Saddlebag Lake and the steep rocky slopes south above Sonora Pass, all in Mono County. These rare Sierra Nevada colonies likely occur throughout most of the Arctic-Alpine Zone from Inyo County (it should occur further south in Tulare Co.) north but the inaccessibility of the high country hinders their discovery. The flight period varies from year to year (July and August) depending on how heavy winter snows were and snowmelt. The larval host is *Oxyria digyna* (Linnaeus) also known as mountain sorrel.

081 LUSTROUS COPPER *Lycaena (Lycaena) cuprea lapidicola* J. Emmel and Pratt.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL of *lapidicola* is Tioga Pass, Mono County, California (Emmel & Pratt, 1998). Emmel and Pratt set the TL for *L. c. cuprea* as near the town of Lakeview: Crane Creek, 3 mi. S. of Lakeview, Lake County, Oregon. Yosemite populations had previously been considered to be nominotypical *cuprea.*

General. Garth and Tilden called this brilliant red-orange butterfly "the most intense bit of color on the wing in Yosemite" and none who have seen this beautiful "copper" in the beautiful subalpine forests, meadows or on rocky slopes above timberline right after snowmelt where it occurs would argue. The Tioga Pass/Saddlebag Lake region is a good place to see it. Hosts include *Rumex paucifolius* Nutt. Ex Wats. and other docks. The flight period is June and July into August in wet years. It occurs along the Sierra Divide (locally westward) in the Canadian, Hudsonian and lower Arctic-Alpine Zones.

082 GREAT COPPER *Lycaena (Gaeides) xanthoides xanthoides* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Sacramento, Sacramento County, California (J. Emmel, T. Emmel & Mattoon, 1998b). Some workers believe this and next species may be conspecific but rearing studies by Gordon Pratt argue that these are separate species (see comments under *L. editha pseudonexa*). Both species occur together at South Fork of Bishop Creek above 8300' (in Inyo County south of the Yosemite region) on the east side of the Sierra Nevada, but neither are common there.

General. This western copper of limited range (mostly California) occurs locally (records from Hetch-Hetchy and Aspen Valley) in chaparral and foothill woodland in the western foothills mostly in the Upper Sonoran Zone but occasionally in Transition Zone Yellow Pine forest openings. There are a few records on the east slope of the Sierra Nevada in the region as well (Rock Creek Gorge and Swall Meadow, Mono Co.) The adults fly from the second half of May into mid-August. The hosts are *Rumex* species.

083 EDITH'S COPPER *Lycaena (Gaeides) editha editha* (Mead).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Carnelian Bay, Lake Tahoe, California (Miller & Brown, 1981). Populations of *editha* from the Fish Camp, Sugar Pine and Fresno Dome region (Mariposa and Madera Counties) on the Sierra Nevada

west slope exhibit considerable orange on the dorsal side of the wings in females and may warrant recognition. These west slope populations are similar in size to nominotypical *editha,* but differ from *pseudonexa* at Mather (also on the west slope) and are consistantly easily distinguishable from *L. xanthoides.*

General. Referred to as a '**Small Great Copper**" by Garth and Tilden, **Edith's Copper** can be abundant in the upper Transition and Canadian Zones on the west slope of the Sierra Nevada and at higher elevations in subalpine forest and on rock outcrops in the Tioga Pass region. Larval hosts are alpine docks and cinquefoils. It flies from late June into early September.

084 FALSE-LINK EDITH'S COPPER *Lycaena editha pseudonexa* J. Emmel & Pratt.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Shasta County: Railroad Park, Dunsmuir. The apparent intermediate size and markings of the populations of this species at Dunsmuir (Shasta County) and Mather, Tuolumne County have been viewed as evidence that this species and *L. xanthoides* are conspecific (Scott, 1981). J. Emmel & Pratt (1998) provided evidence that *editha* and *xanthoides* are different species based on larval and biological differences and described *pseudonexa* as a subspecies of *editha.*

General. Emmel & Pratt stated "populations with this phenotype are found in the Yosemite region near Mather, Tuolumne County." This copper flies from late June to late July at Mather. The extent of distribution of this subspecies in the region is unknown.

085 GORGON COPPER *Lycaena (Gaeides) gorgon gorgon* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Hwy. 70 at Bear Ranch Creek, vicinity of Cresta, North Fork of Feather River Canyon, 1500' elev., Butte County, California (J. Emmel, T. Emmel & Mattoon, 1998b). This western species is limited mostly to California.

General. The nominotypical subspecies occurs in the western foothills of the Yosemite region near its buckwheat hosts (usually *Eriogonum nudum* Benth.) mostly in the Upper Sonoran Zone. Adults favor western foothill woodland canyons with small streams or rocky ravines. The flight is late May to early July.

086 SMALL-SPOTTED GORGON COPPER *Lycaena gorgon micropunctata* J. Emmel & Pratt.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. This newly described subspecies with smaller black spots underneath (J. Emmel and Pratt, 1998) was described from the Rock Creek Gorge area of Mono County near the southern boundary of the eastern base of the Yosemite sector of the Sierra Nevada.

General. Adults can be found near the buckwheat host or visiting dogbane flowers, often on steep sandy slopes or road cuts. This subspecies occurs in local colonies but can be common where found. The flight is from late May into early July.

087 MONACHE RUDDY COPPER *Lycaena (Chalceria) rubida monachensis* (K. Johnson & Balogh).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The name *monachensis* (TL: Monache Meadows, Tulare Co., California, Miller & Brown, 1981) is applied to Yosemite material (including those in the Mono Lake area) based on the recommendation of John F. Emmel (pers. comm.). George T. Austin (1998c) presents another view: "Johnson and Balogh (1977) indicated that lowland populations of this species in western Nevada and eastern California were non-melanic *Lycaena rubida sirius* (W. H. Edwards). Material I have seen from this area agrees with this." The TL of *sirius* was restricted to nr. Twin Lakes, Lake Co., Colorado (see Miller and Brown, 1981).

General. The **Monache Ruddy Copper** is common in the Great Basin and along the eastern base of the Sierra Nevada. It is also seen in sagebrush areas even above 9000' to 10,000' elevation in the Tioga Pass region as at Warren Creek, Ellery Lake, and E. side of Saddlebag Lake. Adults visit rabbitbrush for nectar while the larvae use various docks and sorrels. It is found from Upper Sonoran to upper Hudsonian Zones from late June through August. Records from the lowlands are separated in the records section to reflect the possibility that they merit distinction. That issue is not resolved here.

088 OBSOLESCENT BLUE COPPER *Lycaena (Chalceria) heteronea submaculata* J. Emmel & Pratt.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Sierra Nevada populations were viewed as nominotypical *heteronea* (Boisduval) prior to the revision by J. Emmel and Pratt (1998). Nominotypical *heteronea* is now limited to coastal populations just north of San Francisco Bay (Sonoma and Marin Cos., California along the immediate coast (Emmel & Pratt, 1998). Publish-

ed records prior to 1998 may be of little value in differentiating which subspecies below they actually represent. The TL of *submaculata* is California: Plumas County; Warner Valley at southern boundary to Lassen National Park.
General. This newly described subspecies (Emmel & Pratt, 1998) is distinguished by the obsolescence or small dark spots on the ventral surface. It occurs on the west slope of the Sierra Nevada from 4500' to 10,100' elevation with several populations on the very crest of the Sierra Nevada (e.g. Saddlebag Lake, Mono County). It flies in a single brood from early July to August (Emmel and Pratt, 1998). The larval host is *Eriogonum nudum.* Both *submaculata* and the next subspecies occur together at Warren Creek (east slope of Sierra Nevada on Tioga Pass Rd.) on different hosts, suggesting the two may be sibling species though Emmel & Pratt (1998) were reluctant to draw such conclusions.

089 UNDESCRIBED BLUE COPPER *Lycaena heteronea* (Boisduval). Eastern Sierra Nevada population.
Regional occurrence. Recorded in 1963.
Taxonomic status. Changed from 1963.
Taxonomic note. This is the population predominately found on the E. side of the Sierra Nevada that utilizes *Eriogonum umbellatum* Torrey as the larval host. Emmel and Pratt (1998) applied the name " near *klotsi* Field" (TL: Broadwater Co., Montana (Miller & Brown, 1981)) to this population but Andrew Warren has raised some issues regarding the application of this name to this region (pers. comm.). Eastern Sierra Nevada material differs by having a " very pale violet blue dorsally in the males, and females are dull grayish brown to dull grayish brown to dull grayish tan dorsally, and reduction to absence of the spotting pattern on the ventral hindwing of both sexes" (Emmel and Pratt, 1998). The name *klotsi* was considered a synonym of nominotypical *heteronea* by Miller & Brown (1981).
General. There are also populations on the west slope of the Sierra Nevada S. of the Sonora Pass Rd. (road from Niagara Creek to Eagle Meadow; *L. heteronea* using *E. umbellatum* there as a larval host). The flight period is July and August. This copper which resembles one of the "blues" is often very common in elevated sagebrush with the buckwheat host. It also occurs on sandy soils near rock outcrops.

090 PURPLISH COPPER *Lycaena (Epidemia) helloides helloides* (Boisduval).
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
General. This is a common North America species found sparingly on both slopes of the Sierra Nevada and even in the Hudsonian Zone in the Tioga Pass region, where it may be found with the next two species. Hosts are docks and knotweeds. There are records from May to September in the region but earlier and later records are likely.

091 LILAC-BORDERED COPPER *Lycaena (Epidemia) nivalis nivalis* (Boisduval).
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
General. Also known as the **Nivalis Copper**, *nivalis* is similar to the preceding species but has an immaculate underside with a two-toned HW, pink outwardly. This species is far more common and widespread in the Sierra Nevada than suspected 40 years ago. Once known only from a colony at Glacier Point in the Yosemite region, it is now widely known from Upper Transition to lower Arctic-Alpine Zones in open rocky terrain or open areas where the knotweed host occurs. The flight period is July and August.

092 MARIPOSA COPPER *Lycaena (Epidemia) mariposa mariposa* Reakirt.
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
General. Also known as **Reakirt's Copper** in *Yosemite Butterflies*, this is an uncommon indicator species of the Hudsonian Zone, often found along small streams and clearings in subalpine forest. It is fairly widespread in the high country in late July and August east above Yosemite Valley from Merced Lake to Tioga Pass and Saddlebag Lake, but it is highly localized, rarely found in numbers and is rarely seen by visiting lepidopterists. Regional host plants are *Vaccinium occidentale* (Gray) and *V. caespitosum* Michaux (Gordon Pratt and John Emmel, pers. comm.), not *Polygonum* as earlier suspected. Adults visit flowers and mud, often in small sunlit glades or along small streams.

093 GOLDEN HAIRSTREAK *Habrodais grunus grunus* (Boisduval).
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
General. Also known as **Boisduval's Hairstreak**, this species is common in the western foothills where adults perch on Canyon Live Oaks, the larval host. They can be abundant on oaks below Vernal Falls, one mile up a trail from Yosemite Valley. Found in the Upper Sonoran and Transition Zones, this common hairstreak flies from June into September.

094 GREAT PURPLE HAIRSTREAK *Atlides halesus estesi* Clench.
Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Called the **Great Blue Hairstreak** by Garth and Tilden and others. This beautiful hairstreak "displays a metallic blue of dazzling luster on the superior surfaces." It is occasionally encountered in the western foothills and mountains (Upper Sonoran to Canadian Zones). Larval hosts are mistletoes. Adults occasionally visit flowers (usually white or yellow ones) and mud. The flight period is March to October.

[Taxonomic note. The following *Satyrium* were formerly all placed in the genus *Strymon,* with *Satyrium* as a subgenus.]

095 BEHR'S HAIRSTREAK *Satyrium behrii behrii* (W. H. Edwards.)

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. "Characteristic of the dry eastern slopes of the Sierra" (Garth and Tilden, 1963) and much of the Great Basin. The usual larval host is Antelope Brush. This butterfly can be found visiting a variety of flowers or perching on shrubs from sagebrush habitats in the Upper Sonoran Zone to the upper limits of Hudsonian Zone on the Tioga and Sonora Passes. The flight is late June through August.

096 SOOTY HAIRSTREAK *Satyrium fuliginosa maculadistinctum* Mattoon & Austin.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL of the newly described *maculadistinctum* is Nevada: Lyon County; Sweetwater Mountains, west slope of East Sister, 2633 m. (Mattoon & Austin, 1998), The species name had long been known as *fuliginosa* (W. H. Edwards). Paul Opler comments (pers. comm.) that Yosemite region populations may actually represent "nominotypic *fuliginosa*" since the type locality is Norden, Donner Pass, El Dorado Co., California (Miller & Brown, 1981). If so, that could mean the newly described subspecies *maculadistinctum* (Mattoon & Austin, 1998) is a synonym of *fuliginosa*. On the other hand, J. Emmel, T. Emmel & Mattoon (1998b) restricted the TL (of "*fuliginosum*") to Gold Lake, Sierra County, California based on their belief the selection of a neotype from Norden was invalid because the phenotypes of specimens taken there do not match Edward's original description. Mattoon and Austin believed that nominate *fuliginosa* and the newly described subspecies blend in the Lake Tahoe region. Garth and Tilden treated Yosemite material as subspecies *semiluna* Klots (TL: Half Moon Ranch, Moose P. O., Jackson Hole, Wyoming (Miller & Brown, 1981)) and used the common name **Semi-lunate Gossamer Wing**.

General. This drab hairstreak can be easily mistaken for a blue with its association with lupines as a larval host and its superficial resemblance to **Boisduval's Blue** (*Plebejus icarioides*). *S. fuliginosa* is known from the eastern slope of the Sierra Nevada, the Mono Lake region and the high hills around Bodie. Populations occur from Upper Sonoran Zone to the upper limits of Hudsonian Zone on the brushy hills north above Sonora Pass. Southernmost records in the Sierra Nevada are from the Mammoth Lakes region at Minaret Summit. Adults often perch on sagebrush near the lupine hosts just below the tops of a hill or ridge. The flight period is May or early June into August at the highest elevations it inhabits. It is locally common but can be absent from many localities where one would suspect it should occur.

097 CALIFORNIA HAIRSTREAK *Satyrium californicum californicum* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Hwy. 70 at Chambers Creek, 6 road miles SW of Belden, North Fork Feather River Canyon 1850', Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b)

General. This is a common butterfly of the western slope of the Sierra Nevada in the Upper Sonoran and Transition Zones (as below Yosemite Falls in mid-summer) where adults are frequent flower visitors. Larval hosts are oaks, mountain mahogany and others. The flight period is May into August.

098 GREAT BASIN CALIFORNIA HAIRSTREAK *Satyrium californicum cygnus* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Nevada: restricted to 3 mi. SW of Virginia City, Storey County (Miller & Brown, 1981). Many authorities view *cygnus* as a synonym of nominotypical *californicum.* I agree with Austin (1985) that there are recognizable differences. J. Emmel, T. Emmel & Mattoon (1998) stated that nominotypical *californicum* does "not have the well-developed dorsal orange flush of *S. c. cygnus* populations of the Sierran east slope." Garth & Tilden (1963) included records of this species from east of the Sierra Nevada but did not recognize subspecies in the region.

General. A common hairstreak of sagebrush scrub and juniper woodland on the Sierra Nevada east slope where adults gather on a variety of flowers. The larval host is *Purshia tridentata* (John Emmel, pers. comm.). The flight period is June into August.

099 SYLVAN HAIRSTREAK *Satyrium sylvinum sylvinum* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Queen Lily Campground, near Belden, North Fork Feather River Canyon, elev. 2400', Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. A common but local hairstreak along willow (the larval host) lined watercourses from Upper Sonoran to Canadian Zone on the Sierra Nevada west slope. Records in Garth & Tilden (1963) from Mono Lake and the east slope of the Sierra Nevada refer to the next subspecies. Flight period is late May to mid-August.

100 GREAT BASIN SYLVAN HAIRSTREAK *Satyrium sylvinum megapallidum* Austin.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Nevada: Elko County; Elko, 12th St. at Humbolt River. Newly described, the scientific name refers to the relative large size and faintly marked surface of this phenotype (Austin, 1998c). Garth and Tilden (1963) assigned specimens from the Mono Lake area to both nominate *sylvinum* and the **Dryope Hairstreak** (*Satyrium sylvinum dryope* W. H. Edwards) which does not occur in the region. The TL of *dryope* was restricted to Santa Clara Co., California (Miller & Brown, 1981). It inhabits the Coast Ranges of California and is now known to be a subspecies of *sylvinum* (intermediate populations occur in the Tehachapi Mtns. of Kern County).

General. This regional population of *S. sylvinum* can be tailed or lack tails and does not represent two species. The population at Swall Meadow (Mono County) on dogbane flowers near the willow host to the south may show some blending with subspecies *desertorum* (Grinnell) (TL: Oak Creek, Tehachapi Mtns., Kern Co., California). It is often common on willows along streams or in wet meadows or marshes. The flight period is July and August.

101 GOLD-HUNTER'S HAIRSTREAK *Satyrium auretorum auretorum* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is one of the states rarer hairstreak species, a species so uncommon Comstock had difficulty finding an example to illustrate in his California butterfly book in 1927. Garth and Tilden called *auretorum* "the **Golden Hairstreak**", a name now often applied to *Habrodais grunus* by many authors. There are localities outside the Yosemite region where it can be abundant some years, as in the Temblor Range in the Coast Ranges in Kern and San Luis Obispo Counties. There are now many known localities (see records) in the region, but the species is rarely found in numbers. Hostplants are oaks, including Blue Oak. The flight period is late May and June in the foothills (Upper Sonoran and lower Transition Zones) with an occasional record into August in upper levels of the Transition Zone forest. The species may occasionally be overlooked or misidentified because of its resemblance to *S. tetra* or *S. saepium.*

102 MOUNTAIN MAHOGANY HAIRSTREAK *Satyrium tetra* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Formerly known as *Strymon adenostomatis* (Hy. Edwards), common name ***"Gray Hairstreak"*** which would confuse most of us with the other better known **Gray Hairstreak** (*Strymon melinus*).

General. This hairstreak is best known from the chaparral covered hills of the Sierra Nevada west slope (Upper Sonoran and lower Transition Zone). Garth and Tilden reported it from near Jerseydale and in the Mather/Hetch-Hetchy region. There are a few additional localities for it in the foothills but it is likely overlooked by those looking for larger and more colorful butterflies. Since this and the previous species are mostly limited to California, "hairstreak" enthusiasts may view these as great prizes. The butterflies common name is named for its host and flies mostly in June and early July.

103 HEDGE-ROW HAIRSTREAK *Satyrium saepium saepium* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to vicinity of Queen Lily Campground, near Belden, North Fork Feather River Canyon, 2400' elev., Plumas Co., California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. Often common where the *Ceanothus* host grows in the western foothills of the Upper Sonoran Zone, but also at much higher elevations even up to the Canadian Zone on both the west and east slopes of the Sierra Nevada. Adults visit a variety of flowers or perch on the host in such numbers that similar looking but rarer *Satyrium* species are often overlooked. The flight is May into August.

104 DESERT MOUNTAIN HAIRSTREAK *Satyrium saepium subaridum* Emmel, Emmel & Mattoon.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is California: Inyo County; Hunter Mountain east of Nelson Range (J. Emmel, T. Emmel & Mattoon, 1998h). This recently described subspecies occurs along the east slope of the Sierra Nevada at Rock Creek Gorge and Swall Meadow (Mono County).

General. Adults can be common at dogbane flowers. It is distinguished by having a bold postmedian line on the ventral FW and HW. It is found on or near the *Ceanothus* host from June to August.

105 PERPLEXING HAIRSTREAK *Callophrys perplexa perplexa* Barnes & Benjamin.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Also known in most of the literature as the **Bramble Hairstreak.** The name *dumetorum* (Boisuval) is often applied to this species but that name correctly applies to the species formerly known as *C. viridis* (W. H. Edwards). See J. Emmel, T. Emmel and Mattoon (1998b & h) and Gorelick (1971) for discussion of this issue. John Emmel points out (in his review of this paper) that the name *dumetorum* actually means "brambles" or "shrubs" and the commonly used name "Bramble Hairstreak" would better apply to *C. dumetorum*, a name often misapplied to *C. perplexa* by many authors (as did Garth & Tilden). The TL for the nominotypical subspecies is San Diego Co., California (Miller & Brown, 1981). Many individuals of the population on south facing slopes above the San Joaquin River from Power House to Redinger Lake (Madera County) differ from normal *perplexa* by having a well developed band of white spots on the HW below and in this character resemble the newly described subspecies *pseudodumetorum* Emmel, Emmel & Mattoon and *superperplexa* Emmel, Emmel & Mattoon.

General. This hairstreak has a drab gray or gray brown upperside which contrasts with a beautiful green (with some brown or gray) underside. Generally scarce in the region where it flies from late February through April (occasionally May), it is found in canyons of the chaparral and foothill woodland in the Upper Sonoran Zone. Briceburg, Mather and the Power House area along the San Joaquin River are good places to find it. The primary host in the region appears to be *Lotus purshianus* (Benth).

106 LEMBERT'S HAIRSTREAK *Callophrys lemberti lemberti* Tilden.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963 (but see comments below).

Taxonomic note. (=*C. sheridanii lemberti*) The TL is west above Tioga Pass, Yosemite Nat'l Park, California (Miller & Brown, 1981) This was a newly described butterfly when *Yosemite Butterflies* appeared in 1963. Tilden called it the "greenish hairstreak of the higher elevations of the park...discovered during the course of this survey." He also commented: "Its relationships appear to be with *Callophrys (C.) sheridani* Edw. of the Rocky Mountains, in which the band of white across the under side of the secondaries is more or less continuous." Opler and Warren (2002) view *lemberti* as a subspecies of *C. sheridanii*. Andrew Warren currently has the *sheridanii* complex under study. Continued use of the name *lemberti* is followed here pending more evidence for the case that *sheridanii* and *lemberti* are conspecific.

General. The populations from lower levels east of the Sierra Nevada (Hot Creek and Crowley Lake in Mono Co.) may not be identical with higher elevation *lemberti* (John F. Emmel, pers. comm.). Nominotypical *lemberti* occurs from the Canadian Zone (rare at Fresno Dome, Madera County) to the Hudsonian and Arctic-Alpine Zones along both sides of the Sierra Divide. This hairstreak is locally common (as at Warren Creek at 9000' off Tioga Pass Rd. (=SR 120, in June)) in early season (mostly June-July). Various yellow flowered buckwheats are the hostplants.

[Taxonomic note. Kurt Johnson (1992) did a world wide revision of the Elfins and his taxonomy is followed in the following generic Elfin placements. This is the most recent and most thorough taxonomic paper on Elfin Butterflies.]

107 THICKET HAIRSTREAK *Loranthomitoura spinetorum spinetorum.* (Hewitson).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Long known as *Mitoura spinetorum.* (Opler & Warren [2002] place this species in *Callophrys*.)

General. This is a highly prized find in the region most frequently (but never commonly) found in the Transition and Canadian Zones. The butterflies probably stay high in the forest canopy where the dwarf mistletoe hosts parasitize various deciduous and coniferous trees. Adults are seen at various flowers (often *Ceanothus* blossoms) and visiting mud along streams. Records range from June through September in the Yosemite region. While most records are from the west slope of the Sierra Nevada, there are records from the east slope as well (Mill and Antelope Canyons, Mono County).

108 JOHNSON'S HAIRSTREAK *Loranthomitoura johnsoni* (Skinner).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Long known as *Mitoura johnsoni*. (Opler & Warren [2002] put this species in *Callophrys*.)

General. This is one of the rarest butterflies in North America which ranges from the Pacific Northwest south to the Yosemite region. Perhaps this species is more common in the forest canopy with adults rarely venturing down to ground level where those looking for butterflies can see them. Most of the known records from the region are from Jerseydale and Mather (Oakley Shields) and many of those specimens are deposited in the collection of the Natural History Museum of Los Angeles County. Hosts are dwarf mistletoes in pines and other conifers. Most records are from late July and early August.

109 NELSON'S HAIRSTREAK *Mitoura nelsoni nelsoni* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. (=*Callophrys nelsoni*) Some workers view this as a brown subspecies of the **Juniper** (or **Olive**) **Hairstreak** (*Mitoura grynea* (Hubner)). Both *Mitoura siva juniperaria* J. A. Comstock and *M. nelsoni* occur in close proximity in the Greenhorn Mtns. of Kern County without intergradation. I agree with those with those who hold the taxonomic view that several similar and closely related species in this complex has the greater evidence. The TL for *nelsoni* was restricted to Hwy. 70 at Chambers Creek, 6 road miles SW of Belden, North Fork Feather River Canyon 1850' elev., Plumas Co., California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. One of the most common hairstreaks in the region, this brownish species occurs commonly where Incense Cedars occur commonly in the Transition and Canadian Zone forest on the Sierra Nevada west slope. Adults are unwary and easily observed on flowers and at mud. The flight is late May to mid-July.

110 JUNIPER HAIRSTREAK *Mitoura siva chalcosiva* (Clench).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. (=*Callophrys siva*; = *C. grynea chalcosiva*)

General. With the abundance of junipers along the eastern base of the Sierra Nevada this should be a common butterfly in the region. The only known records are from NE of Mono Lake off SR 167 west of the Nevada state line and to the north along the Cottonwood Road to Bodie (north of SR 167), both Mono County, (June 10, 1996) by John G. Pasko. It also occurs commonly just north of Topaz Lake just north of the survey area. This species likely reaches the Sierra Nevada east slope and the lack of records is due to collecting bias of visiting lepidopterists. It should be more common and widespread on dry hillsides with junipers than current records suggest.

111 WESTERN BROWN ELFIN *Deciduphagus augustinus iroides* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. (=*Incisalia augustinus*; *Callophrys augustinus*) Many workers consider *iroides* to be a species distinct from *augustinus*. The TL of *iroides* was restricted to Hwy. 70 at Soda Creek, E. Branch North Fork Feather River Canyon, Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b). The eastern Sierra Nevada populations may or not be the same species as *iroides.*

General. This very plain brown elfin is common on the Sierra Nevada west slope from the Upper Sonoran to Canadian Zones in a variety of habitats. Hosts include manzanita, buckbrush, dodder and other plants. Adults visit flowers and perch on shrubs in chaparral, riparian canyons, roadside flowers and forest openings. The flight period is late February into July, depending on elevation.

112 EASTERN SIERRA BROWN ELFIN *Deciduphagus augustinus* (W. Kirby). Eastern Sierra Nevada segregate.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. An undescribed population occurs locally and uncommonly along the east slope of the Sierra Nevada in Mono County south to at least Big Pine Creek (K. Davenport) in Inyo County. It differs from *iroides* by its smaller size, browner (less reddish aspect) color and even more nondescript pattern on the HW below. There are very few records or specimens in collections though John F. Emmel has reared a series. It flies in May and June, probably into July.

113 WIND'S (MOSS) ELFIN *Deciduphagus mossii windi* Clench.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. (=*Incisalia mossii*, *Callophrys mossii*)

General. This is a rarely seen or collected species partial to steep rocky slopes and canyons with the larval host *Sedum spathulifolium* Hooker. It would also be expected to use *Sedum obtusatum* Gray over granitic substrates, especially glaciated surfaces up to 8000' in the region (J. F. Emmel, pers. comm.) Future climbers scaling the sheer rock walls of Yosemite Valley, El Capitan and Half Dome in proper season may find this butterfly! Present records include Indian Flat, 16 IV 61 (J. W. Tilden) and Skelton Creek at Jerseydale (both Mariposa County) by Oakley Shields (Shields, 1997).

114 WESTERN PINE ELFIN *Incisalia eryphon eryphon* (Boisduval).
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
Taxonomic note. (=*Callophrys eryphon*) Also known as the **Western Banded Elfin**.
General. This is a common butterfly that stays close to the coniferous forest. Adults perch on pines (the larval host) and are often found on flowers in small glades, meadow edges and along roadsides on both slopes of the Sierra Nevada. It is usually found in the Transition, Canadian and lower Hudsonian Zones but is occasionally taken in sagebrush near pines. The flight is late May into the third week of July.

115 PALE WESTERN BANDED ELFIN *Incisalia eryphon pallescens* Austin.
Regional occurrence. Recorded in 1963.
Taxonomic status. Changed from 1963.
Taxonomic note. Recently described by Austin (1998c), TL: Toiyabe Mtns., Jett Canyon, Nye County, Nevada. Austin commented that populations from Mono Lake are "somewhat intermediate to *eryphon*."
General. This butterfly is found on sagebrush near pines in the Great Basin and on the lower east slope of the Sierra Nevada including the west shore of Mono Lake near the Mono Lodge where it flies in June.

116 GRAY HAIRSTREAK *Strymon melinus pudicus* (Hy. Edwards).
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
Taxonomic note. Also known as **Common Gray Hairstreak.**
General. Common in the San Joaquin Valley, this widely distributed species occurs sparingly in the western foothills as high as Fish Camp and Mather. A variety of legumes, mallows and other plants are used as larval hosts. It flies from late March into October in the region.

117 WESTERN PYGMY BLUE *Brephidium exile* (Boiduval).
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
General. This is is a common western species which inhabits deserts, wastelands and the arid San Joaquin Valley, especially where saltbushes and Lamb's Quarters (both are hosts) grow. Considered to be one the world's smallest butterflies, the inconspicuous tiny adults flit about tumbleweeds (another host) on alkaline flats and wastelands or visits various flowers such as rabbitbrush. Despite the perceived small size and weak flight, **Pigmy Blues** (two correct spellings of the common name) wander into the Sierra foothills and are occasionally taken at high elevations. It also occurs in the Mono Lake region on the east side of the Sierra Nevada.

118 MARINE BLUE *Leptotes marina* (Reakirt).
Regional occurrence. Recorded in 1963.
Taxonomic status. Unchanged from 1963.
General. This attractive blue with the striated underside pattern was known only in the Yosemite region from Mono Lake in 1963. It has turned up sparingly in a number of localities on both slopes of the Sierra Nevada since then. Most commonly found on the floor of the San Joaquin Valley in the Lower Sonoran Zone, strays or transients occur in upper Transition Zone Forest (Sivels Mtn./Fresno Dome, Madera Co.) and even high on the Tioga Pass Rd. (=SR 120) at Ellery Lake and Junction Camp, Mono County (Hudsonian Zone) at about 9500' elevation. Records range from May to August but earlier and later records are expected.

119 REAKIRT'S BLUE *Echinargus isola* (Reakirt).
Regional occurrence. Recorded in 1963.
Taxonomic status. Changed from 1963.
Taxonomic note: This species has been traditionally viewed as in the genus *Hemiargus*. The recent checklist by Opler and Warren (2002) is followed here. The name *alce* (W. H. Edwards) long used for United States populations is now considered a synonym of *isola* by authorities in Mexico (Andrew Warren, pers. comm.).
General. Unrestricted by habitat and life zones, this species of the southwestern deserts becomes transiently established on drier slopes in the Sierra Nevada using a variety of legumes. Garth and Tilden correctly commented that *isola* occurs over a wide territory and to high elevation, even above Tioga Pass to nearly 11,000'. It continues to be reported in the region on a regular basis by many collectors and observers. Records are from July and August.

120 EASTERN TAILED-BLUE *Everes comyntas sissona* (W. G. Wright).
Regional occurrence. Recorded in 1963.
Taxonomic status. Changed from 1963.
Taxonomic note. This subspecies might be called **Wright's Blue**. Opler and Warren (2002) placed our *Everes* species in the genus *Cupido*, an arrangement which may or may not be accepted by others. The TL for *sissona* is "Sisson, Cal." now the city of Mt. Shasta, California. California populations had long been considered best assigned to the nominotypical subspecies *comyntas* (Godart) which has a TL of "North America." See Austin (1998c and 2002)

for discussions of this issue, reasons for recognizing *sissona* as a subspecies, and discussions of the newly recognized subspecies of *Everes amyntula* occurring in the Yosemite Sierra Nevada higher elevations and eastern slope.

General. Garth and Tilden (1963) included this species in their survey based on records from the Sierra Divide (as on east side of Saddlebag Lake) and the east slope of the Sierra Nevada in Mono County. Most (if not all) of the records reported as *comyntas* from the "high Sierra" and Great Basin that have been collected in the region have actually proven to be the newly described subspecies of *Everes amyntula* (Boisduval). Since many have reported *E. comyntas* from Mono County, I cannot rule out the occurrence of that species there. I suspect most such records are misidentifications. Fortunately, this butterfly validly occurs in the western Sierra Nevada foothills along the San Joaquin River west of Millerton Lake and strays to Jerseydale, Mariposa County (Shields, 1997).

121 WESTERN TAILED-BLUE *Everes amyntula amyntula* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Bucks Lake Road at White Creek, 2 road miles west of Quincy, Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This subspecies is found sparingly on the west slope of the Sierra Nevada where it uses *Astragalus*, *Lathyrus* and *Vicia* as larval hosts. Records include several localities on the Sierra Nevada west slope mostly in Upper Sonoran Zone and lower Transition Zones in June and July.

122 MOUNTAIN WESTERN TAILED BLUE *Everes amyntula montanorum* Austin.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Nevada: Washoe County; Carson Range, Tahoe Meadows above about 2500m (Austin, 1998c). As noted above, most if not all records of *E. comyntas* for the high Sierra Nevada and east slope of the Sierra Nevada in the region refer to this newly recognized and described subspecies.

General. It occurs from east slope Upper Sonoran Zone at the base of the Sierra Nevada to the Arctic-Alpine Zone (11,500' E. above Saddlebag Lake) including the slopes north of Sonora Pass above 10,000' elevation. Flight is June through August depending on locality.

123 ECHO AZURE *Celastrina echo* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Also known as the **Western Spring Azure** and **Echo Blue**, this taxon was long considered to be a subspecies of **The Spring Azure** (*Celastrina ladon* (Cramer)), studies by Wright, Pavulaan and others have shown that *echo* is a separate species from *C. ladon*. It is also possible that material from the eastern Sierra Nevada is not *echo*. The TL for *echo* is San Francisco, California (Miller & Brown, 1981).

General. This butterfly is common and widespread from the Upper Sonoran through the Canadian Zones. Many hostplants are used including *Lotus*, *Ceanothus*, *Astragalus*, *Lathyrus*, *Lupinus* and *Vicia* species. Adults visit mud and fly in open woods and riparian canyons. The flight is from late February through July.

124 UNDESCRIBED SONORAN BLUE *Philotes sonorensis* Felder & Felder. Sierra Nevada population.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. J. Emmel, T. Emmel & Mattoon (1998i) separated Sierra Nevada material from coastal *sonorensis* in their 1998 checklist for the state. The TL for nominotypical *sonora* was restricted to La Tuna Canyon 1360' elevation Verdugo Mountains, Los Angeles County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This unique blue with red blotches has a limited range in California in the U.S.A. (it also occurs in northern Baja California, Mexico) and is limited to rocky riparian canyons with suitable stonecrop hosts (usually *Dudleya cymosa* (Lemaire)) in the Upper Sonoran and Transition Zones of the Yosemite region. This species was unknown in the region to Garth and Tilden. The classic Sierra Nevada locality for it is at Briceburg, Mariposa County in March and early April. A few other localities in the western foothills in the region are known. Records for the region range from the third week of February to late April. It is a highly prized find to lepidopterists and one of the first species to appear in the Spring.

125 SQUARE-SPOTTED BLUE *Euphilotes battoides battoides* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Mono Pass, NW Inyo County, California (Pratt & Emmel, 1998). There are records (see records section) for both nominotypical *battoides* and *E. battoides glaucon* from Warren Creek east of Tioga Pass. The occurrence of *battoides* on Glass Mountain well east of the Sierra Nevada within the range of *glaucon* suggests that these may be two different species. Andrew Warren is currently studying this group.

General. This boldly dotted blue occurs in the "rock gardens" of the Hudsonian and Arctic-Alpine Zones in association with yellow flowered buckwheats. It occurs soon after snowmelt and flies very early in the summer (late June to early August, exceptionally into Sept.), remarkable for such high elevation habitats. It is highly localized in the Tioga Pass/Saddlebag Lake region but widely distributed through the high Sierra Nevada. Derham Giuliani has collected nominotypical *battoides* on the summit ridge of Glass Mountain, a 11,123' volcano east of the Sierra Nevada! (John F. Emmel, pers. comm.)

126 GLAUCON BLUE *Euphilotes battoides glaucon* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL are the hills near Virginia City, Storey Co., Nevada (Pratt & Emmel, 1998).

General. As noted above *glaucon* and the next subspecies may merit recognition at the species level. This subspecies occurs on the east slope of the Sierra Nevada where the yellow flowered buckwheat host *Eriogonum umbellatum* occurs. Published records for the region are not reliable since it is now known that the **Ancilla Blue** (*Euphilotes ancilla*) also occurs in the region and uses the same host as *glaucon*. Genitalic examination is necessary to correctly differentiate these "look-alike" species. It flies from late June to the third week of July.

127 SOUTHERN GLAUCON BLUE *Euphilotes battoides australoglaucon* Pratt & J. Emmel.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is California: Inyo County; east slope Sierra Nevada, Independence Creek 6300' elevation (Pratt & Emmel (1998). If *glaucon* is a species, *australoglaucon* would become a subspecies of *glaucon.*

General. Recently differentiated from *glaucon*, this subspecies is limited (in the Yosemite sector) to Tom's Place, Rock Creek Gorge and Sherwin Summit (Paul Opler) in southern Mono County. It may be very difficult to separate from sympatric and synchronic *E. enoptes langstoni*. The latter usually uses a white flowered buckwheat host (*E. kennedyi* Watson) which will often separate it from *australoglaucon* which utilizes prostrate *E. umbellatum* (*langstoni* will use a tall yellow flowered *E. nudum* at some localities). It can also be found with *E. ancilla*. Genitalic examination is always advisable for positive identifications. Flight period is from second week of May through June.

128 DOTTED BLUE *Euphilotes enoptes enoptes* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Also called the **Pacific Dotted Blue**. The TL was restricted to Hwy. 70 between Ganser Bar and Queen Lily Campground near Belden, North Fork Feather River, Plumas County, California (Pratt & Emmel). Paul Opler reports an undescribed entity occurs just below timberline on Mono Pass. J. Emmel suspects these may be *E. ancilla.* More study is needed to assess these.

General. This species is very difficult to differentiate from other *Euphilotes* of the *battoides* complex and *E. ancilla* as well. The *Eriogonum nudum* host is a good clue to identity as *Euphilotes* rarely stray far from their favored hostplants though Pratt and I have both noted *Euphilotes* will seek nectar on buckwheats other than their hosts at least once in a while. Genitalic confirmation is always desirable, but the bold black margins on the upper FW will often separate it from other similar species. Published records for the region may include misdeterminations of *E. ancilla* which also occurs along the Sierra Divide and in montane areas east of Yosemite. The flight period is late May into early August.

129 LANGSTON'S BLUE *Euphilotes enoptes langstoni* (Shields).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Sherwin Summit, Mono County, California (Pratt & Emmel, 1998).

General. Females of this subspecies resemble the **Mojave Blue** (*Euphilotes mojave* (Watson and W. P. Comstock) which is not known to occur in the Yosemite region. Subspecies *langstoni* occurs at Sherwin Summit, Tom's Place and the Rock Creek Gorge area in southern Mono County on several buckwheat hosts including *E. kennedyi* and a tall yellow flowered *E. nudum.* It is often locally abundant even in cold windy weather if there is good solar radiation. The flight period is May and June.

130 ANCILLA BLUE *Euphilotes ancilla pseudointermedia* Pratt & J. Emmel.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is California: Nevada County; Castle Peak near Donner Pass 2,700 m (Pratt & Emmel, 1998). Not known to occur in California until Pratt and J. Emmel's revision of the genus *Euphilotes* in 1998. That paper revealed records of *ancilla* from the Tioga and Sonora Passes (16 VII 1984-larva). Records for *E. enoptes* and *E. battoides glaucon* and *australoglaucon* for the region need to be re-evaluated.

General. There are known populations on Lookout Mountain and Sagehen Peak in Mono County. *Euphilotes* taken on *E. umbellatum* E. of Lundy Lake (26 VI 1999) and on the ridge of Bald Mountain at 9000' (27 VI 1999) in Mono County by the author likely include *E. ancilla* but need genitalic confirmation. Likely, *E. ancilla* is far more common and widespread in the region than has been suspected but has gone unrecognized because of similar phenotypic appearances within the genus.

131 PALE BLUE *Euphilotes pallescens* (Tilden & Downey).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for *pallescens* is Little Granite Mtns., Dugway Proving Grounds, Tooele Co., Utah. The TL for *elvirae Mattoni (1966)* is 3.5 mi. W. of Pearlblossom, Los Angeles, Co., California. Some believe *elvirae* may be a subspecies of *Euphilotes rita* (Barnes & McDunnough); TL "southern Arizona" (Miller & Brown, 1981). Mono County populations of this species appear to be a mixed population that do not fit well into subspecies, though those at the southern end of our region may be near *elvirae*. John F. Emmel (pers. comm.) states *pallescens* from the Mono Lake region differ markedly from nominotypical *pallescens.* Populations to the south at Sherwin Summit appear to be intermediates between *pallescens* and *elvirae* (Shields, 1977).

General. This is a lesser known species of the region found in Mono County at the base of the eastern Sierra Nevada at various points along US 395 as at Mammoth and Sherwin Summit (Shields, 1977). It also occurs in drier localities with sandy soils on the E. side of Mono Lake and along SR 120 NE of Glass Mountain (McGee Canyon Rd., 2-4 mi. W. of SR 120 is a classic locality) as well. Hosts are *Eriogonum microthecum* Nutt. and *E. nummulare* M. E. Jones (=*kearneyi* Tidestr.) with a flight period of late July into September.

132 SMALL BLUE *Philotiella speciosa bohartorum* (Tilden).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Briceburg, Mariposa County, California (Miller & Brown, 1981). This locality is within the Yosemite region.

General. Now given subspecies status**,** Shield's provided what information is known of this butterfly in his 1987 paper on the species. The few records are from Mariposa and Briceburg in Mariposa County (Upper Sonoran Zone on Sierra Nevada west slope) mostly from along wet edges of the Merced River. None has been found there since 1970 despite repeated search by many lepidopterists. The host plant is unknown with records from April to very early June. Perhaps if the host were discovered, additional populations of this very small and inconspicuous butterfly might be discovered.

133 ARROWHEAD BLUE *Glaucopsyche piasus piasus* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Hwy. 70 at Soda Creek, E. branch North Fork Feather River Canyon, Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This blue is usually an uncommon butterfly of the mid-elevation forests where the "bush" lupine hosts grow in the upper Transition and Canadian Zones on the west slope of the Sierra Nevada. It usually occurs along roadsides or in forest openings with sandy soils. The flight period is late April into early July. Garth and Tilden did not recognize other subspecies in the region; the two below were described since that time.

134 ARROWHEAD BLUE *Glaucopsyche piasus excubitus* Emmel, Emmel & Mattoon.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is: California: Inyo County; Bishop Creek (J. Emmel, T. Emmel & Mattoon, 1998a).

General. This is a newly described subspecies (named after the primary larval host plant) which differs from the preceding ssp. by its much greater contrast in ground color and smaller size. The primary host through most of its range is *Lupinus excubitus* M. E. Jones. This butterfly occurs on the east slope of the Sierra Nevada from Grant Lake south to Kern County (J. Emmel, T. Emmel & Mattoon, 1998a). The flight is from late April into July.

135 NEVADA ARROWHEAD BLUE *Glaucopsyche piasus nevada* F. M. Brown.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. TL: Bob Scott Campground, Toiyabe Nat'l Forest, Lander Co., Nevada (Miller & Brown, 1981).

General. This subspecies occurs along the Sierra Nevada crest (as on sagebush covered hills north of Sonora Pass at 10,000') eastward down canyons with sagebrush and lupines (Green, Little Antelope, Summers and Virginia Canyons) south to Mono Lake (Lundy Lake Rd.) and into the Great Basin mountain ranges. Records range from June into August.

[SILVERY BLUE *Glaucopsyche lygdamus* (Doubleday)

Taxonomic note. Garth and Tilden applied the name *behrii* (TL: San Francisco, California: see Miller & Brown, 1981) to the western foothills population of the Yosemite region, a name now applied to a form of *Glaucopsyche xerces* (Boisduval). Garth & Tilden applied the name *columbia* (Skinner) to the higher boreal populations. The name *columbia* has been generally applied to populations in the western Sierra Nevada foothills of the Yosemite region but these differ from those from the type locality: Fort Columbia, Washington (Miller & Brown, 1981). High elevation populations and a Sierra Nevada east slope segregate on *Lotus procumbens* (E. Greene) (1998i are recognized as separate unnamed subspecies in the California checklist by J. Emmel, T. Emmel & Mattoon).]

136 UNRECOGNIZED BLUE *Glaucopsyche lygdamus* nr. *incognitus* Tilden

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Western foothills Sierra Nevada populations exhibit large size and bold black spots on the under surface. John F. Emmel believes the name *columbia* is totally mis-applied to Sierra Nevada populations, both phenotypically and biologically (pers. comm.).

General. Foothill populations are frequently common in Upper Sonoran chaparral, riparian canyons and foothill woodland and range upwards into the Transition Zone. Records of the species as a whole in the region range from March into July. Larval hosts are various lupines, vetches and other legumes.

137 SILVERY BLUE *Glaucopsyche lygdamus* (Doubleday): Sierra Nevada high elevation segregate.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Higher elevation *lygdamus* from the region tend to have much smaller black spots below (those from Saddlebag Lake have large black spots on HW). Those spots on the FW below tend to be much larger (but smaller than the preceding subspecies) than those on the HW, the latter spotting being much reduced.

General. The flight period for this entity begins in late May and can extend into August. Since this is a widespread species and few are interested in or aware of subspecies issues in this region, it has been little collected. Garth and Tilden reported this entity as rare in the higher Sierra Nevada and since most localities for it are inside Yosemite National Park, it is one of our less known butterflies.

138 SILVERY BLUE *Glaucopsyche lygdamus* (east slope Sierra Nevada population)

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Very little is known about this segregate. The host is *Lotus procumbens* (E, Greene). Much more material needs to be collected and studied.

139 ANNA BLUE *Plebejus (Lycaeides) anna anna* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for *anna* was restricted to Donner Pass, Nevada County, California (J. Emmel, T. Emmel & Mattoon, 1998b). This blue was believed to be a subspecies of the European **Argyrognomon Blue** (*L. argyrognomon* (Berstrasser)) (TL: Hanau-Munsenburg, Germany) in 1963. *Anna* has more recently been known as a subspecies of the **Northern Blue** *Plebejus (Lycaeides) idas* (Linnaeus) (TL: "Sweden) but recent authorities have given *anna* species status (Guppy & Shepard, 2001 and Opler and Warren, 2002). Current studies seem to indicate many of the entities known as subspecies of *idas* are difficult to distinguish (not just the colors and patterns are similar, but the shapes of the gnathos (male genitalia) are not consistant either)) from those of *P. melissa* and that they may even be conspecific. Apparently, *anna* is sympatric with *P. idas* at Grassy Mountain in British Columbia, Canada and this would justify the separation (Norbert Kondla, James A. Scott, pers. comm.).

General. This is a common species of the upper Transition and Canadian Zones in mid-elevation forest and Giant Sequoia Groves. Adults fly weakly in meadows and forest openings with the host *Lotus oblongifolius* (Bentham) from early July into early September. Males and females are strongly dimorphic, the males being blue on the upperside while females are dark brown bordered with orange on the FW above.

140 MELISSA BLUE or **ORANGE-MARGINED BLUE** *Plebejus (Lycaeides) melissa paradoxa* W. H. Edwards.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for *paradoxa* is the Tehachapi Mtns., California (Miller & Brown, 1981). This butterfly went under the name **Inyo Blue** (*Lycaeides melissa inyoensis* Nabokov) in Garth and Tilden (1963). The name *inyoensis* (TL is Olancha, Inyo Co., California (Miller & Brown, 1981)) is now considered a synonym of *paradoxa*. Yosemite sector material generally has much more blue overscaling the brown in females than does Southern California *paradoxa* from the Tehachapi Mountains and I question the synonymity.

General. This butterfly exhibits the same striking dimorphism as the previous species: males are blue above while females are brown with orange margins, hence the common name. *P. melissa* occurs on the east side of the Sierra Nevada (Upper Sonoran to Canadian Zones) as at Bridgeport and Mono Lake in Mono County. It occurs in alkali sinks, marsh, meadowland, cultivated alfalfa fields, fence rows and along roadsides, often commonly. Hosts include alfalfa, lupines, *Astragalus* and Liquorice. Records for *inyoensis* from much of the Hudsonian and Arctic-Alpine Zones actually refer to *fridayi* and were long overlooked by entomologists as a separate entity. It appears that *melissa* and *fridayi* may overlap ranges on the east side of the Sierra Nevada. Reported records rarely specify which of these two taxa are involved and much more needs to be learned about their distributions east of the Sierra Nevada crest.

141 FRIDAY'S BLUE *Plebejus (Lycaeides) fridayi* (Chermock).

Regional occurrence. Recorded in 1963 (as *Plebejus melissa*).

Taxonomic status. Changed from 1963.

Taxonomic note. Described as a subspecies of *P. melissa*, the status of *fridayi* (TL: Mammoth, California; Miller & Brown, 1981) as a species is unsettled. It is clearly distinct from lowland *P. melissa paradoxa*. James Scott believes it may be allied with the **Northern Blue** (*P. idas*). It may turn out that what we are calling *P. idas* in North America is actually conspecific with *P. melissa* (Nice & Shapiro, 1999). J. Emmel considers *fridayi* is likely a full species based on biological differences (pers. comm.) and Paul Opler is planning a revision of the *melissa* group in California. Provisionally, *fridayi* is recognized here as a different species than *melissa.* Austin notes (pers. comm.) populations similar to *fridayi* occur at the higher elevations on the White, Sweetwater and other high ranges in eastern California and western Nevada. Such a population was also located in the Bodie Hills (ridge 1-2 mi. SW of Bodie) at 9200' elevation by the author. Glassberg (2001) characterized female *"melissa"* from the Sierra Nevada crest (=*fridayi*) as "having greatly reduced markings" and illustrated a photo of such an example from Sonora Pass. While that phenotype is common in series, many females of *fridayi* have extensive orange on the dorsal surface.

General. Often overlooked by those seeking bigger prizes in the high Sierra, *fridayi* became my main interest in a return trip to Sonora Pass where it flies commonly on the sagebrush hills just north of the Pass. My first experience collecting it was the ridge east of Saddlebag Lake near Tioga Pass at 11,500' elevation (August 14, 1970) from where I nearly fell off an unseen precipitous 2500' cliff. I had wrongly assumed since there was a steep but gradual climb to the top on one side that it would be safe at the top of the ridge. Luckily, I slipped and fell while attempting to net another butterfly (*Oeneis chryxus ivallda*), otherwise my study of Yosemite would have ended then. This highlights the dangers of collecting butterflies in the rugged high Sierra Nevada. It was far easier to obtain at Sonora Pass where it flies on steep hills along a trail without hidden dangers. Paul Opler notes that *fridayi* is closely associated with *Astragalus whitneyi* A. Gray. The flight is late May into September.

142 SIERRAN GREENISH BLUE *Plebejus (Plebejus) saepiolus aehaja* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is "alpine headwaters, Tuolumne River, California (=Tioga Pass)." Previously, Sierra Nevada populations had been considered to be nominotypical *saepiolus* (Boisduval). The name *aehaja* is now applied to Sierra Nevada populations of the species (J. Emmel, T. Emmel and Mattoon, 1998b & d). Nominotypical *saepiolus* (TL: Bear Valley, near Olema, Marin County, California) occurs along the northern California coast. Some believe *aehaja* is a synonym of *saepiolus*. George T. Austin (1998) believes populations from east of the Sierra Nevada in wet meadows and from along streams are a valid subspecies, *rufescens*, long viewed as a form. Others question if *rufescens* is distinctive enough to warrant recognition. That issue will be left for others to decide but both will be considered here should Austin's views be accepted by the scientific community.

General. This is a common butterfly in wet meadows and drainages from upper Transition through Hudsonian Zones (locally in Arctic-Alpine) on the Sierra Nevada west slope. Host plants are *Trifolium* species. The flight is from late May into September.

143 RUFESCENT GREENISH BLUE *Plebejus saepiolus rufescens* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. See comments above. The TL was the "interior of California" (Miller & Brown, 1998) but was restricted to Gold Lake, Sierra Co., California (Austin, 1998). Austin states populations from lower elevations east of the Sierra Nevada are larger than *aehaja* from the Sierra Nevada, males have a nearly turquoise blue coloration and less prominent black margins than *aehaja* which is a dull purplish blue. Females are more rufescent and have more developed orange margins on the HW than Sierra Nevada material.

General. This butterfly is common in marshes, meadows and along streams at Mono Lake, Bridgeport and elsewhere in the region. The flight is mid-June through August, possibly into early September some years.

144 BOISDUVAL'S BLUE *Plebejus (Icaricia) icarioides icarioides* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Also known as the **Common Blue,** many believe the common name for this species should have been **Lupine Blue**. Its TL is Hwy. 70 at Soda Creek, East Branch North Fork Feather River Canyon, 2500' elev., Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This blue occurs commonly wherever the lupine hosts grow on the Sierra Nevada west slope from Upper Sonoran chaparral through the boreal forests of the Canadian Zone, likely intergrading with *fulla* across the Sierran crest subalpine sagebrush slopes. The flight period is late April into early August.

145 FULLA BLUE *Plebejus icarioides fulla* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is vicinity of Virginia City, Storey County, California (Austin, 1998h). Known as *helios* (Edw.) in Garth and Tilden (1963). The TL for *helios* was restricted to Fawn Lodge, Trinity County, California (Ferris, 1989).

General. Adults gather at wet spots in numbers along Lee Vining Creek off the Tioga Pass Rd. in late June, are common at stands of lupine throughout the region from the Mono Lake region up to the Hudsonian and Arctic-Alpine Zones at Tioga and Sonora Passes. The flight is June to mid-August at the highest elevations.

146 SHASTA BLUE *Plebejus (Icaricia) shasta shasta* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to the slope south above Donner Pass, 7500' elev., Placer County, California (Austin, Emmel & Emmel 1998). Garth and Tilden listed this as the **Yosemite Blue** (*Plebejus (Icaricia) shasta comstocki* (Fox)) with a TL at Glacier Point in Yosemite National Park, California (Miller & Brown, 1981) in their annotated species accounts but *comstocki* is now regarded as but a form. J. Emmel (pers. comm.) notes this species name is a misnomer since it does not occur on Mt. Shasta.

General. This species can occur in harsh Canadian and Hudsonian Zone habitats but *shasta* is most commonly seen above timberline on windswept slopes and ridges (often from 10,000 to 13,000' elevation) where the host subalpine legumes grow from the second week in July into early September in good years. Both Tioga and Sonora Pass (ridges above timberline) are good regions to find it.

147 MONO SHASTA BLUE *Plebejus shasta calchas* (Behr).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. This subspecies is recognized and discussed by Emmel, Emmel and Mattoon (1998d). They provide most of the following information: The type locality is Mono Lake, Mono County. "Nominotypical *shasta* is larger, with broader black borders in the males, while specimens from the east slope of the Sierra are smaller, and have narrower black borders than the males."

General. Likely, records of the species in the ranges east of the Sierra Nevada refer to this taxon.

148 ACMON BLUE *Plebejus (Icaricia) acmon acmon* (Westwood and Hewitson).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was fixed as San Francisco, San Francisco County, California (Opler, 2003). Populations from high elevations along the Sierra Nevada crest and those in the Great Basin are currently under study by Paul Opler. More than one species may be represented in what we now view as *P. acmon.*

General. This is a common California species found throughout most of the region at almost any elevation, from the Lower Sonoran to Hudsonian Zones. The larvae utilize a number of legumes and buckwheat species. It flies in the region from March into early October. Garth and Tilden stated "It occasionally flies in company with the following *Plebejus (I.) lupini*. From this circumstance, plus a possible different host plant, it has been suggested that the two are different species, and they are tentatively so considered here." Current evidence shows that the **Lupine Blue** is indeed a distinct species from *acmon* based on collecting and studies made since then (Opler, 2003 and Davenport, 2003).

149 LUPINE BLUE *Plebejus (Icaricia) lupini* (Boisduval). Eastern Sierra Nevada population.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for nominotypical *lupini* was restricted to Gold Lake, Sierra County, California (J. Emmel, T. Emmel & Mattoon, 1998b) It does not occur in the Yosemite region. Garth and Tilden did not recognize subspecies within nominal *lupini* within the region. As noted above, time has demonstrated *P. lupini* to be distinct

from *P. acmon.* In all likelihood, what has been considered to be the **Lupine Blue** is actually a complex of similar species. Many butterflies formerly associated with the species *P. acmon* appear more closely related to *P. lupini* (Opler, 1999 and Opler, 2003).

General. Lower elevation eastern Sierra Nevada populations differ from the following subspecies and are associated with various buckwheats which are the larval hosts, not lupines as one would suspect from the common and scientific names. Some records in the appendix of Yosemite Butterflies would be this undescribed subspecies (or species) including those from Lee Vining, Mono Lake and below Conway Summit, all in Mono County. It also occurs along the Rock Creek Gorge to the Swall Meadow region (Mono Co.) and southward into Inyo County. The flight ranges from late May to mid-July.

150 SIERRAN LUPINE BLUE *Plebejus lupini alpicola* (Emmel, Emmel and Mattoon).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is California, Mono County; Barney Lake, 10,240-10,400' elevation (J. Emmel, T. Emmel & Mattoon, 1998a). Previously, these populations were considered to be nominotypical *lupini*.

General. This is a locally common subspecies found in the Canadian, Hudsonian and Arctic-Alpine Life Zones. The host appears to be a variety of *Eriogonum ovalifolium* Nutt. It is frequently found in "rock gardens" on granite domes and in rocky terrain. Good localities include Fresno Dome above 7000' (Madera Co.) and west of Saddlebag Lake (Mono Co.) on rocky outcrops. The flight is from the second week of June into August on mountain peaks.

151 SIERRA NEVADA BLUE *Agriades podarce cilla* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Garth and Tilden (1963) listed this blue as *Plebejus (Agriades) glandon podarce* and Opler & Warren (2002) place *Agriades* in *Plebejus.* Others, including Emmel, Emmel & Mattoon (1998) give *Agriades* full genus status, as done here**.** The taxonomy of the **Arctic Blues** (*Agriades*) is currently under study. This high elevation species has gone under a number of common names including the **Arctic Blue** (including **Sierra Arctic Blue**), **High Mountain Blue** and **Gray Blue**. Reasons for recognizing *podarce* as a species are given by Emmel & Emmel (1998). There are differences in larvae and in the shape of the FW of the adults when compared to populations of the *franklinii/rusticus* complex (TL for *rusticus* (W. H Edwards) was restricted to vicinity of Empire, Clear Creek County, Colorado) from Alaska, Canada and the Rocky Mountain region. A number of scientific names have been applied including *Agriades franklinii* (Curtis) with a TL of "Arctic-America", *aquilo* (Boisduval) with a TL of "North Cape" and *glandon* (dePruner) with a TL of "W. Alps" (Emmel & Emmel, 1998). **Arctic Blues** in the Rocky Mountains are likely a different species than the butterfly known as *podarce* (Felder & Felder), TL restricted to Summit Valley at S. end of Lake Van Norden, Donner Pass, Placer Co., California. The TL for ssp. *cilla* is the headwaters of the Tuolumne River restricted to Tioga Pass, California. In fact, there are now two species of **Arctic Blues** recognized in the Yosemite region, further evidence that there has been too much "lumping" in this group.

General. This is a common species found in the Canadian Zone and more commonly in the Hudsonian Zone wet subalpine meadows in association with *Dodecatheon* ("shooting stars") species. It also occurs locally in the Arctic-Alpine Zone with the next species. The flight is from late June to early September in wet years.

152 HEATHER BLUE *Agriades cassiope cassiope* J. Emmel & T. Emmel.

Regional occurrence. Recorded after 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Name unchanged since its description in 1998, but *P. cassiope* was long unrecognized as a separate species from *Agriades podarce* because of its superficial resemblance to it. The TL is California: El Dorado County, Sierra Nevada, Lake Tahoe region, slope due south of Dick's Lake (Emmel and Emmel, 1998).

General. Unlike the previous species, this butterfly favors the north facing rocky slopes of the Arctic-Alpine Zone where it occurs in close association with White Heather (*Cassiope mertensiana* (Bong.), the larval host. The flight period is normally the second half of July to the end of August. There are color differences on the upperside and pattern differences below that differentiate it from *P. podarce*. While collecting on the north slope of Mt. Dana off the Tioga Road I found both species within a few feet of each other at 11,000'. *P. podarce* was in a small wet meadow with Shooting Stars (larval host plant) and fluttering in a very docile manner. In contrast *P. cassiope* was on rocky slopes with White Heather and exhibited a very rapid and nervous flight, sometimes visiting the yellow flowers of *Potentilla fruticosa* or pausing at wet spots on bare ground. A large colony of this species occurs on the slope NE of Saddlebag Lake on the north facing slope (Gordon Pratt and John Emmel, pers. comm.). Other records exist for the north slope of Mt. Dana, Virginia Peak NW of Saddlebag Lake, and Red Lake, Virginia Lakes at 10,000'. Most of these localities are in Mono County and likely future observations and collecting will add many new localities. It should range south into Tulare County where White Heather grows. The range of this species is poorly known because of the inacessibility of most of its habitat. There are no roads over the Sierra Divide and high

peaks above timberline south of Tioga Pass. Much of the high Sierra is accessible only by trail if at all. Believed limited to California, recent field work (see 2003 Season Summary) has revealed that **Heather Blues** also occur in the Rocky Mountains (Montana).

METALMARKS: RIODINIDAE

The metalmarks are sometimes included with the family Lycaenidae. Those taxa which occur in the Yosemite region have long been viewed as a single species in what is now known as the *Apodemia mormo* complex. Much more study needs to be done within this group to resolve taxonomic issues. It is likely that more *Apodemia* populations remain to be discovered on both the west and east slopes of the Sierra Nevada.

153 MORMON METALMARK *Apodemia mormo mormo* (Felder and Felder).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL restricted to Davis Creek Park, W. of Washoe Lake, Washoe County, Nevada (J. Emmel, T. Emmel & Mattoon, 1998c). There is a reported blend zone with *cythera* in the Mammoth Mountain region.

General. Found on dry slopes in sagebrush scrub and juniper woodland from Upper Sonoran to Hudsonian Zones on the east slope of the Sierra Nevada and in the adjacent Great Basin. Garth and Tilden also record *mormo* from "Little Yosemite" located above Nevada Falls inside Yosemite National Park. Adults favor ravines, drier slopes and canyons within the habitat where the buckwheat hosts grow. The flight is during August and September.

154 CYTHERA METALMARK *Apodemia cythera cythera* (W. H. Edwards).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is 9 miles W. of Lone Pine, Inyo County, California (Miller & Brown, 1981). Also known as **Edward's Metalmark**, *cythera* has been considered a subspecies of *Apodemia mormo* by previous authors. Pratt & Ballmer (1991) provided evidence of three biotypes of the *Apodemia mormo* complex that has become the basis for recognizing species within the nominal species *mormo*. I explained why *tuolumnensis* and *cythera* are best considered separate species from *mormo* in a publication on the butterflies of Kern and Tulare Cos., California (Davenport, 2003).

General. Regardless of taxonomic status, *cythera* occurs at the base of the eastern Sierra Nevada in southern Mono County in the Rock Creek Gorge/Swall Meadow area. Recently, a very large blackish population of what appears to be *cythera* was found in McGee Canyon east of Glass Mountain in eastern Mono County. Adults fly in sandy washes and ravines with the buckwheat hosts from late July into September.

155 TUOLUMNE METALMARK *Apodemia cythera tuolumnensis* Opler and Powell.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note: Known by many authorities including Garth & Tilden as *Apodemia mormo tuolumnensis*.

General. This subspecies was described from the Grand Canyon of the Tuolumne, Tuolumne County, Yosemite National Park, along a four mile area of the Pate Valley Trail (Opler & Powell, 1961). Records are from mid-July to September. It is likely that this metalmark occurs elsewhere in the region on the west slope of the Sierra Nevada where suitable buckwheat hosts grow. An old record from Yosemite Valley for *virgulti* (Behr) (in Opler & Powell, 1961) may apply to *tuolumnensis*.

SNOUT BUTTERFLIES: LIBYTHEIDAE

Snout butterflies are distinguished by the extended palpi which resembles a large nose or "snout." Many specialists group this family with Nymphalidae.

156 WESTERN SNOUT BUTTERFLY *Libytheana carinenta streckeri* Austin and J. Emmel.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Long known as *Libytheana bachmanii* (Kirtland) (TL: "northern Ohio") and as subspecies *larvata* (Strecker) (TL: San Antonio, Texas). The name *streckeri* has a TL of Donna, Hidalgo County, Texas (Austin & Emmel, 1998a). The popular current view is that all of these are subspecies of *L. carinenta* (TL: Surinam, South America). Type locality information for all but *streckeri* were taken from Miller & Brown (1981). The reason Austin & Emmel (1998a) replaced the name *larvata* with *streckeri* is explained in that paper. After explaining the

pattern and color differences, Austin & Emmel stated "We have seen the phenotype of *L. c. larvata* only from south-central Texas. The syntypes are labeled "San Antonio, Tex./J. Boll." We presume that the general assignment of this name to western United States material is due to the apparently small distribution of that taxon and the failure to realize that it is different." Christopher Durden (pers. comm.) confirms these two entities are different with *larvata* occupying a limited range in southern Texas. Conversely, the entity *streckeri* is widespread. Both have type localities in Texas. Many workers have noted that *bachmanii* and *streckeri* are very different looking insects and that there are no really documented areas of intergradation, odd for two common subspecies with strong dispersal capabilities. Thus, some workers believe this evidence suggests that *bachmanii*, *streckeri* and *larvata* represent three species. More study is needed.

General. Normally a butterfly of the southwestern deserts, there is but a single record of a stray collected at Jerseydale, Mariposa County (October 13, 1990) by Oakley Shields.

BRUSH-FOOTED BUTTERFLIES. NYMPHALIDAE.

This family includes many of our most colorful and interesting species and many are among the longest lived butterflies with several species overwintering and living up to ten or eleven months. Tortoiseshells and Anglewings can be brightly colored butterflies above but blend right in with dead leaves or tree trunks below. Fritillaries and checkerspots are among the most interesting and appealing butterflies in the opinion of many. Fritillaries can be notoriously difficult to differentiate and checkerspots can be both highly prized rarities or present major research projects to resolve taxonomic issues. Those not caring about resolving such scientific issues may just appreciate seeing them in their natural surroundings and admire their variety of colors, intricate patterns and markings. Others are interested in the "White Admirals" in the genus *Limenitis* which hybridize in the Mono Lake region. Some of our "cosmopolitans" are among the most widely distributed species in the world and one is a famous migrant not only in North America but in Europe and Asia as well. I recognize thirty-six species in the region here. Others who combine Libytheidae, Satyridae and Danaidae into Nymphalidae will recognize more.

157 VARIEGATED FRITILLARY *Euptoieta claudia* (Cramer).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is a very rare stray to the region. Oakley Shields collected a fresh female at Jerseydale, Mariposa County on October 23, 1988 (Shapiro, Mattoon, Austin & Shields, 1990). Comstock (1927) referred to a record from Mono County. I actually witnessed one patrolling a ridge north of Sonora Pass, Mono County at an elevation of over 10,000' on August 9, 1998. I was unable to capture it but was able to get a good look at the individual.

158 LETO FRITILLARY *Speyeria leto leto* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is near Carson City, Ormsby County, Nevada (Miller & Brown, 1981). Known as a subpecies of the **Great Spangled Fritillary** (*Argynnis (Semnopsyche) cybele leto*) in Garth and Tilden (1963) and considered as such (but in the genus *Speyeria*) in recent checklists. The belief that eastern *cybele* (Fabricius) and western *leto* are conspecific is based on the belief that there is a "blend zone"of the two in southern Alberta, Canada. Norbert Kondla states (pers. comm.) there is no such known blend zone nor published evidence that justifies the view that both are one species.

General. I observed my first **Leto Fritillary** in a meadow at Camp Curry in Yosemite Valley (August 2, 1963) where it is the most highly prized butterfly in the Valley. *S. leto* occurs very locally at several localities on the west slope of the Sierra Nevada and on the east slope of the Sierra Nevada as well, including some records for the west side of Mono Lake (fide J. R. Mori). Rarely common and very difficult to net, the adults visit thistles, milkweeds and other flowers for nectar. This dimorphic species has males that are a handsome orange-red above while females are cream colored and very reclusive. Hosts are violets with adults flying from the second week of July into very early September.

159 APACHE (NOKOMIS) FRITILLARY *Speyeria nokomis apacheana* (Skinner).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Formerly placed in the genus *Argynnis* with *Speyeria* as a subgenus in Garth & Tilden (1963). The same is true for many of the *Speyeria below.*

General. The **Apache Fritillary** was said to be even more spectacular than *leto* by Garth and Tilden, who were apparently unaware *leto* occurred on the Sierra Nevada east slope as well. Like *leto*, this fritillary is dimorphic with

larger orange-red males (the underside HW is a beautiful gold with silver spots) and cream and black females (with a greenish disk on the HW below). These large fritillaries are frequent flower visitors and patrol wet meadows with the violet host fed by heavy runoff from the Sierra Nevada. It is perhaps the most highly prized butterfly in the Mono Basin and along the east slope of the Sierra Nevada. In Green Canyon and north of Bridgeport both *apacheana* and *leto* often occur in the same wet meadows (fide J. R. Mori). Localities for *apacheana* include Gull and Mono Lakes, and the many meadows and canyons bordering the eastern Sierra Nevada along US 395 as far south as Big Pine Creek at 8500' west of Big Pine in Inyo County (September 7, 2003; JFE). The flight is mid-July through the month of September.

160 CORONIS FRITILLARY *Speyeria coronis* (Behr). Undescribed eastern Sierra Nevada population.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for *snyderi* (the name sometimes applied to this eastern Sierra Nevada population) is City Creek Canyon, Salt Lake City, Salt Lake County, Utah. Eastern Sierra Nevada populations are smaller with less prominent brown or green disks and smaller less rounded silver spots on the ventral HW than *snyderi.*

General. This species is generally unknown from the Yosemite region and was not included in Garth and Tilden's annotated checklist. Perhaps it is overlooked by most visitors to the area because of its similarity to *Speyeria zerene malcolmi* which flies in the same sagebrush scrub habitats but *coronis* is often larger. The eastern Sierra Nevada population of this species ranges from Bishop Creek in Inyo County north to the Little Walker River area near the Sonora Pass Junction off US 395. James R. Mori states (pers. comm.) "common most years along US 395 near Little Walker River Crossing and west slope of Sweetwater Mountains late August well into September...in sagebrush habitat." I found it commonly with seven other species of *Speyeria* on the Obsidian Camp road (S. of Little Walker River) connected with US 395 just south of Sonora Pass Junction on August 17, 2000. Adults visit blooming rabbitbrush for nectar while the larvae use violets as the host. There are a few records of *coronis* on the west slope in the region from Mill and Niagara Creeks along the Sonora Pass Road (=SR 108).

161 ZERENE FRITILLARY *Speyeria zerene* near *zerene* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The species was known as *Argynnis zerene* in 1963. The TL of *zerene* was given as Yosemite Valley, Mariposa County, California by dos Passos & Grey (1947). It was later changed to Agua Fria, Mariposa County by Masters (1979). It was re-restricted to Hwy. 70 at Chambers Creek, North Fork Feather River, Plumas County, California by J. Emmel, T. Emmel & Mattoon (1998b). The name *monticola* (Behr) had a TL of Yosemite Valley, Mariposa County, California in Miller & Brown (1981), which listed *monticola* as a synonym of *zerene*. That name was restricted to Mather 15 mi. NW of Yosemite Valley by J. Emmel, T. Emmel & Mattoon (1998d) who stated "The Yosemite region phenotype of *S. zerene* is somewhat lighter and slightly larger than the nominotypical *zerene* phenotype of the Feather River drainage; thus *monticola* could be considered a geographic subspecies of *zerene* rather than a synonym of nominotypical *zerene*." The name *monticola* was not recognized in the California state checklist by those same authors. Herein, I view this as an atypical population of *zerene* which may or may not merit subspecies recognition.

General. This fritillary can be seen at the exit of the tunnel entering Yosemite Valley by way of SR 41 (there is a scenic turnout there) in July and August. It is also locally common on the Sierra Nevada west slope (Transition and Canadian Zones) at Chinquapin to Wawona, in the Mariposa and Tuolumne Sequoia Groves, Mather and at Hetch-Hetchy Summit. It occurs in Yellow Pine, White and Red Fir and mixed coniferous forests with adults visiting thistles, mints and dogbane for nectar. Adults appear as early as mid-June with females on the wing into September.

162 MALCOLM'S FRITILLARY *Speyeria zerene malcolmi* (J. A. Comstock).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Mammoth, Mono County, California (Miller & Brown, 1981).

General. This is the subspecies often found commonly on the east slope of the Sierra Nevada. The fast flying adults are best observed at flowers in sagebrush scrub, Jeffrey Pine forest, pinyon-juniper and juniper woodland in Transition and Canadian Zones. It was much more abundant than *coronis* on rabbitbrush in the region near Sonora Pass Junction on August 17, 2000. Paul Opler once collected a *malcolmi* in the Arctic-Alpine Zone on Mt. Dana, probably blown up from the east side of the Sierra Nevada. The flight ranges from mid-June into September.

163 PLAIN (CALLIPPE) FRITILLARY *Speyeria callippe rupestris* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The species was placed in *Argynnis* in 1963. The TL of *rupestris* was restricted to California: Mariposa County: Moore Creek Road 1.5 to 2 road miles south of Hwy. 120, elev. 3200'. Formerly known as sub-

species *inornata* (W. H. Edwards) (TL: restricted to vicinity of Camptonville, Yuba County, California) in *Yosemite Butterflies* and other literature. See J. Emmel, T. Emmel and Mattoon (1998d & e) for an explanation of the name change and TL information.

General. A common species in much of the state, this subspecies is generally a scarce and local butterfly in the chaparral and foothill woodland (Upper Sonoran Zone) in the Sierra Nevada foothills of the Yosemite and Sequoia regions. Comstock has an old record for Wawona from inside the Park. The flight is June to mid-July.

164 NEVADA (CALLIPPE) FRITILLARY *Speyeria callippe nevadensis* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is just north of Virginia City, Nevada (Miller & Brown, 1981).

General. This eastern slope subspecies occurs commonly in the region from the Mammoth Lakes area (actual southern limit of range is Big Pine Creek, Inyo County (D. Giuliani)) north along the base of the eastern Sierra Nevada and in adjacent ranges in the Great Basin. Derham Giuliani has a record from the top of Glass Mountain (an 11,123' volcano east of the Sierra Nevada; J. F. Emmel, pers. comm.). It occurs commonly in elevated sagebrush and on hilltops and ridges from about mid-June to the third week of August. It is locally common at favored localities but scarcely seen elsewhere.

165 GREAT BASIN FRITILLARY *Speyeria egleis egleis* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note: Known as *Argynnis egleis* in 1963. Paul Opler has reported a population with green disks on the HW on the east side of the Sierra Nevada near Convict Lake. These need to be collected, studied and evaluated.

General. This fritillary of the Sierra Nevada has long been known as the **Egleis Fritillary** which is an appropriate name for this subspecies since it is a butterfly of the Sierra Nevada high country from the upper Transition to the Hudsonian Zones, straying even above timberline (generally not the Great Basin, though it ranges down the east slope of the Sierra Nevada to the upper limits of the Great Basin). This species can be difficult to differentiate from **Mormon Fritillary** (also from smaller **Coronis Fritillaries** at times) and offers opportunities for butterfly "watchers" and collectors to use their field guides. *S. egleis* (in both wet and dry areas) tends to be a fritillary of forest openings while *S. mormonia* favors more open wet and subalpine meadows. Both are often found in the same general localities; *egleis* often fly on hilltops while *mormonia* does not. The flight is normally the second week of July through August.

[WESTERN FRITILLARY or SOUTHWESTERN FRITILLARY]

166 IRENE FRITILLARY *Speyeria hesperis irene* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Species was placed in the genus Argynnis in 1963. Long considered a subspecies of the **Atlantis Fritillary** (*Speyeria atlantis* (W. H. Edwards), I concur with James A. Scott, Norbert Kondla and Steve Spomer (1998) and others that there are at least two species in what has been traditionally considered species *atlantis*. The TL for *irene* was restricted to Gold Lake, Sierra County, California by J. Emmel, T. Emmel & Mattoon (1998b).

General. This is an uncommon fritillary in the region with records from Coldwater, Tenaya, Aspen and 5 miles west of Lower Ottoway Lake given for Yosemite National Park by Garth and Tilden. It can be confused with the **Hydaspe Fritillary** (*Speyeria hydaspe*), a far more common species of the region. The best localities for it outside the Park appear to be along the Sonora Pass Road in the Mill Creek/Niagara Creek area of Tuolumne County. An exceptional record for *irene* exists for Anna Lake, Mono County (July 16, 1974), collected by James R. Mori on the east side of the Sierra Nevada. *S. h. irene* is normally found in Yellow Pine-Sugar Pine, White Fir and Red Fir forests where the violet host grows, usually in upper Transition and Canadian Zone forests, often above elevations of where *S. hydaspe* occurs. The flight is normally the second week of July through August or early September. Adults seek nectar at mints and other flowers and patrol ravines along roads.

167 GREENHORN (HYDASPE) FRITILLARY *Speyeria hydaspe* nr. *viridicornis* (J. A. Comstock).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Known as *Argynnis hydaspe* in 1963. The TL of nominotypical *hydaspe* was restricted to Yosemite Valley, Mariposa County by dos Passos and Grey in 1947, but re-restricted to Gold Lake, Sierra County, California by J. Emmel, F. Emmel & Mattoon (1998b). The TL of *viridicornis* is the Greenhorn Mountains, California (Miller & Brown, 1981). Yosemite populations of this species have previously been viewed as nominotypical *hydaspe*. However, the original collecting localities for *hydaspe* were likely further north and have a different phenotype than Yosemite populations. J. Emmel, T. Emmel & Mattoon stated the two syntypes of *hydaspe* they examined match the more northern population with a more melanic aspect. Several authors (Howe (1975); Shields

(1997) and Davenport (1998) have previously noted that many populations within the Yosemite and Sequoia regions closely resemble *viridicornis*.

General. This is a common species of the mid-elevation Transition and lower Canadian Zone forests on the Sierra Nevada west slope, including the Sonora Pass Rd. (=SR 108) where it occurs with *irene* at Mill and Niagara Creeks. Most records of this fritillary in the region are for July and the month of August.

168 MORMON FRITILLARY *Speyeria mormonia mormonia* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Known as *Argynnis mormonia arge* Strecker in 1963. The TL for nominotypical *mormonia* was restricted to Little Valley, W. of Washoe Lake, Washoe County, Nevada (J. Emmel, T. Emmel & Mattoon, 1998b). The name *mormonia* was long believed to apply to Utah populations. Sierra Nevada populations have long been known known as *arge* (Strecker) (TL of Monache Meadows, Tulare County, California (Miller & Brown, 1981)), a name now considered a synonym of *mormonia*. There are differences in coloration and size of *mormonia* populations in the Yosemite region. Populations in the Fish Camp region (just outside the southern entrance to Yosemite National Park) are larger in size and have a darker red-orange ground color than those smaller *mormonia* that fly in the subalpine meadows in the Tioga Pass region. Perhaps these differences are the result of environmental factors.

General. This is one of the most abundant species in the subalpine meadows of the Tioga Pass/Saddlebag Lake region. As noted above, it also occurs west of Yosemite Valley in the Fresno Dome and Fish Camp areas off SR 41. *S. mormonia* is a dominant species of the Canadian and Hudsonian Zones and frequently strays above timberline into the Arctic-Alpine Zone. The flight ranges from late June into September.

169 GLASS MOUNTAIN FRITILLARY *Speyeria mormonia obsidiana* Emmel, Emmel & Mattoon.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The latin name *obsidiana* refers to the volcanic rock obsidian found commonly in the region where it occurs. This newly described subspecies occurs at Sawmill Meadow at 9200' on the east side of Glass Mountain, Mono County, California. Emmel, Emmel & Mattoon state (1998e) in their original description: "This subspecies is readily distinguished from typical *mormonia* by the combination of having a deeper orange ground color dorsally, marked development of the black markings in the basal two-thirds of the wings combined with a reduction of the dark markings in the border areas of the wings, and reduction of the silvering ventrally. It is a highly isolated segregate."

General. It flies commonly at Sawmill Meadow in late July and August. Adults patrol rapidly in or along the edges of the meadow but occasionally visit asters for nectar.

170 WESTERN MEADOW FRITILLARY *Boloria epithore sierra* (E. Perkins and Meyer).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Also known as the **Pacific Fritillary** or **Sierra Meadow Fritillary**. The TL for *sierra* is Sentinel Dome, Yosemite National Park, Mariposa County, California (Perkins & Meyer, 1973).

General. This is a common "arctic-fritillary" of the west slope mid-elevation forests (Transition and Canadian Zones) in wet meadows (where the yellow flowered host *Viola glabella* Nuttall occurs) and granite block forest openings with occasional colonies even found in the Tioga Pass region (Hudsonian Zone). The adults are easily observed patrolling just above ground level in the favored habitat. The flight is late May to the second or third week of July.

171 LEANIRA CHECKERSPOT *Chlosyne leanira leanira* (Felder and Felder).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Garth & Tilden placed *leanira* in the genus *Melitea with Chlosyne as a subgenus.* Others put it in the genus *Thessalia.* The TL of *leanira* was restricted to Chambers Creek, North Fork Feather River Canyon, 1850' elev., Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998c). The name *daviesi* (Wind) (TL: Tuolumne Co., California, Miller & Brown, 1981) had been applied to all Sierra Nevada west slope populations as a full subspecies but is now viewed as a synonym of *leanira* (Smith & Brock, 1988). The name *daviesi* is still used for the form of *leanira* that has greater development of orange-red coloration on the FW's above.

General. This attractive black, yellow and orange-red checkerspot "invades the western portions of the park from the foothills east of the San Joaquin Valley, where it properly inhabits the chaparral. It is common at Indian Flat, below El Portal" (Garth and Tilden, 1963). Elsewhere this Upper Sonoran Zone species is a rarity with records from Jerseydale and from near Oakhurst. Most of our known localities are in Mariposa County along SR 140 west of the Park. It occurs very locally near the paintbrush host in May and June with occasional records in July and very early August in wet years.

172 ALMA CHECKERSPOT *Chlosyne leanira alma* (Strecker).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL of *alma* was restricted to northwestern Arizona by Austin & Smith (1998). This orange washed subspecies little resembles the more black subspecies *leanira* and could easily pass as a separate species. Some have viewed *alma* as such but blend zones with *leanira* southern California subspecies *wrighti* (W. H. Edwards) (TL: San Bernardino, San Bernardino Co., California (Austin & Smith, 1998) are known in the southern Sierra Nevada and western edge of the Mojave Desert (Austin & Smith, 1998; Davenport, 1983; Smith & Brock, 1988). The undersurface pattern and colors highlight the close relationship.

General. A butterfly of the Great Basin and Mojave Deserts and arid eastern slope of the Sierra Nevada, *alma* utilizes the paintbrushes *Castilleja angustifolia* (Nutt.) (formerly known as *C. chromosa* A. Nels) and *C. foliolosa* Hook. & Arn. as larval hosts. It inhabits the sagebrush covered hills on the eastern slope of the Sierra Nevada in the Rock Creek Gorge/Swall Meadow area where males commonly fly on hilltops and ridges. Not listed by Garth and Tilden (1963) for the Yosemite region, few know this butterfly occurs here. The flight period is mostly May and June with earlier and later records likely.

173 GREAT BASIN LEANIRA CHECKERSPOT *Chlosyne leanira basinensis* Austin & Smith.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Nevada: Lyon County, Sweetwater Mountains., Nevada State Route 338, 1 mile northeast of the California state line. "This is a dry hillside on the north side of the highway facing the East Walker River" (Austin & Smith, 1998) and it is just east of the region covered here.

General. This is a newly recognized subspecies which closely resembles the orange-washed *alma*. "The dorsal ground color of *T. l. basinensis* is a deeper orange and there is considerably more black along veins, bordering the submarginal spots, medially and basally. The ventral hindwing of *basinensis* has a yellowish aspect compared with the flat white color of *T. l. alma*" (Austin and Smith, 1998). It occurs from about the Bridgeport area to Walker and eastward into Nevada. James R. Mori states (in pers. comm.) that the flight is mostly late May to late June.

174 NORTHERN CHECKERSPOT *Chlosyne palla palla* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL was re-restricted to Hwy. 70 at Chambers Creek, 6 road miles SW of Beldon, North Fork Feather River Canyon, 1850' elev., Plumas County, California (J. Emmel, T. Emmel & Mattoon, 1998b). Many new subspecies of this species in California have recently been recognized and described (J. Emmel, T. Emmel & Mattoon, 1998e). This species was known as *Melitea palla by Garth & Tilden in 1963.*

General. This is a common species of chaparral and foothill woodland (often along streams and in canyons) in the western foothills and lower mid-elevation forests from the Upper Sonoran to the lower Canadian Zones. Adults commonly patrol ravines and trails or visit flowers. Hostplants are asters and rabbitbrush. Adults fly from the second week of April until about the third week in July.

175 HIGH SIERRA NORTHERN CHECKERSPOT *Chlosyne palla altasierra* Emmel, Emmel & Mattoon.

Regional occurrence. Hypothetically recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is California: El Dorado County; Fallen Leaf Lake; elevation 6400'(J. Emmel, T. Emmel & Mattoon, 1998e). The name *altasierra* was created to replace *whitneyi*, a name now known to apply to the butterfly in the region formerly known as *Chlosyne damoetas malcolmi*.

General: Garth and Tilden stated (1963) that subspecies *palla* "is replaced at higher elevations in the southern Sierra by **Whitney's Checkerspot**, a darker and ruddier form. Whether *whitneyi* actually occurs in the Yosemite region is a matter for further investigation. None were encountered in the course of the present survey." There are definite records of *altasierra* (formerly known as *whitneyi*) from within the Yosemite area at Fresno Dome (granite block habitat along the trail to the top), Madera County at about 7200' and from the east side of the Sierra Nevada (N. of Bridgeport, Little Antelope, Mill and Virginia Canyons). Populations in Mono County often occur in mixed tree and sagebrush habitats. Flight is mid-June and July.

176 SAGEBRUSH CHECKERSPOT *Chlosyne acastus acastus* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Known as the **Acastus Checkerspot** (*Melitea acastus*) by Garth & Tilden in 1963. The TL was restricted to Provo Canyon, Utah Co., Utah by F. M. Brown (Miller & Brown, 1981).

General. This is a species of the Great Basin sagebrush slopes and juniper woodland east of the Sierra Nevada. Known uncommonly from Mono Lake, this species is far more common at several localities off US 395 to the south

(Diablo Hot Springs, Hot Creek, E. of Swall Meadow overlooking Rock Creek Gorge and south of Sherwin Summit). It also occurs in the dry canyons and ravines off the Bodie Road north of Mono Lake. Adults patrol washes and open sandy areas in sagebrush scrub where the aster host grows, or visit flowers on edges of meadows bordering such habitats. It is possible Mojave Desert subspecies *neumoegeni* (Skinner), with a more obsolescent pattern, could occur in the region. The two apparently intergrade west of Bishop, Inyo County at about 6000' elevation (off SR 168), just south of the Yosemite region (Richard P. Meyer has records from early May, 1992). The flight is May to very early July.

177 ROCKSLIDE CHECKERSPOT *Chlosyne whitneyi whitneyi* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Also known as **Whitney's Checkerspot** and **Malcolm's Checkerspot** (*C. damoetas malcolmi* J. A. Comstock), the latter name applying before the proper application of the name *whitneyi* (J. Emmel, T. Emmel & Mattoon, 1998d). The TL of *whitneyi* was set at California: Mono County: north slope of Mt. Dana at lower end of Glacier Canyon, 11,000' elevation. The TL for *malcolmi* is Mammoth, Mono Co., California (Miller & Brown, 1981). The name change was necessary because both the original description and TL indicated the name *whitneyi* applied to the Arctic-Alpine zone species known as *C. damoetas malcolmi* and not a subspecies of *C. palla.* The original type specimen was destroyed in the 1906 San Francisco earthquake and fire. Garth and Tilden treated this species as *Melitea damoetas* in 1963.

General. This is usually an uncommon species found locally on talus slopes and rockslides on the higher Sierra Nevada Peaks above timberline. It is known in the region from the Mammoth Mountain area, Tioga Pass, Sonora Pass and on scattered peaks throughout the high country. The best place to observe this butterfly with ease are the rocky slopes and canyons just south of Sonora Pass (at about 10,000') in early summer as snowmelt exposes the habitat. Hostplants are alpine fleabanes. The flight period is normally the second week of July to very early August.

178 HOFFMANN'S CHECKERSPOT *Chlosyne hoffmanni hoffmanni* (Behr.).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Known as *Melitea hoffmanni* by Garth & Tilden in 1963.

General. Lower elevation darker populations on Sierra Nevada west slope. This is another highly prized butterfly of the region and is infrequently seen by most visitors. It occurs locally in ravines and dry edges of meadows or at wet spots in Red Fir forest and in granite block habitats in the Canadian Zone mostly on the Sierra Nevada west slope (Sonora Pass Road (=SR 108) at Mill and Niagara Creeks are good places to find it). Another good locality is near Fresno Dome in Madera County south of Yosemite Nat'l Park. There are east slope records of *hoffmanni* from Burt Canyon below Anna Lake at 8000' (J. R. Mori) and Minaret Summit in the Mammoth Lakes region in Mono County in July and August. The larval host plants are various asters including *Chrysopsis breweri* Gray; adults visit dogbane and other flowers. Records range from late June into early August.

179 FIELD CRESCENT *Phyciodes pulchellus* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Long known as *Phyciodes campestris* (Behr) or *P. pratensis* (Behr). Both James A. Scott (1994) and J. Emmel, T. Emmel and Mattoon (1998b) have written about the taxonomic issues involved with this species name. The TL was restricted to San Francisco (J. Emmel, T. Emmel & Mattoon, 1998b). The nominotypical names *campestris* or *pulchellus* have been applied to darker low elevation populations on the west slope of the Sierra Nevada by many authors. John F. Emmel (pers. comm.) commented "this is another segregate separate from topotypical *pulchellus*." Both black and orange color forms occur together at various localities at mid-elevations on the west slope of the Sierra Nevada.

General. Garth and Tilden treated material from Yosemite Valley, Mather, Hetch-Hetchy and Jerseydale as nominotypical *campestris* (=*pulchellus*). Mixed black and orange populations appear to exist at Shaver Lake (Fresno County) and Fresno Dome (Madera County) in the Canadian Zone. Generally, darker populations occur in moist areas at lower elevations (Upper Sonoran and Transition Zones) than the next subspecies. The flight is May into September. All subspecies feed on asters.

180 MOUNTAIN (FIELD) CRESCENT *Phyciodes pulchellus montanus* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Treated as *P. campestris montana* by Garth & Tilden, 1963. TL restricted to Tuolumne Meadows, Tuolumne County, California (J. Emmel, T. Emmel & Mattoon, 1998d).

General. More orange above than the previous subspecies, *montanus* generally occurs at higher elevations from the upper Transition to the Hudsonian Zones. It can be found in the high country both west and east of Yosemite Valley

and ranges into the Tioga Pass region where it occurs in wet meadows and along streams. It is abundant off the Sonora Pass Rd. (=SR 108) along the Eagle Meadow Road. Populations east of the Sierran Divide as at Warren Creek (9000') off the Tioga Road (=SR 120**)** become atypical and show influence with *vallis*. The flight is mostly July and the first part of August**.**

181 VALLEY (FIELD) CRESCENT *Phyciodes pulchellus vallis* Austin.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Nevada: Lyon County; Sweetwater Mountains; Nevada State Route 338, Garden Canyon, 1820m. Paler yellow-orange above than *montanus*, this newly described subspecies (Austin, 1998f) occurs in the western Great Basin of eastern California and western Nevada.

General. Populations east of the Sierra Nevada at Mono Lake and western edge of the Great Basin were considered "an intermediate" form by Garth and Tilden. *P. p. vallis* is common along the eastern Sierra Sierra from June Lake to the Sonora Junction area eastward into Nevada. It also occurs in Summit and Green Canyons on the east slope of the Sierra Nevada above 7000' elevation. Most records are from late June through August.

182 FIELD CRESCENT *Phyciodes pulchellus* (black eastern Sierra Nevada segregate).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. These populations are blacker above than dark Sierra Nevada west slope *pulchellus.* Such east slope *pulchellus* occur in the Swall Meadow area (and also at 8400' at South Fork of Bishop Creek, Inyo County, south of the Yosemite sector). It shows no tendency to resemble the more orange *montanus.* A similar population occurs at Sawmill Meadow at 9200' on the east side of Glass Mountain, individuals of which sometimes tend towards *vallis.* The flight period is May into at least August.

183 SIERRA NEVADA CRESCENT *Phyciodes orseis herlani* Bauer.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Glenbrook Creek, Douglas County, Nevada (Miller & Brown, 1981). The taxon is also widely known as the **California Crescent**. Another name for this subspecies is **Herlan's Crescent**.

General. This species was unknown in the Sierra Nevada when *Yosemite Butterflies* was published in 1963. Subspecies *herlani* was essentially described in Howe's Butterflies of North America book in 1975. This species is easily confused with both *pulchellus* and *mylitta*, which both occur with it west of Saddlebag Lake near Tioga Pass. Misidentifications of this species are common in collections. Seen in series, *herlani* represents a distinctive species with orange antennae. A rare and local species of the Canadian and Hudsonian Zones occurring up to the lower limits of the Arctic-Alpine Zone. It is found sparingly in Hudsonian Zone forests along streams where the host *Cirsium andersonii* (Gray) grows. Bruce and Bret Boyd have records from several Sierra Nevada east slope localities (Green, Mill and Wolf Canyons). Richard P. Meyer has taken it at Lake Mary in the Mammoth region to the south. An early flier, it appears as early as late June in the Hudsonian Zone and flies through the month of July.

184 MYLITTA CRESCENT *Phyciodes mylitta mylitta* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This is a common species of streams and meadows from the Upper Sonoran through Hudsonian Zones on the west slope of the Sierra Nevada. It also occurs in the Great Basin. Several species of *Cirsium* (thistles) are used as larval hosts. Adults fly from March in the western foothills into October.

[ANICIA CHECKERSPOT *Euphydryas anicia* (Doubleday & Hewitson))

Taxonomic note. The status of *Euphydryas anicia* and *Euphydryas chalcedona* as one species or two is controversial. Many authorities view these and *Euphydryas colon* (W. H. Edwards) as one variable species with the common name **Variable Checkerspot.** Such workers group *anicia* and *colon* as subspecies of *E. chalcedona.* I follow J. Emmel, T. Emmel & Mattoon (1998f) in listing *anicia* and *chalcedona* as separate species and accept the view of recognizing members of this group as "putative species"that are very closely related as Austin, Murphy, Baughman, Launer & Fleishman (2003) did in their discussion of hybridization of checkerspot butterflies in the Great Basin. Such a situation may be present on the east side of the Sierra Nevada where the ranges of black *chalcedona* populations and orange-red *anicia wheeleri* overlap.

General. Those who believe these are all but one variable species will see what is happening in this region as intergradation. If there really are two species in the region and there is interbreeding between *chalcedona* and *wheeleri* (listed as such on the California state list by J. Emmel, T. Emmel & Mattoon, 1998f) then this could be viewed as hybridization. James R. Mori reports the ranges of the two come together in Green Canyon southwest of Bridgeport in Mono County. A great opportunity for research surely awaits those interested in such taxonomic

issues. At present, few specimens of these checkerspots from east of the Sierra Nevada in the Yosemite sector have been collected. Reasons are that these butterflies tend to be very localized, hard to find and are usually uncommon]

185 SONORA PASS CHECKERSPOT *Euphydryas anicia variicolor* Baughman & Murphy.

Regional occurrence. Not recorded in region covered by Garth & Tilden in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Controversial status. The TL of *variicolor* is the ridge south of Sonora Pass in the Sierra Nevada, Mono County, California (Baughman & Murphy, 1998). Long viewed as a blend zone of several distinctive subspecies of *E. chalcedona* (including *olancha* and *sierra* (see comments in Howe (1975) under *olancha*, pg. 178) and *E. anicia wheeleri*, this variable population found at Sonora Pass on both sides of the Mono/Tuolumne County line was recently described as a subspecies of *chalcedona* but stated to have the male genitalia of *anicia*. James Scott reports (pers. comm.) many individuals from the population at Sonora Pass have *chalcedona* shaped male genitalia. Perhaps this population might be better viewed as a variable population as it was prior to being given the name *variicolor*. No guarantees are given here about the correct taxonomic understanding of this high elevation population as either a *chalcedona* or an *anicia*. It may be a mixed population and thus a name may well not apply. This butterfly occurs outside of the area considered by Garth and Tilden but that area is included in this report. Since a *wheeleri* phenotype apparently does occur in early season at Sonora Pass (fide James R. Mori) and on the Sierra Nevada east slope near or with blacker *E. chalcedona* it is possible that some intergradation is taking place at Sonora Pass. This "confounding checkerspot"as it was called by Baughman and Murphy is most frequently found on rocky ridges above timberline at 10,500' and above. **Sierra Checkerspots** (*E. chalcedona sierra*) occur at much lower elevations to the west and appear isolated from *variicolor*. The hostplant is apparently an alpine species of *Penstemon*. Most records are from July and early August.

186 WHEELER'S CHECKERSPOT *Euphydryas anicia wheeleri* (Hy. Edwards).

Regional occurrence. Recorded afer 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to the mouth of Meadow Canyon, Toquima Range, Nye County, Nevada (Austin, 1998h). Yosemite populations likely differ from topotypical *wheeleri*.

General. Overlooked by Garth and Tilden though an individual from Mono Lake (16 VI 1917) was illustrated by Comstock (1927) in his California butterfly book. A rarity along the east side of the Sierra Nevada, there are other records in Mono County from along US 395 (scenic turnout just north of Inyo County line), Lower Rock Creek where *wheeleri* flies with *E. chalcedona olancha* (John F. Emmel, pers. comm.), Tom's Place, Green Canyon and the Sonora Pass area eastward). Derham Giuliani has collected it along Log Cabin Mine Road 2 air miles west of Lee Vining. James R. Mori comments that apparent *wheeleri* occur on the south side of Sonora Pass below the road very early after snowmelt in late May. A few individuals in my series of *Euphydryas* from the ridges S. of Sonora Pass above 11,000' in July appear very similar to *wheeleri* from the California White Mountains. The larval hosts in juniper woodland/sagebrush habitats are paintbrushes, including *Castilleja angustifolia* (formerly *C. chromosa*). The flight appears to be from early May to the fourth week of July at the highest elevations where *wheeleri* occurs.

187 CHALCEDON CHECKERSPOT *Euphydryas chalcedona chalcedona* (Doubleday).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to Mt. Tamalpais, Marin County, California (J. Emmel, T. Emmel & Mattoon, 1998d).

General. This black and yellow checkerspot is common in riparian canyons where it visits flowers on open slopes in the chaparral, foothill woodland and in mixed coniferous forest (Upper Sonoran and lower Transition Zones) on the Sierra Nevada west slope up to about 3500' but it occurs in Yosemite Valley at 4000' as well. There is a big elevational gap between this subspecies and *sierra* which occurs at 6000' and above in Canadian Zone forest. Larval hosts are a variety of monkey flowers, beardtongues, penstemons and related plants. The flight is April to mid-July, depending on locality.

188 OLANCHA (CHALCEDON) CHECKERSPOT *Euphydryas chalcedona* near *olancha* Wright.

Regional occurrence. Not recorded by Garth & Tilden in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Olancha Peak, Tulare/Inyo Cos., California (Miller & Brown, 1981). Eastern Sierra Nevada populations east of Yosemite (Swall Meadow to Mono Lake) have far more development of the yellow and white spotting above as compared to those from the type locality. Most of my series from Swall Meadow exhibit extensive white rather than yellow spotting. Variation within this species is immense and each colony or population varies somewhat. John Emmel states (pers. comm.) that the somewhat blacker populations in the Green, Little Antelope, Mill and Silver Canyons on the east slope of the Sierra Nevada are closer to *olancha* then they are to *macglashanii* (Rivers), (TL: Truckee, Nevada County, California (Miller & Brown, 1981) reported at these latter

localities by several workers. These controversial *olancha* or *macglashanii* records are identified in the records section pending resolution of what name to apply.

General. *E. chalcedona* nr. *olancha* is locally common at Swall Meadow and in the Tom's Place region of southern Mono County where it occurs with **Wheeler's Checkerspot** (*E. anicia wheeleri*) in May and June. Apparently the flight of *olancha* begins later and ends later than that of *wheeleri*. It apparently uses *penstemons* as the larval host in the region while *wheeleri* uses paintbrushes.

189 SIERRA CHECKERSPOT *Euphydryas chalcedona sierra* (Wright).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL of *sierra* is "Sierra Nevadas, California"(Miller & Brown, 1981). J. Emmel (pers. comm.) states the "TL of *sierra* is almost certainly near Glen Alpine Springs, El Dorado County." Some believe that **Ireland's Checkerspot** (*Euphydryas chalcedona_irelandi* Gunder) may be a synonym of *sierra.* The TL of *irelandi* is nr. Alta Peak, Sequoia Nat'l Park, (Tulare County) California (Miller & Brown, 1981). The taxa known as *irelandi* has also been treated as a subspecies of *Euphydryas anicia* as in Miller & Brown, 1981. Many who have examined both *sierra* and *irelandi* see sufficient differences (*irelandi* has a more pinkish aspect to the red-orange ground-color) to recognize both as distinctive subspecies. J. Emmel, T. Emmel & Mattoon (1998f) did so in their 1998 checklist for California. Confusion exists in the Sierra Nevada about the identifications of these two entities because of the vague TL of *sierra*, confusion over the correct TL of *irelandi* and reported records from the region with misapplied names. John Emmel believes Yosemite populations are somewhat intermediate between *sierra* and *irelandi* and probably closer to the latter (pers. comm.). The name *sierra* is retained here pending future resolution of this issue by the Emmels. Another taxonomic issue is the possibility that *sierra* and *irelandi* may be a distinct species separate from *chalcedona* based on phenotypic differences and the elevational isolation on the Sierra Nevada west slope (pers. comm., Norbert Kondla and Christopher Durden).

General. The reddish-orange subspecies *sierra* (or *sierra* X *irelandi* in the region) is very distinctive in appearance from the preceding two blackish subspecies. It (*sierra*) occurs sparingly in Yosemite National Park (Garth and Tilden, 1963) with records from "Return Creek, Eagle Peak and the Research Reserve" in the Canadian Zone. The usual habitat is in fir forests and on granite slopes and domes. The butterfly is common north of Yosemite National Park off SR 108 (= Sonora Pass Road) from the Niagara Creek area east to the Clark Fork Rd. and the Dardanelles in Tuolumne County. The larval hostplant is *Penstemon newberryi*, Gray. John Emmel doubts the Garth and Tilden citation of *Mertensia ciliata* (Torrey) var. *stomatechoides* (Kellogg) as a larval host for *sierra* is valid. Such issues show the opportunities for research within the *Euphydryas chalcedona* complex even in the Yosemite region. A tremendous amount of variation exists within these checkerspots and such information can be interpreted differently by different workers.

190 RUDDY (EDITH'S) CHECKERSPOT *Euphydryas editha rubicunda* (Hy. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was from the Sierra Nevada from 2500' to 7000' elevation, restricted to Mariposa County, California (Miller & Brown, 1981).

General. This is a large bright orange-red checkerspot (the wing shape is more rounded in *editha* than it is in the similar *sierra*) found in the Sierran Nevada foothills in local colonies (where it may be abundant at scattered locations) in foothill woodland and chaparral (Upper Sonoran, rarely Transition Zone) in riparian canyons and along streams. Well known populations occur commonly at Briceburg along the Merced River, Indian Flat and at Coarsegold in Mariposa and Madera Counties. The adult flight is March into June, depending on locality. Larval hosts are *Collinsia* species.

191 CLOUD-BORN (EDITH'S) CHECKERSPOT *Euphydryas editha nubigena* (Behr).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL was restricted to the west end of Dana Plateau, 11,000'-11,400' elevation, above Tioga Pass, Mono County, California (J. Emmel, T. Emmel & Mattoon, 1998d).

General. This common subspecies of the Arctic-Alpine Zone occurs on rocky scree, ridges and mountain tops of the Sierran Divide and is well known from the Tioga Pass region but also is sympatric with *E. anicia variicolor* at Sonora Pass. The hostplant is reportedly an alpine paintbrush. The flight is primarily July to third week of August.

192 MONO (EDITH'S) CHECKERSPOT *Euphydryas editha monoensis* Gunder.

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL of *monoensis* is Rush Creek (below Farmington's Ranch) vicinity of Mono Lake, Mono County, California (Miller & Brown, 1981). The subspecies *fridayi* Gunder (TL: between June and Silver Lakes, Mono County; Miller & Brown, 1981) occurs within the range of *monoensis* and David Bauer stated (in Howe, 1975): "The paratypes of *fridayi* Gunder at the Los Angeles County Museum fall well within the range of *monoensis* colonies and are considered a synonym."

General. This subspecies is found along the east slope of the Sierra Nevada in the Yosemite region from Rush Creek north to Mill Creek, Slinkard Creek and the Little Walker Creek area to the north. It favors areas recovering from wildfires. *Collinsia* species (which grow well in burn areas) are used as larval hosts. Most records are from May and June, rarely to July or very early August in wet years.

193 SATYR ANGLEWING *Polygonia satyrus* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL for *satyrus* is Empire, Clear Creek County, Colorado (Miller & Brown, 1981). The TL for *neomarsyas* dos Passos is Salmon Meadows, Brewster, Washington (Miller & Brown, 1981). The name *neomarsyas* is sometimes applied to California populations, but variability within the species makes such names difficult to apply. Also known as the **Satyr Comma**.

General. An uncommon species in the region, it occurs along streams or in montane forest openings (Upper Sonoran, Transition and Canadian Zones) where the nettle host occurs on the west and east slopes of the Sierra Nevada. At Sugar Pine in Madera County, *satyrus* occurs with the next two *Polygonia* species. Most records of *satyrus* are from March into October, but adults overwinter and could potentially fly any day of the year.

194 GREEN COMMA *Polygonia faunus rusticus* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL of *rusticus* is Big Trees, Calaveras County, California (Miller & Brown, 1981). The butterfly known as the **Sylvan Anglewing** (*Polygonia silvius* W. H. Edwards) has a TL of Yosemite Valley, Yosemite National Park (Miller and Brown, 1981). J. Emmel, T. Emmel and Mattoon (1998e) state: "The type localities of *rusticus* and *silvius* are similar in habitat, are geographically close, and specimens of *P. faunus* from these two localities are virtually identical, thus rendering *silvius* a junior synonym of *rusticus*."

General. The **Rustic Anglewing** was included in the 1963 checklist based on a specimen in the Yosemite Museum taken in "Yosemite" VI-26 (E. O. Essig). It is actually far more common in the region than anyone then suspected. It is overlooked by most visitors who come to Yosemite during the summer months because the main flights are in the spring and fall. Fresh adults emerge in late August and early September and overwinter, then appear as early as March and peak from late April into June with individuals lasting into July and very rarely August. True *rusticus* of the Yosemite region is a lighter insect than those called *rusticus* from the Pacific Northwest and northern Rockies. Female individuals collected in the region frequently resemble *silvius*, now regarded as a "form" of *rusticus*. A highly sought species of the upper Transition and Canadian Zone forests, *rusticus* occurs near small streams, canyons and forest openings where hostplants azalea *Rhododendron occidentale* (Torrey & A. Gray) or *Salix scouleriana* Hook occur. It is most commonly seen in the late afternoon perching on pine tree branches and prominent tall vegetation in small sunlit openings along streams, often repeatedly returning to a favorite perch. Most records are from the Fresno Dome region and Sugar Pine in Madera County and from Mather and Fish Camp in Tuolumne and Mariposa Counties on the Sierra Nevada west slope.

195 HOARY COMMA *Polygonia gracilis zephyrus* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL of *gracilis* (Grote & Robinson) is Mt. Washington, New Hampshire (Miller & Brown, 1981). The TL of *zephyrus* is Virginia City, Storey County, Nevada (Austin, 1998h). The **Zephyr Anglewing** was long recognized as a separate species but plainly intergrades with *P. gracilis* in Canada. Such intergradation or variation is visible in museum collections.

General. The only regional *Polygonia* that occurs mostly along streams and nearby meadows and forest openings where it is an avid flower visitor from the Transition through Hudsonian Zones. Adults turn up in the lower canyons (as at Briceburg) early in the spring and are occasionally seen above timberline. Currants, gooseberries and azalea are larval hosts. Adults overwinter but are most often seen from late March through September.

196 CALIFORNIA TORTOISESHELL *Nymphalis californica californica* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. Noted to occasionaly occur in outbreak numbers, this distinctive montane species can potentially turn up anywhere in the region as the *Ceanothus* hostplants are common and widespread. Adults frequent streams and wet

spots from the chaparral and forests to well above timberline, unrestricted by life zones. Records range from late February into October but overwintering adults may appear even on warm winter days.

197 MOURNING CLOAK *Nymphalis antiopa antiopa* (Linnaeus).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. This common and widespread species occurs along streams, in meadowlands and lake edges wherever willows, elms, and cottonwoods occur on both sides of the Sierra Nevada crest. It is most commonly seen from March through September though overwintering adults may appear any day of the year.

198 MILBERT'S TORTOISESHELL *Nymphalis milberti subpallida* (Cockerell).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. This subspecies was long known as *furcillata* (Say) (TL: Fort William, North West Territory (Ontario, Canada); Miller & Brown, 1981), a name now considered synonymous with eastern *milberti* (Godart) (TL: vicinity of Philadelphia, Pennsylvania; Miller & Brown, 1981). Austin (1998g) applied the name *subpallida* (TL: West Cliff, Custer Co., Colorado; Miller & Brown, 1981) to most western populations.

General. One of Yosemite's most beautiful butterflies, this species may be seen most commonly in mid-elevation forests near the nettle host along streams or in open meadows but adults stray upwards to the highest peaks along the Sierra Nevada crest and are occasionally found in the western foothills as well. Potentially seen any day of the year, it is most likely to be found from late February (foothills) to mid-July, even August in the high country.

199 AMERICAN PAINTED LADY *Vanessa virginiensis* (Drury).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. A commonly seen butterfly in Yosemite Valley, this widely distributed species has also been called the **American Lady, Virginia Lady, Painted Beauty** and **Hunter's Butterfly**. Easily recognized by the two large eyespots on the HW below which readily distinguish it from other *Vanessa.* Hostplants are everlastings, pussytoes and cudweeds. It is most usually seen at flowers, even into the Hudsonian Zone at Sonora Pass. *V. virginiensis* is an overwintering species but the main flight is March into early October.

200 PAINTED LADY *Vanessa cardui* (Linnaeus).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. No one comes to Yosemite just to see this widespread and common migratory species found throughout much of the world. It may turn up anywhere in the region, very abundantly during heavy migrations in the spring and fall. Larvae feed on thistles and a multitude of plants. Adults are seen from late February through October.

201 WEST COAST LADY *Vanessa annabella* (Field).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for *annabella* is "first valley W. of Arroyo Verde Park, Ventura, Ventura County, California (Miller & Brown, 1981). Known as *V. carye* (Hbn.) prior to 1971, that name is now applied to only South American populations.

General. This western butterfly favors back yards and vacant lots in cities and wastelands where mallows grow in the Lower Sonoran Zone but regularly occurs throughout the region in all habitats, including rocky slopes above timberline southeast above Saddlebag Lake at 10,500'. An overwintering species potentially seen any day of the year, it is most frequently seen from late February into early November.

202 RED ADMIRAL *Vanessa atalanta rubria* (Fruhstorfer).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Listed for Yosemite by a single record in 1963, this fast and erratic flier continues to be infrequently seen in the region. Records exist for both the western and eastern slopes of the Sierra Nevada. An overwintering species which utilizes nettles as the larval host, it can potentially turn up on any warm day of the year.

203 BUCKEYE BUTTERFLY *Junonia coenia grisea* Austin and J. Emmel.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The *grisea* TL is California: Los Angeles County, South Pasadena, elevation 198 meters. The types for nominate *coenia* came from the eastern United States (Austin & Emmel, 1998a). Garth & Tilden used *Precis orithya evarete* (Cram.) and the current scientific name combination (as a synonym) in *Yosemite Butterflies*. The use of a name for western populations has proven controversial but there are phenotypic differences within this common and widespread species. Some may argue this is the result of environmental rather than genetic factors.

General. This is a commonly seen butterfly in Yosemite Valley and dry fields and meadows from Lower Sonoran into the Canadian Zones. Hosts are *Plantago* and other weedy plants. The flight period is March into October.

204 WIDE-BANDED (WEIDEMEYER'S) ADMIRAL *Limenitis weidemeyerii* near *latifascia* Perkins & Perkins.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. This species has also been placed in the genus *Basilarchia*. The TL for *latifascia* is Mink Creek, 10 mi. S. of Pocatello, Bannock Co., Idaho (Miller & Brown, 1981). The TL for *nevadae* Barnes & Benjamin is the Spring Mountain Range, Clark Co., Nevada (Austin, 1998h). This population of *L. weidemeyerii* found east of the Sierra Nevada was listed as the **Nevada Admiral** (*L. w. nevadae* (Barnes & Benjamin)) by Garth and Tilden (1963). The current name *latifascia* applies to a subspecies of *L. weidemeyerii* with wide white bands and differs from *nevadae* of the Spring Mountains from near Las Vegas, Nevada, which have much narrower white bands. Mono County *weidemeyerii* have somewhat narrower white banding than *latifascia* from the Rocky Mountains, but are much wider than *nevadae*.

General. The **Wide-Banded Admiral** occurs along Lee Vining Creek and in the Mono Basin (Mono Lake) north (in the Upper Sonoran and Transition Zones) along the east side of the Sierra Nevada (at elevations up to 9500') to Devil's Gate Pass north of Bridgeport, ranging eastward into Nevada. Adults are common in wet meadowland and marshes with willows at Mono Lake and at other localities but infrequently seen at many sites where both this species and *L. lorquini* overlap ranges. The rare (but not too rare) hybrid "fridayi" (**Friday's Admiral**) occurs in this region at many localities and is especially well known from Mono Lake (see Boyd, Boyd, Austin and Murphy, 1999 for a complete discussion). The flight is late June to late August depending on the season. J.A. Comstock (1927) made this interesting comment: "…there are only a few sites within its California range where it may be found. For some unknown reason it has not obtained a footing in the high Sierras, although environmental conditions would seem to favor its presence there." There are records of this species up to 9500' or so on the eastern side of the Sierra Nevada but none from the western slope.

205 LORQUIN'S ADMIRAL *Limenitis lorquini lorquini* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Also known as *Basilarchia lorquini*. The TL for nominotypical *lorquini* was restricted to Hwy. 70 at Soda Creek, E. Branch North Fork Feather River Canyon, 2500' elev., Plumas County, California (Emmel, Emmel & Mattoon, 1998b).

General. This beautiful admiral of the Pacific slope with orange-tips on the FW above is commonly seen in association with willows along streambeds and in meadows on the Sierra Nevada west slope from the foothills into Canadian Zone forests, even straying higher into the Tioga Pass region in Hudsonian Zone. The flight period is late April into early October.

206 PALLID LORQUIN'S ADMIRAL *Limenitis lorquini* near *pallidafacies* Austin & Emmel.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Nevada: Esmeralda County, White Mountains, Trail Canyon 2620m. This newly described subspecies is characterized by having paler yellow-orange FW tips, broader white bands and somewhat different spotting than nominate *lorquini* (Austin & Emmel, 1998a).

General. Lorquin's Admirals found at Swall Meadow, Rock Creek Gorge and on Glass Mountain in southern Mono County north to about Mono Lake are similar to *pallidafacies*. North of Mono Lake, *lorquini* gradually blends to the typical subspecies (John F. Emmel, pers. comm.). I have collected this species northeast of Mono Lake in the Bodie Hills along a willow lined stream in Bridgeport Canyon, sympatric with the more common *L. weidemeyerii*. This and other reported records of *L. lorquini* from northeast of Mono Lake (including Cottonwood Canyon) even into adjacent Nevada (Boyd, Boyd, Austin & Murphy, 1999 and Derham Giuliani pers. comm.) demonstrates there is more overlapping of ranges with *L. weidemeyerii* than generally recognized.

207 CALIFORNIA SISTER *Adelpha (bredowii) californica* (Butler).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Long considered a subspecies of *Adelpha bredowii* Geyer, current unpublished studies (Ray Stanford, Andrew Warren, pers. comm.) suggest that *bredowii*, *californica* and *eulalia* (Doubleday & Hewitson) are separate species. The TL of *bredowii* is Mexico. It is not in the United States. California is the TL of *californica* (Miller & Brown, 1981).

General. This is very common in the Sierra Nevada foothills and mixed coniferous forest (Upper Sonoran and lower Transition Zones) where the host oaks grow commonly. This beautiful dark brown butterfly with narrow white bands and broader orange-tips on the FW than the similarly patterned **Lorquin's Admiral** strays higher into

Canadian Zone forests. Garth and Tilden comment it may be recognized "on the wing by the habit of alternating a few rapid beats with a glide in which the wings are held slightly below the horizontal level." Adults frequent wet spots and rarely visit flowers. It is absent from the east slope of the Sierra Nevada in the region. The flight ranges from late April into early November.

WOOD-NYMPHS and SATYRS: SATYRIDAE

This family is grouped with the family Nymphalidae by many specialists. The "Arctic" butterflies of the genus *Oeneis* and *Neominois ridingsii* draw considerable interest to the Tioga and Sonora Pass regions in the Sierra Nevada high country. Seven species are recognized in the Yosemite region by this author.

Taxonomic note. Specialists are divided about how many species to recognize in the *Coenonympha tullia* (Muller) complex in North America. Those that believe these are one variable biological species call these the **Common Ringlet**. See Porter and Geiger, 1998) for their evidence for the "one species" concept. Garth and Tilden viewed these as one species (but they changed their minds in their 1986 book on the butterflies of California) but I prefer to view the complex as six or seven closely related species, two of which are in the Yosemite region.

208 NORTHWEST RINGLET *Coenonympha ampelos mono* Burdick.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is Bridgeport, Mono County, California (Miller & Brown, 1981). The **Mono Ringlet** has also been considered a subspecies of the **Ochre Ringlet** (*C. ochracea* W. H. Edwards) by numerous authors (including Garth and Tilden in 1986). I associate it with *ampelos* based on the lack of ocelli underneath and its obvious continuous range with nominotypical *ampelos* W. H. Edwards just to the north in the Lake Tahoe region. If the one species view is correct, then these are all subspecies of *C. tullia*.

General. Whatever the correct view of the taxonomic issue, this ochre colored ringlet is common east of the Sierra Nevada in wet meadows and riparian areas with tall grasses (the host) in the Great Basin including Mono Lake, Bridgeport, along the Bodie Road and even in eastern Sierra Nevada canyons. Records are from June through August but earlier and later records are expected.

209 CALIFORNIA RINGLET *Coenonympha california california* Westwood.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is California, probably from the vicinity of San Francisco (Miller & Brown, 1981).

General. This drab nondescript ringlet is a common species (or subspecies) in the Sierra Nevada foothills, a frequently seen butterfly of the chaparral and foothill woodland and mixed coniferous forest (Upper Sonoran and lower Transition Zones) where its favored grasses grow. It strays higher into the Canadian Zone. The flight is late February well into October.

210 WALKER RIVER (COMMON) WOOD-NYMPH *Cercyonis pegala walkerensis* Austin.

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL of *walkerensis* is Huntoon Valley, Swanger Creek, 5.4 mi. NW of Bridgeport, Huntoon Camp, Mono Co., California (Austin, 1992) and was recently described (1992) in an excellent paper by Austin describing several new species from the Great Basin in eastern California and Nevada. What subspecies name to apply to Mono Lake material was an issue when Garth and Tilden did their survey. They called the *pegala* (Fabricius) of the region *ariane* (Boisduval) which is the northern Sierra Nevada population, but also believed the name "*baroni* (Edw.)" might apply. The correct name to call *pegala* in the region was resolved by Austin. Austin (1992) made this comment about the distribution of *walkerensis*: "This subspecies is known from the north end of the Mono Lake Basin (Mono County, California and the East Walker River drainage (Mono County, California…). Recent records for *Cercyonis pegala* from Mono Lake are considered questionable because of confusion with *Cercyonis sthenele paulus* which is frequently seen there; and because recent collecting has failed to turn up *C. pegala* at Mono Lake. It is also possible that diversion of water run off from the east side of the Sierra Nevada has had a negative impact on the habitat supporting populations of *C. pegala* occurring at Mono Lake and that they either no longer exist or have become very rare there. The locality given by Austin for the southern limit of *walkerensis* is just north of Mono Lake and an occasional stray to Mono Lake would be expected.

General. Good localities to find *walkerensis* are the Bridgeport area (including the marsh right in the city) and south of Bridgeport at the junction of US 395 with Green Canyon Rd. near Willow Springs (*Cercyonis oetus* and *C.*

sthenele paulus also occur there!). Adults fly in tall grasses along the drier edges of wet meadows and seek nectar from rabbitbrush and other yellow flowers. Some individuals I collected at Bridgeport have double apical ocellus on the FW above which is suggestive of subspecies *wheeleri* (W. H. Edwards), an apparently extinct subspecies which likely once occurred at Owens Lake east of the Sierra Nevada in Inyo County. The flight is late July into early September.

211 SYLVAN SATYR *Cercyonis sthenele silvestris* (W. H. Edwards).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL is was designated as two air miles southwest of Pulga, north fork Feather River Canyon, Butte County, California (T. Emmel & J. Emmel, 1998b). Prior to that action the name *silvestris* had also been applied to the species *Cercyonis oetus* by some authorities (Miller & Brown, 1981 and Ferris, 1989). The nondescript scrawling and pattern on the HW below separate *silvestris* from southern California *behrii* (F. Grinnell) which exhibits a well defined HW band. The TL of *behrii* is Pan Toll Camp, Mt. Tamalpais, Marin County, California (T. Emmel & J. Emmel, 1998a). Garth and Tilden (1963) listed this butterfly as *Cercyonis silvestris*.

General. This is a common butterfly of shaded areas in chaparral, foothill woodland and mixed coniferous forest (Upper Sonoran and lower Transition Zones). The Oakhurst area (Madera County) and Jerseydale (Mariposa County) are good places to find it. This grass feeding satyr flies from late May into September.

212 LITTLE WOOD-NYMPH *Cercyonis sthenele paulus* (W. H. Edwards).

Regional occurrence. Not recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Virginia City, Storey County, Nevada (Austin, 1998h). One male I collected in Bridgeport Canyon strongly resembles *C. oetus* above, but is patterned below as typical *paulus*. Both species often occur together in the region.

General. This butterfly is commonly found in the dry sagebrush scrub and juniper woodland habitats on the east side of the Sierra Nevada and in the Great Basin. J. A. Comstock illustrated a specimen from Mono Lake (August 5, 1922) which Garth and Tilden overlooked. The flight is from the latter half of June into early September.

213 SMALL WOOD-NYMPH *Cercyonis oetus oetus* (Boisduval).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. Also known as the **Dark Wook-Nymph** and **Least Satyr**. The TL was restricted to west slope of Mt. Judah, south-southeast of Donner Pass, Placer County, California (J. Emmel, T. Emmel & Mattoon, 1998b).

General. This small-sized satyr of the eastern Sierra Nevada and Great Basin occurs in sagebrush and pinyon-juniper woodland where the host grasses grow. Garth and Tilden noted it can occur even above timberline at Tioga Pass, an observation confirmed by many lepidopterists since then. It is not uncommon in the Arctic-Alpine zone even at 11,000' southeast above Saddlebag Lake and is often frequent on the sagebrush hills just north of Sonora Pass well above 10,000' elevation as well. The southern limit of this species range on the east side of the Sierra Nevada is the Big Pine Creek drainage (Inyo County) south of the Yosemite region (fide John F. Emmel). The flight is normally the second week of July through August.

214 RIDING'S SATYR *Neominois ridingsii pallidus* Austin.

Regional occurrence. Not recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. The TL for *pallidus* is Nevada: Mineral County: Alkali Valley, Larkin Dry Lake Road, 4.8 road miles north of Nevada State Route 359, 7000' elevation (Austin, 1986).

General. The **Pallid** or **Pale Riding's Satry** occurs at various localities along the Sierra Nevada crest and was recently named (Austin, 1986). Oddly, Garth and Tilden (1963) did not list this species in their Yosemite publication, probably an oversight because they make the following comment on pg. 18 under the heading "THE GEOLOGICAL BACKGROUND": "…second consequence of Yosemite's geological history is that those butterflies that now fly above timberline, and in particular the grass-feeding Satyridae, such as the **Ivallda Arctic** (*Oeneis chryxus ivallda*) and **Riding's Satyr** (*Eumenis ridingsii*), and Hesperiinae, such as the newly found **Miriam's Skipper** (*Hesperia miriamae*), having no trees but only barren rock on which to alight, have come to resemble exactly the color, shade and texture of the particular rock found in their respective habitat, whether it be sedimentary or metamorphic." It is obvious they knew *ridingsii* flew in the Sierra Nevada and had read the information given below. J. A. Comstock (1927) made this comment in his species account of **Riding's Satyr**: "Its stronghold is in the Rocky Mountains, but recent entomological explorations on the higher sierran peaks have revealed it at isolated points. One of these colonies was discovered on the range to the south of Mammoth Lakes, in Mono County. There, in an environment of rocky summits and wind blown crag, was found this strange waif of the

mountains, in company with the **Ivallda Arctic**. Its color, when at rest, is exactly that of the moss-grown rock, so that one sees it only in moments of flight. Upon alighting, it frequently bends over on its side, thus making itself even less noticeable." The comments of these authors give us great information about how these cryptic species of the Arctic-Alpine Zone blend right in with the rocky peaks where they live...and how difficult they are to collect or observe! The best known locality in the region are the sagebrush hills just north of Sonora Pass (Mono County) where the butterfly occurs on even numbered years, alternating flights with *Oeneis chryxus stanislaus* which occurs on dark red granitics on odd numbered years. These species apparently take two years to develop from egg to adult...an occasional specimen is found flying on the wrong year. Less known is that there are also populations at much lower elevations in sagebrush scrub on the east side of the Sierra Nevada (US 395 and Little Walker River; Green Creek S. of Bridgeport; Aurora Canyon, 3 mi. E. of Bridgeport; hills lower end of Bridgeport Valley (J. R. Mori, pers. comm.) and hills above Convict Lake (John Pasko)). Derham Giuliani has collected *pallidus* along Log Cabin Mine Road 2 air miles W. of Lee Vining. All of these locations are in Mono County, but this butterfly ranges south to the South Fork of Bishop Creek in Inyo County where it flies at 8400' to 9000' elevation on a yearly basis from the second week of June into early July. This species is best found flying early in the day among the host grasses...later in the afternoon *ridingsii* must be flushed out of its hiding places. Adults often favor ridgetops but are also partial to low areas of sagebrush slopes and flats where the grass host (probably *Stipa* species (needlegrass)) grow as well. Blue grama grass, a common host elsewhere does not grow in the Yosemite region (J. F. Emmel, pers. comm.) Records for the region range from late May to early August.

215 STANISLAUS (CHRYXUS) ARCTIC *Oeneis chryxus stanislaus* (Hovanitz).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL is Sonora Pass, 8400', Alpine County, California (Miller & Brown, 1981). It should be noted most of Sonora Pass is in on the Tuolumne and Mono County line. This butterfly was apparently viewed as a form by Garth & Tilden in 1963. See comments below.

General. This is a very dark yellow/orange and brown subspecies that occurs on dark red Tertiary volcanics of red Miocene andesite rocks in contrast to the lighter pale yellow-white subspecies *ivallda* which occurs on much lighter white granite. These butterflies appear to have taken on the very color of the rock where they live in the Arctic-Alpine and barren upper Hudsonian Zones. This is discussed in a classic paper by Hovanitz (1941, reprinted 1977) who discussed the issue of how rocky surroundings may have influenced the coloration of these two butterflies which have similar patterns and markings, yet show such drastic differences in ground color. The issue of whether *stanislaus* and *ivallda* represent one species or two has been historically controversial and perplexing (Howe, 1975: Garth and Tilden, 1986, Tilden and Smith, 1986) with Garth and Tilden treating *ivallda* as a subspecies of *chryxus* in 1963, but giving it species status later in 1986. Porter and Shapiro (1989 (1991)) did DNA studies on the two and concluded they are conspecific which may or may not have resolved the issue. Others have noted populations of *ivallda* and *stanislaus* may occur within a "few meters" of each other in the Sierra Nevada and retain their distinctive color differences. In any case, this highly prized "arctic butterfly" is best known from the ridges high above Sonora Pass where it is sometimes common, but has also been found on volcanic rock formations to the west in the Dardanelles region (Keith S. Brown Jr., 1965) and east of the Sierra Nevada in the Sweetwater Range where it even occurs in the state of Nevada (fide George T. Austin). There are reports of both *ivallda* and *stanislaus* occurring on the ridges east of Saddlebag Lake and up Warren Creek Canyon north of the Tioga Pass Rd. (R. L. Langston) east of Tioga Pass. Hosts are grasses and sedges. The flight is normally July and August, rarely into September in years when the season is delayed by heavy snows.

216 IVALLDA ARCTIC *Oeneis chryxus ivallda* (Mead).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

Taxonomic note. The TL includes Summit (Nordin, Donner Summit), Freel Peak, Mt. Tallac., Lake Tahoe, (Placer County), California (Miller & Brown, 1981).

General. Long viewed as a separate species of restricted range but recognized by Garth and Tilden as a subspecies of *chryxus* which "inhabits the bleak, wind-swept summits that culminate in Mt. Lyell, Mt. Dana and Mt. Conness." They also wrote that these butterflies of the Arctic-Alpine Zone are "erratic fliers, extremely difficult to capture, the Arctics have a habit of leaning with the wind when alighting, their mottled wings resembling a patch of lichen...because of the inaccessibility of its habitat, the **Ivalida Arctic** presents the ultimate challenge to the energetic lepidopterist." This butterfly is commonly found on the rocky slopes and ridges above Tioga Pass and east above Saddlebag Lake to the mountain peaks above 14,000' where *ivallda* is well worth looking for. The adults tend to fly madly upslope and are very wary of the collector trying to net them. I found it best to pursue them on the dead run while noting just where the adults momentarily alight on rock or bare ground then clamp my net over them

while still on the run. This is a butterfly that rarely visits flowers, nor flies during overcast skies. It is not a particularly beautiful butterfly to the average person, but this insect is gorgeous to the entomologist that appreciates its value, rarity and difficulty in collecting. It occasionally strays downwards to the edges of Hudsonian Zone meadows or rocky moraines below timberline early in the flight period which is normally July to mid-September but varies with yearly weather conditions and snow melt. The hosts are grasses and sedges.

MILKWEED BUTTERFLIES: DANAIDAE

This family includes what is likely the most famous butterfly and migrant in the world. Our two species are large and likely to be seen if encountered but only one is likely to be seen by a visitor in the Yosemite region. Some specialists include this family with the Nymphalidae.

217 MONARCH *Danaus plexippus plexippus* (Linnaeus).

Regional occurrence. Recorded in 1963.

Taxonomic status. Unchanged from 1963.

General. A common butterfly of the region, including Yosemite Valley where milkweeds grow commonly. These migrants become transiently established in the region throughout the summer and can be observed in their spring and fall migrations. The overall flight is March through October. MONARCHS are occasionally seen even above timberline, but are usually uncommon above the Canadian Zone.

218 STRIATED QUEEN *Danaus gilippus thersippus* (Bates).

Regional occurrence. Recorded in 1963.

Taxonomic status. Changed from 1963.

Taxonomic note. Formerly known as *strigosus*, now considered a synonym of *thersippus* (Austin, 1998i).

General. Garth and Tilden cited records for Mono Lake where it continues to turn up regularly. A number of other records now exist for both the western and eastern slopes of the Sierra Nevada. Since the species becomes transiently established on *Aslepias fascicularis* Decaisne in the both the Bishop area in Inyo County just south of the Yosemite region and in the southern Sierra Nevada in Kern County, such records of strays or transients are not surprising. Records for the region range from June into October.

KEY TO ABBREVIATIONS

FW: Forewing. **HW:** Hindwing **LT:** Lectotype. **TL:** Type locality.

QUESTIONABLE OR DOUBTFUL RECORDS

AFRANIUS DUSKYWING *Erynnis afranius* (Lintner).

Reports of this butterfly in the region (Jerseydale and Mather) by Oakley Shields (1966) have proven to be the similar appearing *Erynnis persius*. This species is not known in the state north of Los Angeles County.

SMALL CHECKERED SKIPPER *Pyrgus scriptura scriptura* (Boisduval).

The inclusion of this species in the Yosemite regional list is considered dubious. *P. scriptura* is normally found in close association with its alkali mallow host plant on alkaline soils on the floor (Lower Sonoran Zone) of the San Joaquin Valley where it flies from late March into early October. The record is based on 2 males in the California Academy of Sciences from Huntington Lake, Fresno County on 30 VII 1919 by E. P. Van Duzee. The specimens were noted in the museum collection by Robert Langston and published in the 1996 annual Season Summary. That locality is at about 6500' elevation in the Canadian Zone, a habitat unlikely for *P. scriptura* but a known locality for *Pyrgus ruralis*. I suspect mislabeling or a switch of labels of the locality data on the specimens. Since *P. scriptura* occasionally turns up at very high elevations in other states, the possibility exists that this record is valid.

BANDED HAIRSTREAK *Satyrium calanus* (Hübner).

There is one record from Yosemite Valley, Mariposa County (trail near Happy Isles on 31 May 1964 by the author). The individual was likely an accidental import from the East. No other records are known from California and it is highly unlikely to be a member of the Yosemite fauna.

COMSTOCK'S HAIRSTREAK *Callophrys comstocki interrupta* Austin.

Michael J. Smith reported he had collected this species on 31 V 1979 on *Eriogonum umbellatum* growing on sagebrush flats above Hot Creek near Mammoth in Mono County. John F. Emmel believes this record likely represents the closely related *Callophrys lemberti*.

OREAS ANGLEWING *Polygonia oreas* (W. H. Edwards).

There is a possible record of this species from Mariposa County collected by "Comstock." Until this specimen can be located and examined, I consider *oreas* to be of hypothetical occurrence in the region. There is a dark form of *P. gracilis zephyrus* in the region that resembles *P. oreas*.

VICEROY BUTTERFLY *Limenitis archippus lahontani* (Herlan).

There is a record of a specimen in the 1972 Season Summary collected 3 mi. N. of Bridgeport Reservoir on 6 August 1972 (Richard Imig). The record was reported by Peter J. Herlan. The specimen is in the collection of the Nevada State Museum, Carson City, Nevada. The individual may have strayed in from Nevada or be an accidental import. Others suspect mislabeling.

SPECIES FOUND JUST OUTSIDE THE YOSEMITE REGION

YUMA SKIPPER *Ochlodes yuma* (W. H. Edwards).

Two subspecies occur just outside the Yosemite sector of the Sierra Nevada. The nominotypical subspecies is recorded for western Mono County from "Farrington Camp" and the Mammoth Lakes region (Tilden, 1957; Scott, Shields & Ellis, 1977). John F. Emmel (pers. comm.) doubts these records. Farrington is likely a misidentification of a San Joaquin Valley locality (=Farmington) for the species and no suitable habitat for *O. yuma* occurs today in the Mammoth area. Shields and J. Emmel checked a *Phragmites* population near Walker in Mono Co. and found no evidence of larvae. Subspecies, *sacramentorum* Austin occurs along streams where the host *Phragmites australis* (Cav.) Trim. ex. Steud occurs in the San Joaquin Valley in both Merced County (Merced River at Santa Fe Road 7 X 1977, Michael J. Smith) and in Madera County (US Hwy. 99 near Chowchilla River in alfalfa field on 23 VI 87, K. Davenport) just west of the Sierra Nevada foothills. It potentially may be found in the Sierra Nevada foothills.

BAIRD'S SWALLOWTAIL *Papilio bairdii* W. H. Edwards.

Considered a subspecies of *P. machaon* Linnaeus by many workers. Garth and Tilden could have included the species in their Yosemite paper based on their comment under *P. zelicaon*..."Although readily confused with *Papilio bairdii brucei* Edw., which occurs in the region of the Mono Craters east of the Sierra Nevada, *P. zelicaon* has less yellow on the abdomen than does "*P. brucei*". Confusion about the identity of *brucei* and its presence in the region was evident in a pictured specimen (Comstock, 1927) labeled as "*brucei*" from Round Valley, Inyo County which appears to be a mis-identified *P. zelicaon.* However, yellow populations of *P. bairdii* are known from the north slope of the White Mountains in eastern Mono County on the Nevada state line and it may very possibly range westward to the Yosemite area.

DESERT ORANGE-TIP *Anthocharis cethura hadromarmorata* Emmel, Emmel and Mattoon.

Also known as FELDER'S ORANGE-TIP, this species is known from eastern Mono County 2.25 to 2.75 mi. NE of Chalfant (21 IV 1993 by William L. Swisher) and hill 5750' at Wild Horse Creek, 2 mi. SW of Nevada Hwy. 264, 11.5 mi. NW of Oasis (6 V 03 by William L. Swisher) These records suggests the species could enter the Yosemite region in the Mono Lake area. However, John F. Emmel (pers. comm.) believes the elevation around Mono Lake may be too high for the species to occur there and there are no suitable hosts known to occur there.

BAUER'S BLUE *Euphilotes baueri* (Shields).

There is a record for this species for Spring Canyon Creek, 2 miles south of Benton, Mono County for 19 V 1983 collected by Sterling O. Mattoon. John F. Emmel reports there is a record from just north of the town of Walker, just north of the region.

BEHR'S METALMARK *Apodemia virgulti* (behr).

A reported record for Yosemite Valley in Opler and Powell (1961) likely refers to *tuolumnensis* (Opler, pers. comm.) This member of the *Apodemia mormo* complex may very well occur on the west slope of the Sierra Nevada as suggested by Garth and Tilden (1963).

GULF FRITILLARY *Agraulis vanillae incarnata* (Riley).

This species occurs in the San Joaquin Valley where there are records from Modesto (James R. Mori) and Tulare (Ken Davenport). Breeding populations in Fresno just southwest of Yosemite are likely. Strays into the Yosemite foothills would seem likely.

CHECKLIST OF YOSEMITE NATIONAL PARK BUTTERFLIES

The following list is compiled based on Garth & Tilden (1963), the USGS survey list provided by Paul Opler and collecting records. This list includes subspecies. Many more species and subspecies undoubtedly occur inside Park boundaries, awaiting discovery by those with binoculars and cameras.

HESPERIIDAE

Epargyreus clarus californicus MacNeill.
Thorybes pylades indisdinctus Austin & J. Emmel.
Thorybes diversus Bell.
Thorybes mexicanus nevada Scudder.
Erynnis propertius (Scudder & Burgess).
Erynnis pacuvius lilius (Dyar).
Erynnis persius (Scudder).
Pyrgus ruralis ruralis (Boisduval).
Pyrgus communis (Grote).
Heliopetes ericetorum (Boisduval).
Hesperia juba (Scudder).
Hesperia colorado harpalus (W. H. Edwards).
Hesperia colorado idaho (W. H. Edwards).
Hesperia miriamae miriamae MacNeill.
Polites sabuleti tecumseh (Grinnell).
Polites sonora sonora (Scudder).
Ochlodes sylvanoides sylvanoides (Boisduval).
Ochlodes agricola nemorum (Boisduval).
Amblyscirtes vialis (W. H. Edwards).

PAPILIONIDAE

Parnassius clodius baldur W. H. Edwards.
Parnassius clodius sol Bryk & Eisner.
Parnassius behrii W. H. Edwards.
Papilio zelicaon zelicaon Lucas.
Papilio indra indra Reakirt.
Papilio rutulus rutulus Lucas.
Papilio multicaudatus pusillus Austin & J. Emmel.
Papilio eurymedon Lucas.

PIERIDAE

Neophasia menapia menapia Felder & Felder.
Pontia sisymbrii sisymbrii (Boisduval).
Pontia protodice (Boisduval & LeConte).
Pontia occidentalis occidentalis (Reakirt).
Pieris marginalis microstriata J. A. Comstock.
Pieris rapae (Linnaeus).
Euchloe ausonides transmontana Austin & J. Emmel.
Euchloe hyantis (W. H. Edwards).
Anthocharis sara sara Lucas.
Anthocharis stella stella W. H. Edwards.
Anthocharis lanceolata lanceolata Lucas.
Colias eurytheme Boisduval.
Colias behrii W. H. Edwards.
Zerene eurydice (Boisduval).

LYCAENIDAE

Lycaena arota arota (Boisduval)
Lycaena phlaeas alpestris J. Emmel & Pratt.
Lycaena cuprea lapidicola J. Emmel & Pratt.
Lycaena xanthoides xanthoides (Boisduval).
Lycaena editha editha (Mead).
Lycaena editha pseudonexa J. Emmel & Pratt.
Lycaena rubida monachensis (K. Johnson & Balogh).
Lycaena heteronea submaculata J. Emmel & Pratt.
Lycaena helloides helloides (Boisduval).
Lycaena nivalis nivalis (Boisduval).
Lycaena mariposa mariposa Reakirt.
Habrodais grunus grunus (Boisduval).
Atlides halesus estesi Clench.
Satyrium californicum californicum (W. H. Edwards).
Satyrium sylvinum sylvinum (Boisduval).
Satyrium auretorum auretorum (Boisduval).
Satyrium saepium saepium (Boisduval).
Callophrys lemberti limbeti Tilden.
Loranthomitoura spinetorum spinetorum (Hewitson).
Mitoura nelsoni nelsoni (Boisduval).
Deciduphagus augustinus iroides (Boisduval).
Incisalia eryphon eryphon (Boisduval).
Strymon melinus pudicus (Hy. Edwards).
Brephidium exile (Scudder).
Echinargus isola (Reakirt).
Leptotes marina (Reakirt).
Everes amyntula amyntula (Boisduval).
Everes amyntula montanorum Austin.
Celastrina (ladon) echo (W. H. Edwards).
Euphilotes battoides battoides (Behr).
Euphilotes enoptes enoptes (Boisduval).
Glaucopsyche piasus piasus (Boisduval).
Glaucopsyche lygdamus incognita Tilden.
Glaucopsyche lygdamus Doubleday (Sierra Nevada high elevation segregate.)
Plebejus anna anna (W. H. Edwards).
Plebejus (melissa) fridayi (Chermock).
Plebejus saepiolus aehaja (Behr).

Plebejus icarioides icarioides (Boisduval).
Plebejus shasta shasta (W. H. Edwards).
Plebejus acmon acmon (Westwood & Hewitson).
Plebejus lupini alpicola (Emmel, Emmel & Mattoon).
Agriades podarce cilla (Behr).
Agriades cassiope cassiope Emmel & Emmel.

RIODINIDAE

Apodemia mormo mormo (Felder & Felder).
Apodemia cythera tuolumnensis Opler & Powell.

NYMPHALIDAE

Speyeria leto leto (Behr).
Speyeria zerene nr. *zerene* (Boisduval).
Speyeria callippe rupestris (Behr).
Speyeria egleis egleis (Behr).
Speyeria hesperis irene (Boisduval).
Speyeria hydaspe nr. *viridicornis* (J. A Comstock).
Speyeria mormonia mormonia (Boisduval).
Boloria epithore sierra (E. Perkins).
Chlosyne leanira leanira (C. & R. Felder).
Chlosyne palla palla (Boisduval).
Chlosyne whitneyi whitneyi (Behr).
Chlosyne hoffmanni hoffmanni (Behr).
Phyciodes pulchellus (Boisduval). Black population.
Phyciodes pulchellus montanus (Behr).
Phyciodes orseis herlani Bauer.
Phyciodes mylitta mylitta (W. H. Edwards).
Euphydryas chalcedona chalcedona (Doubleday).
Euphydryas chalcedona sierra (Wright).
Euphydryas editha rubicunda (Hy. Edwards).
Euphydryas editha nubigena (Behr).
Polygonia satyrus (W. H. Edwards).
Polygonia faunus rusticus (W. H. Edwards).
Polygonia gracilis zephyrus (W. H. Edwards).
Nymphalis californica californica (Boisduval).
Nymphalis antiopa antiopa (Linnaeus).
Nymphalis milberti subpallida (Cockerell).
Vanessa virginiensis (Drury).
Vanessa cardui (Linnaeus).
Vanessa annabella (Field).
Vanessa atalanta rubria (Fruhstorfer).
Junonia coenia grisea Austin & J. Emmel.
Limenitis lorquini lorquini (Boisduval).
Adelpha (bredowii) californica (Butler).

SATYRIDAE

Coenonympha california california Westwood.
Cercyonis sthenele silvestris (W. H. Edwards).
Cercyonis oetus oetus (Boisduval).
Oeneis chryxus ivallda (Mead).

DANAIDAE

Danaus plexippus (Linnaeus).

RARELY RECORDED, VAGRANT OR QUESTIONABLE TAXON RECORDS

PIERIDAE

Colias occidentalis chrysomelas Hy. Edwards.
Nathalis iole Boisduval.

LYCAENIDAE

Everes comyntas (Godart).
Satyrium calanus (Hubner).

LIST OF SPECIES DESCRIBED FROM THE YOSEMITE REGION AND THEIR TYPE LOCALITIES

I: FROM WITHIN YOSEMITE NATIONAL PARK

***Parnassius clodius baldur*:** Tioga Pass, Yosemite, Sierra Nevada.
***Parnassius behrii*:** Mt. Lyell, (NT from Tioga Pass) Yosemite, Sierra Nevada.
***Colias behrii*:** Tioga Pass, Yosemite Mountains.
***Lycaena phlaeas alpestris*:** North slope of Mt. Dana.
***Callophrys lemberti limberti*:** West of Tioga Pass.

Plebejus saepiolus aehaja: Tioga Pass, headwaters of the Tuolumne River.
Apodemia cythera (mormo of others***) tuolumnensis***: Grand Canyon of the Tuolumne.
Boloria epithore sierra**:** Sentinel Dome overlooking Yosemite Valley.
Phyciodes pulchellus montanus**:** Tuolumne Meadows.

II: FROM OUTSIDE YOSEMITE NATIONAL PARK

Hesperia miriamae miriamae**:** Mono Pass, NW Inyo County.
Lycaena cuprea lapidicola**:** Tioga Pass, Mono County.
Lycaena gorgon micropunctata**:** Rock Creek Gorge.
Satyrium behrii behrii**:** Mono Lake.
Euphilotes battoides battoides**:** Mono Pass, NW Inyo County.
Euphilotes enoptes langstoni**:** Sherwin Summit.
Philotiella speciosa bohartorum**:** Briceburg.
Plebejus (melissa) fridayi**:** Mammoth.
Plebejus shasta calchas**:** Mono Lake.
Plebejus lupini alpicola**:** Barney Lake.
Speyeria zerene malcolmi**:** Mammoth.
Speyeria callippe rupestris**:** Moore Creek Rd., Mariposa County.
Chlosyne whitneyi whitney**:** N. slope of Mt. Dana, Glacier Canyon.
Euphydryas chalcedona variicolor**:** Sonora Pass.
Euphydryas editha rubicunda**:** Sierra Nevada foothills, Mariposa County.
Euphydryas editha nubigena**:** Dana Plateau, Tioga Pass.
Euphydryas editha monoensis**:** Rush Creek, Mono Lake.
Polygonia faunus rusticus**:** Big Trees, Calaveras County.
Coenonympha ampelos mono**:** Bridgeport.
Cercyonis pegala walkerensis**:** Huntoon Valley NW of Bridgeport.
Oeneis chryxus stanislaus**:** Sonora Pass.

III: SYNONYMS IN THE YOSEMITE REGION

Hesperia colorado yosemite**:** near Yosemite.
Speyeria zerene monticola: Mather.
Euphydryas editha fridayi**:** Between June and Silver Lakes, Mono County.
Polygonia silvius**:** Yosemite Valley.

COLLECTION AND OBSERVATION RECORDS FOR THE YOSEMITE REGION

(Abbreviation code for contributors of records. Those not identified by letters are fully cited.)

George T. Austin: GTA, Bruce and Bret Boyd: BRB, Ken Davenport: KD, John F. Emmel: JFE, Randy Emmitt: RE, John S. Garth: JSG, Bill Gendron: BG, Derham Giuliani: DG, Keith C. Hughes: KCH, Jan H. Hughes: JHH, Robert L. Langston: RLL, John Lane: JL, Lloyd M. Martin and Charles H. Ingham: LM/CI, James R. Mori: JRM, Paul A. Opler: PAO, John G. Pasko: JGP, Al and Tom Rubbert: ATR, Charles A. Sekerman: CAS, Oakley Shields: AOS, Michael J. Smith: MJS, Ray E. Stanford: RES, J. W. Tilden: JWT.

Records by Oakley Shields for Mather were taken on the following dates: 19 VI to 6 IX 64; 14 VI to 9 VIII 65 and 20 VI to 9 IX 66. Records from Jerseydale by Shields lack dates but are included based on his 1997 paper (see reference section). Robert Langston had a collecting permit to collect inside Yosemite National Park boundaries in 1981. Collecting inside the parks has also been done by others under permit from the National Park Service and was the basis of Garth and Tilden's 1963 *Yosemite Butterflies* publication.

Some records included here are included from outside the study area to document where the taxa is known from in the general region. This is not an exhaustive list of records for most taxa.

HESPERIIDAE

***Epargyreus clarus californicus*:** Madera County: Sugar Pine 23 V and 8 VI 92 (KD); 3 mi. E. of Chilkoot Camp 13 VI 02 (KD). Mariposa County: Near Camp Curry, Happy Isles Trail, Yosemite Valley 31 V 64 (KD, seen) and 30 V 70 (KD); Fish Camp 16 VI and 4 VIII 90; 23 V 92 (KD); Summerdale Camp (Big Creek) 29 VI 04 (KD). Tuolumne County: VI-VII Mather (AOS).

***Polygonus leo arizonensis*:** Inyo County: Round Valley 4500' Rock Creek Rd. 2 mi. N. of Pine Creek Rd. (1mi. S. of Mono County line) 26 VIII 83 (Sterling & Eileen Mattoon). Mariposa County: Jerseydale 11 VIII 84 (AOS).

***Thorybes pylades indistinctus*:** Madera County: Sugar Pine 8 VI 92 (KD); Fresno Dome Camp 1-2 VII 92 (KD); Coarsegold 8 VI 92 (KD). Mariposa County: Signal Peak Lookout 7100' 17 VI 87 (AOS); Fish Camp 16 VI 90 and 23 V 92 (KD). Tuolumne County: 1 mi. S. of Ferry, Deer Creek 1300' Tuolumne Reservoir 24 IV 66 (RES); 1 mi. E. of Mather VI-VII (AOS). Mono County: Little Antelope Canyon 14 VI 96 (BRB); Summers Canyon 7 VII 96 (BRB).

***Thorybes diversus*:** Madera County: Sugar Pine 8 VI 92 and 11 VI 93 (KD); roads between Sugar Pine and Sivels Mtn. 8 VI 92 (Kilian Roever) and 11 VI 93 (KD); E. of Redwood Camp to 3 mi. W. of Fresno Dome Camp 23 V 92, 11 VI 93 (over 200 seen), 28 V and 13 VI 02 (all KD). Mariposa County: Fish Camp 16 VI 90, 3 VII 91, 23 V and 8 VI 92 (KD). Tuolumne County: NF of Tuolumne River near Longbarn 31 V 00 (Richard V. Kelson); Mather 10 VI 61 and 30 VI 62 (both JWT).

***Thorybes mexicanus nevada*:** Inyo County: Mono Pass 2 VIII 61 (RES); 30-31 VIII 67 (PAO). Fresno County: Mono Pass 2 VIII 61 (RES); Kaiser Crest 4 VII 61 (RES). Madera County: Fresno Dome 1-2 VII 96; 11 VII 99 and 30 VI 04 (all KD). Mariposa County: Crane Flat 16 VI 68 (KCH). Tuolumne County: Niagara Creek 8 VII 87 (KD). Mono County: Green Canyon 10 VI 96 (BRB); Warren Creek Canyon 21 VI 86 and 5 VII 89 (both KD); Glacier Canyon N. slope of Mt. Dana 10,500' (RLL/ D. Parkinson); Saddlebag Lake and vicinity 13-14 VIII 70 and 18 VII 73 (both KD); ridge SE of Mt. Conness 13 and 20 VII 76 (KD); slopes S. of Sonora Pass 8 VII 87 (KD); Bald Mountain Lookout 9104' 27 VI 99 (blending towards *blanca*, KD).

***Erynnis icelus*:** Mono County: Little Antelope Canyon 14 VI 96 (BRB) and Mill Canyon 15 VI 96 (BRB).

***Erynnis brizo lacustra*:** Mariposa County: Bootjack Rd. 2300' 26 IV 65 (RES/Kit Stanford); ridge 5 mi. W. of Briceburg 2750' 9 IV 81 (AOS); Footman Ridge above Jerseydale 1 and 23 V 74 ; 15 V 76 (both AOS).

***Erynnis propertius*:** Fresno County: SR 168, 14 mi. NW of Shaver Lake 27 V 02 (KD); San Joaquin River Gorge 16 IV 04 (KD). Madera County: 4 mi. E. of Bass Lake 22 VI 87 (PAO); Sugar Pine 23 V and 8 VI 92 (KD); E. of Redwood Camp to Fresno Dome Camp 1-2 VII 96 (KD); Coarsegold 8 VI 92 (KD); ridge NE of San Joaquin River crossing at Power House 11 IV 04 (RES/KD). Mariposa County: Briceburg 28 III 81 (KD); Midpines 28 III 81 (KD); Fish Camp 16 VI 90 and 23 V 92 (KD). Tuolumne County: Mather 12 VII 56 (JSG) and 10 VI 61 (JWT). Mono County: Sonora Pass 8 VII 87 (KD); Swall Meadow 9 and 20 V 97 (KD).

***Erynnis tristis tristis*:** Fresno County: SR 168, 14 mi. NW of Shaver Lake 12 IX 03 and 11 VI 04 (KD); Buckeye Helipad (SR 168) 11 VI 04 (KD) and San Joaquin River at Lost Lake Park 11 VI 04 (KD) . Madera County: Chowchilla River at Santa Fe Rd. and 8 mi. SE of Raymond 15 VI 84 (PAO); 3 mi. S. of Raymond 22 VI 87 (PAO); ridge NE of San Joaquin River crossing at Power House 11 IV 04 (KD). Mariposa County: Briceburg 28 III 81 and 20 IV 84 (KD); Jerseydale (AOS). Tuolumne County: Jacksonville 850' 15 IX 54 (C. D. MacNeill); Tuolumne 2000' 31 VIII 59 (M. Lundgren).

***Erynnis pacuvius lilius*:** Fresno County: SR 168 nr. Huntington Lake 26 VI 66 (KCH/JHH); Shaver Lake 15 VI 68 (KCH/JHH). Madera County: 5 mi. E. of Bass Lake 15 VI 84 (PAO); Chilkoot Camp 28 V and 13 VI 02 (KD); Fresno Dome Camp 1-2 VII 96 (KD); Fresno Dome saddle 7300' 5 and 11 VII 99 (KD). Mariposa County: Fish Camp 16 VI 90 and 25 VII 92 (KD). Tuolumne County: Big Oak Flat Rd. 2 mi. S. of Tuolumne River 15 IV 61 (PAO/RES). Mono County: Swall Meadow 9 V 97 (KD); Bald Mtn. Lookout 9104' 27 VI 99 (KD); Little Antelope Canyon 14 VI and 12 VII 96 (BRB).

***Erynnis funeralis*:** Calaveras County: W. of Arnold 6 IX 98 (JRM). Madera County: Redinger Lake 20 III 04 (KD); Rd. 235, 1 mi. NE of Power House 10 IV 04 (RES/ KD, seen); Rd. 235 top of ridge 2 to 3 mi. NE of Power House/ San Joaquin River crossing 10-11 IV and 7 V 04 (KD, several). Mariposa County: Coulterville Road 26 VI ? (D. D. MacLean). Mono County: Rock Creek 28 VII 52 (Jerry A. Powell); 4 mi. W. of Bodie 9 VII 04 (seen, KD).

***Erynnis persius*:** Fresno County: Shaver Lake 3 to 8 VII 02 (RE). Madera County: Coarsegold 23 V 92 (KD); Sugar Pine 4 VIII 90, 3 VII 91, 23 V and 8 VI 92 (all KD); Sivels Mtn. 23 V 93 (KD); Fresno Dome Camp 26 VII 92 (KD); Oakhurst along Fresno River 8 VI 92 and 31 III 94 (KD). Mariposa County: El Portal 23 IV 66 (RES/JL) and 9 V 70 (KH/CAS); Briceburg 28 III 81 (KD); W. of Jerseydale 23 VI 87 and 9 VIII 93 (KD). Tuolumne County: Mather 15 VII 56 (JSG). Mono County: Little Antelope Canyon 14 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB); Silver Canyon 16 VI 96 (BRB); Swall Meadow 9 and 20 V 97; 30 V 99 (all KD).

***Pyrgus ruralis ruralis*:** Fresno County: Tamarack Meadow, 2 mi. E. of Shaver Lake 3 VII 54 (JWT). Madera County: 5 mi. E. of Bass Lake 15 VI 84 (PAO); Chilkoot Camp 28 V 02 (KD); Sugar Pine 24 V 91 and 11 IV 04 (both KD); 1 mi. W. Fresno Dome 13 VI 02 (KD). Mariposa County: El Portal 23 IV 66 (RES /JL); Jerseydale V (AOS). Tuolumne County: 1 mi. E. of Mather VI-VII (AOS). Mono County: Subalpine forest W. of Saddlebag Lake 25 VI 76 and 5 VII 88 (KD); stream bench NE of SR 120 at turnoff to Saddlebag Lake 21 VI 86 (KD); trail along SE side of Saddlebag Lake 10 VII 04 (BG/KD); canyons S. of Sonora Pass 7 and 9 VII 87; 14 VII 94 (both KD); Green Canyon 10 VI 96 (BRB); Virginia Canyon 8 VII 96 (BRB).

***Pyrgus scriptura scriptura*:** Fresno County: Huntington Lake 30 VII 1919 (E. P. Van Duzee). This record is considered questionable.

***Pyrgus communis*:** Fresno County: Huntington Lake 26 VI 66 (KCH/JHH). Madera County: Oakhurst 12 VI 92 (KD). Mariposa County: Crane Flat 6200' 16 VIII 81 (RLL); Jerseydale "occasional" (AOS); Fish Camp 28 VII 89 and 4 VIII 90 (KD); Indian Flat 15 IV and 11 VI 61 (JWT). Mono County: W. of Walker 11 IX 96 (GTA); Tom's Place 22 VI 86 (KD); Mono Lake 2 and 4 VIII 75 (KD); Summit Canyon 16 VI 96 (BRB); Summers Canyon 11 VI and 7 VII 96 (BRB); Green Canyon 1 VIII 04 (KD); Sawmill Meadow 9200', E. side Glass Mtn. 2 VIII 04 (KD).

***Pyrgus albescens*:** Calaveras County: Mokelumne Hill (no date, F. E. Blaisdell). Some lowland Mono County records for "*P. communis*" may be *albescens*. GTA reports there is a record for *albescens* from Carson City, Nevada. This species also likely occurs on the lower west slope of the Sierra Nevada where it would be visually indistinguishable from *communis*.

***Heliopetes ericetorum*:** Fresno County: 1-2 mi. SW of Mountain Rest 15 VI 68 (KCH/CAS); SR 168, 14 mi. NW of Shaver Lake and Buckeye Helipad 11 VI 04 (KD); Rd. 235 on ridge

overlooking Redinger Lake 4 IX 04 (KD). Madera County: 3 mi. S. of Raymond 21-22 VI 87 (PAO); Oakhurst 23 V 92 (KD); NE of Oakhurst 11 VI 93 (KD); Sugar Pine 28 VII 89 and 4 VIII 90 (KD); NW of Redwood Camp 13 VI 02 (KD). Mariposa County: Jerseydale 22 IV to 25 V 86 (AOS); Fish Camp 5 IX 95 (KD). Tuolumne County: SR 120 & Hetch-Hetchy Rd. 14 V 61 (JWT); 1 mi. E. of Mather VI-IX (AOS). Mono County: Mill Creek 9 VIII 96 (BRB); Convict Lake terminal moraine, 1 mi. W. US 395 16 VI 04 (PAO).

***Pholisora catullus*:** Madera County: Chowchilla Rd. 15 VI 84 (PAO). Tuolumne County: Below Tulloch Reservoir 15 VI 98 (RES). Mono County: Mill Canyon 15 VI 96; 15 VII and 9 VIII 96 (BRB); Swall Meadow 20 V 97 (Kevin Davenport); 30 V 99 (KD/Jack Levy) and 26 V 01 (JGP).

***Hesperopsis libya lena*:** Mono County: SR 120 N. of Adobe Ranch Rd. 2 VIII 04 (one seen at rabbitbrush, KD). The species has been reported to occur in eastern Mono County by others…but those records were unavailable for this report .

***Hesperopsis alpheus oricus*:** Mono County: Hills E. of scenic turnout (US 395) S. of Sherwin Summit 6400-6600' 15 V 88 (Richard P. Meyer); dry area E. of Swall Meadow above Rock Creek Gorge 20 V 87 and 12 V 89 (both KD).

***Hylephila phyleus muertovalle*:** Fresno County: SR 168, 14 mi. NW of Shaver Lake 12 IX 03 (KD); Millerton Lake 8 VII 02 (RE); Lost Lake Park, San Joaquin River 12 IX 03 (KD). Mariposa County: Fish Camp 4 VIII 90 and 5 IX 95 (KD); Jerseydale "occasional" (AOS).

***Pseudocopaeodes eunus*:** Mono County: Hot Springs, Hot Creek 31 V 79 (MJS); Hot Creek (visitor day area) and river bridge below day area 10 VI 01 (GTA); Mammoth 9 VII ? (GTA); S. of Cottonwood Rd., N. of Mono Lake 27 VI 98 (GTA); Dechambean Hot Springs, Mono Lake 5 VII 80 (GTA); N. shore of Mono Lake 10 VI 01 (GTA).

Hesperia uncas near ***macswaini***: Mono County: Green Canyon 10 VI 96 (BRB); Mill Canyon 9 VIII 96 (BRB); Wolf Canyon 11 VIII 96 (BRB).

***Hesperia uncas giulianii*:** Mono County: Adobe Hills, 5 mi. NW of Adobe Lake 7100' 3 VI 81 and 21 VI 82; 3 mi. NW of Adobe Lake 7000' 3 VI 81; 1.5 mi. N. and 1 mi. W. of Bodie 9200' 29 VI 83; 3 mi. W. of Glass Mtn. 9300' 23 VI 82 (all DG & William W. McGuire); Silver Lake (June Lake Loop) 14 VI 35 (Chris Henne fide JFE); NW ridge of Mono Craters area 7800-8025 ' 1 VII 95 (JFE); 4 to 9 mi. W. of Bodie off SR 270 on dry edges of wet meadows 9 and 11 VII 04 (KD); ridge and hilltop 1-2 mi. SW of Bodie off Cottonwood Cyn. Rd. 11 VII 04 (KD); dry ridge E. of Green Canyon 1 VIII 04 (KD).

***Hesperia juba*:** Fresno County: Mountain Rest 11 VI 67 (KCH/JHH/CAS). Madera County: Sugar Pine 24 V 91 and 23 V 92 (both KD). Mariposa County: El Portal 23 IV 66 (RES/JL/Henry Holmes); Briceburg 9 V 70 (KJH/JHH/JL); Jerseydale (AOS); Fish Camp 11 VI 93 (KD). Tuolumne County: Mather 10 VI 61 (JWT). Mono County: Mono Lake 1 IX 65 (PAO); Saddlebag Lake 13-14 VIII 70 (KD); ridge SE of Mt. Conness 20 VII 76 (KD); Hot Creek 13 VII 00 (BG); Green Canyon 10 VI 96 (BRB); Summers Canyon 11 VI 96 (BRB); Sonora Pass 9 VIII 98 (KD); Bodie Rd. (SR 270) 2 mi. E. of US. 395 9 VIII 98 (KD); Lower Rock Creek Gorge E. of Swall Meadow 20 V 97 (KD).

***Hesperia colorado idaho*:** (formerly known as *harpalus*): Mono County: Lower Rock Creek Gorge E. of Swall Meadow 9 and 20 V 97 (KD); Tom's Place 22 VI 86 (KD); Lee Vining 2-4 VIII 75 (KD); Bodie Rd. (SR 270) E. of US 395 9 VIII 98, 26 VI 99; 9 and 11 VII 04 (all KD); Mono Lake 1 IX 65 (PAO) and 20 VII 86 (Norbert Kondla); Green Canyon 5 VIII 96 (BRB); Mill Canyon 15 VI 96 (BRB); Saddlebag Lake 10,050' 13-14 VIII 70 (KD); Tioga Pass 17 VIII 75 (KD); Minaret Summit, Mammoth Lakes area 14 VIII 03 (BG); Rush Creek N. of Silver Lake 7 VII 04 (KD).

***Hesperia colorado harpalus*:** (formerly known as *yosemite)*: Fresno County: Mono Hot Springs and Edison Lake 3 to 8 VII 02 (both RE); Badger Flat 15-16 VII 96 (CAS). Madera County: S. of Wawona 4000' 19 VIII 65 (KCH/JHH); Fresno Dome Trail 11 VI 02 and 30 VI 04 (KD); 15 VI 03 (Adam Winer). Mariposa County: 2 mi. N. of Yosemite Creek Camp 11 IX 74 (RLL, fall flying segregate?)); Cherry Lake Rd. 2 mi. N. of SR 120 12 IX 74 (RLL, fall flying segregate?) ; Summerdale Camp (1 mi. E. of Fish Camp) 8 VI 92 and 29 VI 04 (KD); Jerseydale: 1 VIII 57 (AOS). Tuolumne County: 1 mi. E. of Mather VI-IX (AOS); Niagara Creek 8 VII 87 and 13 VII 94 (KD).

***Hesperia colorado*:** (Sierra Nevada west slope segregate that flies in late summer and fall): Fresno County: Rd. 235 on ridge overlooking Redinger Lake 4 IX 04 (KD). Mariposa County: Skelton Canyon (scarce), Jerseydale (scarce) and Footman Ridge above Jerseydale (occasionally common on *Haplopappus* blooms) early IX to mid-X (AOS). Tuolumne County: Hetch-Hetchy Dam 3800' 11 IX 82 and 25 VIII 83 (both RLL, records submitted as "*yosemite*", but are more likely this entity).

***Hesperia columbia*:** Mariposa County: Hunter Valley Mtn. 18 IV to 8 V and 21 IX 82 (all AOS). Footman Ridge above Jerseydale 23 V 74, 15 V 76 and 28 IX 87 (all AOS).

***Hesperia lindseyi*:** Calaveras County: 1 mi. SE of Glencoe 2700', 19 VI 82 (Richard V. Kelson).

***Hesperia miriamae miriamae*:** Inyo County: Mono Pass VIII 56 , 57 and 58 (Don MacNeill, the type series); 30-31 VIII 67 (PAO). Fresno County: Duck Lake 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Tuolumne County: N. slope of Mt. Dana 11,500' 8 VIII 81 (RLL); Virginia Peak, 8 mi. NW of Saddlebag Lake 3 VIII 03 (photo, Susan Steele). Mono County: N. slope of Mt. Dana 31 VII 58 and 8 VIII 60 (AOS); 16 VIII 75 (seen, KD); above Saddlebag Lake 22 VII 80 (Jack Levy); ridge SE of Mt. Conness 26 VII 81 (seen, KD).

***Hesperia nevada sierra*:** Inyo County: Mono Pass 30-31 VIII 67 (PAO). Fresno County: Near Kaiser Creek 8400' 24 VI and 7 VII 30 (LM/CI). Madera County: Rainbow Falls, 5 mi. W. of Crystal Crag Lodge 3 VIII 61 (RES). Tuolumne County: W. of Sonora Pass 10,000' 3 VII 59 (RES/PAO/Nora Opler); Leavitt Peak 11,000' 29 VIII 67 (PAO). Mono County: Lake Mary nr. Mammoth Lakes 4 VII 59 (RES/PAO/Nora Opler); ridge S. above Sonora Pass 11,000' 7 and 9 VII 87 and 12 VII 94 (all KD); Little Antelope Canyon 14 VI 96 (BRB); Summit Canyon 10 VII 96 (BRB); Virginia Canyon 12 VI, 9 VII and 7 VIII 96 (all BRB); Bald Mtn. Lookout 9104' 27 VI 99 (KD); ridge 1 mi. SW of Bodie at 9200' 11 VII 04 (KD).

***Polites sabuleti sabuleti*:** Mono County: W. of Walker 15 VIII 96 (GTA); E. Walker River, US 395, 1.1 mi. S. of USFS 142 26 VIII 97 (GTA); Mono Lake 2, 4 and 17 VIII 75 (KD): East Walker River, Bridgeport Meadows, Twin Lakes Rd., 1 mi. S. of Bridgeport 12 IX 96 and 26 VIII 97 (GTA); Bridgeport 17 VIII 00 (KD); 4 mi. W. of Bodie (SR 270) 9 VII 04 (KD). A very dark female collected near Bodie may represent a different subspecies than *sabuleti*.

***Polites sabuleti tecumseh*:** Inyo County: Mono Pass 2 VIII 61 (RES) and 31 VIII 67 (PAO). Fresno County: Mono Pass 2 VIII 61 (RES); Huntington Lake 26 VI 66 (KCH/JHH). Madera County: 9 mi. E. of Bass Lake 15 VI 84 (PAO); Fresno Dome 1-2 VII 96, 5 and 11 VII 99 (all KD). Mariposa County: Tamarack Flat 16 VI 68 (KCH/JHH). Tuolumne County: 1 mi. E. of Mather VII-VIII (AOS). Mono County: Saddlebag Lake/Tioga Pass region 13 VIII 70, 3 VIII 75 and 25 VII 81 (all KD), Sonora Pass 27 VII 02 (KD).

***Polites sonora sonora*:** Inyo County: Mono Pass 2 VIII 61 (RES) and 31 VIII 67 (PAO). Fresno County: Mono Pass 2 VIII

61 (RES); Kaiser Crest 4 VII 61 (RES); Shaver Lake 4 VII 02 (RE). Madera County: Granite Creek 33 mi. E. of Bass Lake 22 VI 87 (PAO); Fresno Dome Camp 26 VII 92 and 1-2 VII 96 (KD); Fresno Dome 30 VI and 1 VII 04 (KD). Mariposa County: Fish Camp 4 VIII 90 and 25 VII 92 (both KD); Summerdale Camp 29 VI 04 (KD). Tuolumne County: Tuolumne Meadows 14 VIII 57 and 3 IX 58 (JWT); Niagara Creek 8 VII 87 and 12 VII 94 (KD). Mono County: Sonora Pass 24 VI 57 (KCH/RES); Warren Creek Canyon 26 VII 02 (KD).

***Polites sonora longinqua*:** Mono County: Mono Lake Park 2-4 VIII 75 (KD); Bridgeport 15 VIII 03 (BG); Obsidian Camp Rd. W. of US 395 nr. Sonora Pass Jct. 17 VIII 00 (KD); Tom's Place 22 VI 86 (KD); 9.1 mi. N. of Bridgeport 5 VIII 78 (KD); Bridgeport Meadows, East Walker River at USFS 142 (Green/Summers Cr. Rd.) 9 VI 96 (GTA); Twin Lakes Rd. 1 mi. S. of Bridgeport 21 V 97 and 26 VIII 97 (both GTA); Hot Creek 15 VII 00 (BG); Bodie Rd. (SR 270) 4-5 mi. E. of US 395 9 VIII 98 and 9 VII 04 (KD).

Atalopedes campestris campestris: Fresno County: Kaiser Pass 20 VI to 1 VIII 30 (LM/CI). Madera County: Daulton 21- 22 VI 87 (PAO); 3 mi. S. of Raymond 22 VI 87 (PAO). Mariposa County: Jerseydale "occasional" (AOS). Tuolumne County: 1 mi. E. of Mather (AOS). Mono County: Little Walker River Rd. nr. Bridgeport 15 VIII 03 (BG).

***Ochlodes sylvanoides sylvanoides*:** Fresno County: Ridge above Redinger Lake (Rd. 235) 4 IX 04 (KD). Madera County: Cedar Valley N. of Oakhurst 4900' 17 VIII 65 (KCH/JHH). Mariposa County: Jerseydale 9 VIII 93 (KD); Fish Camp 5 IX 95 (KD). Tuolumne County: Mather 4 IX 57 (JWT); Hetch-Hetchy 13 VII 56 (JSG); Pate Valley along Tuolumne River at 3900' 2 VIII 59 (PAO/RES).

***Ochlodes sylvanoides omnigena*:** Mono County: W.of Walker 19 VIII 96 and 11-12 IX 96 (GTA); Mono Lk. 1 IX 65 (PAO) & 17 VIII 75 (KD); East Walker River (SR 182) 0.3 S. of Nevada line 16 IX 96 (GTA); Rd.to Obsidian Camp W. of US 395 nr. Sonora Pass Jct. 17 VIII 00 (KD); Swall Meadow 8 and 25 VIII 98 (KD).

***Ochlodes agricola nemorum*:** Calaveras County: NF of Stanislaus River below Avery 20 VII 93 (JRM). Fresno County: Upper portion of road to San Joaquin River Gorge from Power Road 14 V 04 (KD); Italian Creek area on Rd. 235 nr. Redinger Lake 11 VI 04 (KD). Mariposa County: Indian Flat 30 V 59 (JWT); Darrah 29 V 59 (JWT); El Portal 14 V 61 (JWT); 23 IV 66 (RES/Henry Holmes) and 10 V 69 (JL/ KCH), Jerseydale V-VI (AOS).

***Ochlodes yuma yuma*:** Reported from Farrington Camp and Mammoth Camp (Tilden, 1957). Both of these records are questionable. The "Farrington Camp" record may be confused with another San Joaquin Valley locality (=Farmington) and *Phragmites* likely does not occur at Mammoth. JFE's search for larvae on a small *Phragmites* population in the Walker area failed to turn up any signs of larvae (JFE, pers. comm.).

***Ochlodes yuma sacramentorum*:** Calaveras County: Sand Flats (Tilden, 1957). Merced County: Merced River at Santa Fe Rd. 7 X 77 (MJS). Madera County: US 99, 0.5 to 1 mi. S. of Chowchilla River nr. Chowchilla in alfala field 23 VI 87 (KD). The latter record a surprise since the nearest host *Phragmites australis* was about a half mile away. This species tends to be intensely local.

***Poanes melane melane*:** Fresno County: Blue Canyon Rd. 27 V 02 (KD); canyon N. side of SR 168, 14 mi. NW of Shaver Lake (2 air mi. S. of Auberry) 12 IX 03 (KD). Madera County: Sugar Pine 23 V 92 and 22 V 93 (both KD); Fresno River at Oakhurst 23 V and 8 VI 92 (KD). Mariposa County: El Portal 10 V 69 (JL/KCH). Jerseydale (AOS); Bear Creek, Briceburg 20 IV 84 (KD); Fish Camp 8 VI 92 (KD). Tuolumne County: 1 mi. S. of Ferry, Deer Creek at Tuolumne River 24 IV 66 (RES).

***Amblyscirtes vialis*:** Calaveras County: Hunter Dam below Avery V-VI (JRM). Madera County: Sugar Pine 3 VII 91 (KD); Fresno Dome Rd. E. of Redwood Camp 28 V and 13 VI 02 (KD); Sivels Mtn. Rd. 8 VI 92 (Kilian Roever). Mariposa County: Fish Camp 16 VI 90 and 23 V 92 (both KD). Tuolumne County: Twain Harte 3800' (SR 108) 31 V 00 (Richard Kelson).

***Lerodea eufala*:** Fresno County: Lost Lake Park, San Joaquin River 12 IX 03 (KD). Mariposa County: Jerseydale "occ." (AOS).

PAPILIONIDAE

***Parnassius clodius baldur*:** Fresno County: Upper Little Pine Creek 7000-8500' 25 VI to 10 VIII 30 (LM/CI); above Huntington Lake 7-8 VII 02 (RE). Madera County: Fresno Dome Camp 1- 2 VII 96 and 11 VII 99 (KD); Fresno Dome 1-2 VII 96 and 13 VI 02 (KD). Mariposa County: Yosemite Creek 7 VII 56 (JSG); Tenaya Canyon 11 VII 58 (AOS). Tuolumne County: Niagara Creek and Eagle Meadow Rd. 8 VII 87 and 12 VII 94 (KD); W. of Sonora Pass 19 VII 76 (KD). Mono County: E. of Saddlebag Lake 13-14 VIII 70 and 18 VII 73 (KD); E. above Tioga Pass 16 VIII 75 (KD); ridge SE of Mt. Conness 13 and 20 VII 76; 26 VII 81 (KD); Green Canyon 6 VII 96 (BRB); Summers Canyon 7 VII 96 (BRB); Wolf Canyon 11 VII 96 (BRB).

***Parnassius clodius sol*:** Mariposa County: Jerseydale 23 VI 56, 21 VI 57 and 16 to 18 VI 58 (all AOS, originally listed as *baldur* by Garth & Tilden); Fish Camp 16-17 VII 89 (ATR); 16 VI 90, 3 VII 91 and 23 V 92 (all KD); Summerdale Camp along Big Creek to park boundary (SR 41) 29 VI 04 (KD). Madera County: Sugar Pine 8 VI 92 and 29 VI 04 (KD, scarce).

***Parnassius behrii*:** Inyo County: Mono Pass 31 VIII 65 (PAO) and 31 VIII 67 (PAO). Fresno County: Mono Pass 2 VIII 61 and Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (both RES). Madera County: Rainbow Falls 5 mi. W. of Crystal Crag Lodge 3 VIII 61 (RES). Mariposa County: Research Reserve 14 VII 33 (JSG). Tuolumne County: N. slope of Mt. Dana, SW of Tioga Pass 20 VIII 65 (KCH/JHH); 8 VIII 81 (RLL). Mono County: N. slope of Mt. Dana 16 VIII 75 (KD); Glacier Canyon (N. slope Mt. Dana) 10,500-11,000' 2 VIII 81 (RLL); ridge SE of Mt. Conness above 10,000' 13 and 20 VII 76 (KD); 26 VII 81 and 11 VIII 91 (all KD); E. above Saddlebag Lake at 11,000' 25 and 28 VII 81 (KD); 15 VIII 81 (RLL); NW side of Saddlebag Lake 31 VII 87 (JGP); Virginia Canyon above 10,000' 7 VIII 96 (BRB).

***Battus philenor philenor*:** Mariposa County: Jerseydale 12 VII 83 (AOS).

***Battus philenor hirsuta*:** Calaveras County: Natural Bridges (Melones Reservoir) 22 V 99 (JRM). Fresno County: Power House Road, one seen 2 to 3 mi. NE of Auberry just beyond road to San Joaquin River Gorge 11 IV 04 (KD/RES); San Joaquin River Gorge on steep north facing slope above river on Squaw Leap Trail 16 IV 04 (locally common, KD); one seen E. end of Millerton Lake 16 IV 04 (KD). Madera County: Ridge NE of Power House/San Joaquin River crossing 11 IV 04 (seen, RES). Tuolumne County: Bear Creek just S. of Sonora off SR 49 in IV 59 (PAO/RES); Deer Creek (S. of Groveland) 2 miles from San Pedro Reservoir 23 IV 70, 26 III 78, 18 IV 80 and 12 VI 89 (all JRM); Phoenix Lake, 6 mi. E. of Sonora 18 V 99 (JRM); Upper Lake Don Pedro 12 IV 85 (JRM); 2 mi. S. Melones Reservoir 18 IV 85 (JRM). Mariposa County: 4 mi. W. of Coulterville 16 V 75 (JRM).

***Papilio (polyxenes) coloro*:** Mono County: 5 mi. NE Mono Inn (Benton Hills 5 mi. NE of Lake Crowley) 11 VII 65 (collector unknown, small male in collection of James A. Scott). There is some confusion about exactly where this *coloro* was collected. If this Mono Inn was the one on the W. shore of Mono Lake, then it

was collected in the Bodie Hills. Either locality is in the region covered by this report.

***Papilio zelicaon zelicaon*:** Fresno County: Kaiser Peak and Crest 19 VI to 21 VII 30 (LM/CI); Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: Fresno Dome 1- 2 VII 96 (KD); Chilkoot Camp 7 V 04 (KD). Mariposa County: Jerseydale 16 VI 57 and 4 VIII 62 (AOS); Briceburg 10 III 79 (KD). Tuolumne County: Sonora Pass 3 VII 59 (RES/PAO/Nora Opler). Mono County: ridge SE of Mt. Conness 13 and 20 VII 76 (KD) ; 10 VII 04 (BG, KD); Tioga Pass 16 VIII 75 (KD); Saddlebag Lake 18 VII 73 (KD); 24 VI 79 (JGP); ridge S. of Sonora Pass at 11,000' 7 and 9 VII 87 (KD); Warren Creek Canyon 21 VI 86 (KD); Green Canyon 6 VII 96 (BRB); Virginia Canyon 12 VI 96 (BRB); Bald Mtn. Lookout 9104' 27 VI 99 (KD).

***Papilio indra indra*:** Fresno County: Kaiser Peak and Kaiser Crest 10,000-10,300' 17 VI to 27 VII 30 (LM/CI) and 4 VII 61 (RES). Madera County: Mammoth Peak 16 VII 60 at Mono Co. line (AOS). Mariposa County: Fish Camp 23 V 92 (KD); Camp Curry, Yosemite Valley 31 V 64 (seen, KD); Research Reserve 18 VII 33 (A. Carthew). Tuolumne County: Crest W. of Tioga Pass 25 VI 61 (AOS); Tuolumne Meadows 8800' 8 VII 81 (RLL). Mono County: Saddlebag Lake 13 VIII 70 (KD); 6 VIII 78 (KD), 28 VI 81 (RLL), 5 VII 89 (KD) and 1 VII 91 (D. D. Murphy); NE slope of Mt. Dana, Glacier Cyn. 9900' 5 VII 81 (RLL); Junction Camp (SR 120) 21 VI 86 (KD); ridge S. of Sonora Pass 12 VII 94 (KD); Swall Meadow 20 V 97 (KD); ridge SE of Mt. Conness 13 and 20 VII 76 and 26 VII 81 (all KD); S. of Walker 8 VI 96 (BRB); Green Canyon 6 VII 96 (BRB); Little Antelope Canyon 14 VI 96 (BRB); Mill Creek Rd. SW of Walker 11 VI 96 (JGP); Mill Canyon 15 VI 96 (BRB); Summers Canyon 11 VI 96 (BRB); Virginia Canyon 12 VI 96 (BRB).

***Papilio rutulus rutulus*:** Fresno County: Power House, San Joaquin River 11 IV 04 (KD); Italian Creek crossing Rd. 235 nr. Redinger Lake 11 VI 04 (KD). Madera County: Coarsegold 27 IV 92 (KD); Fresno Dome Camp 26 VII 92 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 20 IV 84 (KD); Jerseydale 23 VI 87 (KD). Tuolumne County: Brightman Station 10 mi. W. of Sonora Pass 3 VII 59 (RES/PAO/Nora Opler). Mono County: Lee Vining Creek 24 VI 76 (KD); Green Canyon 6 VII 96 (BRB); Mill Creek 15 VI 96 (BRB); Virginia Canyon 12 VI 96 (BRB); Twin Lakes 12 VII 04 (KD).

***Papilio multicaudatus pusillus*:** Fresno County: San Joaquin River crossing on Auberry Rd. 11 IV 04 (RES, seen): San Joaquin River Gorge 14 V 04 (KD, seen); Italian Creek crossing Rd. 235 nr. Redinger Lake 11 VI 04 (KD). Madera County: Near Chilkoot Camp 5 mi. E. of Bass Lake 15 VI 84 (PAO); Coarsegold 27 IV 92 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg along Merced River 12 III 72 (JRM) and 28 III 81 (KD); Jerseydale 9 VIII 93 (KD). Tuolumne County: Big Basin, NF of Tuolumne River 5 V 00 (JRM); SF of Tuolumne River at SR 120 16 VII 87 (JRM); 1 mi. E. of Mather VI-VIII (AOS).

***Papilio eurymedon*:** Fresno County: Kaiser Pass and vicinity 12 VI to 30 VIII 30 (LM/CI) & 26 VI 66 (KCH/JHH); Shaver Lake 4 VII 02 (RE); Mono Hot Springs 5 VII 02 (RE). Madera County: Fresno Dome Camp 1-2 VII 96 (KD); Fresno Dome 5 and 11 VII 99 (KD); Coarsegold 14 V 91 and 27 IV 92 (both KD). Mariposa County: Sugar Pine 23 V 92; Fish Camp 16 VI 90, 24 V 91, 23 V 92 (all KD); Yosemite Valley along Merced River 31 V 64 & 30 V 70 (KD, seen). Tuolumne County: Niagara Creek 8 VII 87 & 12 VII 94 (both KD). Mono County: Lee Vining Creek 24 VI 76 (KD); Green Canyon 10 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB); Virginia Canyon 12 VI 96 (BRB); Swall Meadow 9 V 97 (KD).

PIERIDAE

***Neophasia menapia menapia*:** Fresno County: Huntington Lake 27 VII to 30 VIII 30 (LM/CI); Shaver Lake 28-29 VIII 87 (AOS). Madera County: 2 mi. N. of Bass Lake 15 VI 84 (PAO); Fresno Dome 26 VII 92 and 21 VIII 99 (KD); Sugar Pine 4 VIII 90 (KD). Mariposa County: Fish Camp 28 VII 89, 4 VIII 90, 25 VII 92 (all KD); Little Yosemite Valley 5 IX 72 (seen, KD); Yosemite Valley 12 VII 66 (seen, KD). Tuolumne County: 7 mi. W. of Sonora Pass 7100' 14 VII 77 (RLL). Mono County: Rest area S. of June Lake 16 VIII 00 (KD), S. of Walker 19 VIII 96 (BRB); E. slope of Glass Mountain 5 VIII 00 (JGP) and 2 VIII 04 (KD).

***Pontia beckerii*:** Madera County: Rainbow Falls, 5 mi. W. of Crystal Crag Lodge 3 VIII 61 (RES). Tuolumne County: W. side of Sonora Pass 24 VI 57 (KCH/ RES). Mono County: Rock Creek Camp 1 IX 65 (PAO); Lee Vining 17 VII 73 and 2-4 VIII 75 (KD); Mono Lake 2-4 VIII 75 (KD); Green Canyon 5 VIII 96 (BRB); Little Antelope Canyon 12 VII 96 (BRB); Tom's Place 22 VI 86 (KD); East Walker River and SR 182, 6.9 mi. S. of Nevada state line 16 IX 96 (GTA); Warren Creek Canyon 21 VI 86 (KD); Bridgeport Cyn. 9 VII 04 (KD).

***Pontia sisymbrii sisymbrii*:** Fresno County: Upper Deer Creek 19 VI to 9 VII 30 (LM/CI); Kaiser Pass and Crest 27 VI 57 (KCH/RES). Madera County: Fresno Dome 1-2 VII 96 and 13 VI 02 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 28 III 81 (KD). Tuolumne County: Crest W. of Tioga Pass 9 VII 58 (AOS); W. of Sonora Pass 24 VI 57 (KCH/RES). Mono County: Ridge SE of Mt. Conness 13 and 20 VII 76 (KD); lower Saddlebag Lake Rd. 21 VI 86 (KD); ridge N. above Tioga Pass 16 VIII 75 (KD); Minaret Summit nr. Mammoth Lakes 16 VII 99 (BG); Little Antelope Canyon 14 VI 96 (BRB); Bald Mtn. Lookout 9104' 27 VI 99 (KD); hill E. of Sherwin Summit and Convict Lake 29 V 03 (both PAO).

***Pontia protodice*:** Fresno County: Near Cedar Crest 7100' 14 -19 VII 30 (LM/CI); 14 mi. NW of Shaver Lake 12 IX 03 (KD). Madera County: Daulton 22 VI 87 (PAO); Coarsegold 8 VI 92 (KD); Fresno Dome 26 VII 92 and 19 IX 03 (KD); Big Sandy Camp 1 VII 04 (KD). Mariposa County: Yosemite Creek Trail 9 to 17 VII 56 (JSG). Mono County: Trail S. of Sonora Pass 9700' 14 VIII 77 (RLL); Warren Creek Canyon 6 VIII 78 (KD); Tioga Pass including ridge (10,500') to the north 16 VIII 75 (KD); Bridgeport 5 VIII 78 and 9 VIII 98 (KD); SE above Saddlebag Lake at 10,500' 16 and 18 VII 73 (KD).

***Pontia occidentalis occidentalis*:** Fresno County: Near Allen's Saw Mill (near Huntington Lake) 17 VI to 7 VII 30 (LM/CI). Mariposa County: Vogelsang Camp 3 VIII 58 (JSG). Tuolumne County: Crest W. of Tioga Pass 8 VII and 18-20 VIII 57 and 9 VII and 19-20 VIII 58 (all AOS); Leavitt Peak 29 VIII 67 (PAO). Mono County: E. of Tioga Pass 9300' 25 VIII 56 (KCH/RES); E. above Saddlebag Lake 10,500' 14 VIII 70 (KD); ridge SE of Mt. Conness 13 and 20 VII 76 (KD) and 26 VII 81 (KD); Bridgeport 5 VIII 78 and 22 VII 81 (KD); Mono Lake 2-4 VIII 75 (KD); ridge (11,000') S. of Sonora Pass 7 and 9 VII 87; Minaret Summit, Mammoth Lakes 4 VIII 00 (BG); E. of Walker 30 VIII 97 (GTA); Green Canyon 10 VI 96 (BRB); Silver Canyon 10 VIII 96 (BRB).

***Pieris marginalis microstriata*:** Fresno County: Power House 2100', 0.1 mi. S. of San Joaquin River crossing 12 IV 02 (RES); seen in dense woods E. of San Joaquin River Crossing (S. of Power House) 11 IV 04 (RES/KD). Madera County: Sugar Pine 27 IV and 23 V 92 (KD); 11 IV 04 (KD/RES); Fresno Dome Rd. E. of Redwood Camp 13 VI 02 (KD); Fresno Dome, creek crossing road above trailhead 5 VII 99 (KD); Chilkoot Creek and Camp, 4 mi. E. of Bass Lake 7 V 04 (KD). Mariposa County: Jerseydale 3500' 24

IV 76 and 21 V 85 (both AOS); Briceburg and Bear Creek 28 III 81 (KD); Fish Camp 5000' 24 V 91 and 27 IV 92 (both KD). Tuolumne County: 3 mi. NE of Tuolumne City 24 III 78 (RLL).

***Pieris rapae*:** Fresno County: Millerton Lake 7-8 VII 02 (RE) and Shaver Lake 7-8 VII 02 (RE). Madera County: Coarsegold 23 V and 8 VI 92 (KD); Oakhurst 23 V and 8 VI 92 (KD); Fresno Dome Trailhead 30 VI 04 (KD). Mariposa County: Briceburg 10 III 79 and 28 III 81 (KD); Yosemite Valley 2-3 VIII 63 and 25 VII 65 (seen, KD). Tuolumne County: Brightman Station, 10 mi. W. of Sonora Pass 3 VII 59 (RES/PAO). Mono County: Little Antelope Canyon 12 VII 96 (BRB); Mill Canyon 15 VI 96 (BRB); Silver Canyon 10 VII 96 (BRB).

***Euchloe ausonides ausonides*:** Madera County: Coarsegold 23 V and 8 VI 92 (KD). Mariposa County: Briceburg and Bear Creek 28 III 81 and 20 IV 84 (KD); Jerseydale IV-V, including one collected specimen with a nearly solid green underside 5 V 74 (AOS).

***Euchloe ausonides transmontana*:** Fresno County: Home Creek 8500' 14 to 19 VII 30 (LM/CI). Madera County: Fresno Dome 5 VII 99 and 13 VI 02 (KD). Mariposa County: Top of Half Dome 8842' overlooking Yosemite Valley 1 VI 70 (seen, KD). Tuolumne County: Brightman Station 10 mi. W. of Sonora Pass 6600' 3 VII 59 (RES, PAO/Nora Opler). Mono County: Bald Mountain Lookout 9104' 27 VI 99 (KD); Swall Meadow 9 and 20 V 97 (KD); 30 V 99 (KD/Jack Levy); Little Antelope Canyon 14 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB); Mill Creek Rd. SW of Walker 10 V 97 (JGP); Summit Canyon 16 VI 96 (BRB); Wolf Canyon 11 VII 96 (BRB).

Euchloe hyantis complex: Madera County: 5 mi. S. of Oakhurst 10 IV 64 (PAO); Beasore Rd. 14 mi. E. of Bass Lake 22 VI 87 (PAO); Beasore Rd. E. of Chilkoot Camp along road cut 28 V 02 (KD); Fresno Dome 1-2 VII 96, 5 and 11 VII 99, 13 VI 02 (all KD); ridge (W. of Rd. 235) NE of Power House 11 IV 04 (RES). Mariposa County: Indian Flat 17 IV 61 (JWT); 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 20 IV 84 (KD), Jerseydale III-V (AOS); trail to Half Dome (saddle at 8000') 1 VI 70 (seen, KD). Tuolumne County: Mather 14 V 61 (JWT); Brightman Station 24 VI 57 (RES/KCH). Mono County: Tioga Lake 14 VII 00 (BG); Wolf Canyon 11 VII 96 (BRB).

***Euchloe lotta*:** Mono County: E. of Swall Meadow on hill-tops overlooking Rock Creek Gorge 9 and 20 V 97 (KD) and 30 V 99 (KD); Sherwin Summit 29 V 03 (PAO) and Conway Summit 29 V 03 (PAO).

***Anthocharis cethura hadromarmorata*:** Mono County: 2.25 to 2.75 mi. NE of Chalfant 21 IV 93 (William Swisher).

***Anthocharis sara sara*:** Fresno County: Mary's Meadow 7800' 17 VI to 1 VII 30 (LM/CI); Kaiser Pass and meadows 27 VI 57 (KCH/RES); SR 168, 14 mi. NW of Shaver Lake 20 III 04 (KD); ridge NE of Power House 10-11 IV 04 (RES/KD). Madera County: 5 mi. S. of Oakhurst 10 IV 64 (PAO); Chilkoot Camp on Beasore Rd. 28 V 02 (KD); Fresno Dome Rd. E. of Redwood Camp 6 VI 02 (Jim Brock); Sugar Pine 27 IV and 23 V 92 (KD); Coarsegold 27 IV 92 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 10 III 79 and 28 III 81 (KD); Yosemite Valley at Camp Curry 31 V 64 (seen, KD).

***Anthocharis stella stella*:** Fresno County: Above Huntington Lake 8 VII 02 (RE); Kaiser Crest 10,000' 15 VI 66 (RES). Madera County: 1-2 mi. E. of Chilkoot Camp 28 V 02 (KD); Fresno Dome Camp along creek 1-2 VII 96 (KD); creeks and roadsides above Fresno Dome Trailhead 1-2 VII 96 and 11 VII 99 (KD); roadside 1 mi. below Fresno Dome 6 VI 02 (Jim Brock) and 13 VI 02 (KD). Mariposa County: Half Dome (trail on saddle and ridge) 1 VI 70 (seen, KD). Tuolumne County: White Wolf 10 VII 56 (JSG); Clark Fork of Stanislaus River 6200'and Dardanelles 6550' 24-26 VI 93 (Paul Thompson); several miles W. of Sonora Pass 8 VII 86 (JGP); Eagle Meadow Rd. 2 mi. S. of SR 108 and Niagara Creek 22 VII 95 (RLL). Mono County: E. of Tioga Pass in meadow (9800') 25 VIII 56 (KCH/RES); S. side of Sonora Pass 4 VII 02 (JGP); Antelope Canyon 14 VI 96 (BRB); Minaret Summit near Mammoth Lakes 14 VII 00 (BG); below Anna Lake 16 VII 74 (JRM); Mill Canyon Rd. SW of Walker 10 V 97 (JGP); Green Canyon 10 VI and 6 VII 96 (BRB); Summit Canyon 16 VI and 10 VII 96 (BRB).

***Anthocharis thoosa pseudothoosa*:** Mono County: Green Canyon 10 VI 96 (BRB); Antelope Canyon 14 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB); Silver Canyon 16 VI 96 (BRB); Summers Canyon 11 VI 96 (BRB); Wolf Canyon 11 VII 96 BRB). All of these records were listed as "white *sara*" in BRB report submitted by GTA.

***Anthocharis lanceolata lanceolata*:** Fresno County: E. end of Huntington Lake 7000-8000' 12 VI to 24 VIII 30 (LM/CI). Madera County: 5 mi. S. of Oakhurst 10 IV 64 (PAO); Chilkoot Camp 28 V and 13 VI 02 (KD); meadow off Fresno Dome Trail 30 VI 04 (KD). Mariposa County: Jerseydale 9-13 VI 62 (AOS); 3 mi. W. of El Portal 11 IV 64 (PAO); El Portal 9 V 70 (KCH/CAS); Briceburg 28 III 91 (KD); Happy Isles, Yosemite Valley 31 V 64 (seen, KD). Tuolumne County: 1 mi. E. of Mather VI-VII (AOS). Mono County: Mill Creek Rd. SW of Walker 10 V 97 (JGP).

***Colias philodice*:** Mono County: Mono Lake 30 VI 41 (JSG), 18 VII 57 and 30 VI 58 (AOS); Mono Lake County Park 27 VI 81 (RLL); NW edge of Mono Lake 29 VI 81 (JGP); W. of Walker, Topaz Lane 1.8 mi. E. of US 395: 8 VI 96 and 28 IX 97 (GTA); E. Walker River, US 395 at USFS 142 (Green/Summers Cr. Rd.) 26 VIII 97 (GTA).

***Colias eurytheme*:** Fresno County: Millerton Lake 8 VII 02 (RE); 14 mi. NW of Shaver Lake 12 IX 03 (KD). Madera County: Coarsegold 27 IV 92 (KD); Fresno Dome 26 VII 92, 21 VIII 99 and 19 IX 03 (all KD). Mariposa County: Briceburg 10 III 79 and 28 III 81 (KD); Jerseydale 23 VI 87 and 9 VIII 93 (KD). Tuolumne County: 2 mi. W. of Sonora Pass 3 VII 59 (RES/PAO/Nora Opler); Leavitt Peak 11,000' 29 VIII 67 (PAO); Niagara Creek 7 and 9 VII 87 (KD). Mono County: Bridgeport 17 VIII 00 (KD); Sonora Junction 17 VIII 00 (KD); E. above Saddlebag Lake 10,500' 14 VIII 70 (KD); meadows W. of Saddlebag Lake 20 VII 76 (KD); ridge SE of Mt. Conness 10,500' 31 VII 04 (KD). This species often flies with *Colias behrii* in high elevation meadows even above timberline.

***Colias occidentalis chrysomelas*:** Tuolumne County: Mather 30 VI 62 (JWT, seen). Comments: Efforts to substantiate the Mather record by Oakley Shields have been unsuccessful. There is an old record for "Yosemite" VI 1926 (E. O. Essig). Oakley Shields (pers. comm.) examined two specimens of *C. occidentalis* in the Yosemite Museum (in Yosemite Valley: NPS insect collection) and recalls that these were collected along the Ledge Trail below Yosemite Falls (Mariposa Co.) in late May sometime in the 1930's, collector unknown. The entire collection of Yosemite butterflies was on display in the museum in 1963 (where I also saw these *C. occidentalis*), but that collection is no longer on display and may no longer exist.

***Colias alexandra edwardsii*:** Mono County: Green Canyon 6 VII 96 (BRB); Bodie 9000' 13 VII 90 (John B. Vernon); Mill Canyon 15 VII 96 (BRB); US 395 just E. of Little Walker Creek Rd. 3 VIII 86 (JGP); Cottonwood Canyon Rd. (N. of SR 167) 10 VI 96 (JGP); Virginia Canyon 7 VIII 96 (BRB); SR 270 Bodie Road (SR 270), 5 mi. E. of US 395 9 VIII 98 (seen, KD); Mono Lake 25 VIII 86 (Arthur M. Shapiro); Mono Lake Park 28 VIII 83 (R. Robertson), "sometimes common" W. slope of Sweetwater Range (no dates given, JRM).

***Colias behrii*:** Inyo County: Mono Pass 11,000' 30 VIII 65; 30-31 VIII 67 (PAO). Fresno County: Florence Lake 5 VIII 33 (JSG). Madera County: Mt. Lyell Base Camp 10 VIII 58 (AOS). Mariposa County: Merced Lake Trail 4 VIII 58 (AOS). Tuolumne

County: North facing slope of Mt. Forsythe mid-VIII 54 (PAO); Tuolumne Meadows 15 VIII 57 (JWT); Virginia Peak 3 VIII 03 (photo, SLS). Mono County: Rock Creek Camp 1 IX 65 (PAO); meadows 1 mi. W. and SE edge of Saddlebag Lake 13-14 VIII 70; 16-18 VII 73; 23-28 VII 81 (all KD) and 10 VII 04 (BG/KD); 1 mi. N. of Saddlebag Lake 28 VIII 76 (P. M. Tuskes); ridge SE of Mt. Conness 9700-10,500' 13 and 20 VII 76; 25 VII 81 and 31 VII 04 (all KD); slope N. above Tioga Pass 10,600' 16 VIII 75 (KD); Summit Lake via Virginia Lakes Trail 10,000' 7 VIII 96 (Brett Boyd).

***Zerene eurydice*:** Mariposa County: Little Yosemite Valley (trail above Nevada Falls inside Yosemite Nat'l Park) 5 IX 72 (seen, KD); Jerseydale 15 IX and 21 X 83 (both AOS); El Portal 18 V 80 (seen, JRM). Tuolumne County: Mather "Sept. 1896 Cottle".

***Zerene cesonia cesonia*:** Mariposa County: Jerseydale 15 IX 83 (AOS). Mono County: Tioga Pass 9941' 6 VIII 78 (seen, JRM); Bridgeport 12 IX 83 (JRM); one or two adults seen along trail on E. side of Saddlebag Lake 22 VII 01 (Jim Brock). Another record has been reported from Mono Lake: data not available.

***Phoebis sennae marcellina*:** Madera County: Sugar Pine Lake 27 IV 92 (seen, KD/Al Rubbert); Oakhurst 8 VI 92 (KD, seen). Mariposa County: Jerseydale 2 V 92 (AOS). Calaveras County: Camp Connell, over twenty adults seen 14 to 21 VIII 92 (JRM).

***Nathalis iole*:** Alpine County: Dardanelle Cones off SR 108 at 7200' 16 VII 89 (JRM). Mariposa County: Yosemite Valley VI 1926 (P. J. Woolf). Tuolumne County: Junction of SR 108 at Clark Fork Rd. 5600' 27 VI 92 (Paul Thompson).

LYCAENIDAE

***Lycaena arota arota*:** Fresno County: Shaver Lake 16 VII 66 (KD). Madera County: 2 mi. S. of Oakhurst 22 VI 87 (PAO); Sugar Pine 28 VII 89 and 3 VII 91 (KD). Mariposa County: Yosemite Valley 14 VII 66 (seen, KD) and Yosemite Valley near Ahwanee Hotel 5 IX 74 (RLL); Fish Camp 28 VII 89, 4 VIII 90, and 25 VII 92 (all KD); Jerseydale 23 VI 87 (KD). Tuolumne County: Deadman Creek 29 VIII 67 (PAO); 1 mi. E. of Mather VI to VIII (AOS). Mono County: Subalpine forest W. of Saddlebag Lake 9800' 13 VIII 70 and 31 VII 04 (KD).

***Lycaena arota virginiensis*:** Mono County: Mono Lake 1 IX 65 (PAO) and 4 VIII 75 (KD); Lee Vining 4 VIII 75 (KD); 20 VII 86 (Norbert Kondla); Bodie Rd. (SR 270) 2 to 4 mi. E. of US 395 9 VIII 98 and 9 VII 04 (KD); 9.1 mi. N. of Bridgeport 9 VIII 98 (KD); Obsidian Camp Rd. W. of US 395 17 VIII 00 (KD); West Walker River 29 VII 99 (Mark Walker); Mill Canyon 15 VII 96 (BRB); Green Canyon Rd. 2-4 mi. SW of US 395 and Green Canyon 1 VIII 04 (KD).

***Lycaena phlaeas alpestris*:** Inyo County: Mono Pass 2 VIII 61 (RES), 31 VIII 65 and 30 VIII 67 (both PAO). Fresno County: Mono Pass 2 VIII 61 (RES); Mt. Starr nr. Mono Pass 12,800' 27 VIII 69 (RLL). Madera County: W. slope above Emerald Lake 10,000' 0.25 mi. S. of Thousand Island Lake 14 VIII 61 (T. P. Webster). Tuolumne County: Bert Lake below Mt. Maclure 11,700' 6 VIII 33 (in LACM, collector unknown); Cathedral Lake 9000-9500' 16 VII 29 (AMNH, collector unknown). Mono County: N. slope of Mt. Dana above 11,000' 6-7, 9 and 13 VIII 60, 28 VII, 6 and 8 VIII 66 (all AOS); above Ellery Lake at 11,000' 16 VIII 75 (KD); slope W. of Saddlebag Lake 10,100' 31 VII 87 (JGP); Saddlebag Lake 25 VII 88 (ATR); north facing slopes and along stream in canyons S. of Sonora Pass 10,200-11,000' 19 VII 76 (KD), 7 VII 87 (KD), and 12 VII 94 (KD/Kevin Davenport); 15-17 VII 88 (M. L. Grinnell); Virginia Lakes 10,000' 2 VII 94 (JFE); Summit Lake via Virginia Lakes Trail 7 VIII 96 (Bret Boyd).

***Lycaena cuprea lapidicola*:** Inyo County: Mono Pass 31 VIII 65 and 30-31 VIII 67 (PAO); Upper Rock Creek Rd. at Mosquito Flat 10,000' 25 VI 79 (JGP). Fresno County: Horsehead Lake 23 VIII 95 (Mark Walker). Madera County: Rainbow Falls, 5 mi. W. of Crystal Crag 3 VIII 61 (RES). Mariposa County: Yosemite Valley (specimen in Calif. Academy of Sciences collected by J. E. Cottle in 1896). Tuolumne County: Mill Creek (SR 108) 7 and 9 VII 87 (KD). Mono County: Saddlebag Lake 13-14 VIII 70 (KD); 16-18 VII 73 (KD); ridge SE of Mt. Conness 13 and 20 VII 76 (KD); subalpine meadows west below Saddlebag Lake 25 VI 76 (KD); SR 120 at Warren Creek 21 VI 86 (KD); Sonora Pass 19 VII 76; 7 and 9 VII 87 (all KD); Green Canyon 10 VI and 6 VII 96 (BRB); Silver Canyon 10 VII 96 (BRB); Summers Canyon 8000' 18 VI 04 (KD).

***Lycaena xanthoides xanthoides*:** Madera County: Tributary to Woods Creek, Lake Lorraine 22 VIII 32 (collector unknown, specimen at Calif. Academy of Sciences). Tuolumne County: Hetch-Hetchy 13 VII-56 (JSG); Aspen Valley 14 VII 56 (JSG). Mono County: Lower Rock Creek 27 VI 99 (JGP/KD).

***Lycaena editha editha*:** Inyo County: Mono Pass 31 VIII 65 and 30 VIII 67 (PAO); Fresno County: Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: Fresno Dome Camp 26 VII 92 (KD); Sugar Pine 29 VI 04 (KD). Mariposa County: Fish Camp 28 VII 89 and 4 VIII 90 (both KD); Big Creek, Summerdale Camp 29 VI 04 (KD). Tuolumne County: Deadman Creek 29 VIII 67 (PAO). Mono County: Saddlebag Lake 13-14 VIII 70 (KD); Lee Vining Creek 24 VI 76 (KD); Ellery Lake E. of Tioga Pass 16 VIII 75 (KD); ridge SE of Mt. Conness 20 VII 76, 26 VII 81 and 11 VIII 91 (all KD); 9.1 mi. N. of Bridgeport 9 VII 87 (KD); Green Canyon 5 VIII 96 (BRB).

***Lycaena editha pseudonexa*:** Tuolumne County: Mather 27 VI 81 (JGP); 1 mi. E. of Mather 24 VI to 1 VIII and 4 IX 1964-66 (AOS). Records for *L. xanthoides* from Mather in *Yosemite Butterflies* records section by JSG and JWT are likely *pseudonexa*.

***Lycaena gorgon gorgon*:** Mariposa County: Darrah 29 V 59 (JWT); Indian Flat 30 V 59 and 13 V to 10 VI 61 (JWT); El Portal 14 V 61 (JWT); Merced River near Briceburg 24 IV 66 (RES/JL/Henry Holmes); Skelton Canyon (resident, AOS) and Jerseydale (scarce, AOS).

***Lycaena gorgon micropunctata*:** Mono County: Lower Rock Creek 6200' 2.8 road miles from US 395 15 VI 86 (DG); 18 VI 85 (C. L. Hageman); 10 VI 86 (JFE); Lower Rock Creek Rd. 9 VI 96 (JGP) and 27 VI 99 (JGP/KD).

***Lycaena rubida monachensis*:** Fresno County: Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: Agnew Meadows 18 VIII 29 (Bert Walker). Tuolumne County: Deadman Creek 29 VIII 67 (PAO); Eagle Meadow 6 mi. S. of SR 108 24 VII 99 (John B. Vernon/RLL). Mono County: SR 120 at Warren Creek 9000' 7 VI 76 (H. V. Reinhard); 6 VIII 78 and 21 VI 86 (KD); Ellery Lake 16-17 VIII 75; 22-24 VII 93 and 16 VIII 00 (all KD); drier canyon just NE of Saddlebag Lake turnoff from SR 120 5 VII 89 (KD); trail NE side of Saddlebag Lake 31 VII 04 (KD); Mill Canyon 15 VII 96 and 9 VIII 96 (BRB); Summers Canyon 8000' 18 VI 04 (KD). Lowland records: Mono Lake 1 IX 65 (PAO), 4 and 17 VIII 75 (KD); Bridgeport 5 VIII 78 and 22 VII 81 (both KD); 9.1 mi. N. of Bridgeport 5 VIII 78 (KD); Lee Vining 21 VII 86 (Norbert Kondla); West Walker River 29 VII 99 (Mark Walker); Junction of US 395 and Green Canyon Rd. 1 VIII 04 (KD). Also at high elevations in Bodie Hills (SR 270) 9 VII 04 (KD) and Bridgeport Canyon NE of Mono Lake 9 VII 04 (KD).

***Lycaena heteronea submaculata*:** Madera County: Fresno Dome Camp on granitics downstream 1-2 VII 96 (KD). Mariposa County: Merced Lake Trail 4 VIII 58 (AOS). Tuolumne County: Deadman Creek 29 VIII 67 (PAO). Mono County: Warren Creek at SR 120 6 VIII 78 (KD); Saddlebag Lake (dates not given, Emmel

and Pratt, 1998) and trail NE side of Saddlebag Lake 31 VII 04 (KD).

***Lycaena heteronea*:** (eastern Sierra Nevada "*klotsi*"): Inyo County: Mono Pass 30 VIII 67 (PAO). Tuolumne County: Eagle Meadow Rd. (S. of SR 108) on dry hillside and rocky outcrop 12 VII 94 (KD). Mono County: N. above Tioga Pass 16 VIII 75 (KD); Warren Creek crossing at SR 120 6 VIII 78 and 24 VII 93 (KD); dry slopes N. of Sonora Pass 9 VIII 98 (KD); Lee Vining 21 VII 86 (Norbert Kondla); West Walker River 29 VII 99 (Mark Walker); Green Creek 5 VIII 96 (BRB); Little Antelope Canyon 12 VII 96 (BRB); Summers Canyon 6 VIII 96 (BRB); 2-4 mi. E. of US 395 off SR 270 9 VIII 98 (KD). Note: above records were often reported to species; some may represent *submaculata*.

***Lycaena heteronea*:** (undetermined): Fresno County: Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Mono County: Virginia Canyon 7 VIII 96 (BRB); Wolf Canyon 11 VIII 96 (BRB).

Lycaena helloides helloides: Madera County: Fresno Dome 11 VII 99 (KD). Mariposa County: Jerseydale (AOS). Tuolumne County: Mather 4500' 12 IX 82 (RLL/Richard M. Brown); 1mi. E. of Mather (AOS). Mono County: Bridgeport 5 VIII 98 (KD); Bodie Rd. (SR 270) 2-4 mi. E. of US 395 9 VIII 98 (KD); Ellery Lake E. of Tioga Pass 22 and 24 VII 93 (KD); Tioga Pass VII-VIII (Richard P. Meyer); Mill Canyon Rd. SW of Walker 10 VI 96 (JGP); Mill Canyon 15 VI 96 (BRB); Little Antelope Canyon 8 VIII 96 (BRB).

***Lycaena nivalis nivalis*:** Fresno County: Upper Little Line Creek 8200' 29 VI to 21 VII 30 (LM/CI); Fall Creek 24 VIII 95 (Mark Walker). Madera County: Ethelfreda Creek 28 mi. E. of Bass Lake 22 VI 87 (PAO); Fresno Dome area (Starr Lake turnoff) 5 and 11 VII 99 (KD); Big Sandy Camp 1 VII 04 (KD). Mariposa County: Research Reserve 14 VII 33 (JSG). Tuolumne County: Deadman Creek 29 VIII 67 (PAO); Niagara Creek Camp 7-8 VII 87 and 12 VII 94 (both KD). Mono County: E. above Saddlebag Lake 18 VII 73, 3 VIII 75 and 3 VII 89 (all KD); subalpine forest W. of Saddlebag Lake 16 and 18 VII 73 (KD); Green Canyon 6 VII 96 (BRB); Little Antelope Canyon 12 VII 96 (BRB); Silver Canyon 10 VII 96 (BRB).

***Lycaena mariposa mariposa*:** Madera County: Mt. Lyell Base Camp 10 VIII 58 (AOS). Mariposa County: Merced Lake Trail 4 VIII 58 (AOS). Tuolumne County: Jack Main Canyon mid-VIII 54 (PAO); N. slope of Mt. Dana SW of Tioga Pass 20 VIII 65 (KCH/JHH); Gaylor Lakes Trail 31 VII 87 (seen, JGP); Dana Meadows 17 VIII 80 (seen, JGP); Mt. Gibbs 10 VIII 03 (photo, Adam Winer). Mono County: N. slope of Mt. Dana 20 VIII 65 (KCH/JHH); subalpine forest west below Saddlebag Lake 13 VIII 70; 11 VIII 91; 16 VIII 00, 28 VII 02 and 31 VII 04 (all KD); Tioga Lake and Pass 3 VIII 00 (BG); lower slopes of ridge SE of Mt. Conness 31 VII 04 (KD).

***Habrodais grunus grunus*:** Calaveras County: SR 4 near Hathaway Pines 24 VIII 84 (David L. Eiler). Fresno County: Kaiser Creek 5200' 12 VI to 30 VIII 30 (LM/CI); SR 168, 14 mi. NW of Shaver Lake 12 IX 03 and 11 VI 04 (KD). Madera County: 2 mi. N. of Bass Lake 15 VI 84 (PAO). Mariposa County: Jerseydale 23 VI 87 (KD); trail below Vernal Falls nr. Yosemite Valley 3 VIII 63 (seen, KD). Tuolumne County: Hetch-Hetchy 13 VII 56 (JSG); 1 mi. E. of Mather VII-IX (AOS).

***Atlides halesus estesi*:** Calaveras County: Big Trees State Park 9 VIII 02 (JRM). Madera County: Sugar Pine along creek 5 IX 95 (KD). Mariposa County: Yosemite Valley at Museum 5 VIII 34 (collector unknown); Yosemite Creek Trail 9 VII 56 (JSG); 3 mi. W. of El Portal 11 IV 64 (PAO); Merced River nr. Briceburg 24 IV 66 (JL/RES); El Portal along Merced River 4 V 68 (KCH/JHH/JL); Jerseydale (AOS). Tuolumne County: 1 mi. E. of Mather (AOS).

***Satyrium behrii behrii*:** Tuolumne County: 2 mi. W. of Sonora Pass 9100' 3 VII 59 (RES/PAO/Nora Opler). Mono County: Mono Lake 2-4 VIII 75 (KD); Lee Vining 4 and 17 VII 73 (KD); Tom's Place 22 VI 86 (KD); SR 120 at Warren Creek 6 VIII 78 (KD); Sonora Pass 9 VIII 98 (KD); N. of Bridgeport 22 VII 81 (KD); Swall Meadow 8 VIII 98 (KD); Green Canyon 6 VII 96 (BRB); Little Antelope Canyon 12 VII 96 (BRB); Mill Canyon 9 VIII 96 (BRB); SR 270 E. of US 395 to Bodie 9 and 11 VII 04 (KD); Bridgeport Canyon 9 VII 04 (KD).

***Satyrium fuliginosa maculadistinctum*:** Tuolumne County: Sonora Pass 3 VII 59 (RES/PAO/Nora Opler). Madera County: Minaret Summit near Mammoth Lakes 4 VIII 00 (BG). Mono County: Lee Vining Creek 24 VI 76 (KD); hills N. above Sonora Pass 9 VIII 98 (KD); hills near Bodie 15 VII 84 (JGP); 9 and 11 VII 04 (KD); Green Canyon 6 VII 96 (BRB); Little Antelope Canyon 12 VII 96 (BRB); Silver Canyon 10 VIII 96 (BRB); Summit Canyon 10 VIII 96 (BRB); Virginia Summit 9 VII 96 (BRB); Minaret Summit near Mammoth Lakes 16 -17 VII 99; 2 and 4 VIII 00 (both BG).

***Satyrium californicum californicum*:** Fresno County: 2 mi. S. of Tollhouse 11 VI 67 (KCH); San Joaquin River Gorge 14 V 04 (KD). Madera County: 8 mi. SE of Raymond 15 VI 84 (PAO); 2 mi. S. of Oakhurst 22 VI 87 (PAO); 4 mi. E. of Bass Lake 22 VI 87 (PAO); Oakhurst 12 VI 92 (KD); Coarsegold 3 VII 91 (KD); 23 V and 8 VI 92 (KD); 10 mi. SW of North Fork 14 V 04 (KD). Mariposa County: Jerseydale 23 VI 87 (KD); Fish Camp 25 VII 92 (KD); Yosemite Valley below Yosemite Falls 3 VIII 63 (seen, KD). Tuolumne County: Mather 15 VII 56 (JSG).

***Satyrium californicum cygnus*:** Mono County: Mono Lake 12 VII 76 (KD); Lee Vining 17 VII 73 (KD); 9.1 mi. N. of Bridgeport 19 VII 76 (KD); Tom's Place 22 VI 86 (KD); SR 270, 2-4 mi. E. of US 395 9 VIII 98 and 9 VII 04 (KD); Swall Meadow 8 VIII 98 (KD); Green Canyon 6 VII 96 (BRB); Mill Canyon 14 VI and 15 VII 96 (BRB); Bridgeport Canyon NE of Mono Lake 9 VII 04 (KD).

***Satyrium sylvinum sylvinum*:** Fresno County: Shaver Lake 16 VII 66 (KD); San Joaquin River at Lost Lake Park 14 V 04 (KD); Mono Hot Springs 3 to 8 VII 02 (RE). Madera County: 8 mi. SE of Raymond 15 VI 84 (PAO); Coarsegold 3 VII 91 (KD). Mariposa County: Fish Camp 25 VII 92 (KD); Jerseydale 21 VI 61 (AOS); Yosemite Valley at Museum 8 VII 33 (JSG). Tuolumne County: Hetch-Hetchy Rd. 13 VII 56 (JSG); Mather VII-VIII (AOS).

***Satyrium sylvinum megapallidum*:** Mono County: W. Walker, US 395, 0.6 mi. S. of Topaz Lane 15 VIIII 96 (GTA); Mono Lake 1 IX 65 (PAO) and Mono Lake Park 2, 4 and 17 VIII 75 (KD); 9.1 mi. N. of Bridgeport 5 VIII 78 (KD); 2-4 mi. E. of US 395 on SR 270 9 VIII 98 (KD); W. of Walker 0.6 mi. S. of Topaz Ln. 15 VIII 96 (GTA); Mill Canyon 9 VIII 96 (BRB); Sonora Junction 20 VIII 96 (GTA); Swall Meadow 8 VIII 98 (KD); SR 120 (E. of Glass Mt.) at Indian Meadows 2 VIII 04 (KD).

Satyrium calanus: Mariposa County: Near Happy Isles along trail to Camp Curry, Yosemite Valley 31 V 64 (likely accidental introduction, not native to region: KD).

***Satyrium auretorum auretorum*:** Fresno County: Upper portion of San Joaquin River Gorge 14 V 04 (KD). Madera County: 8 mi. SE of Raymond 15 VI 84 (PAO); 2 mi. S. of Oakhurst 22 VI 87 (PAO); Coarsegold 3 VII 91 (KD); 23 V and 8 VI 92 (KD). Mariposa County: Briceburg and Mariposa 26 VI 54 (JWT); El Portal 10 VI 61 (JWT); Darrah 29 V 59 (JWT); Cathay 11 VI 61 (JWT); Triangle Rd. E. of Mariposa 12 VI 76 (MJS); Skelton Canyon and Footman Ridge (uncommon, AOS); Jerseydale 21-22 VI 58 (AOS). Tuolumne County: Hetch-Hetchy Road 13-15 VII 56 (JSG); near Tulloch Reservoir 22 V 82 (R. O'Donnell).

***Satyrium tetra*:** Madera County: 5 mi. NNE of Coarsegold 15 VI 84 (PAO); 2 mi. S. of Oakhurst 22 VI 87 (PAO); 3 mi. S. of North Fork on Auberry Rd. 14 V 04 (KD). Fresno County: Rd. 235

on ridge overlooking Redinger Lake, common! 11 VI 04 (KD). Mariposa County: Mariposa 26 VI 54 (JWT); Darrah 29 V 59 (JWT); Skelton Canyon (uncommon, AOS); Jerseydale 21-22 VI 58 (AOS); Triangle Rd. E. of Mariposa 12 VI 76 (MJS).

***Satyrium saepium saepium*:** Fresno County: Shaver Lake 3 to 8 VII 02 (RE); ridge overlooking Redinger Lake on Rd. 235 11 VI 04 (KD); SR 168 at Buckeye Helipad 11 VI 04 (KD). Madera County: 8 mi. SE of Raymond 15 VI 84 (PAO); Power House/Auberry Rd. 11 VI 04 (KD). Mariposa County: El Portal 28 VI 33 (JSG); Jerseydale 21-22 VI 58 (AOS). Tuolumne County: Vicinity of Sonora 22 V 60 (RES/PAO//RLL); Deadman Creek 29 VIII 67 (PAO). Mono County: Obsidian Camp Rd. W. of U.S. 395 17 VIII 00 (KD); 9.1 mi. N. of Bridgeport 17 VIII 00 (KD); Green Canyon 5 VIII 96 (BRB); Little Antelope Canyon 12 VII and 8 VIII 96 (BRB); Mill Canyon 9 VIII 96 (BRB).

***Satyrium saepium subaridum*:** Mono County: Lower Rock Creek Gorge 27 VI 99 (JGP/KD); Swall Meadow 8 and 25 VIII 98 (KD).

***Callophrys perplexa perplexa*:** Fresno County: Rd. 235 just SE of Redinger Lake 20 III 04 (KD). Madera County: Auberry Rd. 4800' 2 mi. S. of Bass Lake 12 IV 02 (RES/Kit Stanford); common E. end of Redinger Lake along San Joaquin River Trail 20 III 04 (KD); ridge NE of Power House/San Joaquin River crossing (Rd. 235) 10-11 IV 04 (RES/KD). Many individuals at Redinger Lake and ridge N. of San Joaquin River have numerous white spots on HW below. Mariposa County: Briceburg 10 III 79 and 28 III 81 (KD); El Portal 16 IV 61 (JWT); Jerseydale (scarce, AOS). Tuolumne County: Mather 14 V 61 (JWT).

***Callophrys lemberti limberti*:** Inyo County: Mono Pass 30 VIII 65 and 31 VIII 67 (PAO). Fresno County: Kaiser Pass 27 VI 57 (KCH/RES); 4 VII 61 (RES); Kaiser Crest 15 VI 66 (RES) and 26 VI 66 (KCH/JHH). Madera County: Fresno Dome (saddle and lower part of Dome, 7200') 13 VI 02 (KD). Mariposa County: Murphy Creek Trail (N. from Tenaya Lake) 8000-8500' 4 VII 81 (RLL). Tuolumne County: White Wolf 10 VII 56 (JSG). Mono County: Flats above Hot Creek 0.5 to 1 mi. E. of hot springs 31 V 79 (MJS, reported as *C. comstocki interrupta*); Saddlebag Lake 10,000' 28 VI 81 (RLL); ridge SE above Sonora Pass at 11,000' 7 VII 87 (KD); 12 and 19 VII 03 (Adam Winer); Warren Creek (SR 120) 12 VII 81 (RLL) and 21 VI 86 (KD); Little Antelope Canyon 14 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB); Silver Canyon 16 VI 96 (BRB); Virginia Canyon 12 VI 96 (BRB); ridge SE of Mt. Conness 10 VII 04 (KD).

***Loranthomitoura spinetorum spinetorum*:** Fresno County: Edison Lake 3 to 8 VII 02 (RE). Madera County: Ethelfreda Creek 28 mi. E. of Bass Lake 22 VI 87 (PAO); Fresno Dome Rd. E. of Redwood Creek 11 VI 93 (KD). Mariposa County: El Portal 4 V 68 (KCH/JHH/JL); Chowchilla Mountain summit 15 VI 03 (Adam Winer); Jerseydale 26 IX 96 (AOS). Tuolumne County: 1 mi. E. of Mather (AOS). Mono County: Mill Canyon 15 VII 96 (BRB); Mill Canyon Rd. SW of Walker 10 V 97 (JGP); Little Antelope Canyon 8 VIII 96 (BRB).

***Loranthomitoura johnsoni*:** Calaveras County: 10 mi. E. of Camp Connell, Poison Creek 7000' 4 VI 92 (Ralph Wells). Madera County: SR 41 W. of Sugar Pine at 4000' 22 VI 79 JGP. Mariposa County: Jerseydale 4 to 17 VIII 83 (scarce, AOS); 14 IV 97 (AOS). Tuolumne County: 1 mi. E. of Mather (AOS); Niagara Creek Rd. 22 VII 95 (photo, Jeffrey Glassberg).

***Mitoura nelsoni nelsoni*:** Fresno County: SR 168, 2 mi. SW of Shaver Lake City 15 VI 68 (KCH/JHH); Shaver Lake 3 to 8 VII 02 (RE). Madera County: Sugar Pine 1 VI 70 and 8 VI 92 (both KD); 4 mi. E. of Bass Lake 22 IV 87 (PAO); Sivels Mtn. area 11 VI 93 (KD); Fresno Dome Camp 1-2 VII 96 (KD). Mariposa County: Jerseydale 23 VI 87 (KD) and 17 IX 84 (LATE, AOS); Happy Isles, Yosemite Valley 31 V 64 (seen, KD); Fish Camp 16 VI 92 (KD). Tuolumne County: Hetch-Hetchy 13 VII 56 (JSG); Mather 10 VI 61(JWT).

***Mitoura siva chalcosiva*:** Mono County: SR 167, 5-6 mi. W. of Nevada state line (E. of Mono Lake) 10 VI 96 (JGP); Cottonwood Canyon Rd. (road connecting Mono Lake and Bodie N. of SR 167) 10 VI 96 (JGP).

***Deciduphagus augustinus iroides*:** Fresno County: Round Meadow 12 VI to 1 VII 30 (LM/CI); below Shaver Lake 3 to 8 VII 02 (RE); San Joaquin River Gorge 14 V 04 (KD). Madera County: 5 mi. S. of Oakhurst 10 IV 64 (PAO); Fresno Dome Rd. 11 VI 93 (KD); Sugar Pine 27 IV and 23 V 92 (KD); ridge NE of San Joaquin River crossing/Power House 10-11 IV 04 (KD/RES). Mariposa County: Briceburg/Merced River 10 III 79 and 28 III 81; Fish Camp 27 IV, 23 V and 16 VI 92 (all KD); Crane Flat Lookout off Big Oak Flat Rd. 17 VI 04 (PAO). Tuolumne County: 1 mi. E. of Mather VI-VII (AOS); Mather 10 VI 61 (JWT).

***Deciduphagus augustinus*:** (eastern Sierra Nevada segregate): Mono County: Little Antelope Canyon 14 VI 96 (BRB); Swall Meadow 9 and 20 V 97 (KD); 30 V 99 (KD/Jack Levy).

***Callophrys mossii windi*:** Mariposa County: Indian Flat 16 IV 61 (JWT); Skelton Canyon near Jerseydale in IV (AOS).

***Incisalia eryphon eryphon*:** Fresno County: Huntington Lake 12 VI to 1 VII 30 (LM/CI); SR 168, 2 mi. SW of Shaver Lake City 15 VI 68 (KCH). Madera County: Devil's Postpile 7600' 21 VI 87 (PAO); Fresno Dome 1-2 VII 96; 5 and 11 VII 99 (both KD); Beasore Rd. E. of Chilkoot Camp 7 V 04 (KD). Mariposa County: El Portal 4 V 68 (KCH/JHH/JL); Happy Isles, Yosemite Valley 31 V 64 (seen, KD); Jerseydale 23 VI 87 (KD). Tuolumne County: Near Sonora 22 V 60 (RES/PAO/RLL); Mather 12 VII 56 (JSG).

***Incisalia eryphon* nr. *pallescens*:** Mono County: E. Walker SR 182, 3.2 mi. S. of Nevada line 9 VI 96 (GTA); US 395, 2.3 mi. S. of Eastside Ln. just S. of Walker 2 VII 96 (GTA); E. Walker SR 182, 4.9 mi. S. of Nevada line 5 VII 96 (GTA); Green Canyon 10 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB); US 395 W. side of Mono Lake near Mono Lake Lodge 26 VI 99 (KD).

***Strymon melinus pudicus*:** Fresno County: Lost Lake Park along San Joaquin River 12 IX 03 and 14 V 04 (KD); Millerton Lake 8 VII 02 (RE). Madera County: Coarsegold 23 V and 8 VI 92 (KD); Oakhurst 12 VI 92 (KD); Fresno Dome Camp 26 VII 92 and 19 IX 03 (KD). Mariposa County: Fish Camp 28 VII 89 and 25 VII 92 (KD). Tuolumne County: Mather 12 VII 56 (JSG). Mono County: Sherwin Summit 31 VII 59 (PAO); W. Walker, US 395, 2.3 mi. S. Eastside Lane (just S. of Walker) 11 IX 96 (GTA); E. Walker River, US 395, 1.1 mi. S. of USFS 142, 12 IX 96 (GTA).

***Brephidium exile*:** Fresno County: Lost Lake Park 12 IX 03 (KD); SR 168, 14 mi. NW of Shaver Lake 12 IX 03 (KD). Madera County: San Joaquin Valley W. of Sierra Nevada, Santa Fe Rd. at Chowchilla Rd. 15 VI 84 (PAO). Mariposa County: Briceburg 24 IV 66 (RES/JL); Jerseydale "occasional" (AOS). Mono County: Mono Lake 17 VIII 75 (KD); Ellery Lake E. of Tioga Pass 16 VIII 75 (KD); E. Walker River (SR 182) 0.3 mi. S. of Nevada line 16 IX 96 (GTA).

***Leptotes marina*:** Inyo County: Mono Pass 2 VIII 61 (RES). Madera County: Sivels Mtn./Fresno Dome area 11 VI 93 (Kevin Davenport); Coarsegold 9 VIII 93 (KD); SR 41 Cedar Valley 3350' 26 VI 95 (RES/RLL). Mariposa County: Briceburg 7 V 82 (AOS); Jerseydale 8 VIII 82 (AOS). Tuolumne County: 1 mi. E. of Mather (AOS). Mono County: 2 mi. SW of Lee Vining 3 VII 66 (RLL); Mono Lake 17 VIII 75 (KD); Little Rock Creek 6500' 26 VIII 83 (RLL); Junction Camp (E. of Tioga Pass) 21 VI 86 (KD); Ellery Lake E. of Tioga Pass 16 VIII 00 (KD); Lower Rock Creek Rd. at creek crossing 26 V 2001 (JGP).

***Echinargus isola*:** Mariposa County: Vogelsang Lake 3 VIII 58 (JSG/AOS). Tuolumne County: Crest W. of Tioga Pass 9 VII 58 (AOS); Upper Gaylor Lake 14 VII 58 (AOS); Tuolumne

Meadows 3 IX 58 (JWT). Mono County: N. above Tioga Pass 10,500' 16 VIII 75 (KD); Warren Creek (SR 120) 9000' 28 VII 58 (AOS) and 21 VI 86 (KD); Little Rock Creek 6500' 26 VIII 83 (RLL).

***Everes comyntas sissona*:** Fresno County: Lost Lake Park along San Joaquin River 12 IX 03 and 7 V 04 (both KD); below Friant Dam along San Joaquin River 20 III 04 (KD). Mariposa County: Jerseydale 19-20 VI 73 (AOS). Mono County: 1 mi. W. of US 395 at Mammoth Lakes turnoff 1 VIII 59 (RES/PAO).

***Everes amyntula amyntula*:** Fresno County: Shaver Lake 3 to 8 VII 02 (RE). Millerton Lake 8 VII 02 (RE). Madera County: Coarsegold 3 VII 91 (KD); Oakhurst 12 VI 92 (KD); Nelda Grove Rd. between Sugar Pine and Fresno Dome 14 VI 03 (Adam Winer). Mariposa County: Jerseydale 30 V 59 (JWT); 3 mi. W. of El Portal 11 IV 64 (PAO). Tuolumne County: 1 mi. E. of Mather VI-VII (AOS); Hetch-Hetchy Summit 13 VII 56 (JSG, seen).

***Everes amyntula montanorum*:** Mono County: E. above Saddlebag Lake at 10,100-11,500' 16 and 18 VII 73; 6 VIII 78; 25 VII 81; and 3 VII 89 (all KD); trail SE side of Saddlebag Lake 10 VII 04 (KD, BG); sagebrush hills N. of Sonora Pass 9 VIII 98 (KD); Little Antelope Canyon 14 VI and 12 VII 96 (BRB); Mill Canyon 15 VI 96 (BRB); Summers Canyon 11 VI 96 (BRB); Summit Canyon 16 VI 96 (BRB); Virginia Canyon 12 VI 96 (BRB).

Celastrina echo: Fresno County: Shaver Lake 26 VI 66 (KCH/JHH); Redinger Lake 20 III 04 (KD); San Joaquin River crossing (Power House) 11 IV 04 (KD). Madera County: Fresno Dome 1-2 VII 96 and 13 VI 02 (KD); Sugar Pine 29 V 70 and 23 V 92 (KD); Oakhurst 27 IV 92 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 10 III 79 (KD); Fish Camp 27 IV and 23 V 92 (KD). Tuolumne County: Mather 12 VII 56 (JSG). Mono County: Green Canyon 10 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB).

Philotes sonorensis (Sierra Nevada population): Calaveras County: Hunter Dam Rd. 18 III 01 (JRM). Mariposa County: Briceburg 10 III 79 (KD); 4 mi. N. of Bear Valley 15 IV 61 (PAO); near Jerseydale along Skelton Creek 29 III 70 (JFE/AOS). Tuolumne County: 3 mi. NE of Tuolumne City 2400' 2 IV 61; 20 II 65; 23 III 66 and 24 III 78 (RLL/H. Koopmann); Basin Creek NF Tuolumne River 18 III 72 (JRM); 3 mi. NE of Tuolumne 25 IV 65 (M. R. and S. H. Lundgren).

***Euphilotes battoides battoides*:** Inyo County: Mono Pass 2 VIII 61 (RES); 30-31 VIII 65 and 30-31 VIII 67 (PAO). Fresno County: Mono Pass 2 VIII 61 (RES); Bullfrog Lake 10,634'"August" (collector unknown); Kaiser Crest 10,000' 12 VI to 18 VII 30 (LM/CI); 15 VI 66 (RES). Madera County: Minaret Ridge 9265' "August" (collector unknown). Tuolumne County: Mt. Hoffmann (no data or collectors name on label). Mono County: Mono Pass 2 VIII 61 (RES); Warren Creek (SR 120) 9000' 3 VII 89 (KD); NE slope Mt. Dana, Glacier Canyon 9800-10,500' 5 VII 81 (RLL); Saddlebag Lake 10,050' 28 VI and 11 VII 81 (RLL), also 3 and 5 VII 89 (KD); trail SE side Saddlebag Lake 10 VII 04 (KD); Virginia Canyon 7 VIII 96 (BRB); summit area (11,123') of Glass Mountain 12 VII 73 (DG). Records for Warren Creek and Glass Mtn. are within the range of *glaucon* and may suggest species status for *glaucon*.

***Euphilotes battoides glaucon*:** Mono County: Lundy Lake 4 VII 59 (RES/PAO/Nora Opler); Lundy Lake Rd. W. of U.S. 395 26 VI 99 (KD); Mono Lake 5 VII 38 and 23 VI 62 (JWT); Warren Creek (SR 120) 21 VII 58 (AOS); Green Canyon 10 VI 96 (BRB); Little Antelope Canyon 14 VI 96 (BRB); Conway Summit 23 VI 62 (JWT). Note: Records may need genitalic confirmation; some may be *E. ancilla*.

Euphilotes battoides glaucon* X *australoglaucon blend zone: Mono County: Crowley Lake Rd. N. of Tom's Place 2 VII 95 (JGP).

***Euphilotes battoides australoglaucon*:** Mono County: Tom's Place 22 VI 86 (KD); Lower Rock Creek Gorge 20 V 87 and 12 V 89 (KD); US 395 at scenic turnout S. of Sherwin Summit 9 V 97 (KD); 6 mi. S. of Sherwin Summit off US 395 18 V 70 (AOS); Sherwin Summit 17 V 93 (KD); hill E. of Sherwin Summit 29 V 03 (PAO).

***Euphilotes enoptes enoptes*:** Fresno County: Kaiser Crest 10,000' 28 VI to 5 VII 30 (LM/CI). Madera County: Fresno Dome 1-2 VII 96 and 10 VII 99 (KD). Mariposa County: Yosemite Valley 17 VI 32 (JWT); Tenaya Canyon 11 VII 58 (AOS). Tuolumne County: 1 mi. E. of Mather (AOS). Mono County: Saddlebag Lake 21 VI 86; 5 VII 89 and E. above lake 18 VII 73 and 31 VII 04 (all KD); slope N. of Tioga Pass 21 VI 86 (KD); SR 120 at Warren Creek 3 to 5 VII 89 (KD); Green Canyon 6 VII 96 (BRB); Virginia Canyon 9 VII 96 (BRB).

***Euphilotes enoptes langstoni*:** Mono County: Tom's Place 22 VI 86 (KD); Lower Rock Creek Gorge E. of Swall Meadow 20 V 87 and 12 V 89 (both KD); Lower Rock Creek Rd. just S. of Swall Meadow Rd. turnoff 4 VI 95 (JGP); 6 mi. S. of Sherwin Summit 18 V 70 (AOS); US 395 (scenic turnout) S. of Sherwin Summit 15 V 88 (Richard P. Meyer)

Euphilotes enoptes: (undescribed population): Inyo County: Mono Pass 30-31 VIII 65 (PAO); 30-31 VIII 67 (PAO). J. Emmel believes these may represent *E. ancilla*.

***Euphilotes ancilla pseudointermedia*:** Mono County: Bald Mtn. Lookout 9104' and ridge to south 27 VI 99 (KD: needs genitalic confirmation; may be *glaucon*); Tioga Pass region (JFE/Gordon Pratt); Lookout Mtn. 2 VII 95 (JGP); Sagehen Peak (no dates, JFE/Gordon Pratt); Sonora Pass at 9600' 16 VII 84 (larva: Gordon Pratt).

***Euphilotes pallescens*:** Mono County: SR 167 E. of Mono Lake 5-6 mi. W. of Nevada state line 29 VII 89 and 14 VII 93 (both JGP); NE Mono Basin; along SR 167, 16 to 16.5 mi. ENE of US 395 31 VII 93 (JFE, common); Mammoth (specimen at Calif. Academy of Sciences); Sherwin Summit IX along "old Hwy. 395"; SR 120 just S. of Benton Hot Springs 5 VIII 00 (JGP); McGee Canyon Rd. (NE of Glass Mtn.) 2-4 mi. W. of SR 120, common 2 VIII 04 (KD).

***Philotiella speciosa bohartorum*:** Mariposa County: Mariposa 30 V 32 (G. and R. Bohart); Briceburg 3 VI 38 (R. M. Bohart); Merced River at Briceburg 23-24 IV 66 (JL/RES); E. of Briceburg 11 IV 70 (JRM); along Merced River at El Portal 4 V 68 (KCH/JHH/JL).

***Glaucopsyche piasus piasus*:** Fresno County: Kaiser Pass 26 VI 66 (KCH). Madera County: Sivels Mountain area 8 VI 92 (Kilian Roever); E. of Redwood Camp 11 VI 93 (KD). Mariposa County: Jerseydale late IV to mid-VI 81 (AOS); Fish Camp 16 VI 90 and 12 VI 92 (KD). Tuolumne County: Mather 30 VI 62 (JWT).

***Glaucopsyche piasus excubitus*:** Mono County: Grant Lake, no data (Emmel, Emmel and Mattoon, 1998); a record from Mono Lake 30 VI 41 (JSG) may be this subspecies. Common in V to early VII along Bishop Creek 7000-9000', Inyo Co., just S. of Yosemite region.

***Glaucopsyche piasus nevada*:** Mono County: S. of Sonora Pass 9650' 23 VI 99 (RLL); ridge N. of Sonora Pass 9 VIII 98 (KD); Lundy Lake Rd. 26 VI 99 (KD); Green Canyon 10 VI 96 (BRB); Little Antelope Canyon 14 VI 96 (BRB); Summit Canyon 16 VI and 10 VII 96 (BRB); Virginia Canyon 12 VI and 9 VII 96 (BRB).

Glaucopsyche lygdamus nr. ***incognita*:** Fresno County: SR 168, 14 mi. NW of Shaver Lake 2000' 20 III 04 (KD); San Joaquin River crossing (Power House) 11 IV 04 (KD/RES). Madera County: 5 mi. E. of Bass Lake 15 VI 84 (PAO); Coarsegold 27 IV 92 (KD); Sugar Pine 27 IV and 23 V 92 (KD); Redinger Lake 20 III 04 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 10 III 79 and 28 III 81 (both KD); Yosemite

Valley 31 V 64 (seen, KD); Jerseydale (AOS). Tuolumne County: 1 mi. E. of Mather (AOS).

***Glaucopsyche lygdamus*:** (high elevation): Fresno County: Kaiser Pass and near Huntington Lake 26 VI 66 (KCH/JHH) and 15 VI 68 (KCH/CAS); N. of Dinky Creek 27 V 02 (KD). Madera County: Fresno Dome 26 VI 04 (ATR) and 30 VI 04 (KD). Tuolumne County: White Wolf 10 VII 56 (JSG). Mono County: Tioga Pass 16 VIII 52 and 19 VII 58 (JWT); E. above Saddlebag Lake 28 VII 58 (AOS) and 31 VII 04 (KD); Virginia Canyon 9 VII 96 (BRB).

***Glaucopsyche lygdamus*:** (eastern slope): Mono County: Green Canyon 10 VI 96 (BRB); Little Antelope Canyon 14 VI 96 (BRB); Silver Canyon 16 VI 96 (BRB); Mill Canyon 15 VI 96 (BRB); Mill Creek Rd. SW of Walker 10 V 97 (JGP); Summers Canyon 11 VI 96 (BRB); Wolf Canyon 17 VI 96 (BRB).

***Plebejus anna anna*:** Fresno County: Shaver Lake 3 to 8 VII 02 (RE). Madera County: Fresno Dome 26 VII 92; 5 and 11 VII 99; 30 VI 04 (all KD). Mariposa County: Wawona Grove of Giant Sequoias 3 VIII 63 (seen, KD); Fish Camp 28 VII 89 and 4 VIII 90 (both KD); Crane Flat 2 VII 54 and 19 VII 57 (JWT). Tuolumne County: Niagara Creek 8 VII 87 and 12 VII 94 (KD). Mono County: Mt. Dana 8 VIII 33 (JSG).

***Plebejus melissa paradoxa*:** Mariposa County: A reported record for Crane Flat 6400' is likely *anna*. Mono County: 9.1 mi. N. of Bridgeport 19 VII 76 (KD); Mono Lake 2-4 VIII 75 and 12 VII 76 (both KD); 4-5 mi. W. of Lee Vining 17 VIII 75 (KD); Upper Summers Canyon 18 VI 04 (KD); Rush Creek N. of Silver Lake 8 VII 04 (KD). All high elevation west slope records reported by Garth & Tilden as *melissa* likely refer to *fridayi* (or *anna*).

***Plebejus (melissa) fridayi*:** Mariposa County: The Research Reserve record for 16 VII 33 by JSG in Yosemite Butterflies is likely *fridayi.* Tuolumne County: W. side of Sonora Pass 3 VII 59 (RES/PAO); Leavitt Peak 11,000' 29 VIII 67 (PAO); Sonora Pass 1 VIII 97 (Jeffrey Glassberg). Mono County: E. above Saddlebag Lake to 11,500' 14 VIII 70; 25 VII 81; and 27 VII 02 (all KD); NE of Tioga Pass and SR 120 at Warren Creek 9000' 20 VII 76 (KD) and 1 VII 02 (PAO); Virginia Canyon 9 VII 96 (BRB); Upper Summers Canyon 18 VI 04 (KD); Summit Canyon 10 VII and 10 VIII 96 (BRB); ridge 1-2 mi. SW of Bodie (Bodie Hills) at 9200' 11 VII 04 (KD). A Conway Summit (US 395 N. of Mono Lake) record in *Yosemite Butterflies* (23 VI 62: JWT) is likely *fridayi* since Paul Opler has found *fridayi* there (pers. comm.).

Plebejus melissa complex: (undetermined if ***paradoxa*** or ***fridayi***): Mono County: Green Canyon 6 VII and 5 VIII 96 (BRB); Little Antelope Canyon 14 VI and 12 VII (BRB); Mill Canyon 15 VI 96 (BRB); Silver Canyon 16 VI and 10 VII 96 (BRB); Wolf Canyon 11 VIII 96 (BRB). The Boyds did not specify to "subspecies" in their collection data report but some could be placed by elevational data provided in GTA's report. Both taxa appear to be in these canyons depending on elevation and locality.

***Plebejus saepiolus aehaja*:** Inyo County: Mono Pass 30-31 VIII 67 (PAO). Fresno County: Kaiser Pass and Shaver Lake 26 VI 66 (KCH); Mono Hot Springs 3 and 5 VII 02 (RE). Madera County: Fresno Dome: 26 VII 92; 5 and 11 VII 99 and Big Sandy Camp 1 VII 04 (all KD). Mariposa County: Fish Camp 28 VII 89 and 4 VIII 90 (KD); Summerdale Camp (Big Creek) off SR 41 29 VI 04 (KD). Tuolumne County: N. slopes of Mt. Dana, SW of Tioga Pass 25 VIII 56 (KCH/RES). Mono County: Meadows in Saddlebag Lake/ Tioga Pass region: 13 VIII 70; 18 VII 73; 13 and 20 VII 76 (all KD); Warren Creek Canyon 6 VIII 78 (KD); Sonora Pass 19 VII 76 (KD); Swall Meadow 8 and 25 VIII 98 (KD).

***Plebejus saepiolus rufescens*:** Mono County: Bodie Rd. (SR 270) 2-4 mi. E. of US 395 26 VI 99 and 9 VII 04 (KD); Mono Lake 2, 4 and 17 VIII 75 (KD); June Lake 27 VI 99 (KD); Bridgeport meadows 7 VII 96 (GTA); 9.1 mi. N. of Bridgeport 19 VII 76 and 5 VIII 76 (KD); E. Walker River off US 395 at USFS 142 (Green/Summer Cr. Rd.) 9 VI 96 and 21 V 97 (GTA); Sonora Junction 9 VI 96; E. Walker River, US 395 at USFS 142 21 V 97 (GTA).

***Plebejus icarioides icarioides*:** Fresno County: Upper Little Line Creek 7000-8200' 26 VI to 17 VII 30 (LM/CI); Shaver Lake 3 to 8 VII 02 (RE). Madera County: Fresno Dome area 1-2 VII 96; 5 and 11 VII 99 (both KD); Sugar Pine 23 V 92 (KD); E. of Chilkoot Camp 7 V 04 (KD). Mariposa County: Fish Camp 16 VI 90 and 23 V 92 (KD); Summerdale Camp 29 VI 04 (KD). Tuolumne County: Mather 10 VI 61 and 30 VI 62 (JWT); Deadman Creek 27 VIII 67 (PAO). Mono County: Subalpine forest W. of Saddlebag Lake 31 VII 04 (KD).

***Plebejus icarioides fulla*:** Inyo County: Mono Pass 30 VIII 65 and 30 VIII 67 (PAO). Mono County: Sonora Pass 19 VII 76; 7 and 9 VII 87 (both KD); Lee Vining Creek 24 VI 76 (KD); Lundy Lake Rd. 26 VI 99 (KD); SR 120 at Warren Creek 21 VI 86 (KD); Green Canyon 6 VII 96 (BRB) and 1 VIII 04 (KD); Little Antelope Canyon 14 VI 96 (BRB); hills W. of Bodie 26 VI 99; 9 and 11 VII 04 (both KD).

Plebejus shasta shasta: Fresno County: Mono Pass 6 IX 47 (C. D. MacNeill); Huntington Lake 8 VII 02 (RE). Madera County: Mt. Lyell Base Camp 9 VIII 58 (AOS). Mariposa County: Research Reserve 16 VII 33 (JSG); 20 VII 70 (R. P. Allen). Tuolumne County: N. slope of Mt. Dana 20 VIII 65 (KCH); Tuolumne Meadows 4 VII 77 (seen, Wayne Dawes). Mono County: E. above Saddlebag Lake 14 VIII 70; 18 VII 73; 3 and 16 VIII 75 (all KD); ridge SE of Mt. Conness: 13 and 20 VII 76; 10 and 31 VII 04 (KD, BG); Sonora Pass 19 VII 76 and 9 VIII 98 (KD); Minaret Summit near Mammoth 17 VII and 11-13 VIII 99 (BG); Green Canyon 6 VII 96 (BRB); Summit Canyon 10 VIII 96 (BRB); Virginia Canyon 9 VII 96 (BRB).

***Plebejus shasta calchas*:** Mono County: Mono Lake 20 VII 58 (AOS) ; Bodie 18 VII 57 (AOS); 1.2 air miles S. of Bodie, Bodie Hills 8480' 26 VII 74 (JFE).

***Plebejus acmon acmon*:** Fresno County: Lost Lake Park 12 IX 03 (KD); SR 168, 14 mi. NW of Shaver Lake 12 IX 03 and 20 III 04 (KD). Madera County: Coarsegold 27 IV and 23 V 92 (KD); Oakhurst 8 VI 92 (KD); Fresno Dome Camp 26 VII 92 and 19 IX 03 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 10 III 79 and 28 III 81 (KD); Jerseydale 11 VI 61 (JWT). Tuolumne County: Mather 10 VI 61 (JWT); Deadman Creek 29 VIII 67 (PAO). Mono County: Mono Lake 2,4 & 17 VIII 75 (KD); Saddlebag Lake 13-14 VIII 70 and 28 VII 02 (KD); Little Antelope Canyon 14 VI 96 (BRB); Bodie Rd. (SR 270) 4 mi. E. of US 395 9 VII 04 (KD); SR 270 4 mi. E. of U. S. 395, 9 VII 04 (KD).

***Plebejus lupini*:** (eastern Sierra Nevada on *E. umbellatum*): Mono County: W. Walker, US 395, 10.9 mi. S. of Eastside Lane (1.5 mi. S. of Chris Flat Camp) 2 VII 96 (GTA); Lower Rock Creek 9 and 20 V 97 (KD); Tom's Place 22 VI 86 (KD); Lee Vining 24 VI 76 (KD); Lookout Mountain 2 VII 95 (JGP); Bald Mtn. Lookout 9104' 27 VI 99 (KD); Bodie area 9 and 11 VII 04 (KD); Green Canyon 10 VI 96 (BRB); hills E. of Green Canyon 1 VIII 04 (KD).

***Plebejus lupini alpicola*:** Inyo County: Mono Pass 30-31 VIII 67 (PAO). Fresno County: Mono Pass 2 VIII 61 (RES); Kaiser Crest 10,000' 15 VI 66 (RES). Madera County: Granite Creek, 33 mi. E. of Bass Lake 22 VI 87 (PAO); Fresno Dome 1-2 VII 96 (KD); 5 and 11 VII 99 (KD). Tuolumne County: Meadows 2 mi. W. of Sonora Pass 3 VII 59 (RES/PAO/Nora Opler). Mono County: Saddlebag Lake 26 VI 76 and 5 VII 89 (KD); trail SE side of Saddlebag Lake 10 VII 04 (BG/KD); S. above Sonora Pass 7 VII 87 (KD); Virginia Canyon 9 VII 96 (BRB); Mill Canyon 15 VII 96 (BRB); Jct. SR 120 and road to Saddlebag Lake 8 VII 04 (KD).

***Agriades podarce cilla*:** Inyo County: Mono Pass 31 VIII 67 (PAO). Fresno County: Kaiser Pass and Huntington Lake 26 VI 66 (KCH); Kaiser Pass Meadow 4 VII 02 (RE). Madera County: 9 mi.

E. of Bass Lake 15 VI 84 (PAO); Fresno Dome meadows 1-2 VII 96 and 5 VII 99 (KD). Tuolumne County: Meadow 2 mi. W. of Sonora Pass 3 VII 59 (RES/PAO/Nora Opler) Deadman Creek 29 VII 99 (JGP). Mono County: Subalpine meadows in Tioga Pass/ Saddlebag Lake region 13 VIII 70; 26 VII 81; 21 VI 86 (all KD); N. slope of Mt. Dana above Ellery Lake 16 VIII 75 ; 22 and 24 VII 93 (KD); Silver Canyon 16 VI 96 (BRB); Lundy Lake area 26 VI 99 (KD); Summit Canyon 10 VIII 96 (KD); Sawmill Meadow 9200' on Glass Mtn. 5 VIII 00 (JGP) and 2 VIII 04 (KD).

***Agriades cassiope cassiope*:** Tuolumne County: N. slope of Mt. Dana 8 VIII 81 (RLL); slope between W. shore of Elizabeth Lake and summit ridge of Unicorn Peak 10,000-10,200' 15 VII 1989 (JFE/AOS); SW of Tioga Pass 7 VII 01 (Herbert Clarke); Virginia Peak 3 VIII 03 (photo, Susan Steele). Mono County: North facing slope (Dana Plateau) above Ellery Lake 11,000 16 VIII 75; 22 and 24 VII 93 (KD); Glacier Canyon (Dana Plateau) 10,500' 2 VIII 81 (RLL); Mono Pass 10,599' 19 VII 81 (RLL); 0.2 to 0.3 air miles S. of E. end of Greenstone Lake and W. of Saddlebag Lake 10,320-10,560' 26 VII 97 (JFE) and 31 VII 99 (Jack Levy); Red Lake, Virginia Lakes 10,000' 30 VII 93 (JFE).

RIODINIDAE

***Apodemia mormo mormo*:** Mariposa County: Little Yosemite 3 VIII 33 (JSG). Mono County: Mono Lake 22-26 VIII 57 and 20 VII 58 (AOS); June Lake 22 VIII 57 (JSG); Conway Pass N. of Mono Lake 21 VIII 60 (JWT); Swager Canyon, Sweetwater Range 8 VIII 81 (JRM); Bodie Rd. (SR 270) 5 mi. E. of US 395 3 VIII 86 (JGP); Green Canyon 5 VIII 96 (BRB); Little Walker River Rd., 2-4 mi. W. of US 395 30 VII 04 (ATR); McGee Canyon Rd., 3 mi. W. of SR 120 2 VIII 04 (KD).

***Apodemia cythera cythera*:** Mono County: Little Rock Creek 6200-6700' (old Hwy. 395) 25 VIII 83 (RLL); E. of Swall Meadow above Rock Creek Gorge 8 and 25 VIII 98 (KD); Hot Creek Fish Hatchery 2 VIII 02 (BG); McGee Canyon Rd. 2-4 mi. W. of SR 120 (E. of Glass Mtn.) 2 VIII 04 (KD).

***Apodemia cythera tuolumnensis*:** Tuolumne County: Grand Canyon of the Tuolumne, Pate Valley 23 VII 34 (Edmund Godwin); 20 VIII 54 (PAO); 1-2 VIII 59 (PAO/RES); Hetch-Hetchy Dam, 3800' 9 IX 64 (AOS); 11 IX 82 (RLL/R. M. Brown) and 25 VIII 83 (RLL/D. Parkinson).

LIBYTHEIDAE

***Libytheana carinenta streckeri*:** Mariposa County: Jerseydale 13 X 90 (AOS).

NYMPHALIDAE

***Euptoieta claudia*:** Mono County: Ridge N. of Sonora Pass 9 VIII 98 (seen, KD); Mariposa County; Jerseydale 23 X 88 (AOS).

***Speyeria leto leto*:** Madera County: Fresno Dome Camp 26 VII 92 (KD/Kevin Davenport); Jct. of Fresno Dome and Sivels Mtn. Rd. along stream 21 VIII 99 (KD). Mariposa County: Fish Camp 17 VII 89 (ATR), 28 VII 89, 4 VIII 90; 25 VII 92 (all KD); Camp Curry, Yosemite Valley 2 VIII 63 (KD). Tuolumne County: NE of Mather 1 and 29 VIII 76 (MJS); stream S. of Mather 12 IX 82 (R. M. Brown); N. of Mather on road to Hetch-Hetchy 20 VII 79 (JRM); Niagara Creek 13 VII 94 (KD). Mono County: 9.1 mi. N. of Bridgeport 19 VII 76, 5 VIII 78, 22 VII 81 (all KD); Little Antelope Canyon 12 VII and 8 VIII 96 (BRB); Mill Canyon 15 VII and 9 VIII 96 (BRB/GTA); Silver Canyon 10 VII 96 (BRB); Summers Canyon 6 VIII 96 (BRB); Obsidian Camp Rd. 17 VIII 00 (KD); Sweetwater Range: Swager Canyon 8 VIII 81 (JRM).

***Speyeria nokomis apacheana*:** Mono County: Murphy Springs 8000' 3 mi. W. of Bodie VII-VIII 85 (R. White); US 395 and Obsidian Camp Rd. (S. of Little Walker River) 17 VIII 00 (KD); Sonora Junction 20 VIII and 12 IX 96 (GTA); Mono Lake 26 VII 71 (ATR); 2, 4 and 17 VIII 75 (KD); 12 X 03 (LATE, Susan Steele); 9.1 mi. N. of Bridgeport 17 VIII 75 and 5 VIII 78 (KD); 4 mi. E. of Lee Vining along Lee Vining Creek 22 VIII 76 (JRM); W. of Walker 20 VIII 96 and 26 VIII 97 (both GTA); Little Antelope Canyon 8 VIII 96 (BRB); Mill Canyon 9 VIII 96 (BRB); Summers Canyon 6 VIII 96 (BRB); Sweetwater Range: Swager Canyon 8 VIII 81 (JRM); E. Walker River, US 395 at USFS 142 (Green/Summers Cr. Rd.) 24 IX 97 (GTA).

Speyeria coronis: (eastern Sierra Nevada): Tuolumne County: Niagara Creek 6800' 3 mi. S. of SR 108 26 VI 75; Mill Creek (SR 108) 7 VII 78 and 12 VII 03 (both JRM). West slope records are apparently strays from the east. Mono County: Obsidian Camp Rd. in sagebrush habitats S. of Little Walker River 17 VIII 00 (KD); late VIII into IX in that same region (Sonora Junction) most years (JRM).

***Speyeria zerene* nr. *zerene*:** Fresno County: Upper Little Line Creek 7,800' 23 VI 30 (LM/CI); meadow above Edison 7 VII 02 (RE). Madera County: Fresno Dome Camp 26 VII 92 (KD); E. of Redwood Creek and Sivels Mtn. area 21 VIII 99 (KD). Mariposa County: Footman Ridge above Jerseydale 30 IX 87 (KD); Fish Camp 28 VII 89, 4 VIII 90 and 25 VII 92 (all KD); Tunnel View (SR 41) at entrance to Yosemite Valley 15 VII 66 and 14 VII 67 (both KD). Tuolumne County: Deadman Creek 29 VIII 67 (PAO); Niagara Creek 13 VII 94 (KD); Hetch-Hetchy Summit 13 VII 56 (JSG).

***Speyeria zerene malcolmi*:** Mono County: N. shore of Mono Lake 26 VII 71 (ATR); Lee Vining Creek 24 VI 76 (KD); Bald Mtn. 9000' 27 VI 99 (KD); 9.1 mi. N. of Bridgeport 22 VII 81 and 9 VIII 98 (both KD); sagebrush habitats S. of Little Walker River 17 VIII 00 (KD, very abundant visiting rabbitbrush) and 11 VII 04 (BG); Mammoth 30 VII 71 (ATR); Green Canyon 6 VII 96 (BRB); Little Antelope Canyon 12 VII 96 (BRB); Mill Canyon 15 VII 96 (BRB); Summit Canyon at 10,000' 10 VIII 96 (BRB); Rush Creek N. of Silver Lake 8 VII 04 (KD); Hot Creek nr. Mammoth 9 VII 04 (BG).

***Speyeria callippe rupestris*:** Fresno County: Ridge overlooking Redinger Lake on Rd. 235 11 VI 04 (seen, KD). Madera County: Sky Ranch Rd. nr. Oakhurst 3 VII 55 (RES); Oakhurst 8 VI 92 (KD). Mariposa County: Jerseydale 23 VI 87 (KD); Bull Creek NW of Briceburg mid-VI 82 (AOS); Bear Creek W. of Briceburg 23 VI 87 (KD); Wawona 5 VII 21 (J. A. Comstock). Tuolumne County: 6 mi. S. of Colymbia VI-VII (JRM); NF of Tuolumne River, 4 mi. NE of Tuolumne 26 VII 63 (Keith S. Brown Jr.).

***Speyeria callippe nevadensis*:** Mono County: Lee Vining Creek 24 VI 76 (KD); Bald Mountain Lookout 9104' 27 VI 99 (KD); Bodie Rd. (SR 270) 2 to 4 mi. E. of US 395 26 VI 99 and 9 VII 04 (KD); 1 mile N. of Mammoth Airport 12 VII 90 (ATR);

Little Walker River nr. Sonora Jct. 17 VIII 00 (KD); Green Canyon 6 VII 96 (BRB); ridge E. of Green Canyon, common 18 VI and 1 VIII 04 (KD); Antelope Canyon 12 VII 96 (BRB); Mill Canyon 15 VI 96 (BRB); Rush Creek N. of Silver Lake 8 VII 04 (KD); Bridgeport Canyon NE of Mono Lake 9 VII 04 (KD); Glass Mtn. summit 11,123' 3 VIII 98 (DG).

***Speyeria egleis egleis*:** Fresno County: Kaiser Pass 2 to 17 VII 30 (LM/CI); above Edison Lake 7 VII 02 (RE). Madera County: Fresno Dome Camp 26 VII 92 and Fresno Dome 21 VIII 99 (both KD). Mariposa County: Fish Camp 28 VII 89 and 4 VIII 90 (KD); 2 mi. N. of Yosemite Creek Camp 11 IX 74 (RLL). Tuolumne County: 2 mi. W. of Sonora Pass 9100' 3 VII 59 (RES/PAO/Nora Opler); Leavitt Peak 11,000' 29 VIII 67 (PAO). Mono County: Tioga Pass/Saddlebag Lake area 13-14 VIII 70 and 18 VII 73 (KD); Warren Creek Canyon 16 VIII 00 (KD); Sonora Pass 19 VII 76 (KD); Ridge SE of Mt. Conness 20 VII 76 (KD); Little Antelope Canyon 8 VIII 96 (BRB); Silver Canyon 16 VI 96 (BRB).

Speyeria egleis: (green disk): Mono County: Convict Lake terminal moraine, 1 mi. W. of US 395 16 VI 04 (PAO). This record of three apparent *egleis* needs further study and evaluation.

***Speyeria hesperis irene*:** Calaveras County: 3.5 mi. NE of Cottage Station 6200' LOW and WEST for Sierra Nevada 19 VII 81 (Ralph Wells). Madera County: Rainbow Falls, 5 mi. W. of Crystal Crag Lodge 3 VIII 61 (RES). Tuolumne County: Aspen 14 VII 56 (JSG); Niagara Creek, 2-3 mi. S. of SR 108 8 VII 87 and 12 VII 94 (KD); Mill Creek (SR 108) 12 VII 94 (KD). Mono County: Burt Canyon below Anna Lake 8000' 16 VII 74 (JRM).

***Speyeria hydaspe* nr. *viridicornis*:** Fresno County: Below Huntington Lake 12 VI to 29 VII 30 (LM/CI); Shaver Lake 3-8 VII 02 (RE). Madera County: Sugar Pine 4 VIII 90 and 29 VI 04 (KD); Fresno Dome Camp 26 VII 92 and 11 VII 99 (KD). Mariposa County: Fish Camp 16 and 28 VII 89 (ATR); 4 VIII 90 and 25 VII 92 (all KD); Yosemite Valley 14 VII 67 (seen, KD); Jerseydale VII-VIII (AOS). Tuolumne County: Mather 12 VII 56 (JSG); Niagara Creek 8 VII 87; 12-13 VII 94 (all KD).

***Speyeria mormonia mormonia*:** Inyo County: Rock Creek 10,000' 10 mi. W. of Tom's Place to Mono Pass 12,500' 30 VIII 65 (PAO). Fresno County: Near Huntington Lake 1 to 31 VII 30 (LM/CI). Madera County: Fresno Dome Camp 21 VIII 98 and 26 VII 99 (KD). Mariposa County: Crane Flat 19 VII to 19 VIII 57 (JWT); Fish Camp 28 VII 89, 4 VIII 90 and 25 VII 92 (all KD). Tuolumne County: Tuolumne Meadows 18 VII to 14 VIII 57 and 3 IX 58 (JWT); W. of Sonora Pass 27 VII 02 (KD). Mono County: Tioga Pass/meadows W. of Saddlebag Lake 13 VIII 70, 18 VII 73, 16 VIII 00 (all KD); upper Obsidian Camp Rd. 17 VIII 00 (KD); Summit Canyon 10 VIII 96 (BRB).

***Speyeria mormonia obsidiana*:** Mono County: Sawmill Meadow 9200'on Glass Mountain 3 VIII 85 and 3 VIII 87 (DG); 5 VIII 00 (JGP); 2 VIII 04 (KD).

***Boloria epithore sierra*:** Fresno County: Huntington Lake 3 to 8 VII 02 (RE). Madera County: S. of Sugar Pine along Sivels Mtn. Rd. to Fresno Dome 23 V 92 and 11 VI 93 (KD); Fresno Dome (and creek at campground) 1 and 2 VII 96 , 5 and 11 VII 99 (KD). Mariposa County: Sentinel Dome, Yosemite Nat'l Park 3 VII 46 (F. H. Rindge); Glacier Point 28 VI and 2 VII 1921 (J. A. Comstock); Yosemite Valley 20 VII 30 (E. C. Zimmerman); Fish Camp 16 VI 90 and 8 VI 92 (KD). Tuolumne County: SR 108 at Mill and Niagara Creeks 8 VII 87 and 13 VII 94 (KD); vicinity of Tioga Pass 1 VIII 52 (PAO).

***Chlosyne leanira leanira*:** Madera County: 4.6 mi. N. on Sky Ranch Rd. N. of Oakhurst 31 V 00 (Jack Levy). Mariposa County: Darrah 30 V 57 (JWT), Jerseydale 22 VI 61 (AOS), El Portal 14 V 61 (JWT) and 4 V 68 (KCH/JHH/JL); Indian Flat 30 V 59 and 13 V to 10 VI 61 (JWT).

***Chlosyne leanira alma*:** Mono County: E. of Swall Meadow on hills above Lower Rock Creek Gorge 9 and 20 V 97 (KD); US 395 at scenic turnout S. of Sherwin Summit 15 V 88 (Richard P. Meyer) and 17 V 93 (KD).

***Chlosyne leanira basinensis*:** Mono County: N. side of SR 338 facing E. Walker River 1.0 mi. NE of Calif. State line (GTA); SW of Topaz Lake (third instar larvae on *Castilleja* 29 VI 71 by MJS); Burcham Flat Rd. and confluence of Rock Creek and West Walker River (May to late June). Rock Creek S. of Walker above US 395 3 mi. S. of Walker 26 V 79 and 12 VI 80 (JRM).

***Chlosyne palla palla*:** Fresno County: SR 168 NW of Shaver Lake 27 V 02 (KD); San Joaquin River/Power House 7 V 04 (KD). Madera County: Coarsegold 23 V and 8 VI 92 (KD); Sugar Pine 23 V and 8 VI 92 (KD); ridge NE of San Joaquin River crossing at Power House on Rd. 235 10-11 IV 04 (KD/RES). Mariposa County: Jerseydale 21 VI 61 (AOS); 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 20 IV 84 (KD); Yosemite Valley nr. Camp Curry 1 VI 70 (seen, KD). Tuolumne County: Mill and Niagara Creeks 8 VII 87 and 13 VII 94 (KD).

***Chlosyne palla altasierra*:** Fresno County: Huntington Lake 12 VI to 28 VII 30 (LM/CI); Mono Hot Springs 7 VII 02 (RE). Madera County: Fresno Dome 7000-8000' 1-2 VII 96; 5 and 11 VII 99 and 1 VII 04 (KD). Mono County: 9.1 mi. N. of Bridgeport 9 VII 87 (KD); Little Antelope Canyon 14 VI and 12 VII 96 (BRB); Mill Creek Rd. SW of Walker 11 VI 96 (JGP); Mill Canyon 15 VI 96 (BRB); Virginia Canyon 7 VIII 96 (BRB).

***Chlosyne acastus acastus*:** Mono County: Rock Creek 3 mi. S. of Walker 26 V 79 and 12 VI 80 (both JRM); Bodie Rd. (SR 270), 4 mi. E. of US 395 26 VI 99 and 9 VII 04 (KD); Mono Lake 30 VI 50 (JWT) and 30 VI 58 (AOS); scenic turnout US 395 S. of Sherwin Summit 15 V 88 (Richard P. Meyer) and 17 V 93 (KD); hilltop NE of US 395 nr. Tom's Place 11 VI 96 (JGP); E. of Swall Meadow above Rock Creek Gorge 12 V 89 and 9 V 97 (KD); hill E. of Sherwin Summit 29 V 03 (PAO).

***Chlosyne whitneyi whitneyi*:** Fresno County: Duck Lake 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: Mt. Lyell 6 VIII 33 (JSG). Tuolumne County: Crest W. of Tioga Pass 9 VII to 31 VII 58 (AOS); meadows 2 mi. W. of Sonora Pass 9100' 3 VII 59 (RES/PAO/Nora Opler). Mono County: N. slope of Mt. Dana at lower end of Glacier Canyon 11,000' 8 VIII 69 (JFE/AOS); SE above Saddlebag Lake 10,500-11,000' 3 VIII 75 and 25 VII 81 (KD); ridge SE of Mt. Conness 10,200' 13 VII 76 and 26 VII 81 (KD); base of Red Mountain at 9700' W. of Saddlebag Lake 24 VII 93 (KD); Ellery Lake at base of Dana Plateau 22 VII 93 (KD); Sonora Pass on north facing slopes and canyons 19 VII 76; 7 and 9 VII 87 (KD); Barney Lake nr. Mammoth Crest 25 VIII 91 (JFE).

***Chlosyne hoffmanni hoffmanni*:** Fresno County: Upper Little Line Creek to Kaiser Pass 8500-9000' 28 VI to 30 VII 30 (LM/CI); above Huntington Lake 4 VII 02 (RE); Mono Hot Springs 4 VII 02 (RE). Madera County: Fresno Dome 7000-8000' 1-2 VII 96; 5 and 11 VII 99; 30 VI to 1 VII 04 (KD). Mariposa County: Research Reserve 14 VII 33 (JSG). Tuolumne County: Niagara Creek (SR 108) 15 VII 78 (MJS); 8 VII 87 and 13 VII 94 (KD); Mill Creek 13 VII 94 (KD); 1 mi. W. of Clark Fork turnoff (SR 108) 4 VII 02 (JGP). Mono County: Little Walker River Canyon below Anna Lake 16 VII 74 and 3 VIII 75 (JRM); Minaret Summit near Mammoth Lakes 20-21 VII 89; 12 VII 90; 21 VII 91 (all ATR); same locality 2 VIII 00, 14 VIII 03 and 9 VII 04 (all BG).

***Phyciodes pulchellus*:** (Sierra Nevada west slope blackish phenotype): Fresno County: Shaver Lake 4 VII 02 (RE). Madera County. Mariposa County: Jerseydale 23 VI 61 (AOS); Yosemite Valley 17 VII 67 (seen, KD). Tuolumne County: Mather 12 VII 56 (JSG); Hetch-Hetchy 13 VII 56 (JSG).

***Phyciodes pulchellus*:** (mixed populations): Fresno County: Huntington Lake 12 VI to 30 VII 30 (LM/CI); Mono Hot Springs 5 VII 02 (RE). A long series of collected specimens by Lloyd M. Martin and Charles H. Ingham showed variable characters between blackish *pulchellus* and *montanus*. A similar situation exists in the Sequoia National Park region south to the Greenhorn Mountains of Kern County.

***Phyciodes pulchellus montanus*:** Madera County: Devil's Postpile, Reds Meadow, San Joaquin River 7600' 21 VI 87 (PAO); Big Sandy Camp 1 VII 04 (KD) and Fresno Dome Trailhead 30 VI and 1 VII 04 (KD). Mariposa County: Summerdale Camp (Big Creek) 29 VI 04 (KD). Tuolumne County: Tuolumne Meadows 28 VII 35 (Lloyd Martin); Niagara Creek 8 VII 87 and 13 VII 94 (KD); Eagle Meadow 13 VII 94 (KD). Mono County: Tioga Pass 16 VII 75 (KD); subalpine meadows and forest W. of Saddlebag Lake 25 VI 76 and 18 VII 73 (KD); Sonora Pass 15 VIII 03 (BG); Minaret Summit nr. Mammoth Lakes 14 VIII 03 (BG); Virginia Canyon 9 VII 96 (BRB).

***Phyciodes pulchellus vallis*:** Mono County: Mono Lake Park 2, 4 and 17 VIII 75 (KD); 9.1 mi. N. of Bridgeport 17 VII 75 and 5 VIII 78 (KD); Bodie Rd. (SR 270) 4 mi. E. of US 395 26 VII 99 and 9 VII 04 (KD); W. of Lee Vining 26-27 VI 61 (AOS); E. Walker River, US 395 at USFS 142 9 VI 96 (GTA); Bridgeport Meadows 9 VI 96 (GTA); Summers Canyon at 8000' 18 VI 04 (KD); Rush Creek N. of Silver Lake 8 VII 04 (KD); Bridgeport Canyon 9 VII 04 (KD); Green Canyon 1 VIII 04 (KD).

***Phyciodes pulchellus*:** (black eastern Sierra Nevada). Mono County: Swall Meadow 9 and 20 V 97 (KD/Kevin Davenport); 30 V 99 (KD/Jack Levy); Sawmill Meadow 9200' on Glass Mountain 2 VIII 04 (KD).

***Phyciodes orseis herlani*:** Fresno County: Badger Flat 15 VII 96 (Chuck Sekerman); Huntington Lake (fide JFE). Madera County: Fresno Dome Camp along creek and Fresno Dome trailhead 1 VII 96 (KD). Tuolumne County: Eagle Meadow (S. of SR 108) 13 VII 94 (KD). Mono County: Subalpine forest W. of Saddlebag Lake 25 VI 76 (KD); 28 VI 81 (RLL); 10 VII 87, 5 VII 89 (common); 24 VII 93; 11 VIII 91; 24 VII 93 (all KD); Green Canyon 10 VI 96 (BRB); Mill Canyon 15 VII 96 (BRB); Wolf Canyon 11 VII 96 (BRB); Lake Mary nr. Mammoth Lakes VII (Richard P. Meyer).

***Phyciodes mylitta mylitta*:** Fresno County: Huntington Lake area 12 VI to 30 VII 30 (LM/CI); Shaver Lake 3 to 8 VII 02 (RE). Madera County: Sugar Pine 23 V 92 (KD); Fresno Dome Camp 26 VII 92 and 1-2 VII 96 (KD). Mariposa County: Jerseydale 23 VI 87 (KD); Fish Camp 28 VII 88 and 4 VIII 90 (KD). Tuolumne County: N. slope of Mt. Dana SW of Tioga Pass 25 VIII 56 (KCH/RES). Mono County: W. of Saddlebag Lake in subalpine forest 18 VII 73 and 25 VI 76 (KD); Warren Creek 6 VIII 78 (KD); Little Antelope Canyon 14 VI 96 (BRB); Green Canyon 6 VII 96 (BRB).

***Euphydryas anicia variicolor*:** Tuolumne County: Leavitt Peak 11,000' 29 VIII 67 (PAO); ridge W. of Sonora Pass 15 VII 78 and 23 VI 79 (Deane Bowers). Mono County: ridges S. of Sonora Pass 22 VII 78, 23 VI and 14 VII 79 (Deane Bowers); 7 and 9 VII 87, 12 VII 94 and 27 VII 02 (all KD with a wide range of color and genitalic variation, see *wheeleri* below).

***Euphydryas anicia wheeleri*:** Mono County: US 395 on hills E. of scenic turnout 15 V 88 (Richard P. Meyer); Mono Lake 16 VI 1917 (J. A. Comstock) and 13 VI 1924 (Gunder); S. of Bodie 14 VII 69 (JFE/AOS); Tom's Place V-VI (JGP); Green Creek S. of Bridgeport 17 VII 82 (JRM); Log Cabin Mine Rd., W. of Lee Vining 8800-9600' 26 VI 92 (DG); below Sonora Pass on S. side late V (JRM); ridge at 11,000' S. of Sonora Pass 12 VII 94 and 27 VII 02 (KD, these are *wheeleri* phenotypes but may actally be a color form of *variicolor*). The Sonora Pass records are included here because of continued debate over their status.

***Euphydryas chalcedona chalcedona*:** Fresno County: Crestmans, below Huntington Lake 5500' 12 VI 30 (LM/CI); 2 mi. S. of Auberry 27 V 02 (KD); San Joaquin River crossing at Power House 11 IV 04 (RES/KD). Madera County: Coarsegold 23 V and 8 VI 92 (KD); Oakhurst 8 VI 92 (KD); Sky Ranch Rd. W. of Redwood Camp 8 VI 92 and 13 VI 02 (both KD); ridge N. of San Joaquin River crossing on Auberry Rd. 10-11 IV 04 (RES/KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Camp Curry, Yosemite Valley 31 V 64 (seen, KD); Briceburg 20 IV 84 (KD); Jerseydale 23 VI 87 (KD). Tuolumne County: 1 mi. E. of Mather VI-VII (AOS).

***Euphydryas chalcedona* nr. *olancha*:** Mono County: Tom's Place 22 VI 86 (KD); Owens River Gorge E. of Tom's Place 10 VII 97 and 27 VI 99 (JGP); Casa Diablo Hot Springs 5 VII 1922 (George Malcolm); Swall Meadow 9 and 20 V 97 (KD), 30 V 99 (KD/Jack Levy). Possible *macglashanii (?)*: Mono County: Little Antelope Canyon 14 VI 96 (BRB); Silver Canyon 16 VI 96 (BRB); Mill Canyon Rd. SW of Walker 15 VI 96 (BRB) and 10 V 97 (JGP); ridge E. of Green Canyon 18 VI 04 (KD).

***Euphydryas chalcedona sierra*:** Fresno County: Kaiser Creek 6400' 11 and 28 VII 30 (LM/CI). Note: A record of a single male of "*Euphydryas colon*" from Upper Little Line Creek at 8200' 17 VI 30 (LM/CI) is consistant with a rare black phenotype occasionally taken with *E. chalcedona irelandi* in the Big Meadow region of Tulare County just S. of Kings Canyon National Park. Mariposa County: Eagle Peak 1 VII 33 (JSG); Research Reserve 14 VII 33 (JSG). Tuolumne County: Return Creek 11 VII 31 (JWT); near Dardanelles (SR 108) 27 VII 63 (misidentified as *E. editha nubigena*: Keith S. Brown Jr., 1965); Niagara Creek (S. of SR 108) 25 VI 77 (MJS); 8 VII 87 and 13 VII 94 (KD); SR 108, 1 mi. W. of Clark Fork Rd. 4 VII 02 (JGP).

***Euphydryas editha rubicunda*:** Fresno County: SR 168, 14 mi. NW of Shaver Lake 27 V 02 (KD); San Joaquin River crossing at Power House 11 IV and 7 V 04 (KD); San Joaquin River Gorge on Squaw Leap Trail 16 IV 04 (KD, common). Madera County: Coarsegold 30 V 70 and 24 V 91 (KD) and 27 IV 92 (KD/Al Rubbert); Rd. 200, 10 mi. SW of North Fork 10 IV and 14 V 04 (KD); ridge NE of San Joaquin River crossing on Auberry Rd. 10-11 IV 04 (KD/RES). Mariposa County: El Portal 14 V 61 (JWT); Jerseydale 9 to 13 VI 62 (AOS); Briceburg 24 IV 66 (RES/H. Holmes/JL); 20 IV 84 (KD). Tuolumne County: 1 mi. E. of Mather (AOS); Indian Flat 30 V 59; 27 V 60 and 13 V 61 (JWT).

***Euphydryas editha*:** (high elevation segregate): Fresno County: Upper end of Round Meadow 7800' 12 VI to 22 VII 30 (LM, CI). Listed as *rubicunda* by Martin & Ingham (1931), it is more likely these are the same as the high elevation population that occurs in the Kings Canyon/Sequoia National Park region (Davenport, 2003).

***Euphydryas editha nubigena*:** Inyo County: Mono Pass 30 VIII 67 (PAO). Mariposa County: Vogelsang Lake 3 VIII 58 (JSG). Tuolumne County: Leavitt Peak 11,000' 29 VIII 67 (PAO). Mono County: E. above Saddlebag Lake 14 VIII 70; 16 and 18 VII 73 (KD); Glacier Canyon 10,500' NE slope of Mt. Dana 25 VIII 83 (RLL); ridge SE of Mt. Conness 10,200' 13 and 20 VII 76 and 26 VII 81 (KD); ridges at 11,000' E. above Sonora Pass 19 VII 76; 7 and 9 VII 87 (KD).

***Euphydryas editha monoensis*:** Mono County: Mono Lake nr. Lee Vining 13 VII 60 and 26 -27 VI 61 (AOS); Sweetwater Range: Slinkard Creek 27 VIII 83 (JRM); N. of Mill Creek Camp 6250' 2 V 84 (AOS /R. Wells); Mill Canyon Rd. SW of Walker 10 V 97 (JGP); Little Walker River Rd. S. of US 395 27 V 01 (JGP).

***Polygonia satyrus*:** Fresno County: McKinley Grove of Big Trees 12 VII 30 (LM/CI); San Joaquin River below Friant Dam 20 III 04 (KD). Madera County: Sugar Pine 5 IX 95; Fresno Dome Camp 1-2 VII 96 (KD); Starkweather Trail, Minaret Summit 14 VIII 99 (BG). Mariposa County: Jerseydale "scarce" (AOS);

Yosemite Valley 9 IV 92 (seen, KD). Tuolumne County: Meadows 2 mi. W. of Sonora Pass 9100' 3 VII 59 (RES/PAO/Nora Opler). Mono County: Mono Lake Park 2, 4 and 17 VIII 75 (KD); 25 VII 81 (RLL); E. Walker River along Green and Summer Creek Rds. 9 VII 97 (BRB); Little Antelope Canyon 12 VII 96 (BRB); Swall Meadow 9 V 97 (KD); Minaret Summit 15 VII 00 (BG); Bridgeport Canyon 9 VII 04 (KD).

***Polygonia faunus rusticus*:** Calaveras County: Mokelumne River at Moore Creek Camp 23 IV 77 (Ralph Wells); larvae on azalea at Big Trees State Park 4 VI 83 (Sterling Mattoon). Fresno County: Near summit of Mt. Tom 9400' 12-13 VII 30 (LM/CI); Blue Canyon Rd. S of Dinky Creek Rd. 27 V 02 (KD). Madera County: 5 mi. E. of Bass Lake 15 VI 84 (PAO); Sugar Pine 27 IV and 23 V 92 (KD); 22 V 93, 31 III 94 and 5 IX 95 (all KD); 15 X 04 (Michael Leski); Fresno Dome 11 VI 93; 1-2 VII 96; 5 VII 99; 19 IX 03 (all KD); Fresno Dome Rd. E. of Redwood Creek at junction with road to Sivels Mtn. along creek 21 VIII 99 (KD). Mariposa County: Briceburg 24 IV 66 (RES); Jerseydale 12 IV 78 (AOS); Fish Camp 24 V 91 and 27 IV 92 (both KD); near Mirror Lake, Yosemite Valley 9 IV 92 (seen, KD). Tuolumne County: NW entrance to Yosemite National Park off Big Oak Flat Rd. at 4000' nr. Mather 17 V 63 (Keith S. Brown). Mono County: June Lake Loop 25 VIII 83 (JWT).

***Polygonia gracilis zephyrus*:** Fresno County: SW of Shaver Lake 27 V 02 (KD); Huntington Lake 8 VII 02 (RE). Madera County: Sugar Pine 27 IV and 23 V 92 (KD); Fresno Dome 11 VI 93; 1-2 VII 99 (KD). Mariposa County: Briceburg 10 III 79 (KD); Fish Camp 23 V 92 and 28 VII 89 (KD); Yosemite Valley 13 VII 67; near Tunnel View 6 III 04 (seen, KD) ;Jerseydale 20 X 93 (AOS). Tuolumne County: W. side Sonora Pass 24 VI 57 (RES/KCH). Mono County: Subalpine forest W. of Saddlebag Lake 13 VIII 70 and 18 VII 73 (KD); trail E. of Saddlebag Lake 31 VII 04 (KD); Sonora Pass 12 VII 94 (KD); Green Canyon 6 VII 96 (BRB).

***Nymphalis californica californica*:** Fresno County: Kaiser Pass 10,000' 15 VI 68 (KCH/JL/CAS); San Joaquin River/Power House 7 V 04 (KD). Madera County: Sugar Pine 27 IV and 23 V 92 (KD); Fresno Dome 26 VII 92; 11 VI 93 and 19 IX 03 (all KD). Mariposa County: Briceburg 10 III 79 (KD); Jerseydale 20 II to 21 III and 5 to 31 V 89 (AOS); Fish Camp 27 IV and 23 V 92 (KD). Tuolumne County: W. of Sonora Pass 3 VIII 86 (JGP). Mono County: W. of Saddlebag Lake 13 VIII 70 and 24 VII 93 (KD); S. of Sonora Pass 7 and 9 VII 87 (KD); Tioga Pass 16 VIII 00 (KD); Green Canyon 5 VIII 96 (BRB); Mill Canyon 15 VI 96 (BRB).

***Nymphalis antiopa antiopa*:** Fresno County: Huntington Lake 26 VI 66 (KCH/JHH). Madera County: Sugar Pine 27 IV and 23 V 92 (KD); Fresno Dome 11 VI 93, 1-2 VII 96 and 19 IX 03 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 10 III 79 (KD); Jerseydale (AOS). Tuolumne County: Mather (AOS). Mono County: Mono Lake Park 2, 4 and 17 VIII 75 (KD); 9.1 mi. N. of Bridgeport 5 VIII 78 (KD); Bridgeport Canyon 9 VII 04 (KD).

***Nymphalis milberti subpallida*:** Inyo County: Mono Pass 30 VIII 67 (PAO). Fresno County: Kaiser Crest 21 VII 30 (LM/CI); Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: 5 mi. S of Oakhurst 10 IV 64 (PAO); Mt. Lyell 6 VIII 33 (JSG); Sugar Pine 27 IV and 23 V 92 (KD). Mariposa County: Briceburg 10 III 79 (KD); 26 II 86 (AOS). Tuolumne County: Sonora Pass 24 VI 57 (KCH/RES); Crest W. of Tioga Pass 1 to 19 VIII 58 (AOS); Leavitt Peak 11,000' 29 VIII 67 (PAO). Mono County: Mono Lake 26 VI 99 (KD); Saddlebag Lake 22 and 24 VII 93 (KD); N. slope of Mt. Dana 16 VIII 75 and 24 VII 93 (both KD); Summers Canyon 11 VI 96 (BRB); Virginia Canyon 12 VI 96 (BRB); Swall Meadow 30 V 99 (KD); 4 mi. W. of Bodie 11 VII 04 (KD).

***Vanessa virginiensis*:** Fresno County: Kaiser Peak 17 VI 30 (LM/CI); Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: Coarsegold 1 VI 70 and 8 VI 92 (KD); Fresno Dome Camp 19 IV 03 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 20 IV 84 (KD); Fish Camp 28 VII 89 (KD), Jerseydale 9 VIII 93 (KD). Tuolumne County: Mather 10 VI 61 (JWT). Mono County: Sonora Pass 27 VII 02 (KD); Virginia Canyon 12 VI and 9 VII 96 (BRB); Wolf Canyon 11 VII 96 (BRB).

***Vanessa cardui*:** Inyo County: Mono Pass at 12,500' 30 VIII 65 and 30 VIII 67 (PAO). Fresno County: Kaiser Crest 10,000' 4 VII 61 (RES) and 15 VI 66 (RES); San Joaquin River Gorge 16 IV and 7 V 04 (KD) Madera County: Fresno Dome Camp 19 IX 03 (KD); Redinger Lake 20 III 04 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (PAO); Yosemite Valley 9 IV 92 (seen, KD). Tuolumne County: Mather (AOS). Mono County: E. above Saddlebag Lake 16 VII 00 (KD); Little Antelope Canyon 14 VI 96 (BRB); Wolf Canyon 17 VI 96 (BRB).

***Vanessa annabella*:** Fresno County: Kaiser Pass 12 VI to 30 VIII 30 (LM/CI); Huntington Lake and Shaver Lake 26 VI 66 (KCH). Madera County: Coarsegold 27 IV 92 (KD); Sugar Pine 23 V 92 and 5 IX 95 (KD); Fresno Dome Camp 19 IX 03 (KD). Mariposa County: Jerseydale (AOS). Tuolumne County: Mather (AOS). Mono County: E. above Saddlebag Lake at 10,500' 18 VII 73 (KD), 25 and 28 VII 81 (KD); Little Antelope Canyon 12 VII 96 (BRB); Virginia Canyon at 10,000' 8 VII 96 (BRB); 4 mi. W. of Bodie and Bridgeport 9 VII 04 (KD).

***Vanessa atalanta rubria*:** Fresno County: Kaiser Peak 17 and 20 VI 30 (LM/CI); Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: Sugar Pine 27 IV and 23 V 92 (KD); Fresno Dome Camp 1-2 VII 99 and 19 IX 03 (KD). Mariposa County: 3 mi. W. of El Portal 11 IV 64 (AOS); Jerseydale (AOS). Tuolumne County: Mather (AOS). Mono County: W. of Walker 8 VI 96 and 28 IX 97 (GTA).

***Junonia coenia grisea*:** Fresno County: Huntington Lake 8 VII 30 (LM/CI); Shaver Lake 26 VI 66 (KCH). Madera County: Coarsegold 27 IV and 8 VI 92 (KD); Fresno Dome Camp 26 VII 92 (KD). Mariposa County: Yosemite Valley 2 VIII 63 and 17 VII 67 (seen, KD); 3 mi. W. of El Portal 11 IV 64 (PAO); Briceburg 28 III 81 (KD). Tuolumne County: Vicinity of Sonora 22 V 60 (RES/PAO/RLL); Mather 11-12 VII 56 (JSG). Mono County: Obsidian Camp Rd. near Sonora Jct. 17 VIII 00 (KD); Summit Canyon 10 VII 96 (BRB); Virginia Canyon at 10,000' 8 VII 96 (KD).

***Limenitis archippus lahontani*:** Mono County: 3 mi. N. of Bridgeport Reservoir 6 VIII 72 (Richard Imig). This is the only known California record for this subspecies. G. T. Austin and J. F. Emmel doubt its authenticity.

***Limenitis weidemeyerii latifascia*:** Mono County: Mono Lake 2 and 4 VIII 75; 12 VII 76; 10 VII 91; 10 and 12 VIII 91 (all KD); Warren Creek Canyon at 9500' 1 VIII 81 (RLL/D. Parkinson); 9.1 mi. N. of Bridgeport 9 VII 87 (KD); E. of Walker S. of Nevada state line 5 VII 96 and 11 VII 97 (both GTA); Bodie 13 VII 90 (J. B. Vernon); Green Canyon 5 VIII 96 (BRB); Summers Canyon 7 VII 96; Virginia Canyon (2781-2857m) 8 to 9 VII and 7 VIII 96 (BRB); Bridgeport Canyon NE of Mono Lake 9 VII 04 (KD). Form "fridayi"(hybrids of contact zone between this and the next species) are well known from Mono Lake, Devil's Gate Pass and elsewhere in the region per GTA.

***Limenitis lorquini lorquini*:** Fresno County: Huntington Lake 14 VI 30 (LM/CI); Millerton Lake 8 VII 02 (RE). Madera County: Coarsegold: 23 V and 8 VI 92 (KD); Fresno Dome Camp 26 VII 92; 21 VIII 99 and 19 IX 03 (all KD). Mariposa County: Fish Camp 28 VII 89 and 4 VIII 90 (KD) and Summerdale Camp along Big Creek 29 VI 04 (KD). Tuolumne County: S. of SR 108

at Mill and Niagara Creeks 8 VII 87 and 13 VII 94 (KD). Mono County: W. of Saddlebag Lake 13 VIII 70 and 31 VII 04 (KD); NE slope of Mt. Dana at 10,500' 2 VIII 81 (RLL).

***Limenitis lorquini lorquini* X *pallidafacies*:** Mono County: 9.1 mi. N. of Bridgeport 17 VIII 75; 5 VIII 78 and 22 VII 81 (KD); Silver Canyon 10 VII 96 (BRB); Summers Canyon 7 VII 96 (BRB); Little Antelope Canyon 14 VI 96 (BRB); Green Canyon 5 VIII 96 (BRB); E. of Walker S. of Nevada state line 5 VII 96 and 11 VII 97 (both GTA); Green Canyon 1 VIII 04 (KD).

***Limenitis lorquini pallidafacies*:** Inyo County: Rock Creek 10,000' 10 mi. W. of Tom's Place to Mono Pass 12,500' 30 VIII 65 (PAO). Mono County: E. end of Sierra Nevada at Lee Vining Creek 4 mi. W. of Lee Vining 18 VII 73 (KD); Lee Vining 2 VIII 75 (KD); Rock Creek Gorge 27 VII 99 (JGP/KD); Swall Meadow 8 and 25 VIII 00 (KD); Rush Creek N. of Silver Lake 8 VII 04 (KD); Bridgeport Canyon NE of Mono Lake 9 VII 04 (KD); Sawmill Meadow 9200' on Glass Mtn. 2 VIII 04 (KD).

***Adelpha (bredowii) californica*:** Fresno County: Shaver Lake 26 VI 66 (KCH/JHH); Rd. 235 overlooking Redinger Lake 4 IX 04 (KD). Madera County: 4 mi. E. of Bass Lake 22 VI 87 (PAO); Oakhurst 8 and 12 VI 92 (KD); Fresno Dome 26 VII 92; 21 VIII 99 and 19 IX 03 (all KD); ridge NE of San Joaquin River crossing at Power House 10-11 IV 04 (RES/KD). Mariposa County: Yosemite Valley and below Yosemite Falls 3 VIII 63 (KD); Briceburg 20 IV 84 (KD); Jerseydale 9 VIII 93 (KD); Summerdale Camp 29 VI 04 (KD). Tuolumne County: Mather 12-15 VII 56 (JSG); Tuolumne Meadows 8800' 25 VI 81 (seen, RLL). Mono County: NE of Tioga Pass nr. E. entrance to Yosemite Park 9920' 11 VII 91 (R. J. Wuttken).

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***Coenonympha ampelos mono*:** Mono County: Mono Lake Park 2, 4 and 17 VIII 75 (KD); Lee Vining Creek 18 VII 73 (KD); Bridgeport and 9.1 mi. N. of Bridgeport 5 VIII 78 (KD); Bodie 7 VIII 78 (KD); Green Canyon 10 VI 96 (BRB); Mill Creek Rd. SW of Walker 11 VI 96 (JGP); Virginia Canyon 7 VIII 96 (BRB); E. of Walker 21 V 97 (GTA); Gull Lake and June Lake 27 VI 99 (KD); Wolf Creek 18 VIII 02 (JRM); Rush Creek N. of Silver Lake 8 VII 04 (KD) and Bridgeport Canyon 9 VII 04 (KD).

***Coenonympha california california*:** Fresno County: Round Meadow 7000' 14 to 23 VI 30 (LM/CI); SR 168, 14 mi. NW of Shaver Lake 12 IX 03 and 20 III 04 (both KD). Madera County: Coarsegold 23 V and 8 VI 92 (KD); 2 mi. S. of Oakhurst 22 VI 87 (PAO); Oakhurst 8 and 12 VI 92 (KD); Bass Lake 28 V 02 (KD). Mariposa County: Briceburg 10 III 79; 28 and 20 IV 84 (KD); Jerseydale 23 VI 87 and 9 VIII 93 (KD). Tuolumne County: Mather 12 VII 56 (JSG); E. of Mather VI-VIII (AOS).

***Cercyonis pegala walkerensis*:** Mono County: Bridgeport 5 VIII 78; 9 VIII 98; and 17 VIII 00 (all KD). S. of Bridgeport off road to Twin Lakes 5 VIII 78 (Bruce O'Hara); E. Walker River, US 395 1.1 mi. S. of Green Canyon Rd. 20 VIII 96 and 26 VIII 97 (GTA) and nr. Jct. of Green Canyon Rd. with US 395 1 VIII 04 (KD); vicinity of Wilson Creek below Conway Summit Grade 15 VII 84; 8 VII 86 and 31 VII 87 (all JGP); 1.2 mi. N. of SR 167 off US 395 23-24 VII 89 (GTA); Huntoon Valley, Swanger Creek, US 395 5.4 mi. NW of Bridgeport, Huntoon Camp 29 VII 78 (C. Hageman); 13 and 23 VII 89 (GTA); Upper Huntoon Valley, 8.1 mi. N. of Bridgeport 5 VIII 79 (Doug Mullens); Summers Canyon 7 VII and 6 VIII 96 (BRB); Wolf Creek 18 VIII 02 (BRB).

***Cercyonis sthenele silvestris*:** Fresno County: 2 mi. SW of Mountain Rest 15 VI 68 (KCH/CAS); ridge overlooking Redinger Lake 11 VI 04 (KD); SR 168 at Buckeye Helipad 11 VI 04 (KD). Madera County: Coarsegold 12 and 25 VII 92 (KD); 2 mi. S. of Oakhurst 22 VI 87 (PAO); SR 41 E. of Oakhurst at 4000' 29 VI 04 (KD); Sky Ranch Rd. S. of SR 41 11 VI 93 (KD); 2 mi. S. of North Fork on Auberry Rd. 14 V 04 (EARLY, KD). Mariposa County: Mid-Pines 23 VI 87 (KD); Jerseydale 23 VI 87 and 9 VIII 93 (KD); 7 VI to 5 X 97 (AOS). Tuolumne County: Hetch-Hetchy 13- 15 VII 56 (JSG); Mather (AOS).

***Cercyonis sthenele paulus*:** Mono County: Mono Lake: 5 VIII 1922 (J. A. Comstock); 2 and 4 VIII 75 (KD); Lee Vining 2 VIII 75 (KD); SR 270 just E. of US 395 19 VII 81 and 29 VII 89 (both JGP) and 9 VII 04 (KD); Hot Creek Fish Hatchery 1 VIII 00 (BG); Silver Canyon 10 VII 96 (BRB); Mill Canyon 9 VIII 96 (BRB); Bridgeport Canyon 9 VII 04 (KD); Green Canyon Rd. 1-3 mi. NW of US 395 1 VIII 04 (KD); McGee Canyon Rd. (NE of Glass Mtn.) 2-4 mi. W. of SR 120 2 VIII 04 (KD).

***Cercyonis oetus oetus*:** Fresno County: Rocky slopes above Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Madera County: Thousand Island Lakes 5 VIII 59 (AOS). Tuolumne County: Crest west of Tioga Pass 23-28 VII 60 (AOS); meadows 2 mi. W. of Sonora Pass 9100' 3 VII 59 (RES/PAO/Nora Opler). Mono County: Mono Lake 1 VIII 65 (PAO); E. above Saddlebag Lake to 11,000' 14 VIII 70 and 3 VIII 75 (KD); 15 VIII 81 (RLL); Mammoth Camp 22 VII 1922 (J. A. Comstock); 9.1 mi. N. of Bridgeport 19 VII 76 and 5 VIII 78 (KD); Sonora Pass 9 VIII 98 and 27 VII 02 (KD); W. of Bodie 9 VIII 98 and 9 VII 04 (KD); Sonora Pass Jct. 17 VIII 02 (KD); Little Antelope Canyon 12 VII 96 (BRB); Summers Canyon 6 VIII 96; Bridgeport Canyon 9 VII 04 (KD).

***Neominois ridingsii pallidus*:** Fresno County: Duck Lake, 6 mi. SE of Crystal Crag 3 VIII 61 (RES). Tuolumne County: Sonora Pass records include this county. Mono County: Mammoth Peaks 25 VII 1922 (J. A. Comstock); ridge S. of Sonora Pass 24 VII 76 (MJS); ridges above Sonora Pass 22 VII 78 (MJS) and 29 VII 78 (JRM)…sympatric with *O. chryxus Stanislaus.*; Log Cabin Mine Rd. W. of Lee Vining, 8800-9600' 26 VI 92 (DG); junction US 395 and Little Walker River 4 VIII 92 (JRM); Green Creek S. of Bridgeport 16 VII 83 (common! JRM); Aurora Canyon 3 mi. E. of Bridgeport 28 V 01 (JRM); hills lower end of Bridgeport Valley just W. of Green Creek 18 VII 98 (JRM); hills above Convict Lake 25 VI 79 (JGP).

***Oeneis chryxus stanislaus*:** Tuolumne County: 1 mi. SW of Clark's Fork turnoff on SR 108 just W. of Dardanelles 26 to 28 VII 63 (Keith S. Brown Jr.); many Sonora Pass records are from this county. Mono County: Little Walker River Canyon 9200' 3 VIII 75 (JRM); ridge S. of Sonora Pass 24 VII 76 (MJS); 22 VII 78 (MJS) and 29 VII 78 (JRM)…last two dates sympatric with *N. ridingsii*; 7 and 9 VII 87 including one which resembles *ivallda* (KD); hill N. of Sonora Pass 9 VIII 98 (one flying on wrong year! KD); Sweetwater Range 9500' 23 VII ? (JRM).

***Oeneis chryxus ivallda*:** Inyo County: Mono Pass 30-31 VIII 65 and 30 VIII 67 (PAO). Fresno County: Kaiser Crest and Kaiser Peak 10,000'-10,300' 17 VI to 26 VII 30 (LM/CI); Florence Lake 5 VIII 33 (JSG). Madera County: Mt. Lyell 6 VIII 33 (JSG). Mariposa County: Vogelsang Pass 3 VIII 33 (JSG). Tuolumne County: N. slope of Mt. Dana SW of Tioga Pass 20 VIII 65 (KCH); Meadows 2 miles west of Sonora Pass 3 VII 59 (RES/PAO/Nora Opler). Mono County: Mammoth Mountain 11,020' 20 VII 1922 (J. A. Comstock) and 21 VII 92 (P. Thompson); W. of Saddlebag Lake on rocky slope 13 VIII 70 (KD); E. above Saddlebag Lake 18 VII 73; 3 VIII 75 and 3 VII 89 (all KD); 16 IX 83 (Wayne Dawes); brushy edges of subalpine meadows between SR 120 and Saddlebag Lake at 9500' 17 VII 73 (KD); ridge SE of Mt. Conness 13 and 20 VII 73; 25 VII 81 and 11 VIII 91 (all KD); NE above Tioga Pass 16 VIII 75 (KD); Warren Creek Canyon 9500' 3 VII 81 (RLL); Glacier Canyon, N. slope of Mt. Dana 5 VII 81 (RLL).

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***Danaus plexippus*:** Fresno County: Huntington Lake 12 VI to 30 VIII 30 (LM/CI); SR 168, 10 mi. NW of Shaver Lake 12 IX 03 and 20 III 04 (KD). Madera County: Sugar Pine 5 IX 95 (KD); Fresno Dome Camp 26 VII 92 and 19 IX 03 (KD); ridge N. of San Joaquin River crossing at Power House 10 and 11 IV 04 (RES/KD). Mariposa County: Yosemite Valley 23 VIII 63; 15 VIII 70 (KD, seen); Jerseydale 23 VI 87 and 9 VIII 93 (KD); Fish Camp 28 VII 89 and 4 VIII 90 (KD). Tuolumne County: Mather 11-12 VII 56 (JSG); Niagara Creek 8 VII 87 and 13 VII 94 (KD). Mono County: Mono Lake 2, 4 and 17 VIII 75 (KD); W. of Saddlebag Lake 28 VIII 02 (KD); Sonora Pass at 10,000' 27 VIII 02 (KD); Silver Canyon 16 VI 96 (BRB).

***Danaus gilippus thersippus*:** Fresno County: SR 168, 14 mi. NW of Shaver Lake (2 air mi. S. of Auberry) 12 IX 03 (KD). Mariposa County: Jerseydale 16, 21 and 23 X 88 (AOS). Mono County: Shingle Mill Flat Camp off US 395 8 IX 77 (Arthur M. Shapiro); Mono Lake Park 22 VII 93 (KD); Minaret Summit near Mammoth Lakes 9000' 14 VIII 99 (BG).

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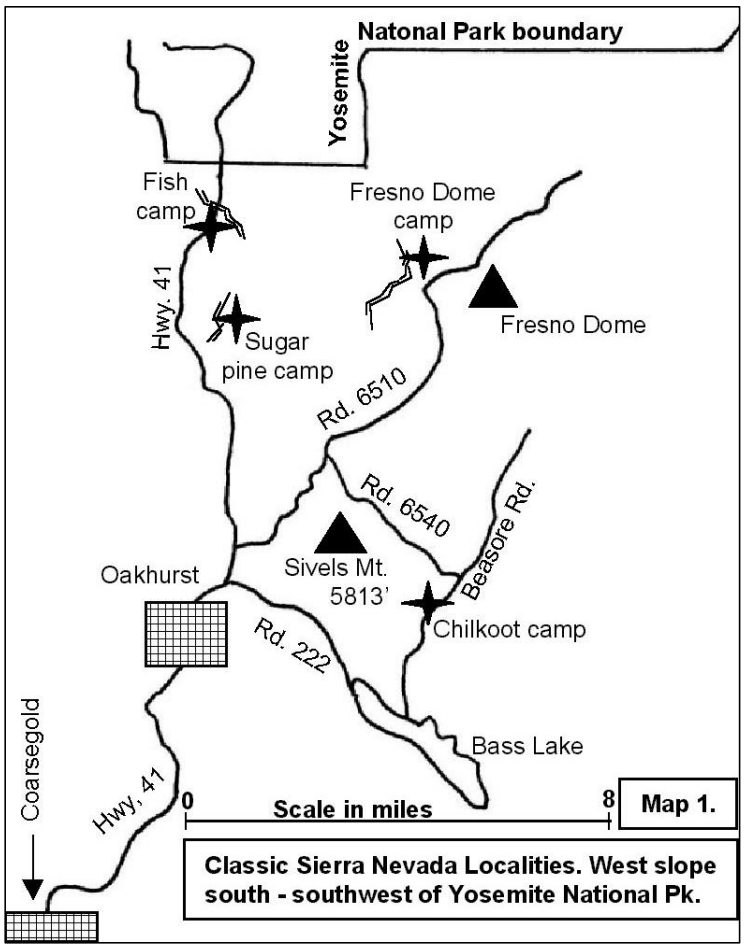
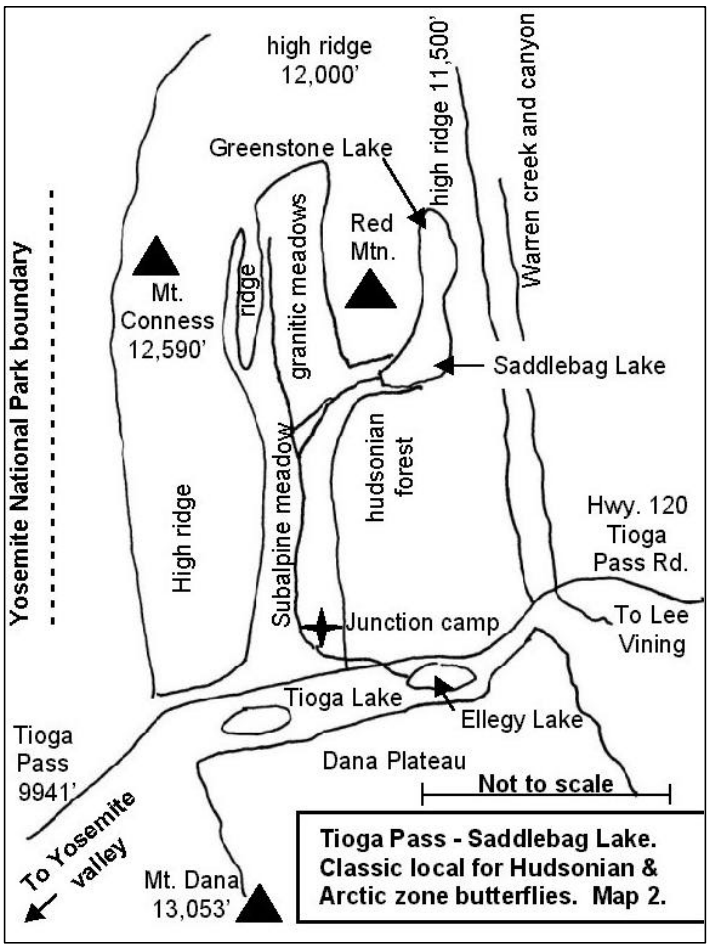
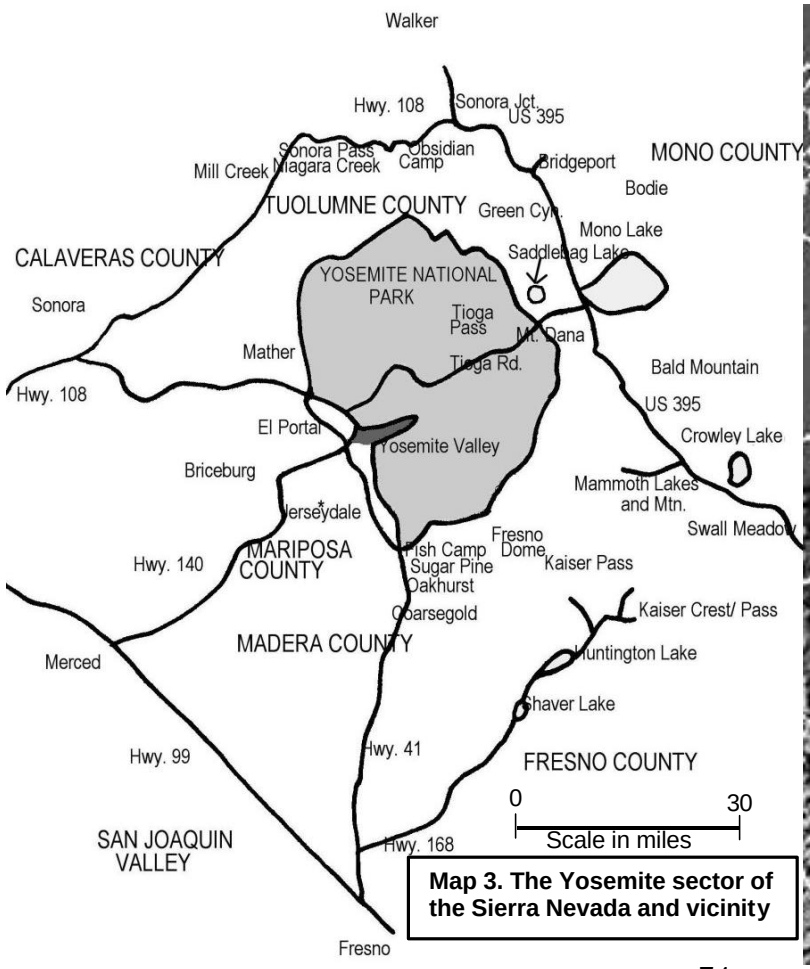
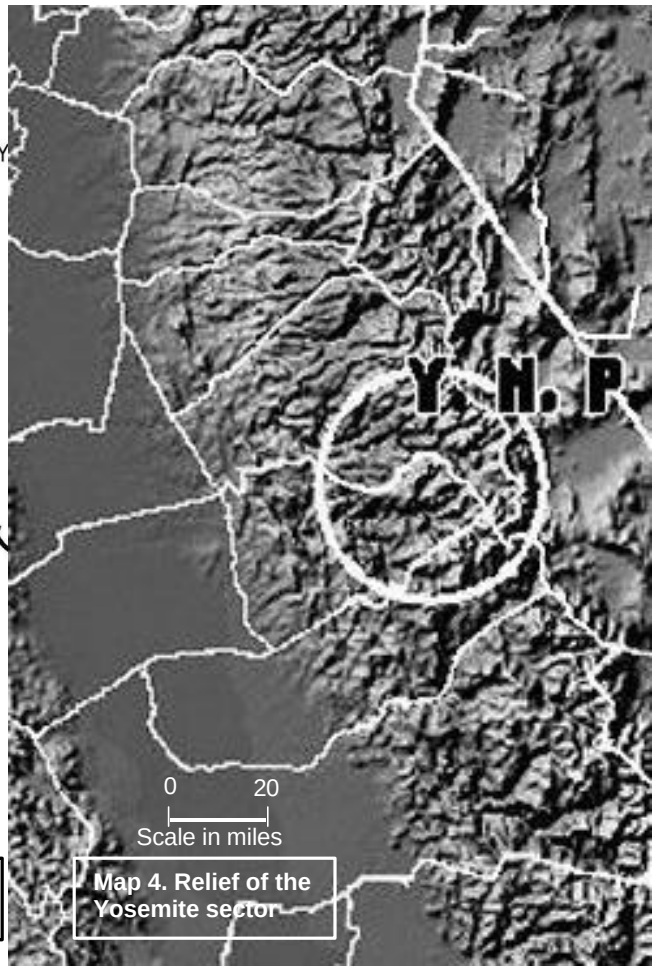

Natonal Park boundary
Yosemite
Fish camp
Fresno Dome camp
Hwy. 41
Sugar pine camp
Fresno Dome
Rd. 6510
Rd. 6540
Beasore Rd.
Sivels Mt. 5813'
Oakhurst
Chilkoot camp
Rd. 222
Bass Lake
Coarsegold
Hwy, 41
0
Scale in miles
8
Map 1.
Classic Sierra Nevada Localities. West slope south - southwest of Yosemite National Pk.


high ridge 12,000'
high ridge 11,500'
Warren creek and canyon
Greenstone Lake
Red Mtn.
Mt. Conness 12,590'
ridge
granitic meadows
Saddlebag Lake
Yosemite National Park boundary
hudsonian forest
High ridge
Subalpine meadow
Hwy. 120 Tioga Pass Rd.
Junction camp
To Lee Vining
Tioga Lake
Ellegy Lake
Tioga Pass 9941'
Dana Plateau
Not to scale
To Yosemite valley
Mt. Dana 13,053'
Tioga Pass - Saddlebag Lake. Classic local for Hudsonian & Arctic zone butterflies. Map 2.


Walker
Hwy. 108
Sonora Jct.
US 395
Sonora Pass
Obsidian
Mill Creek
Niagara Creek
Camp
Bridgeport
MONO COUNTY
Bodie
TUOLUMNE COUNTY
Green Cyn.
Mono Lake
CALAVERAS COUNTY
Saddlebag Lake
YOSEMITE NATIONAL PARK
Sonora
Tioga Pass
Mt. Dana
Mather
Tioga Rd.
Bald Mountain
Hwy. 108
US 395
El Portal
Crowley Lake
Yosemite Valley
Briceburg
Mammoth Lakes and Mtn.
Jerseydale
Swall Meadow
Fresno Dome
MARIPOSA COUNTY
Hwy. 140
Fish Camp
Sugar Pine
Kaiser Pass
Oakhurst
Coarsegold
Kaiser Crest/ Pass
MADERA COUNTY
Merced
Huntington Lake
Shaver Lake
Hwy. 99
Hwy. 41
FRESNO COUNTY
0
30
Scale in miles
SAN JOAQUIN VALLEY
Hwy. 168
Fresno
Map 3. The Yosemite sector of the Sierra Nevada and vicinity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0
20
Scale in miles
Map 4. Relief of the Yosemite sector