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## LARVAL HOSTPLANTS OF BUTTERFLIES IN NEVADA

by  
**George T. Austin**  
and  
**Patrick J. Leary**

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Figure 1. Map of Nevada showing counties and some additional localities.

# LARVAL HOSTPLANTS OF BUTTERFLIES IN NEVADA

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**ABSTRACT.** Larval hostplants of 169 species of butterflies (89% of the resident fauna) and many additional subspecies are reported for the state of Nevada. These encompass more than 3800 individual records including nearly 400 species of plants in 33 families. Although these are largely of plant taxa recorded elsewhere, more than 300 (40% of butterfly/plant combinations) are newly reported at the species-level taxonomy of both plant and butterfly, including 39 new generic records and seven new familial records for the butterfly in question. A large proportion of the newly reported associations are due to this investigation being conducted in a region with virtually no previous information.

Nevada, with its southern third largely within the Mojave Desert and northern two-thirds imbedded within the Great Basin, is a region of low precipitation and large daily and seasonal ranges of temperature (Grayson 1993). Its topography is characterized by broad valleys dissected by relatively narrow mountain ranges with north-south orientations and often exceeding elevations of 3000m (Plate 1A,C,G). Lower elevations are dominated by communities of xeric shrubs (Plate 1E,F, 2A,B). Slopes of mountain ranges are often covered by low stature woodland of piñon and juniper (Plate 1B, 2C), while higher elevations are often forested (Plate 2D). Riparian habitats exist in the immediate vicinity of montane streams and near rivers, seeps, and marshes in the lowlands (Plate 1D,H, 2E,F,G,H). Biologically, Nevada is relatively poorly known, but an understanding of its fauna of butterflies has increased dramatically since the 1960s (*e.g.*, Emmel 1998).

One or more larval hostplants are known for nearly all species of North American butterflies (*e.g.*, Scott 1986a), yet regional usage, species-level breadth, and preferences are poorly known, especially in the intermountain region of the western United States. A notable exception is the southern Rocky Mountains (Scott 1986b, 1992, 2006a). The first report of a larval hostplant unequivocally within Nevada was that of "wild cherry" for *Pterourus multicaudatus* by Henry Edwards (1873), but subsequent records had been very sparse. During studies of butterflies in that state from 1961 through 2003 (but especially from 1977 onward), notes were made on the use by and association of butterflies with plants. These observations and records from the literature are here combined as a summary of the known hostplants of those insects in Nevada.

## METHODS

Records for larval hostplants used by butterflies in Nevada were largely gathered opportunistically by the senior author while conducting other investigations. Certain species, however, were often targeted in instances when likely larval hostplants could be determined with little effort. Associations by adults are indicative, but not definitive proof, that a particular plant is used as a larval hostplant. These were recorded as such when adults were closely associated with a particular plant and no other potential larval hostplant was encountered in the vicinity. Records of oviposition largely involved the chance encounter of a female exhibiting preoviposition behavior or actually ovipositing. Only oviposition or larval use were considered documentary in instances of co-occurrence of more than one potential hostplant, yet even

oviposition on a plant is not unequivocal evidence of feeding or larval survival (*e.g.*, Kitching and Zalucki 1983). A number of species oviposit haphazardly or on objects in the vicinity of larval hostplants (*e.g.*, Wiklund 1984; Scott 1986b, 1992, 2006a) and apparent mistakes are known (*e.g.*, Straatman 1962, Sevastopulo 1964, Dethier 1970, Chew 1977a, Berenbaum 1981, Feeny *et al.* 1983, Larsson and Elkbom 1995).

Each subfamily of butterfly is briefly introduced to summarize its larval hostplants as known in Nevada. The records of larval hostplants include the taxon of butterfly and plant, location, date, type of record, and documentation (literature citation, deposition of voucher specimen, collector/observer; *e.g.*, Shields *et al.* 1969). Some records are combined if the recorded details were the same. Plants are listed under each taxon of butterfly in alphabetical order by family, genus, and species. Locations are alphabetical by county (see Fig. 1) and chronological (by year, month, and day) within each county. Plants indicated with an "i" are not native to Nevada; these largely represent introductions from Eurasia. Although a comprehensive literature review was not undertaken, numerous associations apparently represent a record of a new species of plant for the species of butterfly. These, marked with an asterisk, were not recorded by Scott (1986a 1986b, 1992, 2006a) and a number of other authors (Emmel and Emmel 1974a; Shapiro 1974; Shields 1977; Shapiro *et al.* 1979; Austin and Austin 1980; Shapiro *et al.* 1981; Ballmer and Pratt 1988; Bailowitz and Brock 1991; Lynch and Martin 1993; Scott 1994, 1998a, 2006b; Tyler *et al.* 1994; Giuliani and Shields 1995, 1997; Davenport 1998, 2004; Emmel 1998; Pratt and Emmel 1998a, 1998b; Boyd *et al.* 1999; Nelson and Anderson 1999; Guppy and Shepard 2001; Pyle 2002; Robinson *et al.* 2002; Brock and Kaufman 2003; Graves and Shapiro 2003; Hammond and McCorkle 2003; Warren 2005; Scott *et al.* 2006). A double asterisk after the name of a plant signifies the use of an apparently new genus and one after the name of the family is a family of plant heretofore not reported for the species of butterfly. No attempt was made to delimit new varietal or subspecific records of plants or new records for infraspecific taxa in butterflies.

Abbreviations for institutions and people are as follows: BB (Bruce Boyd), GTA (George T. Austin, collection numbers were initiated in 1983; prior to 1983 specimens were given to the herbaria at NSMCC and UNLV for determination), NSM (Nevada State Museum and Historical Society, Las Vegas), NSMCC (Nevada State Museum, Carson City), and UNLV (University of Nevada, Las Vegas). Other abbreviations are assoc. (association), CA

(state of California), *cf* (confer), Co. (County), coll. (collection), em. (emerged), I (Interstate highway), mi. (mile or miles), Mt. or Mts. (Mountain or Mountains), nr. (near), Nv (state highway), NV (state of Nevada), NWR (National Wildlife Refuge), ovip. (oviposition), PST (Pacific Standard Time), rd. or Rd. (road), sp. (singular species), spp. (plural species), US (federal highway), UT (state of Utah), WMA (Wildlife Management Area), and × (times). Compass directions are abbreviated as N (north), S (south), E (east), W (west), and combinations of these four. Months are abbreviated with their first three letters. Plants collected by GTA and BB were identified largely by Wesley E. Niles (UNLV), Ann Pinzl (NSMCC), David A. Charlet (Clark County Community College), and the authors. Records from the literature are taken at face value, except in a few noted instances, especially to update the current taxonomy (or nomenclature) of the insect or plant.

A butterfly/plant combination is one species-level taxon of butterfly using one species-level taxon of plant. Species-level nomenclature for butterflies follows that used by Austin (1998a) modified to some extent after subsequent authors (*e.g.*, Opler and Warren 2002; Warren 2005, 2006; Pelham 2008); that for plants largely follows Hickman (1993) except also Kartesz and Kartesz (1980) and Welsh *et al.* (1987) for plants not treated by Hickman (1993); authors of names for plants are abbreviated following Brummit and Powell (1992, see also [www.ipni.org](http://www.ipni.org)). In some instances, synonymies are given in brackets for more widely used nomenclature, especially in the literature on Lepidoptera (but it should be noted that some of these combinations are again current in the botanical literature). Molecular and other investigations have indicated that many “traditional” concepts of the phylogeny of plants require sometimes seemingly radical reevaluation (*e.g.*, Chase *et al.* 1993; Olmstead *et al.* 1993, 2001; Angiosperm Phylogeny Group 1998, 2003; Doyle 1998; Judd *et al.* 1999; Grass Phylogeny Working Group 2001, Haston *et al.* 2007, see also Dahlgren 1980, Thorne 1992). These ongoing taxonomic revisions so derived are as yet not established within the literature on local floras and may appear foreign to those not familiar with the latest botanical taxonomic developments. Pertinent to this investigation, it will be noted that Chenopodiaceae has been enveloped within Amaranthaceae, Asclepiadaceae within Apocynaceae, and Capparaceae within Brassicaceae (*e.g.*, see Angiosperm Phylogeny Group 2003). The concept of Scrophulariaceae has seen a striking reassessment (*e.g.*, Olmstead *et al.* 2001). Thus, as applicable here, *Castilleja* and *Pedicularis* are now placed in Orobanchaceae, *Penstemon*, *Keckiella*, and *Collinsia* are embraced by Plantaginaceae, and *Mimulus* is within Phrymaceae.

Most voucher specimens of plants are deposited at NSM, but others are at NSMCC or UNLV. Voucher specimens of plants with which butterflies associate ideally should be preserved as an integral part of the collection of these insects even within museums that maintain an herbarium. This allows both plant and insect to be readily reevaluated by subsequent researchers and, more importantly, insures that the specimen of plant is actually preserved. Examples of plants collected by entomologists are frequently immature, partial, or otherwise deemed inappropriate (*e.g.*, many specimens of ubiquitous species from a well-collected region) as a specimen for an herbarium. As such, there are risks that important vouchers may be discarded. Vouchers of butterflies are mostly at NSM, NSMCC, or the McGuire Center for Lepidoptera and Biodiversity, Gainesville, Florida.

## LARVAL HOSTPLANTS

### HESPERIIDAE

Skippers are represented by 48 species in Nevada of which eight are probable strays. Of the resident species, at least one larval hostplant is known or suspected for 30. These include a variety of dicotyledonous plants for eudamines and pyrgines, and monocots for hesperiines.

### EUDAMINAE

Larval hostplants are known for two of the three species of Eudaminae known to occur in Nevada. These include three species of plants (3 butterfly/plant combinations), all in the family Fabaceae. One is newly reported here.

#### *Epargyreus clarus profugus* Austin, 1998

##### FABACEAE

##### *Robinia neomexicana* A.Gray

NV: Clark Co.; Virgin Mts., Cabin Canyon, 10 May 1978 (adult assoc.) (UNLV, GTA; Austin 1998c)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun 1983 (adult assoc.) (NSM, GTA #336)

NV: Lincoln Co.; Beaver Dam Wash State Park, 28 May 2002 (adult assoc.) (NSM, GTA #1697)

NV: Lincoln Co.; Beaver Dam Wash State Park, 11 Jun 2002 (3rd-4th instar larvae in nests of two leaves silked together) (no plant coll., GTA, *cf* GTA #1697)

NV: Lincoln Co.; Beaver Dam Wash State Park, 21 Jul 2003 (adult assoc.) (no plant coll., GTA, *cf* GTA #1697)

#### *Thorybes mexicana nevada* Scudder, 1872

##### FABACEAE

##### *Trifolium longipes* Nutt.

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 4.7 mi. W of US 395, 17 May 1982 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Nv. 431, Tahoe Meadows, 21 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, 2.0 mi. E of Mt. Rose Summit, 30 Jun 1987 (adult assoc.) (NSM, GTA #1449)

#### *Thorybes mexicana blanca* Scott, 1981

##### *Trifolium wormskioldii* Lehm.\* (Fig. 25)

NV: Lyon Co.; Sweetwater Mts., Desert Creek, junction of Jackass Creek Rd., 3 Jun 1981 (adult assoc.) (NSMCC, GTA)

### PYRGINAE

Larval hostplants have been determined for 17 of the 18 species of pyrgines resident in Nevada including 28 species of plants (41 butterfly/plant combinations) in 10 families (especially Amaranthaceae, Fagaceae, and Malvaceae). Of these, 14 are newly reported for the species of butterfly concerned including three new

at the generic and familial levels: *Erynnis persius* on *Aquilegia* (Ranunculaceae), *Erynnis* sp. on *Mertensia* (Boraginaceae), and *Pyrgus communis* on *Potentilla* (Rosaceae). Eggs were nearly always placed on leaves of larval hostplants, mostly on the lower surface, with over 70% of the recorded ovipositions in the morning (largely before 11:00 PST).

***Pholisora catullus* (Fabricius, 1793)**

AMARANTHACEAE

*Amaranthus powellii* S. Watson

NV: Carson City; Carriage Crest Drive, 8 Sep 1984 (ovip. on upper surface of lower leaf, 13:30 PST) (NSM, GTA #1192)

***Hesperopsis libya libya* (Scudder, 1878)**

AMARANTHACEAE

*Atriplex canescens* (Pursh) Nutt. (Plate 3D)

NV: Clark Co.; Moapa Valley, Hidden Valley, California Wash, 4 May 1977 (and many subsequent dates) (adult assoc.) (no plant coll., GTA, BB, cf GTA #1571)

NV: Clark Co.; Desert NWR, Corn Creek, 15 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Desert NWR, Corn Creek, 8 Aug 1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Meadow Valley Wash, 1 mi. N of Farrier, 3 Oct 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; US 95, Indian Springs, 4 Jun 1992 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 20 May 1993 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 4 Sep 2002 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; US 93, Coyote Springs, 8 Jun 1983 (close adult assoc.) (NSM, GTA #357)

***Hesperopsis libya lena* (W. H. Edwards, 1882)**

AMARANTHACEAE

*Atriplex confertifolia* (Torr. & Frém.) S. Watson

NV: Nye Co.; Big Smoky Valley, Triple T Ranch, 9 Jul 1984 (adult assoc.) (NSM, GTA #1071)

NV: Pershing Co.; Nv 34, 7.7 mi. N of Nv 447, 8 Aug 2001 (adult assoc.) (NSM, GTA #1661)

*Atriplex lentiformis* (Torr.) S. Watson ssp. *torreyi* (S. Watson) H.M.Hall & Clem. \* [*Atriplex torreyi* (S. Watson) S. Watson]

NV: Humboldt Co.; Jackson Creek Rd., 10.0 mi. N of Sulphur, 10 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Jackson Creek Rd., 27.1 mi. N of Sulphur, 10 Aug 2001 (adult assoc.) (NSM, GTA #1667)

NV: Humboldt Co.; Jackson Creek Rd., 32.7 mi. N of Sulphur, 10 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Sulphur-Jungo Rd., 9.2 mi. E of

junction with Nv 447, 8 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Sulphur-Jungo Rd., 0.2 mi. E of Washoe Co. line, 3 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Sulphur-Jungo Rd., 7.8 mi. E of Washoe Co. line, 3 Jul 2003 (adult assoc.) (no plant coll., GTA)

***Hesperopsis alpheus oricus* (W. H. Edwards, 1879)**

AMARANTHACEAE

*Atriplex canescens* (Pursh) Nutt. (Plate 3D)

NV: Clark Co.; Spring Mts., 7.5 mi. N of Goodsprings, 30 Apr 1978 (adult assoc.) (Langston 1979, butterfly originally reported as *Hesperopsis graciellae*)

NV: Clark Co.; Spring Mts., Kyle Canyon, 9.2 mi. W of US 95, 13 May 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts., 0.5 mi. S of Red Spring, 29 Apr 1979 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.1 mi. S of Pahrump Rd., 20 Apr 1980 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Big Smoky Valley, junction of Nv 376 and Jett Canyon Rd., 6 May 1980 (adult assoc.) (NSNCC, GTA)

*Atriplex canescens* (Pursh) Nutt. ssp. *linearis* (S. Watson) H.M.Hall & Clem.

NV: Clark Co.; Spring Mts., Cold Creek Rd., 10 mi. W of US 95, 14 Apr 1981 (ovip. on lower surface of upper leaf, 14:45 PST) (NSMCC, GTA)

NV: Clark Co.; Spring Mts., Cold Creek Rd., 10 mi. W of US 95, 4 May 1990 (adult assoc.) (no plant coll., GTA)

***Hesperopsis graciellae* (MacNeill, 1970)**

AMARANTHACEAE

*Atriplex lentiformis* (Torr.) S. Watson ssp. *lentiformis*

NV: Clark Co.; Moapa Valley, several dates (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Moapa Valley, Hidden Valley, 17 Apr 1977 (and many subsequent dates) (adult assoc.) (no plant coll., BB, GTA)

NV: Clark Co.; Moapa Valley, Bowmans Reservoir, 4 May 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 15 Jun 1977 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Overton, 6 Jun 1999 (larva) (*vide* J. Brock)

NV: Clark Co.; Moapa Valley, Lewis Ranch, 22 Jun 2000 (adult assoc.) (NSM, GTA #1547)

NV: Clark Co.; Moapa Valley, 1-2 mi. W of Logandale, 4 Sep 2002 (adult assoc.) (NSM, GTA #1783)

NV: Clark Co.; Meadow Valley Wash, 11.8 mi. N of Nv 168, 17 Sep 2002 (adult assoc.) (no plant coll.,



GTA)

***Erynnis icelus* (Scudder & Burgess, 1870)**

SALICACEAE

*Populus tremuloides* Michx. (Plate 5C)

NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 7 Jul 1978 (female fluttering among leaves of young tree, no oviposition noted) (no plant coll., GTA)

NV: Humboldt Co.; Santa Rosa Range, Lye Creek Campground, 27 Jun 1987 (apparent female investigating leaves of seedling) (no plant coll., GTA)

***Erynnis brizo burgessi* (Skinner, 1914)**

FAGACEAE

*Quercus gambelii* Nutt. (Fig. 2)

NV: Clark Co.; Spring Mts., Cold Creek, 30 Mar 1966 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Willow Creek, 27 Apr 1977 (ovip. on leaf buds) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 31 May 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Willow Creek, 8 May 1978 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 1 May 1986 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., seep between Willow and Cold creeks, 1 May 1996 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, Grapevine Canyon, 26 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 6.4 mi. N of Elgin, 17 Apr 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 4.2 mi. N of Grapevine Canyon, 18 Apr 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, Grapevine Canyon, 18 Apr 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park, 28 May 2002 (adult assoc.) (no plant coll., GTA)

*Quercus turbinella* Greene (Plate 3B)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 10 May 1978 (ovip. at base of leaf) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Oak Creek Canyon, 11 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 11 Apr 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Lost Creek, 13 Apr 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Whitney Ranch Rd., 1.5 mi. W of Whitney Pass, 15 Apr 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 30 Mar 1984 (adult assoc.) (no plant coll., GTA)

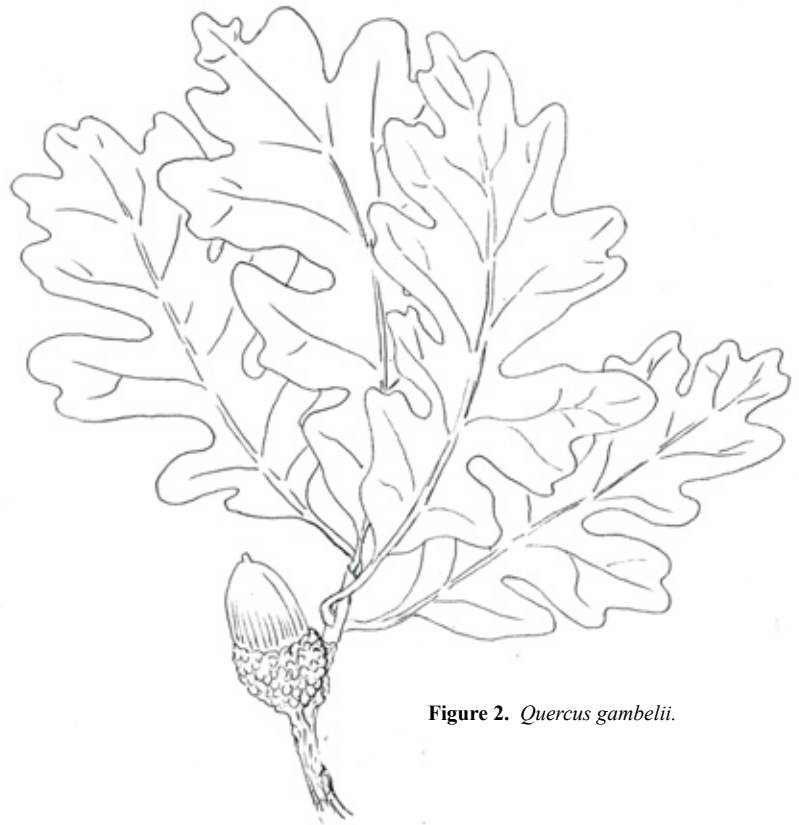
NV: Clark Co.; Spring Mts., Red Spring, 7 Apr 1987 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 5 Apr 1988 (adult assoc.) (NSM, GTA #1463)

NV: Clark Co.; Spring Mts., Lost Creek Canyon, 7 Apr 2003 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 9 Apr 2003 (adult assoc.) (no plant coll., BB)

NV: Lincoln Co.; Beaver Dam State Park, 28 May 2002 (adult assoc.) (no plant coll., GTA)

Figure 2. *Quercus gambelii*.***Erynnis telemachus* Burns, 1960**

FAGACEAE

*Quercus gambelii* Nutt. (Fig. 2)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 25 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 5 Apr 1988 (adult assoc., no indication of assoc. with *Quercus turbinella* Greene) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 30 May 1983 (adult assoc.) (NSM, GTA #310)

NV: Lincoln Co.; Meadow Valley Wash, Grapevine

Canyon, 18 Apr 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 12 May 1984 (adult assoc.) (no plant coll., GTA, cf GTA #310)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 23 Jun 1984 (adult assoc.) (no plant coll., GTA, cf GTA #310)

NV: Lincoln Co.; Highland Range, Highland Spring, 23 Jun 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 23 Apr 1986 (adult assoc.) (no plant coll., GTA, cf GTA #310)

NV: Lincoln Co.; Meadow Valley Wash, Grapevine Canyon, 5 Jun 1992 (adult assoc.) (no plant coll., GTA)

***Erynnis propertius* (Scudder & Burgess, 1870)**

FAGACEAE

*Quercus vaccinifolia* Kellogg

NV: Douglas Co.; Carson Range, Heavenly Valley North ski area, 6 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park, 19 May 1982 (adult assoc.) (no plant coll., GTA)

***Erynnis meridianus meridianus* Bell, 1927**

FAGACEAE

*Quercus gambelii* Nutt.\* (Fig 2)

NV: Clark Co.; Spring Mts., Willow Creek, 27 Apr 1977 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Cold Creek, 17 Jun 1977 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 17 Jun 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski run, 17 Jun 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Red Rock Summit Rd., 22 Jun 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 13 Apr 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, Grapevine Canyon, 26 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Kershaw Ryan State Park, 12 May 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 4.2 mi. N of Grapevine Canyon, 18 Apr 1984 (adult assoc.) (no plant coll., GTA)

*Quercus turbinella* Greene\* (Plate 3B)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 22 Apr 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., 0.5 mi. E of Red Spring, 20 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Lost Creek, 13 Apr 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 9 Apr 2003 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Oak Creek Canyon, 11 Apr 2003 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., First Creek Canyon, 16 Apr 2003 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Oak Creek Canyon, 13 Aug 2003 (ovip.) (NSM, BB #182)

NV: Lincoln Co.; Delamar Mts., 1.5 mi. E of Riggs Spring, 13 May 1980 (adult assoc.) (NSMCC, GTA)

***Erynnis pacuvius lilius* (Dyar, 1904)**

RHAMNACEAE

*Ceanothus velutinus* Hook. (Fig. 19)

NV: Carson City; Carson Range, 2.3 mi. S of Snow Valley Peak Rd., 30 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of Washoe Co. line, 1 Jul 1985 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.1 mi. W of Nv 206, 28 May 1982 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Heavenly Valley North, East Peak area, 28 Jun 1985 (ovip. on young leaf, 09:55 PST) (NSM, GTA #1227)

NV: Washoe Co.; Washoe Valley, behind Davis Creek Park, 22 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Nv 431, 3.6 mi. E of Nv 28, 1 Jul 2003 (adult assoc. on hilltop) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Nv 431, 5.0 mi. E of Nv 28, 1 Jul 2003 (adult assoc. on hilltop) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Nv 431, 3.6 mi. E of Nv 28, 10 Jul 2003 (adult assoc. on hilltop) (no plant coll., GTA)

***Erynnis funeralis* (Scudder & Burgess, 1870)**

FABACEAE

*Lotus rigidus* (Benth.) Greene\*

NV: Clark Co.; Newberry Mts., 0.7 mi. E of Christmas Tree Pass, 26 Mar 2001 (ovip. on leaf, 09:45 PST) (NSM, GTA [unnumbered])

***Erynnis persius* (Scudder, 1863)**

FABACEAE

*Lupinus arbustus* Douglas ex Lindl.\*

NV: Elko Co.; Independence Mts., 0.2 mi. E of Jacks Creek Summit, 12 Jul 2000 (adult assoc.) (NSM, GTA #1559)

NV: Elko Co.; Nv 789, 3.8 mi. W of Midas junction, 23 May 2003 (adult assoc.) (NSM, GTA #1806)

*Lupinus argenteus* Pursh (Plate 8F)

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 5 Jul 1980 (ovip. on middle of main stem, 09:50 PST) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 6600-7200', 30 Jun 1968 (larva, 1st instar in tent on leaf) (*vide* J. F. Emmel)

NV: Lander Co.; Toiyabe Range, Petes Summit Rd., 16.8 mi. E of Nv 376, 18 Jun 1981 (ovip. on stem, 09:00 PST) (NSMCC, GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 19 May 1986 (ovip. on lower surface of leaf, 10:30 PST) (NSM, GTA #1261)

#### RANUNCULACEAE\*

*Aquilegia formosa* Fisch.\*\*

NV: Nye Co.; Toiyabe Range, Jett Canyon, 17 Jun 1981 (ovip. on lower surface of lower leaf, 10:35 PST) (NSMCC, GTA)

#### *Erynnis* sp.

#### BORAGINACEAE\*

*Mertensia oblongifolia* (Nutt.) G. Don var. *nevadensis* (Nelson) L.O. Williams\*\*

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 16 Jun 2003 (larva in folded leaf) (NSM, GTA #1864; *cf* also GTA #1870), this larva, almost certainly an *Erynnis* (closely resembling photographs of larval *Erynnis persius*), fed for several days until fresh leaves



Figure 3. *Malvella leprosa*.

were no longer available. The only other species of *Erynnis* known from this location is *E. icelus*.

There are apparently no other records of Pyrginae using Boraginaceae as a larval hostplant.

#### *Pyrgus ruralis ruralis* (Boisduval, 1852)

#### ROSACEAE

*Potentilla glandulosa* Lindl. ssp. *nevadensis* (S. Watson) Keck

NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of Washoe Co. line, 25 May 1984 (adult assoc.) (NSM, GTA #900)

#### *Pyrgus scriptura apertorum* Austin, 1998

#### MALVACEAE

*Malvella leprosa* (Ortega) Krapov. [*Sida leprosa* (Ortega) Schumann var. *hederacea* (Hook.) Schumann] (Fig. 3)

NV: Clark Co.; Moapa Valley, Logandale, 4 Sep 2002 (adult assoc.) (NSM, GTA #1785)

NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on leaf, 09:20 PST) (NSM, GTA #994)

*Sphaeralcea ambigua* A. Gray (Plate 4C)

NV: Clark Co.; Indian Springs, US 95, 10 Jun 1983 (ovip. on lower surface of lower leaf, 13:15 PST) (NSM, GTA #397)

NV: Clark Co.; Spring Mts., Nv 160, 3.0 mi. W of Blue Diamond Rd., 2 Sep 1984 (ovip. on lower surface of lower leaf, 08:15 PST) (NSM, GTA #1151)

*Sphaeralcea emoryi* Torr.\*

NV: Clark Co.; Indian Springs, US 95, 10 Jun 1983 (ovip. on lower surface of lower leaf, 13:15 PST) (NSM, GTA #397a)

#### *Pyrgus communis* (Grote, 1872)

#### MALVACEAE

*Alcea rosea* L. (i)

NV: Lincoln Co.; Pioche, 12 Jul 2002 (ovip. on lower surface of lower leaf, 09:55 PST) (no plant coll. GTA)

*Malva neglecta* Wallr. (i)

NV: Churchill Co.; US 95, 11 mi. S of US 50 at Fallon, 23 Aug 1984 (adult assoc.) (NSM, GTA #1101)

NV: Storey Co.; I-80 at Truckee River, 7 Sep 1984 (ovip. on upper surface of leaf, 09:30 PST) (NSM, GTA #1184)

NV: White Pine Co.; Schell Creek Range, Cleve Creek, 14 Jul 2002 (adult assoc.) (NSM, GTA #1731)

*Sidalcea candida* A. Gray\*

NV: White Pine Co.; Snake Range, Lehman Creek Campground, 28 Jul 1983 (ovip. on upper surface of lower leaf, 10:00 PST) (NSM, GTA #524)

*Sidalcea neomexicana* A. Gray

NV: Elko Co.; rd. to Cherry Creek, 2.5 mi. S of Currie, 27 Jul 1983 (ovip.) (NSM, GTA #522)

NV: Lander Co.; Desatoya Mts., Nv 722, 3.0 mi. E of Carroll Summit, 16 Jul 1983 (adult assoc.) (NSM, GTA #479)



- NV: Lincoln Co.; Lake Valley, US 93, Geysers Ranch, 4 Sep 1983 (ovip., 08:30 PST) (NSM, GTA #656)
- Sidalcea oregana* (Torr. & A.Gray) A.Gray ssp. *oregana* (Fig. 37)
- NV: Elko Co.; Independence Mts., Nv 11A, 6.8 mi. E of Nv 226, 5 Jun 1987 (ovip. on upper leaf surface, 10:05 PST) (NSM, GTA #1428)
- NV: Lander Co.; Reese River Valley, US 50, 2.7 mi. E of Reese River, 18 Jul 2001 (adult assoc.) (NSM, GTA #1606)
- NV: White Pine Co.; Spring Valley, 2.5 mi. S of Stonehouse, 17 Jul 2001 (adult assoc.) (NSM, GTA #1598)
- NV: White Pine Co.; Spring Valley, 0.7 mi. S of Stonehouse, 17 Jul 2001 (adult assoc.) (no plant coll., GTA, cf GTA #1598)
- Sphaeralcea ambigua* A.Gray var. *ambigua* (Plate 4C)
- NV: Lander Co.; Reese River Valley, Nv 722 at Reese River, 8 Jul 1984 (ovip. on lower leaf, 14:15 PST) (NSM, GTA #1066)
- NV: Lander Co.; Reese River Valley, Nv 722 at Reese River, 8 Jul 1984 (larva on leaf) (NSM, GTA #1066)
- NV: Lincoln Co.; Delamar Mts., US 93, 4.0 mi. E of Oak Springs Summit, 23 Sep 1984 (ovip. on upper surface of leaf near edge, 10:30 PST) (NSM, GTA #1209)
- NV: Lincoln Co.; rd. to Crestline, 5.7 mi. S of Nv 319, 19 Aug 2001 (adult assoc.) (NSM, GTA #1674)
- NV: Nye Co.; Spring Mts., rd. to Mt. Stirling, 5.0 mi. W of US 95, 17 Apr 1983 (ovip. on lower leaf, 10:40 PST) (NSM, GTA #11)
- NV: White Pine Co.; White Pine Mts., White River Campground, 15 Jul 2001 (mature larva in folded leaf) (NSM, GTA #1588)
- NV: White Pine Co.; White Pine Mts., White River Campground, 15 Jul 2001 (ovip. on upper surface of leaf near ground, 15:25 PST) (NSM, GTA #1589)
- NV: White Pine Co.; Kern Mts., Pleasant Valley Rd., 1.4 mi. W of UT state line, 28 May 2003 (adult assoc.) (NSM, GTA #1824)
- Sphaeralcea ambigua* A.Gray var. *rugosa* Kearney (Plate 4C)
- NV: Lincoln Co.; Beaver Dam State Park, 8 Sep 2003 (ovip. on lower surface of leaf, 11:10 PST) (NSM, GTA #1966)
- Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb.\*
- NV: Clark Co.; Spring Mts., Willow Creek, 27 Jun 1984 (ovip. on stem near ground at leaf base, 12:30 PST) (NSM, GTA #1036)
- NV: Humboldt Co.; Nv 140, Sheldon Antelope Range, 1.3 mi. E of Duffurena Ranch, 24 Jul 1987 (ovip. on upper surface of leaf, 14:00 PST) (NSM, GTA #1460)
- Sphaeralcea munroana* (Douglas) Spach
- NV: Elko Co.; Nv 225, junction of North Fork Rd., 22 Jul 2001 (adult assoc.) (NSM, GTA #1625)
- Sphaeralcea parvifolia* A.Nelson
- NV: Esmeralda Co.; Fish Lake Valley, Dyer, 23 Aug 1983 (ovip. on lower surface of leaf, 11:05 PST) (NSM, GTA #575)
- ROSACEAE\*
- Potentilla* sp.\*\*
- NV: Lander Co.; Nv 722, 4 mi. NE of Reese River, 12 Jul 1969 (attempted ovip.) (*vide* J. F. Emmel)
- Pyrgus albescens* Plötz, 1884**
- MALVACEAE
- Malvella leprosa* (Ortega) Krapov. [*Sida leprosa* (Ortega) Schumann var. *hederacea* (Hook.) Schumann] (Fig. 3)
- NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on lower surface of leaf, 09:10 PST) (NSM, GTA #994)
- Sphaeralcea ambigua* A.Gray var. *ambigua* (Plate 4C)
- NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 22 Apr 1978 (ovip. on lower surface of lower leaf, 12:30 PST) (Austin and Austin 1980)
- NV: Clark Co.; Moapa Valley, Warm Springs, 20 Jul 2002 (ovip., 08:30 PST) (NSM, BB #46)
- Sphaeralcea angustifolia* (Cav.) G.Don
- NV: Clark Co.; Moapa Valley, 1-2 mi. W of Logandale, 4 Sep 2002 (adult assoc.) (NSM, GTA #1782)
- Sphaeralcea emoryi* Torr.\*
- NV: Nye Co.; Ash Meadows, 4 Nov 1984 (ovip. on lower surface of lower leaf, 11:25 PST) (NSM, GTA #1212)
- Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb.\*
- NV: Nye Co.; Spring Mts., Johnnie Mine Rd., 3.9 mi. E of Nv 160, 3 May 1983 (adult assoc.) (NSM, GTA #80)
- Heliopetes ericetorum* (Boisduval, 1852)**
- MALVACEAE
- Sphaeralcea ambigua* A.Gray (Plate 4C)
- NV: Clark Co.; Spring Mts., Lovell Wash, 8.9 mi. W of Nv 160, 22 Jun 1977 (ovip.) (Austin and Austin 1980)
- NV: Clark Co.; Spring Mts., Willow Creek, 27 Jul 1984 (adult assoc.) (NSM, GTA #1036)
- NV: Lincoln Co.; US 93, 1.0 mi. N of Clark Co. line, 14 May 1978 (ovip. on lower surface of leaf, 09:45 PST) (no plant coll., GTA)
- NV: Lincoln Co.; Mormon Mts.; canyon 5.1 mi. N of Carp-Elgin Rd., summit 7.0 mi. W of Carp-Elgin Rd., 5 Jun 1983 (adult assoc.) (NSM, GTA #353)
- Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb.
- NV: Lyon Co.; Wellington Hills, Desert Creek Rd., 4.7 mi. W of Nv 338, 28 Jun 1980 (ovip., 09:30 PST) (NSMCC, GTA)
- Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb. var. *pedata* (Torr.) Kearney
- NV: Clark Co.; Spring Mts., 1 mi. W of Willow Creek, 25 May 1978 (ovip. on lower surface of leaf, 12:15 PST) (Austin and Austin 1980)
- NV: Clark Co.; Spring Mts., Wheeler Pass, 9 Jun

1983 (ovip. on lower surface of leaf, 10:20 PST)  
(NSM, GTA #361)

*Sphaeralcea parvifolia* A. Nelson\*

NV: Esmeralda Co.; Indian Creek, 1.0 mi. W of Nv  
264, 18 Jun 1983 (ovip. on lower surface of lower  
leaf, 10:15 PST) (NSM, GTA #433)

### HESPERIINAE

Many hesperiines oviposit on plants or other objects near or at some distance from larval hostplants (*e.g.*, Scott 1992) making determinations of these particularly difficult without locating larvae except through the tedious exemplar conducted by Scott (1992). Records of oviposition, however, may reflect actual usage by larvae or provide clues into the egg-laying behavior of the various species. Obvious utilizations are apparent for some species either by their near ubiquitous association with certain plants or their occurrence in places where no other potential larval hostplant is present. The records for Nevada are for 11 of the 19 species known to be resident in the state and include 23 species (27 butterfly/plant combinations) of monocots in the families Agavaceae, Poaceae, Cyperaceae, and possibly Juncaceae (Juncaceae is not known to be eaten by any butterfly, but may serve only as an ovipositional substrate; see Scott 1992, but see Laplante 1985). Some are of at least genera previously documented in the literature as larval hostplants and potentially include nine new hostplant records (with the caveats already mentioned) for the species of butterfly concerned. Of these, seven are previously unreported genera for the species of butterfly (*Hesperia uncas* on *Sporobolus* and *Elymus*; *Hesperia juba* on *Carex*; *Polites sabuleti* on *Elymus*, *Leymus*, and *Schoenus*; and *Ochlyodes yuma* on *Leymus*) including two new familial records (Cyperaceae for *Hesperia juba* and *Polites sabuleti*); this family, however, is known to be used by other species of *Hesperia* (Scott 1992). Eggs were placed mostly on stems and leaves of grasses, often near the ground, with the vast majority (81%) of ovipositions taking place in the morning.

### *Agathymus alliae paiute* Roever, 1998

#### AGAVACEAE

*Agave utahensis* Engelm. var. *nevadensis* Engelm. (Fig. 4)

NV: Clark Co.; Spring Mts, 1 mi. W of Mt. Springs  
Summit, several dates (larval tubes) (Austin and  
Austin 1980)

NV: Clark Co.; Las Vegas Range, Peek-a-boo  
Canyon, 2 Sep 1961 (pupae reared to adult)  
(Roever 1998)

NV: Clark Co.; Spring Mts., 1.6 km W of Mountain  
Springs Pass (42 reared to adult in 1963, 1965,  
1975) (Roever 1998)

NV: Clark Co.; Spring Mts., Boy Scout Rd., *ca.* 1 km  
SE of Mountain Springs Pass (14 reared to adult in  
1963) (Roever 1998)

NV: Clark Co.; Spring Mts., Mt. Springs Pass to 1  
mi. below, 1 Sep 1963 (26 larvae) (*fide* O. Shields)

NV: Clark Co.; Las Vegas Range, northern part, 1  
Sep 1963 (30 larvae) (*fide* O. Shields)

NV: Clark Co.; Virgin Mts., 39 km SE of Riverside  
(7 reared to adult in 1975) (Roever, 1998)

NV: Clark Co.; Spring Mts, 1 mi. W of Mt. Springs

Summit, 1 Oct 1977 (old larval excavations, adult  
assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., 1 mi. W of Mt. Springs  
Summit, 28 Sep 1978 (adult assoc.) (no plant coll.,  
GTA)

NV: Clark Co.; Virgin Mts., 0.8 mi. W of Whitney  
Pass, 14 Sep 1988 (adult assoc.) (no plant coll.,  
GTA)

NV: Clark Co.; Sandy Valley Rd., 3.9 mi. S of Nv  
161, 30 Sep 1988 (adult assoc.) (no plant coll.,  
GTA)

NV: Lincoln Co.; Little Mormon Range, 24 km N of  
I-15 (2 reared to adult in 1975) (Roever, 1998)

### *Megathymus coloradensis maudae* D. Stallings, Turner & V.

#### Stallings, 1966

#### AGAVACEAE

*Yucca* sp. ("somewhat resembling *Yucca glauca*")

NV: Clark Co.; Spring Mts. (eggs on leaves)

(Comstock and Dammers 1934)



Figure 4. *Agave utahensis*.

*Yucca baccata* Torr.

- NV: Clark Co.; Spring Mts., Mt. Springs Pass, 1 Sep 1963 (2 larvae) (*fide* O. Shields)
- NV: Clark Co.; Spring Mts., 30 Sep 1968 (larvae) (Thorne 1969)
- NV: Clark Co.; Spring Mts., Red Rock, 25-27 Mar 1975 (pupae) (*fide* R. Wells)
- NV: Clark Co.; Spring Mts., Red Rock Summit Rd., 1.8 mi. E of Lovell Wash, 28 Apr 1977 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Red Rock Canyon area, Willow Spring, 29 Mar 1978 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., 1 mi. W of Willow Creek, 8 May 1978 (ovip.) (Austin and Austin 1980)
- NV: Clark Co.; Spring Mts., 0.5 mi. E of Mt. Springs Summit, 13 May 1979 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Red Rock area, West Charleston Blvd., 1 mi. E of Pine Creek Rd., 12 Nov 1984 (1 tent with larva, 8 old tents) (no plant coll., GTA, D. Mullins)
- NV: Clark Co.; Spring Mts., Potosi Pass, 24 Feb 1988 (larva reared to adult, em. 28 Mar 1988) (*fide* P. Savage)
- NV: Clark Co.; Spring Mts., Cold Creek, 6 Apr 1988 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Willow Creek, 4 May 1990 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Potosi Mountain Rd., 4.6 mi. W of Nv 160, 11 Apr 2003 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Potosi Spring, 11 Apr 2003 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Delamar Mts., Riggs Spring Rd., 0.2 mi. N of Kane Springs Wash Rd., 13 May 1980 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Meadow Valley Wash, 6.2 mi. S of Elgin, 23 Apr 1984 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Tempiute Rd., 5.0 mi. N of Nv 375, 26 Apr 1990 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Spring Mts., rd. to Mt. Stirling, 6.5 mi. W of US 95, 23 Apr 1982 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Spring Mts., rd. to Mt. Stirling, 6.4 mi. W of US 95, 17 Apr 1983 (female hovering around plant) (no plant coll., GTA)

*Yucca brevifolia* Engelm. (Plate 2A)

- NV: Clark Co.; Red Rock area; West Charleston Blvd., 1 mi. E of Red Spring, 12 Nov 1984 (1 old tent) (no plant coll., GTA, D. Mullins)
- NV: Clark Co.; Red Rock area, West Charleston Blvd., 1 mi. E of Pine Creek Rd., 12 Nov 1984 (1 old tent) (no plant coll., GTA, D. Mullins)
- NV: Esmeralda Co.; 3 mi. SE of Lida, 2 Jul 1967 (larvae) (*fide* F. Thorne, Thorne 1969)
- NV: Esmeralda Co.; US 95, 4.0 mi. S of Goldfield

Summit, 29 Apr 1986 (adult assoc.) (no plant coll., GTA)

- NV: Lincoln Co.; US 93, Upper Pahrnagat Lake, 5.6 mi. S of Alamo, 22 Apr 1982 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Mormon Mts., powerline rd., 4.5 NE of Carp-Elgin Rd., 31 Mar 2003 (adult assoc.) (no plant coll., GTA).
- Yucca schidigera* Ortgies (Plate 2A, 12E)
- NV: Clark Co.; Spring Mts., Kyle Canyon, 14 mi. W of US 95, 17 Apr 1966 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Searchlight, 17 Mar 1969 (larvae) (*fide* D. Bauer)
- NV: Clark Co.; 1 mi. N of Cottonwood Pass, 25 Mar 1975 (4 pupae) (*fide* J. Brock)
- NV: Clark Co.; Red Rock, near Calico Hills, 25-27 Mar 1975 (many pupae) (*fide* J. Brock, R. Wells)
- NV: Clark Co.; US 93, ca. 8 mi. N of I-15, 20 Apr 1975 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Kyle Canyon, 17.1 mi. W of US 95, 26 Apr 1977 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Cottonwood Pass, 29 Mar 1978 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., 2 mi. S of Red Cloud Mine, 5 Apr 1978 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Charleston Blvd. nr. Red Rock, 25 Nov 1978 (3 larvae in feeding tents) (*fide* D. Mullins)
- NV: Clark Co.; Cottonwood Pass Rd., 0.6 mi. S of Nv 160, 11 Mar 1979 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 25 Mar 1979 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Mormon Well Rd., 12.3 mi. W of US 93, 16 Apr 1981 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Desert NWR, 5.7 mi. E of Corn Creek, Fossil Ridge, 8 Apr 1983 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Virgin Mts., Cabin Canyon, 29 Mar 1984 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Red Rock area, West Charleston Blvd, 5 mi. W of Rainbow Blvd., 12 Nov 1984 (one old tent) (no plant coll., GTA, D. Mullins)
- NV: Clark Co.; Red Rock area, West Charleston Blvd., 1 mi. E of Red Spring, 12 Nov 1984 (one old tent) (no plant coll., GTA, D. Mullins)
- NV: Clark Co.; Red Rock area, West Charleston Blvd, 1 mi. E of Pine Creek Rd., 12 Nov 1984 (4 old tents) (no plant coll., GTA, D. Mullins)
- NV: Clark Co.; Spring Mts., 2 mi. S of Red Cloud Mine, 28 Mar 1986 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; rd. to Empire Wash past Loran Station, 4.7 mi. E of US 95, 7 Mar 2003 (old tent) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., rd. to Mt. Stirling, 1.4 mi. W of US 95, 25 Mar 2003 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; rd. east of Crystal Pass, 3.3 mi. S of Nv 161, 10 Apr 2003 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; powerline rd., 3.7 mi. S of Arden, 10 Apr 2003 (adult assoc.) (no plant coll., GTA)

***Megathymus coloradensis browni* D. Stallings & Turner, 1960**

AGAVACEAE

*Yucca elata* (Engelm.) Engelm. var. *utahensis* (McKelvey)

Reveal [*Yucca angustissima* Engelm.]

NV: Lincoln Co.; US 93, 3.8 mi. N of Panaca junction, 24 Apr 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Nv 319, 9.3 mi. E of Panaca junction, 19 Aug 2001 (old larval tents) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park Rd., 10.2 mi. E of US 93, 28 May 2002 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park Rd., 2.5 mi. E of US 93, 8 Sep 2003 (larval tent) (NSM, GTA #1963)

*Yucca harrimaniae* Trel. var. *harrimaniae*

NV: Lincoln Co.; 5 mi. N of Panaca, 6 Feb 1971 (2 larvae, em. 4 Mar 1971, 10 Mar 1971) (*fide* D. Bauer)

NV: Lincoln Co.; nr. Ursine off Nv 322, Mar 1990 (pupae to adults, emerged 4-5 Mar 1990) (*fide* T. Kral)

***Copaeodes aurantiaca* (Hewitson, 1868)**

POACEAE

*Cynodon dactylon* (L.) Pers. (i) (Fig. 5)

NV: Clark Co.; Las Vegas, Eugene Ave., 28 Sep 1973 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Lorenzi Park, 18 Aug 1987 (and several additional dates) (adult assoc.) (no plant coll., GTA)

***Lerodea eufala eufala* (W. H. Edwards, 1869)**

POACEAE

*Sorghum halepense* (L.) Pers. (i)

NV: Clark Co.; Moapa Valley, E side between Logandale and Overton, 28 Aug 2003 (ovip. on upper side of lower leaf near base, 10:10 PST) (NSM, GTA #1961)

NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on lower stem, 09:30 PST) (NSM, GTA #995)

*Zea mays* L. (i)

NV: Clark Co.; Overton (2m lf in National Museum of Natural History, Washington, DC, labeled "reared from *Zea mays*", R. G. Bectel)

***Hylephila phyleus muertovalle* Scott, 1981**

POACEAE

*Cynodon dactylon* (L.) Pers. (i) (Fig. 5)

NV: Clark Co.; Las Vegas, Eugene Ave., 30 Jun 1966 (ovip.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 7 May 1972 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 7 Jun 1977 (ovip.) (Austin and Austin 1980)

NV: Clark Co.; Las Vegas, Lorenzi Park, 18 Aug 1987 (and several additional dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Henderson, McBride Way, 15 Jun 2004 (ovip.) (no plant coll., BB)

NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on stem near ground, 09:00 PST) (NSM, GTA #996)

***Pseudocopaeodes eunus flavus* Austin & J. Emmel, 1998**

POACEAE

*Distichlis spicata* (L.) Greene (Plate 12D)

NV: Churchill Co.; US 50 at Wildes Rd., E of Fallon, 30 Jul 1987 (adult assoc.) (no plant coll., GTA)

NV: Churchill Co.; Stillwater NWR, Loop Rd., 30 Aug 1988 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, Miller Lane at US 95A, 16 Jun 1988 (adult assoc.) (no plant coll.,



Figure 5. *Cynodon dactylon*.

GTA)

NV: Lyon Co.; Mason Valley, Mason Valley WMA,  
26 Jun 1998 (adult assoc.) (no plant coll., GTA)

***Pseudocopaodes eunus alineae* Scott, 1981**

POACEAE

*Distichlis spicata* (L.) Greene (Plate 12D)

NV: Nye Co.; Ash Meadows, 16 Sep 1983 (ovip. on  
lower stem near ground, 09:50 PST) (NSM, GTA  
#722)

***Pseudocopaodes eunus obscurus* Austin & J. Emmel, 1998**

POACEAE

*Distichlis spicata* (L.) Greene (Plate 12D)

NV: Carson City; Eagle Valley, Lompa Lane at  
Airport Rd., 13 Jun 1986 (ovip. on middle of upper  
surface of leaf, 10:00 PST) (NSM, GTA #1288)

NV: Washoe Co.; Roadrunner Rd. off Winnemucca  
Ranch Rd., 23 Jun 1998 (adult assoc.) (no plant  
coll., GTA)

***Hesperia uncas grandiosa* Austin & McGuire, 1998**

JUNCACEAE

*Juncus mexicanus* Willd.\* (see note above)

NV: Nye Co.; Big Smoky Valley, Northumberland  
Mine Rd., 1.5 mi. E of Nv 376, 9 Jul 1984 (ovip.  
on upper surface of leaf of unidentified dicot  
adjacent to several *Juncus*, no other monocots in  
area, 11:20 PST) (NSM, GTA #1074)

***Hesperia uncas reeseorum* Austin & McGuire, 1998**

POACEAE

*Sporobolus airoides* (Torr.) Torr.\*\*

NV: Lander Co.; Reese River Valley, Nv 722, 4 mi.  
E of Reese River, 8 Jul 1984 (ovip. on lower leaf  
surface, 13:10 PST) (NSM, GTA #1058)

***Hesperia uncas macswaini* MacNeill, 1964**

POACEAE

*Elymus elymoides* (Raf.) Swezey [*Sitanion hystrix* (Nutt.) J.G. Smith]\*\*

NV: Humboldt Co.; Nv 140, 21.5 mi. W of Denio  
Junction, 31 May 1984 (ovip. on lower leaf, 11:30  
PST) (NSM, GTA #947)

***Hesperia juba* (Scudder, 1874)**

CYPERACEAE\*

*Carex douglasii* Boott\*\*

NV: Lyon Co.; Sweetwater Mts., Rickey Mine area,  
N base of East Sister, 24 May 1984 (ovip. 3× 1/2  
way up leaf, 10:30, 10:35, 11:10 PST, female flies  
slowly near ground apparently searching for proper  
substrate) (NSM, GTA #893)

NV: White Pine Co.; Schell Creek Range, Kalamazoo  
Creek, 12 Jun 2002 (ovip. at base of stem nearly on  
ground, 13:10 PST) (NSM, GTA #1715)

POACEAE

*Poa* sp. (plant too immature for identification)

NV: White Pine Co.; Schell Creek Range, East

Creek, 30 May 2002 (ovip. on stem of two plants  
within 10 cm, 12:10 PST) (NSM, GTA #1706)

*Poa* sp.

NV: Douglas Co.; Sweetwater Mts., Jackass Creek,  
0.5-2 mi. SW of Desert Creek, 23 May 1984 (ovip.  
on mid-stem, 11:00 PST) (NSM, GTA #877)

*Poa bulbosa* L.\* (i)

NV: Lander Co.; Toiyabe Range, Birch Creek, 14  
May 1986 (ovip. at base of stem near ground,  
young plant, 10:40 PST) (NSM, GTA #1266)

NV: White Pine Co.; Snake Range, Wheeler Peak  
Rd., 8700', 8 Jun 1985 (ovip. on lower surface of  
leaf near ground, 10:00 PST) (NSM, GTA #1215a)

*Poa cusickii* Vasey\*

NV: White Pine Co.; Snake Range, Wheeler Peak  
Rd., 8700', 8 Jun 1985 (ovip. on lower surface of  
leaf near ground, 10:00 PST) (NSM, GTA #1215b)

*Poa pratensis* L. (i)

NV: Douglas Co.; Carson Range, Clear Creek  
Canyon, 4.6 mi. W of US 395, 15 May 1986 (ovip.  
on outer [lower] side of leaf, 11:10 PST) (NSM,  
GTA #1269)

*Poa secunda* J.S.Presl. ssp. *juncifolia* (Scribn.) R. Soreng. [*Poa nevadensis* Scribn.] (Plate 12F)

NV: Lander Co.; Reese River Valley, Nv 722 at  
Reese River, 3 Jun 1984 (ovip. on leaf blade near  
ground, 09:20 PST) (NSM, GTA #970)

*Poa secunda* J.S.Presl. ssp. *secunda* [*Poa sandbergii* Vasey] (Plate 12F)

NV: Douglas Co.; Carson Range, Clear Creek  
Canyon, 4.6 mi. W of US 395, 15 May 1986  
(landed on ground, walked to grass, ovip. near  
ground on outer [lower] side of leaf, 10:45 PST)  
(NSM, GTA #1268)

NV: Washoe Co.; Granite Mts., Crutcher Canyon  
Rd., 6.9 mi. N of Nv 81, 29 May 1984 (ovip. on  
lower leaf, 14:30 PST) (NSM, GTA #917)

NV: Washoe Co.; rd. to Jones Flat and past Poodle  
Mt., 0.7 mi. S of Nv 447, 20 May 2003 (ovip. on  
lower part of plant, 15:40 PST) (NSM, GTA  
#1799)

***Polites sabuleti sabuleti* (Boisduval, 1852)**

POACEAE

*Distichlis spicata* (L.) Greene (Plate 12D)

NV: Churchill Co.; US 50 at Wildes Rd., E of Fallon,  
23 Jun 1982 (adult assoc.) (no plant coll., GTA)

NV: Churchill Co.; Stillwater NWR, Loop Rd., 23  
Jun 1982 (adult assoc.) (no plant coll., GTA)

NV: Churchill Co.; US 95, 11 mi. S of US 50 at  
Fallon, 23 Aug 1984 (ovip. on mid-stem 10:00  
PST, 10:20 PST after hovering above plant) (NSM,  
GTA #1102)

NV: Lyon Co.; Mason Valley, Miller Lane, 3.3 mi. E  
of US 95A, 23 Sep 1981 (adult assoc.) (no plant  
coll., GTA)

***Polites sabuleti genoa* (Plötz, 1883)**

POACEAE



*Distichlis spicata* (L.) Greene (Plate 12D)

NV: Carson City; Lompa Lane at Airport Rd., 2 Jul 1982 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Lompa Lane at Airport Rd., 9 Sep 1984 (ovip. on stem of dried plant near ground, 08:15 PST) (NSM, GTA #1193)

NV: Washoe Co.; Roadrunner Rd. off Winnemucca Ranch Rd., 23 Jun 1998 (adult assoc.) (no plant coll., GTA)

***Polites sabuleti tecumseh* (F. Grinnell, 1903)**

CYPERACEAE\*

*Schoenus nigricans* L.\*\*

NV: Washoe Co.; Carson Range, Tahoe Meadows, 30 Jun 1987 (ovip. 2× on lower stems, 10:05) (NSM, GTA #1451)

***Polites sabuleti chusca* (W. H. Edwards, 1873)**

POACEAE

*Distichlis spicata* (L.) Greene (Plate 12D)

NV: Clark Co.; Mesquite, 8 Aug 1974 (adult assoc.) (Scott 1986b, 1992)

NV: Clark Co.; Spring Mts., Mountain Springs Summit vicinity, 27 Aug 2002 (ovip.) (NSM, BB #77)

***Polites sabuleti nigrescens* Austin, 1987**

POACEAE

*Distichlis spicata* (L.) Greene (Plate 12D)

NV: Eureka Co.; US 50, 7.5 mi. W of Nv 278, 28 Aug 1984 (ovip. on lower surface of dead leaf adjacent to live plant, 11:30 PST) (NSM, GTA #1137)

*Elymus lanceolatus* (Scribn. & J.G.Smith) Gould ssp. *lanceolatus* [*Agropyron dasystachyum* (Hook.) Vasey]\*\*

NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 1984 (ovip. on lower surface of leaf blade near ground 10:10 PST) (NSM, GTA #1079)

NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 1984 (ovip. on lower surface of leaf 1/2 way up, 11:00 PST) (NSM, GTA #1079)

***Polites sabuleti basinensis* Austin, 1988**

POACEAE

*Leymus triticoides* (Buckley) Pilg.\*\*

NV: Lander Co.; Reese River Valley, US 50, 2.5 mi. E of Reese River, 26 Aug 1984 (ovip. 2× on lower surface of leaf near ground, 08:45 PST) (NSM, GTA #1122)

***Ochloides sylvanoides omnigena* Austin, 1998**

POACEAE

*Phalaris arundinacea* L.

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (NSM, GTA #1616)

*Leymus cinereus* (Scribn. & Merr.) Å.Löve

NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 2.3 mi. E of Nv 386, 20 Jul 2001 (adult assoc.) (NSM, GTA #1610)

***Ochloides yuma yuma* (W. H. Edwards, 1873)**

POACEAE

*Phragmites australis* (Cav.) Steud. (Fig. 6)

NV: Clark Co. (adult assoc. nearly everywhere insect found) (Austin and Austin 1980)

NV: Clark Co.; Tule Springs, 4 Jul 1962 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Desert NWR, Corn Creek, 12 Jun 1966 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 7 Jun 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Bowmans Reservoir, 27 Jun 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Hidden Valley, 4 Jul 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, BB)

NV: Clark Co.; Las Vegas Valley, Whitney Mesa at Sunset Rd., 12 Oct 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Overton WMA, 27 Sep 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Paradise Valley, off Eastern Avenue, 9 Jun 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas Valley, Whitney Mesa at Sunset Rd., 9 Jun 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Desert NWR, Corn Creek, 26 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Overton WMA, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Desert NWR, Corn Creek, 17 Aug 1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, 1-2 mi. W of Logandale, 4 Sep 2002 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, Muddy River at bridge, 28 Aug 2003 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 15.3 mi. S of Caliente, 16 Sep 1979 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, Caliente, 14 Oct 1979 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Pahrnagat Valley, Pahrnagat NWR headquarters, 17 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Pahrnagat Valley, Key Pittman WMA, 12 Aug 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Pahrnagat Valley, Hiko Junction, 23 Sep 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 2.4 mi. N of Farrier, 3 Oct 1988 (adult assoc.) (no plant coll.)

NV: Nye Co.; US 95, 1.1 mi. S of Beatty, 8 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; US 95, 1.2 mi. N of Beatty, 17 Sep



Figure 6. *Phragmites australis*.

1983 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; US 95, 0.8 mi. S of Beatty, 4 Jun 1992

(adult assoc.) (no plant coll., GTA)

NV: Nye Co.; US 95, 1.3 mi. N of Beatty, 4 Jun 1992

(adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Beatty, behind casino N of town, 1

Aug 2003 (2 larvae) (*fide* J. Brock)

***Ochloides yuma lutea* Austin, 1998**

POACEAE

*Leymus triticoides* (Buckley) Pilg.\*\*

NV: Washoe Co.; Smoke Creek Desert, Smoke Creek Rd., 1.4 miles south of Smoke Creek, 10 Aug 2002

(possible adult assoc.) (no plant coll., GTA, *cf*

GTA #1974), populations of *O. yuma* occur in the

Smoke Creek Desert far from populations of

*Phragmites*; the only broad-leaved grass at this

particular site is this species of *Leymus*.

*Phragmites australis* (Cav.) Steud. (Fig. 6)

NV: Eureka Co.; Humboldt River, Dunphy, 26 Aug

1984 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Humboldt River Valley,

Stonehouse, 22 Jul 1984 (adult assoc.) (no plant

coll., GTA)

NV: Humboldt Co.; Kings River Valley, Kings River,

23 Jul 1984 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Sheldon NWR, Nv 140, 0.9 mi.

W of Dufurrena Ranch Rd., 28 Aug 2002 (adult

assoc.) (no plant coll., GTA)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle

Mountain, 11 Aug 1980 (adult assoc.) (no plant

coll., GTA)

NV: Lander Co.; Toiyabe Range, Bowman Creek, 12

Sep 1983 (adult assoc.) (no plant coll., GTA;

Austin 1998c)

NV: Lander Co.; Grass Valley, Grass Valley Ranch,

13 Jul 1992 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle

Mountain, 26 Aug 2002 (adult assoc.) (no plant

coll., GTA)

NV: Lyon Co.; Walker River, Nv 208, 0.4 mi. W of

Mason cutoff, 14 Aug 1984 (adult assoc.) (no plant

coll., GTA)

NV: Nye Co.; Duckwater, 11 Aug 1983 (adult assoc.)

(no plant coll., GTA)

NV: Nye Co.; Big Smoky Valley, Little Smoky Rd.,

4.5 mi. N of Summit Canyon, 29 Aug 1984 (adult

assoc.) (no plant coll., GTA)

NV: Washoe Co.; Nv 81, 0.3 mi. W of Crutcher

Canyon Rd., 20 Jul 1986 (adult assoc.) (no plant

coll., GTA)

NV: White Pine Co.; White River Valley, Preston

Big Spring, 10 Jul 1984 (adult assoc.) (no plant

coll., GTA)

NV: White Pine Co.; Spring Valley, Nv 893,

Cleveland Ranch, 14 Jul 2002 (adult assoc.) (no

plant coll., GTA)

## PAPILIONIDAE

Papilionids are represented by eleven species in Nevada; two of these are strays and probably do not breed in the state. Larval hostplants have been partially determined for all except one of the resident species and include a variety of dicotyledonous plants in eight families.

## PARNASSIINAE

The larval hostplant has been determined for one of the two species of parnassiines in Nevada. This, based largely on association with the only potential hostplant in the state, is of a species previously reported in the Crassulaceae.

***Parnassius smintheus sayii* W. H. Edwards, 1863**

## CRASSULACEAE

*Sedum lanceolatum* Torr. [often misidentified as *Sedum stenopetalum* Pursh] (Plate 6E)

NV: Elko Co.; Jarbidge Mts., slope 0.5 mi. S of Bonanza Gulch, 8200', 22 Jul 1969 (ovip. on soil nearby, 14:30 PST) (Emmel *et al.* 1970)

NV: Elko Co.; Jarbidge Mts., slope 0.5 mi. S of Bonanza Gulch, 8200', 23 Jul 1969 (ovip. on grass nearby, 11:20 PST) (Emmel *et al.* 1970)

NV: Elko Co.; East Humboldt Range, hill 2/3 mi. E of Angel Lake, 8200', 27 Jul 1969 (ovip. attempted on plant, 13:10 PST) (Emmel *et al.* 1970)

NV: Elko Co.; Independence Mts., North Fork Rd., 3.3 mi. E of North Fork Summit, 24 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 26 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., ridge W of Wildhorse Creek Campground, 19 Jun 1986 (adult assoc.) (NSM, GTA #1309)

## PAPILIONINAE

Larval hostplants have been documented for all seven species of papilionines known to breed in Nevada and include 24 species of plants (28 butterfly/plant combinations) in seven families (Apiaceae, Asteraceae, Oleaceae, Rhamnaceae, Roseaceae, Rutaceae, Salicaceae). Of these, seven are newly reported for the species of butterfly concerned. A comprehensive catalogue of the species used by *Papilio indra*, particularly in southern Nevada, has been accumulated by several workers, particularly Bruce Griffin who painstakingly explored several remote and difficult mountain ranges in his quest for information on this butterfly. Eggs are placed largely on leaves (also stems for *Papilio polyxenes*), with over 77% of the ovipositions recorded before noon; records for *Papilio* are concentrated in early morning, but *Pterourus* often oviposit into the afternoon. *Papilio* most often oviposit on the lower surface, while *Pterourus* almost always place eggs on the upper surface.

***Papilio polyxenes coloro* W. G. Wright, 1905**

## APIACEAE

*Lomatium parryi* (S. Watson) J.F. Macbr. \* (Plate 10C)

NV: Clark Co.; Spring Mts., Ash Spring, 2 Jun 1973 (3rd, 5th instar larvae) (*vide* B. Griffin)

NV: Lincoln Co.; N Pahroc Range, US 93 at Pahroc Summit Pass, dirt rd. 2.2 mi. N, corral, then 1.0 mi. N, 27 May 1988 (early instar larva) (*vide* B. Griffin)

*Lomatium scabrum* (J.M. Coult. & Rose) Mathias\*

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 1 Jun 1975 (1st- 3rd instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 28 Apr 1985 (4th instar larva) (*vide* B. Griffin)

## RUTACEAE

*Thamnosma montana* Torr. & Frém. (Plate 10B)

NV: Clark Co.; SE end of Muddy Mts., Rogers Spring, May 1972 (ova, larvae) (*vide* B. Griffin)

NV: Clark Co.; E side of Mormon Range, ca. 2-3.5 rd. mi. N of I-15 frontage rd., 23 Mar 1975 (ova-2nd instar larvae) (*vide* B. Griffin)

NV: Clark Co.; E side of Mormon Range, ca. 2-3.5 rd. mi. N of I-15 frontage rd., 20 Apr 1975 (mostly 3rd-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; E side of Mormon Range, ca. 2-3.5 rd. mi. N of I-15 frontage rd., 4 May 1975 (ova, 4th-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Arrow Canyon Range, off US 95, ca. 20 mi. N of jct. at I-15, 5 Jun 1975 (3rd-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; about 5.4 rd. mi. E of Corn Creek Springs, 1/4 mi. N of Fossil Ridge, 6 Jun 1975 (5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Hwy 77, ca. 5 mi. E of US 95, 3 Apr 1976 (ova-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., SW slope, 3 mi. from Christmas Tree Pass Rd. on rd. to communications tower, 9 May 1976 (ova-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Hwy 77, ca. 5 mi. E of US 95, 3 Oct 1976 (mostly 3rd-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Hwy 77, ca. 5 mi. E of US 95, 14 Nov 1976 (1st-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Hwy 77, ca. 5 mi. E of US 95, 28 Nov 1976 (ova-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Spring Mts., Nv 160, 3 mi. W of Blue Diamond turnoff, 26 Sep 1977 (ovip. on stem, 09:15 PST, 09:30 PST) (Austin and Austin 1980)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 27 Apr 1978 (mature larva, dark form emerged as form "clarki") (*vide* C. S. Lawson)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 11 May 1978 (ovip. on upper surface of leaf, 10:00 PST) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Red Cloud Mine, 27 May 1978 (ovip. on stem at leaf base, 11:00 PST) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd.,

- 0.6 mi. S of Nv 160, 28 May 1978 (ovip. 2× on stem at base of leaf, 09:00 PST) (UNLV, GTA)  
 NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 0.6-1.8 mi. S of Nv 160, 28 May 1978 (ovip. on stem at leaf base, 09:45 PST) (Austin and Austin 1980)  
 NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 0.6-1.8 mi. S of Nv 160, 28 May 1978 (ovip. on stem at leaf base, 11:20 PST) (Austin and Austin 1980)  
 NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 7.5 mi. E of US 95, 7 Mar 1984 (ovip. on upper stem, 10:40 PST) (NSM, GTA #758)  
 NV: Clark Co.; Spring Mts.; Nv 160, 3.0 mi. W of Blue Diamond Rd., 2 Sep 1984 (ovip. near stem tip, 08:30 PST, 09:10 PST) (NSM, GTA #1150)  
 NV: Clark Co.; Spring Mts.; Nv 160, 3.0 mi. W of Blue Diamond Rd., 2 Sep 1984 (many larvae mostly 3rd-4th instar resting on stems) (NSM, GTA #1150)  
 NV: Clark Co.; Spring Mts., Red Cloud Mine, 2 Sep 1984 (1st instar larva on stem) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., Nv 160, 3.0 mi. W of Blue Diamond Rd., 5 Sep 1984 (many larvae of all instars feeding on leaves, flower buds, and stem tip epidermis, several reared to adult) (NSM, GTA #1150)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of US 95, 13 Sep 1984 (4th-5th instar larvae feeding on stem epidermis, several reared to adult) (no plant coll., GTA)  
 NV: Clark Co.; nr. Blue Diamond, 16 Sep 1984 (larvae reared to adult, em. 9 Oct 1984, 26 Apr-27 Jun 1985) (*fide* P. Savage)  
 NV: Clark Co.; Cottonwood Pass Rd., 1.1 mi. S of Nv 160, 3 Apr 1988 (ovip. on lower surface of leaf, 10:30 PST) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., vicinity of Red Cloud Mine, 12 Oct 1997 (1st instar larva) (no plant coll., BB)  
 NV: Clark Co.; Newberry Mts., ca. 7 rd. mi. E of US 95 on Christmas Tree Pass Rd., 20 Dec 1998 (5th instar larva) (*fide* B. Griffin)  
 NV: Lincoln Co.; US 93, 2.2 mi. N of Clark Co. line, 23 Sep 1984 (mature larva on stem) (no plant coll., GTA)  
 NV: Nye Co.; Spring Mts., Johnnie Mine Rd., 2-3 mi. E of Nv 160, 15 Sep 1984 (3rd-5th instar larvae feeding on leaves and stem epidermis) (NSM, GTA #1203)

***Papilio machaon bairdii* W. H. Edwards, 1869**

## ASTERACEAE

*Artemisia dracunculus* L.

- NV: Esmeralda Co.; White Mts., Queen Canyon, 7450-8080', 9 Jul 1989 (ova, larvae) (*fide* W. Dawes)  
 NV: Esmeralda Co.; White Mts., Queen Canyon,

Figure 7. *Angelica kingii*.

- 8300-9000', 23 Jul 1989 (larvae) (*fide* W. Dawes)  
 NV: Eureka Co.; Diamond Mts., Water Canyon, 18 May 1974 (pupa) (*fide* B. Griffin)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 6200-7000', 5 Aug 1967 (13 larvae, 1st-5th instar) (*fide* J. F. Emmel)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 8 Jul 1968 (ova, larvae, pupa) (*fide* B. Griffin)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 7 Sep 1968 (larvae) (*fide* J. Cooper)  
 NV: Lincoln Co.; Highland Range, Anderson Canyon, 25 Jul 1988 (ovip. on lower surface in middle of leaf, 13:20 PST) (NSM, GTA #1483)  
 NV: Nye Co.; Grant Range, Troy Canyon, 7 Jul 1969

(2 larvae, 4th-5th instar) (*fide* J. F. Emmel)

NV: White Pine Co.; Snake Range, Lehman Creek Campground, 8000', 30 Jul 1969 (ovip., 9 ova collected) (*fide* J. F. Emmel)

***Papilio zelicaon* Lucas, 1852**

APIACEAE

*Angelica kingii* (S. Watson) J.M.Coult. & Rose (Fig. 7)

NV: Elko Co.; Ruby Mts., Lamoille Canyon, Thomas Canyon Campground, 7 Aug 1967 (2 larvae on leaf uppersides, reared to adults) (Emmel and Shields 1978a)

NV: Humboldt Co.; Santa Rosa Range, Martin Creek Ranger Station, 7000', 11 Aug 1967 (5 larvae, 1st-3rd instar, on upper surfaces of leaves, reared to pupae and adult) (Emmel and Shields 1978a)

*Cymopterus longipes* S. Watson var. *ibapensis* (M.E.Jones)

Cronquist [*Cymopterus ibapensis* M.E.Jones]\*

NV: Humboldt Co.; Santa Rosa Mts., Hinkey Summit Rd., 5.1 mi. N of Cottonwood Creek Rd., 21 May 1980 (ovip. on leaf) (NSMCC, GTA)

*Cymopterus terebinthinus* (Hook.) M.E.Jones var. *petraeus* (M.E.Jones) Goodrich [*Pteryxia petraea* (M.E.Jones) J.M.Coult. & Rose, *Cymopterus petrea* M.E.Jones]

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 6600', 13 Jun 1969 (5, 3rd-5th instar larvae on leaves, reared to pupae) (Emmel and Shields 1978a)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 8 Jun 1986 (larvae) (*fide* J. Pasko)

NV: Nye Co.; Toiyabe Range, Summit Canyon, 7000-7200', 30 Jun 1968 (many larvae, 1st-5th instars) (*fide* J. F. Emmel)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 7 Jun 1986 (larvae) (*fide* J. Pasko)

*Ligusticum grayi* J.M.Coult. & Rose

NV: Elko Co.; Jarbidge Mts., nr. Jarbidge River, 2 mi. S of Pine Creek Campground, 10 Aug 1967 (2 larvae on leaves, reared to pupae and adult) (Emmel and Shields 1978a)

*Lomatium dissectum* (Torr. & A.Gray) Mathias & Constance var.

*multifidum* (Torr. & A.Gray) Mathias & Constance

NV: Elko Co.; Jarbidge Mts., Coon Creek Summit, 15 Jun 2003 (adult assoc.) (NSM, GTA #1860)

NV: Lander Co.; Toiyabe Range, lower end of Birch Creek, 6300', 13 Jun 1969 (8 larvae, 4th-5th instar, on leaves, reared to pupae and adults) (Emmel and Shields 1978a)

NV: Washoe Co.; Granite Mts., Crutcher Canyon, 6.9 mi. N of Nv 81, 11 May 1981 (ovip. on lower surface of leaf, 09:30 PST) (NSMCC, GTA)

*Lomatium parryi* (S. Watson) J.F.Macbr. (Plate 10C)

NV: Lincoln Co.; N of Pahroc Range, US 93 at Pahroc Summit Pass, dirt rd. 2.2 mi. N, corral, then 1.0 mi. N, 28 May 1983 (1st-2nd instar larvae) (*fide* B. Griffin)

NV: Lincoln Co.; E Pahrnagat Range, canyon 3.7 mi. W of Pahrnagat High School, 0.5 mi. up canyon, 29 May 1983 (larva) (*fide* B. Griffin)

NV: Nye Co.; Grant Range, Troy Canyon, 7000', 7 Jul 1969 (3 larvae, 3rd-5th instar, on leaves, reared to pupae and adult) (Emmel and Shields 1978a)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (ovip. on lower surface of leaf, 10:05 PST) (NSM, GTA #1262)

*Lomatium triternatum* (Pursh) J.M.Coult. & Rose

NV: Washoe Co.; Granite Mts., Crutcher Canyon Rd., 6.9 mi. N of Nv 81, 29 May 1984 (ovip. on leaf, 15:00 PST) (NSM, GTA #919)

***Papilio indra panamintensis* J. Emmel, 1981**

APIACEAE

*Lomatium nevadense* (S. Watson) J.M.Coult. & Rose\*

NV: Clark Co.; Spring Mts., Red Spring, 7 Apr 1987 (ovip. 2× on lower leaves, 2/3 distance from base, 09:30) (NSM, GTA #1392)

*Lomatium parryi* (S. Watson) J.F.Macbr. (Plate 10C)

NV: Clark Co.; Spring Mts., Ash Spring, 25 Jun 1968 (1st-3rd instar larvae) (*fide* J. F. Emmel)

NV: Clark Co.; Spring Mts., Ash Spring, 11 May 1969 (ova, 1st-2nd instar larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, 30 Jun 1969 (ova, 1st-4th instar larvae) (*fide* J. F. Emmel)

NV: Clark Co.; Spring Mts., Ash Spring, 16 May 1970 (ova-4th instar larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, 20 Mar 1972 (ova, larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Calico Basin, 28 Mar 1972 (larvae) (*fide* J. Leser, also Langston 1973)

NV: Clark Co.; Spring Mts., Red Rock Canyon Recreation Area, early Sep 1972 (2 larvae) (L. Ballew, *fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, Sep 1972 (larvae) (L. Ballew, *fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, 2 Jun 1973 (ova, larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, 31 Mar 1974 (ovip., ova) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Red Rock Canyon Scenic Drive at Calico Hills quarry, 27 Apr 1975 (2 ova, 1 early instar larva) (*fide* S. O. Mattoon)

NV: Clark Co.; Spring Mts., Ash Spring, 31 May 1975 (ova-5th instar larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, 6 Jun 1976 (larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, 25 Apr 1977 (ova-4th instar larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., White Rock Spring, 30 May 1977 (5 larvae) (*fide* J. Brock)

NV: Clark Co.; Spring Mts., Red Rock Canyon, 29 May 1980 (larva reared to adult, em. 21 Jun 1980) (*fide* D. Mullins)

NV: Clark Co.; Spring Mts., Ash Spring, 25 Apr 1983 (ova-1st instar larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Ash Spring, 5 Jun 1983 (5th instar larvae) (*fide* B. Griffin)

NV: Clark Co.; Spring Mts., Calico Basin, 11 May 1985 (5 larvae) (*fide* J. Pasko)



- NV: Clark Co.; Spring Mts., Calico Hills, 14 Apr 1988 (larva reared to adult) (*fide* P. Savage)
- NV: Clark Co.; Spring Mts., Calico Hills, 24 Apr 1990 (larva reared to adult, em. 15 Apr 1992) (*fide* P. Savage)
- NV: Clark Co.; Spring Mts., Calico Spring, 21 Apr 2003 (1st instar larva) (NSM, BB #95)
- NV: Nye Co.; Grant Range, Troy Canyon, 7 Jul 1969 (5 larvae, 4th-5th instar) (*fide* J. F. Emmel, also Emmel and Emmel 1974b)
- NV: Nye Co.; Quinn Canyon Range, Willow Creek, 6000-6300', 8 Jul 1969 (11 larvae, 4th-5th instar) (*fide* J. F. Emmel, also Emmel and Emmel 1974b)
- NV: Nye Co.; W slope of Bare Mt., 7 mi. S of Beatty, 2.5 mi. to canyon mouth, 11 Apr 1976 (ova) (*fide* B. Griffin)
- NV: Nye Co.; W slope of Bare Mt., 7 mi. S of Beatty, 2.5 mi. to canyon mouth, 8 May 1976 (ova-4<sup>th</sup> instar larvae) (*fide* B. Griffin)
- NV: Nye Co.; W slope of Bare Mt., 7 mi. S of Beatty, 2.5 mi. to canyon mouth, 24 Apr 1977 (ova-4<sup>th</sup> instar larvae) (*fide* B. Griffin)
- NV: Nye Co.; W slope of Bare Mt., 7 mi. S of Beatty, 2.5 mi. to canyon mouth, 5 Jun 1983 (1st-5th instar larvae) (*fide* B. Griffin)
- NV: Nye Co.; 5 mi. SE of Beatty, 3 May 1995 (ova) (*fide* J. Brock)

***Papilio indra nevadensis* T. & J. Emmel, 1971**

## APIACEAE

*Cymopterus terebinthinus* (Hook.) M.E.Jones var. *petraeus* (M.E.Jones) Goodrich [*Pteryxia petraea* (M.E.Jones) J.M.Coult. & Rose, *Cymopterus petrea* M.E.Jones]

- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 1968, 1969 (larvae) (Emmel and Emmel 1971)
- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 7-8 Jul 1968 (ova, larvae) (*fide* B. Griffin)
- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 30 Jun 1969 (1 small larva) (*fide* J. F. Emmel)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 1967 (larvae) (Emmel and Emmel 1971)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 3 Aug 1967 (ovip. on underside of leaf, also 2 ova and 1 2nd instar larva) (*fide* J. F. Emmel)
- NV: Nye Co.; Toiyabe Range, Summit Canyon, 1968, 1969 (larvae) (Emmel and Emmel 1971)
- NV: Nye Co.; Toiyabe Range, Summit Canyon, 7000-7200', 30 Jun 1968 (8 larvae, 1st-3rd instar) (*fide* J. F. Emmel)
- NV: Nye Co.; Toiyabe Range, North Twin River Canyon, 1 Jul 1968 (5 larvae, 1st-3rd instar) (*fide* J. F. Emmel)
- NV: Nye Co.; Toiyabe Range, 6 mi. E of Manhattan, 9 Jul 1969 (larva, 3rd instar) (*fide* J. F. Emmel, also Emmel and Emmel 1971)
- NV: Nye Co.; Toiyabe Range, 7 Jun 1986 (larvae) (*fide* J. Pasko)
- Lomatium parryi* (S. Watson) J.F.Macbr. (Plate 10C)
- NV: Lincoln Co.; N Pahrnanagat Range, hwy 25, NW

- from jct. Hwy 93 for 0.6 mi., 2.4 mi. N on Hwy 318 to dirt rd. for 6.5 mi. NW, 10 Jun 1975 (2nd-4th instar larvae) (*fide* B. Griffin)
- NV: Lincoln Co.; N Pahroc Range, US 93 at Pahroc Summit Pass, dirt rd. 2.2 mi. N, corral, then 1.0 mi. N, 10 Jun 1975 (ova) (*fide* B. Griffin)
- NV: Lincoln Co.; N Pahroc Range, US 93 at Pahroc Summit Pass, dirt rd. 2.2 mi. N, corral, then 1.0 mi. N, 19 May 1982 (3rd instar larva) (*fide* B. Griffin)
- NV: Lincoln Co.; N Pahrnanagat Range, hwy 25, NW from jct. Hwy 93 for 0.6 mi., 2.4 mi. N on Hwy 318 to dirt rd. for 6.5 mi. NW, 20 Jun 1982 (4th instar larva) (*fide* B. Griffin)
- NV: Lincoln Co.; N Pahroc Range, US 93 at Pahroc Summit Pass, dirt rd. 2.2 mi. N, corral, then 1.0 mi. N, 28 May 1983 (2nd-3rd instar larvae) (*fide* B. Griffin)
- NV: Lincoln Co.; N Pahrnanagat Range, hwy 25, NW from jct. Hwy 93 for 0.6 mi., 2.4 mi. N on Hwy 318 to dirt rd. for 6.5 mi. NW, 29 May 1983 (larva) (*fide* B. Griffin)
- NV: Lincoln Co.; E Pahrnanagat Range, canyon 3.7 mi. W of Pahrnanagat High School, 0.5 mi. up canyon, 29 May 1983 (ova-3rd instar larvae) (*fide* B. Griffin)
- NV: Lincoln Co.; N Pahroc Range, US 93 at Pahroc Summit Pass, dirt rd. 2.2 mi. N, corral, then 1.0 mi. N, 27 May 1988 (ova-5th instar larva) (*fide* B. Griffin)
- NV: Mineral Co.; Pilot Mts., rd. towards Summit Spring, 19 Jun 1983 (ovip. on leaf, 11:45 PST) (NSM, GTA #448)
- NV: Nye Co.; Toiyabe Range, Peavine Creek Campground, 12 Apr 1984 (ovip. on lower surface of leaf) (NSM, GTA #780)

***Papilio indra calcicola* J. Emmel & Griffin, 1998**

## APIACEAE

*Lomatium* sp.

- NV: Clark Co.; S end of Sheep Range, Fossil Ridge, 26 Apr 1988 (larva reared to adult) (*fide* P. Savage)
- NV: Clark Co.; S end of Sheep Range, Fossil Ridge, May 1990 (larva reared to adult, em. 27 May 1992) (*fide* P. Savage)
- NV: Lincoln Co.; ridge, 1.4 mi. E of Elgin, 7 May 1986 (larva reared to adult) (*fide* P. Savage)
- NV: Lincoln Co.; ridge, 1.4 mi. E of Elgin, 4 May 1990 (larva reared to adult, em. Dec 1991) (*fide* P. Savage)
- Lomatium grayi* (J.M.Coult. & Rose) J.M.Coult. & Rose
- NV: Lincoln Co.; Meadow Valley Wash, 1.7 mi. S of Elgin, 26 Apr 1980 (ovip. on lower leaf surface, 10:00 PST) (NSMCC, GTA)
- Lomatium nevadense* (S. Watson) J.M.Coult. & Rose\*
- NV: Clark Co.; Sheep Range, Fossil Ridge, 5.7 mi. E of Corn Creek, 14 Apr 1987 (ovip. on lower surface of leaf, 09:50 PST) (NSM, GTA #1393)
- Lomatium parryi* (S. Watson) J.F.Macbr. (Plate 10C)
- NV: Clark Co.; Sheep Range, Fossil Ridge, 5.7 mi. E

of Corn Creek, 8 May 1983 (adult assoc.) (NSM, GTA #133)

*Lomatium scabrum* (J.M.Coult. & Rose) Mathias

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 20 Apr 1975 (ova) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 1 Jun 1975 (2nd-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Arrow Canyon Range, off US 95, ca. 20 mi. N of jct. at I-15, 5 Jun 1975 (1st-4th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Arrow Canyon Range, off US 95, ca. 16 mi. N of jct. at I-15, 5 Jun 1975 (3rd-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; about 5.4 rd. mi. E of Corn Creek Springs, W end of Fossil Ridge, 6 Jun 1975 (3rd-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Bunkerville Ridge, 3 mi. W of Bunkerville, SSE on dirt rd. ca. 6 mi., 12 Jun 1975 (4th-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 1 May 1976 (ova, 1st-2nd instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Arrow Canyon Range, off US 95, ca. 16 mi. N of jct. at I-15, 22 May 1976 (3rd-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., canyon E of Buffington Pockets, 5.9 air mi. N and 0.3-0.4 air mi. E of Muddy Peak, 26 Apr 1977 (ova-3rd instar larvae, reared to adults) (Emmel and Griffin 1998)

NV: Clark Co.; about 5.4 rd. mi. E of Corn Creek Springs, W end of Fossil Ridge, 5 Jun 1982 (4th-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; about 5.4 rd. mi. E of Corn Creek Springs, W end of Fossil Ridge, 26 Apr 1983 (ova) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi., canyon E of rd., 27 Apr 1983 (ova) (*vide* B. Griffin)

NV: Clark Co.; about 5.4 rd. mi. E of Corn Creek Springs, W end of Fossil Ridge, 12 May 1984 (1st-2nd instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 28 Apr 1985 (ova-4th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; about 5.4 rd. mi. E of Corn Creek Springs, W end of Fossil Ridge, 28 Apr 1985 (ova-2nd instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., canyon E of Buffington Pockets, 5.9 air mi. N and 0.3-0.4 air mi. E of Muddy Peak, 28 Apr 1985 (ova-4th instar larvae, reared to adults) (Emmel and Griffin 1998)

NV: Clark Co.; about 5.4 rd. mi. E of Corn Creek Springs, W end of Fossil Ridge, 25 Apr 1987 (ova, larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 26 Apr 1987 (ova, larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., Hwy 40 off I-15, 4 mi., then dirt rd. SSE 6.4 mi, canyon E of rd., 24 Apr 1988 (ova-4th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Muddy Mts., canyon E of Buffington Pockets, 5.9 air mi. N and 0.3-0.4 air mi. E of Muddy Peak, 24 Apr 1988 (ova-2nd instar larvae, reared to adults) (Emmel and Griffin 1998)

NV: Lincoln Co.; E Mormon Mts., off I-15, ca. 8 mi. NE of Glendale (3.7 mi. E, then 10.8 rd. mi.), 4 May 1975 (ova) (*vide* B. Griffin)

NV: Lincoln Co.; E Mormon Mts., off I-15, ca. 8 mi. NE of Glendale (3.7 mi. E, then 10.8 rd. mi.), 4 Jun 1975 (1st-4th instar larvae) (*vide* B. Griffin)

NV: Lincoln Co.; E Mormon Mts., off I-15, ca. 8 mi. NE of Glendale (3.7 mi. E, then 10.8 rd. mi.), 23 May 1976 (1st-3rd instar larvae) (*vide* B. Griffin)

NV: Lincoln Co.; E Mormon Mts., off I-15, ca. 8 mi. NE of Glendale (3.7 mi. E, then 10.8 rd. mi.), 28 Apr 1983 (ova-3rd instar larvae) (*vide* B. Griffin)

NV: Lincoln Co.; E Mormon Mts., off I-15, ca. 8 mi. NE of Glendale (3.7 mi. E, then 10.8 rd. mi.), 24 Apr 1988 (ova-3rd instar larvae) (*vide* B. Griffin)

***Papilio indra pygmaeus* J. Emmel, T. Emmel & Griffin, 1998**

APIACEAE

*Lomatium parryi* (S. Watson) J.F. Macbr. (Plate 10C)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 5 May 1974 (ova-3rd instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 11 May 1974 (ova-4th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 9 May 1975 (ova, larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 9 May 1976 (ova-1st instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 6 Jun 1976 (5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 14 May 1978 (ova-1st instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 5 Jun 1982 (mostly 4th-5th instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 7.4 mi. E of US 95, 25 Apr 1983 (ova) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 5 May 1983 (larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 30 May 1983 (1st-3rd instar larvae) (*vide* B. Griffin)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 27 Apr 1985 (ovum) (*vide* B. Griffin)

- NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 6.5-7.3 mi. E of US 95, 23-25 Apr 1988 (ova) (*fide* B. Griffin)
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 11 May 1988 (larva reared to adult) (*fide* P. Savage)
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 29 May 1988 (larvae in all instars; larva reared to adult, em. 14 Apr 1989) (*fide* J. Brock)
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 1 May 1990 (larvae reared to adult, em. 7-14 Apr 1992) (*fide* P. Savage)
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 2 May 1990 (larvae reared to adult, em. 6-21 Apr 1992) (*fide* P. Savage)
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 24 May 1991 (larvae) (*fide* J. Brock)

***Pterourus rutulus rutulus* (Lucas, 1852)**

## SALICACEAE

*Populus angustifolia* James

- NV: White Pine Co.; White Pine Mts., White River Rd., 11.2 mi. W of US 6, 19 Jun 1980 (adult assoc.) (NSMCC, GTA)
- NV: White Pine Co.; Snake Range, Snake Creek, 2.7 mi. E of Johnson Lake trailhead, 6 Jul 2000 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; White Pine Mts., White River at Little Currant Creek Rd., 15 Jul 2001 (adult assoc.) (NSM, GTA #1585)
- NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 2.0 mi. W of Nv 893, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 2-6 mi. W of Spring Valley Rd., 14 Jul 2002 (adult assoc.) (NSM, GTA #1732)

*Populus balsamifera* L. ssp. *trichocarpa* (Torr. & A. Gray) Brayshaw

- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (NSM, GTA #1612)
- NV: Nye Co.; Toiyabe Range, Summit Canyon, 9 Jul 1984 (ovip. on lower surface of upper leaf, 14:30 PST) (NSM, GTA #1075)
- NV: Washoe Co.; Carson Range, Thomas Creek, 4 Aug 2002 (ovip. on upper surface of leaf, 2 m above ground, 11:45 PST) (NSM, GTA #1744)
- NV: Washoe Co.; Carson Range, Thomas Creek, 30 Jun 2003 (larva feeding on leaf) (NSM, GTA #1887)

*Populus fremontii* S. Watson\*

- NV: Lyon Co.; Mason Valley, 3 mi. S of Yerington, 4 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Mason Valley, Mason Valley WMA, 4 Jul 1996 (ovip. 3× on upper surface of leaf, 3 m above ground, 09:45 PST) (no plant coll., GTA)
- NV: Lyon Co.; Mason Valley, W side of Yerington, Nv 339, rest area, 15 Jul 2000 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; Schurz, 17 Jul 1983 (adult assoc.)

(no plant coll., GTA)

*Populus tremuloides* Michx. (Plate 5C)

- NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 7 Jul 1978 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Owyhee River Valley, Wildhorse Creek Campground, 19 Jun 1986 (ovip. on upper leaf surface, outer leaves of mid-tree, 12:10 PST) (NSM, GTA #1311)
- NV: Elko Co.; Jarbidge Mts., Big Bend Campground, 24 Jun 1987 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Independence Mts., Maggie Creek, Nv 11A, 0.5 mi. E of Maggie Summit, 11 Jul 2000 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Jarbidge Mts., 76 Creek, 2.7 mi. N of Charleston, 14 Jun 2003 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 15 Jun 2003 (adult assoc.) (no plant coll., GTA)
- NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, 22 Jun 1981 (ovip. on upper surface of leaf, 12" off ground, 09:00 PST) (no plant coll., GTA)
- NV: Humboldt Co.; Santa Rosa Mts., Lye Creek Campground, 13 Jul 2000 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Timber Creek, 15 Jul 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Snake Range, Wheeler Peak Campground to Stella Lake, 6 Jul 2000 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Kalamazoo Rd., 3.5 mi. W of Duck Creek, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Cleve Creek, 12 Jun 2002 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 3.3 mi. W of Pleasant Valley Rd., 11 Jun 2003 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, East Creek Campground, 12 Jun 2003 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, East Creek Campground, 22 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Salix bebbiana* Sarg.\*

- NV: White Pine Co.; Schell Creek Range, North Creek, end of rd., 14 Jun 2002 (adult assoc.) (NSM, GTA #1725)

*Salix exigua* Nutt. (Plate 2H, 5D)

- NV: Elko Co.; Independence Mts., Nv 11A, 0.6 mi. E of Maggie Summit, 23 Jun 1981 (ovip. on upper surface of leaf, 3' off ground) (no plant coll., GTA)
- NV: Lander Co.; Desatoya Mts., 4-5 mi. E of Carroll Summit, 6600', 14 Jun 1969 (ovip. on leaf, 14:20

PST) (Emmel *et al.* 1970)

NV: Lyon Co.; Mason Valley, Mason Valley WMA,  
4 Jul 1996 (ovip. 2× on upper surface of leaf, 1.5  
m above ground, 09:40 PST) (no plant coll., GTA)  
NV: Lyon Co.; Sweetwater Mts., lower Desert Creek,  
18 Jul 2000 (adult assoc.) (no plant coll., GTA)

*Salix lucida* Muhlenb. ssp. *caudata* (Nutt.) E. Murray [*Salix lasiandra* Benth. var. *caudata* (Nutt.) Sudworth]

NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
20 Jul 2001 (ovip. on upper surface of leaf, 11:45  
PST) (NSM, GTA #1614)

***Pterourus rutilus arizonensis* (W. H. Edwards, 1883)**

SALICACEAE

*Populus angustifolia* James

NV: Clark Co.; Spring Mts., Kyle Canyon ski area,  
29 Jun 1988 (ovip. 2× on center of upper leaf  
surface near midrib, 5.5 m above ground, 12:35  
PST) (NSM, GTA #1474)

NV: Clark Co.; Spring Mts., Kyle Canyon nr.  
Rainbow Canyon, 7 Jul 2000 (2 females ovip. on  
upper center of leaves, 09:00-10:00 PST) (no plant  
coll., BB)

NV: Clark Co.; Spring Mts., Kyle Canyon nr.  
Rainbow Canyon, 7 Jul 2000 (larva feeding on  
leaf) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Kyle Canyon nr.  
Rainbow Canyon, 26 Jul 2000 (3 2nd-4th instar  
larvae feeding on leaves) (NSM, BB)

NV: Clark Co.; Spring Mts., Kyle Canyon nr.  
Rainbow Canyon, 5 Jun 2001 (ovip. on leaves) (no  
plant coll., BB)

NV: Clark Co.; Spring Mts., Kyle Canyon nr.  
Rainbow Canyon, 29 Jun 2001 (ova and first instar  
larva) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Kyle Canyon, nr.  
pumphouse below old ski area, 29 Jun 2002 (ovip.)  
(NSM, BB #29)

NV: Clark Co.; Spring Mts., Kyle Canyon, nr.  
pumphouse below old ski area, 26 Jul 2002 (ovip.  
and larvae) (NSM, BB)

*Populus nigra* L. var. *italica* Duroi\* (i)

NV: Clark Co.; Spring Mts., Lovell Canyon, Torion  
Ranch, 9 Jun 2007 (ovip.) (no plant coll., BB)

*Populus tremuloides* Michx. (Plate 5C)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area,  
5 Jul 1977 (ovip.) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area,  
26 Jun 1979 (ovip. on lower surface of leaf near  
midrib, 10:00 PST) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area,  
10 Jul 1979 (ovip. on upper surface of leaf, 08:50  
PST) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Cathedral Rock picnic  
area, 18 Jun 1987 (adult assoc.) (no plant coll.,  
GTA)

NV: Clark Co.; Spring Mts., Echo Canyon, 24 Jul  
1988 (adult assoc.) (no plant coll., GTA)

*Salix lasiolepis* Benth.

NV: Clark Co.; Spring Mts., Fletcher Canyon, 26 Jun  
2001 (1st instar larva feeding on leaf) (NSM, BB  
#4)

NV: Clark Co.; Spring Mts., Deer Creek picnic area,  
23 Jul 2001 (1st instar larva on leaf) (NSM, BB)

***Pterourus multicaudata multicaudata* (W. F. Kirby, 1884)**

OLEACEAE

*Fraxinus velutina* Torr.\*

NV: Clark Co.; Virgin Mts., Cabin Canyon, 10 May  
1978 (larva) (no plant coll., GTA)

***Pterourus multicaudata pusillus* (Austin & J. Emmel, 1998)**

ROSACEAE

*Prunus* sp. (“wild cherry”)

NV: Storey Co.; Virginia City (larvae raised to adult)  
(Edwards 1873)

*Prunus virginiana* L. var. *demissa* (Nutt.) Torr. [*Prunus virginiana* L. var. *melanocarpa* (Nelson) Sarg.] (Fig. 16)

NV: Churchill Co.; Desatoya Mts., Dens Creek, Big  
Den Campsite, 18 Jul 2002 (adult assoc.) (no plant  
coll., GTA)

NV: Douglas Co.; Genoa, 5 Aug 1981 (adult assoc.)  
(no plant coll., GTA)

NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of  
Pequop Summit, 9 Jun 1981 (ovip. on lower leaf  
surface, 14:00 PST) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., east of Maggie  
Summit, 5 Jul 1993 (adult assoc.) (no plant coll.,  
GTA)

NV: Elko Co.; Independence Mts., Maggie Creek, Nv  
11A, 0.5 mi. E of Maggie Summit, 11 Jul 2000  
(adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Owyhee River Valley, Wildhorse  
Crossing Campground, 15 Jun 2003 (adult assoc.)  
(no plant coll., GTA)

NV: Eureka Co.; Roberts Mts., Pete Hansen Creek,  
22 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Sonoma Range, Water Canyon, 4  
Jun 1982 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Santa Rosa Mts., Hinkey Summit  
Rd., 1.4 mi. S of Hinkey Summit, 13 Jul 2000  
(adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
16 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, 2.3 mi. E of Big  
Creek Campground, 16 Jun 1981 (adult assoc.) (no  
plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 17 Jun  
1981 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Desatoya Mts., Nv 722, 3 mi. E of  
Carroll Summit, 16 Jul 1983 (adult assoc.) (no  
plant coll., GTA)

NV: Lander Co.; Toiyabe Range Kingston Canyon,  
21 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jun  
1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Big Creek, 28 Jun  
1994 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 15 Jul 1980 (ovip. on upper surface of upper leaf, 08:45 PST) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 7.0 mi. S of Atlanta Rd., 24 Jun 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 6.0 mi. S of Atlanta Rd., 7 Jun 1985 (ovip. on lower surface of leaf, 14:45 PST) (NSM, GTA #1213)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 9.6 mi. S of Atlanta Rd., 7 Jun 1985 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 5.1 mi. S of Atlanta Rd., 31 May 2002 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park, 31 Jul 2002 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 6300-6800', 3 Aug 1967 (ovip. on upperside of leaf, also small larva) (*vide* J. F. Emmel)

NV: Nye Co.; Toiyabe Range, Ophir Canyon, 16 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 17 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Stoneberger Canyon, 6.8 mi. SW of Monitor Ranch, 18 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Monitor Range, Clear Creek, 2.1 mi. W of Dobbin Summit Rd., 19 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 11 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Summit Canyon, 26 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Washington Creek, 27 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Meadow Creek, 19 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Quinn Canyon Range, Pine Creek, 5.0 mi. W of Pine Creek Ranch, 20 Jun 2003 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Humboldt Range, Star Creek Canyon, 5-6.5 mi. E of Nv 400, 11 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-7 mi. W of Nv 400, 25 Jun 1983 (ovip. on upper surface of upper leaf, 13:15 PST) (NSM, GTA #461)

NV: Pershing Co.; Sonoma Range, Sonoma Canyon, 26 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Humboldt Range, Buena Vista Canyon, 30 Jul 1988 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 8 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 23 Jun

1983 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park, 25 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Thomas Creek, 20 Jul 2002 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Timber Creek, 15 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 3.9 mi. E of summit, 16 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Berry Creek, 3.3-5 mi. E of Nv 486, 16 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Timber Creek, 21 Jun 1986 (adult assoc.) (NSM, GTA #1325)

NV: White Pine Co.; Schell Creek Range, Cleve Creek, 23 Jun 1987 (ovip. on center of upper leaf surface, 10:30 PST) (NSM, GTA #1431)

NV: White Pine Co.; Egan Range, Telegraph Canyon, 1 mi. N of Monte Neva Hot Springs, 18 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Snake Range, Snake Creek, nr. Johnson Lake trailhead, 6 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Rd., 3.7 mi. E of Kalamazoo Summit, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Piermont Canyon, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 30 May 2002 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Cherry Creek Range, 2.2 mi. E of Cherry Creek Summit, 14 Jun 2002 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Seigel Creek Rd., 3.6 mi. W of Spring Valley Rd., 10 Jun 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Antelope Range, Middle Creek, 0.6 mi. W of Chin Creek Summit, 7 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 3.5 mi. W of Pleasant Valley Rd., 22 Jul 2003 (adult assoc.) (no plant coll., GTA)

***Pterourus eurymedon* (Lucas, 1852)**

RHAMNACEAE

*Ceanothus cordulatus* Kellogg

NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 30 Jun 1987 (adult assoc.) (NSM, GTA #1452)

*Ceanothus velutinus* Hook. var. *velutinus* (Fig. 19)

NV: Carson City; Carson Range, Spooner-Kings Canyon Rd., 1.3 mi. N of US 50, 25 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of



Washoe Co. line, 1 Jul 1985 (adult assoc.) (no plant coll., GTA)  
 NV: Douglas Co.; Carson Range, Montreal Canyon, 6 Jul 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Douglas Co.; Carson Range, Heavenly Valley North, East Peak area, 28 Jun 1985 (adult assoc.) (NSM, GTA #1227)  
 NV: Douglas Co.; Carson Range, Montreal Canyon, 18 Jul 1985 (adult assoc.) (no plant coll., GTA)  
 NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 5 May 1987 (adult assoc.) (no plant coll., GTA)  
 NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 30 Jun 1987 (principal adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Independence Mts., Jack Creek, 2.3 mi. E of Nv 226, 10 Jun 1981 (adult assoc.) (NSMCC, GTA)  
 NV: Elko Co.; Independence Mts., Nv 11A, 8.1 mi. E of Nv 226, 11 Jun 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Independence Mts, Nv 11A, 0.2 mi. E of Maggie Summit, 23 Jun 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 26 Jun 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; East Humboldt Range, 1.0 mi. W of Angel Creek Campground Rd., 4 Jun 1987 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Independence Mts., Nv 11A, 0.5 mi. E of Maggie Summit, 5 Jun 1987 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Ruby Mts., Lamoille Canyon, 1.5 mi. S of Thomas Canyon Campground, 14 Jun 2003 (adult assoc.) (NSM, GTA #1848)  
 NV: Elko Co.; Ruby Mts., Lamoille Canyon, 0.8 mi. N of Thomas Canyon Campground, 14 Jun 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Jarbidge Mts., 2.6 mi. S of Coon Creek Summit, 14 Jun 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Santa Rosa Mts., Buckskin Mt., Windy Gap to summit, 10 Jul 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Washoe Valley, behind Davis Creek Park, 22 May 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; summit of Peavine Peak, 3 Jul 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, I-80, exit 1 nr. Verdi, 16 Jun 1989 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, Galena Creek Park, 10 Jul 1990 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, Thomas Creek, 24 Jul 2002 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, ca. 1 mi. N of Crystal Bay, vicinity of First Creek, 30 Jun 2003

(adult assoc.) (no plant coll., GTA, cf GTA #1917)  
 NV: Washoe Co.; Carson Range, Nv 431, 3.6 mi. E of Nv 28, 1 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, Nv 431, 5.0 mi. E of Nv 28, 1 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (ovip. on upper surface in center of leaf, 09:00 PST) (NSM, GTA #1917)

## PIERIDAE

Pierids are represented by 28 species in Nevada of which two are probably not permanently resident, but occasionally or regularly breed, and another seven are probable non-breeding strays. Of the species known to breed in the state, at least one larval hostplant is known or suspected for nineteen. These include a variety of dicotyledonous plants, largely Brassicaceae for pierines and Fabaceae for coliadines.

## PIERINAE

Larval hostplants have been determined for 12 of the 13 species of pierines in the state, including 65 species of plants (120 butterfly/plant combinations) in two families (Brassicaceae, Pinaceae). Of these, 46 are newly reported for the species of butterfly concerned, including five new genera: *Pontia beckerii* and *Anthocharis stella* on *Caulanthus*, *Pontia protodice* and *P. occidentalis* on *Cleomella*, and *Anthocharis cethura* on *Sisymbrium*. The catalogue is rather extensive for several species since they are often abundant and easily observed as they oviposit or have unequivocal associations. Eggs are placed in a variety of locations, but especially on the lower surfaces of leaves, with a substantial number on or in association with reproductive parts. Ovipositions may take place throughout much of the day, but are predominately (76%) in the morning, especially between 09:00 and 12:00 PST.

### *Neophasia menapia menapia* (C. & R. Felder, 1859)

#### PINACEAE

##### *Pinus* sp. ("pins")

NV: probably Washoe Co. (Boisduval 1857, see Emmel *et al.* 1998a)

##### *Pinus contorta* Loudon

NV: Douglas Co.; vicinity of Spooner Summit, 5 Aug 1981 (adult assoc.) (NSMCC, GTA)

##### *Pinus jeffreyi* Grev. & Balf.

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.2-6.5 mi. E of CA state line, 13 Aug 1978 (adult assoc.) (UNLV, GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.1-5.0 mi. W of Nv 206, 10 Aug 1980 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 18 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, vicinity of Spooner Summit, 5 Aug 1981 (principal adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, 0.2 mi. N of Glenbrook, 5 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Zephyr Cove, 5 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 10 Sep 1984 (ovip. string of 3 eggs at tip of needles, 7 feet off ground, 10:30 PST) (NSM, GTA #1195)

NV: Douglas Co.; Carson Range, Montreal Canyon, 1 Aug 1988 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., Desert Creek Rd. at Risue Canyon Rd., 1 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., upper Desert Creek, 5 Aug 2001 (adult assoc.) (no plant coll., GTA; no evidence of association with *Pinus monophylla*)

NV: Mineral Co.; Wassuk Range, Alum Creek Campground, 22 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Incline Village, 12 Aug 1978 (principal adult assoc.) (UNLV, GTA)

NV: Washoe Co.; Carson Range, Nv 431, Galena Creek Park, 17 Aug 1980 (principal adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park,

18 Jul 1983 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Incline Village, 10 Jul 2003 (principal adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Crystal Bay, 30 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Sand Harbor, 31 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Pinus lambertiana* Douglas\*

NV: Douglas Co.; Carson Range, vicinity of Spooner Summit, 5 Aug 1981 (adult assoc.) (NSMCC, GTA)

*Pinus monticola* Douglas

NV: Douglas Co.; Carson Range, Heavenly Valley ski area, 5 Aug 1981 (adult assoc.) (NSMCC, GTA)

*Pinus ponderosa* Laws. (Plate 2D, Fig. 8)

NV: Mineral Co.; Wassuk Range, Alum Creek Campground, 22 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Storey Co.; Nv 341, Geiger Grade, 1.1 mi. S of Washoe Co. line, 31 Jul 1988 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Incline Village, 12 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Incline Village, 10

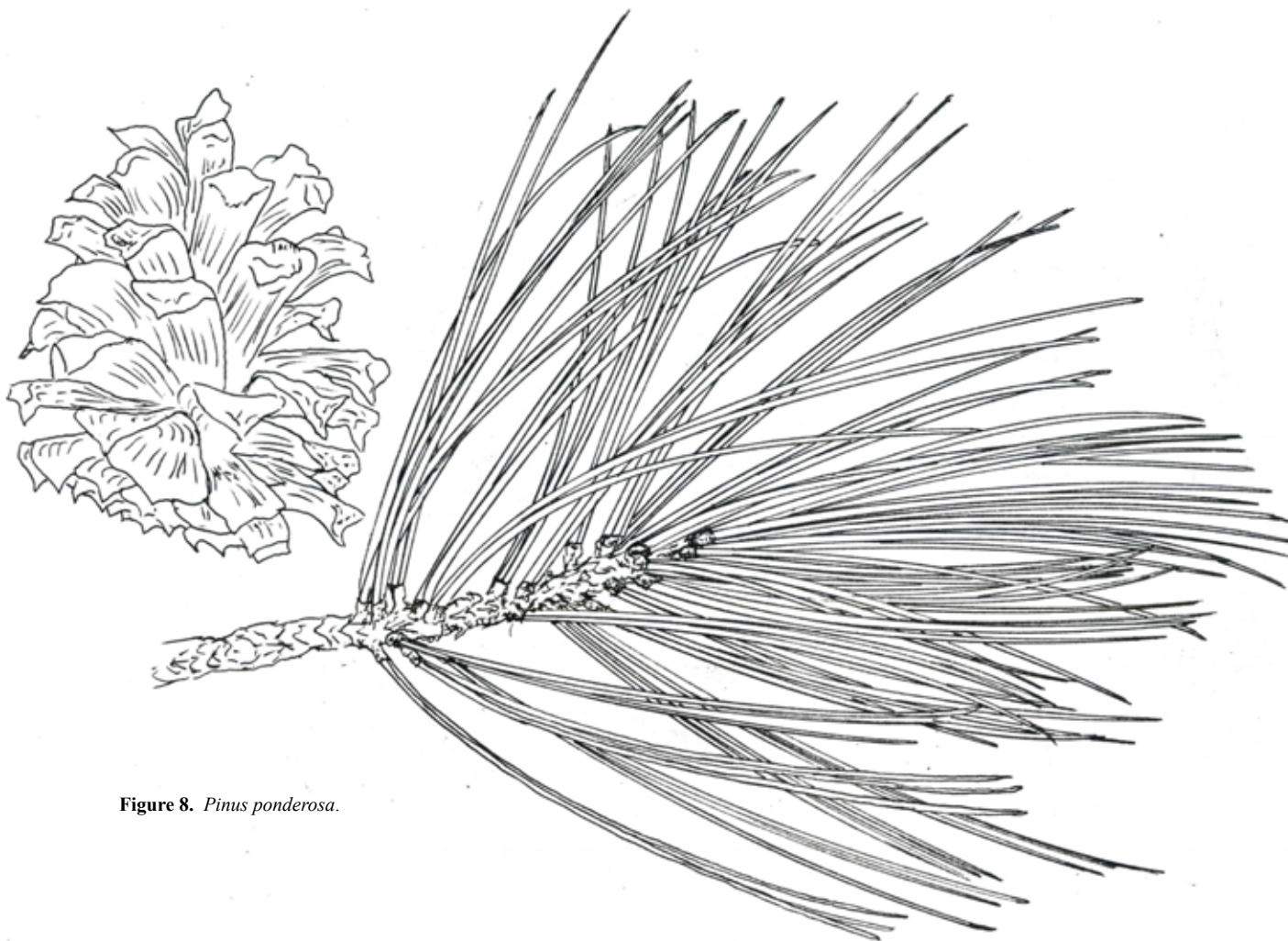


Figure 8. *Pinus ponderosa*.

Jul 2003 (adult assoc.) (no plant coll., GTA)

*Pinus washoensis* H. Mason & Stockw.\*

NV: Washoe Co.; Carson Range, Nv 431, Galena Creek Park, 17 Aug 1980 (adult assoc.) (NSMCC, GTA)

***Neophasia menapia magnamenapia* Austin, 1998**

PINACEAE

*Pinus flexilis* James\*

NV: Humboldt Co.; Santa Rosa Mts., 2.7 mi. N of Martin Creek Ranger Station, 13 Aug 1981 (adult assoc.) (no plant coll., GTA)

*Pinus monophylla* Torr. & Frém. (Plate 1B, 2C)

NV: Churchill Co.; Desatoya Mts., nr. Carroll Summit, 7100', 5 Aug 1977 (adult assoc.) (*vide* D. Shillingburg)

NV: Churchill Co.; Desatoya Mts., Nv 722, 16 mi. E of US 50, 14 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 5 Sep 1983 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Ruby Mts., Harrison Pass Rd., 1.7 mi. E of Harrison Pass, 21 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Eureka Co.; Roberts Mts., Roberts Creek, 4 mi. N of Roberts Ranch, 8 Sep 1983 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Desatoya Mts., Nv 722, 2.5 mi. E of Carroll Summit, 14 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Simpson Park Range, Ackerman Canyon, 23 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, US 50, Bob Scott Campground, 21 Aug 1991 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 22 Aug 1991 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 19 Aug 1992 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 18 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Big Creek, 18 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 8 Sep 1995 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Bob Scott Summit, 7267', 9 Aug 1999 (adult assoc.) (Langston 2000)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 7000', 1 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, 4 mi. S of microwave towers, 26 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Illinois Canyon, 5 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, 2 mi. E of Manhattan,

19 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Snake Range, Lehman Creek Campground, 8000', 30 Jul 1969 (adult assoc.) (*vide* J. F. Emmel)

NV: White Pine Co.; Schell Creek Range, Cleve Creek, 6600-7000', 31 Jul 1969 (adult assoc.) (*vide* J. F. Emmel)

NV: White Pine Co.; Snake Range, Baker Creek Campground, 1 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, US 93, Conners Pass, 4 Sep 1983 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Egan Range, US 6, Powderhouse Canyon, 4 Sep 1983 (adult assoc.) (no plant coll., GTA)

*Pinus ponderosa* Laws. (Plate 2D, Fig. 8)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 1 Aug 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Echo Canyon, 4 Aug 1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Echo Canyon, 22 Jul 1985 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 22 Jul 1985 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 24 Jul 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 17 Aug 1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Deer Creek Rd., 0.5 mi. E of Lee Canyon Rd., 20 Jul 2000 (adult assoc., not associated with *Pinus monophylla*) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 20 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Echo Canyon, 20 Jul 2000 (adult assoc.) (no plant coll., GTA)

***Pontia beckerii* (W. H. Edwards, 1871)**

BRASSICACEAE

*Caulanthus crassicaulis* (Torr.) S. Watson\*\*

NV: Elko Co.; Goshute Mts., US 93A, 32.5 mi. N of US 93, 9 Jun 1981 (ovip. on upper leaves, 13:50 PST) (NSMCC, GTA)

*Caulanthus pilosus* S. Watson\*\*

NV: Pershing Co.; Seven Troughs Rd., 10.1 mi. E of Trego-Nightingale Rd., 22 May 2003 (ovip. on lower surface of leaf, 09:40 PST) (no plant coll., GTA, *cf* GTA #1804)

*Cleome lutea* Hook.\* (Fig. 9)

NV: Pershing Co.; Sulphur-Jungo Rd., 1.6 mi. E of Washoe Co. line, 13 Sep 2003 (ovip. on stem just below flowers, 12:00 PST) (NSM, GTA #1972)

*Descurainia pinnata* (Walter) Britton (Plate 5F)

NV: Lyon Co.; Pine Grove Hills, Pine Grove Canyon, 7-10 mi. W of Nv 3C, 5 Jun 1981 (ovip. 3× on upper leaves of young plants) (NSMCC, GTA)

*Descurainia pinnata* (Walter) Britton ssp. *halictorum* (Cockerell)

## Detling (Plate 5F)

NV: Nye Co.; Big Smoky Valley, Nv 376 at Jett Canyon Rd., 6 May 1980 (ovip. on lower surface of lower leaf, 11:50 PST) (NSMCC, GTA)

*Descurainia sophia* (L.) Webb (i)

NV: Elko Co.; Spruce Mt., 26 Jul 2001 (ovip. 2× on flower buds, 12:50 PST) (NSM, GTA #1647)

NV: White Pine Co.; Schell Creek Range, rd. between North Creek and Kalamazoo Creek, 5 Jul 1969 (ovip. on leaf, 13:45 PST) (Emmel *et al.* 1970)

*Lepidium perfoliatum* L. (i) (Fig. 10)

NV: Lander Co.; Desatoya Mts., 4-5 mi. E of Carroll Summit, 6600', 14 Jun 1969 (ovip. on lower surface of leaf, 14:25 PST) (Emmel *et al.* 1970)

*Sisymbrium altissimum* L. (i)

NV: Clark Co.; Moapa Valley, Lewis Ranch, 8 May 2001 (ovip.) (NSM, BB)

NV: Clark Co.; Moapa Valley, 17 May 2001 (ovip.) (NSM, BB)

NV: Douglas Co.; Kingsbury Grade, 2.0 mi. W of Nv 206, 5 May 1987 (ovip. on lower surface of upper leaves, 09:20 PST) (NSM, GTA #1401)

NV: Humboldt Co.; Scrapper Spring Rd., 6.5 mi. N of Nv 789, 23 May 2003 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Selenite Range, W rd. to El Duque Spring, 1.8 mi. S of fork, 21 May 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1801)

NV: Pershing Co.; Seven Troughs Rd., Vernon, 22 May 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Peavine Peak Rd., 5.6 mi. W of US 395, 3 Jul 1981 (ovip.) (NSMCC, GTA)

*Sisymbrium loeselii* L. (i)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 6600', 13 Jun 1969 (ovip. on leaf, 12:30 PST) (Emmel *et al.* 1970)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 6300-6800', 10 Jul 1969 (ovip. on leaf, 14:15 PST) (Emmel *et al.* 1970)

*Stanleya elata* M.E.Jones

NV: Churchill Co.; Stillwater Mts., US 50, 5.4 mi. W of Frenchman, 17 Jul 1983 (ovip. on stem adjacent to leaf base, 12:40 PST) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon, 9.3 mi. W of US 95, 1 May 1977 (ovip. on main stem) (Austin and Austin 1980)

NV: Mineral Co.; US 95A, 0.8 mi. S of Lyon Co. line, 29 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; US 6, 1.2 mi. W of Nv 376, 14 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; rd. to Rabbithole, Rocky Canyon, 20.0 mi. N of Nv 399, 10 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Gerlach-Sulphur Rd., 0.9 mi. E of Washoe Co. line, 3 Jul 2003 (adult assoc.) (NSM, GTA #1897)

NV: Washoe Co.; Nv 477, 3.6 mi. N of Selenite

Range Rd., 3 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Stanleya pinnata* (Pursh) Britton (Plate 6C)

NV: Churchill Co.; Nv 2 [=Nv 722], 2 mi. W of Frenchman, 2 Jun 1972 (ova on inflorescence) (Scott 1986b, 1992)

NV: Clark Co.; Spring Mts., Trout Canyon Rd., 0.8 mi. W of Spring Mt. Youth Camp Rd., 14 Jun 1977 (ovip. on lower surface of leaf) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Kyle Canyon, 15 mi. W of US 95, 23 Jun 1977 (ovip.) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.8 mi. S of Nv 160, 29 Apr 1978 (ovip. on main stem, 1/2 way up at leaf base, 11:15 PST) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., 1 mi. W of Cold Creek, 8 May 1978 (ovip. at apex of flower bud, 11:30 PST) (Austin and Austin 1980)

NV: Washoe Co.; Granite Mts., Nv 34, 4 mi. N of Gerlach, 1 Jun 1984 (adult assoc.) (no plant coll., GTA)

*Stanleya viridiflora* Torr. & A.Gray\*

NV: Eureka Co.; Monitor Range, Charnac Basin, 3.8 mi. W of South Fork Pass, 31 May 1981 (ovip. on stem) (NSMCC, GTA)

*Thelypodium crispum* Payson\*

NV: Carson City; Eagle Valley, Lompa Lane at Airport Rd., 2 Jul 1982 (adult assoc.) (NSMCC, GTA)

NV: Carson City; Eagle Valley, Lompa Lane at Airport Rd., 19 Jun 1989 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Eagle Valley, Lompa Lane at Airport Rd., 31 May 1998 (ovip. on upper stem) (no plant coll., GTA)

***Pontia sisymbrii elivata* (Barnes & Benjamin, 1926)**

## BRASSICACEAE

*Arabis* sp.

NV: Douglas Co.; 1.2 mi. S of Desert Creek, 5.6 mi. SW of Sand Canyon, 7300', 12 Jun 2008 (*ex larva*) (*fide* T. Stout)

*Arabis fernaldiana* Rollins\*

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 5 Jul 1980 (preoviposition behavior on several plants) (NSMCC, GTA)

*Arabis holboellii* Hornem. (Fig. 11)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 2.0 mi. W of Nv 206, 5 May 1987 (ovip. on flower stem, 08:30 PST) (NSM, GTA #1400)

*Arabis holboellii* Hornem. var. *retrofracta* (Graham) Rydb.

NV: Lyon Co.; Wellington Hills, Desert Creek Rd., 5-7 mi. SW of Nv 338, 4 May 1987 (ovip. on lower surface of flower stem, 11:40 PST) (NSM, GTA #1399)

NV: White Pine Co.; Egan Range, Telegraph Canyon Rd., 4.5 mi. W of Hot Springs Rd., 18 Jun 1980

(ovip. on lower surface of lower leaves, 11:10 PST) (NSMCC, GTA)

NV: White Pine Co.; E side of Butte Mts., Middle Canyon, 4.9 mi. W of W Butte Valley Rd. at 10.6 mi. N of Thirtymile Ranch, 29 May 2003 (adult assoc.) (NSM, GTA #1832)

*Arabis perennans* S. Watson

NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (ovip. on side of flower, 10:45 PST) (NSM, GTA #1263)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (ovip. at base of flower, 12:10 PST) (NSM, GTA #1263)

*Arabis puberula* Torr. & A. Gray\*

NV: Esmeralda Co.; White Mts., Chiatovitch Creek, 9-11 mi. W of Nv 3A, 17 Jun 1978 (adult assoc.) (UNLV, GTA)

*Arabis sparsiflora* Torr. & A. Gray

NV: Douglas Co.; Carson Range, Kingsbury Grade, 2.0 mi. W of Nv 206, 21 May 1984 (ovip. on flower buds, 08:00 PST) (NSM, GTA #835)

NV: Storey Co.; Virginia Range, summit of McClellan Peak, 23 May 1982 (ovip. on lower leaf surface) (NSMCC, GTA)

*Descurainia* sp. (plant too young to identify)

NV: Nye Co.; Toiyabe Range, Peavine Creek Campground, 12 Apr 1984 (ovip. on main stem of young plant, 10:00 PST) (NSM, GTA #781)

*Descurainia pinnata* (Walter) Britton

NV: Douglas Co.; 1.2 mi. S of Desert Creek, 5.6 mi. SW of Sand Canyon, 7300', 12 Jun 2008 (*ex larva*) (*fide* T. Stout)

NV: Douglas Co.; N of Desert Creek, 0.5 mi. W of Black Mt., 5.6 mi. NE of Jackass Flat, 7500', 12 Jun 2008 (*ex ova*) (*fide* T. Stout)

***Pontia sisymbrii nigravenosa* Austin & J. Emmel, 1998**

BRASSICACEAE

*Arabis hirsuta* (L.) Scop.\*

NV: Clark Co.; Spring Mts., Cold Creek, 8 May 1978 (female searching among plants along stream) (UNLV, GTA)

*Arabis holboellii* Hornem. var. *pinetorum* (Tidestrom) Rollins (Fig. 11)

NV: Clark Co.; Lucy Gray Mts., rd. to microwave towers, 3.0 mi. E of powerline rd., 25 Mar 2003 (ovip. on flower stem, 11:00 PST) (NSM, GTA #1788)

*Arabis perennans* S. Watson

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 3 Apr 1980 (ovip. on upper surface of leaf, 13:00 PST) (NSMCC, GTA)

*Arabis pulchra* M.E. Jones var. *gracilis* M.E. Jones

NV: Nye Co.; Grapevine Mts., Phinney Canyon, 18.2 mi. W of US 95, 26 May 1983 (larva on leaf) (NSM, GTA #256)

*Streptanthus cordatus* Nutt.\*

NV: Nye Co.; Grapevine Mts., Phinney Canyon, 18.2 mi. W of US 95, 26 May 1983 (larva on leaf)



Figure 9. *Cleome lutea*.

(NSM, GTA #257)

***Pontia sisymbrii flavitincta* (J. A. Comstock, 1924)**

BRASSICACEAE

*Arabis* sp. (plant too young to identify, very pale pink flowers)

NV: Washoe Co.; S end of Granite Mts., Nv 447, 4.2 mi. NW of rd. summit, 5 May 2003 (ovip. on flower bud, 10:40 PST) (NSM, GTA #1791)

*Arabis* sp. (plant too young for identification)

NV: Washoe Co.; Granite Mts., Lost Creek, 10.1 mi. NE of Nv 447, 6 May 2003 (ovip. on flower bud, 10:00 PST) (NSM, GTA #1794)

***Pontia protodice* (Boisduval & LeConte, 1829)**

BRASSICACEAE



*Arabis* sp.

NV: Douglas Co.; 1.2 mi. S of Desert Creek, 5.6 mi. SW of Sand Canyon, 7300', 12 Jun 2008 (*ex larva*) (*fide* T. Stout)

*Barbarea* sp.

NV: White Pine Co.; Snake Range, upper Lehman Creek, 15 Jun 2001 (ovip.) (*fide* P. Opler)

*Barbarea orthoceras* Ledeb.

NV: Eureka Co.; Diamond Mts., 0.7 mi. N of Eureka, 28 Aug 1984 (ovip. 2× on upper surface of lower leaves, 10:00 PST) (NSM, GTA #1136)

*Cardaria chalapensis* (L.) Hand.-Mazz. (i)

NV: Nye Co.; Monitor Valley, Potts, 9 Jul 1984 (ovip. on lower surface of leaf, 08:00 PST) (NSM, GTA #1067)

*Cardaria pubescens* (C. Meyer) Jarmol. (i)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 29 Jun 1988 (ovip. on lower surface of upper leaf below inflorescence, 12:15 PST) (NSM, GTA #1476)

*Chorispora tenella* (Pall.) DC. (i)

NV: Clark Co.; Spring Mts., Willow Creek, 29 May 2003 (ovip.) (NSM, BB #127)

*Cleome lutea* Hook. (Fig. 9)

NV: Churchill Co.; Desatoya Mts., Dens Creek Rd., 0.2 mi. E of Nv 722, 9 Jul 2003 (ovip. 3× on lower surface of leaves, 11:15 PST) (NSM, GTA #1915)

NV: Lyon Co.; US 95, 2.7 mi. E of Fernley, 7 Sep 1984 (ovip. 2× on lower surface of leaf, 13:00 PST) (NSM, GTA #1186)

NV: Lyon Co.; US 95, 2.7 mi. E of Fernley, 7 Sep 1984 (ovip. on stem at leaf base, 13:05 PST) (NSM, GTA #1186)

NV: Lyon Co.; US 95, 2.7 mi. E of Fernley, 7 Sep 1984 (larvae on leaves and pupal case on stem) (NSM, GTA #1186)

NV: Nye Co.; Big Smoky Valley, Carvers, 9 Aug 1983 (ovip. 2× on upper surface of leaves, 16:05 PST) (NSM, GTA #532)

NV: Pershing Co.; Sulphur-Jungo Rd., 1.6 mi. E of Washoe Co. line, 13 Sep 2003 (adult assoc.) (NSM, GTA #1972)

*Cleome serrulata* Pursh

NV: Lincoln Co.; US 93, rest area at Atlanta Rd., 2 Jul 1986 (ovip. 3× on upper surface at leaf edges, upper part of plant, 11:00 PST) (NSM, GTA #1353)

NV: Lincoln Co.; Meadow Valley Wash, Carp, 12 Sep 1990 (ovip. 2× on lower surface of leaves, 09:50 PST) (NSM, GTA #1521)

NV: White Pine Co.; Newark Valley, Nv 892, 20.5 mi. N of US 50, 28 Aug 1984 (ovip. 3× on upper surface of leaves, 08:25 PST) (NSM, GTA #1134)

NV: White Pine Co.; Newark Valley, Nv 892, 20.5 mi. N of US 50, 28 Aug 1984 (ovip. on lower surface of leaf, 08:25 PST) (NSM, GTA #1134)

NV: White Pine Co.; Kern Mts., Pleasant Valley, 1.9 mi. E of UT state line, 18 Aug 2003 (ovip. among flowers, 10:45 PST) (no plant coll., GTA)

NV: White Pine Co.; Kern Mts., Antelope Valley, 2.1 mi. N of Tippett, 18 Aug 2003 (adult assoc.) (no plant coll., GTA)

*Cleomella brevipes* S. Watson\*\*

NV: Nye Co.; White River Valley, 9.1 mi. N of Sunnyside, 1.6 mi. W of Nv 318, 15 Jul 2001 (ovip. on stem beneath flowers, 09:05 PST) (NSM, GTA #1581)

*Cleomella plocasperma* S. Watson\*\*

NV: Esmeralda Co.; Monte Cristo Range, 2 mi. E of Gilbert, 22 May 1983 (ovip. on stem, 08:00 PST) (NSM, GTA #231)

NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 2001 (ovip. 2× on stem, 07:10 PST) (NSM, GTA #1577)

*Descurainia incana* (Fisch. & C. Meyer) Dorn\*

NV: Nye Co.; Phinney Canyon Rd. at Currie Well Rd., 7 May 1983 (ovip. nr. flower bud, 10:40 PST) (NSM, GTA #108)

*Descurainia pinnata* (Walter) Britton (Plate 5F)

NV: Clark Co.; Spring Mts., Lovell Canyon, 9.3 mi. N of Nv 160, 2 Jun 1977 (ovip.) (UNLV, GTA)

NV: Clark Co.; Moapa Valley, Hidden Valley, 7 Jun 1977 (ovip.) (UNLV, GTA)

NV: Douglas Co.; 1.2 mi. S of Desert Creek, 5.6 mi. SW of Sand Canyon, 7300', 12 Jun 2008 (*ex larva*) (*fide* T. Stout)

NV: Douglas Co.; N of Desert Creek, 0.5 mi. W of Black Mt., 5.6 mi. NE of Jackass Flat, 7500', 12 Jun 2008 (*ex ova*) (*fide* T. Stout)

NV: Douglas Co.; Risue Rd., 4.7 mi. SSW of Sand Canyon, 3.0 mi. SSE of Black Mt., 7200', 12 Jun 2008 (*ex ova*) (*fide* T. Stout)

NV: Lincoln Co.; Delamar Mts., US 93, 6 mi. E of Oak Spring Summit, 23 Apr 1986 (ovip. on lower surface of middle leaf, 12:45 PST) (NSM, GTA #1240)

NV: White Pine Co.; Steptoe Valley, Warm Springs, 4 Jul 2000 (ovip. on lower surface of leaf, 10:15 PST) (NSM, GTA #1549)

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 4 Jul 2000 (ovip. 3× on lower surface of middle leaves, 12:50 PST) (NSM, GTA #1550)

*Descurainia pinnata* (Walter) Britton ssp. *glabra* (Wootton & Standl.) Detling (Plate 5F)

NV: Clark Co.; US 93, 13 mi. N of I-15, 14 May 1978 (ovip., 09:15 PST) (Austin and Austin 1980)

NV: White Pine Co.; Kern Mts., rd. to Blue Mass Scenic Area, 4.0 mi. W of Pleasant Valley Rd., 11 Jun 2003 (ovip. on seed pod, 10:50 PST) (NSM, GTA #1841)

*Descurainia pinnata* (Walter) Britton ssp. *halictorum* (Cockerell) Detling (Plate 5F)

NV: Clark Co.; Spring Mts., Cold Creek, 8 May 1978 (ovip. 2× on lower surface of upper leaves, 13:30 PST) (Austin and Austin 1980)

*Descurainia sophia* (L.) Webb (i)

NV: Humboldt Co.; Santa Rosa Mts., 5.1 mi. S of



- Hinkey Summit, 27 Jun 1987 (ovip. on fruit pedicel, 09:40 PST) (NSM, GTA #1440)  
 NV: Humboldt Co.; Nv 290, 2.1 mi. E of US 95, 14 Jul 2000 (adult assoc., ovip.) (NSM, GTA #1565)  
 NV: Lyon Co.; Fernley Canal at US 95A, 29 Jun 1980 (ovip.) (NSMCC, GTA)  
 NV: Washoe Co.; Sheldon Antelope Range, Nv 34A, 10.4 mi. W of Nv 8A, 29 Jun 1987 (ovip. on fruit pedicel, 07:55 PST) (NSM, GTA #1446)  
 NV: White Pine Co.; Schell Creek Range, rd. from Kalamazoo Creek to North Creek, 7000-7800', 5 Jul 1969 (ovip., 14:00 PST) (*fide* J. F. Emmel)  
 NV: White Pine Co.; Stetoe Valley, Warm Springs, 24 Jun 1987 (ovip. on fruit pedicel, 09:45 PST) (NSM, GTA #1433)  
 NV: White Pine Co.; Schell Creek Range, East Creek Campground, 19 Jun 2003 (ovip. on stem among flowers of young plant, 12:55 PST) (NSM, GTA #1879)
- Draba cuneifolia* Torr. & A. Gray  
 NV: Elko Co.; Ruby Mts. above Island Lake, 10,500', 8 Aug 1967 (ovip. on lower surface of leaf, 10:15 PST, 12:40 PST) (*fide* J. F. Emmel, also Shields *et al.* 1969)
- Lepidium campestre* (L.) R.Br. (i)  
 NV: Humboldt Co.; Nv 140, 37.5 mi. NW of US 95, 28 Jun 1987 (ovip. on lower surface of leaf, mid-plant, 07:50 PST) (NSM, GTA #1444)
- Lepidium perfoliatum* L. (i) (Fig. 10)  
 NV: Elko Co.; Clover Valley, US 93, 11.7 mi. S of Wells, 14 Jul 1986 (ovip. on lower surface of upper leaf, 07:40 PST) (NSM, GTA #1361)  
 NV: Eureka/Lander Co.; Beowawe Geysers, 16 Jul 1986 (ovip. 4× on lower surface of leaf, 08:15 PST) (NSM, GTA #1365)  
 NV: Humboldt Co.; I-80, Valmy, 1 Jul 1980 (ovip.) (NSMCC, GTA)  
 NV: Humboldt Co.; Nv 293, 7.0 mi. W of Orovada, 29 Jul 1993 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Nv 290, 2.1 mi. E of US 95, 14 Jul 2000 (adult assoc., ovip.) (no plant coll., GTA)
- Lepidium virginicum* L. var. *pubescens* (Greene) Thell. (i)  
 NV: Elko Co.; Jarbidge Mts., Jarbidge Campground, 25 Jun 1987 (ovip. on seed pedicel, 13:45 PST) (NSM, GTA #1434)  
 NV: Elko Co.; Jarbidge Mts., Jarbidge Campground, 25 Jun 1987 (ovip. on upper surface of leaf, 13:45 PST) (NSM, GTA #1434)
- Rorippa curvisiliqua* (Hook.) Britton\*  
 NV: Washoe Co.; Sheldon Antelope Refuge, Nv 34A, Last Chance Ranch, 25 Jul 1987 (ovip. 2× on stem beneath flower, 19:10 PST) (NSM, GTA #1461)
- Sisymbrium altissimum* L. (i)  
 NV: Humboldt Co.; I-80, Valmy, 1 Jul 1980 (ovip.) (NSMCC, GTA)  
 NV: Humboldt Co.; Blue Lake Rd., 4.5 mi. W of Nv 140, 28 Jun 1987 (ovip. 2X on upper stem below inflorescence, 09:15 PST) (NSM, GTA #1443)
- NV: Humboldt Co.; US 95, 3.8 mi. S of Orovada, 24 Jul 1987 (ovip. 3X on flower pedicel, 10:50, 10:55, 11:00 PST) (NSM, GTA #1458)  
 NV: Lyon Co.; Fernley Canal at US 95A, 29 Jun 1980 (ovip.) (NSMCC, GTA)  
 NV: White Pine Co.; Newark Valley, Nv 892, 20.5 mi. N of US 50, 8 Jul 1984 (ovip. on lower surface of upper leaf, 07:45 PST) (NSM, GTA #1052)
- Sisymbrium loeselii* L.\* (i)  
 NV: Lander Co.; Toiyabe Range, upper Kingston Canyon, 24 Aug 2002 (ovip. beneath flower, 10:50 PST) (NSM, GTA #1766)
- Thelypodium crispum* Payson\*  
 NV: Carson City; Eagle Valley, Lompa Lane at Airport Rd., 11 Jun 1997 (ovip. on stem beneath flower) (no plant coll., GTA)
- Thlaspi arvense* L. (i)  
 NV: Elko Co.; Independence Mts., Jack Creek, 4.5 mi. E of Nv 226, 4 Jul 1980 (ovip. on lower surface of lower leaf, 09:30 PST) (NSMCC, GTA)  
 NV: Elko Co.; Ruby Mts., Lamoille Canyon, meadows N end of rd., 15 Jul 1986 (ovip. on upper surface of upper leaf, 10:30 PST) (NSM, GTA #1363)  
 NV: Elko Co.; Nv 226, 5.2 mi. W of Nv 225, 11 Jul 2000 (ovip. 2X on lower surface of leaves, 10:15 PST) (NSM, GTA #1554)  
 NV: Elko Co.; Independence Mts., North Fork Rd., 4.6 mi. E of Jacks Creek Summit, 12 Jul 2000 (ovip. on lower surface of upper leaf, 09:35 PST) (NSM, GTA #1562)  
 NV: Humboldt Co.; Santa Rosa Range, Martin Creek Ranger Station, 7000', 20 Jul 1969 (ovip. on flower bud, 10:25 PST) (Emmel *et al.* 1970)
- Pieris marginalis pallidissima* Barnes & McDunnough, 1916**  
 BRASSICACEAE
- Cardamine cordifolia* A. Gray  
 NV: Elko Co.; Jarbidge Mts., 1.5-2.1 mi. S of Bear Creek Summit, 26 Jun 1987 (ovip., 09:50 PST) (NSM, GTA #1438)
- Rorippa nasturtium-aquaticum* (L.) Hayek [*Nasturtium officinale* R.Br.] (i) (Plate 6A)  
 NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 23 Jul 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Independence Mts., Jack Creek Campground, 5 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Jarbidge Mts., Big Bend Rd. to Jarbidge, 4.5 mi. E of Sunflower Rd., 26 Jul 2003 (ovip. on lower surface of leaf, 10:50 PST) (NSM, GTA #1933)  
 NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 3.3 mi. W of Spring Valley Rd., 10 Jun 2003 (ovip. on upper surface of leaf, 11:40 PST) (no plant coll., GTA)

***Pieris rapae rapae* (Linnaeus, 1758)**

## BRASSICACEAE

*Brassica oleracea* L. var. *botrytis* L. (i)

NV: Clark Co.; Las Vegas, Eugene Ave. (many records of ovip. and larvae) (Austin and Austin 1980)

*Brassica oleracea* L. [*Brassica oleracea* L. var. *capitata* L.] (i)

NV: Clark Co.; Las Vegas, Eugene Ave. (many records of ovip. and larvae) (Austin and Austin 1980)

*Capsella bursa-pastoris* (L.) Medikus (i)

NV: Clark Co.; Las Vegas, Lorenzi Park, 9 Mar 2001 (ovip. 2X on upper surface of leaf, 10:40 PST) (NSM, GTA)

*Cardaria pubescens* (C. Meyer) Jarmol. (i)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 26 Aug 1984 (ovip. on upper surface of middle leaves, 11:30 PST) (NSM, GTA #1124)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 26 Aug 1984 (ovip. on lower surface of middle leaves, 11:30 PST) (NSM, GTA #1124)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 26 Aug 1984 (ovip. on upper stem near flowers, 11:30 PST) (NSM, GTA #1124)

*Caulanthus cooperi* (S. Watson) Payson (Fig. 12)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.8 mi. S of Nv 160, 29 Apr 1978 (ovip. 2X on lower surface of leaf, just to one side of midrib, 12:00 PST) (Austin and Austin 1980)

*Descurainia pinnata* (Walter) Britton\* (Plate 5F)

NV: Clark Co.; Las Vegas, 5077 Eugene Ave., 29 Apr 1990 (ovip. 4X on lower surface of middle leaves, 10:10 PST) (no plant coll., GTA)

*Descurainia sophia* (L.) Webb (i)

NV: Clark Co.; Spring Mts., Mountain Springs Summit, 11 May 1978 (ovip. 3X on lower leaf surface, 12:30 PST) (Austin and Austin 1980)

*Lepidium campestre* (L.) R.Br. (i)

NV: Washoe Co.; rd. W of Pyramid Lake at Smoke Creek, 29 May 1984 (ovip. several times on lower surface of leaf of young plants, 09:00 PST) (NSM, GTA #912)

*Lepidium latifolium* L. (i)

NV: Lyon Co.; Fernley Canal at US 95A, 29 Jun 1980 (ovip. on lower surface of lower leaves, 11:40 PST, 12:45 PST, 13:00 PST) (NSMCC, GTA)

NV: Storey Co.; I-80 at Truckee River, 7 Sep 1984 (ovip. 2X on lower surface of upper leaves, 10:10 PST) (NSM, GTA #1181)

NV: Storey Co.; I-80 at Truckee River, 7 Sep 1984 (ovip. on dry seed pod, 10:10 PST) (NSM, GTA #1181)

*Matthiola incana* (L.) R.Br. (i)

NV: Clark Co.; Las Vegas, Eugene Ave., 27 May 1985 (ovip. 2X on lower surface of middle leaves, 09:30 PST) (NSM, GTA)

*Rorippa curvipes* Greene\*

NV: Douglas Co.; Sweetwater Mts., Jackass Creek, 0.5-2 mi. SW of Desert Creek, 23 May 1984 (adult assoc.) (NSM, GTA #876)

NV: Elko Co.; US 93, Little Salmon River Valley, 2.8 mi. S of Jackpot, 7 Sep 1983 (adult assoc.) (NSM, GTA #679)

*Rorippa nasturtium-aquaticum* (L.) Hayek [*Nasturtium officinale* R.Br.] (i) (Plate 6A)

NV: Clark Co.; Spring Mts., Willow Creek, 1 Jul 1977 (ovip. on lower surface of leaf) (Austin and Austin 1980, reported as synonym *Nasturtium officinale* R.Br.)

NV: Clark Co.; Spring Mts., Willow Creek, 28 May 1986 (and several other dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Cold Creek, 28 May 1986 (and several other dates) (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Pine Nut Mts., south end of Blossom Canyon, 3 Aug 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 21 Sep 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Valley, Genoa, 5 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Genoa Canyon, 3 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 4.7 mi. W of US 395, 22 May 1984 (adult assoc.) (NSM, GTA #860)

NV: Douglas Co.; Carson Valley, Scossa Ranch, 8 Sep 1984 (ovip. 2X on lower surface of leaf, 10:15 PST) (NSM, GTA #1189)

NV: Douglas Co.; Carson River, rd. to fish hatchery, 1.0 mi. N of US 395, 6 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Thousand Spring Creek, Twelve Mile Ranch, 6 Sep 1983 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Little Salmon River Valley, US 93, 2.8 mi. S of Jackpot, 7 Sep 1983 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Nv 229 at Humboldt River, 27 Aug 1984 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Pleasant Valley, Nv 227, 0.9 mi. N of Lamoille Canyon Rd., 15 Jul 1986 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Goshute Mts., Ferguson Spring, off US 93A, 20 Aug 2001 (ovip. on lower leaf surface, 11:55 PST) (no plant coll., GTA)

NV: Elko Co.; Owyhee River Valley, Owyhee, 27 May 2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Jarbidge Mts., rd. to Rowland, 1.2 mi. N of Big Bend Rd., 26 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; White Mts., Indian Creek, 7-9 mi. W of Nv 264, 18 Jun 1983 (adult assoc.) (NSM, GTA #423)

NV: Esmeralda Co.; Nv 266, Lida, 15 Sep 2003

(adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Nv 789, 6.0 mi. NE of Golconda,  
 12 Jul 1992 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Paradise Valley, 26 May 2003  
 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Scrapper Spring Rd., Scrapper  
 Spring, 5 Jul 2003 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 18 Jun  
 1978 (adult assoc.) (UNLV, GTA)  
 NV: Lander Co.; Humboldt River, 2.1 mi. N. of  
 Battle Mountain, 13 Aug 1981 (adult assoc.)  
 (NSMCC, GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
 22 Aug 1981 (adult assoc.) (NSMCC, GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
 19 Aug 1992 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 8  
 Jul 2000 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Meadow Valley Wash, 3 mi. S of  
 Caliente, 22 Jul 1979 (adult assoc.) (UNLV, GTA)  
 NV: Lincoln Co.; Meadow Valley Wash, Caliente, 22  
 Jul 1979 (adult assoc.) (UNLV, GTA)  
 NV: Lincoln Co.; Meadow Valley Wash, 5.5 mi. N of  
 Elgin, 13 May 1980 (ovip.) (NSMCC, GTA)  
 NV: Lincoln Co.; Meadow Valley Wash, 0.5 mi. S of  
 Caliente, 3 Jul 2000 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Lincoln Co.; Beaver Dam State Park, 24 Aug  
 2001 (ovip. on upper surface of leaf, 13:20 PST)  
 (no plant coll., GTA)  
 NV: Lyon Co.; Sweetwater Mts., 4.8 mi. N of  
 Sweetwater Summit, 13 Aug 1980 (adult assoc.)  
 (NSMCC, GTA)  
 NV: Lyon Co.; East Walker River, 0.5 mi. E of CA  
 state line, 1 Sep 1981 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Nye Co.; Toiyabe Range, Peavine Canyon, 5  
 May 1980 (adult assoc.) (NSMCC, GTA)  
 NV: Nye Co.; Hot Creek Range, Hot Creek Ranch,  
 27 May 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; US 6, 2.0 mi. E of Currant, 10 Sep  
 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Big Smoky Valley, Little Smoky Rd.,  
 4.5 mi. N of Summit Canyon, 29 Aug 1984 (ovip.  
 on upper surface of upper leaves, 11:40 PST)  
 (NSM, GTA #1141)  
 NV: Nye Co.; White River Valley, 9.1 mi. N of  
 Sunnyside, 1.6 mi. W of Nv 318, 15 Jul 2001  
 (ovip. on upper surface of leaf, 09:00 PST) (NSM,  
 GTA #1582)  
 NV: Pershing Co.; Humboldt Range, Star Creek  
 Canyon, 5-6 mi. W of Nv 400, 12 Aug 1981 (adult  
 assoc.) (NSMCC, GTA)  
 NV: Pershing Co.; Humboldt Range, Star Creek  
 Canyon, 5-6 mi. W of Nv 400, 30 Jul 1988 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Humboldt Range, Star Creek  
 Canyon, 5 mi. W of Nv 400, 14 Jul 2000 (adult



Figure 10. *Lepidium perfoliatum*.

assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Red Rock Rd., 16.2 mi. N of US  
 395, 2 Jun 1984 (ovip. on lower leaf, 11:30 PST)  
 (NSM, GTA #956)  
 NV: White Pine Co.; Schell Creek Range, Timber  
 Creek, 15 Jul 1981 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; Schell Creek Range, East Creek  
 Campground, 9 Jul 2000 (adult assoc.) (no plant  
 coll., GTA)  
 NV: White Pine Co.; Spring Valley, Cleveland  
 Ranch, 15 Jul 2002 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; Schell Creek Range, Bird Creek  
 picnic area, 11 Aug 2003 (adult assoc.) (no plant  
 coll., GTA)  
*Rorippa palustris* (L.) Besser var. *occidentalis* (S. Watson) Rollins  
 [*Rorippa islandica* (Oeder) Borbás]  
 NV: Carson City; Lompa Lane at Airport Rd., 9 Sep  
 1984 (ovip. on lower surface of lower leaf, 09:35  
 PST) (NSM, GTA #1194)  
*Sisymbrium altissimum* L. (i)  
 NV: Clark Co.; Las Vegas, 5077 Eugene Ave., 29  
 Apr 1990 (ovip. 5X on lower surface of middle

- leaves, 10:15 PST) (no plant coll., GTA)  
 NV: Clark Co.; Las Vegas, Lorenzi Park, 9 Mar 2001  
 (ovip 4X on upper surface of leaves, all different  
 plants, 10:45-10:50 PST) (NSM, GTA)  
 NV: Clark Co.; Las Vegas, Lorenzi Park, 24 Apr  
 2001 (ovip. 2X on upper surface of leaf, 10:40  
 PST) (no plant coll., GTA)  
 NV: Lincoln Co.; Meadow Valley Wash, Kershaw  
 Ryan State Park, 12 May 1980 (ovip. on lower  
 surface of lower leaf, 14:35 PST) (NSMCC, GTA)  
 NV: Lyon Co.; West Walker Rd., 8.7 mi. S of  
 junction with East Walker Rd., 7 Jun 1996 (ovip.  
 on lower surface of upper leaves of young plant,  
 10:15 PST) (NSM, GTA #1530)
- Sisymbrium irio* L. (i) (Plate 6B)  
 NV: Clark Co.; Las Vegas, Eugene Ave., 22 Mar  
 1986 (ovip. on lower surface of leaf, 10:30, 11:00  
 PST) (NSM, A. T. Austin)  
 NV: Clark Co.; Las Vegas, 5077 Eugene Ave., 26  
 Mar 1988 (ovip. on lower surface of leaf, 11:20  
 PST) (NSM, GTA)
- Euchloe ausonides coloradensis* (Hy. Edwards, 1881)**  
 BRASSICACEAE  
*Arabis holboellii* Hornem. var. *retrofracta* (Graham) Rydb. (Fig.  
 11)  
 NV: White Pine Co.; Schell Creek Range, Timber  
 Creek, 30 May 2002 (ovip. 2X on flower bud,  
 different plants, 07:45 PST) (NSM, GTA #1703)
- Euchloe ausonides transmontana* Austin & J. Emmel, 1998**  
 BRASSICACEAE  
*Descurainia* sp. (plant too young to identify)  
 NV: Lyon Co.; Sweetwater Mts., Rickey Mine area,  
 N base of East Sister, 24 May 1984 (ovip. among  
 flower buds, 10:15 PST) (NSM, GTA #887)
- Euchloe hyantis lotta* Beutenmüller, 1898**  
 BRASSICACEAE  
*Arabis glabra* (L.) Bernh.  
 NV: Mineral Co.; Wassuk Range, Corey Peak Rd., 3-  
 4 mi. N of Lucky Boy Grade, 13 Jun 1978 (adult  
 assoc.) (UNLV, GTA)  
*Arabis holboellii* Hornem. (Fig. 11)  
 NV: Nye Co.; Hot Creek Range, Morey Mine area,  
 28 May 1983 (ovip. on flower pedicel, 10:00 PST)  
 (NSM, GTA #276)  
*Arabis holboellii* Hornem. var. *retrofracta* (Graham) Rydb.  
 NV: Churchill Co.; Clan Alpine Range, War Canyon  
 Rd., 4 mi. NW of Clan Alpine Ranch, 17 May 1980  
 (ovip. on stem, 1/2 way up, 14:30 PST) (NSMCC,  
 GTA)  
 NV: Lyon Co.; Wellington Hills, Desert Creek Rd.,  
 5-7 mi. SW of Nv 228, 4 May 1987 (ovip. on lower  
 surface flower stem, 11:30 PST) (NSM, GTA  
 #1399)  
*Arabis perennans* S. Watson\*  
 NV: Clark Co.; Newberry Mts., Christmas Tree Pass,  
 25 Mar 1979 (ovip. on flower bud) (UNLV, GTA)

- Arabis pulchra* M.E. Jones var. *gracilis* M.E. Jones\*  
 NV: Nye Co.; Spring Mts., Johnnie Mine Rd., 3.9 mi.  
 E of Nv 160, 3 May 1983 (ovip. on flower, 10:55  
 PST) (NSM, GTA #79)
- Caulanthus pilosus* S. Watson\*  
 NV: Esmeralda Co.; US 95, 0.3 mi. N of Nye Co.  
 line, 12 Apr 1984 (ovip. at base of flower, 13:10  
 PST) (NSM, GTA #782)  
 NV: Pershing Co.; Nv 48, 18.5 mi. S of Trego  
 junction on Gerlach-Sulphur Rd., 22 May 2003  
 (ovip. on terminal flower bud, 09:10 PST) (NSM,  
 GTA #1804)
- Descurainia* sp.  
 NV: Clark Co.; Sheep Range, Mormon Well Rd., 26  
 mi. E of Corn Creek, 1 Jul 1969 (larva) (*fide* J. F.  
 Emmel)
- Descurainia pinnata* (Walter) Britton  
 NV: Douglas Co.; 1.2 mi. S of Desert Creek, 5.6 mi.  
 SW of Sand Canyon, 7300', 12 Jun 2008 (*ex larva*)  
 (*fide* T. Stout)  
 NV: Pershing Co.; north side of Coal Canyon Rd.,  
 6.8 mi S of Oreana, 4900', 16 Apr 2008 (*ex ova*)  
 (*fide* T. Stout)
- Descurainia pinnata* (Walter) Britton ssp. *halictorum* (Cockerell)  
 Detling (Plate 5F)  
 NV: Clark Co.; rd. to Mt. Stirling, 2.0 mi. W of US  
 95, 17 Apr 1983 (ovip. adjacent to flower cluster,  
 09:35 PST) (NSM, GTA #5)
- Descuriana sophia* (L.) Webb\*  
 NV: Clark Co.; Cottonwood Pass Rd., 0.6 mi. S of  
 Pahrump Rd., 3 May 1978 (ovip. on stem beneath  
 flower buds) (UNLV, GTA)  
 NV: Clark Co.; 2 mi. N of Sandy, 1 Apr 1979 (ovip.  
 on flower) (UNLV, GTA)
- Guillenia lasiophylla* (Hook. & Arn.) Greene\*  
 NV: Clark Co.; Newberry Mts., Christmas Tree Pass  
 Rd., 2.9 mi. E of US 95, 17 Mar 1987 (ovip. on  
 lower silique, 14:00 PST) (NSM, GTA #1388)
- Lepidium fremontii* S. Watson (Plate 5E)  
 NV: Nye Co.; Ash Meadows, 18 Mar 1988 (ovip. 2X  
 on top of unopened flower buds, 11:00 PST)  
 (NSM, GTA #1462)
- Sisymbrium altissimum* L. (i)  
 NV: Pershing Co.; Selenite Range Rd., 2.4 mi. E of  
 Nv. 447, 21 May 2003 (ovip. on flower bud, 10:35  
 PST) (NSM, GTA #1801)
- Streptanthella longirostris* (S. Watson) Rydb.  
 NV: Lincoln Co.; 1.3 mi. E of Panaca, 22 Apr 1986  
 (ovip. on side of unopened flower bud, 11:30 PST)  
 (NSM, GTA #1235)  
 NV: Nye Co.; Grapevine Mts., Phinney Canyon Rd.,  
 15.3 mi. W of US 95, 7 May 1983 (ovip. on tip of  
 upper leaf of young plant, 11:00 PST) (NSM, GTA  
 #107)
- Streptanthus cordatus* Nutt.\*  
 NV: Lincoln Co.; Highland Range, 1.3 mi. S of Pan  
 American Mine, 31 May 1983 (ovip. on lower  
 surface of lower leaf, 06:45 PST) (NSM, GTA  
 #319)

NV: Lincoln Co.; Highland Range, 1.3 mi. S of Pan American Mine, 31 May 1983 (larva feeding on fruit) (NSM, GTA #319)

*Thelypodium flexuosum* Robinson\*

NV: Lander Co.; Reese River Valley, Nv 722 at Reese River, 3 Jun 1984 (ovip. on flower, 09:00 PST) (NSM, GTA #975)

***Anthocharis cethura hadromarmorata* J. Emmel, T Emmel & Mattoon, 1998**

BRASSICACEAE

*Caulanthus pilosus* S. Watson\*

NV: Nye Co.; US 95, 4.9 mi. N of Springdale, 22 Apr 1982 (ovip. on upper leaf of young plant) (no plant coll., GTA, cf GTA #245)

*Streptanthella longirostris* (S. Watson) Rydb.

NV: Churchill Co.; 9 mi. W of Fallon, 23 May 1970 (larvae reared to adult) (Langston 1971, Emmel *et al.* 1998b)

NV: Mineral Co.; US 95, 7.2 mi. N of Schurz, 1 May 1980 (ovip. on lower surface of lower leaf, 13:50 PST) (NSMCC, GTA)

***Anthocharis cethura mojavensis* J. Emmel, T Emmel & Mattoon, 1998**

BRASSICACEAE

*Caulanthus cooperi* (S. Watson) Payson (Fig. 12)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.8 mi. S of Nv 160, 2 May 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; 3 mi. N of Sandy, 1 Apr 1979 (ovip. on lower surface of leaf near its base, 10:15 PST) (NSMCC, GTA)

*Descurainia pinnata* (Walter) Britton (Plate 5F)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 2 mi. E of US 95, 25 Mar 1979 (female searching among plants, no ovip. noted) (UNLV, GTA)

NV: Clark Co.; rd. to Lime Kiln Canyon, 2.6 mi. SE of Virgin River bridge, 30 Mar 1995 (larvae) (*fide* T. Stout)

NV: Clark Co.; 3.8 mi. S of Mesquite, 30 Mar 1995 (larvae) (*fide* T. Stout)

NV: Lincoln Co.; US 93, 20 mi. N of Clark Co. line, 2400', 10 Apr 1992 (adult assoc.) (Langston 1993)

NV: Lincoln Co.; US 93, 15 mi. N of Clark Co. line, 2400', 10 Apr 1992 (adult assoc.) (Langston 1993)

*Guillenia lasiophylla* (Hook. & Arn.) Greene [*Guillenia lasiophylla* var. *utahensis* (Rydb.) Jeps.]

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 2.9 mi. E of US 95, 17 Mar 1987 (ovip. on lower surface of leaf, young plant, 13:45 PST) (NSM, GTA #1389)

NV: Clark Co.; rd. to Lime Kiln Canyon, 2.6 mi. SE of Virgin River bridge, 30 Mar 1995 (larvae) (*fide* T. Stout)

NV: Clark Co.; 3.8 mi. S of Mesquite, 30 Mar 1995 (larvae) (*fide* T. Stout)

NV: Clark Co.; rd. to Lime Kiln Canyon, 2.6 mi. SE

of Virgin River bridge, 8 Mar 1997 (ova reared to adults) (*fide* T. Stout)

NV: Clark Co.; rd. to Lime Kiln Canyon, 2.6 mi. SE of Virgin River bridge, 15 Mar 1997 (larvae reared to adults, one emerging 21 Feb 2003) (*fide* T. Stout)

NV: Lincoln Co.; US 93, 20 mi. N of Clark Co. line, 2400', 10 Apr 1992 (adult assoc.) (Langston 1993)

*Sisymbrium irio* L. \*\* (i) (Plate 6B)

NV: Clark Co.; rd. to Lime Kiln Canyon, 2.6 mi. SE of Virgin River bridge, 30 Mar 1995 (ova) (*fide* T. Stout)

*Streptanthella* sp.

NV: Lincoln Co.; US 93, 15 mi. N of Clark Co. line, 2400', 10 Apr 1992 (adult assoc.) (Langston 1993)

*Streptanthella longirostris* (S. Watson) Rydb.

NV: Clark Co.; Spring Mts., Kyle Canyon, 6.6 mi. W of US 95, 10 Apr 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; US 95, Railroad Pass, 28 Mar 1980 (ovip.) (NSMCC, GTA)

***Anthocharis thoosa thoosa* (Scudder, 1878)**

BRASSICACEAE

*Arabis* sp. (possibly *Arabis perennans* S. Watson)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 29 Mar 1995 (larvae) (*fide* J. Brock)

*Arabis holboellii* Hornem. \* (Fig. 11)

NV: Clark Co.; Spring Mts., Potosi Mt. Rd. at Pahump Rd., 20 Apr 1977 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 13 May 1978 (ovip. on flower) (UNLV, GTA)

*Arabis holboellii* Hornem. var. *pinetorum* (Tidestrom) Rollins\*

NV: Clark Co.; Lucy Gray Mts., rd. to microwave towers, 3.0 mi. E of powerline rd., 25 Mar 2003 (adult assoc.) (NSM, GTA #1788)

*Arabis pendulina* Greene\*

NV: Clark Co.; Spring Mts., Kyle Canyon, 17.1 mi. W of US 95, 11 Apr 1977 (preovip. in vicinity of flower buds on two plants, no ova found) (UNLV, GTA)

*Arabis perennans* S. Watson

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 20 Apr 1977 (ovip.) (UNLV, GTA)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 30 Mar 1980 (female searching from plant to plant) (NSMCC, GTA)

*Descurainia pinnata* (Walter) Britton (Plate 5F)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 25 Mar 1979 (ovip. on main stem at base of leaf of young plant, 12:10 PST) (UNLV, GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 8 Apr 1979 (ovip. on main stem at base of leaf of young plant, 11:00 PST) (UNLV, GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 8 Apr 1979 (ovip. on main vein on lower surface of leaf of young plant, 13:15 PST) (UNLV, GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 8 Apr



1979 (ovip. on lower surface of leaf at tip of young plant, 13:15 PST) (UNLV, GTA)

NV: Clark Co.; Virgin Mts., upper Cabin Canyon, 25 Apr 1980 (female searching among plants) (NSMCC, GTA)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 30 Mar 1980 (ovip. on upper surface of leaf of young plant, 11:25 PST) (NSMCC, GTA)

NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 19 Apr 1990 (adult assoc.) (no plant coll., GTA)

*Descurainia pinnata* (Walter) Britton ssp. *halictorum* (Cockerell) Detling (Plate 5F)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 17 Mar 1987 (ovip. on lower surface, mid-leaf, 11:20 PST) (NSM, GTA #1387)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 17 Mar 1987 (ovip. on lower surface, lower leaf, immature plant, 11:50 PST) (NSM, GTA #1387)

NV: Clark Co.; Walking Box Ranch Rd., 2.7 mi. S of Nv 164, 7 Mar 2003 (ovip. 2X on lower leaf surface near top of plant, 12:00 PST) (NSM, GTA #1786)

NV: Clark Co.; 0.3 mi. N of Nipton Pass, 7 Mar 2003 (ovip. on lower surface of leaf near top of plant, 14:05 PST) (NSM, GTA #1787)

*Descurainia sophia* (L.) Webb\* (i)

NV: Clark Co.; Spring Mts., Potosi Pass, 11 Apr 2003 (ovip. on lower surface of leaf just below developing flower bud, 10:10 PST) (NSM, GTA #1789)

*Guillenia lasiophylla* (Hook & Arn.) Greene

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 2.9 mi. E of US 95, 17 Mar 1987 (ovip. on lower surface of leaf, 13:55 PST) (NSM, GTA #1389)

***Anthocharis thooa pseudothooa* Austin, 1998**

BRASSICACEAE

*Arabis cobrensis* M.E.Jones\*

NV: Lyon Co.; Pine Grove Hills, Pine Grove Canyon, 7 mi. W of Nv 3C to summit, 5 Jun 1981 (adult assoc.) (NSMCC, GTA)

*Arabis glabra* (L.) Bernh.

NV: Douglas Co.; Carson Range, Genoa Canyon, 10 May 1981 (female investigating several flower buds, no ovip. noted) (NSMCC, GTA)

NV: Mineral Co.; Wassuk Range, Corey Peak Rd., 0.6 mi. N of Lucky Boy Grade, 13 Jun 1978 (ovip. on flower) (UNLV, GTA)

*Arabis holboellii* Hornem.\* (Fig. 11)

NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (ovip. on stem beneath flowers, 13:55 PST) (NSM, GTA #416)

NV: White Pine Co.; Snake Range, Baker Creek Campground, 11 May 1984 (ovip. on upper stem below flowers, 08:30 PST) (NSM, GTA #822)

*Arabis holboellii* Hornem. var. *retrofracta* (Graham) Rydb.\*

NV: White Pine Co.; E side of Butte Mts., Middle



Figure 11. *Arabis holboellii*.

Canyon, 4.9 mi. W of W Butte Valley Rd. at 10.6 mi. N of Thirtymile Ranch, 29 May 2003 (ovip. on stem below flower buds, 12:00 PST) (NSM, GTA #1832)

*Arabis microphylla* Nutt. var. *microphylla*\*

NV: Lyon Co.; Sweetwater Mts., Rickey Mine Rd., 2.5 mi. E of Desert Creek, 23 May 1984 (ovip. on flower buds, 12:00 PST) (NSM, GTA #874)

*Descurainia pinnata* (Walter) Britton (Plate 5F)

NV: Douglas Co.; 1.2 mi. S of Desert Creek, 5.6 mi. SW of Sand Canyon, 7300', 12 Jun 2008 (*ex larva*) (*fide* T. Stout)

NV: Douglas Co.; N of Desert Creek, 0.5 mi. W of Black Mt., 5.6 mi. NE of Jackass Flat, 7500', 12 Jun 2008 (*ex ova*) (*fide* T. Stout)

NV: Lyon Co.; Wellington Hills, Desert Creek Rd., 5-7 mi. SW of Nv 338, 4 May 1987 (ovip. on lower surface, upper leaf of very young plant within 2mm of another white egg on same leaf, 09:30 PST; similar orange egg in same location on adjacent plant) (NSM, GTA #1398)

NV: Lyon Co.; Wellington Hills, Desert Creek Rd., 5-7 mi. SW of Nv 338, 4 May 1987 (ovip. 2X on lower surface, upper leaf of very young plant, 12:15 PST) (NSM, GTA #1398)

***Anthocharis stella stella* W. H. Edwards, 1879**

BRASSICACEAE

*Arabis* sp.

NV: Carson City; E side of North Canyon Rd., 4.4 mi. S of Marlette Lake, 7600', 13 Jun 2008 (*ex ova*) (*fide* T. Stout)

*Arabis holboellii* Hornem. (Fig. 11)

NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 21 May 1984 (ovip. on lower surface of upper leaf, 13:30 PST) (NSM, GTA #844)

*Arabis holboellii* Hornem. probably var. *pinetorum* (Tidestrom) Rollins

NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of Washoe Co. line, 25 May 1984 (ovip. at base of fruit, 09:00 PST) (NSM, GTA #898)

NV: Washoe Co.; Carson Range, 3 km N of Verdi (probably feeding on fruits) (Shapiro 1985)

*Arabis repanda* S. Watson var. *repanda*\*

NV: Carson City; Carson Range, 1.3 mi. N of US 50 at Spooner Summit, 14 Jun 1978 (adult assoc.) (UNLV, GTA)

*Capsella bursa-pastoris* (L.) Medikus (i)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 4.7 mi. W of US 395, 22 May 1984 (ovip. on flower pedicel, 09:55 PST) (NSM, GTA #856)

*Descurainia pinnata* (Walter) Britton

NV: Carson City; E side of North Canyon Rd., 4.4 mi. S of Marlette Lake, 7600', 13 Jun 2008 (*ex ova*) (*fide* T. Stout)

***Anthocharis stella browningi* Skinner, 1905**

BRASSICACEAE

*Arabis microphylla* Nutt. var. *microphylla*\*

NV: Humboldt Co.; Santa Rosa Mts., 1.5-2.5 mi. S of Hinkey Summit, 21 May 1980 (adult assoc.) (NSMCC, GTA)

*Caulanthus cooperi* (S. Watson) Payson\*\* (Fig. 12)

NV: Elko Co.; Independence Mts., Nv 11A, 9.6 mi. E of Nv 226, 5 Jun 1987 (ovip. on flower pedicel, 11:10 PST) (NSM, GTA #1429)

COLIADINAE

Larval hostplants have been determined for seven of the eight species of sulphurs that are known to breed in Nevada. These records include 35 species of plants (47 butterfly/plant combinations) in two families (Asteraceae, Fabaceae) of which 24 are newly reported for the species of butterfly concerned and include three new generic records for *Nathalis iole* (*Acroptilon*, *Pectis*, *Thymophylla*). As for pierines, some species have extensive records because of their abundance and obvious behavior while ovipositing. *Colias* place their eggs on leaves, predominantly on the upper surface; *Phoebis sennae* and *Eurema nicippe* oviposit on stems and flower buds. Ovipositions were largely (81%) in the morning, particularly in mid- and late morning.

***Colias philodice eriphyle* W. H. Edwards, 1876**

FABACEAE

*Lotus corniculatus* L. [*Lotus tenuis* Willd.]\* (i) (Plate 8E)

NV: Churchill Co.; US 50 at Wildes Rd., 25 Aug 1983 (ovip. on leaf, 09:20 PST) (NSM, GTA #601)

*Lotus oblongifolius* (Benth.) Greene\*

NV: Douglas Co.; Carson Valley, Scossa Ranch, 26 Aug 1983 (ovip. on leaf, 12:10 PST) (NSM, GTA #613)

*Lotus purshianus* (Benth.) Clem. & E.G. Clem. var. *purshianus*\*

NV: Douglas Co.; Carson Valley, Scossa Ranch, 26 Aug 1983 (ovip. on lower surface of leaf, 11:55 PST) (NSM, GTA #616)

*Medicago lupulina* L. (i)

NV: Nye Co.; Big Smoky Valley, Little Smoky Rd., 4.5 mi. N of Summit Canyon, 29 Aug 1984 (ovip. on upper surface of leaf, 11:25 PST) (NSM, GTA #1144)

*Medicago sativa* L. (i) (Fig. 24)

NV: Churchill Co.; 3.2 mi. S of Fallon, 1 May 1980 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Valley, Scossa Ranch, 11 Aug 1978 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, Dyer, 27 May 1988 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, 1.9 mi. S of Dyer, 15 Sep 2003 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, 2.4 mi. S of Dyer, 15 Sep 2003 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Humboldt River Valley, West Winnemucca, 21 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Bottle Creek Ranch, 25 May

- 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Mason Valley, US 95A at Miller Lane, 14 Aug 1979 (and several subsequent dates (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Mason Valley, Yerington, 8 Oct 1980 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Smith Valley, Smith, 22 Jul 1981 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Wellington, 1 Sep 1981 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; US 95A at Miller Lane, 30 Apr 1987 (ovip. on upper surface of leaf, 14:30, 14:45, 14:50 PST, 3 females) (NSM, GTA #1397)  
 NV: Mineral Co.; Walker River Valley, Schurz, 1 May 1980 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Big Smoky Valley, Carvers, 12 Sep 1983 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Lovelock, 12 Jun 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; N side of Lovelock, 21 Sep 1981 (ovip. on lower surface of leaf, 14:00 PST) (NSMCC, GTA)  
 NV: Pershing Co.; I-80, S side of Lovelock, 15 Jul 2000 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Spring Valley, Shoshone Ranch, 26 Jul 1983 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; White River Valley, Lund, 7 Jul 1984 (ovip. on lower surface of leaf, 10:00 PST) (NSM, GTA #1044)  
 NV: White Pine Co.; White River Valley, rd. W from central Lund, 11 Jul 1993 (adult assoc.) (no plant coll., GTA)  
*Melilotus alba* Medikus (i) (Fig. 20)  
 NV: White Pine Co.; Spring Valley, Shoshone Ponds, 26 Jul 1993 (ovip. on leaf) (no plant coll., GTA)  
*Melilotus officinalis* (L.) Pall. (i)  
 NV: Elko Co.; Nv 225, 2.5 mi. S of Charleston Rd., 22 Aug 2001 (ovip. on lower surface of leaf, 08:10 PST) (no plant coll., GTA)  
*Thermopsis montana* Torr. & A.Gray var. *montana* [*Thermopsis rhombifolia* Nutt. var. *montana* (Nutt.) Isley]\*  
 NV: Lincoln Co.; Lake Valley, Geysers Ranch, 2 Jul 1986 (ovip. 3X on upper surface of leaf, lower part of plant, 09:30 PST) (NSM, GTA #1352)  
 NV: Nye Co.; Big Smoky Valley, Little Smoky Rd., 4.5 mi. N of Summit Canyon, 29 Aug 1984 (ovip. on upper surface of leaf, 11:15 PST) (NSM, GTA #1142)  
*Trifolium gymnocarpon* Nutt.\*  
 NV: White Pine Co.; Snake Range, Snake Creek, 12-13 mi. W of Nv 487, 18 Aug 1981 (ovip.) (NSMCC, GTA)  
 NV: White Pine Co.; Snake Range, Wheeler Peak

Campground to Stella Lake, 6 Jul 2000 (ovip. on upper surface of leaf, 10:50 PST) (NSM, GTA #1551)

*Trifolium pratense* L. (i)

NV: Douglas Co.; Carson Valley, Nv 88, 2.1 mi. S of Centerville Rd., 6 Aug 2001 (ovip. 4X on upper surface of leaves, 09:00-09:15 PST) (no plant coll., GTA)

*Trifolium repens* L. (i)

NV: Nye Co.; Big Smoky Valley, Little Smoky Rd., 4.5 mi. N of Summit Canyon, 29 Aug 1984 (ovip. 3X on upper surface of leaf, 11:20 PST) (NSM,



Figure 12. *Caulanthus cooperi*.

GTA #1143)

NV: Washoe Co.; 0.8 mi. W of Nv 447 at  
Wadsworth, 7 Sep 1984 (ovip. on upper surface of  
leaf, 11:30 PST) (NSM, GTA #1185)

***Colias eurytheme* Boisduval, 1852**

## FABACEAE

*Astragalus* sp. (unidentifiable, no flowers or fruit)

NV: Nye Co.; Big Smoky Valley, alkali flat, 1.5  
mi. S of Moores Creek Rd., off Nv 386, 19 Jul  
2001 (ovip. on upper surface of leaf, 14:05 PST)  
(no plant coll., GTA)

*Astragalus lentiginosus* Hook. var. *variabilis* Barneby\* (Plate  
8D)

NV: Esmeralda Co.; US 95, 3.2 mi. S of Goldfield  
Summit, 6 Sep 1984 (ovip. on upper surface of  
lower leaf, 13:00 PST) (NSM, GTA #1179)

*Lotus corniculatus* L. [*Lotus tenuis* Willd.] (i) (Plate 8E)

NV: Churchill Co.; US 50 at Wildes Rd., 25 Aug  
1983 (ovip. 3X on leaves, 09:15 PST) (NSM,  
GTA #601)

NV: Nye Co.; Ash Meadows, 9 Jun 1983 (ovip. 2X  
on lower surface of leaf, 14:00 PST) (NSM, GTA  
#378)

NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on  
leaf, 09:25 PST) (NSM, GTA #998)

*Lotus oblongifolius* (Benth.) Greene\*

NV: Douglas Co.; Carson Valley, Scossa Ranch, 8  
Sep 1984 (ovip. on upper surface of leaf, 08:15  
PST) (NSM, GTA #1191)

*Lotus rigidus* (Benth.) Greene\*

NV: Nye Co.; Spring Mts., Johnnie Mine Rd., 2.3 mi.  
E of Nv 160, 3 May 1983 (ovip. on upper surface  
of lower leaf, 10:20 PST) (NSM, GTA #66)

*Lupinus arbustus* Douglas ex Lindl.\*

NV: Douglas Co.; Carson Range, Heavenly Valley  
North, East Peak area, 28 Jun 1985 (ovip. 2X on  
upper surface of leaf, 11:15 PST, "alba" female)  
(NSM, GTA #1228)

*Lupinus argenteus* Pursh (Plate 8F)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun  
1983 (ovip. on upper surface of leaf, 07:30 PST)  
(NSM, GTA #341)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 8  
Aug 1984 (ovip. on lower surface of leaf of  
immature plants, 09:15 PST 2X, 09:30 PST 2X)  
(NSM, GTA #1088) (originally determined as  
*Lupinus alpestris* Nelson)

*Lupinus lepidus* Douglas var. *confertus* (Kellogg) C.P.Smith\*

NV: Douglas Co.; Carson Valley, Scossa Ranch, 8  
Sep 1984 (ovip. on upper surface of leaf, 09:30  
PST) (NSM, GTA #1190)

*Lupinus sparsiflorus* Benth.\*

NV: Clark Co.; Newberry Mts., Sacatone Wash, 27  
Mar 1987 (ovip. on upper surface at mid-leaf,  
11:30 PST) (NSM, GTA #1391)

NV: Clark Co.; Newberry Mts., rd. to Christmas Tree  
Pass, 4.5 mi. E of US 95, 1 May 2001 (ovip. on  
lower surface of lower leaf, 08:40 PST) (NSM,

GTA #1574)

*Medicago lupulina* L. (i)

NV: Clark Co.; Las Vegas, Eugene Ave., 10 Aug  
1984 (ovip. on lower surface of leaf of plant at  
edge of lawn, 14:30 PST) (NSM, GTA #984)

NV: Clark Co.; Las Vegas, Eugene Ave., 8 Nov 1986  
(ovip. 2X on lower surface of leaves, 11:00 PST)  
(no plant coll., GTA)

*Medicago sativa* L. (i) (Fig. 24)

NV: Churchill Co.; US 95, 3.2 mi. S of Fallon, 1 May  
1980 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 24 Apr  
1971 (and many subsequent dates) (adult assoc.)  
(no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Hidden Valley, 17  
Apr 1977 (and many subsequent dates) (adult  
assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas Valley, Mormon Farm, 30  
Apr 1977 (and many subsequent dates) (adult  
assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Overton, 7 Jun 1977  
(and many subsequent dates) (adult assoc.) (no  
plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 4 Jul 1977  
(ovip.) (Austin and Austin 1980)

NV: Clark Co.; Moapa Valley, Logandale, 13 Jun  
1987 (ovip. on upper surface of lower leaves, 07:15  
PST) (NSM, GTA #1430)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area,  
20 Jul 2000 (ovip. 4X on upper surface of leaves,  
09:45 PST) (no plant coll., GTA)

NV: Douglas Co.; Minden, summer 1911 ("damage  
... alfalfa fields") (Wildermuth 1914)

NV: Douglas Co.; Carson Valley, summer 1911  
("damaging the alfalfa fields") (Wildermuth 1914)

NV: Douglas Co.; Carson Valley, Scossa Ranch, 11  
Aug 1978 (and many subsequent dates) (adult  
assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; White Mts., Indian Creek Ranch,  
23 Aug 1983 (adult assoc.) (NSM, GTA #581)

NV: Esmeralda Co.; Fish Lake Valley, Dyer, 27 May  
1988 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, 5.3 mi. N of  
Dyer, 19 Jul 2000 (adult assoc.) (no plant coll.,  
GTA)

NV: Esmeralda Co.; Fish Lake Valley, 1.9 mi. S of  
Dyer, 15 Sep 2003 (adult assoc.) (no plant coll.,  
GTA)

NV: Esmeralda Co.; Fish Lake Valley, 2.4 mi. S of  
Dyer, 15 Sep 2003 (adult assoc.) (no plant coll.,  
GTA)

NV: Humboldt Co.; Humboldt River Valley, West  
Winnemucca, 21 Sep 1981 (adult assoc.) (no plant  
coll., GTA)

NV: Lyon Co.; Mason Valley, Yerington, 8 Oct 1980  
(and many subsequent dates) (adult assoc.) (no  
plant coll., GTA)

NV: Lyon Co.; Wellington, 1 Sep 1981 (and many  
subsequent dates) (adult assoc.) (no plant coll.,

GTA)  
 NV: Lyon Co.; Smith Valley, Smith, 4 Nov 1983  
 (and many subsequent dates) (adult assoc.) (no  
 plant coll., GTA)  
 NV: Lyon Co.; US 95A at Miller Lane, 30 Apr 1987  
 (and several subsequent dates) (adult assoc.) (no  
 plant coll., GTA)  
 NV: Mineral Co.; Walker River Valley, Schurz, 1  
 May 1980 (and several subsequent dates) (adult  
 assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Big Smoky Valley, Carvers, 9 Aug  
 1983 (and several subsequent dates) (adult assoc.)  
 (no plant coll., GTA)  
 NV: Nye Co.; Pahump, 12 Aug 1984 (and several  
 subsequent dates) (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Nye Co.; Ash Meadows, 30 Aug 1984 (ovip. on  
 upper surface of lower leaf, 14:10 PST) (NSM,  
 GTA #997)  
 NV: Nye Co.; Amargosa Valley, Amargosa Farms, 4  
 Jun 1992 (adult assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Lovelock, 12 Jun 1981 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; N side of Lovelock, 21 Sep 1981  
 (ovip. on lower surface of leaf, 14:10 PST)  
 (NSMCC, GTA)  
 NV: Pershing Co.; I-80, S side of Lovelock, 15 Jul  
 2000 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Ely, summer 1911 (“injuring  
 alfalfa”) (Wildermuth 1914)  
 NV: White Pine Co.; Spring Valley, Shoshone  
 Ranch, 26 Jul 1983 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; White River Valley, Lund, 7 Jul  
 1984 (adult assoc.) (NSM, GTA #1044)  
 NV: White Pine Co.; White River Valley, rd. W from  
 central Lund, 11 Jul 1993 (adult assoc.) (no plant  
 coll., GTA)  
*Melilotus alba* Medikus (i) (Fig. 20)  
 NV: Clark Co.; Spring Mts., Calico Basin, Red  
 Spring, 16 Sep 1984 (ovip. 3X on upper surface of  
 leaf, 10:00 PST) (NSM, GTA #1206)  
 NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S  
 of Jackpot, 13 Jul 1986 (ovip. on lower surface of  
 middle leaf, 10:30 PST) (NSM, GTA #1357)  
 NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S  
 of Jackpot, 13 Jul 1986 (ovip. on upper surface of  
 upper leaf, 10:30 PST) (NSM, GTA #1357)  
 NV: Lincoln Co.; US 93, rest area at Atlanta Rd., 2  
 Jul 1986 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Ash Meadows, 15 Aug 1988 (ovip. on  
 middle of lower surface of upper leaf, 09:30 PST)  
 (NSM, GTA #1491)  
*Melilotus officinalis* (L.) Pall. (i)  
 NV: Clark Co.; Spring Mts., Willow Creek, 28 May  
 1986 (ovip. 3X on lower surface of upper leaves,  
 10:30 PST, “alba” female) (NSM, GTA #1282)  
*Thermopsis montana* Nutt. [*Thermopsis rhombifolia* Nutt. var.  
*montana* Nutt.]

NV: White Pine Co.; US 50, 2.8 mi. E of Hamilton  
 Rd., 24 Aug 2002 (ovip. on upper surface of lower  
 leaf, 08:45 PST) (NSM, GTA #1761)  
*Thermopsis montana* Torr. & A. Gray var. *montana* [*Thermopsis*  
*rhombifolia* Nutt. var. *montana* (Nutt.) Isley]  
 NV: Lincoln Co.; Lake Valley, Geysers Ranch, 2 Jul  
 1986 (ovip. 2X on upper surface of leaf, lower part  
 of plant, 09:40 PST) (NSM, GTA #1352)  
*Trifolium* sp.  
 NV: Mineral Co.; US 95, Sodaville, 18 Jun 1983  
 (ovip. on upper surface of leaf 14:10 PST) (no  
 plant coll., GTA)  
*Trifolium beckwithii* S. Watson\*  
 NV: White Pine Co.; Steptoe Valley, Warm Springs,  
 2 Jun 1987 (ovip. on upper surface of leaf, 13:10  
 PST) (NSM, GTA #1408)  
*Trifolium gymnocarpon* Nutt.\*  
 NV: White Pine Co.; Snake Range, Wheeler Peak  
 Campground to Stella Lake, 2 Jul 1986 (ovip. 2X  
 on upper surface of leaf, 10:30 PST) (NSM, GTA  
 #1345)  
*Trifolium longipes* Nutt.  
 NV: Washoe Co.; Carson Range, Tahoe Meadows,  
 31 Jul 2003 (ovip. on lower surface of leaf, 10:40  
 PST) (NSM, GTA #1947)  
*Trifolium pratense* L. (i)  
 NV: Douglas Co.; Carson Valley, Nv 88, 2.1 mi. S of  
 Centerville Rd., 6 Aug 2001 (ovip. on upper  
 surface of leaves, 09:05 PST) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, Nv 431 at Fairview  
 Blvd., 27 Jun 1988 (ovip. on upper surface of leaf,  
 11:05 PST) (NSM, GTA #1473)  
*Trifolium repens* L. (i)  
 NV: Clark Co.; Spring Mts., Willow Creek, 8 May  
 1978 (ovip. on lower surface of leaf, 12:20 PST)  
 (Austin and Austin 1980)  
 NV: Lyon Co.; E Walker River, Nv 338, 0.5 mi. E of  
 CA state line, 1 Sep 1981 (ovip.) (NSMCC, GTA)  
 NV: Nye Co.; Big Smoky Valley, Little Smoky Rd.,  
 4.5 mi. N of Summit Canyon, 29 Aug 1984 (ovip.  
 on upper surface of leaf, 10:45 PST) (NSM, GTA  
 #1143)  
*Trifolium wormskioldii* Lehm. (Fig. 25)  
 NV: Elko Co.; Rock Creek-Scrapper Spring Rd.,  
 Scrapper Spring junction, 5 Jul 2003 (ovip. on upper  
 surface of leaf, 08:15 PST) (NSM, GTA #1905)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 2.9 mi.  
 W of Kingston Canyon Summit, 20 Aug 2003  
 (ovip. on upper surface of leaf, 09:50 PST) (NSM,  
 GTA #1959)  
 NV: Nye Co.; US 95, 1.5 mi. S of Springdale, 30 Aug  
 1984 (ovip. on upper surface of leaf, 09:45 PST)  
 (NSM, GTA #563)

***Colias alexandra edwardsii* W. H. Edwards, 1870**

FABACEAE

*Astragalus* sp. (plant without flowers or fruit and drying)

NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill  
 Summit-Merritt Creek, 10.5 mi. N of Sunflower



- Reservoir Rd., 16 Jun 2003 (ovip. on upper surface of leaf, 11:45 PST) (NSM, GTA #1869)
- Astragalus argophyllus* Torr. & A.Gray var. *martini* M.E.Jones\*  
 NV: Elko Co.; Butte Valley, 6.1 mi. N of Taylor Canyon junction, 14 Jun 2002 (ovip. on lower surface of leaf, 11:20 PST) (NSM, GTA #1723)
- Astragalus beckwithii* Torr. & A.Gray var. *purpureus* M.E.Jones\*  
 NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (adult assoc.) (NSM, GTA #415)  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 4 May 1980 (preovip. behavior, no ova found) (NSMCC, GTA)  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (adult assoc.) (NSM, GTA #1264)
- Astragalus canadensis* L. var. *brevidens* (Gand.) Barneby  
 NV: White Pine Co.; Snake Range, Baker Creek Campground, 30 Jun 1986 (ovip. on lower surface of upper leaf, 10:20 PST) (NSM, GTA #1333)
- Astragalus curvicaarpus* (A.Heller) J. F. Macbr.\*  
 NV: Washoe Co.; Granite Mts., Nv 34, 16.6 mi. N of Gerlach at Rock Creek Ranch Rd., 30 May 1984 (ovip. on lower surface of middle leaf, 08:20 PST) (NSM, GTA #928)
- Astragalus eremiticus* E.Sheld. complex  
 NV: White Pine Co.; Schell Creek Range, Berry Creek, 7800', 28 Jun 1972 (ovip., 15:30 PST) (Ellis 1974)
- Astragalus filipes* A.Gray (Fig. 13)  
 NV: Washoe Co.; Granite Mts., Nv 34, 16.6 mi. N of Gerlach at Rock Creek Ranch Rd., 30 May 1984 (ovip. on lower surface of middle leaf, 08:15 PST) (NSM, GTA #927)
- Astragalus lentiginosus* Hook. (Plate 8D)  
 NV: Lander Co.; Toiyabe Range, US 50, Austin Summit, 3 Jun 1984 (ovip. on lower surface of lower leaf, 14:30 PST) (NSM, GTA #982)  
 NV: Lincoln Co.; Delamar Mts., US 93, 6 mi. E of Oak Springs Summit, 23 Apr 1986 (adult assoc.) (NSM, GTA #1239)  
 NV: Mineral Co.; Alkali Dry Lake Rd., 3.6 mi. N of Nv 359, 26 May 1988 (ovip. 2X on lower surface of leaflet on mid-rib, 11:25 PST) (NSM, GTA #1468)
- Astragalus lentiginosus* Hook. var. *fremontii* (A.Gray) S.Watson (Plate 8D)  
 NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 29 Apr 1979 (ovip.) (UNLV, GTA)
- Astragalus lentiginosus* Hook. var. *lentiginosus* (Plate 8D)  
 NV: Washoe Co.; Buckhorn Rd., 2.0 mi. W of rd. to Buffalo Meadows, 2 Jul 2003 (ovip. on lower surface of leaf just above ground, 09:10 PST) (NSM, GTA #1889)
- Astragalus lentiginosus* Hook. var. *salinus* (Howell) Barneby (Plate 8D)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Creek Rd., 9.6 mi. S of Atlanta Rd., 9 Jun 1985 (adult assoc.) (NSM, GTA #1217)
- Astragalus oophorus* S.Watson\*  
 NV: Nye Co.; Quinn Canyon Range, Cherry Creek Summit to 0.5 mi. E, 16 Jun 1980 (ovip. on lower surface of leaf, 15:45 PST) (NSMCC, GTA)
- Astragalus oophorus* S.Watson var. *oophorus*\*  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 4 Jul 1979 (ovip. 3X on upper surface of leaf, 11:20 PST) (NSMCC, GTA)  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 17 May 1990 (female searching plant to plant, 09:40 PST, no ovip. noted) (no plant coll., GTA, cf GTA #1514)
- Astragalus tenellus* Pursh\*  
 NV: Elko Co.; Charleston-Jarbidge Rd., 3.6 mi. W of Marys River Rd., 14 Jun 2003 (ovip. on lower surface of leaf, 12:45 PST) (NSM, GTA #1852)  
 NV: White Pine Co.; Snake Range, Snake Creek, 7500-8000', 28 Jun 1968 (ovip.) (*vide* J. F. Emmel)
- Astragalus utahensis* (Torr.) Torr. & A.Gray\*  
 NV: White Pine Co.; Snake Range, Lehman Creek, 11 May 1984 (ovip. on lower surface of leaf, 09:50 PST) (NSM, GTA #824)
- Lupinus argenteus* Pursh var. *utahensis* (S.Watson) Barneby [*Lupinus caudatus* Kellogg var. *utahensis* (S.Watson) S.L.Welsh]\* (Plate 8F)  
 NV: Elko Co.; 0.8 mi. N of Fenalon, 24 Jul 2001 (ovip. on lower surface of upper leaf, 10:00 PST) (NSM, GTA #1640)  
 NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 1.6 mi. S of Yankee Bill Summit, 27 Jul 2003 (ovip. on lower surface of leaf, 10:00 PST) (NSM, GTA #1937)
- Colias christina sullivanii* Hammond & McCorkle, 2003**  
 FABACEAE  
*Lathyrus rigidus* T. White  
 NV: Washoe Co.; rd. to Jones Flat, 0.6 mi. S of Nv 447, 6 May 2003 (adult assoc.) (NSM, GTA #1795)
- Phoebis sennae marcellina* (Cramer, 1777)**  
 FABACEAE  
*Senna armata* (S.Watson) H. Irwin & Barneby (Plate 9B)  
 NV: Clark Co.; Newberry Mts., Nv 163, 4.0 mi. E of US 95, 3 Sep 1984 (ovip. on stem just below flowers, 07:45 PST) (NSM, GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of US 95, 3 Sep 1984 (ovip. on stem tip near ground, 08:20 PST) (NSM, GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of US 95, 3 Sep 1984 (ovip. near stem tip at base of new fruit, 10:00 PST) (NSM, GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of US 95, 3 Sep 1984 (ovip. on upper, naked stem tip, 10:10 PST) (NSM, GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of US 95, 3 Sep 1984 (ovip. 3X on flower buds, 10:10 PST) (NSM, GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of US 95, 3 Sep 1984 (several larvae feeding on

- flowers and buds) (NSM, GTA #1166)  
 NV: Clark Co.; US 95, Railroad Pass, 13 Sep 1984  
 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 13 Sep 1984 (many larvae, mostly 3rd-5th  
 instars, feeding on flowers and young seed pods,  
 reared to adult; also pupae) (NSM, cf GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 5.0 mi. E of  
 US 95, 22 Aug 1990 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 7 Sep 1990 (adult assoc.) (no plant coll.,  
 GTA, cf GTA #1166)

***Eurema nicippe* (Cramer, 1779)**

## FABACEAE

*Senna armata* (S. Watson) H. Irwin & Barneby (Plate 9B)

- NV: Clark Co.; Newberry Mts., 9 mi. W of Davis  
 Dam, 3 May 1978 (ovip. on lower surface of flower  
 bud, 09:00 PST) (Austin and Austin 1980)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 3 Sep 1984 (ovip. on stems at center of  
 shrub, 1/2 half way from ground to top, 08:30 PST,  
 2X; 10:30, 2X) (NSM, GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 3 Sep 1984 (larvae feeding on flowers and  
 buds, also pupae) (NSM, GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 13 Sep 1984 (ovip. on mid-stem near center  
 of shrub, 10:20 PST) (NSM, cf GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 13 Sep 1984 (larvae feeding on flowers,  
 reared to adult; also pupae) (NSM, cf GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 8 Aug 1987 (ovip. on stem tip, 2 cm from  
 tip, in center of bush, 07:35 PST) (no plant coll.,  
 GTA, cf GTA #1166)  
 NV: Clark Co.; Newberry Mts., Nv 163, 5.0 mi. E of  
 US 95, 22 Aug 1990 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 7 Sep 1990 (adult assoc.) (no plant coll.,  
 GTA, cf GTA #1166)  
 NV: Clark Co.; US 95, Railroad Pass, 7 Sep 1990  
 (adult assoc.) (no plant coll., GTA)

***Nathalis iole* Boisduval, 1836**

## ASTERACEAE

*Acroptilon repens* (L.) DC.\*\* (i)

- NV: Nye Co.; Ash Meadows, 9 Jun 1983 (ovip. on  
 lower surface of leaf, 14:20 PST) (NSM, GTA  
 #382)  
*Palafoxia arida* B.L. Turner & M. Morris var. *arida* (Fig. 14)  
 NV: Clark Co.; Colorado River Valley, Laughlin  
 Cutoff Rd., 1.0 mi. NW of Laughlin, 7 Mar 1984  
 (adult assoc.) (NSM, GTA #756)  
*Pectis papposa* Harvey & A. Gray var. *papposa*\*\*  
 NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of  
 US 95, 13 Sep 1984 (ovip. on stem near ground,

09:40 PST) (NSM, GTA #1200)

*Thymophylla pentachaeta* (DC.) Small var. *belenidium* (DC.)  
Strother\*\*

- NV: Clark Co.; Sheep Range, Mormon Well Rd., 3.5  
 mi. S of US 93, 26 Apr 1983 (ovip. on upper  
 surface of leaf, 13:20 PST) (NSM, GTA #48)  
 NV: Lincoln Co.; US 93, Coyote Springs, 8 Jun 1983  
 (adult assoc.) (NSM, GTA #359)

**LYCAENIDAE**

Lycaenids are represented by 63 species in Nevada of which two are probable strays and at least one may not be permanently resident. Of the species that breed, at least one larval hostplant is known or suspected for 59. These include a broad variety of plants in twelve families (especially Polygonaceae, Fabaceae, and Rosaceae).

**LYCAENINAE**

Larval hostplants have been determined for all nine of the species of coppers in Nevada and include 19 species of plants (25 butterfly/plant combinations) in three families (Grossulariaceae, Polygonaceae, Rosaceae). Of these, five are newly reported for the species of butterfly concerned, and one is a new generic record (*Harkenclenus* on *Amelanchier*). For many coppers, documentation of larval hostplants is difficult since they do not oviposit directly on their hostplant, but in litter nearby, although associations with particular plants are important clues to their usage. Observed ovipositions were few, largely in the morning, and, for all except *Lycaena heteronea*, were at ground level at or near the base of the plant; *L. heteronea* oviposits on its hostplant's stems beneath the inflorescence.

***Tharsalea arota virginiensis* (W. H. Edwards, 1870)**

## GROSSULARIACEAE

*Ribes roezlii* Regel var. *roezlii*

- NV: Washoe Co.; Carson Range, First Creek area, 30  
 Jul 2003 (adult assoc.) (NSM, GTA #1945)

*Ribes velutinum* Greene

- NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
 6600', 13 Jun 1969 (several mature larvae feeding  
 on leaves, one reared to adult) (Emmel *et al.* 1970)  
 NV: Pershing Co.; Selenite Range, Selenite Range  
 Rd., 4.1 mi. E of Nv 447, 3 Jul 2003 (adult assoc.)  
 (NSM, GTA #1896)

***Lycaena cupreus cupreus* (W. H. Edwards, 1870)**

## POLYGONACEAE

*Rumex acetosella* L. (i)

- NV: Elko Co.; Independence Mts., Nv 11A, 5.7 mi. E  
 of Nv 226, 11 Jun 1981 (adult assoc.) (NSMCC,  
 GTA)  
 NV: Elko Co.; Independence Mts., Nv 11A, 6.6 mi. E  
 of Nv 226, 9 Jun 1990 (adult assoc.) (NSM, GTA  
 #1517)

*Rumex paucifolius* S. Watson

- NV: Elko Co.; Independence Mts., Nv 11A, 6.6 mi. E

of Nv 226, 9 Jun 1990 (adult assoc.) (NSM, GTA #1516)

***Lycaena cupreus lapidicola* J. Emmel & Pratt, 1998**  
POLYGONACEAE

*Rumex acetosella* L. (i)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 4.7 mi. W of US 395, 28 May 1980 (ovip. in litter at base of plant) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 4.6 mi. W of US 395, 27 May 1984 (ovip. on stem at ground level) (NSM, GTA #857)

***Lycaena editha obscuramaculata* Austin, 1988**  
POLYGONACEAE

*Rumex crispus* L.\* (i)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 23 Jul 2001 (adult assoc.) (no plant coll., GTA)

*Rumex salicifolius* J.A. Weinm. var. *denticulatus* Torr.

NV: Elko Co.; Owyhee River Valley, North Wildhorse Creek, 23 Jul 2001 (adult assoc.) (NSM, GTA #1636)

***Lycaena rubidus rubidus* (Behr, 1866)**

POLYGONACEAE

*Rumex crispus* L. (i)

NV: Humboldt Co.; Nv 140, 37.4 mi. NW of US 95, 24 Jul 1987 (ovip. on dead leaves beneath plant, 11:50 PST) (NSM, GTA #1459)

*Rumex salicifolius* J. A. Weinm. var. *lacustris* (Greene) J. Hickman

NV: Washoe Co.; Buckhorn Rd., 6.9 mi. W of rd. to Buffalo Meadows, 2 Jul 2003 (adult assoc.) (NSM, GTA #1891)

*Rumex salicifolius* J.A. Weinm. var. *triangulivalvis* (Danser) C. Hitchc.

NV: Humboldt Co.; Sheldon NWR, Dufurrena Ranch, 28 Aug 2002 (adult assoc.) (NSM, GTA #1775)

***Lycaena rubidus sirius* (W. H. Edwards, 1871)**

POLYGONACEAE

*Polygonum amphibium* L. var. *emersum* Michx.\*

NV: Lander Co.; Humboldt River Valley, 2.0 mi. N of Battle Mountain, 28 Jul 2003 (adult assoc.) (NSM, GTA #1942)

*Rumex crispus* L. (i)

NV: Elko Co.; Ruby Mts., Harrison Pass Rd., 0.8 mi. E of Harrison Pass, 21 Aug 2001 (adult assoc.) (NSM, GTA #1681)

NV: Elko Co.; Rock Creek-Scraper Spring Rd., Scraper Spring junction, 5 Jul 2003 (adult assoc.) (NSM, GTA #1904)

NV: Elko Co.; Rock Creek-Scraper Spring Rd., Winter Ranch, 5 Jul 2003 (adult assoc.) (NSM, GTA #1906)

NV: Elko Co.; Nv 225, Adobe Summit, 28 Jul 2003 (adult assoc.) (NSM, GTA #1940)



Figure 13. *Astragalus filipes*.

NV: Eureka Co.; Nv 278, 27.5 mi. S of Elko Co. line, 8 Sep 1983 (adult assoc.) (NSM, GTA #689)

*Rumex hymenosepalus* Torr. (Plate 4B)

NV: Humboldt Co.; US 95, 10.1 mi. N of Winnemucca, 13 Jun 1989 (adult assoc.) (NSM, GTA #1504)

*Rumex patientia* L.\* (i)

NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul 2001 (adult assoc.) (NSM, GTA #1623)

*Rumex salicifolius* J.A. Weinm. var. *triangulivalvis* (Danser) C. Hitchc.

NV: Elko Co.; Independence Mts., Water Pipe Canyon, 27 Aug 1984 (adult assoc.) (NSM, GTA #1126)

***Lycaena rubidus duofacies* K. Johnson & Balogh, 1977**  
POLYGONACEAE

*Rumex crispus* L. (i)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 16 Jun 2003 (larva feeding on leaf, another on ground nearby) (NSM, cf GTA

#1872)

NV: Elko Co.; Jarbidge Mts., Big Bend Rd. to Jarbidge, 2.0 mi. E of Sunflower Rd., 26 Jul 2003 (adult assoc.) (NSM, GTA #1932)

*Rumex salicifolius* J.A. Weinm. var. *denticulatus* Torr.

NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 11.6 mi. N of Yankee Bill Summit, 27 Jul 2003 (adult assoc.) (NSM, GTA #1936)

***Lycaena gorgon gorgon* (Boisduval, 1852)**

POLYGONACEAE

*Eriogonum nudum* Benth. var. *nudum*

NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1883)

NV: Washoe Co.; Carson Range, First Creek area, 30 Jul 2003 (adult assoc.) (NSM, GTA #1944)

***Lycaena heteronea rava* Austin, 1998**

POLYGONACEAE

*Eriogonum heracleoides* Nutt. var. *heracleoides* (Fig. 15)

NV: Elko Owyhee River Valley, Wildhorse Crossing Campground, 24 Jun 1981 (ovip. on stem beneath flowers, 11:15 PST) (NSMCC, GTA)

NV: Elko Co.; Independence Mts., 0.2 mi. E of Jacks Creek Summit, 12 Jul 2000 (adult assoc.) (NSM, GTA #1560)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 23 Jul 2001 (adult assoc.) (no plant coll., GTA)

*Eriogonum microthecum* Nutt. (Fig. 28)

NV: Humboldt Co.; Santa Rosa Mts., Hinkey Summit, 12 Aug 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum microthecum* Nutt. var. *laxiflorum* Hook.

NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 26 Jul 2001 (ovip. 2X on stem in middle of plant, 09:15 PST) (NSM, cf GTA #1485)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Elko Co.; Independence Mts., Wildhorse Creek Campground, 24 Jun 1981 (adult assoc.) (NSMCC, GTA)

***Lycaena heteronea rutila* Austin, 1998**

POLYGONACEAE

*Eriogonum elatum* Benth. var. *elatum* (Fig. 23)

NV: Lander Co.; Toiyabe Range, Birch Creek, 8 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul 2001 (adult assoc.) (NSM, GTA #1620)

NV: Lander Co.; Toiyabe Range, upper Kingston Canyon, 2 Aug 2002 (adult assoc.) (NSM, GTA #1739)

NV: Lander Co.; Toiyabe Range, lower Kingston Canyon, 25 Aug 2002 (adult assoc.) (NSM, GTA #1768)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 1.1 mi. E of summit, 20 Aug 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1739)

NV: Nye Co.; Toiyabe Range, upper Meadow Canyon, 19 Jul 2001 (ovip. on stem, 09:20 PST) (NSM, GTA #1608)

*Eriogonum heracleoides* Nutt. var. *heracleoides* (Fig. 15)

NV: White Pine Co.; Schell Creek Range, Timber Creek, 4.6 mi. E of Nv 486, 27 Jul 1983 (ovip. beneath flowers, 10:20 PST) (NSM, GTA #502)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Rd., 0.8 mi. E of Kalamazoo Summit, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 4.8 mi. W of Pleasant Valley Rd., 6 Jul 2003 (adult assoc.) (NSM, GTA #1909)

*Eriogonum microthecum* Nutt. (Fig. 28)

NV: Elko Co.; Spruce Mt., 26 Jul 2001 (adult assoc.) (no plant coll., GTA)

*Eriogonum microthecum* Nutt. var. *laxiflorum* Hook.

NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 5.2 mi. W of Pleasant Valley Rd., 22 Jul 2003 (ovip. on stem beneath flowers, 09:20 PST) (NSM, GTA #1923)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Summit, 19 Aug 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1956)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 9.1 mi. S of Atlanta Rd., 3 Jul 2000 (adult assoc.) (no plant coll., GTA)

***Lycaena heteronea submaculata* J. Emmel & Pratt, 1998**

POLYGONACEAE

*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)

NV: Lyon Co.; Sweetwater Mts., East Sister area, 26 Jun 1985 (ovip. beneath flowers, 12:30 PST) (NSM, GTA #1219)

***Lycaena helloides helloides* (Boisduval, 1852)**

POLYGONACEAE

*Polygonum* probably *amphibium* L. [*Polygonum coccineum* Muhlenb.]

NV: Lander Co.; Battle Mountain, 5 Aug 1994 (adult assoc.) (Scott 1992)

*Polygonum amphibium* L. var. *emersum* Michx.

NV: Lander Co.; Humboldt River Valley, 2.0 mi. N of Battle Mountain, 28 Jul 2003 (adult assoc.) (NSM, GTA #1942)

*Polygonum amphibium* L. var. *stipulaceum* Coleman

NV: White Pine Co.; Steptoe Valley, Comins Lake, 4 Sep 1983 (adult assoc.) (NSM, GTA #667)

*Polygonum douglasii* Greene

NV: Elko Co.; US 93, Little Salmon River Valley, 2.8 mi. S of Jackpot, 7 Sep 1983 (adult assoc.) (NSM, GTA #684)

*Rumex acetosella* L. (i)

NV: Elko Co.; Independence Mts., Nv 11A, 6.6 mi. E of Nv 226, 9 Jun 1990 (adult assoc.) (NSM, GTA #1517)

*Rumex crispus* L. (i)

NV: Clark Co.; Moapa Valley, Hidden Valley, 7 Jun

- 1977 (adult assoc.) (UNLV, GTA)  
 NV: Clark Co.; Moapa Valley, Overton, 7 Jun 1977  
 (adult assoc.) (UNLV, GTA)  
 NV: Clark Co.; Moapa Valley, Logandale, 27 Jun  
 1977 (and many subsequent dates) (adult assoc.)  
 (no plant coll., GTA)  
 NV: Elko Co.; Ruby Mts., Harrison Pass Rd., 0.8 mi.  
 E of Harrison Pass, 21 Aug 2001 (adult assoc.)  
 (NSM, GTA #1682)  
 NV: Eureka Co.; Nv 278, 27.5 mi. S of Elko Co. line,  
 8 Sep 1983 (adult assoc.) (NSM, GTA #689)  
 NV: Humboldt Co.; Quinn River Valley, US 95, 3.7  
 mi. S of Orovada, 24 Aug 1984 (adult assoc.) (no  
 plant coll., GTA)  
 NV: Humboldt Co.; S side Denio, rd. to east, 0.5 mi.  
 E of Nv 292, 28 Aug 2002 (adult assoc.) (NSM,  
 GTA #1777)  
 NV: Lander Co.; Reese River Valley, Nv 722 at  
 Reese River, 18 Jul 2001 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Washoe Co.; Smoke Creek Rd., 8.4 mi. W of  
 Pyramid Lake Rd., 29 May 1984 (adult assoc.)  
 (NSM, GTA #913)  
 NV: White Pine Co.; Newark Valley, Nv 892, 20.5  
 mi. N of US 50, 8 Jul 1984 (adult assoc.) (NSM,  
 GTA #1055)  
 NV: White Pine Co.; US 93, Comins Lake, 22 Aug  
 1984 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; US 50, 2.8 mi. E of Hamilton  
 Rd., 24 Aug 2002 (adult assoc.) (NSM, GTA  
 #1762)

*Rumex occidentalis* S. Watson\*

- NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
 20 Jul 2001 (adult assoc.) (NSM, GTA #1617)

*Rumex salicifolius* J.A. Weinm.

- NV: Elko Co.; Independence Mts., Maggie Creek, Nv  
 11A, 0.5 mi. E of Maggie Summit, 11 Jul 2000  
 (ovip. on dead leaf beneath plant, 13:00 PST)  
 (NSM, GTA #1555)

*Rumex salicifolius* J.A. Weinm. var. *triangulivalvis* (Danser)  
 C. Hitchc.

- NV: Elko Co.; Independence Valley, Nv 226, 5.9 mi.  
 N of Tuscarora Rd., 27 Aug 1984 (adult assoc.) (no  
 plant coll., GTA, cf GTA #1126)

ROSACEAE

*Potentilla anserina* L.

- NV: White Pine Co.; White River Valley, just N of  
 Nye Co. line, 3.8 mi. W of Nv 318, 15 Jul 2001  
 (ovip. on runner, female walks to base of plant and  
 then out on runner, 10:20 PST; no *Rumex* seen  
 anywhere in area) (NSM, GTA #1583)

*Lycaena castro castro* (Reakirt, 1866)

ROSACEAE

*Potentilla fruticosa* L. [*Pentaphylloides floribunda* (Pursh)  
 Á.Löve; *Pentaphylloides fruticosa* (L.) O.Schwartz] (Plate 7C)

- NV: Elko Co.; Ruby Mts., Lamoille Canyon, meadow  
 at N of end of rd., 15 Jul 1986 (adult assoc.) (NSM,  
 GTA #1364)



Figure 14. *Palafoxia arida*.

- NV: Elko Co.; Ruby Mts., upper Lamoille Canyon,  
 nr. end of rd., 12 Jul 2000 (adult assoc.) (NSM,  
 GTA #1564)

*Lycaena nivalis praetexta* Austin, 1998

POLYGONACEAE

*Polygonum bistortoides* Pursh\*

- NV: Elko Co.; Independence Mts., 0.2 mi. E of Jacks  
 Creek Summit, 12 Jul 2000 (adult assoc.) (NSM,  
 GTA #1561)

THECLINAE

Larval hostplants have been determined for 21 of the 22 species  
 of hairstreaks that apparently breed in Nevada, including 43



species of plants (53 butterfly/plant combinations) in nine families (Cupressaceae, Fabaceae, Fagaceae, Pinaceae, Polygonaceae, Rhamnaceae, Rosaceae, Salicaceae, Santalaceae). Of these, 23 are newly reported for the species of butterfly concerned, two of which, *Harkenclenus titus* on *Amelanchier* and *Strymon melinus* on *Parkinsonia*, are apparently new at the generic level. Two additional species of theclines occur in the state as apparent strays. Oviposition is not often observed, but many species frequently perch on their larval hostplant, and the majority of records presented herein are based upon those associations in the absence of other nearby potential hostplants. Too few ovipositions were seen to make generalizations.

***Hypaurotis crysalus intermedia* Austin, 1998**

FAGACEAE

*Quercus gambelii* Nutt. (Fig. 2)

NV: Lincoln Co.; Highland Range, Highland Spring, 22 Jul 1979 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 22 Jul 1979 (adult assoc.) (no plant coll., GTA)

***Habrodais grunus grunus* (Boisduval, 1852)**

FAGACEAE

*Chrysolepis sempervirins* (Kellogg) Hjelmq.\*

NV: Carson City; Carson Range, Kings Canyon-Spooner Summit Rd., 4 Aug 2002 (adult assoc.) (no plant coll., GTA, cf GTA #1736)

*Quercus vacciniifolia* Kellogg

NV: Washoe Co.; Carson Range, Lake Tahoe, 0.5 mi. N of Sand Harbor, 12 Aug 1978 (adult assoc.) (UNLV, GTA)

NV: Washoe Co.; Carson Range, Lake Tahoe, Kennedy Point, 19 Aug 1980 (adult assoc.) (NSMCC, GTA, cf GTA #487)

NV: Washoe Co.; Carson Range, Lake Tahoe, Kennedy Point, 21 Jul 1986 (adult assoc.) (no plant coll., GTA, cf GTA #487)

NV: Washoe Co.; Carson Range, Lake Tahoe, Kennedy Point, 17 Jul 2000 (adult assoc.) (NSM, GTA #1567)

NV: Washoe Co.; Carson Range, Lake Tahoe, Kennedy Point, 31 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1567)

*Quercus vacciniifolia* Kellogg x *Quercus chrysolepis* Liebm.

NV: Carson Range, Washoe Co.; Incline Village, 30 Jun 1968 (larvae?) (Thorne 1969)

***Atlides halesus cynara* (Godman & Salvin, 1887)**

SANTALACEAE

*Phoradendron californicum* Nutt. (Plate 9C)

NV: Clark Co.; Desert NWR, Corn Creek, 17 Apr 1966 (and several subsequent dates) (adult assoc.) (no plant coll., on *Prosopis glandulosa*, GTA)

NV: Clark Co.; Las Vegas, Paradise Valley, 5 Mar 1968 (and many subsequent dates) (adult assoc.) (no plant coll., on *Prosopis glandulosa* and *P. pubescens*, GTA)

NV: Clark Co.; Las Vegas, Paradise Valley, 18 Jul

1977 (ovip., hostplant on *Prosopis glandulosa*) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 14 Sep 1977 (and several subsequent dates) (adult assoc.) (no plant coll., on *Prosopis glandulosa*, GTA)

NV: Clark Co.; Moapa Valley, Overton WMA, 21 Oct 1979 (and several subsequent dates) (adult assoc.) (no plant coll., on *Prosopis glandulosa*, GTA)

NV: Clark Co.; US 95, Cactus Springs, 10 Jun 1983 (adult assoc.) (no plant coll., on *Prosopis glandulosa*, GTA)

NV: Clark Co.; Moapa Valley, Logandale, 26 Jun 1992 (adult assoc.) (no plant coll., on *Prosopis glandulosa*, GTA)

NV: Clark Co.; Moapa Valley, Mormon Ranch nr. Warm Springs, 1 Apr 2001 (ovip., hostplant on *Prosopis pubescens*) (no plant coll., BB)

NV: Clark Co.; Newberry Mts., Nv 163, 10.3 mi. E of US 95, 1 May 2001 (adult assoc., hostplant on *Acacia greggii*) (NSM, GTA #1575)

NV: Clark Co.; Newberry Mts., Nv 163, 10.3 mi. E of US 95, 1 May 2001 (adult assoc., hostplant on *Prosopis glandulosa*) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Warm Springs, Mormon Ranch, 19 Sep 2002 (close adult assoc., possible ovip., hostplant on *Prosopis pubescens*) (NSM, BB #88)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 8.3 mi. E of US 95, 22 Sep 2003 (adult assoc., hostplant on *Acacia greggii*) (no plant coll., GTA)

*Phoradendron juniperinum* A.Gray (on *Juniperus osteosperma*)

NV: Clark Co.; Spring Mts., Willow Creek, 20 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts., Cold Creek, 20 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts., Nv 160 at Potosi Mt. Rd., 15 Aug 1988 (adult assoc.) (no plant coll., GTA)

***Harkenclenus titus immaculosus* (W. P. Comstock, 1913)**

ROSACEAE

*Amelanchier utahensis* Koehne ssp. *utahensis*\*\* (Plate 7A)

NV: Elko Co.; 8.3 mi. N of Mala Vista Rd., 24 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 1.7 mi. S of Yankee Bill Summit, 25 Jul 2003 (adult assoc.) (NSM, GTA #1929)

*Prunus virginiana* L. var. *demissa* (Nutt.) Torr. [*Prunus virginiana* L. var. *melanocarpa* (Nelson) Sarg.] (Fig. 16)

NV: Elko Co.; Elko Co.; Ruby Mts., Powerhouse Campground, 7 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 0.5 mi. E of Maggie Summit, 28 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; East Humboldt Range, Angel Lake Rd., 0.9 mi. W of Angel Creek Campground Rd.,

- 16 Aug 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Owyhee River Valley, Wildhorse  
 Crossing Campground, 23 Jul 2001 (adult assoc.)  
 (no plant coll., GTA)  
 NV: Elko Co.; Brown's Bench, 11.6 mi. W of US 93,  
 nr. Burnt Creek Spring, W of Cottonwood Creek,  
 25 Jul 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Austin Summit, 21  
 Aug 1991 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Birch Creek, 7 Aug  
 1994 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Peak  
 Rd., 8100', 1 Aug 1978 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Lincoln Co.; Highland Range, Anderson  
 Canyon, 25 Jul 1993 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Nye Co.; Toiyabe Range, Summit Canyon, 23  
 Aug 1991 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Snake Range, Baker Creek  
 Campground, 29 Jun 1978 (adult assoc.) (no plant  
 coll., GTA)  
 NV: White Pine Co.; Snake Range, Snake Creek, 12-  
 13 mi. W of Nv 487, 18 Aug 1981 (adult assoc.)  
 (no plant coll., GTA)  
 NV: White Pine Co.; Egan Range, Upper Terrace  
 Rd., 4.5 mi. S of US 6, 13 Jul 2002 (adult assoc.)  
 (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Kalamazoo  
 Creek, 6-7 mi. W of Spring Valley Rd., 14 Jul  
 2002 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Kern Mts., Blue Mass Scenic  
 Area rd., 3.9 mi. of W Pleasant Valley Rd., 18 Aug  
 2003 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Kalamazoo  
 Creek, 1.1 mi. E of Kalamazoo Summit, 18 Aug  
 2003 (adult assoc.) (no plant coll., GTA)

***Harkenclenus titus occidentalis* Austin & J. Emmel, 1998**

ROSACEAE

*Amelanchier utahensis* Koehne\*\* (Plate 7A)

- NV: Humboldt Co.; rd. to Scaper Spring, 13.3 mi. N  
 of Midas Rd., 5 Jul 2003 (adult assoc.) (no plant  
 coll., GTA)

*Prunus virginiana* L. var. *demissa* (Nutt.) Torr. [*Prunus  
 virginiana* L. var. *melanocarpa* (Nelson) Sarg.] (Fig. 16)

- NV: Humboldt Co.; Santa Rosa Range, 1.2 mi. S of  
 Hinkey Summit, 12 Aug 1980 (adult assoc.) (no  
 plant coll., GTA)  
 NV: Pershing Co.; Humboldt Range, Star Creek  
 Canyon, 5-6 mi. W of Nv 400, 8 Aug 1980 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Humboldt Range, Star Creek  
 Canyon, 4.2-6.5 mi. W of Nv 400, 11 Jul 1981  
 (adult assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Humboldt Range, Buena Vista  
 Canyon, 5-6 mi. W of Nv 400, 12 Aug 1981 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Sonoma Range, Sonoma Creek,  
 11 Jul 1992 (adult assoc.) (no plant coll., GTA)



Figure 15. *Eriogonum heracleoides*.

NV: Pershing Co.; Humboldt Range, Star Creek Canyon, 5 mi. W of Nv 400, 14 Jul 2000 (adult assoc.) (no plant coll., GTA)

***Satyrium semiluna maculadistinctum* Mattoon & Austin, 1998**

FABACEAE

*Lupinus arbustus* Dougl ex Lindl.

NV: Washoe Co.; Carson Range, Tahoe Meadows, 1 Jul 1985 (adult assoc.) (NSM, GTA #1233)

NV: Washoe Co.; Carson Range, Nv 431, 4.9 mi. E of Nv 28, 10 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1885)

NV: Washoe Co.; Carson Range, Mt. Rose area, 25 Jun 2006 (15 larvae, 1 pupa in rocks and litter beneath bases of plants) (*vide* E. Runquist)

*Lupinus argenteus* Pursh\* (Plate 8F)

NV: Douglas Co.; Pine Nut Mts., S end of Blossom Canyon, 3 Aug 1980 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Sheldon Antelope Refuge, 1.4 mi. W of Bald Mountain Summit, 29 Jun 1987 (adult assoc.) (NSM, GTA #1447)

*Lupinus argenteus* Pursh var. *meionanthus* (A.Gray) Barneby (Plate 8F)

NV: Carson City; Carson Range, Snow Valley Peak and ridge to N, 25 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Lupinus lepidus* Douglas var. *lobbii* (S.Watson) C.Hitchc.\*

NV: Washoe Co.; Carson Range, Tahoe Meadows, 1 Jul 1985 (adult assoc.) (no plant coll., GTA, cf GTA #1568)

*Lupinus polyphyllus* Lindl.

NV: Carson City; Carson Range, Marlette Lake Rd., 2.3 mi. S of Snow Valley Peak Rd., 30 Jun 1981 (adult assoc.) (NSMCC, GTA)

***Satyrium semiluna semiluna* Klots, 1930**

FABACEAE

*Lupinus arbustus* Douglas ex Lindl.

NV: Elko Co.; Independence Mts., North Fork Rd., 0.2 mi. E of Jack Creek Summit, 12 Jul 2000 (adult assoc.) (NSM, GTA #1559)

NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 4.8 mi. W of Pleasant Valley Rd., 7 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1840)

*Lupinus argenteus* Pursh\* (Plate 8F)

NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 26 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; 2.6 mi. W of Marys River on rd. to Charleston-Deeth Rd., 6 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Lupinus argenteus* Pursh var. *utahensis* (S.Watson) Barneby

[*Lupinus caudatus* Kellogg var. *utahensis* (S.Watson) S.L.Welsh]\* (Plate 8F)

NV: Elko Co.; Owyhee River Valley, North Wildhorse Creek, 23 Jul 2001 (adult assoc.) (NSM, GTA #1635)

NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill Summit-Merritt Creek at junction with Sunflower Reservoir Rd., 16 Jun 2003 (adult assoc.) (NSM, GTA #1865)

***Satyrium californica obscurafacies* Austin, 1998**

ASTERACEAE

*Artemisia tridentata* Nutt. ssp. *tridentata* (see following note)

NV: Pershing Co.; Selenite Range, Limbo Range Rd., 3.3 mi. E of Nv 447, 29 Jun 1987 (ovip. on lower surface of leaf, undoubtedly not a larval hostplant, the only plant nearby that may have been such was *Purshia tridentata*, 16:30 PST) (NSM, GTA #1448)

RHAMNACEAE

*Ceanothus velutinus* Hook. var. *velutinus* (Fig. 19)

NV: Elko Co.; Ruby Mts., Harrison Pass Rd., 3.8 mi. N of Harrison Pass, 25 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; East Humboldt Range, Angel Lake Rd., 0.8 mi. W of Angel Creek Campground, 26 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Range, Jack Creek Rd., 4.2 mi. W of North Fork Summit, 27 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Range, Nv 11A, 0.5 mi. E of Maggie Summit, 28 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Santa Rosa Mts., Buckskin Mt., Windy Gap to summit, 10 Jul 1981 (adult assoc.) (no plant coll., GTA)

ROSACEAE

*Cercocarpus ledifolius* Nutt.\* (Plate 1B)

NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 10 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Brown's Bench, 11.6 mi. W of US 93, nr. Burnt Creek Spring, W of Cottonwood Creek, 25 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Eureka Co.; Diamond Mts., US 50, 0.8 mi. W of Pinto Summit, 8 Jul 1984 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 8 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Hot Creek Range, Morey Mine area, 15 Jul 1983 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Buckhorn Rd., 1.0 mi. E of CA state line, 2 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 4.8 mi. W of Pleasant Valley Rd., 6 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Purshia tridentata* (Pursh) DC.

NV: Elko Co.; Charleston Rd. to Marys River Rd., 16.2 mi. S of Marys River Rd., 6 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Charleston Rd. to Marys River Rd., 9.7 mi. S of Marys River Rd., 6 Jul 2003 (adult assoc.) (no plant coll., GTA)

***Satyrium californica cygnus* (W. H. Edwards, 1871)**

## RHAMNACEAE

*Ceanothus cordulatus* Kellogg

NV: Washoe Co.; Carson Range, First Creek area, 30 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1884)

*Ceanothus velutinus* Hook. (Fig. 19)

NV: Carson City; Carson Range, Kings Canyon, 19 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.9 mi. W of Nv 206, 18 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4-5 mi. W of Nv 206, 18 Jul 1985 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, 0.5 mi. S of Sand Harbor, 12 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Peavine Peak Rd., 6.8 mi. W of US 395, 7 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Galena Creek Park, 18 Jul 1983 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, I-80 between exits 1 and 2, S of Verdi, 17 Jun 1988 (adult assoc.) (no plant coll., GTA)

## ROSACEAE

*Purshia tridentata* (Pursh) DC. var. *tridentata*

NV: Mineral Co.; Truman Meadows, 8.8 mi. W of Nv 360, 25 Jun 1985 (adult assoc.) (NSM, GTA #1218)

***Satyrium sylvinus sylvinus* (Boisduval, 1852)**

## SALICACEAE

*Salix scouleriana* Hook.\*

NV: Washoe Co.; Carson Range, First Creek area, 30 Jul 2003 (adult assoc.) (NSM, GTA #1946)

***Satyrium sylvinus putnami* (Hy. Edwards, 1877)**

## SALICACEAE

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Lander Co.; Reese River Valley, Nv 722 at Reese River, 18 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, Caliente, 22 Jul 1979 (adult assoc.) (UNLV, GTA)

NV: Lincoln Co.; Meadow Valley Wash, Caliente, 22 Jun 1984 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 29 Jul 1978 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Meadow Creek, 22 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Cow Canyon, 6 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 1.5 mi. E of Nv 376, 21 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Spring Valley, 20.7 mi. S of

Stonehouse, 17 Jul 2001 (adult assoc.) (NSM, GTA #1601)

*Salix laevigata* Bebb\* (Fig. 38)

NV: Lincoln Co.; Spring Valley, 0.2 mi. S of Ursine, 25 Jul 1983 (adult assoc.) (no plant coll., GTA)

*Salix lutea* Nutt.\*

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (NSM, GTA #1611)

***Satyrium sylvinus nootka* Fisher, 1998**

## SALICACEAE

*Salix eastwoodiae* A.Heller\*

NV: Elko Co.; Independence Mts., North Fork Rd., 3.8 mi. E of North Fork Summit, 27 Jul 1981 (adult assoc.) (no plant coll., GTA, cf GTA #1563)

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (secondary adult assoc.) (NSM, GTA #1359)

NV: Elko Co.; Owyhee River Valley, North Wildhorse Creek, 23 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; rd. to Fenalon, 6.1 mi. NE of I-80, Independence Creek, 24 Jul 2001 (adult assoc.) (no plant coll., GTA)

*Salix laevigata* Bebb\* (Fig. 38)

NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (principal adult assoc.) (NSM, GTA #1358)

*Salix lutea* Nutt.\*

NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 1.7 mi. S of Yankee Bill Summit, 25 Jul 2003 (adult assoc.) (NSM, GTA #1928)

***Satyrium sylvinus megapallidum* Austin, 1998**

## SALICACEAE

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Churchill Co.; US 50, 8 mi. E of Fallon at Wildes Rd., 12 Aug 1979 (adult assoc.) (UNLV, GTA)

NV: Douglas Co.; Carson Valley, Genoa Lane, 2.3 mi. W of US 395, 6 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Valley, Centerville Rd., 1.6 mi. E of Nv 206, 6 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Humboldt River, Nv 229, 1.7 mi. S of I-80, 15 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Eureka Co.; Humboldt River, Dunphy, 13 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Eureka Co.; Humboldt River, Dunphy, 13 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Humboldt River, Nv 789, 6.0 mi. NE of Golconda, 12 Jul 1992 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle Mountain, 13 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle

Mountain, 7 Aug 1990 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Humboldt River Valley, 2.0 mi. N of Battle Mountain, 28 Jul 2003 (adult assoc.) (NSM, GTA #1941)

NV: Lyon Co.; US 95A at Fernley Canal, 11 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; Mason Valley, Nv 208, 0.5 mi. W of junction with Mason Rd., 22 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, Miller Lane, 3.3 mi. E of US 95A, 23 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; East Walker River Rd., 6.1 mi. E of Nv 338, 30 Jul 1987 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; US 95A at Fernley Canal, 30 Jul 1988 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, end of Manha Lane, 0.8 mi. N of Pete Henrich Rd., 18 Aug 1996 (adult assoc.) (NSM, GTA #1535)

NV: Lyon Co.; East Walker River, junction of Nv 338 and rd. to Hawthorne, 29 Aug 1996 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Humboldt River, 4.0 mi. W of Imlay, 6 Aug 1990 (adult assoc.) (no plant coll., GTA)

*Salix gooddingii* C.R. Ball\*

NV: Humboldt Co.; rd. to McDermitt, 9.2 mi. W of Greeley Crossing Rd., 4 Jul 2003 (adult assoc.) (NSM, GTA #1903)

*Salix laevigata* Bebb\* (Fig. 38)

NV: Douglas Co.; Carson Valley, Mottsville Lane, 1.0 mi. W of Nv 88, 6 Aug 2001 (adult assoc.) (NSM, GTA #1650)

NV: Pershing Co.; Humboldt Range, Star Creek Canyon, 5-6 mi. W of Nv 400, 12 Aug 1981 (adult assoc.) (no plant coll., GTA, cf GTA #460)

*Satyrium tetra* (W. H. Edwards, 1870)

ROSACEAE

*Cercocarpus ledifolius* Nutt. (Plate 1B)

NV: Carson City; Carson Range, Kings Canyon, 7 Aug 1980 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 18 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 18 Jul 1985 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 9 Aug 1981 (adult assoc.) (NSMCC, GTA)

*Satyrium saepium saepium* (Boisduval, 1852)

RHAMNACEAE

*Ceanothus cordulatus* Kellogg

NV: Douglas Co.; Carson Range, Montreal Canyon, 5 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, First Creek area, 30



Figure 16. *Prunus virginiana*.

Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1884)

*Ceanothus velutinus* Hook. (Fig. 19)

NV: Carson City; Carson Range, Kings Canyon, 19 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Carson City; Carson Range, upper Kings Canyon, Kings Canyon-Spooner Summit Rd., 4 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.9 mi. W of Nv 206, 18 Jul 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 18 Jul 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; SE slope of McClellan Peak, 31 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Peavine Peak Rd., 6.8 mi. W of US 395, 7 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park, 18 Jul 1983 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Galena Creek Park, 18 Jul 1983 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park, 4 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Thomas Creek, 4 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (adult assoc.)



(no plant coll., GTA)

NV: Washoe Co.; Carson Range, Nv 431, 3.6 mi. E of Nv 28, 10 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Mt. Rose ski area, East Bowl, 31 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Ceanothus velutinus* Hook. var. *velutinus* (Fig. 19)

NV: Washoe Co.; Carson Range, First Creek area, 30 Jul 2003 (adult assoc.) (NSM, GTA #1943)

***Satyrium saepium provo* (Watson & W. P. Comstock, 1920)**

RHAMNACEAE

*Ceanothus martinii* M.E.Jones\* (Plate 10A)

NV: White Pine Co.; Snake Range, Snake Creek, 12-13 mi. W of Nv 487, 18 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Summit, 19 Aug 2003 (adult assoc.) (NSM, GTA #1957)

*Ceanothus velutinus* Hook. (Fig. 19)

NV: Elko Co.; Ruby Mts., Harrison Pass Rd., Harrison Pass, 14 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; East Humboldt Range, Angel Lake Rd., 0.9 mi. W of Angel Creek Campground Rd., 16 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; East Humboldt Range, Angel Lake Rd., 2.2 mi. W of Angel Creek Campground Rd., 16 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Ruby Mts., Harrison Pass, 21 Aug 2001 (adult assoc.) (NSM, GTA #1680)

***Satyrium saepium obscurafuscum* Austin, 1998**

RHAMNACEAE

*Ceanothus velutinus* Hook. (Fig. 19)

NV: Elko Co.; Independence Mts., Jack Creek Rd., 4.2 mi. W of North Fork Summit, 27 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 0.5 mi. E of Maggie Summit, 28 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Elk Mountain, 8 Aug 1990 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Santa Rosa Mts., Buckskin Mt., Windy Gap, 13 Aug 1981 (adult assoc.) (no plant coll., GTA)

*Ceanothus velutinus* Hook. var. *velutinus* (Fig. 19)

NV: Elko Co.; Jarbidge Mts., McDonald Creek Rd., 2.1 mi. N of Sunflower Rd., 27 Jul 2003 (adult assoc.) (NSM, GTA #1938)

NV: Elko Co.; Jarbidge Mts., McDonald Creek Rd., 5.5 mi. N of Sunflower Rd., 27 Jul 2003 (adult assoc.) (no plant coll., GTA)

***Satyrium saepium latalinea* Austin & Savage, 1998**

RHAMNACEAE

*Ceanothus martinii* M.E.Jones\* (Plate 10A)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak

Rd., 9000', 29 Jul 1979 (adult assoc.) (UNLV, GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 3 Sep 1983 (adult assoc.) (NSM, GTA #644)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 25 Jul 1988 (adult assoc.) (NSM, GTA #1484)

*Ceanothus greggii* A.Gray

UT: Washington Co.; Pine Valley Mts., Leeds Creek Rd., 7 mi. W of Leeds, 19 Jun 1984 (adult assoc.) (NSM, GTA #1008)

***Callipsyche behrii behrii* (W. H. Edwards, 1870)**

ROSACEAE

*Purshia tridentata* (Pursh) DC. var. *tridentata*

NV: Carson City; Carson Range, Kings Canyon, 19 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 18 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 18 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Pine Nut Mts., 1.0 mi. SW of Holbrook Station off US 395, 30 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 31 Jul 1996 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Kingsbury Grade, 4.1 mi. W of Nv 206, 19 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., Desert Creek at Rickey Mine Rd., 22 Jun 1985 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; SE slope of McClellan Peak, 31 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., Eldorado Canyon rd. at CA state line, 18 Jun 1996 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., upper Desert Creek, 29 Aug 1996 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Thomas Canyon, 20 Jul 2002 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park, 4 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Thomas Canyon, 30 Jun 2003 (adult assoc.) (NSM, GTA #1888)

***Callipsyche behrii columbia* McDunnough, 1944**

ROSACEAE

*Purshia tridentata* (Pursh) DC.

NV: Washoe Co.; Buckhorn Rd., 4.4 mi. W of rd. to Buffalo Meadows, 2 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Buckhorn Rd., 2.2 mi. E of CA state line, 2 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Purshia tridentata* (Pursh) DC. var. *tridentata*

NV: Pershing Co.; Selenite Range, Selenite Range Rd., summit, 4.6 mi. E of Nv 447, 3 Jul 2003 (adult assoc.) (NSM, GTA #1895)

***Callipsyche behrii kali* (Strecker, 1878)**

## ROSACEAE

*Purshia tridentata* (Pursh) DC.

NV: Clark Co.; Spring Mts., Willow Creek, 22 Jun 1968 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Lida Summit, 28 May 1979 (2 larvae) (*vide* J. Brock)

NV: Esmeralda Co.; Nv 266, Lida, 4 Jun 1992 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Oak Springs Summit, ca. 10 mi. W of Caliente 6200', 3 Jul 1969 (ovip. on stem, 07:50 PST) (Emmel *et al.* 1970)

*Purshia tridentata* (Pursh) DC. var. *glandulosa* (Curran)

M.E.Jones

NV: Lincoln Co.; Highland Range, Anderson Canyon, 22 Jul 1979 (adult assoc.) (no plant coll., GTA, *cf* GTA #311)

NV: Nye Co.; Grapevine Mts., 2.5 mi. E of Strozzi Ranch, 16 Jun 1984 (ovip. on small branch near top of shrub, 09:10 PST) (NSM, GTA #986)

*Purshia tridentata* (Pursh) DC. var. *tridentata*

NV: Mineral Co.; Truman Meadows, 8.8 mi. W of Nv 360, 25 Jun 1985 (adult assoc.) (NSM, GTA #1218)

***Callipsyche behrii crossi* Field, 1938**

## ROSACEAE

*Purshia tridentata* (Pursh) DC.

NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 26 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 0.5 mi. E of Maggie Summit, 28 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; East Humboldt Range, Angel Lake Rd., 2.2 mi. W of Angel Creek Campground Rd., 16 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 16 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Spruce Mt., Spruce Well Rd., 8.3 mi. E of US 93, 17 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 6 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 10 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 6.8 mi. E of Nv 226, 11 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Brown's Bench, 11.6 mi. W of US 93,

nr. Burnt Creek Spring, W of Cottonwood Creek, 25 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Spruce Mountain, 26 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Charleston Rd. to Marys River Rd., 9.7 mi. S of Marys River Rd., 6 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Jarbidge Mts., McDonald Creek Rd., 6.9 mi. N of Sunflower Rd., 27 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Lynch Canyon, 20 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 8 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Summit Canyon, 1 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, San Juan Creek, 4 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Washington Canyon, 4 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Cottonwood Canyon, 4 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Stewart Canyon, 5 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Marysville Canyon, 6 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Cow Canyon, 6 Aug 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Meadow Creek, 5 Aug 1996 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Timber Creek, 15 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 9 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 2-6 mi. W of Spring Valley Rd., 14 Jul 2002 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Worthington Canyon, 2.4 mi. E of Duck Creek Rd., 22 Aug 2002 (adult assoc.) (no plant coll., GTA)

***Ministrymon leda* (W. H. Edwards, 1882)**

## FABACEAE

*Prosopis glandulosa* Torr. var. *torreyana* (L.D.Benson) M.Johnston (Fig. 29)

NV: Clark Co.; Moapa Valley, Hidden Valley, 12 Jul 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Paradise Valley, 18 Jul 1977 (adult assoc., no indication of association with *Prosopis pubescens*) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Paradise Valley, 9 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 1 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Paradise Valley, 24 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 26 Jun

- 1982 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Moapa Valley, Logandale, 13 Jun  
 1987 (adult assoc., not seen associated with  
*Prosopis pubescens*) (no plant coll., GTA)  
 NV: Clark Co.; US 95, Indian Springs, 4 Jun 1992  
 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Moapa Valley, Logandale, 26 Jun  
 1992 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Moapa Valley, Logandale, 20 May  
 1993 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; US 93, Coyote Springs, 8 Jun 1983  
 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Pahump Valley, Nv 372, 0.2 mi. E of  
 CA state line, 28 May 1981 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Nye Co.; Pahump Valley, Mesquite Rd., 9 Jun  
 1983 (adult assoc.) (no plant coll., GTA)

***Callophrys affinis affinis* (W. H. Edwards, 1862)**

## POLYGONACEAE

- Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)  
 NV: Lander Co.; Toiyabe Range, US 50, 1.8 mi. W  
 of Austin Summit, 20 Jun 1980 (adult assoc.) (no  
 plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, ridge above Birch  
 Creek, 30 Jun 1994 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Peak  
 Rd., 8000', 20 Jun 1978 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Peak  
 Rd., 9.6 mi. S of Atlanta Rd., 7 Jun 1985 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Ophir Canyon, 16 Jun  
 1981 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Snake Range, Wheeler Peak  
 Rd., 8700', 8 Jun 1985 (adult assoc.) (no plant  
 coll., GTA)

***Callophrys comstocki comstocki* Henne, 1940**

## POLYGONACEAE

- Eriogonum heermannii* Durand & Hilg. (Plate 3F)  
 NV: Clark Co.; N end of Sheep Mt., E of Jean, 10  
 Apr 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Esmeralda Co.; US 95, 4 mi. S of Goldfield  
 Summit, 18 Apr 1980 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Lincoln Co.; Meadow Valley Wash, 3.7 mi. S of  
 Elgin, 26 Apr 1980 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Lincoln Co.; East Mormon Mts., rd. to  
 microwave towers, 0.5 mi. S of end of rd., 31 Mar  
 2003 (adult assoc.) (no plant coll., GTA)  
*Eriogonum heermannii* Durand & Hilg. var. *argense* (M.E.Jones)  
 Munz (Plate 3F)  
 NV: Nye Co.; Grapevine Mts., rd. to Strozzi Ranch,  
 16.7 mi. W of US 95, 11 Apr 1984 (adult assoc.)  
 (NSM, GTA #528)  
 NV: Nye Co.; Grapevine Mts., Strozzi Ranch, 11 Apr

- 1984 (adult assoc.) (no plant coll., GTA)  
*Eriogonum heermannii* Durand & Hilg. var. *sulcatum* (S.Watson)  
 Munz & Reveal (Plate 3F)  
 NV: Clark Co.; Spring Mts., Wilson Pass, 29 Mar  
 1978 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., 2-3 mi. N of Red Cloud  
 Mine, 5 Apr 1978 (and several subsequent dates)  
 (adult assoc.) (Austin and Austin 1980)

***Callophrys comstocki interrupta* Austin, 1998**

## POLYGONACEAE

- Eriogonum heermannii* Durand & Hilg. (Plate 3F)  
 NV: Churchill Co.; Stillwater Mts., US 50, 5.6 mi. W  
 of Frenchman, 1 May 1980 (adult assoc.)  
 (NSMCC, GTA)  
 NV: Churchill Co.; Stillwater Mts., Cox Canyon, 17  
 May 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Churchill Co.; Stillwater Mts., US 50, 3.1 mi. W  
 of Frenchman, 5 May 1984 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Churchill Co.; Stillwater Mts., US 50, 5.5 mi. W  
 of Frenchman, 5 May 1984 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Churchill Co.; Stillwater Mts., US 50, 5.5 mi. W  
 of Frenchman, 27 Apr 1990 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Mineral Co.; Wassuk Range, US 95, 9.0 mi. S of  
 Shurtz, 3 May 1980 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Mineral Co.; Excelsior Mts., Douglas Canyon,  
 4.3 mi. W of Mina, 6 May 1981 (adult assoc.)  
 (NSMCC, GTA)  
*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)  
 NV: Nye Co.; Monitor Range, US 6, 5 mi. W of Five  
 Mile Spring, 6400', 8 Jul 1969 (adult assoc.,  
 possible larva of this species on underside of leaf)  
*(fide J. F. Emmel)*  
 NV: Nye Co.; Toiyabe Range, Peavine Creek  
 Campground, 12 Apr 1984 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Storey Co.; Nv 341, Seven Mile Canyon, 6 May  
 1984 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Nv 447, 25 mi. N of Gerlach, 7 Jun  
 1980 (adult assoc.) (NSMCC, GTA)  
*Eriogonum umbellatum* Torr. var. *dichrocephalum* Gand. (Plate  
 4A)  
 NV: Elko Co.; Jarbidge Mts., Charleston-Jarbidge  
 Rd., 4.8 mi. W of Marys River Rd., 14 Jun 2003  
 (adult assoc.) (NSM, GTA #1851)

***Callophrys lemberti* Tilden, 1963**

## POLYGONACEAE

- Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)  
 NV: Lyon Co.; Sweetwater Mts., Rickey Mine area,  
 N base and trail to East Sister, 24 May 1984 (adult  
 assoc.) (no plant coll., GTA)  
*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)  
 NV: Lyon Co.; Sweetwater Mts., East Sister area, 26  
 Jun 1985 (adult assoc.) (NSM, GTA #1219)

*Eriogonum umbellatum* Torr. var. *umbellatum* (Plate 4A)

NV: Washoe Co.; Carson Range, Nv 431, 1.1 mi. E of Mt. Rose Summit, 18 Jul 1983 (adult assoc.) (NSM, GTA #488)

*Cisincisalia spinetorum spinetorum* (Hewitson, 1867)

## SANTALACEAE

*Arceuthobium* sp.

NV: Nye Co.; Toquima Range, Pine Creek Campground, 8000', 4 Aug 1967 (larva) (*fide* J. F. Emmel)

*Arceuthobium campylopodium* Engelm. (on *Pinus*)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 18 Jul 1964 (8 larvae) (*fide* O. Shields)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 20 Jul 1964 (larvae) (*fide* O. Shields)

*Arceuthobium divaricatum* Engelm. (on *Pinus monophylla*)

NV: Clark Co.; Red Rock Summit Rd., 2.1 mi. E of Lowell Wash, 28 Apr 1977 (adult assoc.) (UNLV, GTA)

NV: Churchill Co.; Desatoya Mts., Den Creek, 9 Jul 2003 (adult assoc.) (no plant coll., GTA, *cf* GTA #1734)

NV: Lyon Co.; Sweetwater Mts., Desert Creek, 5-6 mi. W of Nv 338, 30 Apr 1986 (adult assoc.) (no plant coll., GTA, *cf* GTA #1740)

*Mitoura nelsoni nelsoni* (Boisduval, 1869)

## CUPRESSACEAE

*Calocedrus decurrens* (Torr.) Florin

NV: Carson City; Carson Range, Spooner-Kings Canyon Rd., 9.4 mi. N of US 50, 6 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Washoe Valley, behind Davis Creek Park, 22 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, I-80, between exits 1 and 2, 26 Jun 1988 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Mitoura siva clenchi* K. Johnson, 1988

## CUPRESSACEAE

*Juniperus osteosperma* (Torr.) Little (Plate 2C, Fig. 18)

NV: Clark Co.; Spring Mts., 2.0 mi. E of Mt. Springs Summit, 24 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Willow Creek, 27 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Cold Creek, 27 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Red Rock Summit Rd., 2.1 mi. E of Lovell Wash, 28 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Potosi Mt. Rd. at Pahump Rd., 2 Jun 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Lee Canyon at Mack's Canyon Rd., 23 Jun 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 13 Apr 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 15 Apr 1979 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun 1983 (adult assoc.) (NSM, GTA #343)

NV: Clark Co.; Spring Mts., 2.3 mi. SW of Wheeler Pass, 9 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Clark Canyon, 4.2 mi. E of Wheeler Pass Rd., 9 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Sheep Range, Deadman Canyon to Wiregrass Spring, 13 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Lovell Canyon Rd., 1.4 mi. E of Trout Canyon Rd., 13 Apr 1994 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Delamar Mts., Oak Springs Summit, 0.5 mi. S of US 93, 2 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Clover Mts., Beaver Dam State Park Rd., 10.6 mi. W of US 93, 4 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Clover Mts., 2 mi. E of Acoma, 4 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 1.7 mi. S of Elgin, 26 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Delamar Mts., US 93, 6 mi. E of Oak Springs Summit, 12 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Mormon Mts., 5.1 mi. N of summit, 7 mi. W of Elgin-Carp Rd., 5 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 11.0 mi. W of Nv 318, 13 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Spring Mts., rd. to Mt. Stirling, 9-10 mi. W of US 95, 10 Jun 1983 (adult assoc.) (no plant coll., GTA)

*Mitoura siva chalcosiva* (Clench, 1981)

## CUPRESSACEAE

*Juniperus occidentalis* Hook.

NV: Pershing Co.; Selenite Range, Limbo Range Rd., 4.3 mi. E of Nv 447, 9 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Granite Mts., Hays Canyon Rd., 12 mi. W of Nv 34, 8 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Granite Mts., Hays Canyon Rd., 10.9 mi. W of Nv 34, 1 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Sheldon Antelope Refuge, Nv

- 34A, 1.4 mi. W of Bald Mt. Summit, 29 Jun 1987  
(adult assoc.) (no plant coll., GTA)
- Juniperus osteosperma* (Torr.) Little (Plate 2C, Fig. 18)  
NV: Carson City; Brunswick Canyon, 4 May 1984  
(adult assoc.) (no plant coll., GTA)  
NV: Churchill Co.; Clan Alpine Range, War Canyon Rd., 3.1 mi. N of Clan Alpine Ranch, 25 Jun 1982  
(adult assoc.) (no plant coll., GTA)  
NV: Churchill Co.; Desatoya Mts., 2 mi. N of Buffalo Pass, 16 May 1990 (adult assoc.) (no plant coll., GTA)  
NV: Douglas Co.; Sweetwater Mts., Risue Canyon, 4.8 mi. W of Desert Creek Rd., 4 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 7 Jul 1978 (adult assoc.) (no plant coll., GTA)  
NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 6 Jul 1980 (adult assoc.) (no plant coll., GTA)  
NV: Elko Co.; 2.8 mi. S of Pequop-Spruce Mt. Pass, 9 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Elko Co.; Ruby Mts., Harrison Pass Rd., 6.7 mi. W of Harrison Pass, 25 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Elko Co.; rd. to Cedar Ridge, 7-9 mi. W of Jiggs, 19 Jun 1991 (adult assoc.) (no plant coll., GTA)  
NV: Elko Co.; Toana Mts., Silver Zone Basin, 24 May 1993 (adult assoc.) (no plant coll., GTA)  
NV: Esmeralda Co.; Lida Summit, 12 Jun 1978 (adult assoc.) (no plant coll., GTA)  
NV: Esmeralda Co.; Kline Springs Rd at Nv 3, 12 Jun 1978 (adult assoc.) (no plant coll., GTA)  
NV: Esmeralda Co.; White Mts., Indian Creek, 7-9 mi. W of Nv 264, 11 Jun 1986 (adult assoc.) (no plant coll., GTA)  
NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, 18 Jun 1978 (adult assoc.) (no plant coll., GTA)  
NV: Eureka Co.; Roberts Mts., Roberts Creek, 10 Jul 1978 (adult assoc.) (no plant coll., GTA)  
NV: Eureka Co.; US 50, 1.2 mi. W of White Pine Co. line, 19 Jun 1980 (adult assoc.) (no plant coll., GTA)  
NV: Eureka Co.; Diamond Mts., Newark Canyon, 4.7 mi. E of Nv 46, 20 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Eureka Co.; Diamond Mts., US 50, 0.8 mi. W of Pinto Summit, 8 Jul 1984 (adult assoc.) (no plant coll., GTA)  
NV: Lander Co.; Toiyabe Range, Kingston Canyon, 11 Jul 1978 (adult assoc.) (no plant coll., GTA)  
NV: Lander Co.; Toiyabe Range, Birch Creek, 17 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Lander Co.; Toiyabe Range, Petes Summit Rd., 16.8 mi. E of Nv 376, 18 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Lander Co.; Desatoya Mts., 0.5 mi. E of Buffalo Pass, 4 Jul 1991 (adult assoc.) (no plant coll., GTA)
- GTA)  
NV: Lander Co.; Shoshone Mts., Mill Creek, 21 Jul 1991 (adult assoc.) (no plant coll., GTA)  
NV: Lander Co.; Shoshone Mts., Ravenswood, 21 Jul 1991 (adult assoc.) (no plant coll., GTA)  
NV: Lincoln Co.; Schell Creek Range, Patterson Pass Rd., 1-2 mi. W of US 93, 3 Jun 1978 (adult assoc.) (no plant coll., GTA)  
NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Ranch, 30 May 1983 (adult assoc.) (no plant coll., GTA)  
NV: Lincoln Co.; Bristol Mts., Bristol Mine Rd., 3.3 mi. W of US 93, 31 May 1983 (adult assoc.) (no plant coll., GTA)  
NV: Lincoln Co.; Highland Range, Anderson Canyon, 25 Jul 1983 (adult assoc.) (no plant coll., GTA)  
NV: Lincoln Co.; Spring Valley, 0.2 mi. S of Ursine, 25 Jul 1983 (adult assoc.) (no plant coll., GTA)  
NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Rd., 1.7 mi. E of US 93, 26 Jul 1983 (adult assoc.) (no plant coll., GTA)  
NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Rd., 2.7 mi. S of Atlanta Rd., 24 Jun 1984 (adult assoc.) (no plant coll., GTA)  
NV: Lyon Co.; Pine Nut Mts., Eldorado Canyon, 3-4 mi. SE of Dayton, 17 Jun 1978 (adult assoc.) (no plant coll., GTA)  
NV: Lyon Co.; Sweetwater Mts., Nv 338, 5.8 mi. N of Sweetwater Summit, 1 Jun 1980 (adult assoc.) (no plant coll., GTA)  
NV: Lyon Co.; 0.5 mi. W of Silver City, 15 Jun 1980 (adult assoc.) (no plant coll., GTA)  
NV: Lyon Co.; Sweetwater Mts., Desert Creek, 5-6 mi. W of Nv 338, 8 May 1984 (adult assoc.) (no plant coll., GTA)  
NV: Mineral Co.; Lucky Boy Grade, 2.5 mi. N of Nv 31, 13 Jun 1978 (adult assoc.) (no plant coll., GTA)  
NV: Mineral Co.; Pilot Mts., Dunlop Canyon, rd. toward Summit Spring, ca. 5 mi. E of junction, 19 Jun 1983 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Jett Canyon, 29 Jul 1978 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Quinn Canyon Range, 2.3-4.3 mi. W of Cherry Creek Summit, 28 May 1979 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Jett Canyon, 16 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Stoneberger Canyon, 5.4 mi. SW of Monitor Ranch, 18 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Monitor Range, Dobbin Creek Rd., 9.0 mi. SE of Potts, 19 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Hot Creek Range, Keystone Canyon, 29 May 1983 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Summit Canyon, 9 Jul 1984 (adult assoc.) (no plant coll., GTA)



NV: Nye Co.; Paradise Range, Nv 844, 0.3 mi. E of Green Springs Summit, 17 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Shoshone Mts., 4 mi. E of Ione, 17 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Shoshone Mts., Becker Creek, 4-5 mi. W of Reese River Rd., 17 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, San Juan Creek, 17 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Stewart Creek, 4 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Moores Creek Rd., 0.3 mi. W of Moores Creek Summit, 5 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; East Range, Willow Creek, 28 May 1992 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Virginia Range, 3.4 mi. N of Cottonwood Springs, 16 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 29 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Buckhorn Rd., 5.7 mi. W of rd. to Buffalo Meadows, 2 Jul 2003 (adult assoc.) (NSM, GTA #1892)

NV: White Pine Co.; nr. McGill Junction (adult assoc.) (Johnson 1978)

NV: White Pine Co.; Snake Range, Baker Creek Campground, 19 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Egan Range, US 6, Powderhouse Canyon, 17 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Egan Range, Ward Mt. ski area, 17 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, jct. Timber Creek Rd. and Duck Creek Rd., 18 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; White Pine Mts., White River Rd., 12.9 mi. W of US 6, 19 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; White Pine Mts., Little Currant Creek Rd., 2.4 mi. N of Nye Co. line, 17 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Indian Creek, 2 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek Campground, 23 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Diamond Mts., 2.0 mi. E of Railroad Pass, 19 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Cherry Creek Range, Golden Butte Mine Rd., 0.5-2.0 mi. N of mine, 21 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; White Pine Mts., Ellison Guard Station Rd., 1.2 mi. NW of US 6, 7 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Egan Range, Upper Terrace Rd., 4.5 mi. S of US 6, 13 Jul 2002 (adult assoc.) (no plant coll., GTA)

*Juniperus osteosperma* (Torr.) Little x *Juniperus occidentalis* Hook.

NV: Washoe Co.; Reno and vicinity westward (adult assoc.) (Johnson 1978)

*Juniperus scopulorum* Sarg.

NV: Elko Co.; Jarbidge-Big Bend Campground Rd., 10.6 mi. E of Waterloo Summit, Meadow Creek, 25 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Jarbidge Mts., Jarbidge Canyon, Jarbidge Campground, 25 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 15 Jun 2003 (adult assoc.) (NSM, GTA #1863)

NV: White Pine Co.; Spring Valley, Shoshone Ponds, 26 Jul 1993 (adult assoc.) (no plant coll., GTA)



Figure 17. *Eriogonum umbellatum*.

NV: White Pine Co.; Spring Valley, Shoshone Ponds,  
4 Jul 2000 (adult assoc.) (no plant coll., GTA)

***Deciduphagus iroides iroides* (Boisduval, 1852)**

RHAMNACEAE

*Ceanothus velutinus* Hook. (Fig. 19)

NV: Douglas Co.; Carson Range, Kingsbury Grade,  
4.0 mi. W of Nv 206, 19 May 1981 (adult assoc.)  
(no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade,  
4.1 mi. W of Nv 206, 3 May 1984 (adult assoc.)  
(no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 29  
May 1981 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 6 May  
1984 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Washoe Valley, behind Davis  
Creek Park, 19 May 1982 (adult assoc.) (no plant  
coll., GTA)

NV: Washoe Co.; Carson Range, Galena Creek Park,  
25 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, above Incline  
Village, First Creek area, 10 Jul 2003 (adult assoc.)  
(no plant coll., GTA)

***Deciduphagus iroides concava* (Austin, 1998)**

RHAMNACEAE

*Ceanothus velutinus* Hook. (Fig. 19)

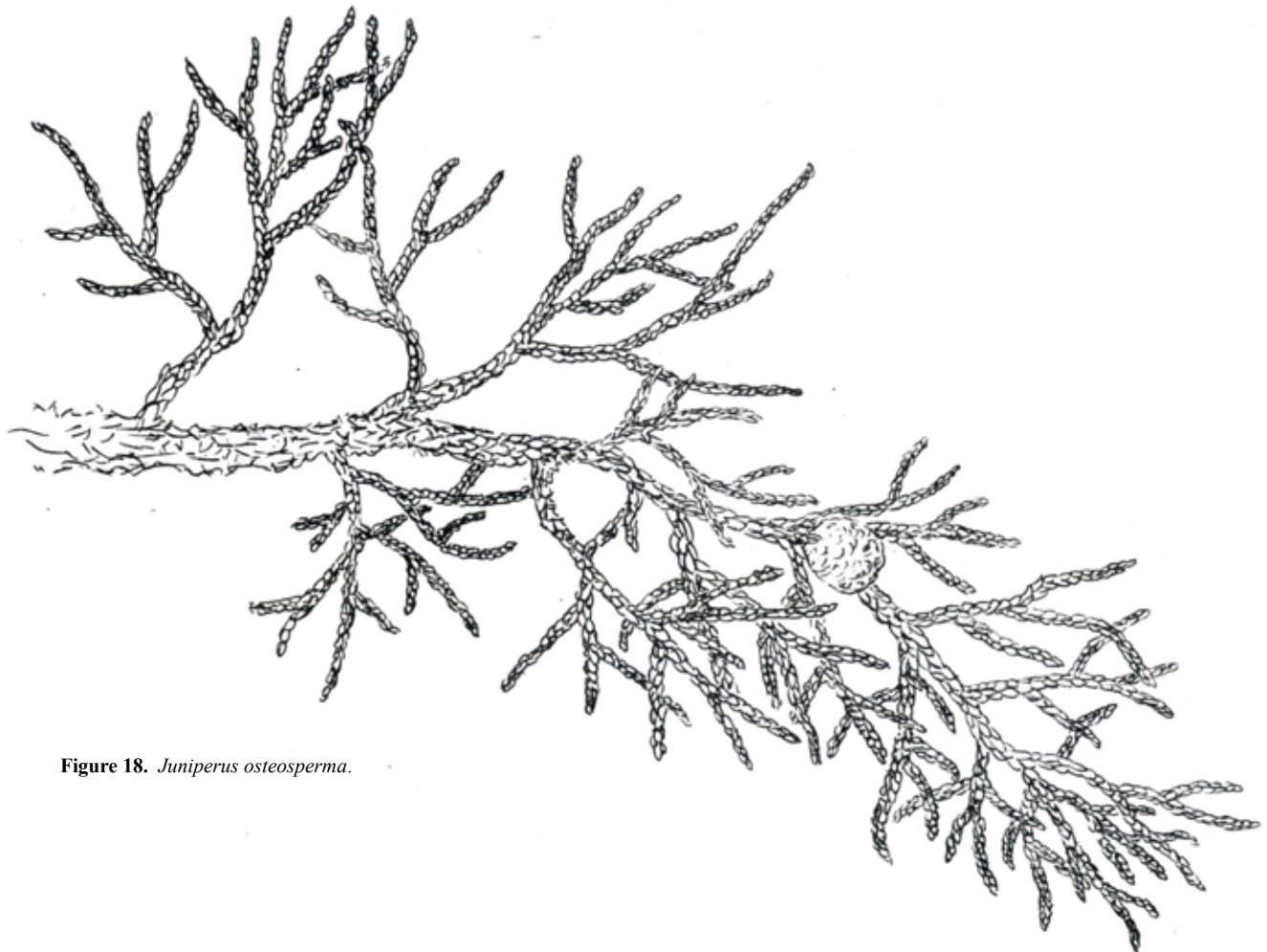


Figure 18. *Juniperus osteosperma*.

NV: Elko Co.; Independence Mts., Jack Creek, 1.3  
mi. N of Jack Creek Campground, 11 Jun 1981  
(adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 9.8 mi. E  
of Nv 226, 9 Jun 1990 (adult assoc.) (no plant coll.,  
GTA)

NV: Elko Co.; Nv 11, 2.6 mi. N of Nv 11A, 27 May  
2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Nv 11, 10.5 mi. N of Nv 11A, 27 May  
2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Ruby Mts., Lamoille Canyon, 1.5 mi.  
S of Thomas Canyon Campground, 14 Jun 2003  
(adult assoc.) (NSM, GTA #1848)

***Deciduphagus fotis fotis* (Strecker, 1878)**

ROSACEAE

*Purshia mexicana* (D. Don) S.L. Welsh var. *stansburyana* (Torr.)  
S.L. Welsh (Plate 8A)

NV: Clark Co.; Virgin Mts., Whitney Ranch Rd., 1.5  
mi. W of Whitney Pass, 15 Apr 1981 (adult assoc.)  
(no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 29 Mar  
1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 12 Apr  
1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; rd. to Devil's Cove, 1.0 mi. SE of  
Gold Butte Rd., 13 Mar 2003 (adult assoc.) (no  
plant coll., GTA)

***Deciduphagus fotis mojavensis* (Austin, 1998)**

## ROSACEAE

*Purshia mexicana* (D. Don) S.L. Welsh var. *stansburyana* (Torr.) S.L. Welsh (Plate 8A)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 0.6 mi. S of Nv 160, 16 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Red Rock Summit Rd., 1.5-2.1 mi. E of Lovell Wash, 24 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Cold Creek, 27 Apr 1977 (ovip.) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Willow Creek, 27 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 5 Apr 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., 0.5 mi. E of Mt. Springs Summit, 13 May 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., White Rock Spring, 24 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Trout Canyon, 13 Apr 1994 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Lovell Canyon Rd., 1.4 mi. E of Trout Canyon Rd., 13 Apr 1994 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; 5.7 mi. NW of Goodsprings, 6 Jun 1999 (larva) (*vide* J. Brock)

NV: Clark Co.; Spring Mts., Potosi Mountain Rd., 3.9 mi. W of Nv 160, 11 Apr 2003 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; US 95, 4 mi. S of Goldfield Summit, 18 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 3.7 mi. S of Elgin, 26 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Delamar Mts., US 93, 6.0 mi. E of Oak Spring Summit, 27 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Mormon Mts., Carp-Elgin Rd., 5.1 mi. N of summit, 6 mi. W of Elgin Rd., 23 Apr 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Bristol Mts., US 93, 12.5 mi. N of Pioche, 12 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 30 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 15.5 mi. W of Nv 318, 13 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Pioche, 22 Apr 1986 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Spring Valley, 0.6 mi. N of Ursine, 23 Apr 1986 (adult assoc.) (no plant coll., GTA)

NV: Mineral Co.; Pilot Mts., Dunlop Canyon, 5.3 mi. S of Mina Rd., 25 May 1988 (adult assoc.) (no

plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Peavine Canyon, 5 May 1980 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Spring Mts., rd. to Mt. Stirling, 7.4 mi. W of US 95, 17 Apr 1983 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Queen City Summit, 6 Jun 1995 (larva) (*vide* J. Brock)

NV: Nye Co.; Nv 318, Gap Mountain, 11.4 mi. N of Lincoln Co. line, 30 May 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Snake Range, Baker Creek Campground, 11 May 1984 (adult assoc.) (no plant coll., GTA)

***Incisalia eryphon eryphon* (Boisduval, 1852)**

## PINACEAE

*Pinus jeffreyi* Grev. & Balf.\*

NV: Carson City; Carson Range, 2.3 mi. N of US 50 at Spooner Summit, 14 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Carson Range, Kings Canyon, 20 May 1982 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of Washoe Co. line, 25 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Carson Range, lower Kings Canyon, 15 May 1986 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 10 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 2.0 mi. W of Nv 206, 21 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Washoe Valley, behind Davis Creek Park, 22 May 1981 (principal adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Galena Creek, 25 May 1984 (principal adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Incline Village, 5 May 1987 (principal adult assoc.) (no plant coll., GTA)

*Pinus lambertiana* Douglas\*

NV: Washoe Co.; Washoe Valley, behind Davis Creek Park, 22 May 1981 (adult assoc.) (NSMCC, GTA)

*Pinus ponderosa* Laws. (Plate 2D, Fig. 8)

NV: Washoe Co.; Carson Range, Galena Creek, 25 May 1984 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Incline Village, 5 May 1987 (adult assoc.) (no plant coll., GTA)

*Pinus washoensis* H. Mason & Stockw.\*

NV: Washoe Co.; Carson Range, Galena Creek, 25 May 1984 (adult assoc.) (NSMCC, GTA)

***Incisalia eryphon pallescens* Austin, 1998**

## PINACEAE

*Pinus flexilis* James

- NV: White Pine Co.; Snake Range, Wheeler Peak Campground, 19 Jun 1978 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Snake Range, Wheeler Peak Rd., 8500', 29 Jun 1978 (adult assoc.) (no plant coll., GTA)
- Pinus monophylla* Torr. & Frém.\* (Plate 1B, 2C)
- NV: Carson City; Brunswick Canyon, 4 May 1984 (adult assoc.) (no plant coll., GTA)
- NV: Churchill Co.; Clan Alpine Range, War Canyon, 3.1 mi. N of Clan Alpine Ranch, 25 Jun 1982 (adult assoc.) (no plant coll., GTA)
- NV: Churchill Co.; Desatoya Mts., 3.3 mi. W of Carroll Summit, 16 May 1990 (adult assoc.) (no plant coll., GTA)
- NV: Churchill Co.; Desatoya Mts., Buffalo Pass Rd., 8.9 mi. S from Nv 722, 4 Jul 1991 (adult assoc.) (no plant coll., GTA)
- NV: Douglas Co.; Pine Nut Mts., rd. to Ruby Hill Mine, 22 Jun 1980 (adult assoc.) (no plant coll., GTA)
- NV: Douglas Co.; Sweetwater Mts., Desert Creek Rd., 0.3 mi. N of Risue Canyon Rd., 3 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 6 Jul 1980 (adult assoc.) (no plant coll., GTA)
- NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (adult assoc.) (no plant coll., GTA)
- NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, 18 Jun 1978 (adult assoc.) (no plant coll., GTA)
- NV: Eureka Co.; Monitor Range, Wallace Canyon, 7.6 mi. W of South Fork Pass, 20 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Eureka Co.; Monitor Range, Allison Creek, 4.4 mi. W of Nv 82, 20 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Eureka Co.; Diamond Mts., 1.9 mi. S of Pinto Pass, 20 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Big Creek, 18 Jun 1978 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Desatoya Mts., Nv 722, 4.4 mi. E of Churchill Co. line, 20 Jun 1980 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 7.1 mi. E of summit, 16 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toquima Range, Petes Summit Rd., 16.8 mi. E of Nv 376, 18 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toquima Range, Petes Summit Rd., 0.8 mi. E of Petes Summit, 18 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Desatoya Mts., Nv 722, 5.1 mi. E of Carroll Summit, 2 Jun 1984 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Birch Creek, 3.2 mi. W of Nv 376, 8 Jul 1984 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Desatoya Mts., Nv 722, 5.4 mi. E of Carroll Summit, 16 May 1990 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Shoshone Mts., Ravenswood, 4.5-6.5 mi. W of Nv 305, 18 Jun 1991 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Birch Creek, 26 May 1993 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Burnd Creek, 26 May 1993 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 7000', 20 Jun 1978 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Highland Range, Anderson Canyon, 17 Jun 1990 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Pine Nut Mts., Eldorado Canyon, 3-4 mi. SE of Dayton, 17 Jun 1978 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; 0.8 mi. W of Silver City, 8 May 1980 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Pine Nut Mts., Eldorado Canyon, 21 Jun 1980 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Sweetwater Mts., Nv 338, 5.1 mi. N of Sweetwater Summit, 28 Jun 1980 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Sweetwater Mts., Garden Canyon, 28 Jun 1980 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Sweetwater Mts., Desert Creek, 1 mi. S of Rickey Mine Rd., 4 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Sweetwater Mts., Desert Creek, 0.5 mi. S of Jackass Creek Rd., 4 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Pine Grove Hills, Pine Grove Canyon, 7 mi. W of Nv 3C to summit, 5 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Sweetwater Mts., East Sister area, 26 Jun 1985 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; Wellington Hills, Desert Creek Rd., 5-7 mi. SW of Nv 338, 4 May 1987 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; Lucky Boy Grade, 2.5 mi. W of Nv 31, 13 Jun 1978 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; Wassuk Range, Corey Peak Rd., 0.6 mi. N of Lucky Boy Grade, 21 Jun 1978 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; Wassuk Range, Nv 2C, 5.0 mi. W of US 95, 6 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; Anchorite Hills, Nv 339, 1.2 mi. E of Anchorite Pass, 6 Jun 1981 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; White Mts., US 6, 1.4 mi. E of Montgomery Pass, 27 May 1988 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 5 Jul



1978 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Shoshone Mts., Union Canyon, 9.8 mi.  
 E of Nv 844, 18 May 1980 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Nye Co.; Quinn Canyon Range, Cherry Creek  
 Rd., 7.2 mi. E of Nyala Rd., 16 Jun 1980 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Ophir Canyon, 16 Jun  
 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Peavine Creek, 5.8 mi.  
 N of campground, 17 Jun 1981 (adult assoc.) (no  
 plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Wall Canyon, 17 Jun  
 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Stoneberger Canyon,  
 5.4 mi. SW of Monitor Ranch, 18 Jun 1981 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Ikes Canyon, 3.1-4.0  
 mi. W of Nv 82, 19 Jun 1981 (adult assoc.) (no  
 plant coll., GTA)  
 NV: Nye Co.; Monitor Range, Dobbin Creek Rd., 9.0  
 mi. SW of Potts, 19 Jun 1981 (adult assoc.) (no  
 plant coll., GTA)  
 NV: Nye Co.; Hot Creek Range, Keystone Canyon,

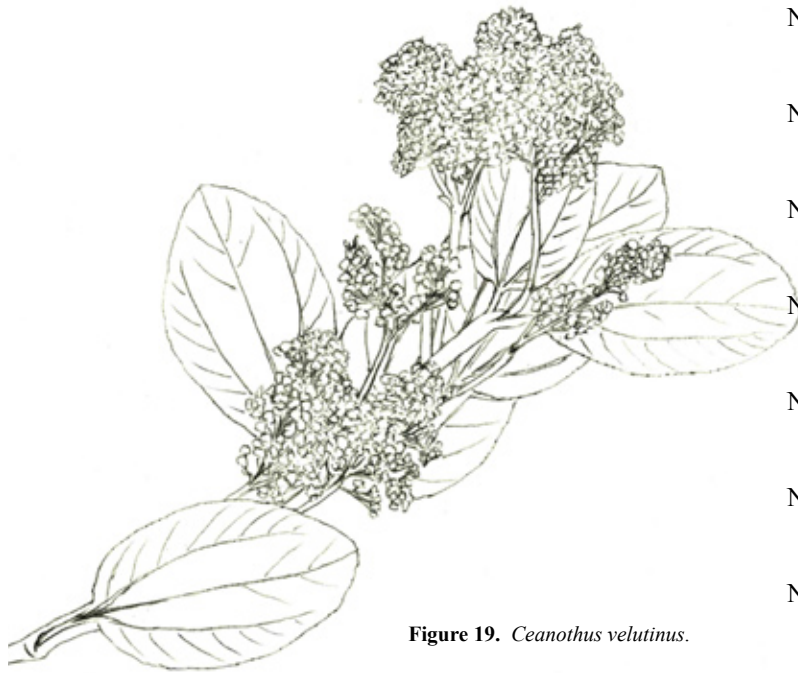


Figure 19. *Ceanothus velutinus*.

29 May 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Hot Creek Range, Morey Mine area,  
 15 Jul 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 27 Apr  
 1990 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Paradise Range, Nv 844, 0.3 mi. E of  
 Green Springs Summit, 17 Jun 1991 (adult assoc.)  
 (no plant coll., GTA)  
 NV: Nye Co.; Shoshone Mts., Becker Creek Canyon,  
 4-5 mi. W of Reese River Rd., 17 Jun 1991 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, San Juan Creek, 17

Jun 1991 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Stewart Creek, 4 Jul  
 1991 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Meadow Creek, 5 Jul  
 1991 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Marysville Canyon, 5  
 Aug 1995 (adult assoc.) (no plant coll., GTA)  
 NV: Storey Co.; Virginia Range, 3.4 mi. N of  
 Cottonwood Springs, 16 Jun 1978 (adult assoc.)  
 (no plant coll., GTA)  
 NV: Storey Co.; Nv 341, Seven Mile Canyon, 24 Jun  
 1980 (adult assoc.) (no plant coll., GTA)  
 NV: Storey Co.; Nv 341, 0.5 mi. N of Lyon Co. line,  
 29 May 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Storey Co.; Nv 341, Seven Mile Canyon, 23 Jun  
 1983 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Snake Range, Lehman Creek  
 Campground, 29 Jun 1978 (principal adult assoc.)  
 (no plant coll., GTA)  
 NV: White Pine Co.; Egan Range, US 6,  
 Powderhouse Canyon, 17 Jun 1980 (adult assoc.)  
 (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Indian  
 Creek, 5.1 mi. E of US 93, 18 Jun 1980 (adult  
 assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Egan Range, Telegraph Canyon  
 Rd., 2.5 mi. W of Monte Neva Hot Springs Rd., 18  
 Jun 1980 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; White Pine Mts., White River  
 Rd., 11.2 mi. W of US 6, 19 Jun 1980 (adult  
 assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; White Pine Mts., Little Currant  
 Creek Rd., 2.4 mi. N of Nye Co. line, 17 Jul 1980  
 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Snake Range, Baker Creek  
 Campground, 8 Jun 1985 (adult assoc.) (no plant  
 coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Indian  
 Creek, 2 Jun 1987 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; Schell Creek Range, Cleve  
 Creek, 23 Jun 1987 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; Schell Creek Range, Kalamazoo  
 Creek Campground to summit, 24 Jun 1987 (adult  
 assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Cherry Creek Range, canyon  
 2.5 mi. W of Cherry Creek, 21 Jun 1991 (adult  
 assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; southern Ruby Mts., rd. towards  
 Little Bald Mountain, 1.9 mi. W of Long Valley  
 Rd. (to Ruby Lake), 30 May 2003 (adult assoc.)  
 (no plant coll., GTA)  
*Pinus ponderosa* Laws. (Plate 2D, Fig. 8)  
 NV: White Pine Co.; Snake Range, Lehman Creek  
 Campground, 29 Jun 1978 (adult assoc.) (no plant  
 coll., GTA)



***Strymon melinus pudica* (Hy. Edwards, 1876)**

## FABACEAE

*Parkinsonia* sp.\* (i)

NV: Clark Co.; Las Vegas, Decatur Avenue at Vegas Drive, 16 Mar 2004 (ovip. on cultivated plant) (no plant coll., BB)

*Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L. Welsh (Plate 8F)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 12 Jul 2001 (larva, pupated 16 Jul, em. 24 Jul 2001) (NSM, BB)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 22 Jul 2001 (larva, pupated 29 Jul, em. 8 Aug 2001) (NSM, BB)

NV: Clark Co.; Spring Mts., Kyle Canyon, Old Town, 25 Jul 2001 (larva, pupated 1 Aug, em. 23 Aug 2001) (NSM, BB)

*Melilotus alba* Medikus (i) (Fig. 20)

NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 1984 (ovip. on flower head, 11:45 PST) (NSM, GTA #1080)

NV: Washoe Co.; Washoe Valley, Bellevue Rd., just E of US 395, 7 Aug 2001 (ovip. among flowers, 09:00 PST) (NSM, GTA #1660)

## POLYGONACEAE

*Eriogonum corymbosum* Benth. var. *nilesii* Reveal\*

NV: Clark Co.; Las Vegas, Whitney Mesa at Sunset Rd., 7 Oct 1983 (larva on flower head, pupated 10 Oct 1983, em. 31 Oct 1983) (NSM, GTA #742)

*Eriogonum elatum* Benth. var. *elatum* (Fig. 23)

NV: Washoe Co.; US 395, Anderson Siding opposite Red Rock Rd., 5 Aug 2002 (full grown larva on flower head) (no plant coll., GTA, cf GTA #1735)

*Eriogonum nummulare* M.E. Jones [*Eriogonum kearneyi* Tidestrom]\*

NV: Humboldt Co.; Sand Pass Rd., 15 mi. NNW of Winnemucca, 25 Aug 2001 (3 larvae reared to adult) (*vide* J. Wolfe)

*Eriogonum umbellatum* Torr. var. *subaridum* S. Stokes\* (Plate 4A)

NV: Clark Co.; Spring Mts., Willow Creek, 3 Aug 2001 (larva on flower head, pupated, em. 2 Sep 2001) (NSM, BB)

***Strymon melinus setonia* McDunnough, 1927**

## POLYGONACEAE

*Eriogonum elatum* Benth. (Fig. 23)

NV: Humboldt Co.; Santa Rosa Mts., 4.8 mi. S of Hinkey Summit, 12 Aug 1981 (close adult assoc.) (NSMCC, GTA, cf GTA #1441)

*Eriogonum strictum* Benth. var. *proliferum* (Torr. & A. Gray) Reveal\*

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 24 Jul 2003 (adult assoc.) (NSM, GTA #1927)

## POLYOMMATINAE

Larval hostplants have been documented for 29 of the 30 species

of blues in Nevada, including 113 species of plants (222 butterfly/plant combinations) in six families, particularly Fabaceae and Polygonaceae. Of these, 106 are newly reported for the species of butterfly in question, and encompass 12 new generic records (*Brephidium* on *Allenrolfea*, *Bassia*, *Cycloloma*, *Kochia*, and *Nitrophila*; *Leptotes* on *Lupinus* and *Mimosa*; *Icaricia shasta* on *Eriogonum*; *Icaricia texanus* on *Oxytropis*; *Hemiargus* on *Dalea*, and *Melilotus*; and *Echinargus* on *Oxytropis*) and one new family (Polygonaceae for *P. shasta*). Hostplants are more readily determined for polyommata than for species of other lycaenids; females are relatively obvious in their behavior, associations are often unequivocal, and larvae may be located fairly readily within inflorescences. Eggs are largely placed on reproductive parts of plants (83%), with 63% of these on flower buds. Other plant parts used include stems (8%, most often just beneath inflorescences), leaves and their petioles (8%, often on plants without reproductive parts), and fruit (2%). Oviposition takes place throughout the day, but mostly in the morning (72%), especially between 09:00 and 12:00 PST (62% of total ovipositions).

***Brephidium exilis exilis* (Boisduval, 1852)**

## AMARANTHACEAE

*Allenrolfea occidentalis* (S. Watson) Kuntze\*\*

NV: Churchill Co.; 2.3 mi. S of Salt Wells, 28 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Churchill Co.; 2.3 mi. S of Salt Wells, 25 Aug 1983 (adult assoc.) (NSM, GTA #599)

NV: Clark County, Moapa Valley, Warm Springs, Mormon Ranch, 10 Apr 2000 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Nv 34, 9.0 mi. N of Nv 447, 8 Aug 2001 (ovip. 2X on terminal stem, 08:35 PST) (NSM, GTA #1662)

*Atriplex canescens* (Pursh) Nutt. (Plate 3D)

NV: Clark Co.; Moapa Valley, Hidden Valley, N side of Moapa River opposite dairy, 7 Apr 1977 (and many subsequent dates) (adult assoc.) (NSM, GTA, BB, cf BB #87)

NV: Clark Co.; Moapa Valley, Warm Springs Ranch, 15 May 1977 (and many subsequent dates) (adult assoc.) (NSM, GTA, BB, cf BB #87)

NV: Clark Co.; Spring Mts., Lovell Canyon, 4.8 mi. E of Nv 160, 17 Jun 1984 (adult assoc.) (NSM, GTA #1002)

NV: Clark Co.; Moapa Valley, Logandale, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Meadow Valley Wash, 1 mi. N of Farrier, 3 Oct 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Lewis Ranch, 22 Jun 2000 (adult assoc.) (NSM, GTA #1547)

NV: Clark Co.; Moapa Valley, Lewis Ranch, 20 Aug 2002 (ovip.) (NSM, BB #72)

NV: Clark Co.; Moapa Valley, Logandale, 4 Sep 2002 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; US 95, 3.8 mi. S of Goldfield Summit, 25 May 1988 (adult assoc.) (NSM, GTA #1467)

NV: Lincoln Co.; US 93, Coyote Springs, 8 Jun 1984

- (adult assoc.) (NSM, GTA #357)  
*Atriplex canescens* (Pursh) Nutt. ssp. *linearis* (S. Watson)  
 H.M.Hall & Clem.  
 NV: Churchill Co.; US 50, Sand Mountain, 28 Aug 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Churchill Co.; I-80, 1.9 mi. N of Lyon Co. line, 3 Sep 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; several locations, many dates (adult assoc.) (Austin and Austin 1980)  
 NV: Clark Co.; Las Vegas, Paradise Valley, 8 Apr 1977 (and numerous subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Las Vegas Wash, 30 Apr 1977 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., Kyle Canyon, 9.3 mi. S US 95, 1 May 1977 (adult assoc.) (UNLV, GTA)  
 NV: Clark Co.; Cottonwood Pass Rd., 1.8 mi. S of Nv 160, 28 May 1978 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; US 95, Cactus Springs, 10 Jun 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; along Carson River on rd. to Ft. Churchill, nr. Pigeon Rock, 4300', 13 Jun 1978 (adult assoc.) (*vide* F. Ryser)  
 NV: Lyon Co.; Fernley Canal at US 95A, 3 Sep 1981 (adult assoc.) (no plant coll., GTA)  
*Atriplex confertifolia* (Torr. & Frém.) S. Watson\*  
 NV: Nye Co.; Big Smoky Valley, Triple T Ranch, 9 Jul 1984 (adult assoc.) (NSM, GTA #1071)  
*Atriplex hymenelytra* (Torr.) S. Watson  
 NV: Nye Co.; Ash Meadows, 18 Mar 1988 (adult assoc.) (no plant coll., GTA)  
*Atriplex lentiformis* (Torr.) S. Watson ssp. *lentiformis*  
 NV: Clark Co.; Las Vegas, Valley, East Las Vegas, 14 May 1977 (adult assoc.) (UNLV, GTA)  
 NV: Clark Co.; Newberry Mts., Nv 163, 10.3 mi. E of US 95, 5 Sep 2001 (adult assoc.) (NSM, GTA #1694)  
 NV: Clark Co.; Moapa Valley, 1-2 mi. W of Logandale, 4 Sep 2002 (adult assoc.) (NSM, GTA #1783)  
 NV: Clark Co.; Meadow Valley Wash, 11.8 mi. N of Nv 168, 17 Sep 2002 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Moapa Valley, Logandale, bank of Muddy River at bridge, 28 Aug 2003 (adult assoc.) (no plant coll., GTA, *cf* GTA #1783)  
 NV: Nye Co.; US 95, 0.8 mi. N of Beatty, 6 Sep 1984 (ovip. on seeds, 11:45 PST) (NSM, GTA #1175)  
*Atriplex lentiformis* (Torr.) S. Watson ssp. *torreyi* (S. Watson) H.M.Hall & Clem. [*Atriplex torreyi* (S. Watson) S. Watson]  
 NV: Humboldt Co.; Jackson Creek Rd., 27.1 mi. N of Sulphur, 10 Aug 2001 (adult assoc.) (NSM, GTA #1667)  
 NV: Humboldt Co.; Jackson Creek Rd., 32.7 mi. N of Sulphur, 10 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; just N of Weber Reservoir, along Walker River, 7 Aug 2002 (adult assoc.) (NSM, GTA #1749)  
 NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 2001 (adult assoc.) (NSM, GTA #1578, 1579)  
 NV: Pershing Co.; Humboldt Sink, Nv 387, 1.8 mi. N of Nv 860, 29 Aug 2002 (adult assoc.) (NSM, GTA #1779)  
 NV: Pershing Co.; Sulphur-Jungo Rd., 26.4 mi. W of Sulphur, 13 Sep 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Smoke Creek Rd., 19.0 mi. S of Nv 447, 14 Sep 2003 (adult assoc.) (no plant coll., GTA)  
*Atriplex polycarpa* (Torr.) S. Watson\*  
 NV: Clark Co.; Newberry Mts., Nv 163, 10.3 mi. E of US 95, 5 Sep 2001 (adult assoc.) (NSM, GTA #1695)  
 NV: Clark Co.; Moapa Valley, 1-2 mi. W of Logandale, 4 Sep 2002 (adult assoc.) (NSM, GTA #1784)  
*Atriplex semibaccata* R.Br. (i)  
 NV: Clark County, Moapa Valley, Warm Springs, Mormon Ranch, 10 Apr 2000 (adult assoc.) (no plant coll., GTA)  
*Bassia hyssopifolia* (Pall.) Kuntze\*\* (i)  
 NV: Washoe Co.; Nv 447, Squaw Creek, 10 Aug 2002 (ovip. on buds, 09:45 PST) (NSM, GTA #1753)  
*Chenopodium album* L. (i)  
 NV: Clark Co.; Moapa Valley, Hidden Valley, N side of Moapa River opposite dairy, 17 Apr 2001 (ovip.) (NSM, BB, GTA #1570)  
 NV: Eureka Co.; US 50, 13.0 mi. E of Lander Co. line, 28 Aug 1984 (ovip. 3X on flower head, 12:20 PST) (NSM, GTA #1138)  
*Chenopodium murale* L.\* (i)  
 NV: Elko Co.; US 93, Little Salmon River Valley, 2.8 mi. S of Jackpot, 7 Sep 1983 (adult assoc.) (NSM, GTA #682)  
*Cycloloma atriplicifolium* (Spreng.) J.M.Coult.\*\* (i)  
 NV: Churchill Co.; US 95, 11 mi. S of US 50 at Fallon, 23 Aug 1984 (adult assoc.) (NSM, GTA #1100)  
*Halogeton glomeratus* (M. Bieb.) C. Meyer (i)  
 NV: Elko Co.; US 93A, 2.2 mi. SW of Wendover, 5 Sep 1983 (adult assoc., huge population of butterflies) (no plant coll., GTA)  
 NV: Elko Co.; 3.0 mi. S of Currie, 23 Aug 2001 (ovip. on terminal buds, 12:55 PST) (NSM, GTA #1689)  
 NV: Humboldt Co.; Nv 140, Quinn River Crossing, 28 Aug 2002 (adult assoc.) (NSM, GTA #1778)  
 NV: Mineral Co.; US 6, 4.0 mi. E of CA state line, 15 Sep 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Warm Springs, 20 Sep 1973 (adult assoc.) (Scott 1986b)  
 NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 2001 (adult assoc.) (NSM, GTA #1580)  
 NV: Pershing Co.; Eugene Mts., SW corner, 4900', 12 Aug 1977 (adult assoc.) (*vide* F. Ryser)

*Kochia scoparia* (L.) Schrader\*\* (i)

NV: Humboldt Co.; Humboldt Co.; rd. to Midas, 5.6 mi. NE of Golconda, 26 Aug 2002 (adult assoc.) (no plant coll., GTA, cf GTA #1770)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 26 Aug 2002 (adult assoc.) (NSM, GTA #1770)

NV: Lincoln Co.; Pahrangat Valley, Hiko Junction, 12 Jul 1986 (adult assoc.) (NSM, GTA #1355)

NV: Storey Co.; I-80 at Truckee River, 7 Sep 1984 (ovip. on terminal flower cluster, 09:50 PST) (NSM, GTA #1182)

*Nitrophila occidentalis* (Nutt.) Moq.\*\*

NV: Humboldt Co.; Sulphur, 9 Aug 2002 (adult assoc.) (NSM, GTA #1750)

*Salsola* spp. (probably including *S. tragus* L. and *S. paulsenii* Litv.) (i)

NV: Carson City; Carson River, E of Prison Hill, 1 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Churchill Co.; US 50, Sand Mountain, 28 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Churchill Co.; US 50A, 2.0 mi. N of US 50, 23 Aug 1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; many locations, many dates (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Las Vegas, Eugene Ave., 22 Jun 1966 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Paradise Valley, 8 Apr 1977 (and numerous subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas Wash, 30 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Mormon Farm, 30 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Bowmans Reservoir, 4 May 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; 0.5 mi. E of Blue Diamond, 22 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Mormon Farm, 4 Jul 1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 25 Oct 1987 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 27 Oct 1988 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Nv 206, 1.2 mi. S of Genoa, 6 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, Dyer, 23 Aug 1983 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, Nv 224, 1.2 mi. S of US 6, 29 Aug 1983 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, Dyer, 27 May 1988 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; 0.5 mi. S of Paradise Valley, 13 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Sand Pass Rd., 4.6 mi. W of US 95, 26 Aug 2002 (adult assoc.) (no plant coll.,



Figure 20. *Melilotus alba*.

GTA)  
 NV: Lincoln Co.; White River Valley, 6.7 mi. N of Hiko, 12 Aug 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; US 93, 2.9 mi. N of Panaca junction, 22 Aug 1984 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; US 93 at Miller Point Rd., 27 Aug 1988 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Nv 319, 1.5 mi. E of Panaca, 3 Sep 1988 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Meadow Valley Wash, 3.5 mi. N. of Farrier, 3 Oct 1988 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Rachel, 5 Jun 1992 (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Nv 208, 0.5 mi. W of Mason Rd., 22 Jul 1981 (adult assoc.) (no plant coll., GTA)

- NV: Lyon Co.; Fernley Canal at US 95A, 3 Sep 1981 (adult assoc.) (no plant coll., GTA)
- NV: Lyon Co.; US 95A, 2.7 mi. E of Fernley, 7 Sep 1984 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; US 95, 3.6 mi. S of Schurz, 20 Sep 1980 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; US 95, Sodaville, 24 Aug 1983 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; US 95, Walker Lake, Sportsman Beach, 7 Jun 1987 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Pahrump Valley, 3 mi. N of Pahrump, 7 Oct 1979 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Ash Meadows, 9 Jun 1983 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; US 95, 1.5 mi. S of Springdale, 12 Sep 1983 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 1984 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; US 95, 0.8 mi. N of Beatty, 6 Sep 1984 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Ash Meadows, 15 Aug 1988 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Amargosa Valley, Amargosa Farms, 18 Oct 1988 (adult assoc.) (no plant coll., GTA)
- NV: Pershing Co.; Nv 400, 0.5 mi. N of Star Creek Canyon Rd., 12 Aug 1981 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; White River Valley, S side of Lund, Cementary Rd., 11 Jul 1993 (adult assoc.) (no plant coll., GTA)
- Salsola paulsenii* Litv.\* (i) (Plate 3C)
- NV: Mineral Co.; US 6, 4.0 mi. E of CA state line, 15 Sep 2003 (adult assoc.) (NSM, GTA #1975)
- NV: Nye Co.; US 95, 0.3 mi. N of Beatty, 7 Jul 1982 (adult assoc.) (NSMCC, GTA)
- NV: Pershing Co.; rd. to Rabbithole, Rocky Canyon, 20.0 mi. N of Nv 399, 10 Aug 2001 (adult assoc.) (NSM, GTA #1670)
- Salsola tragus* L. [*Salsola iberica* Sennen & Paul; *Salsola kali* L.] (i)
- NV: Humboldt Co.; Jungo Rd., 9.5 mi. E of Bottle Creek Rd., 11 Aug 2001 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Beaver Dam State Park Rd., 2.5 mi. E of US 93, 8 Sep 2003 (adult assoc.) (NSM, GTA #1964)
- NV: Lincoln Co.; Miller Point Rd. at US 93, 8 Sep 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1964)
- NV: Storey Co.; I-80 at Truckee River, 7 Sep 1984 (ovip. among flowers, 10:15 PST) (NSM, GTA #1183)
- Suaeda calceoliformis* (Hook.) Moq.\*
- NV: Churchill Co.; US 50A, 2.0 mi. N of US 50, 23 Aug 1984 (ovip. on middle of flower head, 11:45 PST) (NSM, GTA #1104)
- Suaeda moquinii* (Torr.) Greene [*Suaeda torreyana* S. Watson] (Fig. 21)

- NV: Churchill Co.; S side of Dry Lake, S of Blow Sand Mountain, 7 Aug 2002 (ovip. on upper part of plant, 10:00 PST) (NSM, GTA #1747)
- NV: Clark Co.; several locations, many dates (adult assoc.) (Austin and Austin 1980)
- NV: Clark Co.; Las Vegas, Arden at Charleston Blvd, 18 Apr 1977 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas Wash, 30 Apr 1977 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Hidden Valley, 4 May 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, 1.0 mi. E of Overton, 4 May 1977 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Warm Springs, 15 May 1977 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Hidden Valley, 9 Oct 1977 (larvae) (Austin and Austin 1980)
- NV: Clark Co.; Moapa Valley, Lewis Ranch, 22 Jun 2000 (ovip. 2X on stem at leaf petiole juncture, 09:15 PST) (NSM, GTA #1545)
- NV: Clark Co.; Moapa Valley, Lewis Ranch, 22 Jun 2000 (ovip. on bud, 10:05 PST) (NSM, GTA #1545)
- NV: Humboldt Co.; Jackson Creek Rd., hot spring, 13.0 mi. N of Sulphur, 10 Aug 2001 (ovip. on fruit, 10:50 PST) (NSM, GTA #1668)
- NV: Mineral Co.; Nv 360 at US 95, 31 Aug 2002 (adult assoc.) (NSM, GTA #1781)
- NV: Nye Co.; US 95, 0.8 mi. N of Beatty, 6 Sep 1984 (ovip. 2X on buds, 11:45 PST) (NSM, GTA #1176, 1177)
- NV: Nye Co.; Ash Meadows, 15 Aug 1988 (ovip. on fruits, 10:05 PST) (NSM, GTA #1490)

***Leptotes marina* (Reakirt, 1868)**

## FABACEAE

*Acacia greggii* A.Gray (Plate 8B)

- NV: Clark Co.; Las Vegas, Paradise Valley, 8 Jun 1977 (ovip. at base of flower buds) (Austin and Austin 1980)
- NV: Clark Co.; Las Vegas Valley, Tule Springs, 8 Jun 1977 (ovip.) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, 5077 Eugene Ave., 11 May 1987 (ovip. 3X on early flower buds, 11:30 PST) (NSM, GTA #1406)
- NV: Clark Co.; Las Vegas, 5077 Eugene Ave., 10 May 2001 (ovip. 4X on early flower buds, 11:05 PST) (no plant coll., GTA)

*Lupinus argenteus* Pursh\*\* (Plate 8F)

- NV: Clark Co.; Spring Mts., Kyle Canyon ski run, 8 Jul 1987 (ovip. 2X on unopened flower buds, 12:45 PST) (NSM, GTA #1456)

*Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L. Welsh\*\* (Plate 8F)

- NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 29 Jun 1988 (ovip. 2X on unopened flower buds, 11:40 PST) (NSM, GTA #1475)

*Medicago sativa* L. (i) (Fig. 24)

- NV: Clark Co.; Las Vegas Valley, Mormon Farm, 4 Jul 1984 (ovip. on unopened flower buds, 09:45 3X, 09:50 2X, 10:10, 10:15 PST) (NSM, GTA #1042)
- NV: Clark Co.; Spring Mts., Lee Canyon ski area, 8 Jul 1987 (ovip. on unopened flower bud, 10:40, 10:50 2X PST) (NSM, GTA #1453)
- NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on flower bud, 09:20 PST) (NSM, GTA #997)
- Melilotus alba* Medikus (i) (Fig. 20)
- NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 27 Jun 1990 (ovip. on flower, 08:35 PST) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 30 Aug 1990 (preoviposition behavior) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Cold Creek, 19 May 1993 (adult assoc.) (no plant coll., GTA)
- NV: Douglas Co.; Carson Range, Lower Daggett Creek, 21 Sep 1980 (ovip. on open flowers) (NSMCC, GTA)
- NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 1 Aug 1988 (adult assoc.) (no plant coll., GTA)
- NV: Mineral Co.; White Mts., US 6, Montgomery Pass, 21 Aug 1989 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Toiyabe Range, Ophir Canyon, 9 Jun 1994 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Piermont Creek, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)
- Melilotus officinalis* (L.) Pall.\* (i)
- NV: Clark Co.; Spring Mts., Willow Creek, 27 Jun 1984 (ovip. on flower bud, 14:10 PST) (NSM, GTA #1037)
- Mimosa* probably *pudica* L. (ornamental)\*\* (i)
- NV: Clark Co.; Las Vegas, Lorenzi Park, 19 May 2000 (ovip. on flowers) (NSM, GTA #1540)
- NV: Clark Co.; Las Vegas, Lorenzi Park, 30 Apr 2001 (adult assoc.) (no plant coll., GTA, cf GTA #1540)
- Prosopis glandulosa* Torr. var. *torreyana* (L.D.Benson) M.Johnston (Fig. 29)
- NV: Clark Co.; 0.5 mi. E of Blue Diamond, 22 May 1978 (ovip. on flower buds, 09:30 PST) (Austin and Austin 1980)
- NV: Clark Co.; Newberry Mts., Sacatone Wash, 18 Apr 1983 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; US 95, Cactus Springs, 10 Jun 1983 (ovip. on flower bud, 12:35 PST) (NSM, GTA #396)
- NV: Clark Co.; Desert NWR, Corn Creek, 2 Sep 1983 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Logandale, 20 Apr 1986 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Paradise Valley, 27 Apr 1986 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; US 95, Cactus Springs, 9 May 1987

- (ovip. 8X on closed flower buds, 2 different flower heads, 10:55 PST) (NSM, GTA #1405)
- NV: Clark Co.; Moapa Valley, Logandale, 26 Jun 1992 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Logandale, 20 May 1993 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Overton WMA, 20 May 1993 (adult assoc.) (no plant coll., GTA)
- Prosopis pubescens* Benth.\*
- NV: Clark Co.; Moapa Valley, Overton WMA, 20 Apr 1980 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Logandale, 7 Apr 1985 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Moapa Valley, Overton WMA, 20 May 1993 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on flower bud, 09:40 PST) (NSM, GTA #991)

***Cupido amyntula amyntula* (Boisduval, 1852)**

## FABACEAE

*Vicia americana* Willd. var. *americana*

- NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of Washoe Co. line, 1 Jul 1985 (ovip. on stem at base of flowers, 10:30 PST) (NSM, GTA #1232)
- NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 17 Jun 1986 (ovip. on stem at base of flower, 09:30 PST) (NSM, GTA #1294)

***Cupido amyntula herri* (F. Grinnell, 1901)**

## FABACEAE

*Astragalus* sp.

- NV: White Pine Co.; Schell Creek Range, Indian Creek, 2 Jun 1987 (adult assoc.) (NSM, GTA #1412)

*Astragalus aequalis* Clokey\*

- NV: Clark Co.; Spring Mts., Willow Creek, 23 May 2000 (ovip. 2X on flower buds, 11:00 PST) (NSM, GTA #1541)
- NV: Clark Co.; Spring Mts.; Fletcher Canyon, 20 May 2001 (ovip.) (NSM, BB)

*Astragalus beckwithii* Torr. & A.Gray var. *purpureus* M.E.Jones\*

- NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (ovip. at base of flower on stem, 13:40 PST) (NSM, GTA #415)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (ovip. 2X on flower buds, 10:20 PST) (NSM, GTA #1264)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (ovip. on opening flower bud, 11:40 PST) (NSM, GTA #1264)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 19 May 1986 (ovip. at base of flower on sepals, 09:10 PST) (NSM, GTA #1264)
- NV: White Pine Co.; W side Butte Mts., Queue Valley, 7.6 mi. N of Thirtymile Ranch, 29 May 2003 (adult assoc.) (NSM, GTA #1831)

*Astragalus calycosus* S.Watson\* (Plate 8C)

- NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 15.5 mi. W of Nv 318, 13 May 1984 (ovip.



- among flowers, 10:40 PST) (NSM, GTA #831)  
*Astragalus calycosus* S. Watson var. *calycosus*\* (Plate 8C)  
 NV: White Pine Co.; W side of Butte Mts., Queue Valley, 0.9 mi. N of Thirtymile Ranch, 29 May 2003 (adult assoc.) (NSM, GTA #1829)  
*Astragalus calycosus* S. Watson var. *mancus* (Rydb.) Barneby\* (Plate 8C)  
 NV: Clark Co.; Spring Mts., Lee Canyon ski area, 8 Jul 1987 (adult assoc.) (NSM, GTA #1455)  
*Astragalus casei* A. Gray\*  
 NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (adult assoc.) (NSM, GTA #420)  
*Astragalus lentiginosus* Hook. (Plate 8D)  
 NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 12.2 mi. W of Nv 318, 13 May 1984 (ovip. at base of flowers, 09:15 PST) (NSM, GTA #830)  
 NV: Lincoln Co.; Delamar Mts., US 93, 6.0 mi. E of Oak Spring Summit, 23 Apr 1986 (adult assoc.) (NSM, GTA #1239)  
*Astragalus lentiginosus* Hook. var. *salinus* (Howell) Barneby (Plate 8D)  
 NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Ranch, 30 May 1983 (ovip. at base of flowers, 09:45 PST) (NSM, GTA #305)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Creek Rd., 9.6 mi. S of Atlanta Rd., 9 Jun 1985 (ovip. on flower buds, 08:00 PST) (NSM, GTA #1217)  
*Astragalus lentiginosus* Hook. var. *toyabensis* Barneby (Plate 8D)  
 NV: Nye Co.; Toiyabe Mts., Stoneberger Canyon, 6.8 mi. SW of Monitor Ranch, 18 Jun 1981 (ovip. at base of flowers) (NSMCC, GTA)  
*Astragalus minthorniae* (Rydb.) Jeps.\*  
 NV: Clark Co.; Spring Mts., Cold Creek, 13 Jun 1977 (ovip. on developing fruit) (UNLV, GTA)  
*Astragalus newberryi* A. Gray\*  
 NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 8 Jun 1977 (ovip. on old flower) (UNLV, GTA)  
 NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 22 Jun 1978 (adult assoc.) (UNLV, GTA)  
*Astragalus oophorus* S. Watson\*  
 NV: Nye Co.; Toiyabe Range, Summit Canyon, 9 Jul 1984 (ovip. on flower bud, 14:40 PST) (NSM, GTA #1076)  
*Astragalus oophorus* S. Watson var. *oophorus*\*  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 17 May 1990 (ovip. at base of flower, 09:35 PST) (NSM, GTA #1514)  
*Astragalus pinonis* M.E. Jones\*  
 NV: White Pine Co.; White Pine Mts., White River Rd., 0.7 mi. N of Little Current Creek Rd., 17 Jul 1980 (adult assoc.) (NSMCC, GTA)  
*Astragalus purshii* Hook.\*  
 NV: Esmeralda Co.; US 95, 4.0 mi. S of Goldfield Summit, 1 May 1986 (ovip. on flower base, 12:40 PST) (NSM, GTA #1247)  
*Astragalus serenoii* (Kuntze) E. Sheld.\*  
 NV: Esmeralda Co.; White Mts., Trail Canyon, 26 Jul

- 1978 (adult assoc.) (UNLV, GTA)  
*Astragalus tenellus* Pursh\*  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 1.2 mi. E summit to Big Creek, 16 Jun 1981 (adult assoc.) (NSMCC, GTA)  
*Astragalus utahensis* (Torr.) Torr. & A. Gray\*  
 NV: Lincoln Co.; Bristol Mts., US 93, 12.5 mi. N of Pioche, 27 Apr 1980 (adult assoc.) (NSMCC, GTA)

***Celastrina echo echo* (W. H. Edwards, 1864)**

## RHAMNACEAE

- Ceanothus cordulatus* Kellogg\*  
 NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 30 Jun 1987 (ovip. on flowers, 12:00 PST) (NSM, GTA #1452)  
 NV: Washoe Co.; Carson Range, Incline Village, Sugarpine Rd., N of Nv 28, 30 Jun 2003 (ovip. on flowers, 12:50 PST) (NSM, GTA #1884)  
*Ceanothus velutinus* Hook. (Fig. 19)  
 NV: Douglas Co.; Carson Range, Heavenly Valley North, East Peak area, 28 Jun 1985 (ovip. on opening flower bud, 10:15 PST) (NSM, GTA #1227)  
 NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.6 mi. W of Nv 206, 5 May 1987 (ovip. on base of developing flower bud, 11:30 PST) (NSM, GTA #1402)  
 NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, 22 Jun 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Storey Co.; Nv 341, Seven Mile Canyon, 6 May 1984 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Washoe Valley, behind Davis Creek Park, 19 May 1982 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, Galena Creek Park, 25 May 1984 (adult assoc.) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, Nv 431, 3.6 mi. E of Nv 28, 1 Jul 2003 (adult assoc.) (no plant coll., GTA)

## ROSACEAE

- Chamaebatiaria millefolium* (Torr.) Maxim.  
 NV: Elko Co.; Dolly Varden Mts., Dolly Varden Canyon, 8.0 mi. from Dolly Varden site, 23 Jul 2003 (adult assoc.) (NSM, GTA #1924)  
 NV: Lander Co.; Toiyabe Range, Birch Creek, 8 Jul 2000 (ovip. at base of flower bud, 13:25 PST) (NSM, GTA #1552)  
 NV: White Pine Co.; Schell Creek Range, East Creek, 12 Jul 2002 (ovip. on flower bud, 15:35 PST) (NSM, GTA #1727)  
 NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 6-7 mi. W of Spring Valley Rd., 14 Jul 2002 (ovip. 2X on flower bud, 14:20 PST) (NSM, GTA #1733)  
 NV: White Pine Co.; Schell Creek Range, East Creek, 22 Jul 2003 (ovip. 2X on flower buds, 15:30 PST) (no plant coll., GTA, cf GTA #1727)  
*Holodiscus microphyllus* Rydb.\*

NV: White Pine Co.; Schell Creek Range, Cleve Creek, 14 Jul 2002 (adult assoc.) (NSM, GTA #1729)

NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 3.5 mi. W of Pleasant Valley Rd., 22 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Holodiscus microphyllus* Rydb. var. *glabrescens* (Greenman) Ley\*

NV: Lander Co.; Toiyabe Range, Kingston Canyon Campground, 8 Jul 2003 (adult assoc.) (NSM, GTA #1912)

*Petrophyton caespitosum* (Nutt.) Rydb. (Plate 7D)

NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 28 Jul 1988 (ovip. on flower, 14:55 PST) (NSM, GTA #1486)

***Celastrina echo cinerea* (W. H. Edwards, 1883)**

ROSACEAE

*Peraphyllum ramosissimum* Nutt.

NV: Clark Co.; Spring Mts., Red Rock Summit Rd., 1.5 mi. E of Lowell Wash, 24 Apr 1977 (ovip. on flower buds) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Willow Creek, 6 Apr 1988 (ovip. 4X at base of tight flower buds, 11:40 PST) (NSM, cf GTA #1465, #1513)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 29 May 2002 (ovip. on flowers, 08:50 PST) (NSM, GTA #1699)

*Petrophyton caespitosum* (Nutt.) Rydb. (Plate 7D)

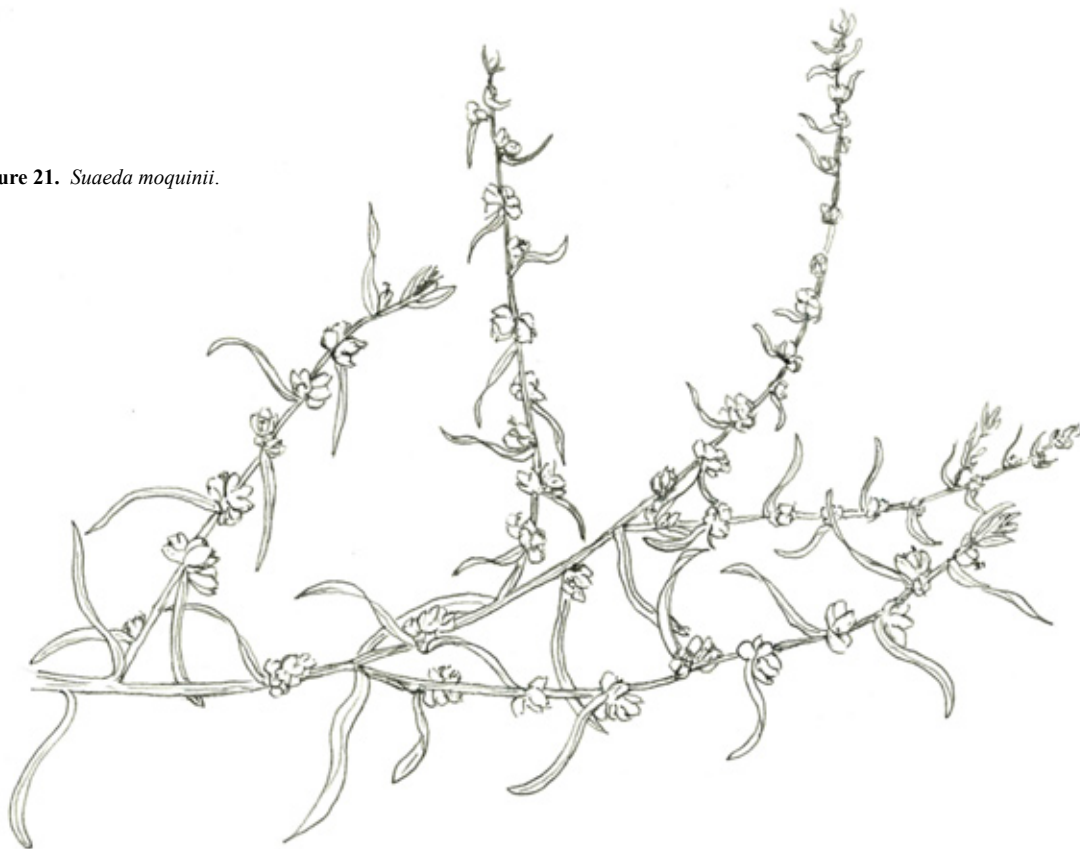
NV: Clark Co.; Spring Mts., Deer Creek, 25 Jun 1968

(ovip. on flower bud, another ovum on same flower spike) (*vide* J. F. Emmel)

***Euphilotes Mattoni*, 1977**

Generalizations on the larval hostplants of *Euphilotes* (*e.g.*, Shields 1975, 1977; Shields and Reveal 1988; Pratt 1994; Pratt and Emmel 1998a) have suffered from both the lack of understanding local details and landscape-level knowledge of their use in addition to conflicting philosophies concerning the phylogeny of *Euphilotes* and apparent poor resolution of species limits (Shields and Reveal 1988, Pratt, 1994, Pratt and Emmel 1998a, Opler and Warren 2002, Warren 2005). Similar phenotypes, “hostplant” races, and potential phenospecies (Arnold 1983, Warren 2005, Austin *et al.* 2007) confound the simplistic view of just a couple of decades ago when only three or four species were recognized (*e.g.*, Miller and Brown 1981). Today as many as 13 species have been recognized in checklists and general works (Opler 1999, Opler and Warren 2002, Pelham 2008) and more undoubtedly exist (Warren 2005). A number of taxa have been delimited by the the butterfly’s use of related taxa of *Eriogonum*, thought to involve but one species at any one locale exclusive of other sympatric taxa of *Euphilotes*. The rather clearcut associations of butterfly with plant noted elsewhere (*e.g.*, Pratt and Ballmer 1986, Pratt and Emmel 1998a, Warren 2005) apparently breaks down to some extent in Nevada. Investigations here suggest opportunism and even that more than one species of co-occurring and synchronic *Eriogonum* may be used by a population of *Euphilotes* (see also Warren 2005). Perhaps this is a result of the relatively high unpredictability of precipitation in desert regions and its effect on the flowering of *Eriogonum*. In many years, *Eriogonum* may have sparse or no flowers and, even

Figure 21. *Suaeda moquinii*.



when flowers are profuse, *Euphilotes* may be absent at sites with known populations (e.g., Shapiro 2006). *Euphilotes glaucon* uses *Eriogonum umbellatum*, *E. ovalifolium*, and *E. caespitosum* near Carson City and *E. umbellatum* and *E. caespitosum* near Virginia City. Likewise, *Euphilotes baueri orientis* uses *E. ovalifolium* and *E. villiflorum* near Patterson Pass and *Euphilotes enoptes opacupulla* uses *E. wrightii* and *E. plumatella* in the Newberry Mountains. Sympatric use of the same species of *Eriogonum* by more than one taxon of *Euphilotes* was thought to be a rare occurrence (e.g., Pratt and Ballmer 1986, Shields and Reveal 1988). This also appears unusual in Nevada, but *Euphilotes glaucon*, *Euphilotes enoptes primavera*, and *Euphilotes ancilla gilvatunica* associate with *Eriogonum umbellatum* in Dunlop Canyon. Annual species of *Eriogonum* are infrequently used by *Euphilotes*, although this appears to be a regular occurrence for *Euphilotes mojave* (e.g., Shields 1975, Pratt and Emmel 1998a). *Euphilotes pallescens* usually feed as larvae on the perennial *Eriogonum nummulare*, but some populations occasionally or regularly use annuals (see also Pratt and Emmel 1998b).

***Euphilotes glaucon intermedia* (Barnes & McDunnough, 1917)**

POLYGONACEAE

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Washoe Co.; Carson Range, ridge W of Mt. Rose Summit, 25 Jul 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)

NV: Washoe Co.; Carson Range, Nv 431, 4.9 mi. E of Nv 28, 10 Jul 2003 (adult assoc.) (NSM, GTA #1919)

NV: Washoe Co.; Carson Range, Mt. Rose ski area, East Bowl, 10 Jul 2003 (adult assoc.) (NSM, GTA #1920)

*Eriogonum umbellatum* Torr. var. *umbellatum* (Plate 4A)

NV: Washoe Co.; Carson Range, Nv 431, 1.1 mi. E of Mt. Rose Summit, 18 Jul 1983 (adult assoc.) (NSM, GTA #488)

***Euphilotes glaucon oregonensis* (Barnes & McDunnough, 1917)**

POLYGONACEAE

*Eriogonum ovalifolium* Nutt. var. *ovalifolium* [*Eriogonum ovalifolium* Nutt. var. *nevadense* Gand.] (Plate 3E)

NV: Washoe Co.; Nv 34, 24.4 mi. S of Hays Canyon Rd., 8 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Granite Mts., Rock Creek Ranch Rd., 0.6 mi. W of Nv 34, 30 May 1984 (adult assoc.) (NSM, GTA #926)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Washoe Co.; Granite Mts., Crutcher Canyon, 6.9 mi. N of Nv 81, 19 Jun 1982 (adult assoc.) (NSMCC, GTA)

*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)

NV: Washoe Co.; Granite Mts., 0.5 mi. W of Leadville, 9 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Granite Mts., Crutcher Canyon Rd., 6.9 mi. N of Nv 81, 29 May 1984 (adult assoc.) (NSM, GTA #916)

***Euphilotes glaucon glaucon* (W. H. Edwards, 1871)**

POLYGONACEAE

*Eriogonum caespitosum* Nutt.\*

NV: Carson City; hills NE of Carson City airport, 23 May 1982 (adult assoc., preovip. among flower buds) (NSMCC, GTA)

NV: Pershing Co.; Stillwater Mts., 0.5 mi. W of McKinney Pass, 20 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Storey Co.; Six Mile Canyon, 5.1 mi. E of Virginia City, 8 May 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum ovalifolium* Nutt. (Plate 3E)

NV: Carson City; Brunswick Canyon, 27 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Carson City; Brunswick Canyon, 4 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Carson City; US 50, 1.2 mi. W of Lyon Co. line, 27 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Carson City; hills NE of Carson City airport, 23 May 1982 (ovip. on flower) (NSMCC, GTA)

NV: Douglas Co.; US 395, 2.1 mi. S of Carson City line, 26 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Nv 208, 1.7 mi. E of US 395, 1 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; Nv 341, 2.2 mi. W of US 50, 8 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; Sweetwater Mts., Nv 338, 5.8 mi. N of Sweetwater Summit, 1 Jun 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum ovalifolium* Nutt. var. *ovalifolium* [*Eriogonum ovalifolium* Nutt. var. *nevadense* Gand.] (Plate 3E)

NV: Esmeralda Co.; White Mts, Trail Canyon rd., 11.6 mi. W of Nv 264, 17 Jun 1983 (adult assoc.) (NSM, GTA #413)

NV: Lyon Co.; Sweetwater Mts., Nv 338, 1.0 mi. NE of CA state line, 30 Apr 1986 (adult assoc.) (NSM, GTA #1245)

NV: Lyon Co.; Nv 338, 1.0 mi. NE of CA state line, 16 May 1986 (adult assoc.) (NSM, GTA #1273)

NV: Lyon Co.; Sweetwater Mts., Silverado Canyon at CA state line, 16 May 1986 (adult assoc.) (NSM, GTA #1276)

NV: Mineral Co.; White Mts., US 6, Montgomery Pass, 18 Jun 1983 (adult assoc.) (NSM, GTA #437)

NV: Pershing Co.; Selenite Range, Limbo Range Rd., 2.1 mi. E of Nv 447, 9 Jun 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum ovalifolium* Nutt. var. *williamsae* Reveal

NV: Washoe Co.; Steamboat Hot Springs, 5 mi. N of jct. Nv 3B and US 395, 19 Jun 1971 (adult assoc.) (Shields 1975) [originally reported as *Eriogonum ovalifolium* Nutt. var. *nivale* (Canby) M.E.Jones]

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Carson City; Carson Range, Kings Canyon, 14 Jun 1978 (adult assoc.) (UNLV, GTA)

NV: Carson City; US 50, 1.2 mi. W of Lyon Co. line, 27 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Carson City; Brunswick Canyon, 27 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Carson City; hills NE of Carson City airport, 23 May 1982 (adult assoc.) (NSMCC, GTA)

NV: Carson City; Brunswick Canyon, 4 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 14 Jun 1978 (adult assoc.) (UNLV, GTA)

NV: Douglas Co.; US 395, 2.1 mi. S of Carson City line, 26 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; US 395, 2.1 mi. S of Carson City line, 30 May 1980 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 2.2 mi. W of Nv 206, 30 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 11 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 26 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; US 395, 2.1 mi. S of Carson City line, 16 May 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 3 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 2.1 mi. W of Nv 206, 28 May 1982 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 1.8 mi. W of US 395, 22 May 1984 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; US 395, 2.1 mi. S of Carson City line, 15 May 1986 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Jackson Mts., Iron King Mine Rd., 6400', 10 Jun 1997 (adult assoc.) (Langston 1998)

NV: Lyon Co.; Nv 341, 2.2 mi. N of US 50, 8 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; 0.8 mi. W of Silver City, 8 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; 0.6 mi. W of Silver City, 15 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Larkin Dry Lake Rd., 5.6 mi. N of Nv 359, 6 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Pilot Mts., Dunlop Canyon, 5.3 mi. S of Mina Rd., 25 May 1988 (adult assoc.) (no plant coll., GTA, cf GTA #440)

NV: Storey Co.; Six Mile Canyon, 5.1 mi. E of Nv 341, 8 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 24 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 29 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 19 May 1982 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 23 Jun

1983 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Red Rock Rd., 1.5 mi. E of US 395, 1 Jun 1984 (adult assoc.) (*vide* C. Hageman)

*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 2.0 mi. W of US 395, 28 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; Sweetwater Mts., East Sister area, 26 Jun 1985 (adult assoc.) (NSM, GTA #1219)

NV: Mineral Co.; Wassuk Range, 1.0 mi. W of Lucky Boy Grade, 5 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; White Mts., US 6, 2.8 mi. E of Montgomery Pass, 18 Jun 1983 (adult assoc.) (NSM, GTA #438)

***Euphilotes battoides fusimaculata* Austin, 1998**

## POLYGONACEAE

*Eriogonum ovalifolium* Nutt. var. *ovalifolium* (Plate 3E)

NV: Eureka Co.; Nv 278, Garden Pass Summit, 18 Jun 1978 (adult assoc.) (UNLV, GTA)

NV: Eureka Co.; Nv 278, Garden Pass Summit, 1 Jun 1981 (adult assoc.) (NSMCC, GTA)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Nye Co.; Toiyabe Range, Peavine Canyon, 4 May 1980 (adult assoc.) (NSMCC, GTA; Austin 1998b)

NV: Nye Co.; Toiyabe Range, North Twin River, 4 Jun 1995 (adult assoc.) (no plant coll., GTA)

***Euphilotes baueri baueri* (Shields, 1975)**

## POLYGONACEAE

*Eriogonum ovalifolium* Nutt. (Plate 3E)

NV: Nye Co.; Toiyabe Range, North Twin River, 4 Jun 1995 (adult assoc.) (no plant coll., GTA)

*Eriogonum ovalifolium* Nutt. var. *ovalifolium* [*Eriogonum ovalifolium* Nutt. var. *nevadense* Gand.] (Plate 3E)

NV: Churchill Co.; Clan Alpine Range, War Canyon Rd., 17 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Esmeralda Co.; US 95, 4.0 mi. S of Goldfield Summit, 1 May 1986 (ovip. 3X on flower sepals, 12:45 PST) (NSM, GTA #1249)

NV: Nye Co.; Toiyabe Range, Wall Canyon, 3 Jun 1984 (adult assoc.) (NSM, GTA #958)

NV: Mineral Co.; Aurora, 17 May 1986 (adult assoc.) (NSM, GTA #1280)

NV: Nye Co.; Toiyabe Range, Peavine Canyon, 5 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Grapevine Mts., Phinney Canyon, 17.7 mi. W of US 95, 26 May 1983 (adult assoc.) (NSM, GTA #250)

NV: Nye Co.; Grapevine Mts., Phinney Canyon Rd., 21.0 mi. W of US 95, 26 May 1983 (adult assoc.) (NSM, GTA #251)

***Euphilotes baueri orientis* Austin, 1998**

## POLYGONACEAE

*Eriogonum caespitosum* Nutt.\*

NV: Churchill Co.; Clan Alpine Mts., War Canyon

- Rd., 1.2 mi. N of Clan Alpine Ranch, 17 May 1980 (adult assoc.) (NSMCC, GTA)  
 NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Ranch, 30 May 1983 (adult assoc.) (NSM, GTA #306)  
 NV: Lincoln Co.; Nv 322, 9.6 mi. E of US 93, 31 May 1983 (adult assoc.) (NSM, GTA #327)  
 NV: Lincoln Co.; Delamar Mts., US 93, 2.0 mi. E of Oak Springs Summit, 31 May 1983 (adult assoc.) (NSM, GTA #329)  
 NV: Lincoln Co.; Clover Mts., 3 mi. N of Sams Camp Well, 23 Apr 1986 (adult assoc.) (*vide* P. Savage)  
 NV: Lincoln Co.; Clover Mts., 3 mi. N of Sams Camp Well, 30 Apr 1986 (adult assoc.) (*vide* P. Savage)
- Eriogonum ovalifolium* Nutt. (Plate 3E)  
 NV: Elko Co.; Toana Mts., Silver Zone Pass, 24 May 1993 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toquima Range, Petes Summit Rd., 12.0 mi. SE of Nv 376, 17 May 1980 (adult assoc.) (NSMCC, GTA)  
 NV: Lander Co.; Desatoya Mts., 4.4 mi. E of Carroll Summit, 20 Jun 1980 (adult assoc.) (NSMCC, GTA)  
 NV: Lincoln Co.; Bristol Mts., US 93, 12.5 mi. N of Pioche, 2 Jun 1978 (adult assoc.) (UNLV, GTA)  
 NV: Lincoln Co.; Schell Creek Range, 1 mi. W of Sidehill Pass, 3 Jun 1978 (adult assoc.) (UNLV, GTA)  
 NV: Lincoln Co.; US 93, 17 mi. N of Pioche, 3 Jun 1978 (adult assoc.) (UNLV, GTA)  
 NV: Lincoln Co.; Clover Mts., 4 mi. W of Barclay, 4 Jun 1978 (adult assoc.) (UNLV, GTA)  
 NV: Lincoln Co.; Schell Creek Range, Patterson Pass Rd., 1-2 mi. W of US 93, 27 May 1979 (adult assoc.) (UNLV, GTA)  
 NV: Lincoln Co.; Schell Creek Range, Patterson Pass Rd., 1.0 mi. W of US 93, 30 May 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Bristol Mts., US 93, 12.5 mi. N of Pioche, 19 May 1987 (ovip. on flowers) (NSM, GTA #1407)  
 NV: Nye Co.; Quinn Canyon Range, Cherry Creek Rd., 6.8 mi. E of Nuala Rd., 16 Jun 1980 (adult assoc.) (NSMCC, GTA)  
 NV: Nye Co.; Stone Canyon Valley, 0.8 mi. N of McIntyre Summit, 28 May 1983 (adult assoc.) (NSM, GTA #290)
- Eriogonum ovalifolium* Nutt. var. *nivale* (Canby) M.E.Jones (Plate 3E)  
 NV: Nye Co.; Hot Creek Range, Keystone Canyon, 27 May 1983 (adult assoc.) (NSM, GTA #292)
- Eriogonum ovalifolium* Nutt. var. *ovalifolium* [*Eriogonum ovalifolium* Nutt. var. *nevadense* Gand.] (Plate 3E)  
 NV: Humboldt Co.; 10 mi. N of Winnemucca, 4350-4450', May (adult assoc.) (Shields 1975) (plant originally identified as *Eriogonum ovalifolium* Nutt. var. *multiscapum* Gand.)
- NV: Humboldt Co.; Nv 140, 6.0 mi. W of Denio Junction, 31 May 1984 (adult assoc.) (NSM, GTA #951)  
 NV: Humboldt Co.; Nv 140, 21.5 mi. W of Denio Junction, 31 May 1984 (adult assoc.) (NSM, GTA #948)  
 NV: Humboldt Co.; Jungo Rd., 2.5 mi. E of Pronto Rd., 25 May 2003 (adult assoc.) (NSM, GTA #1816)  
 NV: Humboldt Co.; Jungo Rd., 6.9 mi. W of Pronto Rd., 25 May 2003 (adult assoc.) (NSM, GTA #1817)  
 NV: Humboldt Co.; Sand Pass Rd., 1.2 mi. W of Sand Pass, 25 May 2003 (adult assoc.) (NSM, GTA #1818)  
 NV: Humboldt Co.; Sand Pass Rd., 1.8 mi. W of Sand Pass, 26 May 2003 (adult assoc.) (NSM, GTA #1819)  
 NV: Lander Co.; Desatoya Mts., Nv 722, 5.1 mi. E of Churchill Co. line, 14 May 1986 (adult assoc.) (NSM, GTA #1267)  
 NV: Lincoln Co.; Bristol Mts., Bristol Mine Rd., 3.3 mi. W of US 93, 31 May 1983 (adult assoc.) (NSM, GTA #323)  
 NV: Nye Co.; Toiyabe Range, Peavine Canyon, 4 May 1980 (adult assoc.) (NSMCC, GTA)  
 NV: Nye Co.; Hot Creek Valley, 2.7 mi. N of Hot Creek Ranch, 27 May 1983 (adult assoc.) (NSM, GTA #265)  
 NV: Nye Co.; Hot Creek Range, microwave towers on E slope off US 6, 27 May 1983 (adult assoc.) (NSM, GTA #264)  
 NV: Pershing Co.; Nv 48, 1.5 mi. S of Trego junction on Gerlach-Sulphur Rd., 22 May 2003 (ovip. beneath flower, 09:15 PST) (NSM, GTA #1803)  
 NV: Pershing Co.; Nv 48, 8.1 mi. E of junction with Trego-Nightingale Rd. towards Seven Troughs, 22 May 2003 (adult assoc.) (NSM, GTA #1805)  
 NV: Washoe Co.; S from Rodeo Creek Rd., powerline rd. to E of geothermal plant, 2.1 mi. E of valley rd. at summit, 21 May 2003 (adult assoc.) (NSM, GTA #1800)  
 NV: White Pine Co.; Kern Mts., Pleasant Valley Rd., 1.4 mi. W of UT state line, 28 May 2003 (adult assoc.) (NSM, GTA #1826)  
 NV: White Pine Co.; Antelope Range, Marble Mine Rd., 4.7 mi. SE of US 93A, 11 Jun 2003 (adult assoc.) (NSM, GTA #1842)
- Eriogonum shockleyi* S.Watson\* (Plate 4F)  
 NV: White Pine Co.; Spring Valley, Baking Powder Flat, 1 mi. S of Blind Spring, 20 Jun 1978 (adult assoc.) (no plant coll., GTA, *cf* GTA #660)  
 NV: Nye Co.; White River Valley, Nv 318 at Bristol Well Rd., 8 Jun 2005 (adult assoc.) (UNLV, BB)
- Eriogonum villiflorum* A.Gray\*  
 NV: Lincoln Co.; Schell Creek Range, Patterson Pass Rd., 1.0 mi. W of US 93, 30 May 1983 (ovip. on flower, 12:05 PST) (NSM, GTA #304)

***Euphilotes bernardino martini* (Mattoni, 1954)**

## POLYGONACEAE

*Eriogonum fasciculatum* Benth. var. *polifolium* (Benth.) Torr. & A.Gray (Plate 4E, Fig. 22)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, several dates (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, several dates (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Virgin Mts, Cabin Canyon, several dates (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 8 Apr 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., 9 mi. W of Davis Dam, 8 Apr 1977 (ovip. on flower heads, 10:00 PST) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 2 May 1977 (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 5 May 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, cf GTA #193)

NV: Clark Co.; Newberry Mts., Bridge Canyon, 3 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 10 May 1978 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, cf GTA #333)

NV: Clark Co.; US 93, 5 mi. N of I-15, 14 May 1978 (adult assoc.) (Austin and Austin 1980; NSM, cf GTA #330)

NV: Clark Co.; US 93, 8 mi. N of I-15, 14 May 1978 (adult assoc.) (Austin and Austin 1980; NSM, cf GTA #330)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 17 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 22 May 1978 (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 20 May 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 22 Apr 1980 (ovip. 2X on flower buds, 09:45 PST) (NSMCC, GTA)

NV: Clark Co.; Newberry Mts., Bridge Canyon, 22 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 17 Apr 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., 1.5 mi. E of Christmas Tree Pass, 18 May 1983 (adult assoc.) (NSM, GTA #193)

NV: Clark Co.; Virgin Mts, Cabin Canyon, 4 Jun 1983 (adult assoc.) (NSM, GTA #333)

NV: Clark Co.; Railroad Pass, 23 Mar 1986 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Railroad Pass, 30 Mar 1986 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Nv 163, 6 mi. E of US 95, 26 Apr 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Eldorado Canyon, 15 Apr 1995 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 2.1 mi. E of US 95, 1 May 2001 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 3.9 mi. E of US 95, 1 May 2001 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass Rd., 1.4 mi. W of Christmas Tree Pass, 1 May 2001 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Nv 163, 10.3 mi. E of US 95, 1 May 2001 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; rd. E of Crystal Pass, 2.1 mi. S of Nv 161, 10 Apr 2003 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; rd. to Ireland Mine, 4.9 mi. S of I-15 at Jean, 10 Apr 2003 (adult assoc.) (no plant coll., GTA)

NV: Clark Co. Spring Mts., 1.5 mi. N of Nv 161 at 5.4 mi. W of Jean, 10 Apr 2003 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, 0.2 mi. S of Elgin, 31 May 1978 (adult assoc.) (UNLV, GTA)

NV: Lincoln Co.; Meadow Valley Wash, 3.6 mi. S of Elgin, 31 May 1978 (adult assoc.) (UNLV, GTA)

NV: Lincoln Co.; Meadow Valley Wash, 3.7 mi. S of Elgin, 13 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Lincoln Co.; Mormon Mts., powerline rd., 12.6 mi. NE of Carp-Elgin Rd., 31 Mar 2003 (adult assoc.) (no plant coll., GTA)

***Euphilotes bernardino inyomontana* Pratt & J. Emmel, 1998**

## POLYGONACEAE

*Eriogonum fasciculatum* Benth. var. *polifolium* (Benth.) Torr. & A.Gray (Plate 4E, Fig. 22)

NV: Nye Co.; 3 mi. SW of Beatty, 17 May 1970 (adult assoc.) (*vide* O. Shields, also Shields 1977)

NV: Nye Co.; 2 mi. SW of Beatty, 7 May 1979 (adult assoc.) (*vide* O. Shields)

NV: Nye Co.; Nv 374, 2.6 mi. W of Beatty, 22 May 1983 (adult assoc.) (NSM, GTA #247)

NV: Nye Co.; US 95, 15.2 mi. N of Beatty, 25 May 1988 (adult assoc.) (NSM, GTA #1466)

NV: Nye Co.; Nv 374, 8 mi. SW of Beatty, 5 May 1992 (adult assoc.) (*vide* P. Savage)

NV: Nye Co.; Spring Mts., Crystal Springs, 17 Jun 1998 (adult assoc.) (no plant coll., BB and Bret Boyd)

NV: Nye Co.; Spring Mts., Horseshutem Springs, 11 Jul 1998 (adult assoc.) (no plant coll., BB and Bret Boyd)

***Euphilotes bernardino minuta* Austin, 1998**

## POLYGONACEAE

*Eriogonum shockleyi* S.Watson (Plate 4F)

NV: Lincoln Co.; Spring Valley, Shoshone-Atlanta Rd., 5.0 mi. N of Atlanta junction, 31 May 2002



- (adult assoc.) (NSM, GTA #1710)  
 NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 29 Jul 1969 (8, 5th instar larvae tended by the ant *Formica obtusopilosa* Emery) (Shields 1973)  
 NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 19 Jun 1978 (adult assoc.) (no plant coll., GTA; Austin 1998b)  
 NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 28 Jun 1978 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 17 Jun 1980 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Baking Powder Flat, 12 Jul 1988 (mature larvae) (*vide* G. Pratt)  
 NV: White Pine Co.; South Spring Valley, Baking Powder Flat, 15 Jun 1989 (adult assoc.) (*vide* P. Savage)  
 NV: White Pine Co.; South Spring Valley, Baking Powder Flat, 20 Jun 1989 (adult assoc.) (*vide* P. Savage)  
 NV: White Pine Co.; Baking Powder Flat, 3 mi. WSW of Blind Spring, 18 Jun 1990 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 11 Jun 2001 (adult assoc.) (no plant coll., BB)  
 NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 20 Jun 2001 (adult assoc.) (no plant coll., BB)  
 NV: White Pine Co.; Spring Valley, Highline Rd., 4.4 mi. N of Atlanta-Shoshone Rd., 29 May 2002 (adult assoc.) (NSM, GTA #1700)  
 NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 11 Jun 2002 (adult assoc.) (no plant coll., GTA, *cf* GTA #660)  
 NV: White Pine Co.; Spring Valley, 2.8 mi. S of Shoshone Rd., 3.2 mi. E of US 95, 11 Jun 2002 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Spring Valley, 12.7 mi. N of Highline Rd., 3.1 mi. E of US 93, 11 Jun 2002 (adult assoc.) (NSM, GTA #1712)

***Euphilotes ellisi basinensis* Austin, 1998**

## POLYGONACEAE

- Eriogonum heermannii* Durand & Hilg. (Plate 3F)  
 NV: Churchill Co.; Stillwater Mts., US 50, 5.5 mi. W of Frenchman, 5 May 1984 (adult assoc.) (no plant coll., GTA)  
 NV: Mineral Co.; Nv 361, 6-14 mi. N of Luning, 14 Jul 1988 (larvae) (*vide* G. Pratt)  
*Eriogonum heermannii* Durand & Hilg. var. *humilius* (S. Stokes) Reveal (Plate 3F)  
 NV: Churchill Co.; Stillwater Mts., 7 mi. W of Frenchman, 8 Jun 1969 (adult assoc.) (*vide* J. Scott, also Shields 1977)  
 NV: Churchill Co.; Stillwater Mts., US 50, 5 mi. W of Frenchman, 24 Jun 1982 (adult assoc.) (*vide* O.

- Shields)  
 NV: Lyon Co.; Pine Nut Mts., Eldorado Canyon, 3 mi. SE of Dayton, 17 Jun 1978 (adult assoc.) (no plant coll., GTA; Austin 1978b)  
 NV: Lyon Co.; Pine Nut Mts., Eldorado Canyon, 3 mi. SE of Dayton, 9 May 1980 (adult assoc.) (NSMCC, GTA)  
 NV: Lyon Co.; Pine Nut Mts., Eldorado Canyon, 3 mi. SE of Dayton, 15 Jun 1980 (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Pine Nut Mts., Eldorado Canyon, 3 mi. SE of Dayton, 21 Jun 1980 (adult assoc.) (no plant coll., GTA)  
 NV: Mineral Co.; Wassuk Range, Nv 2C, 2.2 mi. W of US 95, 6 Jun 1981 (adult assoc.) (NSMCC, GTA)

***Euphilotes ellisi euromojavensis* Pratt & J. Emmel, 1998**

## POLYGONACEAE

- Eriogonum heermannii* Durand & Hilg. (Plate 3F)  
 NV: Clark Co.; Spring Mts., Little Potosi Mt., 6 mi. N of Goodsprings, 3 Sep 1988 (adult assoc.) (*vide* P. Savage)  
 NV: Clark Co.; Spring Mts., Little Potosi Mt., 6 mi. N of Goodsprings, 24 Aug 1989 (adult assoc.) (*vide* P. Savage)  
*Eriogonum heermannii* Durand & Hilg. var. *sulcatum* (S. Watson) Munz & Reveal (Plate 3F)  
 NV: Clark Co.; Spring Mts., 3 mi. N of Red Cloud, 2 Sep 1978 (adult assoc.) (Austin and Austin 1980)  
 NV: Clark Co.; Spring Mts., 3 mi. N of Red Cloud, 11 Sep 1978 (adult assoc.) (Austin and Austin 1980)  
 NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 19 Aug 1979 (adult assoc.) (UNLV, GTA)  
 NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 21 Aug 1979 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 26 Aug 1979 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 31 Aug 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., 3 mi. N of Red Cloud Mine, 2 Sep 1984 (adult assoc.) (NSM, GTA #1162)  
 NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 25 Aug 1988 (adult assoc.) (no plant coll., GTA)

***Euphilotes ancilla ancilla* (Barnes & McDunnough, 1918)**

## POLYGONACEAE

- Eriogonum heracleoides* Nutt. (Fig. 15)  
 NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 8 Jul 1978 (adult assoc.) (UNLV, GTA)  
 NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 3 Jul 1980 (adult assoc.)

(NSMCC, GTA)

NV: Elko Co.; East Humboldt Range, 0.5 mi. W of Angel Creek Campground, 6 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Independence Mts., Nv 11A, Maggie Summit, 23 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 24 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Independence Mts., 3.3 mi. E of North Fork Summit, 24 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 20 Jun 1986 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Owyhee River Valley, North Wildhorse Creek, 23 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 9.2 mi. W of Nv 225, 17 Jun 2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 7.8 mi. W of Nv 225, 17 Jun 2003 (adult assoc.) (no plant coll., GTA)

*Eriogonum heracleoides* Nutt. var. *heracleoides*

NV: Elko Co.; Jarbidge Mts., 0.5 mi. S of Bonanza Gulch, 8000-9500', 22 Jul 1969 (ovip. on inside of petal) (*fide* J. F. Emmel, also Shields 1977)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 15 Jun 2003 (adult assoc.) (NSM, GTA #1861)

NV: Elko Co.; Jarbidge Mts., Sagehen Basin, rd. to Yankee Bill Summit-Merritt Creek, 9.0 mi. N of Sunflower Reservoir Rd., 16 Jun 2003 (adult assoc.) (NSM, GTA #1867)

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 19 Jun 2003 (adult assoc.) (NSM, GTA #1881)

*Eriogonum strictum* Benth. var. *proliferum* (Torr. & A.Gray) Reveal

NV: Elko Co.; Wildhorse Reservoir, Nv 51, 64 mi. N of Elko, 6500', Jun (ovip.) (Shields 1977)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Eureka Co.; Roberts Mts., Roberts Creek, 18 Jun 1978 (adult assoc.) (UNLV, GTA)

NV: Humboldt Co.; Santa Rosa Mts., Buckskin Mt., Windy Gap to summit, 10 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Eriogonum umbellatum* Torr. var. *dichrocephalum* Gand. (Plate 4A)

NV: Elko Co.; Jarbidge Mts., Charleston-Jarbidge Rd., 4.8 mi. W of Marys River Rd., 14 Jun 2003 (adult assoc.) (NSM, GTA #1851)

*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)

NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill Summit-Merritt Creek, 10.5 mi. N of Sunflower Reservoir Rd., 16 Jun 2003 (adult assoc.) (NSM, GTA #1868)

*Euphilotes ancilla gilvatumica* Austin, 1998

POLYGONACEAE

*Eriogonum elatum* Benth. var. *elatum*\* (Fig. 23)

NV: Lander Co.; Desatoya Mts., Nv 722, 3.2 mi. E of Churchill Co. line, 9 Jul 2003 (adult assoc.) (NSM, GTA #1914)

*Eriogonum robustum* Greene [*Eriogonum lobbii* Torr. & A.Gray var. *robustum* (Greene) M.E.Jones]

NV: Lyon Co.; 1 mi. N of Silver City, Jun (adult assoc.) (Shields 1977, Shields and Reveal 1988)

NV: Storey Co.; hill, 0.5 mi. SE of Virginia City, 15 Jun 1972 (adult assoc.) (*fide* J. Scott)

*Eriogonum sphaerocephalum* Benth..

NV: Washoe Co.; Nv 341, 3.3 mi. E of US 395, 31 May 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Lander Co.; Toiyabe Range, Big Creek, 18 Jun 1978 (adult assoc.) (UNLV, GTA)

NV: Lander Co.; Toiyabe Range, US 50, 0.5 mi. E of Austin Summit, 5 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 11 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Lander Co.; Toiyabe Range, Petes Summit Rd., 16.8 mi. E of Nv 376, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, US 50, 1.1 mi. W of Austin Summit, 20 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Big Creek, 9 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Big Creek, 11 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 17 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 7.1 mi. E of summit, 16 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, US 50, Austin Summit, 4 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 26 May 1993 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Big Creek, 18 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, S Fork of Birch Creek, 24 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, road S from Austin Summit to head of Birch Creek, 24 Jul 1995 (adult assoc.) (no plant coll., GTA)

NV: Mineral Co.; Pilot Mts., Dunlop Canyon, 5.3 mi. S of Mina Rd., 25 May 1988 (adult assoc.) (no plant coll., GTA, *cf* GTA #440)

NV: Mineral Co.; Pilot Mts., Dunlop Canyon, 5.3 mi. S of Mina Rd., 5 Jun 1990 (adult assoc.) (no plant coll., GTA, *cf* GTA #440)

NV: Nye Co.; Monitor Range, Table Mt., 10-10,500',

12 Jul 1981 (adult assoc.) (*fide* O. Shields)

NV: Nye Co.; Toiyabe Range, Stewart Creek, 23 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Reese River Canyon from Cow Canyon trailhead, 25 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Ledbetter Canyon, 25 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Marysville Canyon, 27 Jun 1994 (adult assoc.) (no plant coll., GTA)

*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)

NV: Lander Co.; Desatoya Mts., 4.0 mi. E of Carroll Summit, 6700', 14 Jun 1969 (adult assoc.) (*fide* J. F. Emmel, also Shields 1977)

NV: Lander Co.; Toiyabe Range, US 50, 1.8 mi. W of Austin Summit, 20 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Wassuk Range, Corey Peak Rd., 9600-10000', 23 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 5.5 mi. E of Mina Rd., 18 Jun 1983 (adult assoc.) (NSM, GTA #440)

NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 7 mi. E of Mina Rd., 19 Jun 1983 (adult assoc.) (NSM, GTA #440)

NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 9-10 mi. E of Mina Rd., 19 Jun 1983 (adult assoc.) (NSM, GTA #440)

NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 1.0 mi. E of Summit Spring, 19 Jun 1983 (adult assoc.) (NSM, GTA #440)

NV: Nye Co.; Toiyabe Range, Moores Creek Rd., 0.9 mi. E of Moores Creek Summit, 5 Jul 1991 (adult assoc.) (NSM, GTA)

*Eriogonum umbellatum* Torr. var. *glaberrimum* (Gand.) Reveal [*Eriogonum umbellatum* Torr. var. *aureum* (Gand.) Reveal] (Plate 4A)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 6600-6800', 30 Jun 1968 (adult assoc.) (*fide* J. F. Emmel, also Shields 1977)

NV: Nye Co.; Monitor Range, US 6, 5 mi. W of Five Mile Spring, 6400', no date (2 larvae, reared to adult) (Shields 1977)

NV: Nye Co.; Monitor Range, US 6, 5 mi. W of Five Mile Spring, 6400', 8 Jul 1969 (many larvae on flowers tended the ants *Crematogaster mormonum* Emery and *Formica neogagates* Emery) (*fide* J. F. Emmel, also Shields 1973)

*Euphilotes ancilla purpura* Austin, 1998

POLYGONACEAE

*Eriogonum umbellatum* Torr. var. *juniporinum* Reveal (Plate 4A)

NV: Clark Co.; Spring Mts., Willow Creek, 3-13 Jun 1999 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Willow Creek, 20 May 2000 (ovip., adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., flat between Willow and Cold creeks, 20 May 2000 (adult assoc.) (no plant

coll., BB)

NV: Clark Co.; Spring Mts., Willow Creek, 23 May 2000 (adult assoc.) (NSM, GTA #1543)

NV: Clark Co.; Spring Mts., flat between Willow and Cold creeks, 3-23 Jun 2000 (larvae reared to adults) (NSM, BB)

NV: Clark Co.; Spring Mts., Willow Creek, 3-23 Jun 2000 (larvae reared to adults) (NSM, BB)

NV: Clark Co.; Spring Mts., Willow Creek, 27 May 2001 (adult assoc.) (no plant coll., BB)



Figure 22. *Eriogonum fasciculatum*.

- NV: Clark Co.; Spring Mts., Willow Creek, 9-24 May 2002 (adult assoc.) (NSM, GTA #1543)
- NV: Clark Co.; Spring Mts., flat between Willow and Cold creeks, 17 May 2002 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., flat between Willow and Cold creeks, 18 May 2004 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 18 May 2004 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., flat between Willow and Cold creeks, 26 May 2004 (ovip.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 26 May 2004 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 4 Jun 2004 (ovip.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., flat between Willow and Cold creeks, 21 May 2005 (ovip.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., rd. to, but below Macks Canyon, 4 mi. S of Cold Creek Rd., 31 May 2005 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., rd. to Mud Springs, 4 mi. S of Cold Creek Rd., 1 Jun 2005 (adult assoc.) (no plant coll., BB)

***Euphilotes ancilla* (Barnes & McDunnough, 1918)  
undescribed subspecies**

POLYGONACEAE

*Eriogonum umbellatum* Torr. var. *subaridum* S. Stokes (Plate 4A)

- NV: Clark Co.; Spring Mts., Charleston Peak trail, 9000', 6 Jul 1977 (adult assoc.) (UNLV, GTA)
- NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 25 Jul 1977 (adult assoc.) (UNLV, GTA)
- NV: Clark Co.; Spring Mts., Cold Creek, 28 Jul 1977 (ovip. on flowers, 08:30 PST) (Austin and Austin 1980)
- NV: Clark Co.; Spring Mts., Cold Creek, 19 Aug 1977 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Cold Creek, 20 Jul 1978 (adult assoc.) (UNLV, GTA)
- NV: Clark Co.; Spring Mts., Willow Creek, 20 Jul 1978 (adult assoc.) (UNLV, GTA)
- NV: Clark Co.; Spring Mts., Harris Peak Rd., 5.3-5.7 mi. W of Harris Spring Rd., 27 Jun 1990 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., south Deer Creek, 6 Aug 1998 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Kyle Canyon at Deer Creek Rd., 7-14 Aug 1998 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Whiskey Spring, 12 Aug 1998 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Cold Creek, 12 Aug 1998 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 12 Aug 1998 (adult assoc.) (no plant coll., BB)

- NV: Clark Co.; Spring Mts., Macks Canyon Rd., 12 Aug 1998 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 14 Aug 1998 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Harris Mt. Rd., 1-2 Jul 1999 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 27 Jul 1999 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 18 Jul 2000 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 3, 6 Aug 2000 (larvae in flower heads, reared to adults) (NSM, BB)
- NV: Clark Co.; Spring Mts., Cold Creek, 3, 6 Aug 2000 (larvae in flower heads, reared to adults) (NSM, BB)
- NV: Clark Co.; Spring Mts., west slope, Wheeler Pass Rd., 14 Jul 2001 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Willow Creek, 3-22 Aug 2001 (larvae in flower heads, reared to adults) (NSM, BB)
- NV: Clark Co.; Spring Mts., Cold Creek, 3-22 Aug 2001 (larvae in flower heads, reared to adults) (NSM, BB)
- NV: Clark Co.; Spring Mts., West Mud Spring, 3-22 Aug 2001 (larvae in flower heads, reared to adults) (NSM, BB)
- NV: Clark Co.; Spring Mts., Trough Spring, 5 Aug 2001 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Upper Lovell Canyon, 11 Jul 2002 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Carpenter Canyon, 21 Jul 2002 (adult assoc.) (NSM, BB #49)
- NV: Clark Co.; Spring Mts., Cold Creek, 22 Jul 2002 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Cold Creek, 14 Jul 2003 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Cold Creek, 13 Jul 2004 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Cold Creek, 21 Jul 2004 (ovip, 10:20 PST) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., 0.4 mi. up Macks Canyon, 26 Jul 2005 (adult assoc.) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Cold Creek, 4 Aug 2005 (ovip, 10:20 PST) (no plant coll., BB)

***Euphilotes ancilla giulianii* Pratt & J. Emmel, 1998**

POLYGONACEAE

*Eriogonum umbellatum* Torr. var. *versicolor* S. Stokes (Plate 4A)

- NV: Nye Co.; Grapevine Mts., no date (adult assoc.) (*vide* J. F. Emmel)

***Euphilotes ancilla shieldsi* Austin, 1998**

POLYGONACEAE

*Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)

- NV: Esmeralda Co.; White Mts., Trail Canyon rd.,

9.5 mi. W of Nv 264, 17 Jun 1983 (adult assoc.)  
(NSM, GTA #411)

NV: Nye Co.; Quinn Canyon Range, Cherry Creek Rd., 5.8 mi. E of Nyala Rd., 16 Jun 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum umbellatum* Torr. var. *subaridum* S. Stokes (Plate 4A)  
NV: Lincoln Co.; Beaver Dam State Park, 21 Jul 2003 (adult assoc.) (NSM, GTA #1922)

***Euphilotes enoptes enoptes* (Boisduval, 1852)**

POLYGONACEAE

*Eriogonum nudum* Benth. var. *deductum* (Greene) Jeps.  
NV: Douglas Co.; Heavenly Valley North, National Forest ski area, 6 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Heavenly Valley North, base of ski area, 28 Jun 1985 (adult assoc.) (no plant coll., GTA)

*Eriogonum nudum* Benth. var. *nudum*

NV: Washoe Co.; Carson Range, First Creek area, 30 Jul 2003 (adult assoc.) (NSM, GTA #1944)

*Eriogonum nudum* Benth. var. *pubiflorum* Benth.

NV: Washoe Co.; Lost Creek Rd., 11.0 mi. E of Nv 447, 2 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1752)

*Eriogonum wrightii* Benth.

NV: Carson City; Carson Range, Spooner Summit-Kings Canyon Rd., 5.7 mi. N of US 50, 21 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Carson City; Carson Range, Spooner Summit-Kings Canyon Rd., 8.9 mi. N of US 50, 21 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.1 mi. W of Nv 206, 10 Aug 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.1 mi. W of Nv 206, 17 Aug 1980 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 23 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 30 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 6 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 30 Aug 1988 (adult assoc.) (no plant coll., GTA) (adult assoc.)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 7 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 4.0 mi. W of Nv 206, 22 Aug 1989 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Lower Daggett Creek, 31 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade,

4.0 mi. W of Nv 206, 31 Jul 1990 (adult assoc.) (no plant coll., GTA)

***Euphilotes enoptes aridorum* Austin, 1998**

POLYGONACEAE

*Eriogonum baileyi* S. Watson var. *baileyi*\*

NV: Washoe Co.; Red Rock Rd., 2.3 mi. S of Chuckwagon Rd., 31 Jul 1988 (adult assoc.) (NSM, GTA #1488)

*Eriogonum elatum* Benth. (Fig. 23)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 22 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 27 Jul 1987 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, ca. 0.5 mi. S of Seven Mile Canyon, 5 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; US 395 at Peavine Peak Rd., 7 Aug 1981 (adult assoc.) (NSMCC, GTA; Austin 1998b)

NV: Washoe Co.; Peavine Mountain, 1 mi. W of railroad tracks, NW of Anderson Siding, 5 Aug 2002 (adult assoc.) (no plant coll., GTA, cf GTA #1735)

*Eriogonum elatum* Benth. var. *elatum* (Fig. 23)

NV: Lyon Co.; SE of slope McClellan Peak, 19 Jul 1983 (adult assoc.) (NSM, cf GTA #489)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 19 Jul 1983 (adult assoc.) (NSM, GTA #489)

NV: Washoe Co.; US 395, Anderson Siding opposite Red Rock Rd., 19 Jul 2002 (adult assoc.) (NSM, GTA #1735)

NV: Washoe Co.; US 395, Anderson Siding opposite Red Rock Rd., 5 Aug 2002 (ovip. on lower side of petal, 11:00 PST) (no plant coll., GTA, cf GTA #1735)

NV: Washoe Co.; Jumbo Grade, 1.5 mi. E of Eastlake Drive in Washoe Valley, 5 Aug 2002 (adult assoc.) (NSM, GTA #1745)

***Euphilotes enoptes* (Boisduval, 1852) near *aridorum* Austin, 1998**

POLYGONACEAE

*Eriogonum elatum* Benth. var. *elatum* (Fig. 23)

NV: Douglas Co.; Sweetwater Mts., Jackass Creek, 1-2 mi. S of Desert Creek, 27 Jun 1985 (adult assoc.) (NSM, GTA #1221)

***Euphilotes enoptes opacapulla* Austin, 1998**

POLYGONACEAE

*Eriogonum davidsonii* Greene

NV: Lincoln Co.; Clover Mts., Box Spring, 14 Aug 1986 (adult assoc.) (NSM, P. Savage)

NV: Lincoln Co.; Clover Mts., Box Spring, 3 Sep 1986 (adult assoc.) (NSM, P. Savage)

*Eriogonum plumatella* Durand & Hilg.

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 27 Sep 1977 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon,

13 Sep 1978 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Newberry Mts., Christmas Tree Pass,  
 13 Sep 1978 (adult assoc.) (UNLV, GTA)

*Eriogonum wrightii* Benth.

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 4  
 Oct 1977 (ovip. on flower buds, 10:00 PST)  
 (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Grapevine Canyon,  
 20 Sep 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon,  
 26 Sep 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 26  
 Sep 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon,  
 29 Sep 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Clover Mts., wash, 1/4 mi. S of  
 Box Spring, 18 Aug-10 Sep 1986 (adult assoc.)  
 (fide P. Savage)

*Eriogonum wrightii* Benth. var. *wrightii*

NV: Clark Co.; Newberry Mts., Grapevine Canyon,  
 27 Sep 1977 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 19  
 Sep 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 22  
 Sep 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 19  
 Sep 1979 (adult assoc.) (NSMCC, GTA)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 16  
 Sep 1980 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., 3 mi. N of Red Cloud  
 Mine, 13 Sep 1988 (adult assoc.) (NSM, GTA  
 #1495)

NV: Lincoln Co.; Meadow Valley Wash, 11.5 mi. S  
 of Caliente, 16 Sep 1979 (adult assoc.) (UNLV,  
 GTA)

NV: Lincoln Co.; Beaver Dam State Park, 8 Sep  
 2003 (ovip. on flower bud, 12:05 PST) (NSM,  
 GTA #1967)

***Euphilotes enoptes primavera* Austin, 1998**

POLYGONACEAE

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Mineral Co.; Pilot Mts., Dunlop Canyon, 5.3 mi.  
 S of Mina Rd., 25 May 1988 (adult assoc.) (no  
 plant coll., GTA, cf GTA #440)

***Euphilotes mojave virginensis* Austin, 1998**

POLYGONACEAE

*Eriogonum davidsonii* Greene

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun  
 1983 (adult assoc.) (NSM, GTA #345)

*Eriogonum nidularium* Cov.

NV: Clark Co.; Virgin Mts., Cabin Canyon, 20 May  
 1978 (abdominal probing near unopened flower  
 buds, 13:55 PST) (Austin and Austin 1980)

***Euphilotes pallescens pallescens* (Tilden & Downey, 1955)**

POLYGONACEAE

*Eriogonum deflexum* Torr.

NV: White Pine Co.; Baking Powder Flat, 12 Jul  
 1988 (possible adult assoc.) (fide G. Pratt)

*Eriogonum microthecum* Nutt. Var. *lapidicola* Reveal (Fig. 28)

NV: Nye Co.; White River Valley, Wayne E. Kirch  
 WMA, 150 yds. E of Adams-McGill Reservoir  
 Dam, 30 Jul-1 Aug 2005 (adult assoc.) (UNLV,  
 BB)

NV: Nye Co.; White River Valley, Wayne E. Kirch  
 WMA, 150 yds. E of Adams-McGill Reservoir  
 Dam, 18-19 Aug 2005 (adult assoc.) (UNLV, BB)

*Eriogonum microthecum* Nutt. var. *simpsoni* (Benth.) Reveal  
 [*Eriogonum microthecum* Nutt. var. *foliosum* (Torr. & A.Gray)  
 Reveal]

NV: Nye Co.; Monitor Range, US 6, 5 mi. W of Five  
 Mile Spring, 6400', Aug (adult assoc.) (Shields  
 1977)

*Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi*  
 Tidestrom]

NV: Lincoln Co.; White River Valley, Nv 318, just S  
 of White River narrows, 1 Aug 2005 (adult assoc.)  
 (UNLV, BB)

NV: Nye Co.; Railroad Valley, 7 mi. S of Currant,  
 dirt rd. to Nyala, 5000', 6 Jul 1969 (ovip. on bud  
 just below unopened flowers, 13:55 PST) (fide J. F.  
 Emmel)

NV: Nye Co.; Railroad Valley, 7 mi. S of Currant,  
 dirt rd. to Nyala, 5000', 2 Aug 1969 (ovip. and  
 larvae reared to adult, larvae tended by the ants  
*Dorymyrmex pyramicus* (Roger), *Canponotus*  
*nearcticus* Emery and *Myrmecocystus kennedyi*  
 Cole) (fide J. F. Emmel, also Shields 1973, 1977)

NV: Nye Co.; US 6, 7 mi. NW of Lunar Crater,  
 6000', 2 Aug 1969 (adult assoc.) (fide J. F. Emmel,  
 also Shields 1977)

NV: Nye Co.; Ralston Valley, US 6, 1.5-6 mi. W of  
 Nv 8A, 5600', Jul (ovip. just below flower bud,  
 09:25 PST) (fide J. F. Emmel, also Shields 1977)

NV: Nye Co.; Ralston Valley, US 6, 1.5 mi. W of jct.  
 Nv 8A, 2 Aug 1969 (2 larvae) (fide J. F. Emmel)

NV: Nye Co.; Hot Creek Range, US 6, 6 mi. W of  
 Warm Springs, 6200', 2 Aug 1969 (adult assoc.)  
 (fide J. F. Emmel, also Shields 1977)

NV: Nye Co.; Ralston Valley, US 6, 1 mi. W of jct.  
 Nv 8A, 28 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Nye Co.; Railroad Valley, Nyala Rd., 7.0 mi. S  
 of Currant, 19 Aug 1981 (adult assoc.) (NSMCC,  
 GTA)

NV: Nye Co.; US 6, 3.8 mi. E of Tonopah, 9 Aug  
 1983 (adult assoc.) (NSM, GTA #531)

NV: Nye Co.; Railroad Valley, old Nyala Rd., 7 mi. S  
 of Currant, 6 Aug 1988 (adult assoc.) (fide P.  
 Savage)

NV: Nye Co.; Railroad Valley, old Nyala Rd., 7 mi. S  
 of Currant, 16 Aug 1988 (adult assoc.) (fide P.  
 Savage)

NV: Nye Co.; US 6, 3.7 mi. E of Tonopah, 9 Aug  
 1990 (adult assoc.) (no plant coll., GTA, cf GTA  
 #531)

NV: Nye Co.; US 6, 1.8 mi. W of Nv 376, 21 Aug



1991 (adult assoc.) (no plant coll., GTA)

***Euphilotes pallescens arenamontana* Austin, 1998**

POLYGONACEAE

*Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi* Tidestrom]

- NV: Churchill Co.; SE base Sand Mt., 7 mi. WNW of Frenchman, 4000', Jul-Sep (ovip.) (Shields 1977)  
 NV: Churchill Co.; SE base Sand Mt., 7 mi. WNW of Frenchman, 4000', 13 Jul 1969 (ovip. inside a flower, 10:15 PST) (*vide* J. F. Emmel)  
 NV: Churchill Co.; SE base Sand Mt., 7 mi. WNW of Frenchman, 4000', 13 Jul 1969 (ovip. at base of flower bud, 10:45 PST) (*vide* J. F. Emmel)  
 NV: Churchill Co.; SE base of Sand Mt., 4 Jul 1974 (adult assoc.) (*vide* O. Shields)  
 NV: Churchill Co.; US 50, Sand Mountain, 28 Aug 1981 (adult assoc.) (NSMCC, UNLV; GTA; Austin 1998b)  
 NV: Churchill Co.; US 50, Sand Mountain, 25 Aug 1983 (adult assoc.) (NSM, GTA #600)  
 NV: Churchill Co.; US 50, Sand Mountain, 15 Jul 2000 (ovip. within flower, 09:10 PST) (no plant coll., GTA)  
 NV: Churchill Co.; US 50, Sand Mountain, Aug 2002 (larvae on inflorescences) (no plant coll., photographs by J. Crowley)

***Euphilotes pallescens ricei* Austin, 1998**

POLYGONACEAE

*Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi* Tidestrom]

- NV: Humboldt Co.; Jungo Rd., 9.5 mi. E of Bottle Creek Rd., 8 Aug 2001 (ovip. on flowers, 14:55 PST) (NSM, GTA #1665)  
 NV: Humboldt Co.; Jungo Rd., 6.4 mi. W of Pronto Rd., rd. to 1.1 mi. N, 8 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Jones Lane, Jungo Rd. to 1.0 mi. S, 8 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Quinn River Valley, Riverside Ranch Rd., 9.4 mi. S of Nv 293, 9 Aug 2001 (2 mid-instar larvae in flowerheads) (NSM, GTA #1666)  
 NV: Humboldt Co.; Cyanco Drive, 0.2-1.4 mi. S of Jungo Rd., 11 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Jungo Rd., 2.4 mi. E of Pronto Rd., 11 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Sand Pass Rd., 15 mi. NNW of Winnemucca, 25 Aug 2001 (numerous larvae reared to adult) (*vide* J. Wolfe)  
 NV: Humboldt Co.; Sand Pass Rd., 4.4 mi. W of US 95, 8 Aug 2002 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Sand Pass Rd., 4.4 mi. W of US 95, 26 Aug 2002 (larvae on inflorescences) (no plant coll., GTA)  
 NV: Humboldt Co.; Jungo-Sulphur Rd., 6.0 mi. W of



Figure 23. *Eriogonum elatum*.

Pronto Rd., 15 Aug 2003 (adult assoc.) (no plant coll., GTA)

***Euphilotes pallescens calneva* J. & T. Emmel, 1998**

POLYGONACEAE

*Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi* Tidestrom]

- NV: Pershing Co.; Trego-Nightingale Rd., 18.5 mi. S of Trego junction, 15 Aug 2003 (adult assoc.) (NSM, GTA #1950)  
 NV: Pershing Co.; Trego-Nightingale Rd., 19.7 mi. S of Trego junction, 15 Aug 2003 (adult assoc.) (no plant coll., GTA, *cf* GTA #1950)  
 NV: Washoe Co.; Honey Lake Valley, 2.5 mi. E of CA state line, 29 Jul 1993 (adult assoc.) (Emmel)

and Emmel 1998)

NV: Washoe Co.; Gerlach-Sutcliffe Rd., 0.2 mi. N of Sand Pass, 10 Aug 2002 (adult assoc.) (NSM, GTA #1754)

***Euphilotes pallescens confusa* Pratt & J. Emmel, 1998**

POLYGONACEAE

*Eriogonum baileyi* S. Watson

NV: Washoe Co.; Washoe Valley, SE shore of Washoe Lake, 7 Aug 2001 (ovip. on flowers, 08:15 PST) (NSM, GTA #1658)

*Eriogonum baileyi* S. Watson var. *baileyi*

NV: Washoe Co.; Nv 3B, 3 mi. SSE of US 395, 5100', 16 Jul 1969 (ovip. 13:34 PST) (*fide* J. F. Emmel; also Shields 1977, Shields and Reveal 1988)

NV: Washoe Co.; Nv 3B, 3 mi. SSE of US 395, 5100', 16 Jul 1969 (ovip. on edge of petals, 13:50 PST) (*fide* J. F. Emmel; also Shields 1977, Shields and Reveal 1988)

NV: Washoe Co.; Nv 3B, 3 mi. SSE of US 395, 5100', 16 Jul 1969 (ovip. on outside of petal of open flower) (*fide* J. F. Emmel; also Shields 1977, Shields and Reveal 1988)

NV: Washoe Co.; Nv 3B, 3 mi. SSE of US 395, 5100', 16 Jul 1969 (ovip. on unopened bud, 15:35 PST; 4 other ova on flower buds) (*fide* J. F. Emmel; also Shields 1977, Shields and Reveal 1988)

NV: Washoe Co.; Red Rock Rd., 2.3 mi. S of Chuckwagon Rd., 27 Jul 1987 (adult assoc.) (no plant coll., *cf* GTA #1488)

*Eriogonum baileyi* S. Watson var. *praebens* (Gand.) Reveal

[*Eriogonum baileyi* S. Watson var. *divaricatum* (Gand.) Reveal]

NV: Carson City; base of Carson Range, 1 mi. S of Carson City, 4900', 17 Jul 1969 (adult assoc.) (*fide* J. F. Emmel, also Shields 1977)

*Eriogonum heermannii* Durand & Hilg. var. *humilius* (S. Stokes)

Reveal (Plate 3F)

NV: Washoe Co.; W shore of Pyramid Lake, 11 mi. NW of Nixon, 3900', 27 Aug 1972 (adult assoc.) (*fide* O. Shields; also Shields 1977, Shields and Reveal 1988)

*Eriogonum nummulare* M.E. Jones [*Eriogonum kearneyi*

Tidestrom]

NV: Esmeralda Co.; Fish Lake Valley, Nv 264, 1.2 mi. S of US 6, 29 Aug 1983 (adult assoc.) (NSM, GTA #625)

NV: Esmeralda Co.; US 6, 0.1 mi. E of Mineral Co. line, 8 Sep 1988 (adult assoc.) (NSM, GTA #1493)

NV: Mineral Co.; US 6 at Esmeralda Co. line, 8 Sep 1988 (adult assoc.) (no plant coll., GTA, *cf* GTA #1493)

*Eriogonum vimineum* Benth.\*

NV: Washoe Co.; Carson Range, Davis Creek Park, 4 Aug 2002 (adult assoc.) (NSM, GTA #1742)

***Euphilotes pallescens mattonii* (Shields, 1975)**

POLYGONACEAE

*Eriogonum microthecum* Nutt. var. *laxiflorum* Hook. (Fig. 28)

NV: Elko Co.; Jarbidge Mts., 4 mi. W of Charleston Reservoir, 6600', 24 Jul 1969 (ovip. in flower, 10:25 PST) (*fide* J. F. Emmel; also Shields 1975, Shields and Reveal 1988)

NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 28 Jul 1988 (adult assoc.) (NSM, GTA #1485)

NV: Elko Co.; Charleston Rd., 6.0 mi. E of Nv 225, 22 Jul 2001 (adult assoc.) (NSM, GTA #1626)

NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 26 Jul 2001 (adult assoc.) (NSM, *cf* GTA #1485)

NV: Elko Co.; Charleston Rd., 12.6 mi. E of Nv 225, 24 Jul 2003 (adult assoc.) (NSM, GTA #1926)

***Euphilotes pallescens emmeli* (Shields, 1975)**

POLYGONACEAE

*Eriogonum microthecum* Nutt. var. *simpsoni* (Benth.) Reveal [*Eriogonum microthecum* Nutt. var. *foliosum* (Torr. & A. Gray) Reveal] (Fig. 28)

NV: Lincoln Co.; 2 mi. E of Panaca, 11 Aug 1986 (adult assoc.) (*fide* P. Savage)

NV: Lincoln Co.; Clover Mts., hillside W of Box Spring, 28 Aug 1986 (adult assoc.) (NSM, P. Savage)

NV: Lincoln Co.; Clover Mts., hillside W of Box Spring, 3 Sep 1986 (adult assoc.) (NSM, P. Savage)

NV: Lincoln Co.; Nv 319, 1.7 mi. E of Panaca junction, 19 Aug 2001 (adult assoc.) (NSM, GTA #1673)

*Eriogonum nummulare* M.E. Jones [*Eriogonum kearneyi* Tidestrom]

NV: Lincoln Co.; Nv 319, 1.5 mi. E of Panaca, 3 Sep 1983 (adult assoc.) (NSM, GTA #636)

NV: Lincoln Co.; US 93, 2.7 mi. N of Panaca Jct., 3 Sep 1983 (adult assoc.) (NSM, GTA #638)

NV: Lincoln Co.; US 93 at Miller Point Rd., N of Panaca junction, 27 Aug 1988 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Nv 319, 3.6 mi. E of Panaca junction, 19 Aug 2001 (adult assoc.) (NSM, GTA #1671)

NV: Lincoln Co.; 5.2 mi. S of Panaca junction, 0.7 mi. W of US 93, 21 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park Rd., 2.5 mi. E of US 93, 24 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park Rd., 2.7 mi. E of US 93, 21 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; vicinity of Echo Canyon State Park, 2 Aug 2004 (adult assoc.) (*fide* BB)

*Eriogonum racemosum* Nutt.\*

NV: Lincoln Co.; Nv 319, Panaca Summit, 19 Aug 2001 (adult assoc.) (NSM, GTA #1672)

***Euphilotes spaldingi spaldingi* (Barnes & McDunnough, 1917)**

POLYGONACEAE

*Eriogonum davidsonii* Greene\*

NV: Lincoln Co.; Beaver Dam State Park, 8 Sep  
2003 (adult assoc.) (NSM, GTA #1968)

***Philotiella speciosa speciosa* (Hy. Edwards, 1876)**

POLYGONACEAE

*Oxytheca perfoliata* Torr. & A. Gray (Plate 4D)

NV: Esmeralda Co.; dirt rd. 11 mi. S of Silver Peak,  
9 May 1995 (adult assoc.) (Langston 1996)

NV: Esmeralda Co.; Nv 266, 1.8 mi. E of CA state  
line, 17 Jun 1998 (ovip. on lower surface of bracts,  
13:00 PST) (no plant coll., GTA)

NV: Nye Co.; Nv 374, 9.1 mi. SW of Beatty, 7 Apr  
1980 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Nv 374, 9.1 mi. SW of Beatty, 18 Apr  
1980 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; 5 mi. SE of Beatty, 29 May 1993  
(ovip. 13:23 PST) (*vide* J. Brock)

***Philotiella speciosa septentrionalis* Austin, 1998**

POLYGONACEAE

*Eriogonum pusillum* Torr. & A. Gray

NV: Lyon Co.; Ft. Churchill Rd., 12.3 mi. S of US  
50, 2 May 1980 (adult assoc.) (NSMCC, GTA)

*Oxytheca perfoliata* Torr. & A. Gray (Plate 4D)

NV: Churchill Co.; Stillwater Range, US 50, 28-29  
mi. SE of Fallon, 20 Jun 1971 (ova on uppersides  
of terminal leaves) (Shields 1974)

NV: Pershing Co.; S slope of Lone Mt. nr. Lovelock,  
24 May 1970 (ovip.) (*vide* O. Shields, Langston  
1971)

***Glaucopsyche piasus piasus* (Boisduval, 1852)**

FABACEAE

*Lupinus andersonii* S. Watson (Fig. 26)

NV: Douglas Co.; Carson Range, Clear Creek  
Canyon, 4.7 mi. W of US 395, 22 May 1984 (adult  
assoc.) (NSM, GTA #861)

***Glaucopsyche piasus nevada* F. M. Brown, 1975**

FABACEAE

*Lupinus* sp.

NV: Elko Co.; East Humboldt Range, peak 2/3 mi.  
NW of Angel Lake, 9600', 26 Jul 1969 (ovip. at  
base of unopened bud) (*vide* J. F. Emmel)

*Lupinus argenteus* Pursh (Plate 8F)

NV: Lander Co.; Toiyabe Range, US 50, Austin  
Summit, 8 Jul 1984 (adult assoc.) (NSM, GTA  
#1062)

*Lupinus argenteus* Pursh var. *argenteus* [*Lupinus argenteus* Pursh var. *tenellus* (G. Don) D. Dunn] (Plate 8F)

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of  
Angel Lake, 5 Jul 1980 (ovip. several times on  
flower buds, 08:00, 10:30 PST) (NSMCC, GTA)

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of  
Angel Lake, 10 Jul 2000 (ovip. on flower bud,  
14:35 PST) (NSM, GTA #1553)

*Lupinus argenteus* Pursh var. *heteranthus* (S. Watson) Barneby[*Lupinus caudatus* Kellogg] (Plate 8F)

NV: White Pine Co.; Snake Range, Snake Creek, 27  
Jun 1972 (ovip.) (Langston 1973)

*Lupinus argenteus* Pursh var. *utahensis* (S. Watson) Barneby [*Lupinus caudatus* Kellogg var. *utahensis* (S. Watson) S.L. Welsh] (Plate 8F)

NV: Elko Co.; Charleston Rd. to Marys River Rd.,  
9.7 mi. S of Marys River Rd., 6 Jul 2003 (adult  
assoc.) (NSM, GTA #1908)

*Lupinus polyphyllus* Lindl. var. *prunophilus* (M.E. Jones) L. Phillips

NV: White Pine Co.; Schell Creek Range, Kalamazoo  
Creek, 4.8 mi. E of summit, 31 May 2002 (adult  
assoc.) (NSM, GTA #1711)

NV: White Pine Co.; Schell Creek Range, North  
Creek, end of rd., 14 Jun 2002 (adult assoc.)  
(NSM, GTA #1724)

NV: White Pine Co.; Schell Creek Range, East Creek  
Campground, 19 Jun 2003 (adult assoc.) (NSM,  
GTA #1882)

***Glaucopsyche piasus toxseuma* F. M. Brown, 1971**

FABACEAE

*Lupinus argenteus* Pursh (Plate 8F)

NV: Douglas Co.; Pine Nut Mts., Blossom Canyon, 7  
Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek  
Canyon, 4.8-5.3 mi. W of Nv 400, 22 May 1980  
(adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Nv 8A, 26.2 mi. E of Nv 34, 30  
May 1984 (ovip. on lower side of lower leaf, 15:00  
PST) (NSM, GTA #935)

***Glaucopsyche piasus daunia* (W. H. Edwards, 1871)**

FABACEAE

*Lupinus argenteus* Pursh var. *utahensis* (S. Watson) Barneby[*Lupinus caudatus* Kellogg var. *utahensis* (S. Watson) S.L. Welsh] (Plate 8F)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak  
Rd., 2.3 mi. S of Wilson Peak, 17 Jun 1990 (adult  
assoc.) (NSM, GTA #1520)

***Glaucopsyche lygdamus oro* (Scudder, 1876)**

FABACEAE

*Astragalus beckwithii* Torr. & A. Gray var. *purpureus* M.E. Jones\*

NV: White Pine Co.; W side Butte Mts., Queue  
Valley, 7.6 mi. N of Thirtymile Ranch, 29 May  
2003 (ovip. on flower bud, 10:35 PST) (NSM,  
GTA #1831)

*Astragalus calycosus* S. Watson\* (Plate 8C)

NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw  
Mine, 15.5 mi. W of Nv 318, 13 May 1984 (adult  
assoc.) (NSM, GTA #831)

*Astragalus lentiginosus* Hook. (Plate 8D)

NV: Lincoln Co.; Bristol Mts., 12.5 mi. N of Pioche,  
27 May 1979 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Delamar Mts., US 93, 6 mi. E of  
Oak Springs Summit, 12 May 1983 (adult assoc.)

(no plant coll., GTA, cf GTA #1239)

NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 12.2 mi. W of Nv 318, 13 May 1984 (ovip. at base of flowers, 09:15 PST) (NSM, GTA #830)

NV: Lincoln Co.; Delamar Mts., US 93, 6 mi. E of Oak Springs Summit, 23 Apr 1986 (adult assoc.) (NSM, GTA #1239)

NV: Nye Co.; Nv 375, Queen City Summit, 25 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Kawich Range, Golden Arrow, 16 Apr 1984 (ovip. at base of flowers, 09:10 PST) (NSM, GTA #783)

*Astragalus purshii* Hook.\*

NV: Nye Co.; Hot Creek Range, Morey Mine area, 28 May 1983 (ovip. among flowers, 09:40 PST) (NSM, GTA #280)

*Astragalus utahensis* (Torr.) Torr. & A.Gray\*

NV: White Pine Co.; Snake Range, Lehman Creek, 11 May 1984 (ovip. on flower bud, 10:00 PST) (NSM, GTA #824)

*Lupinus arbustus* Dougl ex Lindl.\*

NV: Elko Co.; Nv 789, 3.8 mi. W of Midas junction, 23 May 2003 (ovip. on flower bud, 08:10 PST) (NSM, GTA #1806)

NV: Humboldt Co.; Greeley Crossing Rd., 2.3 mi. S of Greeley Crossing, 24 May 2003 (ovip. beneath flower, 12:55 PST) (NSM, GTA #1814)

*Lupinus argenteus* Pursh (Plate 8F)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 2 Jul 1978 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, BB, cf GTA #1032)

NV: Lander Co.; Toiyabe Range, Birch Creek, 26 May 1993 (adult assoc.) (no plant coll., GTA, cf GTA 1063)

NV: Lincoln Co.; Delamar Mts., US 93, 0.4 mi. S of Oak Springs Summit, 31 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 15.5 mi. W of Nv 318, 13 May 1984 (ovip. at base of flowers, 10:30 PST) (NSM, GTA #834)

NV: Nye Co.; Quinn Canyon Range, 0.5-2 mi. S of Cherry Creek Summit, 28 May 1979 (adult assoc.) (UNLV, GTA)

NV: Nye Co.; US 95, 14.8 mi. N of Beatty, 23 Apr 1982 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Hot Creek Range, Tybo Canyon, 29 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (ovip. on flower bud, 10:00 PST) (NSM, GTA #1261)

*Lupinus argenteus* Pursh var. *utahensis* (S.Watson) Barneby

[*Lupinus caudatus* Kellogg var. *utahensis* (S.Watson) S.L.Welsh] (Plate 8F)

NV: Nye Co.; Quinn Canyon Range, 0.5-2 mi. S of Cherry Creek Summit, 28 May 1979 (adult assoc.) (UNLV, GTA) (identified originally as *Lupinus holosericeus* Torr. & A.Gray)

*Lupinus polyphyllus* Lindl. var. *prunophilus* (M.E.Jones)

L.Phillips

NV: White Pine Co.; Schell Creek Range, Success Loop, 6.8 mi. N of Cave Lake State Park, 17 Jul 1991 (adult assoc.) (NSM, GTA #1525)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 4.8 mi. E of summit, 31 May 2002 (adult assoc.) (NSM, GTA #1711)

NV: White Pine Co.; Schell Creek Range, Seigel Creek Rd., 2.1 mi. S of Schellbourne Pass Rd., 10 Jun 2003 (adult assoc.) (NSM, GTA #1836)

*Vicia americana* Willd. var. *minor* Hook.

NV: Lincoln Co.; Bristol Mts., 12.5 mi. N of Pioche, 27 May 1979 (adult assoc.) (NSMCC, GTA)

*Glaucoopsyche lygdamus orcus* (W. H. Edwards, 1869)

FABACEAE

*Astragalus* sp.

NV: Mineral Co.; US 6, 1.3 mi. W of Esmeralda Co. line, 5 May 1981 (adult assoc.) (NSMCC, GTA)

*Astragalus andersonii* A.Gray\*

NV: Lyon Co.; Sweetwater Mts., Silverado Canyon at CA state line, 23 May 1984 (ovip. on flowers, 09:50 PST) (NSM, GTA #871)

NV: Lyon Co.; Sweetwater Mts., Silverado Canyon Rd. at CA state line, 16 May 1986 (ovip. on lower surface of flower near stem, 12:30 PST) (NSM, GTA #1275)

*Astragalus casei* A.Gray\*

NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (ovip. at base of flower, 14:10 PST) (NSM, GTA #420)

NV: Nye Co.; Grapevine Mts., Phinney Canyon Rd., 21.0 mi. W of US 95, 26 May 1983 (adult assoc.) (NSM, GTA #254)

*Astragalus layneae* Greene\*

NV: Nye Co.; Phinney Canyon Rd. at Currie Well Rd., 7 May 1983 (ovip. at base of flower bud, 10:30 PST) (NSM, GTA #102)

*Astragalus oophorus* S.Watson (probably var. *lonchocalyx* Barneby)\*

NV: Nye Co.; Grapevine Mts., Phinney Canyon Rd., 21.0 mi. W of US 95, 26 May 1983 (ovip. on flower, 16:00 PST) (NSM, GTA #253)

*Lathyrus rigidus* T. White\*

NV: Washoe Co.; rd. from Duck Flat to Buffalo Meadows, 0.6 mi. N of Stone Corral, 5 May 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; rd. to Jones Flat, 0.6 mi. S of Nv 447, 19 May 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1795)

*Lupinus argenteus* Pursh (Plate 8F)

NV: Douglas Co.; Pine Nut Mts., Blossom Canyon, 7 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Excelsior Mts., Pepper Spring, 6 May 1981 (adult assoc.) (NSMCC, GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 19 May 1982 (adult assoc.) (NSMCC, GTA)

*Glaucoopsyche lygdamus deserticola* Austin & J. Emmel, 1998

FABACEAE

*Astragalus aequalis* Clokey\*

NV: Clark Co.; Spring Mts., Willow Creek, 19 May 1993 (ovip. on flower bud) (NSM, GTA [unnumbered], cf GTA #1541)

*Astragalus lentiginosus* Hook. var. *fremontii* (A.Gray) S.Watson (Plate 8D)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 22 Apr 1978 (abdominal probing among flowers) (Austin and Austin 1980, Austin and Emmel 1998)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 2 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 20 Apr 1980 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Spring Mts., rd. to Mt. Stirling, 6.4 mi. W of US 95, 17 Apr 1983 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Spring Mts., Johnnie Mine Rd., 2.3 mi. E of Nv 160, 3 May 1983 (adult assoc.) (no plant coll., GTA)

***Glaucopsyche lygdamus minipunctum* Austin, 1998**

## FABACEAE

*Lupinus argenteus* Pursh (Plate 8F)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 12 Apr 1990 (ovip. on tight flower buds, 10:35 PST) (NSM, GTA #1512)

*Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L.Welsh (Plate 8F)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 5 Apr 1988 (ovip. on unopened flower bud at base of lower surface, 12:10 PST) (NSM, GTA #1464)

***Hemiargus ceraunus gyas* (W. H. Edwards, 1871)**

## FABACEAE

*Acacia greggii* A.Gray var. *greggii*\* (Plate 8B)

NV: Lincoln Co.; US 93, 2.1 mi. N of Clark Co. line, 24 Jun 1984 (ovip. on flower buds, 12:00-12:15 PST) (NSM, GTA #1024)

*Astragalus calycosus* S.Watson var. *mancus* (Rydb.) Barneby\* (Plate 8C)

NV: Clark Co.; Spring Mts.; Lee Canyon ski area, 8 Jul 1987 (ovip. at base of flower, 09:45 PST) (NSM, GTA #1455)

*Dalea capitata* S.Watson (ornamental)\*\* (i)

NV: Clark Co.; Las Vegas, Shadow Lane, 6 Nov 2001 (ovip. on unopened flower bud, 14:20 PST) (NSM, GTA #1696)

*Dalea molissima* (Rydb.) Munz\*\*

NV: Clark Co.; Newberry Mts., Bridge Canyon, 3 May 1978 (adult assoc.) (UNLV, GTA)

*Medicago sativa* L. (i) (Fig. 24)

NV: Clark Co.; Las Vegas Valley, Mormon Farm, 4 Jul 1984 (ovip. 3X on unopened flower buds, 10:00, 10:20, 10:25 PST) (NSM, GTA #1042)

*Melilotus alba* Medikus\*\* (i) (Fig. 20)

NV: Clark Co.; Spring Mts., Calico Basin, Red

Spring, 16 Sep 1984 (ovip. 2X on flower buds, 10:15 PST) (NSM, GTA #1205)

*Melilotus officinalis* (L.) Pall.\*\* (i)

NV: Clark Co.; Spring Mts., Lovell Canyon, 7.0 mi. E of Nv 160, 17 Jun 1984 (ovip. on open flower, 11:30 PST) (NSM, GTA #1005)

*Prosopis glandulosa* Torr. var. *torreyana* (L.D.Benson) M.Johnston (Fig. 29)

NV: Clark Co.; US 95, Indian Springs, 4 Jun 1992 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 17 Jun 1992 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Warm Springs, 23 Sep 1988 (and numerous additional dates) (adult assoc.) (no plant coll., GTA, BB)

NV: Clark Co.; Moapa Valley, Logandale, 26 Jun 2002 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 4 Sep 2002 (adult assoc.) (no plant coll., GTA)

*Prosopis pubescens* Benth.

NV: Clark Co.; Moapa Valley, Hidden Valley, 17 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Warm Springs, 23 Sep 1988 (and numerous additional dates) (principal adult assoc.) (no plant coll., GTA, BB)

NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. 3X on flower buds, 09:35, 2X 09:40 PST; behavior much like *Echinargus isola*, see below) (NSM, GTA #991)

NV: Nye Co.; Ash Meadows, 28 Jul 1998 (adult assoc.) (no plant coll., GTA)

*Psoralea fremontii* (A.Gray) Barneby [*Dalea fremontii* A.Gray] (Plate 9A)

NV: Clark Co.; US 93, Railroad Pass, 14 May 1977 (ovip. on new leaf growth, 10:30 PST) (Austin and Austin 1980)

NV: Clark Co.; US 93, 5 mi. N of I-15, 14 May 1978 (ovip. on leaf buds, 09:15 PST) (Austin and Austin 1980)

***Lycaeides anna anna* (W. H. Edwards, 1861)**

## FABACEAE

*Lupinus polyphyllus* Lindl.

NV: Carson City; Carson Range, Marlette Lake Rd., 2.3 mi. S of Snow Valley Peak Rd., 30 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, W shore of Marlette Lake, 25 Jul 1981 (adult assoc.) (NSMCC, GTA)

***Lycaeides melissa melissa* (W. H. Edwards, 1873)**

## FABACEAE

*Astragalus* sp. (unidentifiable, no flowers or fruit)

NV: Nye Co.; Big Smoky Valley, alkali flat, 1.5 mi. S of Moores Creek Rd., off Nv 386, 19 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 1.5 mi. E of Nv 386, 20 Jul 2001 (ovip. 2X on upper surface of leaf, 09:10 PST) (no plant coll., GTA)



- Astragalus alpinus* L.\*  
 NV: Elko Co.; Ruby Mts., Lamoille Canyon, end of rd., 6 Jul 1978 (ovip. on young flower bud) (UNLV, GTA)
- Astragalus argophyllus* Torr. & A.Gray var. *martini* M.E.Jones\*  
 NV: Elko Co.; Butte Valley, 6.1 mi. N of Taylor Canyon junction, 14 Jun 2002 (adult assoc.) (NSM, GTA #1723)
- Astragalus beckwithii* Torr. & A.Gray var. *purpureus* M.E.Jones\*  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (ovip. on opening flower bud, 10:25 PST) (NSM, GTA #1264)
- Astragalus canadensis* L. var. *brevidens* (Gand.) Barneby  
 NV: Washoe Co.; Washoe Valley, Bellevue Rd., just E of US 395, 7 Aug 2001 (ovip. 2X at base of flowers, 08:50 PST) (NSM, GTA #1659)  
 NV: White Pine Co.; Egan Range, Ward Mountain ski area, 7 Jul 1984 (ovip. 2X on flower buds, different plants, 11:35 PST) (NSM, GTA #1051)  
 NV: White Pine Co.; Snake Range, Baker Creek Campground, 30 Jun 1986 (adult assoc.) (NSM, GTA #1333)
- Astragalus curvicarpus* (A.Heller) J.F.Macbr.\*  
 NV: Humboldt Co.; Pine Forest Range, Blue Lake Rd., 2.0 mi. W of Nv 140, 31 May 1984 (ovip. at base of flower, 08:05 PST) (NSM, GTA #946)  
 NV: Washoe Co.; Granite Mts., Rock Creek Ranch Rd., 0.6 mi. W of Nv 34, 30 May 1984 (abdominal probing around flowers on several occasions, but no oviposition noted) (NSM, GTA #928)
- Astragalus filipes* A.Gray\* (Fig. 13)  
 NV: Washoe Co.; Granite Mts., Rock Creek Ranch Rd., 0.6 mi. W of Nv 34, 30 May 1984 (ovip. at base of flower, 08:00 PST) (NSM, GTA #927)
- Astragalus iodanthus* S.Watson\*  
 NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-7 mi. W of Nv 400, 25 Jun 1983 (ovip. on stem near flowers, 13:30 PST) (NSM, GTA #473)
- Astragalus lentiginosus* Hook. (Plate 8D)  
 NV: Mineral Co.; Alkali Dry Lake Rd., 3.6 mi. N of Nv 359, 6 Jun 1981 (adult assoc.) (NSMCC, GTA)
- Astragalus lentiginosus* Hook. var. *diphysus* (A.Gray) M.E.Jones (Plate 8D)  
 NV: White Pine Co.; Spring Valley, Shoshone-Atlanta Rd., 2.1 mi. S jct of Highline Rd., 1.2 mi. E on fence line, 31 May 2002 (adult assoc.) (NSM, GTA #1709)
- Astragalus lentiginosus* Hook. var. *toyabensis* Barneby (Plate 8D)  
 NV: Nye Co.; Toquima Mts, Stoneberger Canyon, 6.8 mi. SW of Monitor Ranch, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)
- Astragalus lentiginosus* Hook. nr. var. *variabilis* Barneby (Plate 8D)  
 NV: Mineral Co.; US 95, Sodaville, 18 Jun 1983 (ovip. on stem, 14:00 PST) (NSM, GTA #439)
- Astragalus marianus* (Rydb.) Barneby\*  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 7000', 20 Jun 1978 (adult assoc.) (UNLV, GTA)
- Astragalus oophorus* S.Watson\*  
 NV: Nye Co.; Toiyabe Range, Summit Canyon, 9 Jul 1984 (adult assoc.) (NSM, GTA #1076)
- Astragalus oophorus* S.Watson var. *oophorus*\*  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 4 Jul 1979 (adult assoc.) (NSMCC, GTA)  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 17 May 1990 (adult assoc.) (no plant coll., GTA, cf GTA #1514)
- Astragalus serenoii* (Kuntze) E.Sheld. var. *serenoii*\*  
 NV: Churchill Co.; Stillwater Mts., Cox Canyon, 17 May 1981 (ovip. on lower surface of leaf, 10:00 PST) (NSMCC, GTA)
- Astragalus tenellus* Pursh\*  
 NV: Elko Co.; Charleston-Jarbridge Rd., 3.6 mi. W of Marys River Rd., 14 Jun 2003 (adult assoc.) (NSM, GTA #1852)  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 5 Jul 1978 (ovip. on opening flower bud, 09:45 PST) (UNLV, GTA)  
 NV: White Pine Co.; Schell Creek Range, East Creek Campground, 19 Jun 2003 (ovip. on stem beneath flowers, 14:10 PST) (NSM, GTA #1880)
- Lotus corniculatus* L. [*Lotus tenuis* Willd.]\* (i) (Plate 8E)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 9.5 mi. S of Atlanta Rd., 24 Jun 1984 (ovip. at base of flower, 09:45 PST) (NSM, GTA #1022b)
- Lotus oblongifolius* (Benth.) Greene\*  
 NV: Douglas Co.; Carson Valley, Scossa Ranch, 26 Aug 1983 (ovip. on flower bud, 11:50 PST) (NSM, GTA #613)
- Lotus utahensis* Ottley\*  
 NV: Lincoln Co.; Meadow Valley Wash, 2 mi. N of Elgin, 18 Apr 1984 (ovip. beneath flower, 10:15 PST) (NSM, GTA #789)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 9.5 mi. S of Atlanta Rd., 24 Jun 1984 (ovip. at base of flower, 09:45 PST) (NSM, GTA #1022a)
- Lupinus arbustus* Dough. ex Lindl.\*  
 NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 4.8 mi. W of Pleasant Valley Rd., 7 Jul 2003 (preovip. on flower bud) (no plant coll., GTA, cf GTA #1840)
- Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L.Welsh (Plate 8F)  
 NV: Elko Co.; Deeth-Charleston Rd., 8.5 mi. S of Marys River Rd., 24 Jul 2003 (ovip. on developing pod at junction with stem, 09:10 PST) (NSM, GTA #1925)  
 NV: Elko Co.; Deeth-Charleston Rd., 28.2 mi. N of Deeth, 11 Sep 2003 (adult assoc.) (NSM, GTA #1971)
- Medicago sativa* L. (i) (Fig. 24)  
 NV: Douglas Co.; Gardnerville ("feeding", "host plant") (Nice and Shapiro 1999, Fordyce and Nice 2003, Forister *et al.* 2006)  
 NV: Esmeralda Co.; Fish Lake Valley, Dyer, 27 May 1988 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; Fish Lake Valley, 2.4 mi. S of Dyer, 15 Sep 2003 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, 0.3 mi. E of US 95A, 14 Aug 1979 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; 0.5 mi. W of Dayton, 14 Aug 1979 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Smith Valley, Nv 829, 1.5 mi. S of Wellington, 1 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Mineral Co.; Schurz, 17 Jul 1983 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Big Smoky Valley, Carvers, 9 Aug 1983 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; north side of Lovelock, 21 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Verdi ("feeding") (Nice and Shapiro 1999)

NV: Washoe Co.; Verdi ("natal host", "host plant") (Nice *et al.* 2002, Forister *et al.* 2006)

*Melilotus officinalis* (L.) Pall. (i)

NV: Lander Co.; Reese River Valley, Nv 722 at Reese River, 8 Jul 1984 (ovip. on flower, 14:20 PST) (NSM, GTA #1060)

***Lycaeides melissa alateres* Austin, 1998**

FABACEAE

*Medicago sativa* L. (i) (Fig. 24)

NV: Clark Co.; Moapa Valley, Logandale, 16 Oct 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 13 Jun 1987 (ovip. on flower bud, 07:25 PST) (NSM, GTA #1430)

NV: Clark Co.; Moapa Valley, Logandale, 6 Sep 1987 (adult assoc.) (no plant coll., GTA)

***Lycaeides fridayi* (F. H. Chermock, 1945)**

FABACEAE

*Astragalus whitneyi* A.Gray

NV: Douglas Co.; Carson Range, Snow Valley Peak and ridge to the N, 25 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Wassuk Range, Corey Peak Rd., 9600-10000', 23 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Wassuk Range, Corey Peak area, 2 Jul 1985 (adult assoc.) (NSM, GTA #1234)

NV: Washoe Co.; Mt. Rose ("natal host", "host plant") (Nice *et al.* 2002, Forister *et al.* 2006)

***Plebejus saepiolus maculosus* Austin, 1998**

FABACEAE

*Trifolium beckwithii* S.Watson\*

NV: White Pine Co.; Steptoe Valley, Warm Springs, 7 Jun 1992 (adult assoc.) (no plant coll., GTA, cf GTA #1719)

NV: White Pine Co.; Steptoe Valley, Warm Springs, 13 Jun 2002 (adult assoc.) (NSM, GTA #1719)

*Trifolium eriocephalum* Nutt. var. *villiferum* (House) J.S.Martin\*

NV: White Pine Co.; White River Valley, 1.0 mi. N of Nye Co. line, 14 Jun 1990 (ovip. on flower, 09:10 PST) (NSM, GTA #1519)

*Trifolium gymnocarpon* Nutt.\*

NV: White Pine Co.; Snake Range, Snake Creek, 12-13 mi. W of Nv 487, 18 Aug 1981 (adult assoc.) (NSMCC, GTA)

*Trifolium longipes* Nutt.

NV: Nye Co.; Toquima Range, Stoneberger Canyon, 6.8 mi. SW of Monitor Ranch, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)

*Trifolium monanthum* A.Gray

NV: Nye Co.; Toquima Range, trail from Pine Creek Camp to Mt. Jefferson, 10,500', 4 Aug 1967 (ovip. on side of flower, 13:00 PST) (Shields *et al.* 1969)

*Trifolium wormskioldii* Lehm. (Fig. 25)

NV: Lander Co.; Reese River Valley, Reese River to 0.5 mi. E, 20 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, Big Creek, 16 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Reese River Valley, US 50, 2.5 mi. E of Reese River, 6 Jun 1994 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul 2001 (adult assoc.) (NSM, GTA #1621)

NV: Nye Co.; Big Smoky Valley, Triple T Ranch, 9 Jul 1984 (adult assoc.) (NSM, GTA #1072)

NV: White Pine Co.; Newark Valley, Nv 892, 20.5 mi. N of US 50, 8 Jul 1984 (ovip. on flower bud, 08:20 PST) (NSM, GTA #1056)

NV: White Pine Co.; Newark Valley, Nv 892, 20.5 mi. N of US 50, 8 Jul 1984 (ovip. at base of open flower, 08:30 PST) (NSM, GTA #1056)

***Plebejus saepiolus rufescens* (Boisduval, 1869)**

FABACEAE

*Trifolium longipes* Nutt.

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 4.7 mi. W of US 395, 22 May 1984 (adult assoc.) (NSM, GTA #859)

NV: Washoe Co.; Carson Range, Nv. 431, Tahoe Meadows, 21 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, 2.0 mi. E of Mt. Rose Summit, 30 Jun 1987 (ovip. on flowers, 07:45, 07:50, 08:15 PST) (NSM, GTA #1449)

NV: Washoe Co.; Carson Range, Nv. 431, Tahoe Meadows, 30 Jun 2003 (adult assoc.) (NSM, GTA #1886)

*Trifolium repens* L. (i)

NV: Elko Co.; Jarbidge Mts., McDonald Creek Rd., 6.1 mi. S of Idaho state line, 17 Jun 2003 (adult assoc.) (NSM, GTA #1873)

*Trifolium wormskioldii* Lehm. (Fig. 25)

NV: Humboldt Co.; Sheldon Antelope Range, Dufurrena Ranch, 28 Jun 1987 (ovip. on flower, 10:00 PST) (NSM, GTA #1445)

NV: Lyon Co.; Sweetwater Mts., Desert Creek, 0.5.

mi. S of Jackass Creek, 27 Jun 1985 (ovip. on outer petals, 10:30 PST) (NSM, GTA #1220)

*Trifolium wormskioldii* Lehm. var. *wormskioldii* (Fig. 25)

NV: Elko Co.; Rock Creek-Scraper Spring Rd., Scraper Spring junction, 5 Jul 2003 (adult assoc.) (NSM, GTA #1905)

***Plebejus saepiolus albomontanus* Austin & J. Emmel, 1998**

FABACEAE

*Trifolium andersonii* A.Gray var. *beatleyae* (J.M.Gillett) Isely\*

NV: Esmeralda Co.; White Mts., high pass above Trail Canyon, 11600-11800, 21 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Trifolium fragiferum* L.\* (i)

NV: Esmeralda Co.; White Mts., Indian Creek, 7-9 mi. W of Nv 264, 18 Jun 1983 (adult assoc.) (NSM, GTA #427)

*Trifolium wormskioldii* Lehm. (Fig. 25)

NV: Esmeralda Co.; White Mts., Middle Creek, 9-10.5 mi. W of Nv 264, 28 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Esmeralda Co.; White Mts., Indian Creek, 7-9 mi. W of Nv 264, 18 Jun 1983 (adult assoc.) (NSM, GTA #426)

***Icaricia icarioides pembina* (W. H. Edwards, 1862)**

FABACEAE

*Lupinus arbustus* Douglas ex Lindl.

NV: Elko Co.; Nv 789, 3.8 mi. W of Midas junction, 23 May 2003 (adult assoc.) (NSM, GTA #1806)

*Lupinus argenteus* Pursh (Plate 8F)

NV: Humboldt Co.; Sheldon Antelope Refuge, Nv 34A, 23.2 mi. W of Nv 8A, 14 Jun 1989 (ovip. on pedicel of unopened flower, 09:55 PST) (NSM, GTA #1508)

NV: Washoe Co.; Nv 8A, 10.6 mi. E of Nv 34, 30 May 1984 (adult assoc.) (NSM, GTA #934)

NV: Washoe Co.; Nv 8A, 26.2 mi. E of Nv 34, 30 May 1984 (adult assoc.) (NSM, GTA #935)

NV: Washoe Co.; Sheldon Antelope Refuge, Nv 34A, 1.4 mi. W of Bald Mountain Summit, 29 Jun 1987 (adult assoc.) (NSM, GTA #1447)

*Lupinus argenteus* Pursh var. *argenteus* × *Lupinus argenteus* Pursh var. *heteranthus* (S.Watson) Barneby

NV: Elko Co.; Harris Gulch, Mountain City, 5650', 1960 ("ova") (Downey and Dunn 1964) [reported as *Lupinus argenteus* Pursh var. *tenellus* (G.Don) D.Dunn × *Lupinus caudatus* Kellogg]

*Lupinus argenteus* Pursh var. *utahensis* (S.Watson) Barneby [*Lupinus caudatus* Kellogg var. *utahensis* (S.Watson) S.L.Welsh] (Plate 8F)

NV: Elko Co.; Midas Rd., 1.2 mi. N of Nv 789, 27 May 2003 (adult assoc.) (NSM, GTA #1820)

NV: Elko Co.; Jarbidge Mts., Charleston-Jarbidge Rd., 5.2 mi. S of Coon Creek Summit, 14 Jun 2003 (adult assoc.) (NSM, GTA #1858)

NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill Summit-Merritt Creek at junction with Sunflower Reservoir Rd., 16 Jun 2003 (adult assoc.) (NSM,

GTA #1865)

NV: Elko Co.; Charleston Rd. to Marys River Rd., 9.7 mi. S of Marys River Rd., 6 Jul 2003 (adult assoc.) (NSM, GTA #1908)

NV: Humboldt Co.; Kelly Creek Rd., 16.5 mi. N of Nv 789 (4.2 mi. N of Kelly Creek Ranch), 24 May 2003 (adult assoc.) (NSM, GTA #1809)

NV: Washoe Co.; Buckhorn Rd., 4.8 mi. W of rd. to Buffalo Meadows, 2 Jul 2003 (adult assoc.) (NSM, GTA #1890)

*Lupinus lepidus* Douglas\*

NV: Humboldt Co.; Nv 8A, Gooch Spring Campground, 1 Jun 1984 (adult assoc.) (NSM, GTA #953)

*Lupinus lepidus* Douglas var. *sellulus* (Kellogg) Barneby\*

NV: Elko Co.; 1 mi. N of Winters Ranch (on Wolf Creek), 23 May 2003 (adult assoc.) (NSM, GTA #1808)

NV: Elko Co.; Nv 11 to Owyhee, 1.2 mi. N of Sheep Creek junction, 27 May 2003 (adult assoc.) (NSM, GTA #1821)

NV: Humboldt Co.; Greeley Crossing Rd., 2.3 mi. S of Greeley Crossing, 24 May 2003 (ovip. on flower bud, 13:00 PST) (NSM, GTA #1813)

*Lupinus nevadensis* A.Heller\*

NV: Humboldt Co.; Sheldon Antelope Range, Nv



Figure 24. *Medicago sativa*.

8A, 4.9 mi. W of Nv 140, 13 Jun 1989 (ovip. on pedicel, 12:45 PST) (NSM, GTA #1507)

***Icaricia icarioides fulla* (W. H. Edwards, 1870)**

FABACEAE

*Lupinus andersonii* S. Watson (Fig. 26)

NV: Carson City; Carson Range, Kings Canyon, 14 May 1978 (adult assoc.) (UNLV, GTA)

NV: Douglas Co.; Carson Range, Clear Creek Canyon, 4.7 mi. W of US 395, 26 May 1982 (adult assoc.) (NSMCC, GTA)

*Lupinus arbustus* Douglas ex Lindl.

NV: Douglas Co.; Carson Range, Genoa Canyon, 27 May 1984 (adult assoc.) (NSM, GTA #905)

NV: Douglas Co.; Carson Range, Heavenly Valley North, East Peak area, 28 Jun 1985 (ovip. at base of unopened flower bud, 11:00 PST) (NSM, GTA #1228)

NV: Elko Co.; Pequop Mts., Pequop Summit, 6800', 1955 ("ova") (Downey and Fuller 1961) [reported as *Lupinus arbustus* Douglas ex Lindl. ssp. *calcaratus* (Kellogg) Dunn]

NV: Elko Co.; Winecup Ranch-Thurston Spring Rd., 6.2 mi. N of Fenelon Junction, 12 Jun 1990 (ovip. on unopened flower bud, 11:15 PST) (NSM, GTA #1518)

NV: Washoe Co.; Carson Range, Nv 431, 5.0 mi. E of Nv 28, 30 Jun 2003 (adult assoc.) (NSM, GTA #1885)

NV: White Pine Co.; Kern Mts., rd. to Blue Mass Scenic Area, 4.6 mi. W of Pleasant Valley Rd., 11 Jun 2003 (adult assoc.) (NSM, GTA #1840)

*Lupinus argenteus* Pursh (Plate 8F)

NV: Churchill Co.; Desatoya Mts., Nv 722, Carroll Summit, 3 Jun 1984 (adult assoc.) (NSM, GTA #961)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun 1983 (adult assoc.) (NSM, GTA #341)

NV: Douglas Co.; Pine Nut Mts., Blossom Canyon, 7 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, US 50, Austin Summit, 8 Jul 1984 (adult assoc.) (NSM, GTA #1062)

NV: Lander Co.; Toiyabe Range, Birch Creek, 16 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, Birch Creek, 3.2 mi. W of Nv 376, 8 Jul 1984 (ovip. on flower bud, 15:15 PST) (NSM, GTA #1063)

NV: Lincoln Co.; Highland Range, Highland Spring, 23 Jun 1984 (ovip. on flower bud, 11:10 PST) (NSM, GTA #1011)

NV: Nye Co.; Hot Creek Range, Tybo Canyon, 29 May 1983 (adult assoc.) (no. plant coll., GTA)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (adult assoc.) (NSM, GTA #1261)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 4.8-5.3 mi. W of Nv 400, 22 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 29

May 1981 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Red Rock Rd., 6.3 mi. N of US 395, 2 Jun 1984 (adult assoc.) (NSM, GTA #955)

NV: White Pine Co.; Egan Range, Ward Mt. ski area, 7 Jul 1984 (ovip. on opening buds, 11:30 PST) (NSM, GTA #1048)

*Lupinus argenteus* Pursh var. *argenteus* [*Lupinus argenteus* Pursh var. *tenellus* (G. Don) D. Dunn] (Plate 8F)

NV: Elko Co.; 1 mi. NW of Lamoille, 5800', 1959 ("ova") (Downey and Dunn 1964) [reported as *Lupinus argenteus* Pursh var. *tenellus* (G. Don) D. Dunn]

NV: Elko Co.; Ruby Valley, Ruby, 5975', 1960 ("ova") (Downey and Dunn 1964) [reported as *Lupinus argenteus* Pursh var. *tenellus* (G. Don) D. Dunn]

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 5 Jul 1980 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 10 Jul 2000 (adult assoc.) (NSM, GTA #1553)

NV: Eureka Co.; Diamond Mts., 0.5 mi. SE of Eureka, 7450', 1955, 1959 ("ova") (Downey and Fuller 1961) [reported as *Lupinus argenteus* Pursh var. *tenellus* (G. Don) D. Dunn]

*Lupinus argenteus* Pursh var. *argenteus* × *Lupinus argenteus* Pursh var. *heteranthus* (S. Watson) Barneby

NV: Elko Co.; 4 mi. W of Lamoille, 5700', 1960 ("ova") (Downey and Dunn 1964) [reported as *Lupinus argenteus* Pursh var. *tenellus* (G. Don) D. Dunn × *Lupinus caudatus* Kellogg]

*Lupinus argenteus* Pursh var. *heteranthus* (S. Watson) Barneby [*Lupinus caudatus* Kellogg] (Plate 8F)

NV: Churchill Co.; Eastgate, 5900', 1955 ("ova") (Downey and Fuller 1961, Downey and Dunn 1964)

NV: Elko Co.; Doby (= Adobe?) Summit, 6554', 1960 ("ova") (Downey and Dunn 1964)

NV: Elko Co.; Ruby Mts., Secret Pass, 6150', 1960 ("ova") (Downey and Dunn 1964)

NV: Esmeralda Co.; Log Spring, 2.5 mi. S of Nv 266, 27 May 1988 (ovip. on unopened flower bud, 13:50 PST) (NSM, GTA #1469)

NV: Lander Co.; Toiyabe Range, Austin Summit, 7000', 1959 ("ova") (Downey and Fuller 1961)

NV: Pershing Co.; Humboldt Range, Star Creek Canyon, 4.8-5.3 mi. W of Nv 400, 22 May 1980 (adult assoc.) (NSMCC, GTA)

*Lupinus argenteus* Pursh var. *heteranthus* (S. Watson) Barneby × *Lupinus* sp.?

NV: Lander Co.; Toiyabe Range, Austin Summit, 7000', 1955 ("ova") (Downey and Fuller 1961, Downey and Dunn 1964) [reported as *Lupinus caudatus* Kellogg × *Lupinus* sp.?]

*Lupinus argenteus* Pursh var. *meionanthus* (A. Gray) Barneby (Plate 8F)

NV: Carson City; Carson Range, Marlette Lake Rd. at Snow Valley Peak Rd., 30 Jun 1981 (adult

assoc.) (NSMCC, GTA)

NV: Carson City; Carson Range, Snow Valley Peak and ridge to N, 25 Jul 1981 (adult assoc.)

(NSMCC, GTA)

NV: Lyon Co.; West Walker Rd., Aldrich Summit, 7 Jun 1996 (adult assoc.) (NSM, GTA #1532)

NV: Washoe Co.; Carson Range, Mt. Rose ski area, East Bowl, 10 Jul 2003 (adult assoc.) (NSM, GTA #1921)

*Lupinus argenteus* Pursh var. *palmeri* (S.Watson) Barneby (Plate 8F)

NV: Nye Co.; Toiyabe Range, Ophir Canyon, 16 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Monitor Range, Dobbin Creek, 1.8 mi. E of Dobbin Summit, 18 Jun 1981 (adult assoc.)

(NSMCC, GTA)

NV: Washoe Co.; Rush Creek, Robbers Roost, 2.0 mi. SW of Smoke Creek Rd., 29 May 1984 (adult assoc.) (NSM, GTA #914)

*Lupinus argenteus* Pursh var. *parviflorus* (Nutt.) C.L.Hitchc. (Plate 8F)

NV: Elko Co.; Ruby Mts., Harrison Pass, 7247', 1960 ("ova") (Downey and Dunn 1964)

*Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L.Welsh (Plate 8F)

NV: Elko Co.; Ruby Mts., Lamoille Canyon, 0.8 mi. N of Thomas Canyon Campground, 14 Jun 2003 (adult assoc.) (NSM, GTA #1849)

NV: White Pine Co.; Kern Mts., Loties Canyon Rd., 2.5 mi. SW of Pleasant Valley Rd., 11 Jun 2003 (adult assoc.) (NSM, GTA #1839)

*Lupinus argenteus* Pursh var. *utahensis* (S.Watson) Barneby [*Lupinus caudatus* Kellogg var. *utahensis* (S.Watson) S.L.Welsh] (Plate 8F)

NV: Elko Co.; Ruby Mts., mouth Lamoille Canyon, 5900', 1959 ("ova") (Downey and Fuller 1961, Downey and Dunn 1964) (reported as *Lupinus holosericeus* Torr. & A.Gray)

NV: Elko Co.; Pequop Mts., Pequop Summit, 6800', 1959 ("ova") (Downey and Fuller 1961, Downey and Dunn 1964) (reported as as *Lupinus holosericeus* Torr. & A.Gray)

NV: Elko Co.; Jarbidge Mts., Charleston-Jarbidge Rd., 4.8 mi. W of Marys River Rd., 14 Jun 2003 (adult assoc.) (NSM, GTA #1850)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 2.3 mi. S of Wilson Peak, 17 Jun 1990 (adult assoc.) (NSM, GTA #1520)

NV: Nye Co.; Hot Creek Range, Morey Mine area, 28 May 1983 (adult assoc.) (NSM, GTA #277)

NV: White Pine Co.; Schell Creek Range, Timber Creek, 21 Jun 1986 (adult assoc.) (NSM, GTA #1324)

NV: White Pine Co.; Schell Creek Range, Cleve Creek, 12 Jun 2002 (adult assoc.) (NSM, GTA #1713)

NV: White Pine Co.; W side of Butte Mts., Queue Valley, 0.9 mi. N of Thirtymile Ranch, 29 May 2003 (adult assoc.) (NSM, GTA #1830)

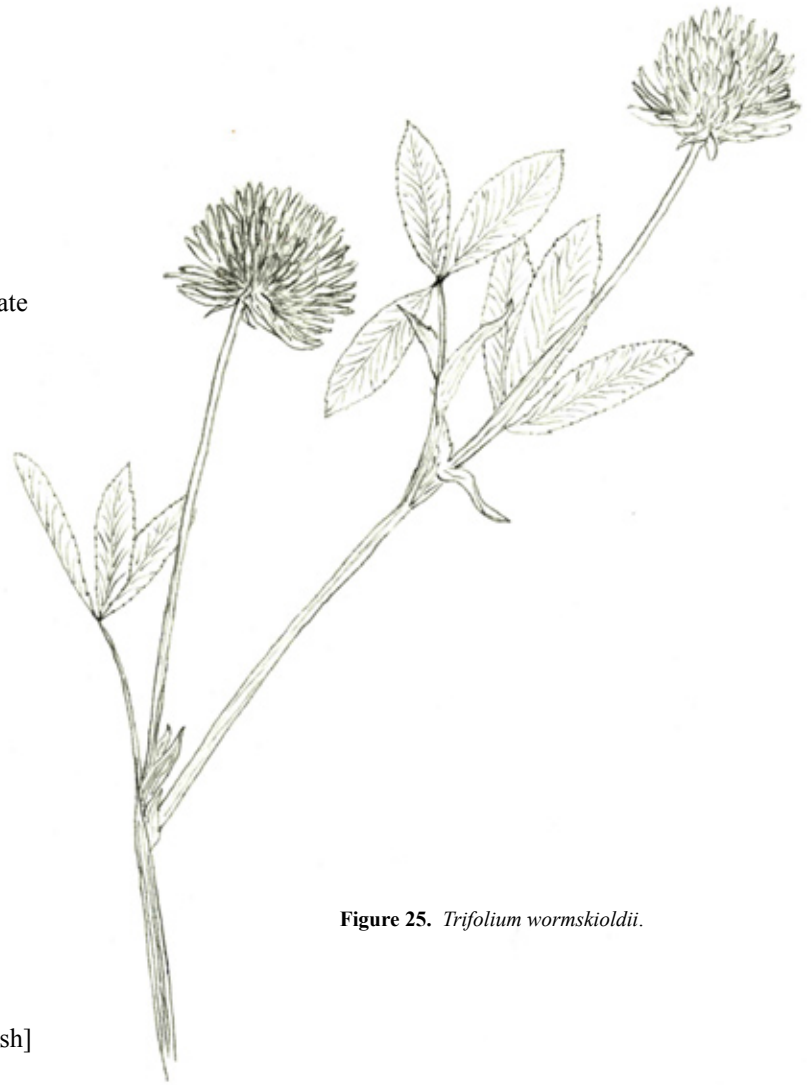


Figure 25. *Trifolium wormskioldii*.

*Lupinus latifolius* J.Agardh

NV: Douglas Co.; Carson Range, Montreal Canyon, 6 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Lupinus lepidus* Douglas\*

NV: Lyon Co.; Sweetwater Mts., Silverado Canyon Rd. at CA state line, 23 May 1984 (adult assoc.) (NSM, GTA #872)

NV: White Pine Co.; Snake Range, Baker Creek Campground, 8 Jun 1985 (ovip. at base of flower on stem, 08:00 PST) (NSM, GTA #1214)

*Lupinus lepidus* Douglas var. *lobbi* (S.Watson) C.Hitchc.\*

NV: Washoe Co.; Carson Range, Tahoe Meadows, 27 Jun 1988 (adult assoc.) (no plant coll., GTA, cf GTA #1568)

*Lupinus nevadensis* A.Heller\*

NV: Lyon Co.; Sweetwater Mts., Silverado Canyon Rd. at CA state line, 16 May 1986 (ovip. on bud, 12:15 PST) (NSM, GTA #1274)

*Lupinus polyphyllus* Lindl.

NV: Carson City; Carson Range, Marlette Lake Rd., 2.3 mi. S of Snow Valley Peak Rd., 30 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, W shore of Marlette Lake, 25 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Lupinus polyphyllus* Lindl. var. *prunophilus* (M.E.Jones)



## L. Phillips

NV: White Pine Co.; Schell Creek Range, Success Loop, 6.8 mi. N of Cave Lake State Park, 17 Jul 1991 (ovip. 2× on upper surface of lower leaves, 13:40 PST) (NSM, GTA #1525)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 4.8 mi. E of summit, 31 May 2002 (adult assoc.) (NSM, GTA #1711)

NV: White Pine Co.; Schell Creek Range, North Creek, end of rd., 14 Jun 2002 (adult assoc.) (NSM, GTA #1724)

NV: White Pine Co.; Schell Creek Range, Seigel Creek Rd., 2.1 mi. S of Schellbourne Pass Rd., 10 Jun 2003 (adult assoc.) (NSM, GTA #1836)

NV: White Pine Co.; Kern Mts., Loties Canyon, 2.5 mi. SW of Pleasant Valley Rd., 11 Jun 2003 (adult assoc.) (NSM, GTA #1839)

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 19 Jun 2003 (adult assoc.) (NSM, GTA #1882)

*Lupinus sericeus* Pursh

UT: Washington Co.; Pine Valley Mts., Leeds Creek Rd., 7 mi. W of Leeds, 19 Jun 1984 (ovip. on opening flower bud) (NSM, GTA #1007)

***Icaricia icarioides austinatorum* J. Emmel, T. Emmel & Mattoon, 1998**

## FABACEAE

*Lupinus argenteus* Pursh (Plate 8F)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 27 Jun 1984 (ova on flower buds) (NSM, GTA #1025)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 27 Jun 1984 (ovip. on tightly closed flower buds, 09:15 PST) (NSM, GTA #1032)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 8 Aug 1984 (ovip. on lower surface of upper leaf, 13:45 PST, most flowers past prime but still a few flower buds) (NSM, GTA #1088) (originally determined as *Lupinus alpestris* Nelson)

*Lupinus argenteus* Pursh var. *heteranthus* (S. Watson) Barneby [*Lupinus caudatus* Kellogg] (Plate 8F)

NV: Clark Co.; Spring Mts., Lee Canyon at Mack's Canyon Rd., 23 Jun 1977 (ovip.) (UNLV, GTA)

*Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L. Welsh (Plate 8F)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 29 Jun 1988 (ovip. 2× on unopened flower buds, 11:40 PST) (NSM, GTA #1475)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 12 Jun 2001 (ovip. and larva on flowers) (NSM, BB)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 12 Jul 2001 (ovip. on upper surface of leaf, 5-7 cm below flower stalk) (NSM, BB)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 22 Jul 2001 (ovip. on upper surface of leaf) (NSM, BB)

NV: Clark Co.; Spring Mts., Kyle Canyon, Little

Falls and Cathedral Rock trail head, 30 Jul 2002 (ovip.) (NSM, BB #59)

***Icaricia icarioides albihalos* J. Emmel, T. Emmel & Mattoon, 1998**

## FABACEAE

*Lupinus argenteus* Pursh (Plate 8F)

NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 9-10 mi. E of Mina Rd., 19 Jun 1983 (adult assoc.) (NSM, GTA #447)

***Icaricia shasta shasta* (W. H. Edwards, 1862)**

## FABACEAE

*Lupinus lepidus* Douglas var. *lobbii* (S. Watson) C. Hitchc.\*

NV: Washoe Co.; Carson Range, Tahoe Meadows, 21 Jul 1986 (adult assoc.) (no plant coll., GTA, cf GTA #1568)

NV: Washoe Co.; Carson Range, Tahoe Meadows, 17 Jul 2000 (adult assoc.) (NSM, GTA #1568)

***Icaricia shasta pallidissima* Austin, 1998**

## FABACEAE

*Astragalus* sp.

NV: Elko Co.; Ruby Mts., Lamoille Canyon, trail from Dollar Lakes to Liberty Pass, 9600-10450', 25 Jul 1969 (attempted ovip. by several) (*fide* J. F. Emmel)

NV: White Pine Co.; Snake Range, trail from Wheeler Peak Campground to ridge above Stella Lake, 10000-11000', 31 Jul 1969 (ovip. on stem at underside of leaf base, 09:35 PST) (*fide* J. F. Emmel)

*Astragalus calycosus* S. Watson (Plate 8C)

NV: Nye Co.; Toiyabe Range, E side of alpine plateau of Mt. Jefferson, 11,000', 4 Aug 1967 (ovip.) (Emmel and Shields 1978b, see also Downey 1975)

*Astragalus calycosus* S. Watson var. *mancus* (Rydb.) Barneby (Plate 8C)

NV: Elko Co.; East Humboldt Range, ridge 0.5 mi. due N of Angel Lake, 8700', 26 Jul 1969 (ovip. on upper surface of leaf, 13:30 PST) (Emmel and Shields 1978b)

*Astragalus newberryi* A. Gray

NV: Humboldt Co.; Santa Rosa Range, summit of Buckskin Mt., 8740', 11 Aug 1967 (several showing preoviposition behavior) (Emmel and Shields 1978b)

*Astragalus platytropis* A. Gray

NV: Lander Co.; Toiyabe Range, Bunker Hill, 11,400', 4 Aug 1969 (ovip. on underside of petiole, 11:45 PST) (Emmel and Shields 1978b)

*Oxytropis deflexa* (Pall.) DC. var. *sericea* Torr. & A. Gray\*

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 4 Jun 1987 (ovip. on lower leaf surface, 11:50 PST) (NSM, GTA #1421)

*Oxytropis parryi* A. Gray

NV: White Pine Co.; Snake Range, trail from Wheeler Peak Campground to ridge above Stella

Lake, 11,000', 30 Jul 1969 (ovip. on lower surface of petiole, 09:35 PST) (Emmel and Shields 1978b)

*Trifolium gymnocarpon* Nutt.

NV: White Pine Co.; Snake Range, trail from Wheeler Peak Campground to ridge above Stella Lake, 11,000', 30 Jul 1969 (ovip. on lower surface of leaf, 09:00 PST) (Emmel and Shields 1978b)

POLYGONACEAE\*

*Eriogonum caespitosum* Nutt.\*\*

NV: Elko Co.; Independence Mts., Wildhorse Creek Campground, 24 Jun 1981 (ovip. on upper leaf surface, 11:00 PST) (NSMCC, GTA)

*Eriogonum ovalifolium* Nutt. var. *ovalifolium*\*\* (Plate 3E)

NV: Elko Co.; Charleston-Jarbidge Rd., 3.6 mi. W of Marys River Rd., 14 Jun 2003 (adult assoc.) (NSM, GTA #1853)

### *Icaricia shasta calchas* (Behr, 1867)

FABACEAE

*Astragalus whitneyi* A.Gray

NV: Mineral Co.; Wassuk Range, Corey Peak area, 2 Jul 1985 (adult assoc.) (NSM, GTA #1234)

POLYGONACEAE\*

*Eriogonum latens* Jeps.\*\*

NV: Esmeralda Co.; White Mts., high pass above Trail Canyon, 11600-11800', 21 Jul 1981 (ovip. on flowers, 12:30 PST) (NSMCC, GTA)

### *Icaricia shasta charlestonensis* (Austin, 1980)

FABACEAE

*Astragalus calycosus* S.Watson var. *mancus* (Rydb.) Barneby (Plate 8C)

NV: Clark Co.; Spring Mts., Lee Canyon ski area, 8 Jul 1987 (ovip. on flowers, 08:05 PST) (NSM, GTA #1455)

NV: Clark Co.; Spring Mts., Lee Canyon ski area, 8 Jul 1987 (ovip. on leaf petiole junction on flowerless plant, 10:00 PST) (NSM, GTA #1455)

NV: Clark Co.; Spring Mts., Lee Canyon ski area, 25 Jun 1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Lee Canyon ski area, 30 Jul 1995 (adult assoc.) (no plant coll., GTA)

### *Icaricia acmon/Icaricia lupini* group

The taxonomic resolution of the *Icaricia acmon/Icaricia lupini* group of taxa is as poor or poorer yet than that of *Euphilotes*. Species limits are confounded and historical taxonomic alignments (e.g., Miller and Brown 1981) appear incorrect (e.g., Scott 1998b, Opler 2003). Subspecifically recognized taxa and even more poorly differentiated phenotypes may represent species-level entities in themselves (Bálint and Johnson 1997, Opler 2003, Opler and Warren 2002, Warren 2005, P. Opler, pers. comm.). Herein, for lack of a better taxonomy, three species-level entities are recognized: *Icaricia acmon*, *I. texanus*, and *I. lupini*. It is acknowledged that the subspecific names applied may be later modified and that additional species may be embedded within this taxonomy. *Icaricia texanus* has been considered as a subspecies of *I. acmon* nearly exclusively since its description (Goodpasture 1973, Scott 1996a; but see Pelham 2008), but co-occurs with *I.*

*acmon* and phenotypes associated within the concept of *I. lupini* in Nevada and is therefore considered a species-level taxon as suggested by Durden (2003).

### *Icaricia acmon* (Westwood, 1851)

FABACEAE

*Astragalus lentiginosus* Hook. var. *fremontii* (A.Gray) S.Watson (Plate 8D)

NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 22 Apr 1978 (adult assoc.) (UNLV, GTA)

*Lotus corniculatus* L. [*Lotus tenuis* Willd.] (i) (Plate 8E)

NV: Churchill Co.; US 50 at Wildes Rd., 8 mi. E of Fallon, 11 Aug 1998 (ovip. on flowers) (NSM, GTA [unnumbered], also cf GTA #601)

*Lotus purshianus* (Benth.) Clem. & E.G.Clem.

NV: Esmeralda Co.; E base White Mts., Sand Spring, 24 Aug 1983 (ovip. at base of flower, 13:49 PST) (NSM, GTA #591)

*Lupinus lepidus* Douglas var. *confertus* (Kellogg) C.P. Smith\*

NV: Douglas Co.; Carson Valley, Scossa Ranch, 23 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Valley, Scossa Ranch, 26 Aug 1983 (ovip. beneath flowers, 10:50 PST) (NSM, GTA #608)

POLYGONACEAE

*Eriogonum elatum* Benth.\* (Fig. 23)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-6 mi. W of Nv 400, 30 Jul 1988 (adult assoc.) (no plant coll., GTA)

*Eriogonum elatum* Benth. var. *elatum*\*

NV: Washoe Co.; US 395, Anderson Siding opposite Red Rock exit, 30 Aug 2002 (adult assoc.) (no plant coll., GTA, cf GTA #1735)

*Eriogonum fasciculatum* Benth. var. *polifolium* (Benth.) Torr. & A.Gray (Plate 4E, Fig. 22)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 18 May 1983 (adult assoc.) (NSM, GTA #193)

*Eriogonum heracleoides* Nutt. var. *heracleoides*\* (Fig. 15)

NV: Elko Co.; Jarbidge Mts., Charleston-Jarbidge Rd., 4.2 mi. N of Charleston, 14 Jun 2003 (adult assoc.) (NSM, GTA #1857)

*Eriogonum microthecum* Nutt. var. *laxiflorum* Hook. (Fig. 28)

NV: Elko Co.; Ruby Mts., Harrison Pass, 6 Jul 1978 (adult assoc.) (no plant coll., GTA, cf GTA #1679)

*Eriogonum nudum* Benth. var. *nudum*

NV: Washoe Co.; Carson Range, First Creek area, 30 Jul 2003 (adult assoc.) (NSM, GTA #1944)

*Eriogonum nudum* Benth. var. *pubiflorum* Benth.

NV: Washoe Co.; Lost Creek Rd., 11.0 mi. E of Nv 447, 10 Aug 2002 (adult assoc.) (NSM, GTA #1752)

*Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi* Tidestrom]

NV: Churchill Co.; US 50, Sand Mountain, 15 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Jungo Rd., 9.5 mi. E of Bottle Creek Rd., 11 Aug 2001 (adult assoc.) (no plant coll., cf GTA #1665)

NV: Humboldt Co.; Sand Pass Rd., 15 mi. NNW of Winnemucca, 25 Aug 2001 (2 larvae reared to adult) (*vide* J. Wolfe)

NV: Humboldt Co.; Sand Pass Rd., 4.4 mi. W of US 95, 9 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Sand Pass Rd., 4.4 mi. W of US 95, 26 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Sand Pass Rd., 4.4 mi. W of US 95, 12 Sep 2003 (adult assoc.) (no plant coll., GTA)

*Eriogonum ovalifolium* Nutt. var. *ovalifolium* [*Eriogonum ovalifolium* Nutt. var. *nevadense* Gand.] (Plate 3E)

NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (adult assoc.) (NSM, GTA #413)

NV: Humboldt Co.; Sand Pass Rd., 1.2 mi. W of Sand Pass, 25 May 2003 (adult assoc.) (NSM, GTA #1818)

*Eriogonum plumatella* Durand & Hilg.\*

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 21 Jul 1978 (adult assoc.) (UNLV, GTA)

*Eriogonum robustum* Greene [*Eriogonum lobbii* Torr. & A.Gray var. *robustum* (Greene) M.E.Jones]

NV: Storey Co.; SE of Virginia City, 15 Jun 1972 (adult assoc.) (Scott 1986b, 1992)

*Eriogonum rosense* Nelson & Kenn.\*

NV: Washoe Co.; Carson Range, above treeline on Mt. Rose, 31 Jul 2003 (adult assoc.) (NSM, GTA #1949, Bret Boyd)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Douglas Co.; US 395, 2.1 mi. S of Carson City line, 16 May 1981 (ovip. on flower) (NSMCC, GTA)

*Eriogonum umbellatum* Torr. var. *subaridum* S. Stokes (Plate 4A)

NV: Clark Co.; Spring Mountains, Griffith Peak trail, 24 Jun 2002 (adult assoc.) (no plant coll., BB)

*Eriogonum wrightii* Benth.

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 26 Sep 1978 (adult assoc.) (UNLV, GTA)

*Eriogonum wrightii* Benth. var. *subscaposum* S. Watson

NV: Lyon Co.; Sweetwater Mts., Nv 338 at CA state line, 16 Sep 1996 (ovip. beneath flowers, 14:20 PST) (NSM, GTA #1537)

### *Icaricia texanus* (Goodpasture, 1973)

#### FABACEAE

*Astragalus aequalis* Clokey\*

NV: Clark Co.; Spring Mts., Willow Creek, 23 May 2000 (adult assoc.) (NSM, GTA #1541)

*Astragalus calycosus* S. Watson\* (Plate 8C)

NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 15.5 mi. W of Nv 318, 13 May 1984 (adult assoc.) (NSM, GTA #831)

*Astragalus calycosus* S. Watson var. *mancus* (Rydb.) Barneby\* (Plate 8C)

NV: Clark Co.; Spring Mts., Lee Canyon ballfield, 7 Jul 1977 (ovip. at base of flower) (UNLV, GTA)

*Astragalus laynae* Greene\*

NV: Clark Co.; Newberry Mts., Christmas Tree Pass



Figure 26. *Lupinus andersonii*.

Rd., 4.2 mi. E of US 95, 3 Apr 1980 (ovip. on flower bud) (NSMCC, GTA)

*Astragalus lentiginosus* Hook. (Plate 8D)

NV: Clark Co.; Nv 68, 3.6 mi. E of CA state line, 4 May 1978 (adult assoc.) (UNLV, GTA)

NV: Lincoln Co.; Delamar Mts., US 93, 6.0 mi. E of Oak Spring Summit, 23 Apr 1986 (ovip. on unopened flower buds, 13:10 PST) (NSM, GTA #1239)

- Astragalus lentiginosus* Hook. var. *floribundus* A.Gray (Plate 8D)  
NV: Mineral Co.; Larkin Dry Lake Rd., 4.8 mi. N of Nv 359, 6 Jun 1981 (ovip. on flower bud, 09:00 PST) (NSMCC, GTA)
- Astragalus lentiginosus* Hook. var. *fremontii* (A.Gray) S.Watson (Plate 8D)  
NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 11 May 1978 (adult assoc.) (UNLV, GTA)  
NV: Clark Co.; Spring Mts., Cottonwood Pass Rd., 0.6 mi. S of Nv 160, 28 May 1978 (ovip. on flower bud, 09.25 PST) (no plant coll., GTA)
- Astragalus newberryi* A.Gray\*  
NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 17 Jun 1977 (attempted ovip. on flower, no ovum found) (UNLV, GTA)
- Astragalus platytrophis* A.Gray\*  
NV: Clark Co.; Spring Mts., Charleston Peak trail, 10000', 14 Jul 1977 (preovip. behavior among flowers, no ova found) (UNLV, GTA)
- Lotus corniculatus* L. [*Lotus tenuis* Willd.]\* (i) (Plate 8E)  
NV: Clark County, Moapa Valley, Warm Springs, Mormon Ranch, 10 Apr 2000 (adult assoc.) (no plant coll., GTA)  
NV: Clark County, Moapa Valley, Warm Springs, Mormon Ranch, 6 Jun 2002 (adult assoc.) (no plant coll., BB)
- Lotus humistratus* Greene\*  
NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 18 May 1983 (ovip. on flower bud, 09:00 PST) (NSM, GTA #166)
- Lupinus argenteus* Pursh\* (Plate 8F)  
NV: Lincoln Co.; Highland Range, Highland Spring, 23 Jun 1984 (ovip. on flower, 11:15 PST) (NSM, GTA #1011)
- Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L. Welsh\* (Plate 8F)  
NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 12 Jul 2001 (larva, pupated 16 Jul, em. 23 Jul) (NSM, BB)
- Oxytropis oreophila* A.Gray\*\*  
NV: Clark Co.; Sheep Range, Deadman Canyon to Wiregrass Spring, 13 Jun 1983 (ovip. on open flower, 12:00 PST) (NSM, GTA #403)
- POLYGONACEAE
- Eriogonum elatum* Benth.\* (Fig. 23)  
NV: Lander Co.; Toiyabe Range, Birch Creek, 17 Jun 1981 (adult assoc.) (NSMCC, GTA)  
NV: Pershing Co.; Humboldt Range, Star Creek Canyon, 5-6 mi. W of Nv 400, 12 Aug 1981 (adult assoc.) (NSMCC, GTA)
- Eriogonum fasciculatum* Benth. var. *polifolium* (Benth.) Torr. & A.Gray (Plate 4E, Fig. 22)  
NV: Clark Co.; Virgin Mts., Cabin Canyon, 29 May 1978 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 18 May 1983 (adult assoc.) (NSM, GTA #193)  
NV: Lincoln Co.; Meadow Valley Wash, 3.6 mi. SE of Elgin, 31 May 1978 (adult assoc.) (UNLV, GTA)
- GTA)  
NV: Lincoln Co.; Meadow Valley Wash, 6 mi. SE of Elgin, 31 May 1978 (adult assoc.) (UNLV, GTA)
- Eriogonum heermannii* Durand & Hilg. var. *argense* (M.E.Jones) Munz\* (Plate 3F)  
NV: Nye Co.; Grapevine Mts., Strozzi Ranch, 9 Aug 1983 (adult assoc.) (no plant coll., GTA, cf GTA #528)  
NV: Nye Co.; Grapevine Mts., Phinney Canyon Rd., 16.7 mi. W of US 95, 11 Apr 1984 (adult assoc.) (no plant coll., GTA, cf GTA #528)
- Eriogonum microthecum* Nutt.\* (Fig. 28)  
NV: Lincoln Co.; Clover Mts., near Garden Spring, 14 Aug 1986 (adult assoc.) (no plant coll., fide P. Savage)
- Eriogonum microthecum* Nutt. var. *lapidicola* Reveal\*  
NV: Nye Co.; Wayne E. Kirch WMA, 150 yds. E of Adams-McGill Reservoir Dam, 18-19 Aug 2005 (adult assoc.) (UNLV, BB)
- Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi* Tidestrom]\*  
NV: Lincoln Co.; Nv 322, 2.1 mi. E of US 93, 3 Sep 1983 (adult assoc.) (NSM, GTA #651)  
NV: Nye Co.; US 6, 1 mi. W of Nv 8A, 11 Jul 1978 (adult assoc.) (no plant coll., GTA, cf GTA #531)  
NV: Nye Co.; US 6, 1 mi. W of Nv 8A, 28 Jul 1978 (adult assoc.) (no plant coll., GTA, cf GTA #531)  
NV: Nye Co.; US 6, 1 mi. W of Nv 8A, 6 Aug 1978 (adult assoc.) (no plant coll., GTA, cf GTA #531)
- Eriogonum ovalifolium* Nutt. var. *ovalifolium* (Plate 3E)  
NV: Nye Co.; Grapevine Mts., Phinney Canyon, 18.2 mi W of US 95, 26 May 1983 (adult assoc.) (no plant coll., GTA, cf GTA #250)
- Eriogonum palmerianum* Munz\*  
NV: Lincoln Co.; Spring Valley, 1.1 mi. N of Echo Dam, 25 Jul 1983 (adult assoc.) (NSM, GTA #493)
- Eriogonum racemosum* Nutt.  
NV: Nye Co.; Quinn Canyon Range, 4.0 mi. E of Cherry Creek Summit, 11 Aug 1983 (adult assoc.) (no plant coll., GTA, cf GTA #539)
- Eriogonum shockleyi* S.Watson var. *shockleyi*\* (Plate 4F)  
NV: White Pine Co.; Baking Powder Flat, 1 mi. S of Blind Spring, 19 Jun 1978 (adult assoc.) (no plant coll., GTA, cf GTA #660)
- Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)  
NV: Nye Co.; Quinn Canyon Range, Cherry Creek Summit to 1.5 mi W, 14 Jul 1980 (adult assoc.) (NSMCC, GTA)
- Eriogonum umbellatum* Torr. var. *subaridum* S. Stokes (Plate 4A)  
NV: Clark Co.; Spring Mts., Willow Creek, 1 Jul 1977 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Spring Mts., Cold Creek, 20 Jul 1978 (adult assoc.) (no plant coll., GTA)
- Eriogonum wrightii* Benth. var. *wrightii*  
NV: Clark Co.; Newberry Mts., Grapevine Canyon, 26 Sep 1978 (adult assoc.) (UNLV, GTA)
- Icaricia lupini lutzi* (dos Passos, 1938)**
- POLYGONACEAE

*Eriogonum caespitosum* Nutt.\*

NV: Elko Co.; East Humboldt Range, 0.5 mi. E of Angel Lake, 5 Jul 1980 (adult assoc.) (NSMCC, GTA)

*Eriogonum elatum* Benth. (Fig. 23)

NV: Humboldt Co.; Santa Rosa Mts., Hinkey Summit, 10 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Buckskin Mt., Windy Gap to summit, 10 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Eriogonum heracleoides* Nutt. (Fig. 15)

NV: Elko Co.; Independence Mts., Nv 11A, Maggie Summit, 23 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Independence Mts., 3.3 mi. E of North Fork Summit, 24 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 19 Jun 1986 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 9.2 mi. W of Nv 225, 17 Jun 2003 (adult assoc.) (no plant coll., GTA)

*Eriogonum heracleoides* Nutt. var. *heracleoides* (Fig. 15)

NV: Elko Co.; Jarbidge Mts., Charleston-Jarbidge Rd., 4.2 mi. N of Charleston, 14 Jun 2003 (adult assoc.) (NSM, GTA #1857)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 15 Jun 2003 (ovip. on flower bud, 12:50 PST) (NSM, GTA #1861)

*Eriogonum microthecum* Nutt. (Fig. 28)

NV: Humboldt Co.; Santa Rosa Mts., Hinkey Summit, 10 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Eriogonum microthecum* Nutt. var. *laxiflorum* Hook.

NV: Elko Co.; Ruby Mts., Harrison Pass, 6 Jul 1978 (adult assoc.) (no plant coll., GTA, cf GTA #1679)

*Eriogonum strictum* Benth. var. *proliferum* (Torr. & A.Gray) Reveal\* (but see Warren 2005)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 24 Jul 2003 (adult assoc.) (NSM, GTA #1927)

*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)

NV: Elko Co.; Jarbidge Mts.; 0.5 mi. S of Bonanza Gulch, 8000-9500', 22 Jul 1969 (ovip. on edge of flower bud, 10:30 PST) (*vide* J. F. Emmel; Goodpasture 1971, 1974)

NV: Elko Co.; Ruby Mts.; peak 1/3 mi. W of Liberty Pass, 10975', 25 Jul 1969 (attempted ovip.) (*vide* J. F. Emmel)

NV: Humboldt Co.; Santa Rosa Mts., Buckskin Mt., Windy Gap to summit, 10 Jul 1981 (adult assoc.) (NSMCC, GTA)

*Icaricia lupini lupini* (Boisduval, 1869)

## POLYGONACEAE

*Eriogonum nudum* Benth. var. *nudum*\*

NV: Washoe Co.; Carson Range, ca. 1 mi. N of

Crystal Bay, vicinity of First Creek, 30 Jun 2003

(adult assoc.) (NSM, GTA #1883)

NV: Washoe Co.; Carson Range, First Creek area, 10 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1944)

*Icaricia lupini goodpasturei* Austin, 1978

## POLYGONACEAE

*Eriogonum elatum* Benth. (Fig. 23)

NV: Churchill Co.; Desatoya Mts., spring 4 mi. E of East Gate, 25 Jun 1982 (adult assoc.) (Langston 1983)

NV: Douglas Co.; Sweetwater Mts., Jackass Creek Rd., 0.4-1.2 mi. W of Desert Creek Rd., 4 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 11 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Lyon Co.; Sweetwater Mts., lower Desert Creek, 3 Jul 1996 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 4.5 mi. W of Nv 400, 12 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-6 mi. W of Nv 400, 30 Jul 1988 (adult assoc.) (no plant coll., GTA)

NV: Storey Co.; Nv 341, Seven Mile Canyon, 19 Jul 1983 (adult assoc.) (NSM, GTA #489)

*Eriogonum elatum* Benth. var. *elatum*

NV: Lander Co.; Toiyabe Range, Birch Creek, 17 Jul 1981 (adult assoc.) (no plant coll., GTA, cf GTA #1620)

*Eriogonum heracleoides* Nutt. (Fig. 15)

NV: White Pine Co.; Schell Creek Range, Timber Creek, 5.0 mi. E of Nv 486, 15 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: White Pine Co.; Schell Creek Range, Timber Creek, 21 Jun 1986 (adult assoc.) (NSM, GTA #1326)

*Eriogonum heracleoides* Nutt. var. *heracleoides*

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 19 Jun 2003 (adult assoc.) (NSM, GTA #1881)

*Eriogonum microthecum* Nutt. (Fig. 28)

NV: Nye Co.; Toquima Range, Meadow Creek, 16 Aug 1978 (adult assoc.) (UNLV, GTA)

*Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi* Tidestrom]

NV: Nye Co.; E of Hot Creek Range, 1/2 rd. mi. E of Sandy Summit on Hwy 6, 2 Aug 1969 (larva reared to adult) (Goodpasture 1971, 1974)

*Eriogonum ochrocephalum* S.Watson var. *alexanderiae* Reveal\*

NV: Lyon Co.; West Walker Rd., Aldrich Summit, 7 Jun 1996 (adult assoc.) (NSM, GTA #1531)

*Eriogonum ovalifolium* Nutt. var. *ovalifolium* (Plate 3E)

NV: Esmeralda Co.; White Mts, Trail Canyon rd., 11.6 mi. W of Nv 264, 17 Jun 1983 (adult assoc.) (NSM, GTA #413)

*Eriogonum ovalifolium* Nutt. var. *nivale* (Canby) M.E.Jones (Plate 3E)

- NV: White Pine Co.; Schell Creek Range, North Schell Peak, 11883', 1 Aug 1969 (ovip. on underside of young stem, 11:35 PST) (*fide* J. F. Emmel, Goodpasture 1971)
- Eriogonum palmerianum* Munz  
NV: Lander Co.; Toiyabe Range, lower end of Birch Creek, 4 Aug 1969 (larva reared to adult) (Goodpasture 1971, 1974)
- Eriogonum robustum* Greene [*Eriogonum lobbii* Torr. & A. Gray var. *robustum* (Greene) M.E. Jones]  
NV: Lyon Co.; 1 mi. N of Silver City, 19 Jun 1970 (adult assoc.) (Goodpasture 1971)
- Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)  
NV: Lander Co.; Toiyabe Range, S fork Birch Creek, 24 Jun 1994 (adult assoc.) (no plant coll., GTA)  
NV: Lander Co.; Toiyabe Range, Big Creek, 24 Jun 1994 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Ophir Canyon, 16 Jun 1981 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Corral Canyon, 6.4 mi. SW of Monitor Ranch, 16 Jun 1981 (adult assoc.) (NSMCC, GTA)  
NV: Nye Co.; Toiyabe Range, Peavine Canyon, 21 Jun 1981 (adult assoc.) (NSMCC, GTA)  
NV: Nye Co.; Toiyabe Range, Reese River Canyon, 26 Jul 1983 (adult assoc.) (*fide* D. Murphy)  
NV: Nye Co.; Toiyabe Range, Stewart Creek, 23 Jun 1994 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Reese River Canyon from Cow Canyon trailhead, 25 Jun 1994 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Toiyabe Range, Ledbetter Canyon, 25 Jun 1994 (adult assoc.) (no plant coll., GTA)  
NV: Storey Co.; Nv 341, Seven Mile Canyon, 23 Jun 1983 (ovip. on stem below flower head, 11:30 PST) (no plant coll., GTA)  
NV: White Pine Co.; Diamond Mts., 0.1 mi. E of Newark Summit, 21 Jun 1981 (adult assoc.) (NSMCC, GTA)
- Eriogonum umbellatum* Torr. var. *glaberrimum* (Gand.) Reveal [*Eriogonum umbellatum* Torr. var. *aureum* (Gand.) Reveal] (Plate 4A)  
NV: White Pine Co.; Snake Range, Bald Mt. and ridge to S, 11000-11562', 30 Jul 1969 (ovip. on bract of flower head, 09:25 PST) (*fide* J. F. Emmel, Goodpasture 1971)
- Eriogonum umbellatum* Torr. var. *nevadense* Gand. (Plate 4A)  
NV: Esmeralda Co.; White Mts, Trail Canyon, 17 Jun 1983 (adult assoc.) (NSM, GTA #411)  
NV: Lyon Co.; Sweetwater Mts., East Sister area, 26 Jun 1985 (adult assoc.) (NSM, GTA #1219)  
NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 5.5 mi. E of Mina Rd., 18 Jun 1983 (adult assoc.) (NSM, GTA #440)  
NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 9-10 mi. E of Mina Rd., 18 Jun 1983 (adult assoc.) (no plant coll., GTA, cf GTA #440)  
NV: Washoe Co.; Granite Mts., Crutcher Canyon, 19 Jun 1982 (adult assoc.) (no plant coll., GTA, cf

GTA #916)

***Icaricia lupini alpicola* J. Emmel, T. Emmel & Mattoon, 1998**

POLYGONACEAE

*Eriogonum latens* Jeps.\*

- NV: Esmeralda Co.; White Mts., high pass above Trail Canyon, 11600-11800', 21 Jul 1981 (adult assoc.) (NSMCC, GTA)

***Agriades podarce podarce* (C. & R. Felder, 1865)**

PRIMULACEAE

*Dodecatheon alpinum* (A. Gray) Greene

- NV: Carson City; Carson Range, Marlette Lake Rd. at Snow Valley Peak Rd., 19 Aug 1980 (adult assoc.) (no plant coll., GTA)  
NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of Washoe Co. line, 1 Jul 1985 (adult assoc.) (no plant coll., GTA)  
NV: Washoe Co.; Carson Range, Nv 431, 2.0 mi. E of Mt. Rose Summit, 9 Aug 1980 (adult assoc.) (no plant coll., GTA)  
NV: Washoe Co.; Carson Range, NE side of Marlette Lake, 19 Aug 1980 (adult assoc.) (no plant coll., GTA)  
NV: Washoe Co.; Carson Range, Tahoe Meadows, 21 Jul 1986 (adult assoc.) (no plant coll., GTA)  
NV: Washoe Co.; Carson Range, Nv. 431, 2 mi. E of Mt. Rose Summit, 17 Jun 2000 (adult assoc.) (no plant coll., GTA)  
NV: Washoe Co.; Carson Range, Tahoe Meadows, 17 Jun 2000 (adult assoc.) (no plant coll., GTA)  
NV: Washoe Co.; Carson Range, Mt. Rose Campground, 31 Jul 2003 (adult assoc.) (no plant coll., GTA)

***Agriades podarce cilla* (Behr, 1867)**

PRIMULACEAE

*Dodecatheon alpinum* (A. Gray) Greene

- NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 6 Jul 1981 (adult assoc.) (no plant coll., GTA)  
NV: Douglas Co.; Carson Range, Heavenly Valley North, East Peak area, 28 Jun 1985 (adult assoc.) (no plant coll., GTA)

***Echinargus isola* (Reakirt, [1867])**

FABACEAE

*Acacia greggii* A. Gray var. *greggii*\* (Plate 8B)

- NV: Lincoln Co.; US 93, 2.1 mi. N of Clark Co. line, 24 Jun 1984 (ovip. on flower buds, 12:00-12:15 PST) (NSM, GTA #1024)

*Medicago lupulina* L. (i)

- NV: Clark Co.; Las Vegas, Eugene Ave., 9 Jun 1984 (ovip. on opening flower bud, 14:45 PST) (NSM, GTA #984)

*Medicago sativa* L. (i) (Fig. 24)

- NV: Clark Co.; Spring Mts., Lee Canyon ski area, 8 Jul 1987 (ovip. on base of flower stalk, mid-flower head, 10:45 PST) (NSM, GTA #1453)



*Melilotus alba* Medikus (i) (Fig. 20)

NV: Clark Co.; Spring Mts., Cold Creek, 14 Jun 1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 27 Jun 1984 (ovip. on flower bud, 08:00 PST) (NSM, GTA #1029a)

NV: Clark Co.; Spring Mts., Cold Creek picnic area, 27 Jun 1984 (ovip. on unopened flower bud, 11:45 PST) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Willow Creek, 27 Jun 1984 (ovip. on unopened flower bud, 12:15 PST) (NSM, GTA #1035)

NV: White Pine Co.; Spring Valley, Shoshone Ponds, 1 Jul 1993 (adult assoc.) (no plant coll., GTA)

*Melilotus officinalis* (L.) Pall. (i)

NV: Clark Co.; Spring Mts., Lovell Canyon, 7.0 mi. E of Nv 160, 17 Jun 1984 (ovip. on open flower, 11:30 PST) (NSM, GTA #1005)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 27 Jun 1984 (ovip. on flower bud, 08:00 PST) (NSM, GTA #1029b)

*Oxytropis oreophila* A.Gray\*\*

NV: Clark Co.; Sheep Range, Deadman Canyon to Wiregrass Spring, 13 Jun 1983 (close assoc., one female observed probing with abdomen at base of flower, but no ova found) (NSM, GTA #403)

*Prosopis glandulosa* Torr. var. *torreyana* (L.D.Benson) M.Johnston (Fig. 29)

NV: Clark Co.; Paradise Valley, 29 May 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 20 Apr 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; US 95, Indian Springs, 4 Jun 1992 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 17 Jun 1992 (adult assoc.) (no plant coll., GTA)

*Prosopis pubescens* Benth.\*

NV: Nye Co.; Ash Meadows, 17 Jun 1984 (ovip. on open flower, 09:35; ovip. on dry flower, 09:35 PST; female flies slowly among branches, lands on flower head, walks towards its base feeling much with the antennae, then finally oviposits) (NSM, GTA #991)

*Psoralea fremontii* (A.Gray) Barneby [*Dalea fremontii* A.Gray]\* (Plate 9A)

NV: Clark Co.; Newberry Mts., Nv 163, 9 mi. W of Davis Dam, 3 May 1978 (adult assoc.) (no plant coll., GTA)

*Psoralea polydenius* (S.Watson) Rydb. [*Dalea polydenius* S.Watson]\*

NV: Esmeralda Co.; Fish Lake Valley, Nv 264, 1.2 mi. S of US 6, 29 Aug 1983 (close adult assoc., females showing preoviposition behavior among flowers) (NSM, GTA #622)

NV: Humboldt Co.; Jackson Creek Rd., 1.4 mi. N of Sulphur, 10 Aug 2001 (ovip. on flower bud, 11:15 PST) (NSM, GTA #1669)

## RIODINIDAE

Larval hostplants have been determined for the five species of metalmarks known in Nevada. These include plants of three families (Asteraceae, Fabaceae, Polygonaceae) and encompass 16 species (22 butterfly/plant combinations); all except three species have previously been reported for the species of butterfly in question. Too little information is available to generalize on oviposition behavior. Associations by adults offer good clues to their larval hostplants; the larvae feed largely on leaves, but these plants are often the only or principal source of nectar.

*Calephelis nemesis dammersi* McAlpine, 1971

## ASTERACEAE

*Baccharis salicifolia* (Ruiz & Pav.) Pers. (Fig. 27)

NV: Clark Co.; Moapa Valley, Logandale, 27 Sep 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Moapa Valley, Bowman's Reservoir, 17 Aug 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 23 Sep 1988 (adult assoc.) (NSM, GTA #1500)

NV: Clark Co.; Moapa Valley, Warm Springs, 23 Sep 1988 (adult assoc.) (no plant coll., GTA, cf GTA #1500)

*Calephelis wrightii* Holland, 1930

## ASTERACEAE

*Bebbia juncea* (Benth.) Greene var. *aspera* Greene (Plate 12B)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 7 Oct 1977 (and several subsequent dates) (adult assoc.) (UNLV, NSM, GTA, cf GTA #177)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 20 Sep 1978 (and several subsequent dates) (adult assoc.) (UNLV, NSM, GTA #177)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 3 Sep 1984 (larvae resting on stems, raised to adult) (NSM, GTA #1167)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 13 Sep 1984 (many larvae feeding on stem epidermis) (NSM, GTA #1202)

NV: Clark Co.; Eldorado Canyon, 14.0 mi. E of US 95, 13 Sep 1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 29 Sep 1984 (larvae feeding on stem epidermis) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Nv 163, 9.8 mi. E of US 95, 14 Sep 1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Nv 163, 10.0 mi. E of US 95, 17 Jun 1992 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 17 Jun 1992 (adult assoc.) (no plant coll., GTA)

*Apodemia mormo mormo* (C. & R. Felder, 1859)

## POLYGONACEAE

*Eriogonum elatum* Benth. var. *elatum* (Fig. 23)

NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul

2001 (adult assoc.) (NSM, GTA #1620)  
 NV: Lander Co.; Toiyabe Range, upper Kingston Canyon, 2 Aug 2002 (adult assoc.) (NSM, GTA #1739)  
 NV: Lander Co.; Toiyabe Range, lower Kingston Canyon, 25 Aug 2002 (adult assoc.) (NSM, GTA #1768)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 1.1 mi. E of summit, 20 Aug 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1739)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 2.8 mi. W of Kingston Canyon summit, 20 Aug 2003 (adult assoc.) (NSM, GTA #1958)  
 NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 4.5 mi. W of Nv 400, 12 Aug 1981 (adult assoc.) (NSMCC, GTA)  
 NV: Washoe Co.; US 395, Anderson Siding opposite Red Rock Rd., 5 Aug 2002 (adult assoc.) (no plant coll., GTA, cf GTA #1735)  
*Eriogonum heermannii* Durand & Hilg. var. *humilius* (S. Stokes) Reveal (Plate 3F)  
 NV: Esmeralda Co.; Nv 266, 6.0 mi. E of CA state line, 29 Aug 1983 (adult assoc.) (NSM, GTA #629)  
 NV: Esmeralda Co.; US 6, 0.1 mi. E of Mineral Co. line, 8 Sep 1988 (adult assoc.) (NSM, GTA #1494)  
*Eriogonum microthecum* Nutt. (Fig. 28)  
 NV: Lander Co.; Toiyabe Range, 6 mi. NW of Petes Summit, 21 Aug 1981 (adult assoc.) (*fide* O. Shields)  
 NV: Mineral Co.; Wassuk Range, Powell Canyon, 26 Aug 1996 (adult assoc.) (NSM, GTA #1536)  
 NV: Nye Co.; Toiyabe Range, Jett Canyon, 3 Aug 1969 (adult assoc.) (*fide* J. F. Emmel)  
 NV: Nye Co.; Toiyabe Range, Meadow Creek, 16 Aug 1978 (adult assoc.) (UNLV, GTA)  
 NV: Nye Co.; Toiyabe Range, Stoneberger Canyon, 22 Aug 1981 (adult assoc.) (*fide* O. Shields)  
 NV: Nye Co.; Quinn Canyon Range, Bordoli Ranch, 11 Aug 1983 (adult assoc.) (no plant coll., GTA)  
*Eriogonum microthecum* Nutt. var. *ambiguum* (M.E.Jones) Reveal  
 NV: Esmeralda Co.; White Mts., Indian Creek, 8 mi. W of Nv 264, 23 Aug 1983 (adult assoc.) (NSM, GTA #574)  
 NV: Mineral Co.; White Mts., US 6, 1.2 mi. E of Montgomery Pass, 29 Aug 1983 (adult assoc.) (NSM, GTA #621)  
 NV: Washoe Co.; rd. to Jones Flat, 0.6 mi. S of Nv 447, 13 Sep 2003 (adult assoc.) (NSM, GTA #1973)  
*Eriogonum microthecum* Nutt. var. *laxiflorum* Hook. (Fig. 28)  
 CA: Mono Co.; Aurora, 2 Aug 2003 (adult assoc.) (NSM, BB #180)  
 NV: Lander Co.; Toiyabe Range, US 50, Hickson Petroglyph area, 24 Aug 2002 (adult assoc.) (NSM, GTA #1763)  
 NV: Lander Co.; Toiyabe Range, lower Kingston Canyon, 25 Aug 2002 (adult assoc.) (NSM, GTA

#1767)  
 NV: Mineral Co.; Wassuk Range, Powell Canyon, 26 Aug 1996 (adult assoc.) (NSM, GTA #1536)  
 NV: Pershing Co.; Seven Troughs Range, Seven Troughs, 3 Oct 2002 (adult assoc.) (NSM, BB #90)  
*Eriogonum microthecum* Nutt. var. *simpsoni* (Benth.) Reveal [*Eriogonum microthecum* Nutt. var. *foliosum* (Torr. & A.Gray) Reveal]  
 NV: Esmeralda Co.; Nv 266, 10.6 mi. W of Lida Summit, 29 Aug 1983 (adult assoc.) (NSM, GTA #628)  
 NV: Lincoln Co.; Nv 319, 1.5 mi. E of Panaca, 3 Sep 1983 (adult assoc.) (NSM, GTA #637)  
 NV: Lincoln Co.; US 93, 3.0 mi. N of Panaca junction, 19 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Monitor Range, US 6, 5 mi. W of Five Mile Spring, 6400', 2 Aug 1969 (adult assoc.) (*fide* J. F. Emmel)  
 NV: Nye Co.; Hot Creek Range, Tybo Canyon, 11 Sep 1983 (adult assoc.) (NSM, GTA #711)  
*Eriogonum racemosum* Nutt.\*  
 NV: Nye Co.; Toiyabe Range, Meadow Canyon, 5 Aug 1996 (adult assoc.) (NSM, GTA #1533)  
*Eriogonum umbellatum* Torr. (Plate 4A, Fig. 17)  
 NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 8000-8300', 29 Jul 1979 (adult assoc.) (no plant coll., GTA)  
*Eriogonum wrightii* Benth.  
 NV: Douglas County, Carson Range, Lower Daggett Creek, 23 Aug 1981 (adult assoc.) (NSMCC, GTA)  
*Eriogonum wrightii* Benth. var. *subscaposum* S. Watson  
 NV: Storey Co.; Nv 341, Seven Mile Canyon, 30 Aug 2002 (adult assoc.) (NSM, GTA #1780)

***Apodemia mormo parva* Austin, 1998**

## POLYGONACEAE

*Eriogonum microthecum* Nutt. (Fig. 28)  
 NV: Eureka Co.; US 50, 1.0 mi. W of Eureka, 1 Aug 2002 (adult assoc.) (no plant coll., GTA)  
*Eriogonum microthecum* Nutt. var. *laxiflorum* Hook.  
 NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 5 Sep 1983 (adult assoc.) (NSM, GTA #668)  
 NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 28 Jul 1988 (adult assoc.) (NSM, GTA #1485)  
 NV: Elko Co.; Pequop Mts., I-80, 2 mi. W of Pequop Summit, 20 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; East Humboldt Range, Angel Lake Rd., 4.6 mi. W of Wells, 20 Aug 2001 (adult assoc.) (NSM, GTA #1678)  
 NV: Elko Co.; Ruby Mts., Harrison Pass, 21 Aug 2001 (adult assoc.) (NSM, GTA #1679)  
 NV: Elko Co.; Charleston-Jarbridge Rd., 16.6 mi. E of Nv 225, 22 Aug 2001 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, East Creek

Campground, 1 Aug 2002 (adult assoc.) (NSM, GTA #1737)

NV: White Pine Co.; Schell Creek Range, Success Summit, 23 Aug 2002 (adult assoc.) (NSM, GTA #1758)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Canyon, 1.1 mi. E of Kalamazoo Summit, 19 Aug 2003 (adult assoc.) (NSM, GTA #1956)

NV: White Pine Co.; Schell Creek Range, Kalamazoo-North Creek Rd., 2.0 mi. W of Kalamazoo Summit, 19 Aug 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1956)

*Eriogonum microthecum* Nutt. var. *simpsoni* (Benth.) Reveal  
[*Eriogonum microthecum* Nutt. var. *foliosum* (Torr. & A.Gray) Reveal]

NV: Eureka Co.; Diamond Mts., Nv 46, 0.6 mi. NW of Eureka, 9 Sep 1983 (adult assoc.) (NSM, GTA #698)

NV: Eureka Co.; Diamond Mts., 0.7 mi. N of Eureka, 28 Aug 1984 (adult assoc.) (NSM, GTA #698)

***Apodemia mormo autumnalis* Austin, 1998**

POLYGONACEAE

*Eriogonum corymbosum* Benth. var. *corymbosum*  
NV: Clark Co.; Virgin Mts., Big Spring, 15 Oct 2000 (adult assoc.) (NSM, BB)

*Eriogonum deflexum* Torr. var. *deflexum*\*  
NV: Clark Co.; Virgin Mts., 5.8 mi. W of Whitney Pass, 14 Sep 1988 (ovip. at flower base, 10:35 PST) (NSM, GTA #1497)

*Eriogonum heermannii* Durand & Hilg. (Plate 3F)  
NV: Lincoln Co.; Meadow Valley Wash, 9 mi. S of Caliente, 30 Aug 1969 (adult assoc.) (*vide* C. Callaghan)

*Eriogonum heermannii* Durand & Hilg. var. *sulcatum* (S.Watson) Munz & Reveal (Plate 3F)  
NV: Clark Co.; Spring Mts., 2-3 mi. N of Red Cloud Mine, 2, 11 Sep 1978 (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., 2-3 mi. N of Red Cloud Mine, 21 Aug 1983, 2 Sep 1984 (adult assoc.) (NSM, GTA #1162)

NV: Clark Co.; Lucy Gray Mts., microwave towers, 3.4 mi. E of powerline rd., 29 Aug 2003 (adult assoc.) (no plant coll., GTA)

*Eriogonum microthecum* Nutt. (Fig. 28)  
NV: Clark Co.; Spring Mts., Willow Creek, several dates (adult assoc.) (Austin and Austin 1980)  
NV: Clark Co.; Spring Mts., 0.5 mi. W of Mountain Springs Summit, 18 Sep 1977 (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Willow Creek, 7 Oct 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Willow Creek, 20 Jul 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., 2-3 mi. W of Red Cloud Mine, 21 Aug 1983 (adult assoc.) (NSM, GTA #560)

*Eriogonum microthecum* Nutt. var. *simpsoni* (Benth.) Reveal

[*Eriogonum microthecum* Nutt. var. *foliosum* (Torr. & A.Gray) Reveal]

NV: Clark Co.; Spring Mts., Nv 160 at Potosi Mt. Rd., 15 Aug 1988 (adult assoc.) (NSM, GTA #1489)

*Eriogonum nummulare* M.E.Jones [*Eriogonum kearneyi* Tidestrom]

NV: Lincoln Co.; Beaver Dam State Park Rd., 2.5 mi. E of US 93, 24 Aug 2001 (adult assoc.) (no plant coll., GTA)

*Eriogonum plumatella* Durand & Hilg.

NV: Clark Co.; Gold Butte area, Devils Cove Rd., 1.6 mi. SE of Gold Butte Rd., 17 Sep 2003 (adult assoc.) (NSM, GTA #1976)

*Eriogonum umbellatum* Torr. var. *subaridum* S. Stokes (Plate 4A)

NV: Lincoln Co.; Beaver Dam State Park, 24 Aug 2001 (adult assoc.) (no plant coll., GTA, cf GTA #1922)

*Eriogonum wrightii* Benth.

NV: Clark Co.; Spring Mts., Pine Creek, 19 Sep 1979 (adult assoc.) (Austin and Austin 1980)

NV: Lincoln Co.; Beaver Dam State Park, 8 Sep 2003 (adult assoc.) (NSM, GTA #1967)

*Eriogonum wrightii* Benth. var. *wrightii*

NV: Clark Co.; Spring Mts., Ice Box Canyon, 21 Oct 2003 (adult assoc.) (NSM, BB #189)

***Apodemia mejicanus deserti* Barnes & McDunnough, 1918**

POLYGONACEAE

*Eriogonum corymbosum* Benth. var. *nilesii* Reveal\*

NV: Clark Co.; Las Vegas, Sunset Rd. at Whitney Mesa, 12 Oct 1977 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; I-15, between Lamb Blvd. and Craig Rd., 3 Oct 1988 (adult assoc.) (NSM, GTA #1503)

*Eriogonum deflexum* Torr.

NV: Clark Co.; 0.5 mi. E of Boulder City, 3 Oct 1977 (ovip. at base of flower) (Austin and Austin 1980)

*Eriogonum fasciculatum* Benth. var. *polifolium* (Benth.) Torr. & A.Gray (Plate 4E, Fig. 22)

NV: Clark Co.; US 91, Railroad Pass, several dates (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, several dates (adult assoc.) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Kyle Canyon, 1 mi. W of US 95, 22 Jun 1965 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 8 Apr 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Railroad Pass, 14 May 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon, 2.5 mi. W of US 95, 13 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark County; Las Vegas Wash. 29 Mar 1982 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Sheep Range, Mormon Well Rd., 3.5

mi. S of US 93, 26 Apr 1983 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Eldorado Canyon, 15 Apr 1995 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 2.1 mi. E of US 95, 1 May 2001 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Nv 374, 9.1 mi. SW of Beatty, 7 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Nv 374, 9 mi. W of Beatty, 14 Apr 1996 (adult assoc.) (no plant coll., GTA)

*Eriogonum inflatum* Torr. & Frém.

NV: Clark Co.; Spring Mts., Kyle Canyon, 1 mi. W of US 95, 22 Jun 1965 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Searchlight, 1 Oct 1968 (larvae) (Thorne 1969)

NV: Clark Co.; Nv 160, 3 mi. W of Blue Diamond turnoff, 16 Apr 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas Wash, 29 Mar 1982 (adult assoc.) (*fide* R. Robertson)

NV: Clark Co.; 1.7 mi. N of Mesquite, 1 Apr 1982 (larvae) (*fide* J. Harry)

NV: Clark Co.; Las Vegas, Cheyenne Ave., 0.9 mi. E of US 95, 28 Apr 1983 (ovip. on upper stem, 11:00 PST) (NSM, GTA #61)

NV: Lincoln Co.; US 93, 3 mi. N of Clark Co. line, 14 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; powerline rd. NE of Carp-Elgin rd., Toquop Wash, 31 Mar 2003 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Nv 374, 9.1 mi. SW of Beatty, 7 Apr 1980 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Nv 160, 1.0 mi. NE of Johnnie, 17 Sep 1983 (adult assoc.) (no plant coll., GTA)

*Eriogonum microthecum* Nutt. Var. *lapidicola* Reveal (Fig. 28)

NV: Nye Co.; White River Valley, Wayne E. Kirch WMA, 150 yds. E of Adams-McGill Reservoir Dam, 18-19 Aug 2005 (adult assoc.) (UNLV, BB)

*Eriogonum microthecum* Nutt. var. *simpsoni* (Benth.) Reveal

[*Eriogonum microthecum* Nutt. var. *foliosum*

(Torr. & A. Gray) Reveal]

NV: Esmeralda Co.; US 95, 3.2 mi. S of Goldfield Summit, 6 Sep 1984 (adult assoc.) (NSM, GTA #1178)

*Eriogonum nummulare* M.E. Jones [*Eriogonum kearneyi* Tidestrom]

NV: Esmeralda Co.; Fish Lake Valley, Nv 264, 1.2 mi. S of US 6, 29 Aug 1983 (adult assoc.) (NSM, GTA #625)

NV: Esmeralda Co.; US 6, 0.1 mi. E of Mineral Co. line, 8 Sep 1988 (adult assoc.) (NSM, GTA #1493)

NV: Mineral Co.; US 6 at Esmeralda Co. line, 15 Sep 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1493)

NV: Nye Co.; Ralston Valley, 1.5 mi. W of jct. Nv 8A and US 6, 5600', 2 Aug 1969 (mature larva resting on stem, em. 1 Sep 1969) (*fide* J. F. Emmel,

also Emmel *et al.* 1970)

NV: Nye Co.; Ralston Valley, US 6, 1 mi. W of jct. Nv 8A, 28 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Nye Co.; Ralston Valley, US 6, 1 mi. W of jct. Nv 8A, 6 Aug 1978 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Ralston Valley, US 6, 4.4 mi. E of Tonopah, 20 Aug 1980 (adult assoc.) (no plant coll., GTA)

*Eriogonum plumatella* Durand & Hilg.

NV: Clark Co.; Newberry Mts., 10 mi. W of Davis Dam, 3 Aug 1977 (larvae on flower head, raised to adult [fed on flower parts]) (Austin and Austin



Figure 27. *Baccharis salicifolia*.

1980)

- NV: Clark Co.; Newberry Mts., Grapevine Canyon,  
21 Aug 1978 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Newberry Mts., Christmas Tree Pass,  
13 Sep 1978 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Newberry Mts., Nv 163, Hiko Spring,  
22 Sep 2003 (adult assoc.) (no plant coll., GTA)

*Eriogonum wrightii* Benth. var. *wrightii*

- NV: Clark Co.; Newberry Mts., Grapevine Canyon,  
27 Sep 1977 (adult assoc.) (UNLV, GTA)  
NV: Clark Co.; Newberry Mts., Grapevine Canyon,  
26 Sep 1978 (adult assoc.) (NSM, GTA)

***Apodemia palmerii palmerii* (W. H. Edwards, 1870)**

## FABACEAE

*Prosopis glandulosa* Torr. var. *torreyana* (L.D.Benson)  
M.Johnston (Fig. 29)

- NV: Clark Co.; Las Vegas, Paradise Valley, 17 Jun  
1969 (and many subsequent dates) (adult assoc.)  
(no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Hidden Valley,  
California Wash, 17 Apr 1977 (and many  
subsequent dates) (adult assoc.) (no plant coll.,  
GTA, BB)  
NV: Clark Co.; Tule Springs, 8 Jun 1977 (adult  
assoc.) (no plant coll., GTA)  
NV: Clark Co.; Las Vegas, Paradise Valley, 31 Jul  
1977 (ovip.) (Austin and Austin 1980)  
NV: Clark Co.; Moapa Valley, Bowmans Reservoir,  
10 May 1978 (adult assoc.) (no plant coll., GTA)  
NV: Clark County; Moapa Valley, vicinity of  
Overton WMA, 20 May 1979 (adult assoc.) (no  
plant coll., GTA)  
NV: Clark Co.; US 95, Cactus Springs, 10 Jun 1983  
(adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Desert NWR, Corn Creek, 2 Sep  
1983 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Overton WMA, 20  
Apr 1986 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, vicinity of Warm  
Springs, 23 Sep 1988 (and many subsequent dates)  
(adult assoc.) (no plant coll., GTA, BB)  
NV: Clark Co.; Desert NWR, Corn Creek, 17 Aug  
1990 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; US 95, Indian Springs, 4 Jun 1992  
(adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Newberry Mts., Sacatone Wash, 17  
Jun 1992 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Logandale, 3 May  
1993 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Overton WMA, 20  
May 1993 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Logandale, 20 May  
1993 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Logandale, 4 Sep  
2002 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Overton WMA, 28  
Aug 2003 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Warm Springs, 28

Aug 2003 (adult assoc.) (no plant coll., GTA)

- NV: Lincoln Co.; US 93, Coyote Springs, 8 Jun 1983  
(adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; 5 mi. N of Nv 160, Cherry Patch  
Ranch Rd., 7 Oct 1979 (adult assoc.) (no plant  
coll., GTA)  
NV: Nye Co.; Nv 372, 0.2 mi. E of CA state line, 28  
May 1981 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Nv 372, 1.2 mi. E of CA state line, 28  
May 1981 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Nv 372, 6.6 mi W of Pahump, 9 Jun  
1983 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; 3 mi. N of Cherry Patch Ranch, 10 Jun  
1983 (adult assoc.) (no plant coll., GTA)

*Prosopis pubescens* Benth.

- NV: Clark Co.; Las Vegas, Paradise Valley, 29 May  
1977 (and many subsequent dates) (adult assoc.)  
(no plant coll., GTA)  
NV: Clark Co.; Las Vegas, Paradise Valley, 2 Aug  
1977 (ovip.) (Austin and Austin 1980)  
NV: Clark Co.; Moapa Valley, vicinity of Warm  
Springs, 23 Sep 1988 (and many subsequent dates)  
(adult assoc.) (no plant coll., GTA, BB)  
NV: Clark Co.; Moapa Valley, Overton WMA, 20  
May 1993 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Moapa Valley, Overton WMA, 28  
Aug 2003 (adult assoc.) (no plant coll., GTA)  
NV: Clark Co.; Virgin Valley, rd. to Juanita Springs,  
0.9 mi. S of junction with Riverside Rd., 17 Sep  
2003 (adult assoc.) (no plant coll., GTA)  
NV: Nye Co.; Ash Meadows, 8 Sep 1981 (adult  
assoc.) (NSMCC, GTA)  
NV: Nye Co.; Ash Meadows, 17 Jun 1984 (adult  
assoc.) (NSM, GTA #991)  
NV: Nye Co.; Ash Meadows, 28 Jul 1998 (adult  
assoc.) (no plant coll., GTA)

## NYMPHALIDAE

Nymphalids are represented by 62 species in Nevada of which 10 are of uncertain status (two may breed on occasion) or probable strays. Of the resident species, at least one larval hostplant is known or suspected for 47. These include a variety of often taxon-specific families of plants (*e.g.*, Poaceae for Satyrinae, Apocynaceae for Danainae, Violaceae for *Speyeria*, Orobanchaceae and Plantaginaceae for *Euphydryas*, Asteraceae for *Phyciodes*).

## LIBYTHEINAE

Larvae of libytheines feed nearly exclusively on *Celtis* (Ulmaceae) worldwide. *Libytheana* in Nevada is not permanently resident and its breeding status is unknown. It has, however, been recorded in association with the only species of *Celtis* known from the state that is a larval hostplant elsewhere. That plant, however is rare and local, but the butterfly is seen mostly in situations far from it.

***Libytheana bachmanii streckeri* Austin & J. Emmel, 1998**

## ULMACEAE



*Celtis reticulata* Torr.

NV: Lincoln Co.; Meadow Valley Wash, 9.8 mi. S of Caliente, 22 Sep 1984 (several adults perching in tree) (no plant coll., GTA)

### HELICONIINAE

Potential larval hostplants have been determined for nine of the ten species of heliconiines resident in Nevada. These include seven species of Violaceae (18 butterfly/plant combinations), the principal hostplants for most species of the subfamily in the holarctic. Two of these are newly reported for the species in question. Hostplants for *Speyeria* are particularly difficult to determine since oviposition is nearly always away from the larval hostplant (Wagner *et al.* 1997, Kopper *et al.* 2000) and larvae are often nocturnal (Scudder 1889, Forbes 1960). Further, most violets have senesced by the time of oviposition by *Speyeria* when they are not readily located or identified (*e.g.*, Shapiro *et al.* 1979). Associations may best be inferred by searching for *Viola* in known habitat of *Speyeria* during spring when these plants are in flower, highly apparent, and readily determined. Many sites so searched in Nevada seem to be inhabited by a single species of *Viola*. It is in this vein that the following tentative and incomplete associations are given with the realization that other, rarer, species of *Viola* may also be present and used, but were not encountered. Larvae of *Speyeria* apparently can feed on any species of *Viola* available (Mattoon *et al.* 1971, Brittnacher *et al.* 1978, Hammond 1981), but the distributions of adults may be variably confounded by their movements for nectar, water, and/or hilltops.

### *Speyeria cybele leto* (Behr, 1862)

VIOLACEAE

*Viola sororia* Willd. ssp. *affinis* (LeConte) R.J.Little [*Viola nephrophylla* Greene]\* (Plate 5B)

NV: Carson City; Kings Canyon, 15 Jun 1969 (larva reared to adult) (*vide* S. O. Mattoon)

NV: Carson City; Carson Range, Kings Canyon, 19 Jul 1981 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Range, Kingsbury Grade, 5.0 mi. W of Nv 206, 10 Aug 1980 (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Carson Valley, Scossa Ranch, 18 Jul 1981 (and many subsequent dates) (adult assoc.) (NSMCC, GTA)

NV: Douglas Co.; Pine Nut Mts., US 395, 2.9 mi. N of Holbrook junction, 6 Aug 2002 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., Nv 338, 4.9 mi. N of Sweetwater Summit, 1 Aug 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, *cf* GTA #894)

NV: Lyon Co.; Sweetwater Mts., Nv 338, 3.8 mi S of Sweetwater Summit, 1 Aug 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., upper Desert Creek, 5 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park, 18 Jul 1983 (adult assoc.) (no plant coll., GTA)

### *Speyeria nokomis apacheana* (Skinner, 1918)

VIOLACEAE

*Viola sororia* Willd. ssp. *affinis* (LeConte) R.J.Little [*Viola nephrophylla* Greene] (Plate 5B)

NV: Elko Co.; Ruby Marshes, Ruby Valley Rd., 2.5 mi. N of Ruby Valley NWR headquarters, 14 Aug 1981 (and several subsequent dates) (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Pleasant Valley, Nv 227, 3.9 mi. W of Lamoille Canyon Rd., 15 Jul 1986 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Ruby Valley, Nv 229, 2.4 mi. N of junction with Nv 767, 8 Jul 1989 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 6400', 5 Aug 1967 (adult assoc.) (*vide* J. F. Emmel)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 28 Aug 1984 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Reese River Valley, US 50, 2.6 mi. E of Reese River, 28 Aug 1988 (and several subsequent dates) (adult assoc.) (no plant coll.,



Figure 28. *Eriogonum microthecum*,



- GTA)  
 NV: Lander Co.; Toiyabe Range, Gilman Spring, 20 Aug 1994 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 11 Sep 1995 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Spring Valley, 3.5 mi. N of Eagle Valley Dam, 25 Jul 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Lake Valley, US 93, Geysers Ranch, 31 Jul 1987 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Big Smoky Valley, Carvers, 8 Aug 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Washington Creek, 5 Aug 1995 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Marysville Creek, 8 Aug 1995 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Ruby Marshes, Ruby Valley Rd., 3.8 mi. S of Elko Co. line, 14 Aug 1981 (adult assoc.) (NSMCC, GTA)  
 NV: White Pine Co.; Snake Range, Lehman Creek Campground, 18 Aug 1981 (adult assoc.) (NSMCC, GTA)  
 NV: White Pine Co.; Spring Valley, Cleveland Ranch, 15 Jul 2002 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Bird Creek, 1 Aug 2002 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, East Creek Campground, 21 Aug 2002 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Berry Creek, 1.0 mi. E of Duck Creek Rd., 22 Aug 2002 (adult assoc.) (no plant coll., GTA)

***Speyeria nokomis carsonensis* Austin, 1998**

## VIOLACEAE

*Viola sororia* Willd. ssp. *affinis* (LeConte) R.J.Little [*Viola nephrophylla* Greene] (Plate 5B)

- NV: Douglas Co.; Carson Valley, Scossa Ranch, 18 Jul 1981 (and many subsequent dates) (adult assoc.) (NSMCC, GTA)  
 NV: Douglas Co.; Pine Nut Mts., US 395, 2.9 mi. N of Holbrook junction, 6 Aug 2002 (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Sweetwater Mts., Nv 338, 4.9 mi. N of Sweetwater Summit, 1 Aug 1981 (and several subsequent dates) (adult assoc.) (no plant coll., cf GTA #894)  
 NV: Lyon Co.; Sweetwater Mts., Nv 338, 3.8 mi S of Sweetwater Summit, 1 Aug 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Pine Grove Hills, Nye Canyon, 0.7-1.0 mi. E of Nv 338, 1 Sep 1981 (adult assoc.) (no plant coll., GTA)

- NV: Lyon Co.; Julian Rd., 0.9 mi. N of junction to Smith Valley Rd on Sunrise Pass Rd., 7 Aug 2002 (adult assoc.) (no plant coll., GTA)  
 NV: Lyon Co.; Smith Valley, 4.2 mi. S of junction of Sunrise Pass Rd., 7 Aug 2002 (adult assoc.) (no plant coll., GTA)

***Speyeria callippe nevadensis* (W. H. Edwards, 1870)**

## VIOLACEAE

*Viola beckwithii* Torr. & A.Gray

- NV: Washoe Co.; Carson Range, foothills behind Old Coach Way, 4 May 2003 (adult assoc.) (*vide* D. Murphy)

***Speyeria callippe semivirida* (McDunnough, 1924)**

## VIOLACEAE

*Viola beckwithii* Torr. & A.Gray

- NV: Washoe Co.; rd. to Jones Flat, 0.6 mi. S of Nv 447, 2 Jul 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1796)

***Speyeria callippe harmonia* dos Passos & Grey, 1945**

## VIOLACEAE

*Viola adunca* Smith

- NV: White Pine Co.; Schell Creek Range, lower East Creek, 23 Jul 2003 (adult assoc.) (no plant coll., GTA, cf also GTA #1738, #1834)

*Viola nuttallii* Pursh var. *major* Hook. [*Viola vallicola* A.Nelson var. *major* (Hook.) Fabijan]

- NV: Elko Co.; Jarbidge Mts., Coon Creek Summit to 4.0 mi. S, 9 Jul 1978 (adult assoc.) (no plant coll., GTA, cf GTA #1859)  
 NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek Rd., east of summit, 25 Jul 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, cf GTA #1708)  
 NV: White Pine Co.; Schell Creek Range, East Creek Campground, 27 Jul 1983 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, cf GTA #1835)

*Viola nuttallii* Pursh var. *vallicola* (A.Nelson) St. John [*Viola vallicola* A.Nelson var. *vallicola*]

- NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 8 Jul 1978 (and many subsequent dates) (adult assoc.) (no plant coll., GTA, cf GTA #1822)  
 NV: Elko Co.; Ruby Mts., Lamoille Canyon, end of rd., 7 Aug 1978 (adult assoc.) (no plant coll., GTA, cf GTA #1846)

*Viola purpurea* Kellogg (Fig. 30)

- NV: White Pine Co.; Schell Creek Range, Timber Creek Campground, 15 Jul 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, cf GTA #1704)

***Speyeria zerene gunderi* (J. A. Comstock, 1925)**

## VIOLACEAE

*Viola adunca* Smith

- NV: Elko Co.; Ruby Mts., Thomas Creek

Campground and vicinity, 15 Aug 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, *cf* GTA #1847)

*Viola nuttallii* Pursh var. *vallicola* (A.Nelson) St. John [*Viola vallicola* A.Nelson var. *vallicola*]

NV: Elko Co.; Ruby Mts., Lamoille Canyon, end of rd., 7 Aug 1978 (adult assoc.) (no plant coll., GTA, *cf* GTA #1846)

***Speyeria zerene platina* (Skinner, 1897)**

VIOLACEAE

*Viola* sp.

NV: White Pine Co.; Duck Creek Valley, Nv 893, 1.0 mi. S of Berry Creek Rd., 22 Aug 2002 (ovip. on grass stem above dried *Viola* plants, 11:55 PST) (NSM, GTA #1757)

*Viola adunca* Smith

NV: White Pine Co.; Schell Creek Range, lower East Creek, 1 Aug 2002 (ovip. 5× on *Rosa woodsii* branch immediately over *Viola* plants, 09:15 PST) (NSM, GTA #1738, *cf* also GTA #1834)

*Viola nuttallii* Pursh var. *major* Hook. [*Viola vallicola* A.Nelson

var. *major* (Hook.) Fabijan]

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek Rd., east of summit, 25 Jul 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, *cf* GTA #1708)

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 27 Jul 1983 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, *cf* GTA #1835)

*Viola purpurea* Kellogg (Fig. 30)

NV: White Pine Co.; Schell Creek Range, Timber Creek Campground, 15 Jul 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA, *cf* GTA #1704)

***Speyeria carolae* (dos Passos & Grey, 1942)**

VIOLACEAE

*Viola charlestonensis* M.S.Baker & J.C.Clausen (Plate 5A)

NV: Clark Co.; Spring Mts. ("hostplant ... is undoubtedly *Viola charlestonensis*") (Emmel and Austin 1998, *cf* BB #93, #97)

NV: Clark Co.; Spring Mts., Kyle Canyon ski run, 5

Figure 29. *Prosopis glandulosa*.



Jul 1977 (and numerous other dates) (adult assoc.)  
(no plant coll., GTA)  
NV: Clark Co.; Spring Mts., Echo Canyon, 23 Jul  
1978 (and several other dates) (adult assoc.) (no  
plant coll., GTA)

***Speyeria coronis snyderi* (Skinner, 1897)**

## VIOLACEAE

*Viola nuttallii* Pursh var. *major* Hook. [*Viola vallicola* A.Nelson  
var. *major* (Hook.) Fabijan]

NV: Humboldt Co.; Scrapper Spring Rd., 3.0 mi. N of  
Scrapper Spring, 5 Jul 2003 (adult assoc.) (no plant  
coll., GTA, cf GTA #1807)

*Viola purpurea* Kellogg (Fig. 30)

NV: White Pine Co.; Schell Creek Range, Timber  
Creek Campground, 15 Jul 1981 (adult assoc.) (no  
plant coll., GTA, cf GTA #1704)

***Speyeria egleis reidi* Austin, 1998**

## VIOLACEAE

*Viola nuttallii* Pursh var. *major* Hook. [*Viola vallicola* A.Nelson  
var. *major* (Hook.) Fabijan]

NV: White Pine Co.; Schell Creek Range, Kalamazoo  
Creek Rd., east of summit, 25 Jul 1981 (and several  
subsequent dates) (adult assoc.) (no plant coll.,  
GTA, cf GTA #1708)

NV: White Pine Co.; Schell Creek Range, East Creek  
Campground, 9 Jul 2000 (adult assoc.) (no plant  
coll., GTA, cf GTA #1835)

*Viola purpurea* Kellogg (Fig. 30)

NV: White Pine Co.; Schell Creek Range, Timber  
Creek Campground, 15 Jul 1981 (and several  
subsequent dates) (adult assoc.) (no plant coll.,  
GTA, cf GTA #1704)

***Speyeria hesperis elko* Austin, 1983**

## VIOLACEAE

*Viola nuttallii* Pursh var. *vallicola* (A.Nelson) St. John [*Viola*  
*vallicola* A.Nelson var. *vallicola*]

NV: Elko Co.; Owyhee River Valley, Wildhorse  
Crossing Campground, 8 Jul 1978 (and many  
subsequent dates) (adult assoc.) (no plant coll.,  
GTA, cf GTA #1822)

***Speyeria hesperis greyi* Moeck, 1950**

## VIOLACEAE

*Viola adunca* Smith

NV: Elko Co.; Ruby Mts., Thomas Creek  
Campground and vicinity, 15 Aug 1981 (and  
several subsequent dates) (adult assoc.) (no plant  
coll., GTA, cf GTA #1847)

*Viola nuttallii* Pursh var. *vallicola* (A.Nelson) St. John [*Viola*  
*vallicola* A.Nelson var. *vallicola*]

NV: Elko Co.; Ruby Mts., Lamoille Canyon, end of  
rd., 7 Aug 1978 (adult assoc.) (no plant coll., GTA,  
cf GTA #1846)

***Speyeria mormonia mormonia* (Boisduval, 1869)**

## VIOLACEAE

*Viola macloskeyi* Lloyd\*

NV: Washoe Co.; Carson Range, Nv 431, 2.0 mi. E  
of Mt. Rose Summit, 22 May 1981 (adult assoc.)  
(NSMCC, GTA)

***Speyeria mormonia artonis* (W. H. Edwards, 1881)**

## VIOLACEAE

*Viola nuttallii* Pursh var. *major* Hook. [*Viola vallicola* A.Nelson  
var. *major* (Hook.) Fabijan]

NV: Elko Co.; Jarbidge Mts., Coon Creek Summit to  
4.0 mi. S, 9 Jul 1978 (adult assoc.) (no plant coll.,  
GTA, cf GTA #1859)

*Viola nuttallii* Pursh var. *vallicola* (A.Nelson) St. John [*Viola*  
*vallicola* A.Nelson var. *vallicola*]

NV: Elko Co.; Ruby Mts., Lamoille Canyon, end of  
rd., 7 Aug 1978 (adult assoc.) (no plant coll., GTA,  
cf GTA #1846)

## NYMPHALINAE

Larval hostplants have been determined for 26 of the 28 species of nymphalines resident in Nevada and include 102 species of plants (135 butterfly/plant combinations) in 15 families (especially Asteraceae, Orobanchaceae, Plantaginaceae, Urticaceae). Of these, 57 are newly reported for the species of butterfly concerned. *Vanessa cardui* is newly reported on *Lappula* and *Astragalus* as is *Vanessa annabella* on *Potentilla*, with Rosaceae as a newly reported family. Since many of the species of this subfamily oviposit clusters of eggs, they spend longer continuous periods on their larval hostplant during each episode of oviposition and thus have a greater chance of being encountered. In addition, clusters of eggs are often more easily found than single eggs and larvae of several species are gregarious and/or live in relatively conspicuous nests. Melitaeini usually place their eggs on lower surfaces of leaves (88%), usually near the lower part of the plant and sometimes clusters involve both the leaf and adjacent stem. Ovipositions occur during most of the day, are concentrated from 09:00 to 15:00 PST (88%), and most are in the morning (62%). Larvae, especially those of *Chlosyne*, often feed on flowers. Nymphalini on the other hand place their eggs mostly on the upper surface of leaves (65%), with only 13% on the lower surface. Oviposition is similarly throughout the day, but is about evenly distributed across the morning and afternoon.

***Poladryas arachne expedita* Austin, 1998**

## PLANTAGINACEAE

*Penstemon immanifestus* N.H.Holmgren\*

NV: White Pine Co.; Spring Valley, Highline Rd.,  
4.4 mi. N of Atlanta Rd., 29 May 2002 (adult  
assoc.) (NSM, GTA #1701)

*Penstemon pachyphyllus* A.Gray var. *congestus* (M.E.Jones)  
N.H.Holmgren\*

NV: White Pine Co.; Antelope Valley, rd. to  
Eightmile, 2.1 mi. W of Goshute Reservation  
boundary, 12 Jun 2003 (adult assoc.) (NSM, GTA  
#1844)

***Chlosyne leanira alma* (Strecker, 1878)**

## OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) G. Don var. *dubia* A. Nelson

[*Castilleja chromosa* A. Nelson] (Plate 11A)

- NV: Clark Co.; hillside at Red Rock Canyon entrance, 23 Mar 1975 (larva) (*fide* J. Brock)
- NV: Clark Co.; Red Rock Canyon, 25-27 Mar 1975 (larvae) (*fide* J. Brock, Austin and Austin 1980)
- NV: Clark Co.; Spring Mts., 2 mi. N of Cottonwood Pass, 27-28 Mar 1975 (larvae) (*fide* J. Brock, Austin and Austin 1980)
- NV: Clark Co.; Spring Mts., 1 mi. N of Cottonwood Pass, 12 Apr 1976 (5 larvae) (*fide* J. Brock)
- NV: Clark Co.; Spring Mts., Wilson Pass, 29 Mar 1978 (larvae feeding on flowers) (Austin and Austin 1980)
- NV: Clark Co.; Spring Mts., Willow Spring, 29 Mar 1978 (larvae feeding on flowers and leaves, reared to adult) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Cottonwood Pass, 9 Mar 1988 (larvae reared to adult, em. 27 Mar-1 Apr 1988) (*fide* P. Savage)
- NV: Clark Co.; Nv 161, 5.5 mi NW of Jean, 17 Mar 1988 (larvae reared to adult, em. 2-7 Apr 1988) (*fide* P. Savage)
- NV: Clark Co.; Nv 161, 3 mi. N of Jean, 6 Mar 1989 (larva reared to adult, em. 26 Mar 1989) (*fide* P. Savage)
- NV: Clark Co.; Spring Mts., Cold Creek, 19 May 1993 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; powerline rd., 5.1 mi. S of Arden, 10 Apr 2003 (adult assoc.) (no plant coll., GTA)
- NV: Clark Co.; Spring Mts., Ash Spring, 11 Apr 2003 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; US 93, 12.5 mi. N of Pioche, 27 May 1979 (adult assoc.) (UNLV, GTA)
- NV: Lincoln Co.; Meadow Valley Wash, 3.7 mi. S of Elgin, 26 Apr 1980 (adult assoc.) (NSMCC, GTA)
- NV: Lincoln Co.; Nv 375, Tempiute, 25 May 1983 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Ranch, 30 May 1983 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Bristol Mts., Bristol Mine area, 31 May 1983 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Pahrnagat Range, rd. to Southpaw Mine, 11.0 mi. W of Nv 318, 13 May 1984 (adult assoc.) (no plant coll., GTA)
- NV: Lincoln Co.; Nv 375, 0.7 mi. W of Hancock Summit, 26 Apr 1990 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Toiyabe Range, Peavine Canyon, 5 May 1980 (adult assoc.) (NSMCC, GTA)
- NV: Nye Co.; Shoshone Mts., Union Canyon, 2.9 mi. E of Nv 844, 18 May 1980 (adult assoc.) (NSMCC, GTA)
- NV: Nye Co.; U.S. 95, 14.8 mi. N of Beatty, 23 Apr 1982 (adult assoc.) (NSMCC, GTA)
- NV: Nye Co.; Spring Mts., Johnnie Mine Rd., 3.9 mi. E of Nv 160, 3 May 1983 (adult assoc.) (no plant coll., GTA)

- NV: Nye Co.; Nv 375, Queen City Summit, 25 May 1983 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Grapevine Mts., Phinney Canyon, 14.8 mi. W of US 95, 26 May 1983 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Grapevine Mts., Phinney Canyon, 18.2 mi. W of US 95, 26 May 1983 (larvae feeding on flowers) (NSM, GTA #255)
- NV: Nye Co.; Hot Creek Range, Keystone Canyon, 29 May 1983 (adult assoc.) (NSM, GTA #291)
- NV: Nye Co.; Kawich Range, Breen Creek, 16 Apr 1984 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 19 May 1986 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 2 Jun 1995 (adult assoc.) (no plant coll., GTA)

***Chlosyne leanira basinensis* (Austin & Smith, 1998)**

OROBANCHACEAE

*Castilleja* sp.

- NV: Washoe Co.; Virginia foothills, 9 Apr 1968 (larvae) (Thorne 1969)

*Castilleja angustifolia* (Nutt.) G. Don var. *dubia* A. Nelson  
[*Castilleja chromosa* A. Nelson] (Plate 11A)

- NV: Carson City; Brunswick Canyon, 21 Apr 1974 (larvae) (Scott 1986b)
- NV: Carson City; Brunswick Canyon, 27 May 1980 (adult assoc.) (NSMCC, GTA)
- NV: Churchill Co.; Clan Alpine Mts., rd. to Mt. Grant, 14 May 1981 (adult assoc.) (no plant coll., GTA)
- NV: Douglas Co.; Carson Valley, US 395, 2.1 mi. S of Carson City line, 15 May 1986 (adult assoc.) (no plant coll., GTA)
- NV: Douglas Co.; Nv 208, Jack Wright Summit, 16 May 1986 (adult assoc.) (no plant coll., GTA)
- NV: Esmeralda Co.; White Mts., Indian Creek, 4.7 mi. W of Nv 264, 5 May 1981 (adult assoc.) (no plant coll., GTA)
- NV: Esmeralda Co.; Monte Cristo Range, 2 mi. E of Gilbert, 22 May 1983 (adult assoc.) (no plant coll., GTA)
- NV: Esmeralda Co.; US 95, 4.0 mi. S of Goldfield Summit, 1 May 1986 (ovip. on lower surface of lower leaf, 10:35 PST) (NSM, GTA #1248)
- NV: Esmeralda Co.; US 95, 4.0 mi. S of Goldfield Summit, 1 May 1986 (several 3rd instar larvae feeding on flowers) (NSM, GTA #1248)
- NV: Humboldt Co.; Nv 140, 6.0 mi. W of Denio Junction, 31 May 1984 (ovip. on lower surface of upper leaf, 09:00 PST) (NSM, GTA #950)
- NV: Humboldt Co.; Nv 140, 21.5 mi. W of Denio Junction, 31 May 1984 (adult assoc.) (NSM, GTA #949)
- NV: Humboldt Co.; Little Humboldt River Rd., 1.2 mi. W of Little Humboldt Ranch, 24 May 2003 (adult assoc.) (NSM, GTA #1810)
- NV: Lander Co.; Desatoya Mts., Nv 722, 5.1 mi. E of Churchill Co. line, 18 May 1980 (adult assoc.) (no

plant coll., GTA)

NV: Lyon Co.; Fort Churchill Rd., 4.7 mi. S of US 50, 2 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; Sweetwater Mts., Nv 338, 1.0 mi. NE of CA state line, 30 Apr 1986 (adult assoc.) (NSM, GTA #1244)

NV: Mineral Co.; Candelaria Rd., 4.0 mi. W of US 95, 6 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Mineral Co.; Excelsior Mts., Douglas Canyon, 6 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Granite Mts., Nv 34, 4.3 mi. S of Leadville Rd., 30 May 1984 (adult assoc.) (NSM, GTA #929)

NV: Washoe Co.; Nv 8A, 26.2 mi. E of Nv 34, 30 May 1984 (adult assoc.) (NSM, GTA #936)

*Castilleja applegatei* Fern. ssp. *pallida* (Eastw.) Chuang & Heckard [*Castilleja applegatei* Fern. var. *breweri* Fern.; *Castilleja breweri* Fern. var. *pallida* Eastw.]\*

NV: Douglas Co.; US 395, 2.1 mi. S of Carson City line, 15 May 1986 (clusters of ova [18, 21] on lower surface of lower leaves, use both red and yellow morphs of plant) (NSM, GTA #1271)

*Castilleja pilosa* (S. Watson) Rydb.\*

NV: Washoe Co.; Granite Mts., Rock Creek Ranch Rd., 0.6 mi. W of Nv 34, 30 May 1984 (larva on flower) (NSM, GTA #925)

***Chlosyne californica* (W. G. Wright, 1905)**

ASTERACEAE

*Viguiera parishii* Greene [*Viguiera deltoidea* A. Gray var. *parishii* (Greene) Vasey & Rose]

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 14 Sep 1977 (larvae skeltonizing leaves) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Bridge Canyon, 29 Mar 1980 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 3 Apr 1980 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 3 Apr 1980 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 15 Apr 1981 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., 0.5 mi. E of Christmas Tree Pass, 18 May 1983 (larvae) (NSM, GTA #176)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 3 Sep 1984 (ovip. on upper surface of upper leaf, 10:00 PST) (NSM, GTA #1168)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 3 Sep 1984 (half grown larvae resting on stem) (NSM, GTA #1168)

NV: Clark Co.; Newberry Mts., Nv 163, 6.0 mi. E of US 95, 13 Sep 1984 (many larvae in various stages feeding on and skeltonizing leaves, some reared to adult) (NSM, GTA #1199)

*Heliomeris multiflora* Nutt. var. *nevadensis* (Nelson) Yates\*\*

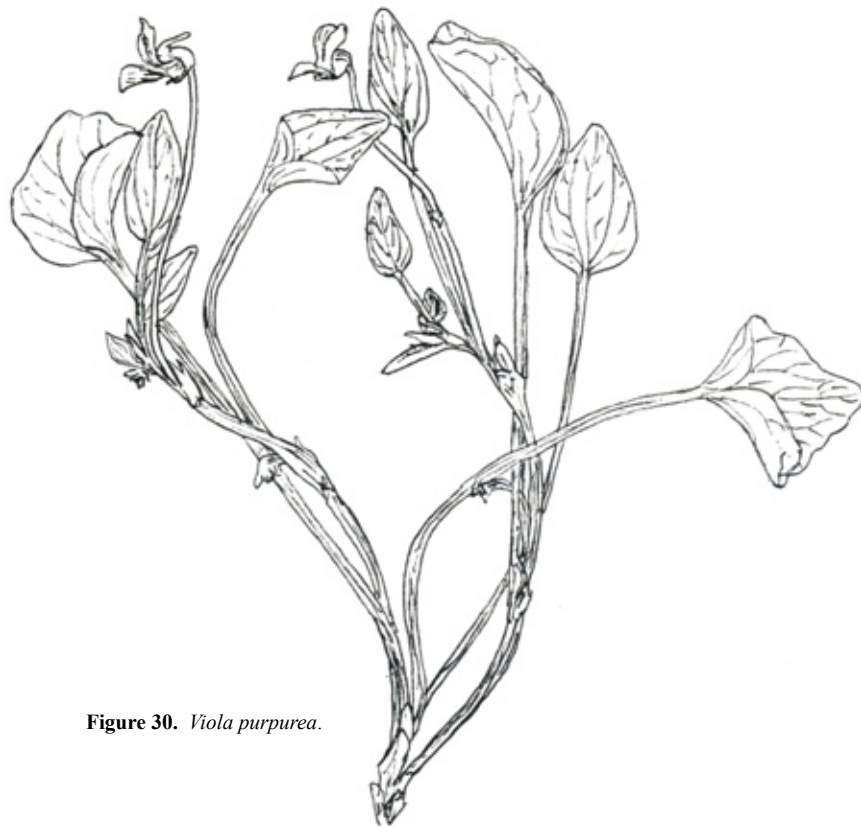


Figure 30. *Viola purpurea*.

NV: Clark Co.; Spring Mts., Red Cloud Mine, 2 Sep 1984 (ovip. 2 ova on lower surface of middle leaf, 14:00 PST) (NSM, GTA #1160)

***Chlosyne lacinia crocale* (W. H. Edwards, 1874)**

ASTERACEAE

*Helianthus annuus* L. (i)

NV: Clark Co.; Logandale (larvae) (Langston 1973)

NV: Clark Co.; Moapa Valley, Hidden Valley, 23 Aug 1977 (many larvae) (Austin and Austin 1980)

NV: Clark Co.; Moapa Valley, Hidden Valley, 29 Sep 1977 (many larvae) (Austin and Austin 1980)

NV: Clark Co.; Las Vegas, Mormon Farm, 9 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 13 Sep 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Mormon Farm, 4 Jul 1984 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Bowmans Reservoir, 20 Apr 1986 (young larvae) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Warm Springs, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 26 Jun 1992 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Overton, 26 Jun 1992 (adult assoc.) (no plant coll., GTA)

*Xanthium strumarium* L. (i)

NV: Clark Co.; Las Vegas, Mormon Farm, 13 Sep 1977 (many larvae) (Austin and Austin 1980)

NV: Clark Co.; Moapa Valley, Bowmans Reservoir, 9 Sep 1979 (larvae feeding on leaves) (no plant coll., GTA, cf GTA #1962)



NV: Clark Co.; Moapa Valley, Bowmans Reservoir,  
20 Apr 1986 (young larvae) (no plant coll., GTA,  
*cf* GTA #1962)

***Chlosyne palla altasierra* J. Emmel, T. Emmel & Mattoon, 1998**

ASTERACEAE

*Chrysothamnus nauseosus* (Pall.) Britton [*Ericameria nauseosa* (Pall.) Nesom & Baird]

NV: Douglas Co.; Carson Range, Haines Canyon, 18 Jun 1963 (2 larvae) (*fide* D. Bauer)

***Chlosyne acastus acastus* (W. H. Edwards, 1874)**

ASTERACEAE

*Chrysothamnus viscidiflorus* (Hook.) Nutt. (Fig. 31)

NV: Carson City; Carson City, 14 May 1968 (larvae) (Thorne 1969)

*Machaeranthera* sp.

NV: Nye Co.; Grant Range, Troy Canyon, 6500-7300', 7 Jul 1969 (5 larvae) (*fide* J. F. Emmel)

***Chlosyne acastus robusta* Austin, 1998**

ASTERACEAE

*Chrysothamnus viscidiflorus* (Hook.) Nutt. (Fig. 31)

NV: Clark Co.; Spring Mts., Griffith Peak trail, 22 May 2002 (larvae feeding on leaves, one reared to adult, pupated 24 May, em. 4 Jun 2003) (NSM, BB #3)

NV: Clark Co.; Spring Mts., Griffith Peak trail, 2 Jun 2002 (small and large larvae) (NSM, *cf* BB #39)

NV: Clark Co.; Spring Mts., Griffith Peak trail, 8 Jun 2002 (small and large larvae) (NSM, *cf* BB #39)

NV: Clark Co.; Spring Mts., Griffith Peak trail, 4 Jul 2002 (ovip.) (NSM, *cf* BB #39)

***Chlosyne acastus neumogeni* (Skinner, 1895)**

ASTERACEAE

*Acamptopappus shockleyi* A.Gray (Plate 11F)

NV: Clark Co.; US 93, 12 mi. N of I-15, 15 May 1977 (larvae on disc flowers) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., 0.5 mi. S of Red Spring, 21 Apr 1979 (ovip. on flower buds, 09:15 PST) (Austin and Austin 1980)

NV: Clark Co.; Nv 161, 2.6 mi. W of I-15, 26 Apr 1987 (several young larvae on disc flowers, 1 plant) (NSM, GTA #1394)

NV: Esmeralda Co.; Nv 265, 12.1 mi. W of US 95, 1 May 1986 (ovip. cluster on lower surface of lower leaves and adjacent stem, 10:35 PST) (NSM, GTA #1246)

*Amphipappus fremontii* Torr. & A.Gray ssp. *spinosus* (A.Nelson) C. L. Porter\*\*

NV: Lincoln Co.; Mormon Mts., Elgin-Carp Rd., 7.2 mi. N of I-15, 23 Apr 1983 (larvae feeding on flowers) (NSM, GTA #24)

*Xylorhiza tortifolia* (Torr. & A.Gray) Greene (Plate 11E)

NV: Clark Co.; US 93, 12 mi. N of I-15, 15 May 1977 (larvae on disc flowers) (Austin and Austin

1980)

NV: Clark Co.; Newberry Mts., 9 mi. W of Davis Dam, 3 May 1978 (small larvae on disc flowers) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 12 May 1978 (larvae mostly on disc flowers, also feeding on ray flowers after disc consumed) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., 0.5 mi. S of Red Spring, 21 Apr 1979 (larvae) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 22 Apr 1979 (ovip. on lower surface of lower leaves near center of plant, 10:30 PST) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Kyle Canyon, 2.0 mi. W of US 95, 17 Apr 1983 (small larvae on disc flowers) (NSM, GTA #1)

NV: Clark Co.; Nv 161, 2.6 mi. W of I-15, 26 Apr 1987 (young larvae feeding on sepals and unopened buds, mainly on disc flowers, several plants) (NSM, GTA #1395)

***Phyciodes cocyta arenacolor* Austin, 1998**

ASTERACEAE

*Aster ascendens* Lindl. [*Aster chilensis* Nees ssp. *ascendens* (Lindl.) Cronquist; *Symphotrichum ascendens* (Lindl.) Nesom] (Fig. 32)

NV: White Pine Co.; Steptoe Valley, Warm Springs, 7 Jul 1984 (ovip. cluster of 15 ova on lower leaf surface, 15:10 PST) (NSM, GTA #1045)

NV: White Pine Co.; Steptoe Valley, Warm Springs, 16 Jul 2001 (ovip. cluster on lower surface of leaf near base of plant, 13:10 PST) (NSM, GTA #1591)

***Phyciodes pulchella montana* (Behr, 1863)**

ASTERACEAE

*Aster occidentalis* (Nutt.) Torr. & A.Gray

NV: Washoe Co.; Carson Range, First Creek area, 16 Aug 2003 (adult assoc.) (NSM, GTA #1951)

***Phyciodes pulchella vallis* Austin, 1998**

ASTERACEAE

*Aster eatonii* (A.Gray) Howell [*Symphotrichum eatonii* (A.Gray) Nesom]

CA: Alpine Co.; Carson Valley, Diamond Valley Rd., 3.6 mi. S and E of Ca 88, 6 Aug 2001 (adult assoc.) (NSM, GTA #1653)

NV: Washoe Co.; Carson Range, Davis Creek Park, 4 Aug 2002 (adult assoc.) (NSM, GTA #1741)

*Aster occidentalis* (Nutt.) Torr. & A.Gray

NV: Douglas Co.; Carson Valley, Scossa Ranch, 26 Aug 1983 (ovip. cluster on lower stem and adjacent lower surface of leaf, 10:45 PST) (NSM, GTA #614)

NV: Douglas Co.; Carson Valley, Scossa Ranch, 26 Aug 1983 (ovip. on lower surface of lower leaf, 12:00 PST) (NSM, GTA #618)

NV: Douglas Co.; Carson Valley, Scossa Ranch, 8 Sep 1984 (adult assoc.) (NSM, GTA #1188)



NV: Douglas Co.; Carson Valley, Scossa Ranch, 7 Sep 1988 (ovip. cluster of 11 ova on lower surface of lower leaf, 09:10 PST) (NSM, GTA #1492)

***Phyciodes pulchella camillus* W. H. Edwards, 1871**

ASTERACEAE

*Aster ascendens* Lindl. [*Aster chilensis* Nees ssp. *ascendens* (Lindl.) Cronquist; *Symphotrichum ascendens* (Lindl.) Nesom] (Fig. 32)

- NV: Elko Co.; rd. to Fenalon, 6.1 mi. NE of I-80, Independence Creek, 24 Jul 2001 (adult assoc.) (NSM, GTA #1642)
- NV: Elko Co.; Ruby Valley, Ruby Lakes NWR, 5.8 mi. S of northern boundary, 21 Aug 2001 (adult assoc.) (NSM, GTA #1686)
- NV: Elko Co.; Ruby Valley, Ruby Valley Rd., Lutts Creek, 21 Aug 2001 (adult assoc.) (no plant coll., GTA, cf GTA #1686]
- NV: Elko Co.; Knoll Creek, 7.3 mi. E of US 93, 23 Aug 2001 (adult assoc.) (NSM, GTA #1688)
- NV: White Pine Co.; Steptoe Valley, Warm Springs, 23 Aug 2001 (adult assoc.) (no plant coll., GTA; cf GTA #1591)
- NV: White Pine Co.; Duck Creek, 2.5 mi. E of US 93, 23 Aug 2001 (ovip. cluster of 22 eggs when disturbed, on lower surface of lower leaf including some on stem, 14:35 PST) (NSM, GTA #1690)
- NV: White Pine Co.; Duck Creek, 2.5 mi. E of US 93, 23 Aug 2001 (ovip. 3 eggs when disturbed, on lower surface of lower leaf, 14:50 PST) (NSM, GTA #1691)
- NV: White Pine Co.; Schell Creek Range, Timber Creek, 23 Aug 2001 (adult assoc.) (NSM, GTA #1693)
- NV: White Pine Co.; Schell Creek Range, East Creek, 12 Jul 2002 (adult assoc.) (NSM, GTA #1728)
- NV: White Pine Co.; Schell Creek Range, Timber Creek, 22 Aug 2002 (adult assoc.) (NSM, GTA #1755)
- NV: White Pine Co.; Duck Creek Valley, Nv 893, 1.0 mi. S of Berry Creek Rd., 22 Aug 2002 (adult assoc.) (NSM, GTA #1756)
- NV: White Pine Co.; Schell Creek Range, Success Summit, 23 Aug 2002 (adult assoc.) (NSM, GTA #1759)
- NV: White Pine Co.; US 50, 2.8 mi. E of Hamilton Rd., 24 Aug 2002 (adult assoc.) (NSM, GTA #1760)
- Aster occidentalis* (Nutt.) Torr. & A.Gray
- NV: Elko Co.; Pilot Mts., southernmost permanent stream, 6 Sep 1983 (adult assoc.) (NSM, GTA #670)
- NV: Elko Co.; US 93, Little Salmon River Valley, 2.8 mi. S of Jackpot, 28 Jul 1993 (adult assoc.) (NSM, plant coll. 7 Sep 1983, GTA #686)
- NV: Lincoln Co.; Lake Valley, US 93, Geysers Ranch, 4 Sep 1983 (ovip. cluster on lower stem, 08:20 PST) (NSM, GTA #653)

NV: Lincoln Co.; Lake Valley, US 93, Geysers' Ranch, 22 Aug 1984 (adult assoc.) (NSM, GTA #1096)

NV: Nye Co.; White River Valley, Sunnyside, 12 Aug 1983 (adult assoc.) (NSM, GTA #544)

NV: Nye Co.; Hot Creek Range, Hot Creek, 11 Sep 1983 (adult assoc.) (NSM, GTA #709)

NV: Nye Co.; Duckwater, 19 Sep 1983 (adult assoc.) (NSM, GTA #706)

NV: White Pine Co.; Spring Valley, Minerva, 4 Sep 1983 (adult assoc.) (NSM, GTA #663)

NV: White Pine Co.; Steptoe Valley, Comins Lake, 22 Aug 1984 (adult assoc.) (NSM, GTA #1097)

NV: White Pine Co.; Newark Valley, Nv 892, 20.5 mi. N of US 50, 28 Aug 1984 (adult assoc.) (NSM, GTA #1133)

*Aster spathulatus* Lindl. var. *spathulatus* [*Symphotrichum spathulatum* (Lindl.) Nesom var. *spathulatum*]

NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 19 Aug 2001 (adult assoc.) (NSM, GTA #1676)

*Machaeranthera canescens* (Pursh) A.Gray

NV: Eureka Co.; Diamond Mts., 0.7 mi. N of Eureka, 28 Aug 1984 (egg cluster on stem and lower surface of lower leaf) (NSM, GTA #1135)

NV: Lincoln Co.; Spring Valley, 2.7 mi. N of Eagle Valley Dam, 22 Sep 1984 (adult assoc.) (NSM, GTA #1208)

***Phyciodes pulchella inornatus* Austin, 1998**

ASTERACEAE

*Aster ascendens* Lindl. [*Aster chilensis* Nees ssp. *ascendens* (Lindl.) Cronquist; *Symphotrichum ascendens* (Lindl.) Nesom] (Fig. 32)

NV: Humboldt Co.; Sheldon NWR, Dufurrena Ranch, 28 Aug 2002 (adult assoc.) (NSM, GTA #1776)

*Aster eatonii* (A.Gray) Howell [*Symphotrichum eatonii* (A.Gray) Nesom]

NV: Elko Co.; Ruby Mts., Harrison Pass Rd., 1.7 mi. E of Harrison Pass, 21 Aug 2001 (ovip. cluster, 14 eggs when disturbed, 11:10 PST) (NSM, GTA #1685)

*Aster spathulatus* Lindl. var. *intermedius* (A.Gray) Cronquist [*Symphotrichum spathulatum* (Lindl.) Nesom var. *intermedium* (A.Gray) Nesom]

NV: Elko Co.; Ruby Mts., Harrison Pass Rd., 0.8 mi. E of Harrison Pass, 21 Aug 2001 (adult assoc.) (NSM, GTA #1683)

NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul 2001 (adult assoc.) (NSM, GTA #1622)

***Phyciodes pulchella shoshoni* Scott, 1994**

ASTERACEAE

*Aster ascendens* Lindl. [*Aster chilensis* Nees ssp. *ascendens* (Lindl.) Cronquist; *Symphotrichum ascendens* (Lindl.) Nesom] (Fig. 32)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 26 Aug 1984 (adult assoc.)

(NSM, GTA #1123)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 26 Aug 2002 (adult assoc.)

(NSM, GTA #1769)

*Aster occidentalis* (Nutt.) Torr. & A.Gray

NV: Eureka Co.; Nv 278, 0.2 mi. S of Elko Co. line, 8 Sep 1983 (adult assoc.) (NSM, GTA #688)

***Phyciodes orseis herlani* Bauer, 1975**

ASTERACEAE

*Cirsium andersonii* (A.Gray) Jeps.

NV: Douglas Co.; Carson Range, US 50, Montreal Canyon, 6 Jul 1981 (ovip.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (adult assoc.)

(NSM, GTA #1918)

***Phyciodes pallida pallida* (W. H. Edwards, 1864)**

ASTERACEAE

*Cirsium arizonicum* (A.Gray) Petrak var. *tenuisectum* D.J.Keil

[*Cirsium nidulum* (M.E.Jones) Petrak; *Cirsium arizonicum* (A.Gray) Petrak var. *nidulum* (M.E.Jones) Petrak] (Fig. 36)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 3 Sep 1983 (egg cluster on lower surface of leaf) (NSM, GTA #645)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 23 Jun 1984 (egg cluster on lower surface of lower leaf) (NSM, GTA #1015)

*Cirsium subniveum* Rydb.\*

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 4.3 mi. W of Spring Valley Rd., 10 Jun 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1597)

***Phyciodes pallida barnesi* Skinner, 1897**

ASTERACEAE

*Cirsium canovirens* Rydb.\*

NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 3 Jun 1987 (adult assoc.) (NSM, GTA #1418)

*Cirsium subniveum* Rydb.\*

NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. E of Pequop Summit, 6 Jul 1980 (ovip. on lower surface of leaf, 3 ova when disturbed) (NSM, GTA, cf GTA #1645)

***Phyciodes mylitta mylitta* (W. H. Edwards, 1861)**

ASTERACEAE

*Cirsium* sp.

NV: Douglas Co.; Carson Range, Kingsbury Village, 27 Aug 1963 (larvae) (*fide* D. Bauer)

*Cirsium andersonii* (A.Gray) Jeps.

NV: Washoe Co.; Carson Range, Verdi, Crystal Peak Park, 3 Sep 1981 (adult assoc.) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (adult assoc.)

(NSM, GTA #1918)

*Cirsium arvense* (L.) Scop. (i)

NV: Elko Co.; East Humboldt Range, Angel Creek



Figure 31. *Chrysothamnus viscidiflorus*.

- Campground, 16 Aug 1981 (adult assoc.)  
(NSMCC, GTA)
- Cirsium neomexicanum* A.Gray\*  
NV: Nye Co.; Big Smoky Valley, Carvers, 12 Sep  
1983 (adult assoc.) (no plant coll., GTA)
- Cirsium occidentale* (Nutt.) Jeps. var. *candidissimum* (Greene)  
J.F.Macbr. [*Cirsium pastoris* J. Howell]  
NV: Douglas Co.; Carson Range, Kingsbury Grade,  
1.2 mi. W of Nv 206, 30 Aug 1981 (adult assoc.)  
(NSMCC, GTA)
- NV: Washoe Co.; Carson Range, Davis Creek Park,  
26 Aug 1983 (ovip. on lower surface of lower leaf,  
plant on dry hillside, 09:10 PST) (NSM, GTA  
#605)
- Cirsium scariosum* Nutt. [*Cirsium drummondii* Torr. & A.Gray;  
*Cirsium tioganum* Congdon]\* (Fig. 33)  
NV: Lander Co.; Reese River Valley, Nv 722 at  
Reese River, 8 Jul 1984 (ovip. on lower surface of  
leaf near ground, 14:20 PST) (NSM, GTA #1061)
- NV: Lander Co.; Reese River Valley, Nv 722, 4 mi.  
E of Reese River, 8 Jul 1984 (ovip. on lower leaf  
surface, 13:15 PST) (NSM, GTA #1059)
- NV: Lander Co.; Reese River Valley, US 50, 2.5 mi.  
E of Reese River, 26 Aug 1984 (adult assoc.) (no  
plant coll., GTA)
- Cirsium vulgare* (Savi) Ten. (i)  
NV: Douglas Co.; Carson Range, Lower Daggett  
Creek, 6 Aug 1981 (adult assoc.) (NSMCC, GTA)
- NV: Douglas Co.; Carson Valley, Scossa Ranch, 6  
Aug 1981 (adult assoc.) (NSMCC, GTA)
- NV: Douglas Co.; Carson Valley, Genoa, 3 Jul 1982  
(adult assoc.) (no plant coll., GTA)
- NV: Douglas Co.; Carson Valley, Scossa Ranch, 26  
Aug 1983 (adult assoc., female fluttering around  
several plants, 11:55-12:05, no ovip. noted) (NSM,  
GTA #620)
- NV: Elko Co.; Owyhee River Valley, Wildhorse  
Crossing Campground, 11 Jun 1981 (adult assoc.)  
(NSM, GTA)
- NV: Elko Co.; Ruby Mts., Powerhouse Picnic Area,  
14 Jul 1986 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Pleasant Valley, Nv 227, 3.9 mi. W of  
Lamoille Canyon Rd., 15 Jul 1986 (adult assoc.)  
(no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
15 Aug 1978 (adult assoc.) (UNLV, GTA)
- NV: Lyon Co.; Mason Valley, Miller Lane, 3.5 mi. E  
of US 95, 21 Aug 1989 (adult assoc.) (no plant  
coll., GTA)
- NV: Pershing Co.; Humboldt Range, Star Creek  
Canyon, 5-6.5 mi. W of Nv 400, 11 Jul 1981 (adult  
assoc.) (NSMCC, GTA)
- NV: Washoe Co.; Truckee River, just E of  
Boomtown, 3 Sep 1981 (adult assoc.) (NSMCC,  
GTA)
- NV: Washoe Co.; Red Rock Rd., 0.9 mi. S of  
Chuckwagon Rd., 27 Jul 1987 (adult assoc.) (no  
plant coll., GTA)
- NV: Washoe Co.; Red Rock area, Rancho Rd., 1 Jul

1993 (adult assoc.) (no plant coll., GTA)

***Euphydryas anicia alena* Barnes & Benjamin, 1926**

OROBANCHACEAE

*Castilleja parvula* Rydb.\*

UT: Iron Co.; Ut 143, 0.4 mi. E of jct. Ut 148 at E  
boundary of Cedar Breaks National Monument, 16  
Jul 1991 (adult assoc.) (NSM, GTA #1523)

***Euphydryas anicia hermosa* (W. G. Wright, 1905)**

OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) G.Don var. *dubia* A.Nelson  
[*Castilleja chromosa* A.Nelson] (Plate 11A)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 5 Apr  
1988 (ovip. on stem and adjacent leaf, 11:40 PST)  
(NSM, GTA)

***Euphydryas anicia macyi* Fender & Jewett, 1953**

OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) G.Don var. *dubia* A.Nelson  
[*Castilleja chromosa* A.Nelson] (Plate 11A)

NV: Humboldt Co.; Scrapper Spring Rd., 6.5 mi. N of  
Scrapper Spring, 23 May 2003 (adult assoc.) (no  
plant coll., GTA)

NV: Humboldt Co.; Kelly Creek Rd., 16.5 mi. N of  
Nv 789 (4.2 mi. N of Kelly Creek Ranch), 24 May  
2003 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Little Humboldt River Rd., 1.2  
mi. W of Little Humboldt Ranch, 24 May 2003  
(adult assoc.) (NSM, GTA #1810)

NV: Humboldt Co.; 1.6 mi. E of Little Humboldt  
Ranch, 24 May 2003 (adult assoc.) (no plant coll.,  
GTA)

NV: Humboldt Co.; Greeley Crossing Rd., 13.8 mi. S  
of Greeley Crossing, 24 May 2003 (adult assoc.)  
(no plant coll., GTA)

NV: Humboldt Co.; Greeley Crossing Rd., 2.0 mi. N  
of Greeley Crossing, 24 May 2003 (adult assoc.)  
(no plant coll., GTA)

NV: Humboldt Co.; Greeley Crossing Rd., 6.2 mi. N  
of Little Humboldt River Rd., 24 May 2003 (adult  
assoc.) (NSM, GTA #1811)

*Castilleja flava* S.Watson\*

NV: Humboldt Co.; Greeley Crossing Rd., 2.3 mi. S  
of Greeley Crossing, 24 May 2003 (ovip. on outer  
stems and leaves near ground, 12:50 PST) (NSM,  
GTA #1812)

***Euphydryas anicia veazieae* Fender & Jewett, 1953**

OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) G.Don var. *dubia* A.Nelson  
[*Castilleja chromosa* A.Nelson] (Plate 11A)

NV: Humboldt Co.; Nv 140, 21.5 mi. W of Denio  
Junction, 31 May 1984 (ovip. on lower surface of  
lower leaves, 10:15 PST; clusters of ova also  
present in same situation on other plants;  
population is intermediate in phenotype towards *E.*  
*anicia macyi*) (NSM, GTA #949)

NV: Humboldt Co.; Nv 8A, Sheldon Antelope

Range, Gooch Spring, 1 Jun 1984 (ovip. on lower surface of lower leaf, 07:30 PST; population is intermediate in phenotype towards *E. anicia macyi*) (NSM, GTA #952)

NV: Washoe Co.; Nv 8A, 26.2 mi. E of Nv 34, 30 May 1984 (ova on lower surface of lower leaf; population is intermediate in phenotype towards *E. anicia macyi*) (NSM, GTA #936)

NV: Washoe Co.; Granite Mts., Nv 34, 4.3 mi. S of Leadville Rd., 30 May 1984 (adult assoc.) (NSM, GTA #929)

NV: Washoe Co.; S end of Granite Mts., Nv. 447, 4.2 mi. NW of rd. summit, 5 May 2003 (adult assoc.) (NSM, GTA #1790)

NV: Washoe Co.; rd. to Jones Flat, 0.6 mi. S of Nv 447, 19 May 2003 (adult assoc.) (no plant coll., GTA)

#### PLANTAGINACEAE

##### *Collinsia parviflora* Lindl.\*

NV: Washoe Co.; Buckhorn Rd. (between Nv 447 and Ravendale), 11.4 mi. E of CA state line, 20 May 2003 (preoviposition, 14:00 PST; also soft-winged female perched on *Artemisia* within large patch of plant) (NSM, GTA #1797)

##### *Penstemon speciosus* Lindl.

NV: Washoe Co.; Granite Mts., Nv 34, 4.3 mi. S of Leadville Rd., 30 May 1984 (ovip. on lower leaf surface) (NSM, GTA #930)

#### *Euphydryas anicia morandi* Gunder, 1928

#### OROBANCHACEAE

*Castilleja applegatei* Fern. ssp. *martinii* (Abrams) Chuang & Heckard [*Castilleja martinii* Abrams var. *clokeyi* (Pennell) N.H.Holmgren] (Plate 11B)

NV: Clark Co.; Spring Mts. (ovip.) (Austin and Murphy 1998b)

NV: Clark Co.; Spring Mts., ridge above Kyle Canyon, 11000', 8 Jul 1981 (ovip. on lower surface of lower leaf, 12:30 PST) (NSMCC, GTA)

NV: Clark Co.; Spring Mts., above Lee Canyon ski area, 18 Jul 2001 (ovip.) (NSM, BB).

NV: Clark Co.; Spring Mts., North Loop trail to Charleston Peak, 10535', 29 Jun 2002 (adult assoc.) (NSM, BB #32)

##### *Castilleja linariifolia* Benth.

NV: Clark Co.; Spring Mts., Griffith Peak trail, 30 May 2001 (larvae, one reared to adult, pupated 3 Jun, em. 10 Jun 2001) (NSM, BB)

NV: Clark Co.; Spring Mts., Griffith Peak trail, 22 May 2002 (larvae defoliating plants) (NSM, BB)

NV: Clark Co.; Spring Mts., Wallace Canyon, 7 Jun 2002 (100s of larvae feeding on leaves) (NSM, BB #7)

NV: Clark Co.; Spring Mts., Wallace Canyon, 18 Jun 2002 (a few larvae feeding on leaves) (no plant coll., BB, cf BB #7)

NV: Clark Co.; Spring Mts., Wallace Canyon, 27 Jun 2002 (ovip. 5×, 11:30-12:30 PST) (NSM, BB #16)

NV: Clark Co.; Spring Mts., Wallace Canyon, 27 Jun



Figure 32. *Aster ascendens*.

2002 (larvae feeding on leaves) (NSM, BB #16)

PLANTAGINACEAE

*Penstemon eatonii* A.Gray

NV: Clark Co.; Spring Mts., Griffith Peak trail, 2 Jun

2002 (larvae reared to adult) (NSM, BB #4)

NV: Clark Co.; Spring Mts., Griffith Peak trail, 29 Jun 2003 (larvae) (NSM, BB #154)

*Penstemon leiophyllus* Pennell var. *keckii* (Clokey)

N.H.Holmgren (Plate 11C)

NV: Clark Co.; Spring Mts. (ovip.) (Austin and Murphy 1998b)

NV: Clark Co.; Spring Mts., ridge above Kyle Canyon, 11000', 8 Jul 1981 (cluster of ova on lower surface of leaf) (NSMCC, GTA)

NV: Clark Co.; Spring Mts., above Lee Canyon ski area, 18 Jul 2001 (ovip.) (NSM, BB)

*Penstemon rostriflorus* Kellogg\*

NV: Clark Co.; Spring Mts., Griffith Peak trail, 29 Jun 2003 (larvae) (NSM, BB #157)

***Euphydryas anicia wheeleri* (Hy. Edwards, 1881)**

BORAGINACEAE

*Mertensia ciliata* (Torr.) G.Don var. *stomatechoides* (Kellogg)

Jeps.

NV: [county not specified]; Toiyabe Range (ovip., "young larvae were fed on this plant but were not brought to maturity") (Comstock 1936, reporting data from Burdick)

OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) G.Don. var. *dubia* A.Nelson

[*Castilleja chromosa* A.Nelson] (Plate 11A)

NV: no locations given (ovip.) (Murphy and Ehrlich 1983)

NV: no locations given (assoc.) (Austin *et al.* 2003)

NV: Churchill Co.; Clan Alpine Mts., rd. to Mt. Grant, 14 May 1981 (adult assoc.) (no plant coll., GTA)

NV: Churchill Co.; Desatoya Mts., vicinity of Buffalo Pass, 11 May 1990 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Sweetwater Mts., Desert Creek Rd., 0.4 mi. S of Risue Canyon Rd., 3 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Pequop Mts. (ovip.) (Brussard *et al.* 1989)

NV: Elko Co.; Goshute Mts., US 93A, 5.8 mi. N of White Horse Pass, 18 May 1990 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Toana Range, Lost Hope Mine area, 11 Jun 1990 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; rd. to Cedar Ridge, 7-9 mi. W of Jiggs, 19 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Pequop Mts., S end, summit nr. Hogan, 20 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Toana Range, Silver Zone Basin, 20 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Snake Mts., Tabor Creek, 20 Jun 1991

(adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Wood Hills, west and south from Moor exit on I-80, 25 May 1993 (adult assoc.) (no plant coll., GTA)

NV: Esmeralda Co.; White Mts., Trail Canyon, 17 Jun 1983 (adult assoc., egg cluster on lower surface of lower leaf and adjacent stem) (NSM, GTA #418)

NV: Eureka Co.; Monitor Range, Allison Creek Rd., 2.4 mi. W of Nv 81, 31 May 1981 (adult assoc.) (NSMCC, GTA)

NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, ca. 6 mi. S of Demale Ranch, 22 Jun 1981 (ovip. on leaves and stem near base of plant) (NSMCC, GTA)

NV: Lander Co.; Desatoya Mts., Nv 722, 5.1 mi. E of Carroll Summit, 3 Jun 1984 (cluster of ova on lower surface of lower leaf) (NSM, GTA #966)

NV: Lander Co.; Desatoya Mts., Nv 722, 5.4 mi. E of Carroll Summit, 16 May 1990 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Boone Canyon, north side of Mt. Callaghan, 18 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Shoshone Mts., Ravenswood, 4.5-6.5 mi. W of Nv 305, 18 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Bristol Mts., US 93, 12.5 mi. N of Pioche, 29 May 1983 (several masses of ova on lower surface of leaves) (NSM, GTA #300) [none on associated *Penstemon confusus* M.E.Jones (NSM, GTA #299), but see below]

NV: Lincoln Co.; US 93, 0.8 mi. S of Pioche, 30 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Ranch, 30 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Bristol Mts., Bristol Mine area, 31 May 1983 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Sweetwater Mts., Nv 338, 1.0 mi. NE of CA state line, 30 Apr 1986 (ovip. clusters on lower surface of lower leaves, 09:10, 10:15) (NSM, GTA #1244)

NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 9-10 mi. E of Mina Rd., 19 Jun 1983 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Hot Creek Range, Keystone Canyon, 29 May 1983 (ova on lower side of leaf) (NSM, GTA #291)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 13 May 1986 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toquima Range, Meadow Canyon, 28 May 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Shoshone Mts., 4 mi. E of Ione, 17 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Shoshone Mts., Becker Creek, 4-5 mi. W of Reese River Rd., 17 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Paradise Range, Green Springs



Summit, 17 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Gap Mountain, Nv 318, 11.4 mi. N of Lincoln Co. line, 30 May 2003 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Stonehouse Spring Rd., 1.5 mi. W of summit (3.4 mi. W of Nightingale junction), 21 May 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Snake Range, Lehman Creek, opposite campground, 11 May 1984 (adult assoc. on dry hillside) (NSM, GTA #823)

NV: White Pine Co.; Ruby Mts., Walker Canyon, 19 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; southern Ruby Mts., rd. towards Mooney Basin, 3.0 mi. W of Long Valley Rd. (towards Ruby Lake), 30 May 2003 (adult assoc.) (no plant coll., GTA)

*Castilleja applegatei* Fern. ssp. *pallida* (Eastw.) Chuang & Heckard [*Castilleja applegatei* Fern. var. *breweri* Fern.]

NV: Lyon Co.; Sweetwater Mts., Silverado Canyon Rd. at Calif. line, 23 May 1984 (ova on lower surface of leaf) (NSM, GTA #868)

*Castilleja linariifolia* Benth.

NV: no locations given (ovip.) (Murphy and Ehrlich 1983)

NV: no locations given (assoc.) (Austin *et al.* 2003)

NV: Elko Co.; Ruby Mts., Lamoille Canyon, Powerhouse Campground, 6 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Elko Co.; Pequop Mts., 2 mi. E of Pequop

Summit, 11 Jun 1990 (ova) (Austin *et al.* 2003)

NV: Lyon Co.; Sweetwater Mts., Silverado Canyon Rd. at Calif. line, 28 Jun 1980 (larvae on flower heads) (NSMCC, GTA)

*Pedicularis centranthera* A.Gray

NV: no locations given (assoc.) (Austin *et al.* 2003)

NV: White Pine Co.; Snake Range, Lehman Caves area (ovip.) (Murphy and Ehrlich 1983)

PLANTAGINACEAE

*Penstemon confusus* M.E.Jones\*

NV: Lincoln Co.; Bristol Mts., Bristol Mine Rd., 3.3 mi. W of US 93, 31 May 1983 (larvae on leaves) (NSM, GTA #320)

NV: Lincoln Co.; Nv 322, 9.6 mi. E of US 93, 31 May 1983 (adult assoc.) (NSM, GTA #320)

*Penstemon immanifestus* N.H.Holmgren\*

NV: Elko Co.; Butte Valley, Butte Valley Rd. to DM Ranch, 5.8 mi. SW of US 93, then 1.6 mi. W, 14 Jun 2002 (egg clusters on two plants on lower surface of lower leaves; sand dune on dry lake bed) (NSM, GTA #1722)

*Penstemon speciosus* Lindl.

NV: no locations given (assoc.) (Austin *et al.* 2003)

NV: Churchill Co.; War Canyon Rd., 1.2 mi. N of Clan Alpine Ranch, 17 May 1980 (cluster of ova on lower surface of lower leaf, 2 plants) (NSMCC, GTA)

NV: Elko Co.; Pequop Mts., 2 mi. E of Pequop

Summit, 11 Jun 1990 (ova) (Austin *et al.* 2003)

NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, ca. 6 mi. S of Demale Ranch, 22 Jun 1981 (ovip.

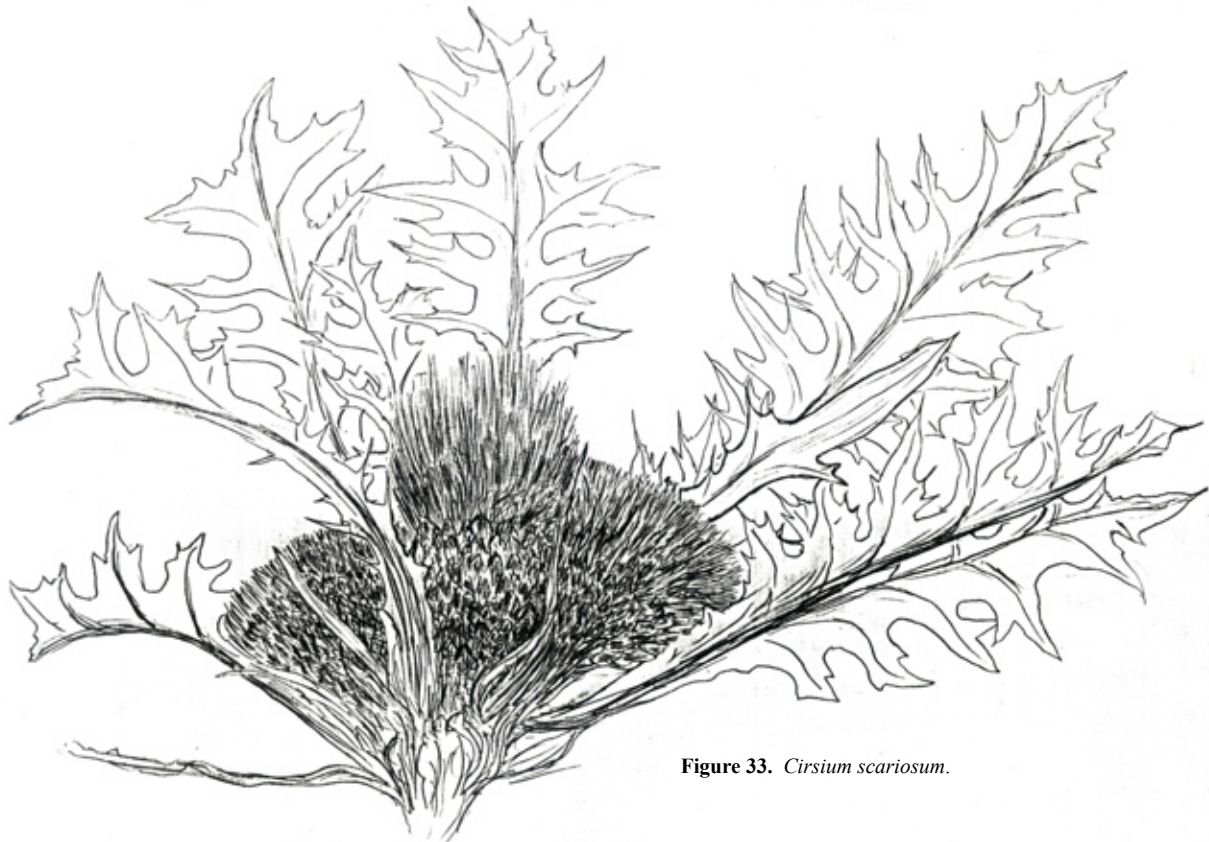


Figure 33. *Cirsium scariosum*.



on lower surface of lower leaf and adjacent stem)  
(NSMCC, GTA)

NV: Esmeralda Co.; White Mts. (ovip.) (Murphy and Ehrlich 1983)

NV: Esmeralda Co.; White Mts, Trail Canyon, 17 Jun 1983 (adult assoc.) (NSM, GTA #414)

NV: Humboldt Co.; Sonoma Range, canyon S of Thomas Canyon, 4 Jun 1982 (cluster of ova on lower surface of leaf) (NSMCC, GTA)

NV: Pershing Co.; Humboldt Mts., Limerick Canyon, 22 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 22 May 1980 (adult assoc.) (NSMCC, GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-7 mi. W of Nv 400, 25 Jun 1983 (adult assoc.) (NSM, GTA #449)

***Euphydryas chalcedona kingstonensis* T. & J. Emmel, 1973**

PLANTAGINACEAE

*Keckiella antirrhinoides* (Benth.) Straw var. *microphylla* (A.Gray) N.H.Holmgren (Fig. 34)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 11 Feb-12 Mar 1971 (26 larvae) (*fide* D. Bauer)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 12 Apr 1978 (last instar larvae feeding on leaves) (Austin and Austin 1980)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 20 Sep 1978 (early instar larvae in web) (UNLV, GTA)

NV: Clark Co.; Newberry Mts., 1.5 mi. W of Christmas Tree Pass, 18 May 1983 (adult assoc.) (NSM, GTA #163)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 27 Mar 1987 (larvae reared to adult, em. 16-23 Apr 1987) (*fide* P. Savage)

NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 27 Mar 1987 (mature larvae feeding on leaves) (NSM, GTA #1390)

NV: Clark Co.; Newberry Mts., 2 mi. E of Christmas Tree Pass. 22 Feb 1989 (larvae reared to adult, em. 14-20 Mar 1989) (*fide* P. Savage)

NV: Clark Co.; Newberry Mts., 1.9 mi. W of Christmas Tree Pass, 1 May 2001 (adult assoc.) (no plant coll., GTA)

***Euphydryas chalcedona macglashanii* (Rivers, 1888)**

OROBANCHACEAE

*Castilleja applegatei* Fern.

NV: Douglas Co.; Carson Range, Daggett Creek (ova) (*fide* D. Murphy)

*Castilleja applegatei* Fern. ssp. *pallida* (Eastw.) Chuang & Heckard [*Castilleja applegatei* Fern. var. *breweri* Fern.]

NV: Douglas Co.; Carson Range, Genoa Canyon, 27 May 1984 (cluster of ova on lower surface of leaf, also mature larva) (NSM, GTA #906)

*Castilleja linariifolia* Benth.

NV: Douglas Co.; Pine Nut Mts., Sunrise Pass, 22

Jun 1980 (ova on lower surface of leaf) (NSMCC, GTA & D. Murphy)

*Castilleja tenuis* (A.Heller) Chuang & Heckard [*Orthocarpus hispidus* Benth.]

NV: Douglas Co.; Pine Nut Mts., Brunswick Canyon-Sunrise Pass Rd. 11 mi. S of US 50, 5 Jun 1978 (ovip.) (Masters 1979, reported as *Orthocarpus* sp.)

NV: Douglas Co.; Pine Nut Mts., Sunrise Pass, 22 Jun 1980 (ova on lower surface of leaf) (NSMCC, GTA & D. Murphy)

PLANTAGINACEAE

*Penstemon* sp.

NV: Douglas Co.; Carson Range, Daggett Creek, 4800', 20 Mar 1968 (larvae) (*fide* D. Bauer)

*Penstemon newberryi* A.Gray var. *newberryi*

NV: Washoe Co.; behind Davis Creek Park, 22 May 1981 (ovip. on lower surface of leaf, cluster of 11 eggs when disturbed) (NSMCC, GTA)

*Penstemon speciosus* Lindl.\*

NV: Douglas Co.; Pine Nut Mts., Sunrise Pass, 22 Jun 1980 (ova on lower surface of leaf) (NSMCC, GTA & D. Murphy)

NV: Washoe Co.; Peavine Peak Rd., 5.5 mi. W of US 395, 3 Jul 1981 (adult assoc.) (NSMCC, GTA)

***Euphydryas colon nevadensis* Bauer, 1975**

CAPRIFOLIACEAE

*Symphoricarpos* sp.

NV: Elko Co.; Pequop Mts. (ovip.) (Brussard *et al.* 1989)

NV: Elko Co.; Independence Mts., Maggie Creek, Nv 11A, 0.5 mi. E of Maggie Summit, 11 Jul 2000 (adult assoc.) (no plant coll., GTA)

*Symphoricarpos rotundifolius* A.Gray [often reported as *Symphoricarpos oreophilus* A.Gray] (Plate 11D, Fig. 35)

NV: Elko Co. (hostplant) (Bauer 1975)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 3 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Jack Creek, 2.3 mi. W of Jack Creek Campground, 24 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 24 Jun 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Winecup Ranch-Thurston Spring Rd., 5.5 mi. N of Fenelon junction, 12 Jun 1990 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Delano Mine area, 7 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Pequop Mts., 2 mi. E of Pequop Summit, 17 Jul 1990 (ova) (Austin *et al.* 2003)

NV: Elko Co.; Snake Mts., Tabor Creek, 20 Jun 1991 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., 1.0 mi. E of North Fork Summit, 12 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Jarbidge Mts., Charleston-Jarbidge

Rd., 4.2 mi. N of Charleston, 14 Jun 2003 (adult assoc.) (NSM, GTA #1856)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 15 Jun 2003 (adult assoc.) (NSM, GTA #1862)

NV: Elko Co.; Independence Mts., Maggie Summit Rd. (Nv 11A), 10.1 mi. W of Nv 225, 17 Jun 2003 (adult assoc., many egg clusters) (NSM, GTA #1875)

***Euphydryas colon wallacensis* Gunder, 1928**

CAPRIFOLIACEAE

*Symphoricarpos mollis* Nutt.

NV: Washoe Co.; Sheldon NWR, Nv 34A, 6.0 mi. W of Nv 8A, 7 Jun 1990 (adult assoc.) (no plant coll., GTA, cf GTA #1773)

*Symphoricarpos rotundifolius* A.Gray var. *parishii* (Rydb.) Dempster (Plate 11D, Fig. 35)

NV: Humboldt Co.; Sheldon NWR, Nv 8A, Gooch Spring, 7 Jun 1990 (adult assoc.) (no plant coll., GTA, cf GTA #1774)

***Euphydryas editha tahoensis* Austin & Murphy, 1998**

OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) G.Don var. *dubia* A.Nelson [*Castilleja chromosa* A.Nelson] (Plate 11A)

NV: Washoe Co.; Carson Range, Tahoe Meadows, 30 Jun 1987 (ovip. cluster on lower surface of leaf and adjacent stem, lower leaf, 09:40 PST) (NSM, GTA #1450)

*Castilleja nana* Eastw.

NV: Washoe Co.; Carson Range, Tahoe Meadows (larvae) (White and Singer 1974)

NV: Washoe Co.; Carson Range, trail to Mt. Rose, 31 Jul 2003 (adult assoc.) (no plant coll., Bret Boyd)

***Euphydryas editha owyheensis* Austin & Murphy, 1998**

OROBANCHACEAE

*Castilleja applegatei* Fern. var. *pinetorum* (Fern.) Chuang & Heckard

NV: Elko Co.; Independence Mts., Nv 11A, 6.6 mi. E of Nv 226, 9 Jun 1990 (ovip. egg mass on lower surface of lower leaves, 08:10 PST) (NSM, GTA #1515)

*Castilleja flava* S.Watson

NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill Summit-Merritt Creek, 1.9 mi. N of Sunflower Reservoir Rd., 16 Jun 2003 (ovip. lower surf of lower leaves, 08:30 PST) (NSM, GTA #1866)

*Castilleja linariifolia* Benth.

NV: Elko Co.; Owyhee River Valley, Wildhorse Creek Campground, 19 Jun 1986 (ovip. cluster on lower surface of lower leaf, 10:10 PST) (NSM, GTA #1310)

*Castilleja tenuis* (A.Heller) Chuang & Heckard [*Orthocarpus hispidus* Benth.]\*

NV: Elko Co.; Independence Valley, Nv 226, 6.4 mi. S Jack Creek Rd., 23 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Elko Co.; Jarbidge Mts., rd. to Gold Creek Guard Station past Sunflower Reservoir, 2.4 mi. W of Big Bend Rd., 16 Jun 2003 (adult assoc.) (NSM, GTA #1871)

***Euphydryas editha lehmani* Gunder, 1929**

OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) D. Don var. *dubia* A.Nelson [*Castilleja chromosa* A.Nelson] (Plate 11A)

NV: no locations given (ovip.) (Ehrlich and Murphy 1981, Murphy and Ehrlich 1983)

NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, 18 Jun 1978 (adult assoc.) (UNLV, GTA)

NV: Eureka Co.; Monitor Range, Allison Creek, 4.7 mi. W of Nv 82, 20 Jun 1981 (ova on lower leaf surface) (NSMCC, GTA)

NV: Lander Co.; Toquima Range, Petes Summit Rd., 0.8 mi. E of Petes Summit, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Toquima Range, Corral Canyon, 7.2 mi. SW of Monitor Ranch, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Nye Co.; Monitor Range, Dobbin Creek, 13.3 mi. SE of Potts, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: White Pine Co.; White Pine Mts., Ellison-Hamilton Rd., 3.4 mi. N of Tom Plain Spring, 19 Jun 1980 (adult assoc.) (NSMCC, GTA)

NV: White Pine Co.; Schell Creek Range, Indian Creek, 2 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; W side of Butte Mts., Queue Valley, 6.1 mi. N of Thirtymile Ranch, 29 May 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Butte Mts., rd. to Long Valley, 2.0 mi. W of Thirtymile Ranch, 29 May 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Long Valley Rd. (to Ruby Lake), 9.3 mi. N of US 50, 29 May 2003 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Thirtymile Rd., 0.2 mi. N of US 50, 29 May 2003 (adult assoc.) (NSM, GTA #1827)

NV: White Pine Co.; W side of Butte Mts., Queue Valley, 0.9 mi. N of Thirtymile Ranch, 29 May 2003 (adult assoc.) (NSM, GTA #1828)

NV: White Pine Co.; southern Ruby Mts., rd. towards Little Bald Mountain, 1.9 mi. W of Long Valley Rd. (to Ruby Lake), 30 May 2003 (adult assoc.) (no plant coll., GTA)

*Castilleja angustifolia* (Nutt.) G.Don var. *flavescens* (Pennell) N.H.Holmgren

NV: White Pine Co.; Schell Creek Range, Timber Creek Rd. at Duck Creek Rd., 30 May 2002 (cluster of ova on lower surface of lower leaf) (NSM, GTA #1705)

*Castilleja linariifolia* Benth.

NV: Elko Co.; Pequop Mts. (ovip.) (Murphy and Ehrlich 1983)

NV: White Pine Co.; Egan Range, Ward Mt. Ski Area, 17 Jun 1980 (ovip. on lower surface of lower leaf and adjacent stem) (NSMCC, GTA)

NV: White Pine Co.; Egan Range, Ward Mt. (egg mass) (Austin and Murphy 1998a)

*Pedicularis centranthera* A.Gray

NV: several ranges (ovip.) (Murphy and Ehrlich 1983)

NV: White Pine Co.; Snake Range, Lehman Caves (hostplant) (Singer 1971)

NV: White Pine Co.; Schell Creek Range, Conners Pass (egg mass) (Austin and Murphy 1998a)

PLANTAGINACEAE

*Penstemon* sp.

NV: White Pine Co.; Snake Range, Baker Creek (egg mass) (Austin and Murphy 1998a)

*Penstemon dolius* M.E.Jones var. *dolius*\*

NV: White Pine Co.; Kern Mts., Pleasant Valley Rd., 1.4 mi. W of UT state line, 28 May 2003 (adult assoc.) (NSM, GTA #1825)

*Penstemon humulis* A.Gray\*

NV: Eureka Co.; Roberts Mts., Pete Hansen Creek, ca. 6 mi. S of Demale Ranch, 22 Jun 1991 (adult assoc.) (NSM, GTA)

***Euphydryas editha monoensis* Gunder, 1928**

OROBANCHACEAE

*Castilleja applegatei* Fern.

NV: Douglas Co.; Clear Creek Canyon, "Schneider's Meadow" (ovip., least preferred) (Singer *et al.* 1994)

PLANTAGINACEAE

*Collinsia parviflora* Lindl.

NV: Douglas Co.; Clear Creek Canyon, "Snyder Meadow" (ovip. and larvae) (White and Singer 1974, Singer *et al.* 1988; preferred by most, Singer 1984; becoming less favored, Singer *et al.* 1993, 1994)

NV: Douglas Co.; Clear Creek Canyon, "Snyder Meadow" (hostplant) (Thomas *et al.* 1987)

*Penstemon rydbergii* Nelson (originally identified as *Penstemon heterodoxus* A.Gray)

NV: Douglas Co.; Clear Creek Canyon (ovip. by a few, Singer 1984, Singer *et al.* 1988, 1994)

NV: Douglas Co.; Clear Creek Canyon, "Snyder Meadow" (hostplant) (Thomas *et al.* 1987, Singer *et al.* 1993)

*Plantago lanceolata* L. (i)

NV: Douglas Co.; Clear Creek Canyon, "Schneider's Meadow" (ovip. and larvae) (Singer 1971, White and Singer 1974; preferred by some, Singer 1984; becoming favored, Singer *et al.* 1993, 1994)

NV: Douglas Co.; Clear Creek Canyon, "Schneider's Meadow" (hostplant) (Thomas *et al.* 1987, Singer *et al.* 1988, 1989)

NV: Douglas Co.; Clear Creek Canyon, 4.7 mi. W of US 395, 22 May 1984 (ovip. on lower leaf surface, 09:30 PST) (NSM, GTA #850)

***Euphydryas editha koreti* Murphy & Ehrlich, 1983**

OROBANCHACEAE

*Castilleja nana* Eastw. [*Castilleja lapidicola* A.Heller]

NV: White Pine Co. (ovip.) (Murphy and Ehrlich 1983; see also Britten *et al.* 1995)

NV: White Pine Co.; Snake Range, trail from Wheeler Peak Campground to ridge between Bald Mt. and Mt. Wheeler, 9800-11800' 1 Aug 1967 (hostplant) (*fide* J. F. Emmel)

NV: White Pine Co.; Snake Range, Bald Mt. and ridge to S, 11000-11562', 30 Jul 1969 (ovip. mass of 20 ova on lower surface of leaf and stem, 09:50-09:55 PST) (*fide* J. F. Emmel)

NV: White Pine Co.; Snake Range, ridge above Stella Lake, 30 Jul 1979 (adult assoc.) (UNLV, GTA)

NV: White Pine Co.; Snake Range, Bald Mt. and ridge to south, 27 Jul 1988 (adult assoc.) (no plant coll., GTA)

***Euphydryas editha mattooni* Austin & Murphy, 1998**

OROBANCHACEAE

*Castilleja angustifolia* (Nutt.) G.Don var. *dubia* A.Nelson [*Castilleja chromosa* A.Nelson] (Plate 11A)

NV: Humboldt Co.; Sheldon Antelope Range, Nv 8A, 4.9 mi. W of Nv 140, 13 Jun 1989 (ovip. egg masses on lower surface of lower leaf, 12:05, 14:00 PST) (NSM, GTA #1506)

NV: Humboldt Co.; Sheldon Antelope Range, Gooch Spring Campground, 7 Jun 1990 (adult assoc.) (no plant coll., GTA, *cf* GTA #952)

NV: Washoe Co.; Granite Mts., Hays Canyon Rd., 14-15 mi. W of Nv 34, 2 Jul 1981 (several egg clusters on lower surface of leaves and adjacent stems) (NSMCC, GTA)

*Castilleja cusickii* Greenm.\*

NV: Humboldt Co.; Sheldon Antelope Range, Nv 8A, 3.0 mi. SW of Nv 34A, 14 Jun 1989 (ovip. cluster on lower surface of lower leaf, 13:10 PST) (NSM, GTA #1509)

*Castilleja pilosa* (S.Watson) Rydb.

NV: Humboldt Co.; Sheldon Antelope Range, Nv 8A, 4.9 mi. W of Nv 140, 13 Jun 1989 (ovip. egg mass on lower surface of lower leaf, 10:50 PST) (NSM, GTA #1505)

PLANTAGINACEAE

*Penstemon humulis* A.Gray\*

NV: Washoe Co.; Granite Mts., Hays Canyon Rd., 14-15 mi. W of Nv 34, 2 Jul 1981 (ovip. on leaves and egg clusters on lower surface of leaves) (NSMCC, GTA)

***Polygonia satyrus satyrus* (W. H. Edwards, 1869)**

URTICACEAE

*Urtica dioica* L. ssp. *holosericea* (Nutt.) Thorne (Plate 3A)

NV: Churchill Co.; Desatoya Mts., Nv 722, 3.3 mi. W of Carroll Summit, 16 May 1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Cold Creek, 1 Jul 1977 (and several subsequent dates) (adult assoc.) (no



Figure 34. *Keckiella antirrhinoides*.

- plant coll., GTA)  
 NV: Clark Co.; Spring Mts., Willow Creek, 27 Jun 1984 (and many subsequent dates) (adult assoc.) (no plant coll., GTA)  
 NV: Douglas Co.; Carson Valley, Genoa, 5 Jul 1982 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Little Salmon River Valley, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Jarbidge Mts., Big Bend Rd. to Jarbidge, 6.7 mi. E of Sunflower Rd., 26 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Quinn River Valley, US 95, 2.0 mi. S of McDermitt, 22 Jul 1984 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Sonoma Range, Water Canyon, 10 Jul 1992 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon Campground, 8 Jul 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 8 Jul 2000 (ovip. on lower surface of leaf, 11:20

PST) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (ovip. on middle of lower surface of lower leaf in shade, stack of 3 ova, 13:25 PST) (NSM, GTA #1618)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (ovip. on middle of lower surface of lower leaf in shade, stack of 3 ova, 13:45 PST) (NSM, GTA #1618)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (ovip. on middle of lower surface of lower leaves in shade, one single ovum, one stack of 3 ova, 13:50 PST) (NSM, GTA #1618)

NV: Lincoln Co.; Meadow Valley Wash, Caliente, 22 Jul 1979 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; US 6, 2.1 mi. E of Currant, 10 Sep 1983 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Humboldt Range, Star Creek Canyon, 5-6 mi. W of Nv 400, 30 Jul 1988 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, East Creek Campground, 9 Jul 2000 (adult assoc.) (no plant coll., GTA)

***Polygonia gracilis zephyrus* (W. H. Edwards, 1870)**

GROSSULARIACEAE

*Ribes cereum* Douglas (Plate 6D)

NV: Clark Co.; Spring Mts., Charleston Park, 8300', 31 Aug 1967 (larva on stem, reared to adult) (Shields *et al.* 1969)

NV: Clark Co.; Spring Mts., ridge above Kyle Canyon, 11,200', 19 Jul 1978 (ovip. 2× on main stem at base of branch, 12:00 PST, plant adjacent to snowbank with leaves unopened) (Austin and Austin 1980)

NV: Clark Co.; Spring Mts., Kyle Canyon ski run, 24 Jun 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Deer Creek Rd., 2.8 mi. N of Kyle Canyon, 24 Jun 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 24 Jun 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., ridge above Kyle Canyon, 11,000', 15 Jul 1979 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Cold Creek, 14 Apr 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts. Kyle Canyon ski run, 24 Jul 1988 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 2 Jul 1980 (adult assoc., apparently not associated with the more abundant *Ribes aureum* Pursh, see also below) (NSMCC, GTA, cf also GTA #1632)

NV: Lander Co.; Desatoya Mts., Nv 722, 2.2 mi. E of Churchill Co. line, 10 Jul 1980 (adult assoc.) (NSMCC, GTA)

*Ribes inerme* Rydb.

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 2 Jul 1980 (adult assoc., apparently not associated with the more abundant *Ribes aureum* Pursh, see also above) (NSMCC, GTA, cf also GTA #1624)

*Ribes montigenum* McClatchie

NV: Clark Co.; Spring Mts., Charleston Peak trail, 9000', 19 Jul 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Spring Mts. Lee Canyon ski area, 8 Jul 1987 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Snake Range, trail from Wheeler Peak Campground to ridge between Bald Mt. and Mt. Wheeler, 9800-11800', 1 Aug 1967 (preoviposition behavior, 10:00 PST) (*fide* J. F. Emmel)

*Ribes roezlii* Regel var. *roezlii*\*

NV: Washoe Co.; Carson Range, First Creek area, 30 Jul 2003 (adult assoc.) (NSM, GTA #1945)

*Polygonia oreas nigrozephyrus* Scott, 1984

GROSSULARIACEAE

*Ribes niveum* Lindl.\*

NV: Elko Co.; Jarbidge Mts., Big Bend Rd. to Jarbidge, 6.7 mi. E of Sunflower Rd., 26 Jul 2003 (adult assoc.) (NSM, GTA #1934)

*Nymphalis californica californica* (Boisduval, 1852)

RHAMNACEAE

*Ceanothus greggii* A.Gray\*

NV: Clark Co.; Spring Mts., Willow Creek, 14 Apr 1981 (adult assoc.) (NSMCC, GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 14 Jul 1988 (preovip. on lower surface of leaf, no ova found) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Clark Canyon, end of rd., 22 Jun 1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Wallace Canyon, 22 Jun 1990 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 27 Jun 1990 (adult assoc.) (no plant coll., GTA)

*Ceanothus martinii* M.E.Jones\* (Plate 10A)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 6.0 mi. S of Atlanta Rd., 9 Jun 1985 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 17 Jun 1990 (adult assoc.) (no plant coll., GTA, cf GTA #1484)

*Ceanothus velutinus* Hook. (Fig. 19)

NV: Carson City; Carson Range, Spooner Summit to Marlette Lake, 25 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Carson City; Carson Range, Nv 28, 2.0 mi. S of Washoe Co. line, 19 Jul 1985 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Range, junction US 50 and Nv 28, Spooner Summit, 1 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., North Fork Rd., 5.1 mi. W of Nv 225, 27 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Independence Mts., Nv 11A, 0.5 mi. E of Maggie Summit, 5 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Ruby Mts., Lamoille Canyon, 1.5 mi. S of Thomas Canyon Campground, 14 Jun 2003 (adult assoc.) (NSM, GTA #1848)

NV: Elko Co.; Jarbidge Mts., 2.6 mi. S of Coon Creek Summit, 14 Jun 2003 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Jarbidge Mts., Coon Creek Summit, 14 Jun 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, 2.0 mi. E of Mt. Rose Summit, 30 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Galena Creek Park, 10 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, ca. 1 mi. N of Crystal Bay, vicinity of First Creek, 30 Jun 2003 (adult assoc.) (no plant coll., GTA, cf GTA #1917)

NV: Washoe Co.; Carson Range, Nv 431, 3.6 mi. E of Nv 28, 1 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, Nv 431, 5.0 mi. E of Nv 28, 1 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Nymphalis antiopa antiopa* (Linnaeus, 1758)

SALICACEAE

*Populus angustifolia* James\*

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 30 Jul 1995 (larvae) (no plant coll., GTA)



Figure 35. *Symphoricarpos rotundifolius*.



NV: White Pine Co.; Snake Range, Snake Creek, nr. Johnson Lake trailhead, 6 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; White Pine Mts., White River at Little Currant Creek Rd., 15 Jul 2001 (adult assoc.) (NSM, GTA #1586)

*Populus fremontii* S. Watson\*

NV: Clark Co.; Las Vegas, Lorenzi Park, 30 May 1986 (many larvae, some raised to adult) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Lorenzi Park, 27 May 2001 (5 larvae feeding on leaves) (no plant coll., GTA)

*Salix babylonica* L. (i)

NV: Clark Co.; Las Vegas, Lorenzi Park, 27 May 2001 (several larvae feeding on leaves) (no plant coll., GTA)

*Salix drummondiana* Hook.\*

NV: Nye Co.; Toiyabe Range, Peavine Creek Campground, 12 Apr 1984 (adult assoc.) (NSM, GTA #779)

NV: Storey Co.; Six Mile Canyon, 2.8 mi. E of Virginia City, 6 May 1984 (adult assoc.) (NSM, GTA #807)

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Clark Co.; Moapa Valley, Lewis Ranch, E of I-15, 22 Apr 2001 (larvae feeding on leaves) (NSM, BB, collected 8 May 2001)

NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (secondary adult assoc.) (NSM, GTA #1359)

NV: Elko Co.; rd. to Ivanhoe Mining District, 2.3 mi. S of Nv 789, 18 Jun 2003 (several mature larvae feeding on leaves) (NSM, GTA #1878)

NV: Lander Co.; Toiyabe Range, Birch Creek, 1 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (NSM, GTA #1615)

NV: Lander Co.; Humboldt River Valley, 2.0 mi. N of Battle Mountain, 28 Jul 2003 (adult assoc.) (NSM, GTA #1941)

NV: Lincoln Co.; Beaver Dam State Park, 12 Jun 2003 (numerous larvae feeding on leaves) (NSM, GTA #1845, BB)

NV: Lyon Co.; E end Wilson Canyon, 10 Aug 1967 (many larvae) (*vide* D. Bauer)

NV: Lyon Co.; Sweetwater Mts., Nv 338, Garden Canyon, 24 May 1984 (adult assoc.) (NSM, GTA #895)

NV: Lyon Co.; Mason Valley, Mason Valley WMA, 4 Jun 1996 (cluster of 11 half-grown larvae feeding on leaves, 15:00 PST) (NSM, GTA #1529)

NV: Nye Co.; Toquima Range, Meadow Creek, 19 Jul 2001 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; White River Valley, Lund, 12 Aug 1983 (many larvae) (no plant coll., GTA)

NV: White Pine Co.; Schell Creek Range, N end of Cave Lake State Park, 17 Jul 1991 (mass of larvae feeding on leaves) (NSM, GTA #1524)

NV: White Pine Co.; White Pine Mts., White River Campground, 15 Jul 2001 (adult assoc.) (no plant coll., GTA)

*Salix gooddingii* C.R. Ball\*

NV: Elko Co.; Rock Creek-Scraper Spring Rd., Chino Creek, 0.5 mi. S of jct. of Wilson Reservoir Rd., 5 Jul 2003 (adult assoc.) (NSM, GTA #1907)

*Salix laevigata* Bebb\* (Fig. 38)

NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (principal adult assoc.) (NSM, GTA #1358)

NV: Lincoln Co.; Spring Valley, 0.6 mi. N of Ursine, 22 Apr 1986 (larvae) (NSM, GTA #1237)

*Salix lasiolepis* Benth.\*

NV: Clark Co.; Spring Mts., Willow Creek, 23 Jun 1962 (and many subsequent dates) (adult assoc.) (no plant coll., GTA, *cf* GTA #1542)

NV: Clark Co.; Spring Mts., Camp Bonanza, 17 May 2002 (adult assoc.) (NSM, BB #2).

NV: Elko Co.; Independence Mts., Maggie Creek, Nv 11A, 0.5 mi. E of Maggie Summit, 11 Jul 2000 (adult assoc.) (NSM, GTA #1556)

NV: Pershing Co.; Sonoma Range, Clear Creek, 2.9 mi. E of Grass Valley Rd., 26 Jun 1983 (many nearly mature larvae feeding on leaves, some raised to adult) (NSM, GTA #477)

NV: Pershing Co.; Selenite Range Rd., creek 3.4 mi. E of Nv 447, 21 May 2003 (several 1/2 grown larvae feeding on leaves) (NSM, GTA #1802)

*Salix lutea* Nutt.

NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 1.7 mi. S of Yankee Bill Summit, 25 Jul 2003 (adult assoc.) (NSM, GTA #1928)

NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (NSM, GTA #1611)

NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 3.5 mi. W of Pleasant Valley Rd., 6 Jul 2003 (adult assoc.) (NSM, GTA #1910)

ULMACEAE

*Ulmus pumila* L. (i)

NV: Clark Co.; Las Vegas, Eugene Ave., 12 Jul 1965 (larvae on leaves, some raised to adult) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 15 Jun 1966 (larvae on leaves) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., Apr 1986 (larva on leaf, pupated 13 Apr 1986, em. 23 Apr 1986) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Lorenzi Park, 30 May 1986 (many larvae, some reared to adult) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Lorenzi Park, 27 May 2001 (numerous larvae feeding on leaves) (no plant coll., GTA)

*Aglais milberti subpallida* (Cockerell, 1889)

URTICACEAE

*Urtica dioica* L. ssp. *holosericea* (Nutt.) Thorne (Plate 3A)

NV: Clark Co.; Spring Mts., Kyle Canyon, 23 May

- 1963 (many larvae) (*vide* J. Leser)  
 NV: Clark Co.; Spring Mts., Willow Creek, 6 Apr  
 1988 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., Cold Creek, 19 May  
 1993 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., Willow Creek, 23 May  
 2000 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Pine Forest Mts., Blue Lake Rd.,  
 4-12 mi. SW of Nv 140, 1 Aug 1971 (masses of  
 larvae) (*vide* S. O. Mattoon)  
 NV: Elko Co.; Independence Mts., Waterpipe  
 Canyon, 1.1 mi. N of Nv 226, 22 Jun 1981 (adult  
 assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill  
 Summit-Merritt Creek, 6.9 mi. N of Sunflower  
 Reservoir Rd., 16 Jun 2003 (adult assoc.) (no plant  
 coll., GTA)  
 NV: Eureka Co.; Roberts Mts., Pete Hansen Creek,  
 22 Jun 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
 4.5 mi. E of summit, 16 Jun 1981 (adult assoc.) (no  
 plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jun  
 1994 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 2 Aug  
 1994 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 11 Sep  
 1995 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon,  
 20 Jul 2001 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson  
 Ranch, 30 May 1983 (ovip. on lower leaf) (no plant  
 coll., GTA)  
 NV: Mineral Co.; Wassuk Range, Cottonwood  
 Canyon, 16 Jul 1996 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: Nye Co.; Toiyabe Range, Ophir Canyon, 16 Jun  
 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Stewart Creek, 23 Jun  
 1994 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Timber  
 Creek, 5 Jul 1990 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; Schell Creek Range, Timber  
 Creek, 9 Jul 2000 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; Schell Creek Range, Timber  
 Creek, 30 May 2002 (adult assoc.) (no plant coll.,  
 GTA)  
 NV: White Pine Co.; Schell Creek Range, East Creek  
 Campground, 19 Jun 2003 (adult assoc.) (no plant  
 coll., GTA)

***Vanessa virginiensis* (Drury, 1773)**

## ASTERACEAE

*Antennaria rosea* Greene [*Antennaria microphylla* Rydb.]\*

- NV: Clark Co.; Spring Mts., Kyle Canyon ski run, 26  
 Jun 1979 (adult assoc., larva in nest) (UNLV,  
 GTA)

- NV: Clark Co.; Spring Mts., Lee Canyon ski area, 8  
 Jul 1987 (ovip. on upper surface of leaf, 09:35  
 PST) (NSM, GTA #1454)

*Antennaria soliceps* S.F.Blake\* (Plate 12A)

- NV: Clark Co.; Spring Mts., ridge above Kyle  
 Canyon, 15 Jul 1979 (ovip. on upper surface of  
 leaf) (UNLV, GTA)

*Gnaphalium luteo-album* L.\* (i)

- NV: Clark Co.; Las Vegas, Lorenzi Park, 26 Apr  
 2000 (ovip. many times on upperside of lower  
 leaves of young plant, larvae reared to adults)  
 (NSM, GTA #1539)

- NV: Clark Co.; Las Vegas, Lorenzi Park, 30 May  
 2001 (full grown larvae, pupae) (no plant coll.,  
 GTA, cf GTA #1539)

***Vanessa cardui* (Linnaeus, 1758)**

## ASTERACEAE

*Achillea millefolium* L.

- NV: Elko Co.; rd. to Fenalon, 6.1 mi. NE of I-80,  
 Independence Creek, 24 Jul 2001 (larval nest on  
 basal leaf) (no plant coll., GTA)

*Arctium lappa* L. (i)

- NV: Nye Co.; US 6, 2.0 mi. E of Currant, 10 Sep  
 1983 (larvae feeding on leaves) (NSM, GTA #707)

*Carduus nutans* L. (i)

- NV: Lander Co.; Reese River Valley, US 50, 2.5 mi.  
 E of Reese River, 28 Jun 1988 (several nests on  
 lower leaves, most with larvae) (no plant coll.,  
 GTA)

- NV: Lander Co.; Toiyabe Range, US 50, 1.4 mi. W  
 of Bob Scott Summit at Grass Valley Rd., 17 Jun  
 1991 (nest with larva) (no plant coll., GTA)

- NV: White Pine Co.; Spring Valley, 2.5 mi. S of  
 Stonehouse, 17 Jul 2001 (four larvae in nests on  
 separate plants) (NSM, GTA #1600)

*Cirsium andersoni* (A.Gray) Jeps.

- NV: Carson City; Carson Range, Kings Canyon, 19  
 Jul 1981 (nest with larva) (NSMCC, GTA)

*Cirsium arizonicum* (A.Gray) Petrak var. *tenuisectum* D.J.Keil  
 [*Cirsium nidulum* (M.E.Jones) Petrak, *Cirsium arizonicum*  
 (A.Gray) Petrak var. *nidulum* (M.E.Jones) Petrak]\* (Fig. 36)

- NV: Clark Co.; Spring Mts., Kyle Canyon ski run, 23  
 Jul 1978 (2 nests with larvae among leaves)  
 (UNLV, GTA)

- NV: Clark Co.; Spring Mts., Harris Peak Rd., 5.7 mi.  
 from Harris Spring, 12 Jul 1993 (larva in nest  
 among leaves) (no plant coll., GTA)

- NV: Lincoln Co.; Highland Range, Anderson  
 Canyon, 19 Aug 2001 (larva in nest) (NSM, GTA  
 #1675)

*Cirsium arvense* (L.) Scop. (i)

- NV: Elko Co.; Pequop Mts., I-80, Pequop exit, 5 Sep  
 1983 (larval nest with larva) (NSM, GTA #669)

- NV: Elko Co.; rd. to Fenalon, 6.1 mi. NE of I-80,  
 Independence Creek, 24 Jul 2001 (larval nest on  
 leaf near stem) (NSM, GTA #1641)

- NV: Elko Co.; East Humboldt Range, Angel Creek  
 Campground, 19 Aug 2001 (larva feeding on leaf,

- several old nests) (NSM, GTA #1677)  
*Cirsium canovirens* Rydb.\*  
 NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 3 Jun 1987 (ovip. 2× on upper surface of upper leaves, 11:45 PST) (NSM, GTA #1418)
- Cirsium eatonii* (A.Gray) B.L.Robinson var. *clokeyi* (S.F.Blake) D.J.Keil [*Cirsium clokeyi* S.F.Blake]\*  
 NV: Clark Co.; Spring Mts., south Charleston Peak trail, 9000', 19 Jul 1978 (nest with larva) (UNLV, GTA)
- Cirsium mohavense* (Greene) Petrak\*  
 NV: Esmeralda Co.; Fish Lake Valley, 6.2 mi. N of Dyer, 18 Sep 1983 (ovip. on upper surface of basal leaf, 09:05 PST) (no plant coll., GTA)  
 NV: Lincoln Co.; Pahrnagat Valley, US 93, 2.8 mi. S of Pahrnagat NWR headquarters, 12 Aug 1983 (larva in nest) (NSM, GTA #553)  
 NV: Nye Co.; Ash Meadows, 17 Jun 1984 (several larval nests with larvae) (NSM, GTA #990)  
 NV: Nye Co.; Ash Meadows, 13 Aug 1998 (numerous nests, some with larvae) (no plant coll., GTA)
- Cirsium neomexicanum* A.Gray  
 NV: Clark Co.; Spring Mts., 2 mi. N of Red Cloud Mine, 5 Apr 1978 (ovip. 2× on upper leaf surface, 10:10 PST) (Austin and Austin 1980)  
 NV: Clark Co.; Newberry Mts., 1.5 mi. E of Christmas Tree Pass, 18 May 1983 (larva in nest) (NSM, GTA #203)  
 NV: Clark Co.; Spring Mts., Red Cloud Mine, 1 May 2004 (empty nests) (no plant coll., BB)  
 NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 1.5 mi. E of Nv 376, 20 Jul 2001 (ovip. on upper surface of leaf near tip, 09:00 PST) (NSM, GTA #1609)  
 NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 2.3 mi. E of Nv 376, 20 Jul 2001 (several larval nests at leaf bases near stem) (NSM, GTA #1609)  
 NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 2.3 mi. E of Nv 376, 20 Jul 2001 (ovip. on upper surface of middle leaf, 10:40 PST) (NSM, cf GTA #1609)  
 NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 2.3 mi. E of Nv 376, 20 Jul 2001 (larval nest near leaf tip on rosette) (NSM, cf GTA #1609)  
 NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 2.3 mi. E of Nv 376, 20 Jul 2001 (larva in nest at base of leaf at stem) (NSM, cf GTA #1609)
- Cirsium occidentale* (Nutt.) Jeps. var. *candidissimum* (Greene) J.F.Macbr. [*Cirsium pastoris* J. Howell]\*  
 NV: Douglas Co.; Carson Range, Lower Daggett Creek, 23 Aug 1981 (several old nests) (NSMCC, GTA)  
 NV: Douglas Co.; Carson Range, Kingsbury Grade, 5.0 mi. W of Nv 206, 30 Aug 1988 (larvae in nests) (no plant coll., GTA)
- Cirsium scariosum* Nutt. [*Cirsium drummondii* Torr. & A.Gray, *Cirsium tioganum* Congdon] (Fig. 33)  
 NV: Lander Co.; Reese River Valley, US 50, 2.7 mi. E of Reese River, 18 Jul 2001 (ovip. on upper surface of leaf near middle, 10:25 PST) (NSM, GTA #1607)  
 NV: Nye Co.; White River Valley, Sunnyside, 15 Jul 2001 (larva in nest on leaf near main stem) (NSM, GTA #1576)  
 NV: White Pine Co.; just N of Nye Co. line, 3.8 mi. W of Nv 318, 15 Jul 2001 (larva in nest on leaf) (NSM, GTA #1584)  
 NV: White Pine Co.; Spring Valley, 0.7 mi. S of Stonehouse, 17 Jul 2001 (ovip. on upper leaf surface, 09:20 PST) (NSM, GTA #1602)  
 NV: White Pine Co.; Spring Valley, 0.7 mi. S of Stonehouse, 17 Jul 2001 (larva in nest on leaf) (NSM, GTA #1602)
- Cirsium subniveum* Rydb.\*  
 NV: Elko Co.; Pequop Mts., I-80, 2.0 mi. W of Pequop Summit, 26 Jul 2001 (several larval nests) (NSM, GTA #1645)  
 NV: Elko Co.; Nv 789, 19.0 mi. W of Nv 226, 18 Jun 2003 (several, mostly mature, larvae in nests) (NSM, GTA #1877)  
 NV: Humboldt Co.; Greeley Crossing Rd., 3.5 mi. N of Greeley Crossing, 4 Jul 2003 (mature larva in nest) (NSM, GTA #1898)  
 NV: Washoe Co.; Buckhorn Rd., 8.8 mi. W of rd. to Buffalo Meadows, 2 Jul 2003 (numerous, mostly mature, larvae in nests) (NSM, GTA #1893)  
 NV: White Pine Co.; Schell Creek Range, Kalamazoo Rd., 3.7 mi. E of Kalamazoo Summit, 16 Jul 2001 (larva in nest on leaf) (NSM, GTA #1597)
- Cirsium vulgare* (Savi) Ten. (i)  
 NV: Douglas Co.; Carson Valley, Nv 88, 0.1 mi. N of CA state line, 6 Aug 2001 (larva in nest) (NSM, GTA #1654)  
 NV: Elko Co.; US 93, Little Salmon River Valley, 22.4 mi. S of Jackpot, 7 Sep 1983 (larval nest) (NSM, GTA #674)  
 NV: Elko Co.; N end of Crittenden Reservoir, 24 Jul 2001 (larval nest on upper leaf) (no plant coll., GTA)  
 NV: Lander Co.; Reese River Valley, Nv 722 at Reese River, 18 Jul 2001 (three larvae in nests at leaf junction with stem) (NSM, GTA #1604)  
 NV: White Pine Co.; Steptoe Valley, Cherry Creek Rd., 3.6 mi. W of US 93, 16 Jul 2001 (larva next to nest) (no plant coll., GTA)
- BORAGINACEAE  
*Amsinckia tessellata* A.Gray var. *tessellata* (Plate 10D)  
 NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 3.9 mi. E of US 95, 1 May 2001 (many larvae in nests) (NSM, GTA #1573)  
 NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 4.5 mi. E of US 95, 1 May 2001 (several larvae in nests) (no plant coll., GTA)  
 NV: Clark Co.; Newberry Mts., rd. to Christmas Tree

- Pass, 7.9 mi. E of US 95, 1 May 2001 (many larvae in nests) (no plant coll., GTA)
- NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 9.0 mi. E of US 95, 1 May 2001 (larva in nest) (no plant coll., GTA)
- NV: Clark Co.; Newberry Mts., Sacatone Wash, 1 May 2001 (old nests in several plants) (no plant coll., GTA)
- Cryptantha angustifolia* (Torr.) Greene
- NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 2.1 mi. E of US 95, 1 May 2001 (ovip. 5× on upper part among flowers, 07:35 PST) (NSM, GTA #1572)
- Lappula redowskii* (Hornem.) Greene\*\*
- NV: Clark Co.; Spring Mts., Clark Canyon, 4.2 mi. E of Wheeler Pass Rd., 9 Jun 1983 (ovip. on lower surface of leaf, 10:10 PST) (NSM, GTA #370)
- FABACEAE
- Astragalus lentiginosus* Hook. var. *fremontii* (A.Gray) S.Watson\*\* (Plate 8D)
- NV: Clark Co.; Cottonwood Pass Rd., 1.5 mi. S of Nv 160, 13 Apr 1981 (larva in nest) (no plant coll., GTA)
- Astragalus malacus* A.Gray\*\*
- NV: Lyon Co.; Sweetwater Mts., Nv 338, 1.0 mi. NE of CA state line, 16 May 1986 (ovip. on upper surface of leaf, 09:45 PST) (NSM, GTA #1272)
- Lupinus arbustus* Douglas ex Lindl.\*
- NV: Elko Co.; Winecup Ranch-Thurston Spring Rd., 6.2 mi. N of Fenelon junction, 12 Jun 1990 (1/2 grown larva in nest) (NSM, GTA #1518)
- Lupinus argenteus* Pursh var. *rubricaulis* (Greene) S.L. Welsh (Plate 8F)
- NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 12 Jun 2001 (larva) (NSM, BB)
- NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 14 Jun 2001 (larva) (no plant coll., BB)
- NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 22 Jul 2001 (larva in nest) (NSM, BB)
- Lupinus arizonicus* (S.Watson) S.Watson\*
- NV: Clark Co.; Newberry Mts., Nv 163, 9 mi. W of Davis Dam, 23 Mar 1978 (larva on leaf) (UNLV, GTA)
- Lupinus concinnus* J.Agardh. var. *orcuttii* (S.Watson) C.P.Smith
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 23 Mar 1978 (larva in nest) (UNLV, GTA)
- NV: Clark Co.; Newberry Mts., 1.5 mi. E of Christmas Tree Pass, 18 May 1983 (larva feeding on leaves, raised to adult) (NSM, GTA #198)
- Lupinus lepidus* Douglas var. *confertus* (Kellogg) C.P.Smith\*
- NV: Douglas Co.; Carson Valley, Scossa Ranch, 8 Sep 1984 (3 larval nests, 1 with larva among leaves) (no plant coll., GTA, cf GTA #608)
- Lupinus nevadensis* A.Heller\*
- NV: Lyon Co.; Sweetwater Mts., Silverado Canyon Rd. at CA state line, 16 May 1986 (ovip. on upper surface of leaf [center] at origin, 12:20 PST)

- (NSM, GTA #1274)
- Lupinus polyphyllus* Lindl. var. *humicola* (A.Nelson) Barneby\*
- NV: Nye Co.; Grapevine Mts., Phinney Canyon, 21.0 mi. W of US 95, 26 May 1983 (ovip. on stem, 16:10 PST) (NSM, GTA #252)
- Lupinus shockleyi* S.Watson\*
- NV: Clark Co.; Newberry Mts., Christmas Tree Pass, 20 Apr 1978 (larval nests on two plants) (UNLV, GTA)
- Lupinus sparsiflorus* Benth.\*
- NV: Clark Co.; Newberry Mts., rd. to Christmas Tree Pass, 4.5 mi. E of US 95, 1 May 2001 (larva in nest) (NSM, GTA #1574)
- NV: Clark Co.; Newberry Mts., Sacatone Wash, 1 May 2001 (two larvae in nests on separate plants) (no plant coll., GTA, cf GTA #1574)
- MALVACEAE
- Alcea rosea* L. (i)
- NV: Clark Co.; Las Vegas, Eugene Ave., several dates (ovip. and larvae) (Austin and Austin 1980)
- NV: Clark Co.; Las Vegas, Eugene Ave., 7 Jun 1965 (ovip. on leaf) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 21 Jun 1965 (larvae in nests, two reared to adult) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 10 Jul 1965 (larvae on leaves) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 30 Mar 1968 (ovip.) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 12 Apr 1973 (larvae feeding on leaves) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 19 Aug 1989 (ovip. on upper surface of leaf) (no plant coll., GTA)
- Sphaeralcea ambigua* A.Gray (Plate 4C)
- NV: Clark Co.; Las Vegas, Eugene Ave., several dates (ovip. and larvae) (Austin and Austin 1980)
- NV: Clark Co.; Las Vegas, Eugene Ave., 7 Jun 1965 (ovip. several times on leaves) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 21 Jun 1965 (many larvae in nests and on leaves, one reared to adult) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 10 Jul 1965 (larvae feeding on leaves) (no plant coll., GTA)
- NV: Clark Co.; Las Vegas, Eugene Ave., 10 Apr 1988 (ovip. on upper surface of leaf) (no plant coll., GTA)
- NV: Lincoln Co.; Mormon Mts., Toquop Wash, 5 Jun 1983 (larva) (NSM, GTA #353)
- NV: White Pine Co.; Kern Mts., Pleasant Valley, 5.3 mi. W of UT state line, 28 May 2003 (larva in nest near top of plant) (no plant coll., GTA, cf GTA #1824)
- Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb.\*
- NV: Clark Co.; Spring Mts., Willow Creek, 4 May 1990 (larva in nest among leaves, reared to adult) (no plant coll., GTA, cf GTA #1036)

***Vanessa annabella* (Field, 1971)**

## MALVACEAE

*Alcea rosea* L. (i)

NV: Clark Co.; Las Vegas, Eugene Ave., several dates (ovip. and larvae) (Austin and Austin 1980)

NV: Clark Co.; Las Vegas, Eugene Ave., 27 Mar 1964 (larva) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 10 Jun 1965 (ovip.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 25 Jun 1966 (ovip.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 25 Jun 1966 (larvae in nests, one reared to adult) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 3 Mar 1977 (ovip. on leaf) (no plant coll., GTA)

*Malva neglecta* Wallr. (i)

NV: Storey Co.; I-80 at Truckee River, 7 Sep 1984 (ovip. on upper of surface of leaf, 10:00 PST) (NSM, GTA #1184)

*Malvella leprosa* (Ortega) Krapov. [*Sida leprosa* (Ortega) Schumann var. *hederacea* (Hook.) Schumann] (Fig. 3)

NV: Churchill Co.; Stillwater NWR, Loop Rd., 28 Aug 1981 (ovip. on upper surface of leaf, 13:45 PST) (NSMCC, GTA)

NV: Douglas Co.; Carson Valley, Genoa, 7 Sep 1984 (ovip. 6× on upper surface of leaf, 16:00 PST) (NSM, GTA #1187)

NV: Douglas Co.; Carson Valley, Genoa, 7 Sep 1984 (ovip. 4× on leaf petiole at base of leaf, 16:00 PST) (NSM, GTA #1187)

*Sidalcea oregana* (Torr. & A. Gray) A. Gray

NV: Lander Co.; Reese River Valley, US 50, 2.7 mi. E of Reese River, 3 Aug 1995 (larva) (no plant coll., GTA) (Fig. 37)

NV: Lander Co.; Reese River Valley, US 50, 2.7 mi. E of Reese River, 18 Jul 2001 (ovip. on upper surface of leaf, 10:45 PST) (NSM, GTA #1606)

*Sphaeralcea ambigua* A. Gray (Plate 4C)

NV: Clark Co.; Las Vegas, Eugene Ave., many dates (larvae) (Austin and Austin 1980)

NV: Clark Co.; Las Vegas, Eugene Ave., 17 Jul 1965 (ovip.) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 30 Jul 1965 (larvae) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 20 Jul 1966 (larvae, some raised to adult) (no plant coll., GTA)

NV: Clark Co.; Las Vegas, Eugene Ave., 23 Feb 1977 (ovip. on upper surface of leaf) (no plant coll., GTA)

NV: Clark Co.; Sheep Range, Mormon Well Rd., 35.2 mi. NE of Corn Creek, 26 Apr 1983 (ovip. on upper surface of leaf, 12:00 PST) (no plant coll., GTA)

NV: Clark Co.; Newberry Mts., Nv 163, 10.3 mi. E of US 95, 26 Mar 2001 (ovip. 2× on center of upper surface of leaf, 11:10 PST) (NSM, GTA)

NV: Nye Co.; Hot Creek Range, Keystone Canyon, 29 May 1983 (ovip. on upper surface of leaf, 09:45 PST) (no plant coll., GTA)

*Sphaeralcea emoryi* Torr.\*

NV: Nye Co.; Ash Meadows, 4 Nov 1984 (ovip. on upper surface of leaf) (NSM, GTA #1212)

*Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb.\*

NV: Clark Co.; Spring Mts., Willow Creek, 27 Jun 2003 (ovip.) (NSM, BB #148)

*Sphaeralcea parvifolia* A. Nelson\*

NV: Esmeralda Co.; Indian Creek, 1.0 mi. W of Nv 264, 18 Jun 1983 (preoviposition on leaf, no ovum found) (NSM, GTA #433)

## ROSACEAE\*

*Potentilla gracilis* Hook. var. *elmeri* (Rydb) Jeps. [*Potentilla pectinisecta* Rydb.]\*\*

NV: Elko Co.; Independence Mts., Wildhorse Creek Campground, 2 Jul 1980 (ovip. 3× on upper leaf surface, 13:30 PST) (NSMCC, GTA)

## URTICACEAE

*Urtica dioica* L. ssp. *holosericea* (Nutt.) Thorne (Plate 3A)

NV: Clark Co.; Spring Mts., Little Falls, summer 1995 (larvae raised to adult) (no plant coll., BB)

NV: Clark Co.; Spring Mts., vicinity of Mary Jane Falls, summer 1995 (larvae raised to adult) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Willow Creek, 23 May 2000 (adult assoc.) (no plant coll., GTA)

NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill Summit-Merritt Creek, 10.5 mi. N of Sunflower

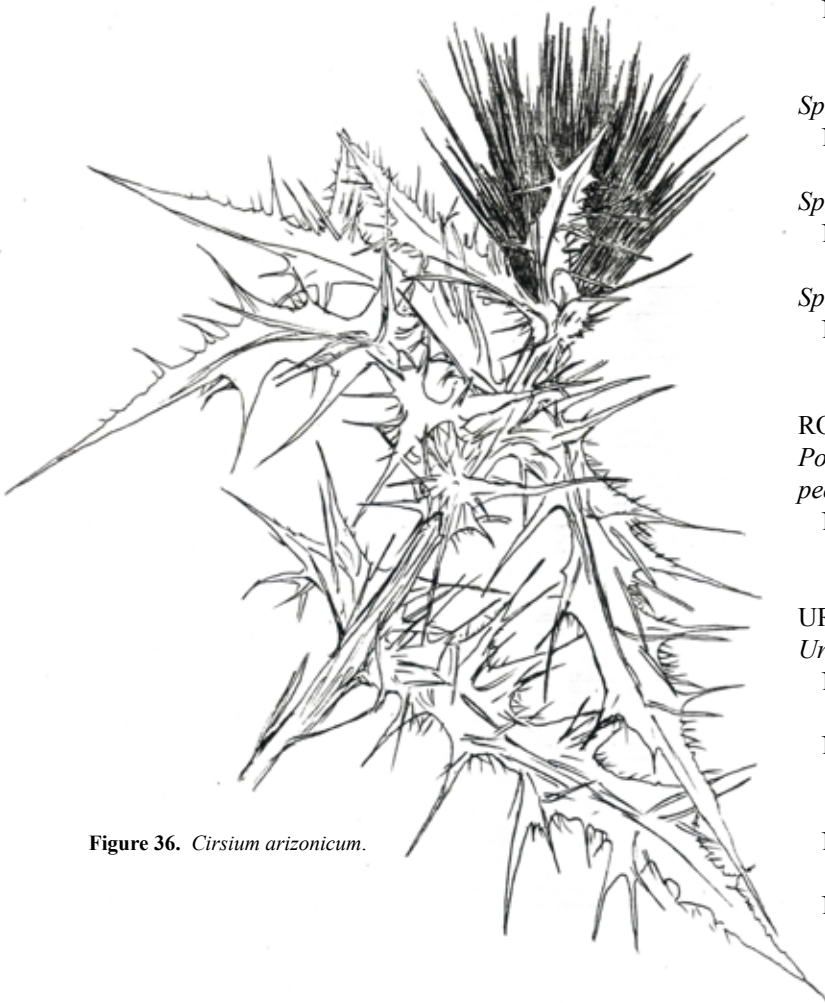


Figure 36. *Cirsium arizonicum*.



- Reservoir Rd., 16 Jun 2003 (ovip. on upper surface of leaf, 11:00 PST) (no plant coll., GTA)  
 NV: Humboldt Co.; Greeley Crossing Rd., 6.6 mi. N of Greeley Crossing, 4 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (ovip. on upper surface of upper leaf, 13:15 PST) (NSM, GTA #1618)  
 NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Ranch, 30 May 1983 (ovip. on lower surface of lower leaf, 10:15 PST) (no plant coll., GTA)  
 NV: Nye Co.; Grapevine Mts., Strozzi Ranch, 7 May 1983 (ovip. on upper surface of leaf, 12:30 PST) (no plant coll., GTA)  
 NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-7 mi. W of Nv 400, 25 Jun 1983 (ovip. on upper surface on upper leaf) (no plant coll., GTA)  
 NV: White Pine Co.; Snake Range, Baker Creek Campground, 8 Jun 1985 (ovip. 3× on upper leaf surface near mid-rib, 13:15 PST) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, Timber Creek, 9 Jul 2000 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Spring Valley, 2.5 mi. S of Stonehouse, 17 Jul 2001 (ovip. on upper surface of upper leaf, 09:10 PST) (NSM, GTA #1599)

***Vanessa atalanta rubria* (Fruhstorfer, 1909)**

## URTICACEAE

*Urtica dioica* L. ssp. *holosericea* (Nutt.) Thorne (Plate 3A)

- NV: Clark Co.; Spring Mts., Willow Creek, 6 Apr 1988 (adult assoc.) (no plant coll., GTA)  
 NV: Clark Co.; Spring Mts., Little Falls, summer 1995 (larvae raised to adult) (no plant coll., BB)  
 NV: Clark Co.; Spring Mts., vicinity of Mary Jane Falls, summer 1995 (larvae raised to adult) (no plant coll., BB)  
 NV: Clark Co.; Spring Mts., Cold Creek, 14 Jul 2003 (ovip. on flower) (no plant coll., BB)  
 NV: Douglas Co.; Carson Range, Daggett Creek, 11 Jun 1971 (ovum and larva, 1 em. 18 Jul 1971) (*vide* D. Bauer)  
 NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 24 Jun 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Little Salmon River Valley, US 93, 2.8 mi. S of Jackpot, 28 Jul 1993 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Jarbidge Mts., rd. to Yankee Bill Summit-Merritt Creek, 6.9 mi. N of Sunflower Reservoir Rd., 16 Jun 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Jarbidge Mts., McDonald Creek Rd. at McDonald Creek crossing, 17 Jun 2003 (adult

- assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Charleston Rd. to Marys River Rd., 16.2 mi. S of Marys River Rd., 6 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Elko Co.; Jarbidge Mts., Big Bend Rd. to Jarbidge, 1.2 mi. W of Burnt Timber Creek, 26 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: Humboldt Co.; Quinn River Valley, US 95, 3.8 mi. S of Orovada, 9 Jul 1989 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Kingston Canyon Campground, 8 Jul 1983 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 2 Aug 1994 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Birch Creek, 18 Aug 1994 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, Big Creek, 11 Sep 1995 (adult assoc.) (no plant coll., GTA)  
 NV: Lander Co.; Toiyabe Range, lower Kingston Canyon, 25 Aug 2002 (adult assoc.) (no plant coll., GTA)  
 NV: Lincoln Co.; Wilson Creek Range, Mt. Wilson Ranch, 30 May 1983 (ovip. on lower surface of leaf, 10:30 PST) (no plant coll., GTA)  
 NV: Mineral Co.; Wassuk Range, Cottonwood Canyon, 16 Jul 1996 (adult assoc.) (no plant coll., GTA)  
 NV: Nye Co.; Toiyabe Range, Cottonwood Creek, 4 Aug 1994 (adult assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Humboldt Range, Star Creek Canyon, 5-6 mi. W of Nv 400, 12 Aug 1981 (adult assoc.) (no plant coll., GTA)  
 NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-7 mi. W of Nv 400, 25 Jun 1983 (ovip. on upper surface of lower leaf, 11:40 PST) (no plant coll., GTA)  
 NV: Washoe Co.; Carson Range, Nv 431, 5.0 mi. E of Nv 28, 1 Jul 2003 (adult assoc.) (no plant coll., GTA)  
 NV: White Pine Co.; Schell Creek Range, East Creek Campground, 19 Jun 2003 (adult assoc.) (no plant coll., GTA)

***Junonia coenia grisea* Austin & J. Emmel, 1998**

## PHRYMACEAE

*Mimulus guttatus* DC.\*

- NV: Clark Co.; Newberry Mts., Sacatone Wash, 18 May 1983 (mature larva feeding on leaf) (NSM, GTA #320)

**LIMENTIDINAE**

Larval hostplants have been determined for each of the five species of admirals resident in Nevada, including 20 species of plants (27 butterfly/plant combinations) in three families (Fagaceae, Rosaceae, Salicaceae). Of these, 13 are newly reported for the species of butterfly concerned, but none are unique above the species level. Eggs are nearly always (86%) placed at or near

the tip of the leaf on its upper or lower surface; ovipositions are throughout the day, evenly divided between morning and afternoon, but are concentrated between 11:00 and 13:00 PST (64%).

***Limenitis archippus idaho* Austin, 1998**

SALICACEAE

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (secondary adult assoc.) (NSM, GTA #1359)

*Salix laevigata* Bebb\* (Fig. 38)

NV: Elko Co.; Little Salmon River, US 93, 3.1 mi. S of Jackpot, 13 Jul 1986 (principal adult assoc.) (NSM, GTA #1358)

***Limenitis archippus lahontani* Herlan, 1971**

SALICACEAE

*Salix* sp.

NV: Washoe Co.; Truckee River nr. Wadsworth, 27 Jul 1977 (mid- to late instar larvae) (Langston 1978)

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: [no further data] (females ovipositing) (Herlan 1970)

NV: Elko Co.; Humboldt River, I-80, 7.1 mi. W of Welcome exit, 13 Jul 1990 (adult assoc.) (no plant coll., GTA)

NV: Eureka Co.; Humboldt River, Dunphy, 13 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Humboldt Co.; Humboldt River, W side of Winnemucca, 11 Aug 1980 (adult assoc.) (no plant coll., GTA)

NV: Humboldt Co.; Humboldt River, Nv 789, 6.0 mi. E of Golconda, 12 Jul 1992 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle Mountain, 11 Aug 1980 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle Mountain, 13 Aug 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle Mountain, 7 Aug 1990 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; 2 mi. N of Battle Mountain along Humboldt River, 5 Feb 2000 (numerous hibernacula, larvae reared to adult) (*fide* J. Wolfe)

NV: Lander Co.; Humboldt River, 2.1 mi. N of Battle Mountain, 13 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Lander Co.; Humboldt River Valley, 2.0 mi. N of Battle Mountain, 28 Jul 2003 (adult assoc.) (NSM, GTA #1941)

NV: Lyon Co.; US 95A at Fernley Canal, 29 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; US 95A at Fernley Canal, 6 Aug 1980 (adult assoc.) (NSMCC, GTA)

NV: Pershing Co.; Humboldt River, 4 mi. W of Imlay, 11 Aug 1980 (adult assoc.) (NSMCC, GTA)

NV: Pershing Co.; Humboldt River, 1.5 mi. W of I-80 at Mill City, 11 Aug 1980 (adult assoc.) (no plant coll., GTA)

NV: Pershing Co.; Humboldt River at Mill City, 15 Jul 2000 (adult assoc.) (no plant coll., GTA)

***Limenitis archippus obsoleta* W. H. Edwards, 1882**

SALICACEAE

*Populus fremontii* S. Watson

NV: Clark Co.; Moapa Valley, Bowmans Reservoir, 13 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 23 Sep 1988 (ovip. 3× on tips of leaves, 11:30 PST) (NSM, GTA #1499)

NV: Clark Co.; Logandale, along Muddy River, 7 Jan 2000 (71 hibernacula, larvae reared to adult) (*fide* J. Wolfe)

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Clark Co.; Moapa Valley, Bowmans Reservoir, 13 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 13 Jun 1987 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Overton WMA, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Logandale, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Moapa Valley, Overton WMA, 7 Nov 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Logandale, along Muddy River, 7 Jan 2000 (11 hibernacula, larvae reared to adult) (*fide* J. Wolfe)

*Salix gooddingii* C.R. Ball\*

NV: Clark Co.; Moapa Valley, Logandale, 23 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Logandale, along Muddy River, 7 Jan 2000 (numerous hibernacula, larvae reared to adult) (*fide* J. Wolfe)

NV: Clark Co.; Moapa Valley, Lewis Ranch, 22 Jun 2000 (adult assoc.) (NSM, GTA #1546)

NV: Clark Co.; Moapa Valley, Logandale, Muddy River at bridge, 28 Aug 2003 (ovip. on upper surface of leaf near tip, 09:30 PST) (NSM, GTA #1960)

***Limenitis weidemeyerii latifascia* S. & E. Perkins, 1967**

ROSACEAE

*Amelanchier alnifolia* (Nutt.) Nutt.

NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 11 Jul 2000 (adult assoc.) (NSM, GTA #1558)

*Amelanchier utahensis* Koehne (Plate 7A)

NV: Elko Co.; Pequop Mts., I-80, 1.9 mi. W of Pequop Summit, 6 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Highland Spring, 22 Jul 1979 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 9.5 mi. S of Atlanta Rd., 24 Jun 1984 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 6.0 mi. S of Atlanta Rd., 3 Jul 2000 (adult assoc.) (no plant coll., GTA)

NV: Mineral Co.; Pilot Mts., Dunlap Canyon, 10 mi. S of Mina Rd., 31 Jul 1983 (ovip. in middle of lower surface of leaf, 12:10 PST) (no plant coll., GTA)

NV: Nye Co.; Quinn Canyon Range, Cherry Creek Summit, 8 Jul 1969 (adult assoc.) (*fide* J. F. Emmel)

*Amelanchier utahensis* Koehne ssp. *covillei* (Standl.) Clokey (Plate 7A)

NV: Elko Co.; Pequop Mts., I-80, 2.0 mi. W of Pequop Summit, 26 Jul 2001 (adult assoc.) (NSM, GTA #1646)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 9.6 mi. S of Atlanta Rd., 9 Jun 1985 (ovip. 2× on leaf edge near tip, 09:15 PST) (NSM, GTA #1216)

NV: White Pine Co.; Schell Creek Range, Cleve Creek, 12 Jul 2002 (adult assoc.) (NSM, GTA #1714)

*Amelanchier utahensis* Koehne ssp. *utahensis* (Plate 7A)

NV: Elko Co.; Jarbidge Mts., McDonald Creek Rd., 2.8 mi. N of Sunflower Reservoir Rd., 17 Jun 2003 (adult assoc.) (NSM, GTA #1874)

NV: White Pine Co.; Butte Mts., Middle Canyon, 4.8 mi. W of West Butte Valley Rd., 8 Jul 2003 (adult assoc.) (NSM, GTA #1911)

*Holodiscus discolor* (Pursh) Maxim [*Holodiscus discolor* var. *dumosus* (S. Watson) Dippel] (Plate 7B)

NV: Lander Co.; Desatoya Mts., Nv 722, 3.0 mi. E of Carroll Summit, 18 Jul 1983 (adult assoc.) (NSM, GTA #480)

NV: Lander Co.; Toiyabe Range, Birch Creek, 3.2 mi. W of Nv 376, 8 Jul 1984 (ovip. at leaf tip, 15:20 PST) (NSM, GTA #1065)

NV: Nye Co.; Toiyabe Range, Jett Canyon, 6500', 10 Jul 1969 (ovip. on leaf tip, 12:10 PST) (Emmel *et al.* 1970) [reported as *Holodiscus boursieri* (Carr.) Rehd.]

*Prunus virginiana* L. var. *demissa* (Nutt.) Torr. [*Prunus virginiana* L. var. *melanocarpa* (Nelson) Sarg.] (Fig. 16)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 6.3 mi. S of Atlanta Rd., 8 Jun 1985 (last instar larva on leaf, found and reared to adult by G. Gorelick) (NSM, GTA #1213)

#### SALICACEAE

*Populus angustifolia* James

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 7000', 31 Jul 1969 (ovip. on leaf tip, 11:15 PST) (Emmel *et al.* 1970)

NV: White Pine Co.; White Pine Mts., White River at Little Curren Creek Rd., 15 Jul 2001 (adult assoc.) (NSM, GTA #1586)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek Rd., 2.0 mi. W of Nv 893, 16 Jul 2001 (adult assoc.) (NSM, GTA #1595)

NV: White Pine Co.; Schell Creek Range, Kalamazoo

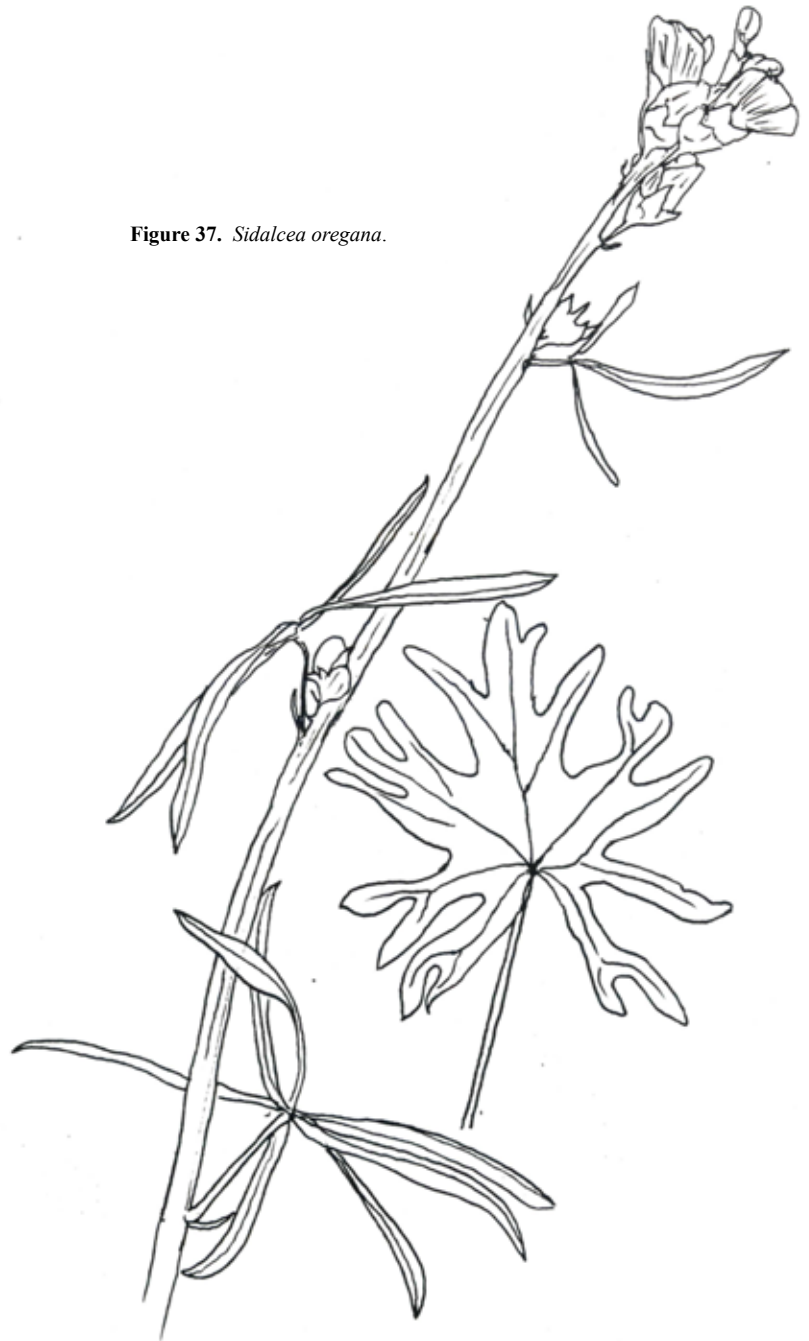


Figure 37. *Sidalcea oregana*.

Creek, 2-6 mi. W of Spring Valley Rd., 14 Jul 2002 (ovip. 2× on edge of upper surface of leaf, 1.5-2 m above ground, 12:45 PST) (NSM, GTA #1732)

NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek, 2-6 mi. W of Spring Valley Rd., 14 Jul 2002 (ovip. on edge of lower surface of leaf, 1.5 m above ground, 12:45 PST) (NSM, GTA #1732)

*Populus tremuloides* Michx. (Plate 5C)

NV: Elko Co.; Pleasant Valley, Nv 227, 0.9 mi. N of Lamoille Canyon Rd., 15 Jul 1986 (ovip. 3× on edge of upper surface of leaf near tip, 12:30 PST) (NSM, GTA #1362)

NV: Elko Co.; Independence Mts., Maggie Creek, Nv 11A, 0.5 mi. E of Maggie Summit, 11 Jul 2000 (adult assoc.) (no plant coll., GTA)

- NV: Elko Co.; Charleston Rd., 6.5 mi. E of Nv 225, 22 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; East Humboldt Range, Angel Creek Campground, 26 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 15 Jun 2003 (adult assoc.) (no plant coll., GTA)
- NV: Elko Co.; Jarbidge Mts., McDonald Creek Rd., 4.8 mi. S of National Forest boundary, 27 Jul 2003 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Toiyabe Range, San Juan Creek, 27 Jun 1994 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Kalamazoo Rd., 2.0 mi. E of Kalamazoo Summit, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)
- Salix eastwoodiae* A.Heller\*
- NV: Elko Co.; Independence Mts., North Fork Rd., 4.6 mi. E of Jack Creek Summit, 12 Jul 2000 (adult assoc.) (NSM, GTA #1563)
- Salix exigua* Nutt. (Plate 2H, 5D)
- NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 11 Jul 2000 (adult assoc.) (NSM, GTA #1557)
- NV: Elko Co.; Owyhee River Valley, North Wildhorse Creek, 23 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: Humboldt Co.; Quinn River. 3 mi. W of Orovada, 3 Mar 2000 (7 hibernacula) (*fide* J. Wolfe)
- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (NSM, GTA #1615)
- NV: Lander Co.; Toiyabe Range, Gilman Spring, 21 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: Nye Co.; Toiyabe Range, Jett Canyon, 6800', 10 Jul 1969 (ovip. on leaf tip, 12:30 PST) (Emmel *et al.* 1970)
- NV: Nye Co.; US 6, 1.9 mi. E of Currant, 10 Jul 1984 (ovip. at tip of leaf, 11:30 PST) (NSM, GTA, #1078)
- NV: Nye Co.; Toiyabe Range, Meadow Canyon, 19 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, N end of Cave Lake State Park, 17 Jul 1991 (ovip. on edge of leaf near tip, 12:45 PST) (NSM, GTA #1524)
- NV: White Pine Co.; White Pine Mts., White River at Little Currant Creek Rd., 15 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; White Pine Mts., White River Campground, 15 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Kalamazoo Rd., 3.2 mi. E of Duck Creek, 16 Jul 2001 (adult assoc.) (no plant coll., GTA)
- NV: White Pine Co.; Schell Creek Range, Kalamazoo Creek Rd., 2.0 mi. W of Nv 893, 16 Jul 2001 (adult assoc.) (NSM, GTA #1594)
- Salix gooddingii* C.R.Ball\*
- NV: Elko Co.; Rock Creek-Scraper Spring Rd., Chino Creek, 0.5 mi. S of jct. Wilson Reservoir Rd., 5 Jul 2003 (adult assoc.) (NSM, GTA #1907)
- Salix laevigata* Bebb\* (Fig. 38)
- NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-7 mi. W of Nv 400, 25 Jun 1983 (ovip. on lower surface of leaf near tip, 12:10 PST) (NSM, GTA #460)
- Salix lasiolepis* Benth.\*
- NV: Elko Co.; Independence Mts., Maggie Creek, Nv 11A, 0.5 mi. E of Maggie Summit, 11 Jul 2000 (adult assoc.) (NSM, GTA #1556)
- NV: Elko Co.; Owyhee River Valley, Wildhorse Crossing Campground, 23 Jul 2001 (adult assoc.) (NSM, GTA #1630)
- NV: Lincoln Co.; Beaver Dam State Park, 8 Sep 2003 (adult assoc.) (NSM, GTA #1965)
- Salix lemmonii* Bebb\*
- NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 1.0 mi. N of Yankee Bill Summit, 25 Jul 2003 (ovip. at leaf edge on ventral surface near tip, 09:55 PST) (NSM, GTA #1930)
- Salix lucida* Muhlenb. ssp. *caudata* (Nutt.) E.Murray [*Salix lasiandra* Benth. var. *caudata* (Nutt.) Sudworth]\*
- NV: Elko Co.; Owyhee River Valley, North Wildhorse Creek, 23 Jul 2001 (adult assoc.) (NSM, GTA #1634)
- Salix lutea* Nutt.\*
- NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 1.7 mi. S of Yankee Bill Summit, 25 Jul 2003 (adult assoc.) (NSM, GTA #1928)
- NV: Elko Co.; Jarbidge Mts., Yankee Bill Summit Rd., 7.3 mi. N of Yankee Bill Summit, 27 Jul 2003 (adult assoc.) (NSM, GTA #1939)
- NV: Humboldt Co.; Greeley Crossing Rd., 6.6 mi. N of Greeley Crossing, creek 0.2 mi. S of rd. to Twin Valley Springs and Button Lake, 4 Jul 2003 (adult assoc.) (NSM, GTA #1899)
- NV: Humboldt Co.; Greeley Crossing, 4 Jul 2003 (adult assoc.) (NSM, GTA #1900)
- NV: Lander Co.; Toiyabe Range, Kingston Canyon, 20 Jul 2001 (adult assoc.) (NSM, GTA #1611)
- NV: Lander Co.; Toiyabe Range, Birch Creek, 21 Jul 2001 (adult assoc.) (NSM, GTA #1619)
- NV: White Pine Co.; Kern Mts., Blue Mass Scenic Area rd., 3.5 mi. W of Pleasant Valley Rd., 6 Jul 2003 (adult assoc.) (NSM, GTA #1910)
- Limenitis weidemeyerii nevadae* (Barnes & Benjamin, 1924)**
- ROSACEAE
- Amelanchier utahensis* Koehne (Plate 7A)
- NV: Clark Co.; Sheep Range, Sawmill Canyon, 4 mi. NW of Mormon Well, 6700'. 2 Jul 1969 (ovip. on leaf tip, 07:45 PST) (Emmel *et al.* 1970)
- NV: Clark Co.; Spring Mts., Red Rock Summit Rd., 1.5 mi. E of Lovell Wash, 22 Jun 1977 (adult assoc.) (UNLV, GTA)
- NV: Clark Co.; Spring Mts., Deer Creek Rd., 2.6 mi.

W of Kyle Canyon, 7 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Harris Peak Rd., 7.3 mi. W of Harris Spring Rd., 27 Jun 1990 (adult assoc.) (no plant coll., GTA)

## SALICACEAE

*Populus angustifolia* James

NV: Clark Co.; Spring Mts., Echo Canyon, 22 Jul 1985 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Lee Canyon ski area, 8 Jul 1987 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 29 Jun 1988 (adult assoc.) (NSM, GTA #1474)

NV: Clark Co.; Spring Mts., Kyle Canyon nr. Rainbow Canyon, 26 Jul 2000 (larva feeding on leaf) (no plant coll., BB)

*Populus tremuloides* Michx. (Plate 5C)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 29 Jun 1988 (ovip. on upper surface of leaf tip, 12:40 PST) (no plant coll., GTA)

*Salix lasiolepis* Benth.\*

NV: Clark Co.; Spring Mts., Willow Creek, 13 Jun 1977 (and many subsequent dates) (adult assoc.) (no plant coll., GTA, cf GTA #1038)

NV: Clark Co.; Spring Mts., Lee Canyon (seep), 29 Jun 1977 (adult assoc.) (no plant coll., GTA, cf BB #10)

NV: Clark Co.; Spring Mts., Cold Creek, 1 Jul 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Willow Creek, 27 Jun 1984 (ovip. at tip of terminal leaf, 10:00 PST) (NSM, GTA #1038)

NV: Clark Co.; Spring Mts., Willow Creek, 13 Jun 1999 (larvae reared to adult, em. 22 Jun 1999) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Willow Creek, 16 Jun 1999 (larva reared to adult) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Willow Creek, 9 Jul 1999 (1st instar larva) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Willow Creek, 23 May 2000 (ovip. on leaf tip, 11:15 PST) (NSM, GTA #1542)

NV: Clark Co.; Spring Mts., Fletcher Canyon, 26 Jun 2001 (1st instar larva feeding on leaf) (NSM, BB #4)

***Limnitis weidemeyerii angustifascia* (Barnes & Benjamin, 1912)**

## ROSACEAE

*Amelanchier utahensis* Koehne (Plate 7A)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 26 Jun 1978 (adult assoc.) (UNLV, GTA)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun 1983 (adult assoc.) (no plant coll., GTA)

## SALICACEAE

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 26 Jun 1978 (ovip. on upper surface of leaf tip, 10:35 PST) (UNLV, GTA)

***Limnitis weidemeyerii latifascia* S. & E. Perkins, 1967/*****Limnitis lorquini itelkae* Guppy, 2001 hybrid zone**

## ROSACEAE

*Prunus virginiana* L. (Fig. 16)

NV: Humboldt Co.; Pine Forest Range, Alta Creek, Oct 2005 (38 hibernacula, most with larvae) (*fide* T. Stout)

## SALICACEAE

*Populus* sp.

NV: Humboldt Co.; Pine Forest Range. Alta Creek, 2-4 mi. W of Nv 140, 26 Jan 2003 (2 hibernacula) (*fide* J. Wolfe)

*Populus tremuloides* Michx. (Plate 5C)

NV: Humboldt Co.; Santa Rosa Mts., Lye Creek Campground, 13 Jul 2000 (adult assoc.) (no plant coll., GTA)

*Salix* sp.

NV: Humboldt Co.; Pine Forest Range. Alta Creek, 2-4 mi. W of Nv 140, 26 Jan 2003 (6 hibernacula) (*fide* J. Wolfe)

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Humboldt Co.; Pine Forest Range. Alta Creek, 2-4 mi. W of Nv 140, 26 Jan 2003 (8 hibernacula) (*fide* J. Wolfe)

*Salix gooddingii* C.R. Ball\*

NV: Elko Co.; Rock Creek-Scraper Spring Rd., Chino Creek, 0.5 mi. S of jct. Wilson Reservoir Rd., 5 Jul 2003 (adult assoc.) (NSM, GTA #1907)

*Salix lutea* Nutt.\*

NV: Humboldt Co.; Greeley Crossing Rd., 6.6 mi. N of Greeley Crossing, creek 0.2 mi. S of rd. to Twin Valley Springs and Button Lake, 4 Jul 2003 (adult assoc.) (NSM, GTA #1899)

***Limnitis lorquini lorquini* Boisduval, 1852**

## SALICACEAE

*Populus fremontii* S. Watson

NV: Lyon Co.; Mason Valley, Walker River, jct. Nv 340 and Nv 39, 16 Aug 1996 (ovip. at leaf tip, 14:10 PST) (NSM, GTA #1534)

NV: Lyon Co.; Mason Valley, Mason Valley WMA, 26 Jun 1998 (adult assoc.) (no plant coll., GTA)

NV: Washoe Co.; rd. W of Pyramid Lake at Rush Creek, 29 May 1984 (ovip. near edge of leaf, mid-tree but among lowest leaves, 08:40 PST) (NSM, GTA #911)

*Salix* sp.

NV: Churchill Co.; Carson River, 1/4 mi. downstream from Lahontan Reservoir Dam, 19 Feb 1999 (numerous hibernacula, larvae reared to adult) (*fide* J. Wolfe)

NV: Douglas Co.; S of Gardenerville, 12 Aug 1966 (5 larvae) (*fide* D. Bauer)

NV: Washoe Co.; Truckee River nr. Wadsworth, 27 Jul 1977 (mid- to late instar larvae) (Langston 1978)

*Salix drummondiana* Hook.\*

NV: Storey Co.; Six Mile Canyon, 1.6 mi. E of Nv 431, 24 Jun 1980 (adult assoc.) (NSMCC, GTA; cf



also GTA #807)

*Salix eastwoodiae* A.Heller\*

NV: Lyon Co.; Sweetwater Mts., Desert Creek at Risue Canyon, 27 Jun 1985 (adult assoc.) (no plant coll., GTA, cf GTA #863)

*Salix exigua* Nutt. (Plate 2H, 5D)

NV: Churchill Co.; Stillwater NWR, Loop Rd., 25 Aug 1983 (adult assoc.) (no plant coll., GTA)

NV: Churchill Co.; US 50, 8 mi. E of Fallon, 25 Jun 1998 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Valley, US 395 at Carson River, 6 Aug 1981 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Valley, Dressler Lane, 0.3 mi. E of Nv 88, 6 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Douglas Co.; Carson Valley, Genoa Lane, 2.3 mi. W of US 395, 6 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, Miller Lane, 0.5 mi. E of US 95A, 14 Aug 1979 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; US 95A at Fernley Canal, 29 Jun 1980 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, Nv 208, 0.5 mi. W junction of Mason Rd., 22 Jul 1981 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, Mason Valley WMA, 4 Jun 1996 (adult assoc.) (NSM, GTA #1529)

NV: Lyon Co.; Mason Valley, Mason Valley WMA, 4 Jul 1996 (adult assoc.) (no plant coll., GTA)

NV: Lyon Co.; Mason Valley, Mason Valley WMA, 26 Jun 1998 (adult assoc.) (no plant coll., GTA)

*Salix laevigata* Bebb\* (Fig. 38)

NV: Washoe Co.; Washoe Valley, Jumbo Grade, 1.2 mi. E of East Lake Blvd., 7 Aug 2001 (adult assoc.) (NSM, GTA #1657)

*Salix scouleriana* Hook.\*

NV: Washoe Co.; Carson Range, above Incline Village, First Creek area, 10 Jul 2003 (adult assoc.) (NSM, GTA #1916)

*Adelpha eulalia* (Doubleday, [1848])

FAGACEAE

*Quercus gambelii* Nutt. (Fig. 2)

NV: Clark Co.; Spring Mts., Willow Creek, 22 Jun 1968 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon Campground, 17 Jun 1977 (and several subsequent dates) (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Willow Creek, 17 Jun 1977 (ovip.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski run, 17 Jun 1977 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Red Rock Summit Rd., 22 Jun 1977 (ovip.) (Austin and Austin 1980)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 10 May 1978 (adult assoc.) (no plant coll., GTA)

NV: Clark Co.; Spring Mts., Mt. Springs Summit, 28 Jul 1998 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Wilson Creek Range, Wilson Peak Rd., 7000', 20 Jun 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 15 Jul 1980 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, Grapevine Canyon, 19 Sep 1988 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park, 24 Aug 2001 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Highland Range, Anderson Canyon, 3 Jul 2003 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Beaver Dam State Park, 21 Jul 2003 (adult assoc.) (no plant coll., GTA)

*Quercus turbinella* Greene (Plate 3B)

NV: Clark Co.; Virgin Mts., Cabin Canyon, 4 Jun 1983 (adult assoc.) (NSM, GTA #342)

NV: Clark Co.; Spring Mts., Pine Creek Canyon, 19 May 2003 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Oak Creek Canyon, 20 May 2003 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., First Creek Canyon, 22 May 2003 (adult assoc.) (no plant coll., BB)

NV: Clark Co.; Spring Mts., Lost Creek Canyon, 3 Jun 2003 (adult assoc.) (no plant coll., BB)

*Adelpha californica* (Butler, 1865)

FAGACEAE

*Quercus vacciniifolia* Kellogg

NV: Washoe Co.; Lake Tahoe, Kennedy Memorial Point, 28 Jun 1985 (adult assoc.) (no plant coll., GTA, cf GTA #487)

APATURINAE

The single species of apaturine in Nevada may not breed in the state. The species of this subfamily feed as larvae mostly on the leaves of *Celtis* (Ulmaceae) that are the exclusive larval hostplants for the genus occurring in Nevada, *Asterocampa*. The only records for the butterfly in the state have been in association with this plant.

*Asterocampa celtis montis* (W. H. Edwards, 1883)

ULMACEAE

*Celtis reticulata* Torr.

NV: Clark Co.; Virgin Mts., 0.4 mi. N of Nay Ranch, 11 Oct 1978 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Meadow Valley Wash, Grapevine Canyon, 19 Sep 1988 (adult assoc.) (NSM, GTA #1498)

SATYRINAE

Larval hostplants have been determined for four of the seven species of satyrs in Nevada, including three species of Poaceae

(4 butterfly/plant combinations). Of these, three are newly reported species and genera for the species of butterfly concerned (*Heterostipa* for *Cercyonis sthenele*, *Distichlis* for *Cercyonis oetus*, and *Leymus* for *Cercyonis pegala*). *Leymus* is a common or the dominant vegetative component of sites occupied by *C. pegala* in Nevada (see also Emmel and Mattoon 1972). Populations of this species are often located by the presence of that grass. Similarly, populations of *Neominois ridingsii* are frequently encountered by searching within stands of *Heterostipa comata*. Determination of larval hostplants for satyrines is difficult, similar to the situation in hesperiines. Oviposition often appears haphazard, may be on dead leaves, and is not necessarily on species fed upon by larvae; females of some species do not attach their eggs and larvae may be nocturnal (e.g., Gilbert and Smiley 1978; Scott 1992, 2006a). Data from Nevada are insufficient for any generalizations.

***Cercyonis pegala paucilineatus* Austin, 1992**

POACEAE

*Leymus cinereus* (Scribn. & Merr.) Á.L.Öve\*\*

NV: Humboldt Co.; Kings River Valley, 9.0 mi. N of Kings River, 24 Aug 1984 (ovip. on lower surface of leaf blade near ground, 09:00 PST) (NSM, GTA #1108)

***Cercyonis pegala paludum* Austin, 1992**

POACEAE

*Leymus cinereus* (Scribn. & Merr.) Á.L.Öve\*\*

NV: Elko Co.; Clover Valley, US 93, 11.7 mi. S of Wells, 14 Jul 1986 (adult assoc.) (NSM, GTA #1360)

***Cercyonis sthenele paulus* (W. H. Edwards, 1879)**

POACEAE

*Hesperostipa comata* (Trin. & Rupr.) Barkworth\*\* (Plate 12C)

NV: Mineral Co.; Anchorite Hills, Nv 359, 0.7 mi. N of Anchorite Pass, 5 Aug 2001 (adult assoc., only grass present) (NSM, GTA #1648)

***Cercyonis oetus alkalorum* Austin, 1998**

POACEAE

*Distichlis spicata* (L.) Greene\*\* (Plate 12D)

NV: Nye Co.; Big Smoky Valley, Northumberland Mine Rd., 1.5 mi. E of Nv 376, 9 Jul 1984 (ovip. on lower stem, 11:15 PST) (NSM, GTA #1073)

***Neominois ridingsii stretchii* (W. H. Edwards, 1870)**

POACEAE

*Hesperostipa comata* (Trin. & Rupr.) Barkworth (Plate 12C)

NV: no locations given (associated closely) (Austin 1986)

NV: Elko Co.; US 93, 19.8 mi. S of Spruce Mt. Rd., 15 Jun 2002 (adult assoc.) (no plant coll., GTA)

NV: Eureka Co.; Diamond Mts., 1.8 mi. E of Pinto Summit, 21 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toquima Range, Petes Summit Rd., 2.2 mi. E of Petes Summit, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lander Co.; Toquima Range, Petes Summit Rd.,



Figure 38. *Salix laevigata*.

13.0 mi. E of Nv 376, 18 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lincoln Co.; Spring Valley, 2.1 mi N of Atlanta, 18 Jun 1990 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Spring Valley, 3.5 mi. N of Atlanta, 31 May 2002 (adult assoc.) (no plant coll., GTA)

NV: Lincoln Co.; Lake Valley, 3.3 mi. E of US 93, Lake Valley Estates Rd., 1 Jun 2002 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toquima Range, Moores Creek Rd., 2.4 mi. E of Moores Creek Summit, 5 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: Nye Co.; Toquima Range, Moores Creek Rd., 1.6 mi. W of Moores Creek Summit, 5 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; US 50, 0.1 mi. E Robinson Summit, 20 Jul 1991 (adult assoc.) (no plant coll., GTA)

NV: White Pine Co.; Spring Valley, 3.2 mi. E US 93, 2.3 mi. S Shoshone Rd., 11 Jun 2002 (adult assoc.) (no plant coll., GTA)

***Neominois ridingsii pallidus* Austin, 1986**

POACEAE

*Hesperostipa comata* (Trin. & Rupr.) Barkworth (Plate 12C)

NV: Lyon Co.; Sweetwater Mts. Silverado Canyon Rd at CA state line, 3 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Lyon Co.; Pine Grove Hills, Pine Grove Canyon, 7 mi. W of Nv 3C to summit, 5 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Anchorite Hills, Nv 359, 1.4 mi. W of Anchorite Pass, 6 Jun 1981 (adult assoc.) (NSMCC, GTA)

NV: Mineral Co.; Alkali Valley, Larkin Dry Lake Rd., 4.8 mi. N of Nv 359, 6 Jun 1981 (adult assoc.)

(NSMCC, GTA)

**DANAINAE**

Larval hostplants have been determined for both of the species of danaines resident in Nevada, including 12 species of plants (18 butterfly/plant combinations) in Apocynaceae. Four are newly reported for the species of butterfly concerned; one of these, the use of *Apocynum* by *Danaus gilippus*, represents a new genus of plant for the species. Larval hostplants of Danainae are rather easily determined since females are obvious as they oviposit, larvae are conspicuous, and stands of *Asclepias* are usually monospecific in Nevada. Oviposition occurs throughout the day and is generally on lower surfaces of leaves, although eggs are placed on stems of species with tiny leaves (*Asclepias subulata*, *Sarcostemma*).

***Danaus plexippus plexippus* (Linnaeus, 1758)**

## APOCYNACEAE

*Asclepias* sp.

NV: Lyon Co.; 7 mi. W of Ft. Churchill, 21 Jun 1970 (larvae) (Langston 1971)

*Asclepias asperula* (Decne.) Woodson

NV: Clark Co.; Red Rock area, Icebox Canyon, 10 Sep 1985 (larvae) (NSM, GTA)

*Asclepias cordifolia* (Benth.) Jeps.

NV: Douglas Co.; Kingsbury Grade, 4.0 mi. W of Nv 206, 22 Aug 1989 (mature larvae feeding on leaves) (NSM, GTA #1511)

*Asclepias cryptoceras* S. Watson

NV: location not given (used in the state) (Lynch and Martin 1993)

*Asclepias erosa* Torr. (Plate 10E)

NV: Lincoln Co.; US 93, Coyote Springs, 17 Sep 1981 (several larvae feeding on leaves) (NSMCC, GTA)

NV: Lincoln Co.; US 93, Coyote Springs, 14 Sep 1983 (larva feeding on leaf) (no plant coll., GTA, cf GTA #356)

*Asclepias fascicularis* Decne.

NV: Churchill Co.; US 50, 8 mi. E of Fallon, 4 Aug 1998 (larvae on stems) (no plant coll., GTA)

NV: Douglas Co.; Carson Valley, US 395, south of Gardnerville at fish hatchery rd., 9 Jul 1998 (larva on stem) (no plant coll., GTA)

NV: Douglas Co.; Carson Valley, Nv 206, 4.7 mi. N of Nv 207, 6 Aug 2001 (larvae feeding on leaves) (NSM, GTA #1652)

NV: Esmeralda Co.; White Mts., Indian Creek Ranch, 23 Aug 1983 (larvae) (NSM, GTA #586)

NV: Esmeralda Co.; Nv 266, Lida, 17 Sep 1983 (small larva on leaf) (no plant coll., GTA)

NV: Lyon Co.; Fernley Farm District Rd., 12 Aug 1979 (last instar larvae) (NSMCC, GTA)

NV: Lyon Co.; Fernley Canal at US 95A, 29 Jun 1980 (various instar larvae) (NSMCC, GTA)

NV: Lyon Co.; Fernley, 6 Aug 2003 (adult assoc.) (*fide* P. Cherubini)

NV: Lyon Co.; Yerington, 6 Aug 2003 (full grown larva) (*fide* P. Cherubini)

NV: Mineral Co.; US 95, 4.0 mi. S of Schurz, 8 Jul 1982 (larvae on leaves) (NSMCC, GTA)

NV: Nye Co.; US 95, 1.5 mi. S of Springdale, 30 Aug 1984 (mature larva feeding on pod) (NSM, GTA #1146)

NV: Nye Co.; US 95, 3.1 mi. N of Beatty, 15 Sep 2003 (full grown larva on leaf) (no plant coll., GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 5-6 mi. W of Nv 400, 8 Aug 1980 (several larvae mostly on small plants) (NSMCC, GTA)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 4.2 mi. W of Nv 400, 11 Jul 1981 (several larvae) (NSMCC, GTA)

NV: Pershing Co.; West Humboldt Range, Star Creek Canyon, 5-6 mi. W of Nv 400, 30 Jul 1988 (mature larvae feeding on leaves) (NSM, GTA #1487)

NV: Pershing Co.; West Humboldt Range, Star Creek, 5 mi. W of Nv 400, 14 Jul 2000 (4th instar larva feeding on leaves) (NSM, GTA #1566)

NV: Washoe Co.; Washoe Valley, Washoe Lake State Park, South Beach area, 7 Aug 2001 (3 larvae feeding on leaves) (NSM, GTA #1655)

*Asclepias hallii* A. Gray\*

NV: White Pine Co.; White Pine Mts., Little Current Creek Rd., 2.4 mi. N of Nye Co. line, 17 Jul 1980 (late instar larva) (NSMCC, GTA)

*Asclepias incarnata* L.

NV: Lander Co.; Toiyabe Range, Big Creek, 18 Jun 1978 (larvae) (UNLV, GTA)

NV: Lincoln Co.; Pahrnagat Valley, Hiko Junction, 22 Jul 1979 (several larvae) (UNLV, GTA)

*Asclepias ruthiae* Maguire\*

NV: Elko Co.; Butte Valley, ca. 2 mi. W of Butte Valley Rd., 8 Jun 1992 (1/2 grown larva, prostrate plant with purplish flowers and narrow leaves growing on small sand dune, no other plant encountered in area) (no plant coll., GTA)

*Asclepias speciosa* Torr.

NV: Douglas Co.; Carson Valley, Mottsville Lane, 1.0 mi. W of Nv 88, 6 Aug 2001 (larva eating leaf) (NSM, GTA #1649)

NV: Douglas Co.; Pine Nut Mts., US 395, 2.9 mi. N of Holbrook Jct., 6 Aug 2002 (ovip. 3× on middle of lower surface of middle leaf, 11:20 PST) (NSM, GTA #1746)

NV: Elko Co.; N end of Crittenden Reservoir, 24 Jul 2001 (larva on leaf) (NSM, GTA #1644)

NV: Humboldt Co.; I-80, Stonehouse, 1 Jul 1980 (larvae) (NSMCC, GTA)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 22 Jul 1984 (ovip. on lower surface of lower leaf of young plant, 08:50 PST) (NSM, GTA #1081)

NV: Lander Co.; Humboldt River, Nv 806, 2.1 mi. N of Battle Mountain, 22 Jul 1984 (1/2 grown larva on leaf) (NSM, GTA #1081)

NV: Nye Co.; Duckwater, 10 Jul 1984 (ovip. on lower surface of lower leaf, 10:45 PST) (NSM,

GTA #1077)

NV: Pershing Co.; Humboldt Mts., Star Creek Canyon, 4.2 mi. W of Nv 400, 11 Jul 1981 (ovip. 2× on lower surface of central leaves, 08:30 PST) (NSMCC, GTA)

NV: Washoe Co.; Carson Range, Davis Creek Park, 4 Aug 2002 (2 1/2 grown larvae on leaves) (NSM, GTA #1743)

NV: White Pine Co.; Snake Range, US 6, 3.0 mi. S of Sacramento Pass, 2 Jul 1986 (3rd-4th instar larvae sitting on stems, 07:30 PST) (NSM, GTA #1350)

NV: White Pine Co.; Duck Creek, 2.5 mi. E of US 93, 23 Aug 2001 (several larvae feeding on leaves) (NSM, GTA #1692)

NV: White Pine Co.; Duck Creek, 1.8 mi. E of US 93, 13 Jul 2002 (adult assoc.) (no plant coll., GTA, cf GTA #1692)

NV: White Pine Co.; Duck Creek, 2.5 mi. E of US 93, 8 Sep 2003 (two larvae feeding on leaves) (no plant coll., GTA, cf GTA #1692)

*Sarcostemma cynanchoides* Decne. ssp. *hartwegii* (Vail) R.W.Holm (Fig. 39)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 22 Aug 1990 (ovip. 2× on lower surface of stems, 10:30 PST) (no plant coll., GTA)

### ***Danaus gilippus thersippus* (H. Bates, 1863)**

#### APOCYNACEAE

*Apocynum androsaemifolium* L.\*\*

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 7 Jul 1981 (ovip. on upper stem, 12:15 PST) (NSMCC, GTA)

NV: Clark Co.; Spring Mts., Kyle Canyon ski area, 11 Jul 1981 (larva feeding on leaf) (NSMCC, GTA)

*Asclepias asperula* (Decne.) Woodson

NV: Clark Co.; Spring Mts., Kyle Canyon Ranger Station, 27 Jun 1984 (ovip. on lower surface of leaf, 09:05 PST) (NSM, GTA #1030)

*Asclepias erosa* Torr. (Plate 10E)

NV: Lincoln Co.; US 93, Coyote Springs, 8 Jun 1983 (several larvae) (NSM, GTA #356)

*Asclepias fascicularis* Decne.

NV: Douglas Co.; Hwy 88, ca. 40 mi. S of Reno, 30 Jul 2003 (adult assoc.) (*fide* P. Cherubini)

NV: Nye Co.; US 95, 1.3 mi. N of Beatty, 4 Jun 1992 (2 larvae on leaves) (no plant coll., GTA, cf GTA #1146)

*Asclepias incarnata* L.

NV: Lincoln Co.; Pahrnatagat Valley, upper Pahrnatagat Lake, 14 May 1978 (ovip. on lower leaf surface) (UNLV, GTA)

*Asclepias speciosa* Torr.\*

NV: Douglas Co.; Carson Valley, Scossa Ranch, 10 Aug 1980 (ovip. on lower surface of middle leaf) (NSMCC, GTA)

NV: White Pine Co.; Duck Creek, 2.5 mi. E of US 93, 23 Aug 2001 (one larva among several larvae

of *Danaus plexippus*) (NSM, GTA #1692)

*Asclepias subulata* Decne.

NV: Clark Co.; Newberry Mts., 9 mi. W of Davis Dam, 3 May 1978 (ovip. beneath flower heads, 10:00 PST) (Austin and Austin 1980)

NV: Clark Co.; Nv 163, 2 mi. W of Davis Dam, 18 May 1983 (larva) (NSM, GTA #186)

NV: Clark Co.; Nv 163 at Needles Highway, 27 Sep 1988 (ovip. 5× on mid-stems, 14:05 PST) (NSM, GTA #1501)

*Sarcostemma cynanchoides* Decne. ssp. *hartwegii* (Vail) R.W.Holm (Fig. 39)

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 3 Aug 1977 (mature larva) [Austin and Austin 1980, misdetermined as *Sarcostemma hirtellum* (A.Gray) R.W.Holm]

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 27 Sep 1977 (ovip. single eggs on stems between leaf bases, 10:40 PST, 11:00 PST) (Austin and Austin 1980) [misdetermined as *Sarcostemma hirtellum* (A.Gray) R.W.Holm]

NV: Clark Co.; Newberry Mts., Grapevine Canyon, 20 Apr 1978 (ovip. on stems, 13:30 PST) (Austin and Austin 1980) [misdetermined as *Sarcostemma hirtellum* (A.Gray) R.W.Holm]

NV: Clark Co.; Newberry Mts., Sacatone Wash, 18 May 1983 (larvae on leaves) (NSM, GTA #179)

NV: Clark Co.; Newberry Mts., Sacatone Wash, 13 Sep 1984 (ovip. on stem, 12:45 PST) (NSM, GTA #1201)

NV: Clark Co.; Nv 163 at Needles Highway, 27 Sep 1988 (ovip. 3× on stems, 14:20 PST) (NSM, GTA #1502)

NV: Clark Co.; Newberry Mts., Nv 163, Hiko Spring, 22 Sep 2003 (adult assoc.) (no plant coll., GTA)

## DISCUSSION

Based upon nearly 3800 individual records, butterflies in Nevada have been found to use a total of 398 species of plants included in 150 genera and 35 families as follows: Agavaceae (6 species, 2 genera), Amaranthaceae (19, 11), Apiaceae (10, 4), Apocynaceae (12, 3), Asteraceae (38, 23), Boraginaceae (5, 4), Brassicaceae (57, 24), Caprifoliaceae (2, 1), Crassulaceae (1, 1), Cupressaceae (4, 2), Cyperaceae (2, 2), Fabaceae (74, 18), Fagaceae (4, 2), Grossulariaceae (6, 1), Juncaceae (1, 1), Malvaceae (12, 5), Oleaceae (1, 1), Orobanchaceae (10, 2), Phrymaceae (1, 1), Pinaceae (8, 1), Plantaginaceae (14, 4), Poaceae (16, 12), Polygonaceae (42, 4), Primulaceae (1, 1), Ranunculaceae (1, 1), Rhamnaceae (4, 1), Rosaceae (16, 9), Rutaceae (1, 1), Salicaceae (17, 2), Santalaceae (4, 2), Ulmaceae (2, 2), Urticaceae (1, 1), and Violaceae (7, 1).

Individual species of plants support up to 13 species of butterflies, but the majority (60%) are known to support but one. Another 32% are inhabited by two or three species of butterfly. At the other extreme, 12 species have been recorded from *Lupinus argenteus* and 13 from *Eriogonum umbellatum*. Among genera of plants, the majority (54%) support one species of butterfly; a further 35% support two or three. Only two genera are used by more than 10 species of butterflies with 14 on *Lupinus* and 25 on *Eriogonum*.

Six families of plants have more than ten species of butterflies including Poaceae (10 species), Brassicaceae (11), Rosaceae (12), Asteraceae (15), Fabaceae (26), and Polygonaceae (29). Sixty percent support one to three species of butterflies.

Although this compilation is rather extensive, it is far from a complete accounting of larval hostplants in Nevada and subsequent investigations will undoubtedly increase the number of plants used by butterflies in the state. At least one potential larval hostplant has been determined for 169 of the 190 (89%) species of resident and breeding immigrant butterflies known in Nevada. Of the recorded hostplants, 318 species have apparently not been reported for the particular species previously and include 39 new generic and seven familial records. This total, although seemingly large, is not unexpected in a largely unstudied region and there are undoubtedly numerous additional hostplants that have yet to be documented. About one-half of the species use one or two species of plants as larval hostplants. Twenty species, however, have been recorded from ten or more. The three with the greatest number, *Pontia protodice* (25), *Colias eurytheme* (20), and *Vanessa cardui* (22) occur statewide, are highly vagile, often occur in weedy situations, and are thus exposed to a range of potentially suitable food resources. *Pontia* feed only on Brassicaceae, *Colias* feed only on Fabaceae, and *Vanessa* uses four families (Asteraceae, Boraginaceae, Fabaceae, Malvaceae), but all appear somewhat opportunistic within these limits. Many of the remaining species using numerous larval hostplants are also broadly distributed and, except *Vanessa annabella* (on three families), are like *Colias eurytheme* and *Pontia protodice* by using plants of one or two families of plants in Nevada.

Non-native plants now occur virtually worldwide (Lonsdale 1999) and undoubtedly have myriad effects on native phytophagous insects and many may serve as potential or actual larval hostplants. These may be fully incorporated into larval diets, at times at the expense of native hostplants (Tabashnik 1983, Shapiro 1975, Thomas *et al.* 1987, Tong and Shapiro 1989, Singer *et al.* 1993). In other instances, naturalized plants may serve as oviposition sites, yet initially are refused by or are lethal to larvae (Bowden 1971; Chew 1977a, 1977b; Slansky and Feeny 1977), but may eventually be successfully colonized (Courant *et al.* 1994). Other non-native plants may be fully suitable for development but are not immediately so recognized by females (Karowe 1990). These plants may have myriad effects on insects including modifying their distributions, causing extirpations, promoting local adaptation, creating larger populations, and providing additional sources of nectar (*e.g.*, Shapiro 1975, 2002; Tabashnik 1983; Singer *et al.* 1993; Novotny *et al.* 2003; Shapiro and Graves 2003; Tallamy 2004). Numerous alien species of plants have been inadvertently introduced into Nevada (*e.g.*, Robinson 1965, Young *et al.* 1972, West 1983, Mack 1986, Hunter 1991) or serve as crops or ornamentals. Fifty-seven of these, largely Brassicaceae (17 species), Fabaceae (10), Amaranthaceae (9), Asteraceae (6), and Poaceae (5), have been identified as apparent larval hostplants for 37 species of butterflies (19% of the resident fauna) in the state and have affected distributions and abundances of butterflies that can use them. In adjacent California, over one-third of the species of butterflies potentially utilize one or more non-native taxa of plants (Shapiro 2002, Graves and Shapiro 2003). Such species as *Colias eurytheme*, *C. philodice*, and *Lycaeides melissa* are more widespread in Nevada than they would have been without

the cultivation of alfalfa, with *Colias* noted as pests as early as the early 20th century (Wildermuth 1914). Invasive Brassicaceae, especially *Lepidium* and *Sisymbrium*, allow *Pontia protodice* and *Pontia occidentalis* to inhabit many roadside and other disturbed habitats, occasionally in huge numbers. Populations of *Rorippa nasturtium-aquaticum* allow colonization of many montane habitats by the introduced *Pieris rapae* (*e.g.*, see Shapiro 1975). Exotic amaranths, especially *Halogeton* and *Salsola*, facilitate the annual spread of *Brephidium exilis* northward in Nevada. Here they establish large populations in some years, but they apparently cannot establish themselves permanently (*e.g.*, see Shapiro 1974). Nine of the 18 known larval hostplants of that species in Nevada are not native. Non-native species of plants are the apparent principal larval hostplants for a number of other species as well, including *Hylephila phyleus*, *Lerodea eufala*, some populations of *Euphydryas editha* (see Thomas *et al.* 1987), and several Lycaeninae.

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Figure 39. *Sarcostemma cynanchoides*.

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