Tiny Checkerspot
Dymasia dymas
(W. H. Edwards, 1877)

James Von Loh took the photograph (immediately below) of two Tiny Checkerspots taking nutrients from a pool in drainage at the head of Achenbach Canyon. In the same location, he took the photograph (bottom left) of the butterfly showing its ventral wing exposure.

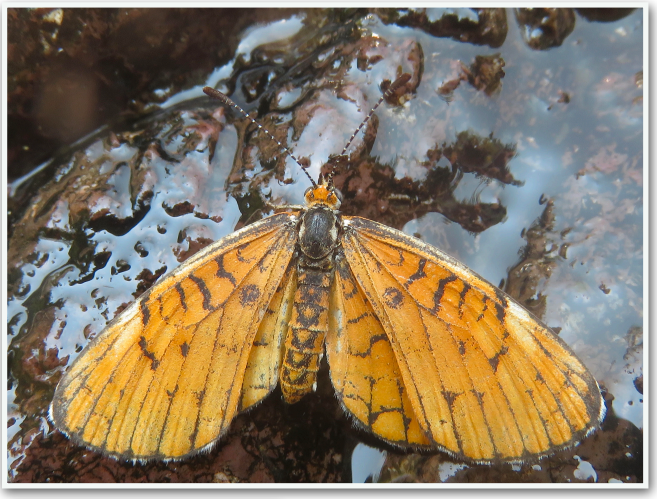
This species is found in the very southern parts of California, Arizona, New Mexico, and Texas, southward into central Mexico, usually below 5,500 feet. In New Mexico it has from three to four flights a year, during March to October.

The wingspan of this species varies between 3/4 of an inch and 1-1/2 inches.

See instar at Berry Nalls site.







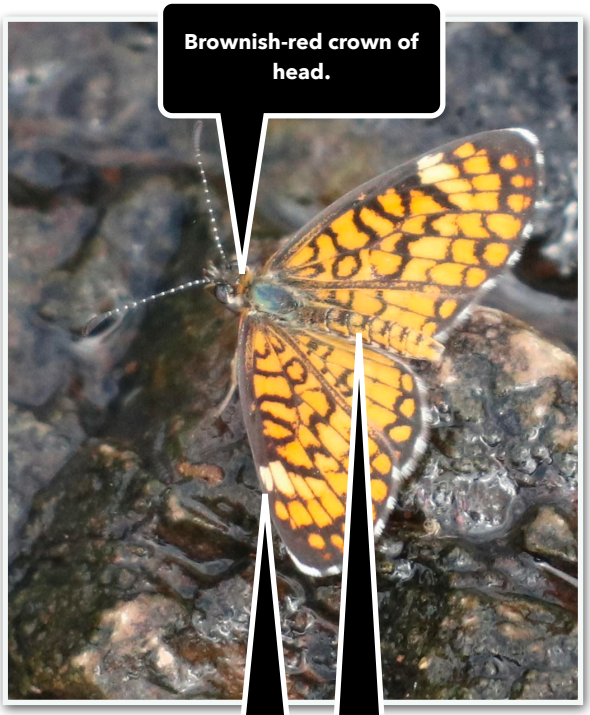


Range Map of Dymasia dymas
Tiny Checkerspot
From sightings reported to Butterflies and Moths of North America.



Gordon Berman took these photographs of a Tiny Checkerspot taking nutrients from wet bedrock below Soledad Canyon Falls in the Organ Mountains. Note that there are orange spots inclosed by black along its abdomen, a diagnostic feature.





Other Resources (Tiny Checkerspot)

- Butterflies and Moths of North America
- North American Moth Photographers Group. As *Microtia dymas*
- BugGuide. As *Microtia dymas*.
- Butterflies of America. As *Microtia dymas*.
- Pajarito Environmental Education Center



Giant Northern Flag Moth or Giant Northern Flag
Dysschema howardi
(Hy. Edwards, 1886)
Hodges 8040

This species is found in Arizona, New Mexico, southwestern Texas, and Mexico. None of the other (90) species in *Dysschema* are found this far north. This species was known as *Daritis thetis* at one time.

The instar (right) was photographed by Gordon Berman in 2019 on the west side of the Organ Mountains. Ron Parry captured an individual in the imago stage (below) and has added the image to his website.

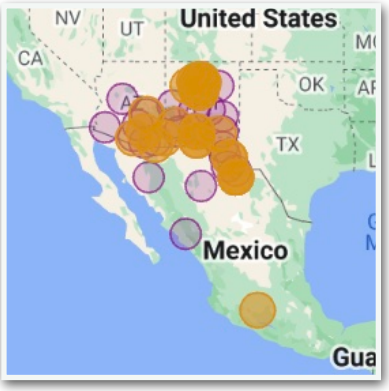


Captured in the Big Burro Mountains. From Moths of the Gila National Forest by Ron Parry (website).



Giant Northern Flag Moth instar photographed by Gordon Berman, on the west side of the Organ Mountains in 2019.





Range Map of *Dysschema howardi*
Great Northern Flag Moth
From sightings reported to Butterflies and Moths of North America.

Henry Edwards
(1827-1891)

People who have a fascination with natural history, and often contribute significantly to that field, come from all walks of life.

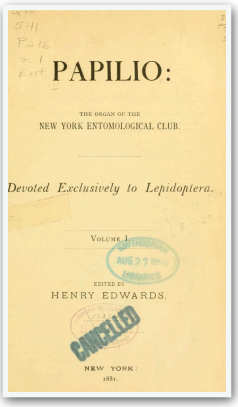
"Harry" was the stage name of Henry Edwards. He was an actor of note, gaining fame in Australia and on the east and west coasts of the United States.

He was elected a life member of the California Academy of Sciences following his publication of a series of studies of the butterflies and moths of the Pacific Coast region.

On the east coast he edited three volumes of *Papilio*, the journal of the New York Entomological Club.

***Papilio* merged with *Entomologica Americana* in 1941. He also completed a major work on the life cycle of butterflies at this time.**

Edwards' personal insect collection became the foundation of the butterfly and moth collection at the American Museum of Natural History.


PAPILIO:

THE ORGAN OF THE NEW YORK ENTOMOLOGICAL CLUB.

Devoted Exclusively to Lepidoptera.

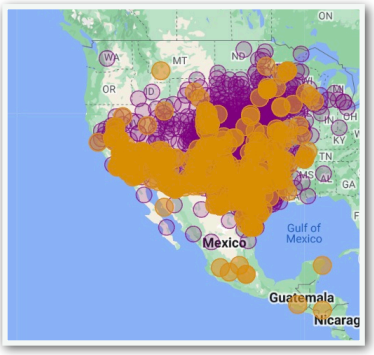
VOLUME I.

EDITED BY HENRY EDWARDS.

NEW YORK:

Reakirt's Blue
Echinargus isola
(Reakirt, 1867)
Hodges 4360

Ants tend the caterpillars of this species, apparently protecting them. The caterpillars excrete a sugary substance which the ants consume. This type of relationship is seen in several butterfly species.



Range Map of *Echinargus isola*
Reakirt's Blue
From sightings reported to Butterflies and Moths of North America.

Caterpillars feed on plants in the pea family including (but not limited to), clover, mimosa, and mesquite. The caterpillars eat the flowers and seed pods of these plants. Sometimes they also eat the leaves. The adult butterfly nectars on diverse plant sources including spearmint, white sweet clover, water speedwell, tamarisk, coyote willow, milkweed



Reakirt's Blue, east of Hillsboro, Black Range, July 2017.



Reakirt's Blue. JVL



Reakirt's Blue taking nutrients from a muddy flat near livestock pond at the Sierra Vista Trail. JVL

species, aster species, littleleaf sumac, honey mesquite, etc.

Tryon Reakirt
(1844-1871)

From Wikipedia: Reakirt *"was an American businessman and entomologist. He wrote several papers on butterflies and showed great promise in his field. However his career was cut short when financial and legal difficulties forced him to flee the country."*

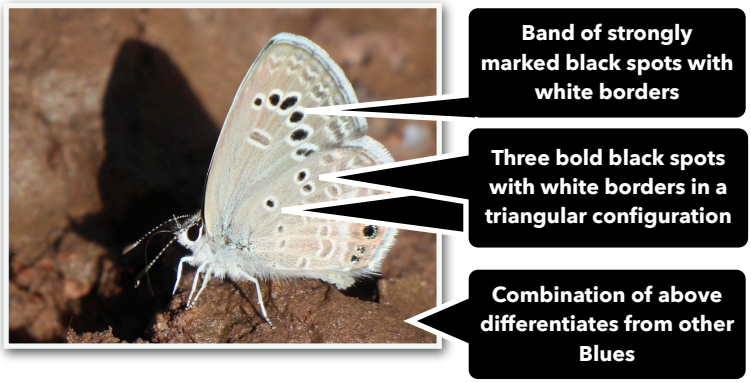
I guess not all entomologists are "pristine" - they seem to be human.



Reakirt's Blue on June 25. Common. JVL



Reakirt's Blue taking nutrients from a muddy flat near livestock pond at the Sierra Vista Trail, Organ Mountains. JVL.



Other Resources (Reakirt's Blue)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

Slice and Dice

The Linnaean classification system has grown a bit more complicated over the years as humans have attempted to fit everything into a box. The classical hierarchy is:

- Life;
- Domain;
- Kingdom;
- Phylum (Division is the term sometimes used in botany);
- Class (in botany, the suffix "eae" is added to the name);
- Order;
- Suborder (in botany, the suffix "ineae" is added to the name);
- Family (in botany, the suffix "aceae" is added to the name);
- Subfamily (in zoology, Subfamiles end in "inae" and in botany, the suffix "oideae" is added to the name);
- Tribe (in zoology, Tribes end in "ini" and in botany they end in "eae");
- Subtribe (in zoology, Subtribes end in "ina");
- Genus;
- Superspecies or Species Complex (several closely related species);
- Species;
- Group (as in one of the groups of Dark-eyed Junco subspecies which make up that species); and
- Subspecies.

You may encounter divisions which are based on a more complex methodology. Differing Kingdoms have different rules for classifying and naming the various classifications.

Huachuca Skipper
Epargyreus huachuca
(Dixon 1955)
Hodges 3870.1

This Huachuca Skipper was photographed (RAB) in Railroad Canyon, on the west slope of the Black Range, on May 13, 2022. This species does not like yellow flowers - other colors yes, yellow, no. At night, Huachuca Skippers can be found "perching" upside down on the bottom side of leaves. Sometimes they will exhibit this behavior on especially hot days.





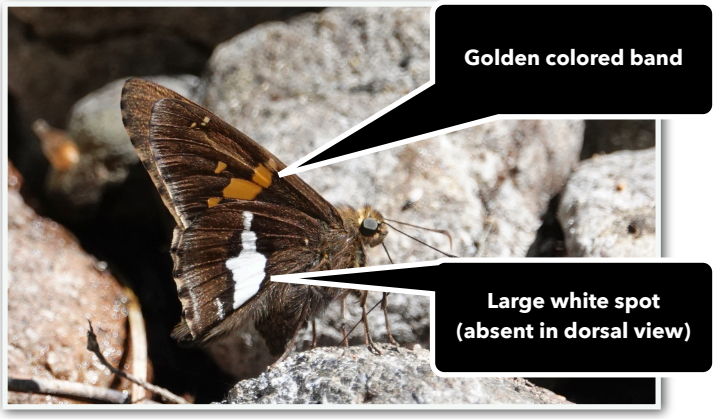


Range Map of *Epargyreus huachuca*
Huachuca Skipper
From sightings reported to Butterflies and Moths of North America.



Other Resources
(Huachuca Skipper)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



The larvae of Huachuca Skipper prefer the New Mexico Locust, *Robinia neomexicana,* as a host plant. This plant species proliferates in the Black Range following forest fires. There are many individual host plants in the Black Range for this species.

This species has recently been split from *Epargyreus clarus*, Silver-spotted Skipper. Markings used to separate Silver-spotted Skipper (which is found in northern New Mexico) and Huachuca Skipper have yet to be identified. There are several subspecies of Huachuca Skipper, the one we have here is the nominate form. Some sources name this species Sonoran Skipper, a name previously given to *Polites sonora*.

The April 2022 issue of The Black Range Naturalist focused on butterflies and moths of the Black Range. Much of the material in this Sampler was taken from that source.

Additional species accounts and species photographs have been added to the species listing since April of 2022. Additional supporting material has also been added to the Sampler. However, the natural history articles on butterflies and moths, written by James Von Loh, in the April 2022 issue of *The Black Range Naturalist* have not been included in the Sampler. The Sampler is intended to be, primarily, an identification guide to the butterflies and moths found in our area.

We recommend that you read or download the April 2022 issue of *The Black Range Naturalist*. It makes a perfect companion piece to the Sampler.

The Black Range Website has a complete index of all of the issues of the Black Range Naturalist.

We hope to issue future versions of the Sampler. If you have material which would make this effort more comprehensive, and wish to share, please contact the editor at rabarnes@blackrange.org.





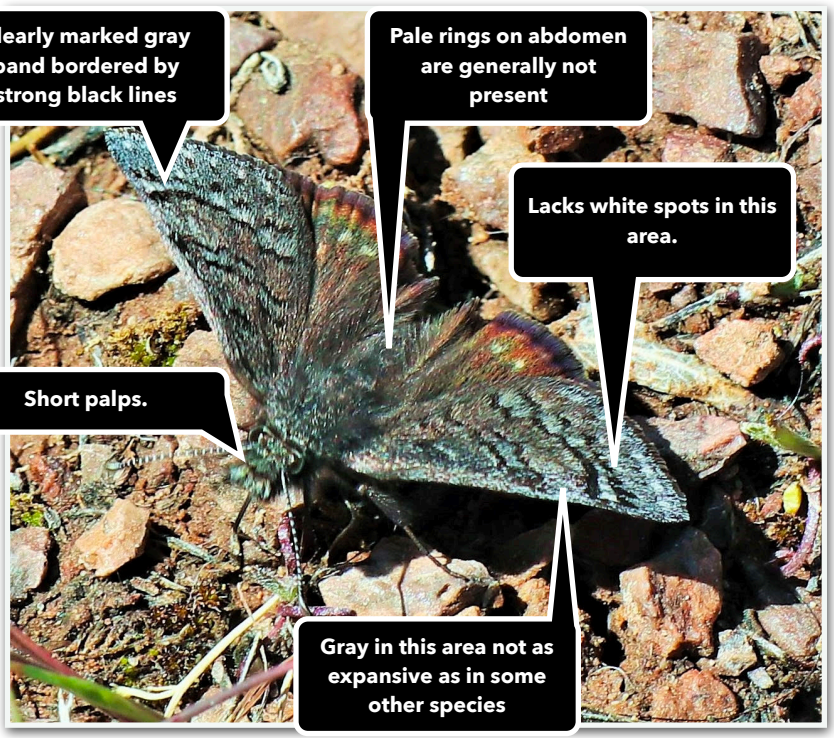


Sleepy Duskywing
Erynnis brizo burgessi
(Boisduval & Leconte, 1837)
Hodges 3946

This Sleepy Duskywing was photographed by James Von Loh. It is taking nutrients from moist soil under gravel near the Soledad Canyon Trailhead, Organ Mountains. Note the blunt appearance of the antennal clubs.

This is a butterfly of higher elevations, from a mile to a mile-and-a-half high (5200' to about 7800'). This is the life zone of several of the host plants that larvae feed on, especially oaks like *Quercus gambelii* and *Quercus emoryi* in our area.

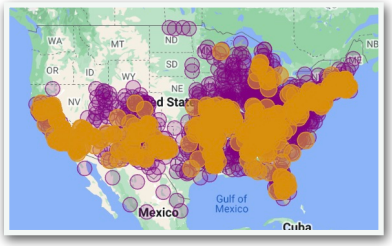
The last instar of the larval stage will overwinter (hibernate). There is one flight per year.





Other Resources (Sleepy Duskywing)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America



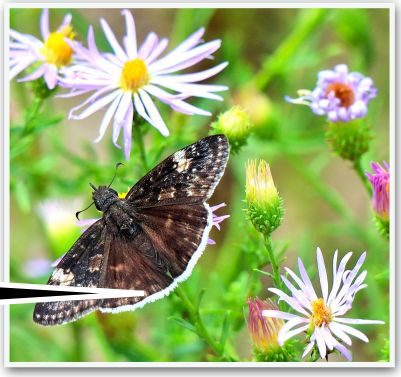
Range Map of *Erynnis brizo* Sleepy Duskywing From sightings reported to Butterflies and Moths of North America.

Other Resources (Funereal Duskywing)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center







Funereal Duskywing

Erynnis (Gesta) funeralis

(Scudder & Burgess, 1870)

Hodges #3957

Top Left: Photographed on Sawyers Peak, Black Range, June 2019. RAB Center Left: Photograph by Gordon Berman.

Remaining imago photographs by James Von Loh. In the Rio Grande at Las Cruces, Von Loh found this to be an uncommon-to-common butterfly nectaring from Spine-aster flowers.

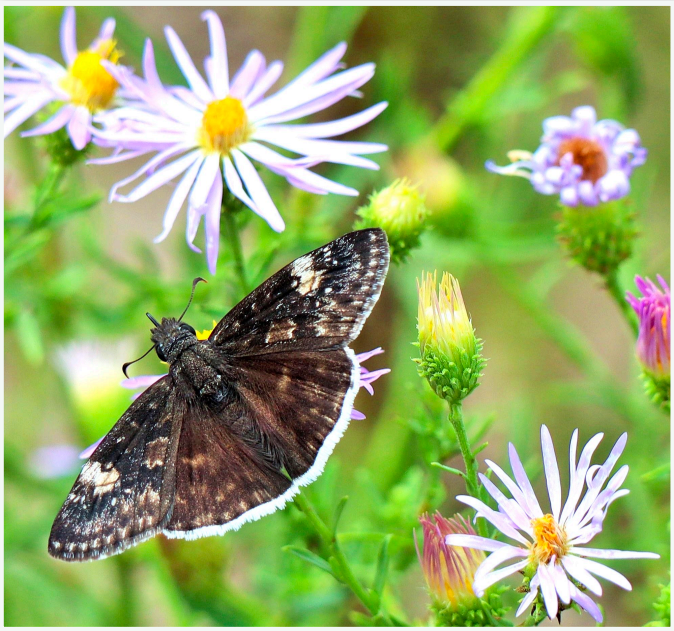
This species is found at a wide range of elevations, from about 4,000 feet to 11,00 feet. Caterpillars of this species feed on New Mexico Locust, alfalfa, various vetch species, and other legumes.





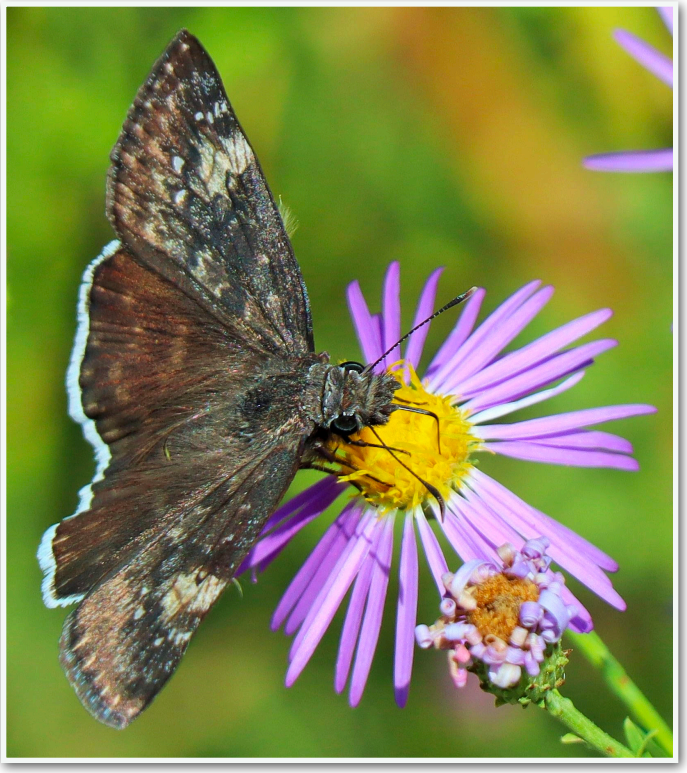




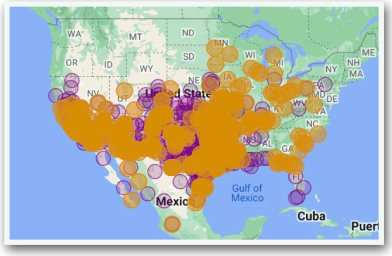




Instar of Funereal Duskywing, an image from Berry Nall's excellent website, shown under a Creative Commons Attribution-NonCommercial 4.0 International License.



Funereal Duskywing. JVL



Range Map of *Erynnis funeralis*
Funereal Duskywing
From sightings reported to
Butterflies and Moths of North America.

Adults feed from the nectar of various flowering species, including the asters which are shown here.

Both sexes have scent scales. The male has a costal fold which has (yellow) scent scales and the female has a patch of scent scales on her 7th abdominal segment.

The range of Funereal Duskywing extends as far south as Argentina. As shown on the range map, they wander widely from their core American range in the Southwest.

Referring back to the current range of taxonomic categories, this species is in the Tribe *Erynnini*. The Genus *Erynnis* (the Duskywings) has at least 24 species.

Samuel Hubbard Scudder
(1837-1911)

Scudder is often described as the father of insect paleontology in the United States, combining two of his life's interests.

He studied under Louis Agassiz at Harvard and then worked with him for two years. He was considered to be the world's foremost authority on grasshoppers, but alas that is for other references to explore. Here we focus on his work on the *Lepidoptera*. His multivolume *The butterflies of the eastern United States and Canada: with special reference to New England* was the standard reference for decades. Although the focus of the work is on the eastern United States, it covers many species which are found in this area. In addition to species plates (see an example, plate 5 from Volume 3, to the right), this work includes range maps and drawings of anatomical details. It is such a classic (and the plates are beautiful) that we provide links to the work here (downloadable).

The butterflies of the eastern United States and Canada: with special reference to New England

Volume One (67.5 MB)
Volume Two (63 MB)
Volume Three (25.6 MB)



On page 8 of this sampler we referenced the fossil butterfly, *Prodryas persephone* (image below), which Scudder described originally. His *The Fossil Insects of North America* (41.9 MB) in two volumes continues to be a major reference in the field of insect paleontology.



Rocky Mountain Duskywing
Erynnis (Gesta) telemachus
(Burns, 1960)
Hodges#3948

The instar of the Rocky Mountain Duskywing appears to be a Gambel Oak specialist. Comparing the range maps of the two species might lead you to the conclusion that this Duskywing does not stray far from the table. The adult butterflies feed on the nectar of a variety of flowers.



Range Map of *Erynnis telemachus*
Rocky Mountain Duskywing
From sightings reported to Butterflies and Moths of North America.



Range Map of Gambel Oak



Rocky Mountain Duskywing
Photographed 5 miles north of Kingston, Black Range RAB

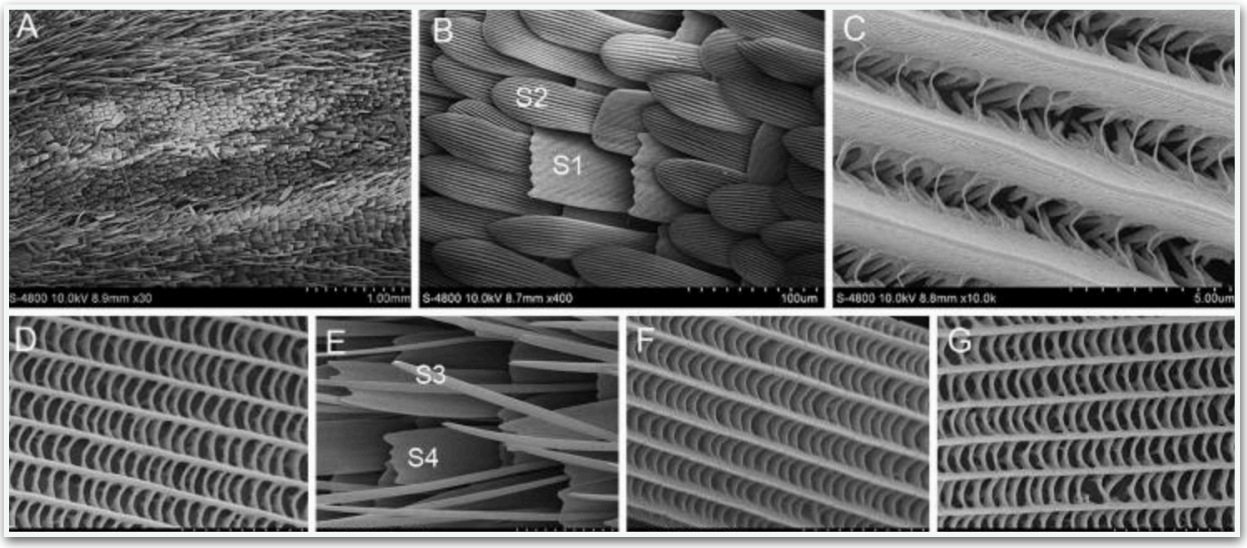
The Rocky Mountain Duskywing has scent scales at the same locations as the Funereal Duskywing. Costal fold on the male and at the 7th abdominal segment on the female.

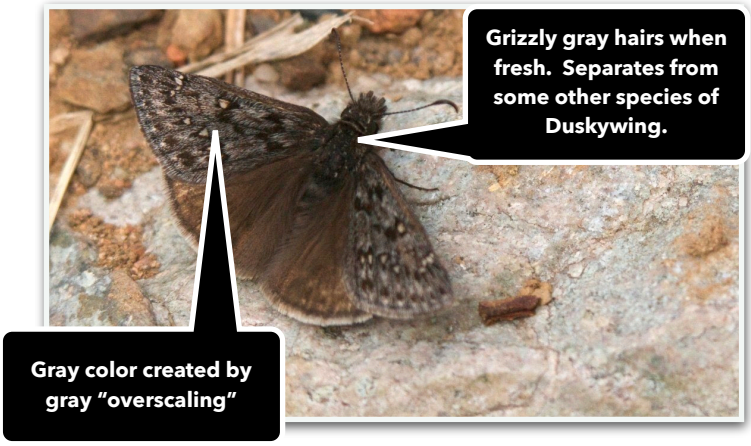
Costa refers to the leading edge of the wing. Wing references, for instance, may refer to the costal margin which simply means the leading edge of the wing.

***Lepidoptera* have scaled wings. The "dust" you see when you handle a butterfly are the wing scales which have come off of the insect, damaging it. Scent scales are a type of scale which surrounds scent glands and are used to distribute pheromones. Scent scales are distinctive (at microscopic magnification) and can be used to determine the species of many butterflies/moths (see below).**

Below: Ultrastructure of scales in and around scent glands patches:

A. Scent glands patches
B. Scales in the scent glands patches (S1: The first scale; S2: The second scale)
C. Ultrastructure of the first scale
D. Ultrastructure of the second scale
E. Scales around the scent glands patches (S3: The third scale; S4: The fourth scale)
F. Ultrastructure of the third scale
G. Ultrastructure of the fourth scale

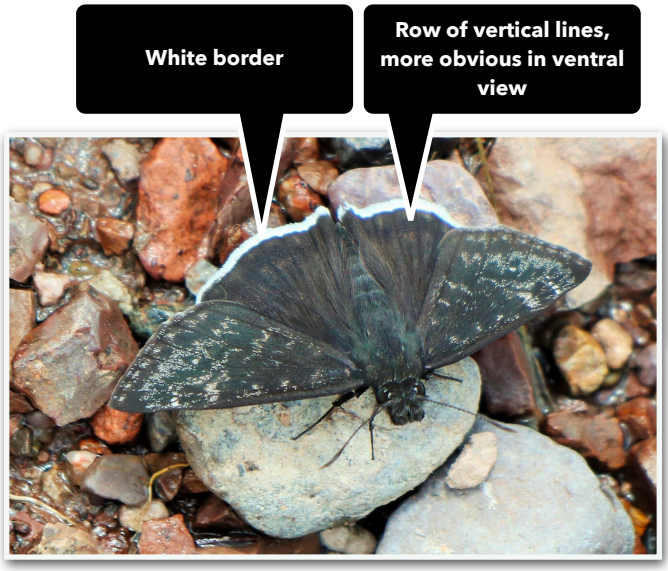




Other Resources
(Rocky Mountain Duskywing)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center









Other Resources
(Mournful Duskywing)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

Range Map of *Erynnis tristis*
Mournful Duskywing
From sightings reported to Butterflies and Moths of North America.

Mournful Duskywing
Erynnis (Gesta) tristis
(Boisduval, 1852)
Hodges #3953

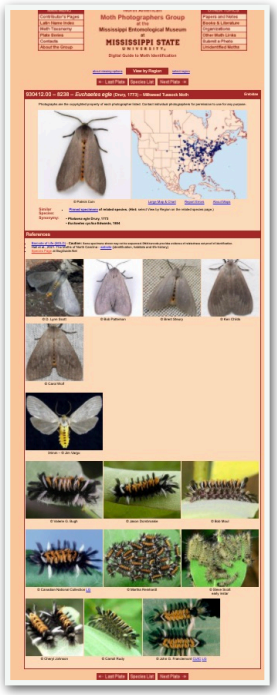


Mournful Duskywing pictured to the right was photographed by James Von Loh as it was taking nutrients from moist soil under gravel near the Soledad Canyon Trailhead.

Scent scales are present at the same locations as in the Funereal and Rocky Mountain Duskywings (costal fold on male, 7th abdominal segment on female).



Mournful Duskywing instar, an image from Berry Nall's website, shown here under a Creative Commons Attribution-NonCommercial 4.0 International License. Although the species on Nall's website differ somewhat from those found in the Black Range, it is an excellent resource for our area of New Mexico.



Euchaetes antica
(Walker, 1856)
Hodges # 8242

The screenshot of a *Euchaetes* moth page on the North American Moth Photographers Group, left, has a substantial amount of information; more is available as you drill down into the site.

But hardly anything is listed for *Euchaetes antica* on the Butterflies and Moths of North America page on this species, and the North American Moth Photographers Group has nothing. A lot is known about the natural world, but more is unknown. Even casual observations, as long as they are careful and critical, can be additive to our understanding of the natural history of the world generally and of the Black Range specifically.



Ron Parry captured this female Euchaetes antica in the Big Burro Mountains in July 2015. This image is hosted on his website at this link.



Photograph by Gordon Berman from 2014. Soledad Canyon. Possibly *Euchaetes antica* (Hodges 8242).





Range Map of
Euchaetes antica
From sightings
reported to
North American Moth
Photographers Group.



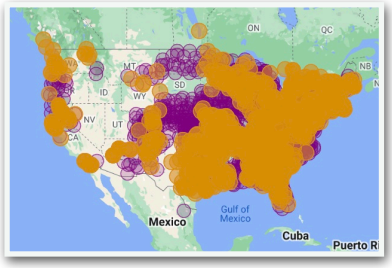
Range Map of *Euchaetes antica*
From sightings reported to
Butterflies and Moths of North
America.

Other Resources
(*Euchaetes antica*)

- North American Moth
  Photographers Group
- BugGuide
- Southwestern Moths

Head is usually a lighter color, sometimes described as "golden".





Range Map of *Euphyes vestris*
Dun Skipper
From sightings reported to
Butterflies and Moths of North
America.

Other Resources
(Dun Skipper)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

Dun Skipper
Euphyes vestris
(Boisduval, 1852)
Hodges # 4078

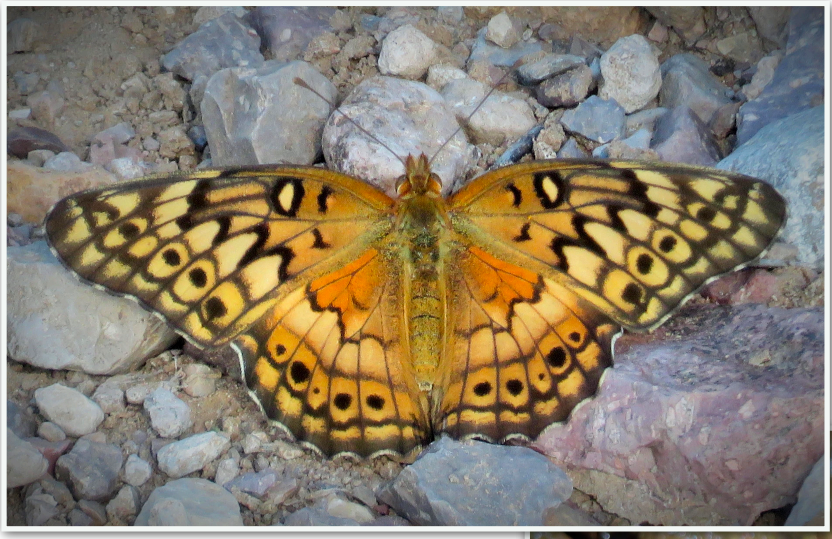


The Dun Skipper pictured here was photographed taking nutrients from moist soil around small rocks below the Soledad Canyon Waterfall by James Von Loh.

This is another creature of higher elevations (4600' to 9200'). During the right season, any walk in the Black Range will allow an observer to see many different species and good numbers of individuals.

The Pajarito Environmental Education Center is located in Los Alamos in the northern part of the state. Among the resources that it provides is a comprehensive listing of butterflies found in New Mexico, by Steven Cary. The species descriptions include photographs and narratives based on the wealth of information which resides in Cary's head. The link above is to one of the subsections of the website (Butterflies of New Mexico: The Skippers V: Folded Wing Skippers (*Hesperiidae: Hesperiinae*). This page has a general description of this group of skippers, including a species listing. Links for each species provide specific information about, and photographs of, the species.





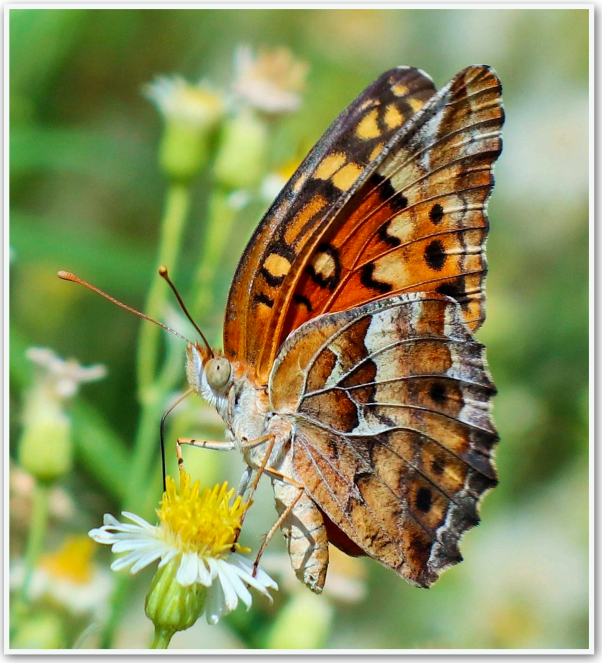
The Variegated Fritillary, ***Euptoieta claudia*** **(Cramer, 1776) butterflies, shown here in photographs by Gordon Berman (left) and James Von Loh (below) were observed in the Organ Mountains. Both were taking nutrients; from saturated soil near the trailhead of Soledad Canyon, below, and from the moist gravel along Fillmore Canyon Trail to the left. The Variegated Fritillary is a medium-sized solitary puddler. Sometimes a butterfly will be more inclined to land on one type of substrate than another, sometimes they are more cosmopolitan in their taste.**



Variegated Fritillary
Euptoieta claudia
(Cramer, 1776)
Hodges #4447

The caterpillars of Variegated Fritillary feed on several species of plant, including; *Passiflora*, purslane, stonecrops, and violets. Adults nectar on several species including butterflyweed, milkweeds, clover, some sunflowers . . .

This is a very common species in the Black Range and is found at various elevations. In addition to the range shown on the following pages, this species is found as far south as Argentina.



Above: Variegated Fritillary, nectaring from Spiny Chloracantha, was common along the Rio Grande on June 17. JVL



Above: Variegated Fritillary was an often-observed butterfly nectaring from Spine-aster flowers. Photograph by Gordon Berman.





The mating Variegated Fritillaries shown above were photographed in Railroad Canyon. The individual to the right was photographed at the Hillsboro Cemetery, both locations in the Black Range. RAB

The two photographs at the bottom, of Variegated Fritillary nectaring from Brown-foot flowers, are by James Von Loh (R) and Gordon Berman (L).







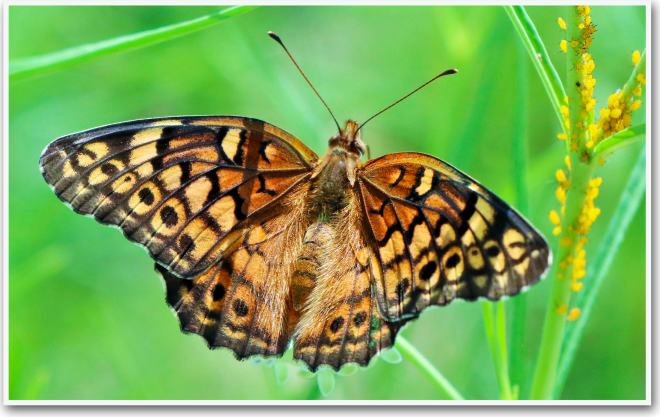
Above: Variegated Fritillary nectaring from Horsetail Milkweed flowers. Note that a single pollinium has been extracted and clings to the leg where it could be transferred into another flower, thus achieving pollination. When present, Variegated Fritillaries could contribute to milkweed flower pollination. JVL

Below: Variegated Fritillary nectaring from Horsetail (top) and Climbing (bottom) Milkweed flowers. JVL





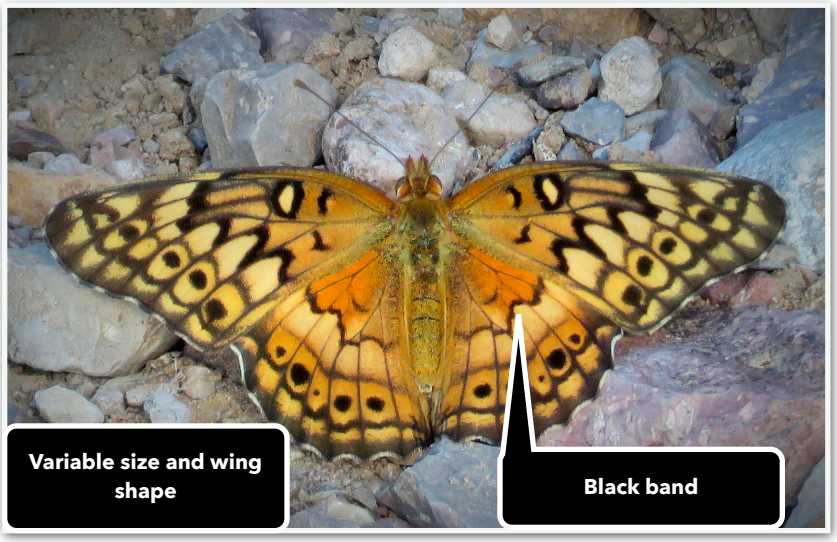




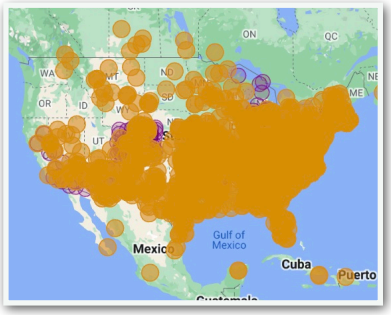
Left: Butterflies often share flowers with other species, like the *Hymenoptera* bees in the middle image and Oleander Aphids, *Aphis nerii,* at the bottom. JVL



Above: Variegated Fritillary and Orange Sulfur, *Colias eurytheme*, on Chamisa. Steve Morgan







Range Map of *Euptoieta claudia*
Variegated Fritillary
From sightings reported to Butterflies and Moths of North America.

Other Resources
(Variegated Fritillary)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

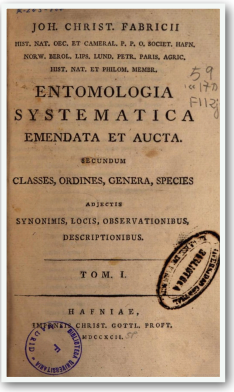
Johan Christian Fabricius
(1745 - 1808)

Fabricius named over 10,000 species of animal during his lifetime. His methodology of distinguishing between species still forms the core of insect taxonomy. The taxonomy of insect wings was used to distinguish between species prior to Fabricius introducing the concept that using mouth parts was a more definitive approach.

Between 1775 and 1807, Fabricius published at least ten major works on systematic entomology. Works like: Systema Entomologiae (1775), Genera Insectorum (1776), Species insectorum (1781), Philosophia Entomologica (1778), Betrachtungen über die allgemeinen Einrichtungen in der Natur (1781; "Considerations upon the Universal Arrangements in Nature"), Species Insectorum (1781), Entomologia Systematica (1792-98), Mantissa insectorum (1787), Systema piezatorum (1804), and Systema glossatorum (1807).



His name is abbreviated J.Fabr. in botanical references.


JOH. CHRIST. FABRICII
HIST. NAT. OEC. ET CAMERAL. P. P. O. SOCIET. HAFN. NORW. BEROL. LIPS. LUND. PETR. PARIS. AGRIC. HIST. NAT. ET PHILOM. MEMBR.
ENTOMOLOGIA SYSTEMATICA EMENDATA ET AUCTA.
SECUNDUM
CLASSES, ORDINES, GENERA, SPECIES
ADJECTIS
SYNONIMIS, LOCIS, OBSERVATIONIBUS, DESCRIPTIONIBUS.
TOM. I.
HAFNIAE,
IMPENSIS CHRIST. GOTTL. PROFT.
MDCCXCII.





Tailed Orange

Eurema (Pyrisitia) proterpia

(Fabricius, 1775)

Hodges #4236

These images of a Tailed Orange were photographed by Debora Nicoll in Lake Valley, Black Range. This is the dry season/winter form. Note how strongly flocked the hindwing is in this image and the lack of a black spot on the forewing. This species is named *Pyrisitia proterpia* by some authorities.

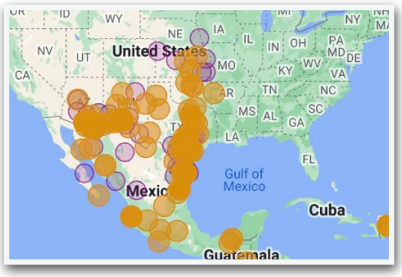
Elsewhere we note the variability found in butterflies (imago) and their instars (caterpillars) - especially in the caterpillars. The adult Tailed Orange has two sexual forms and two seasonal forms, adding to the confusion. There is a wet season or summer form and a dry season or winter form (like the one pictured here, which has a "tail" on the hindwing). The differences between the forms caused them to be classified as different species for quite a long time. Making such an error more plausible is the fact that, in some cases, the two forms may be found at the same time/location.

Some of the species found in our area have a relatively limited range. Others, like this species, can be found quite widely - in this case from Peru, north through northern South America, Central America, and Mexico and into the southwestern United States and the Plains States as far north as Nebraska. It is also found in the Greater Antilles, but apparently not in the Lesser.

Its flight is later than many of the other species, in the late summer into the fall (August to November in the southwest). Instars use mesquite as a host plant.



A portion of a puddle club occupied predominantly by Tailed Oranges, *Eurema proterpia* (Fabricius, 1775), a few Sleepy Oranges, and a Cloudless Sulphur, *Phoebis sennae* (Linnaeus, 1758). Gordon Berman.

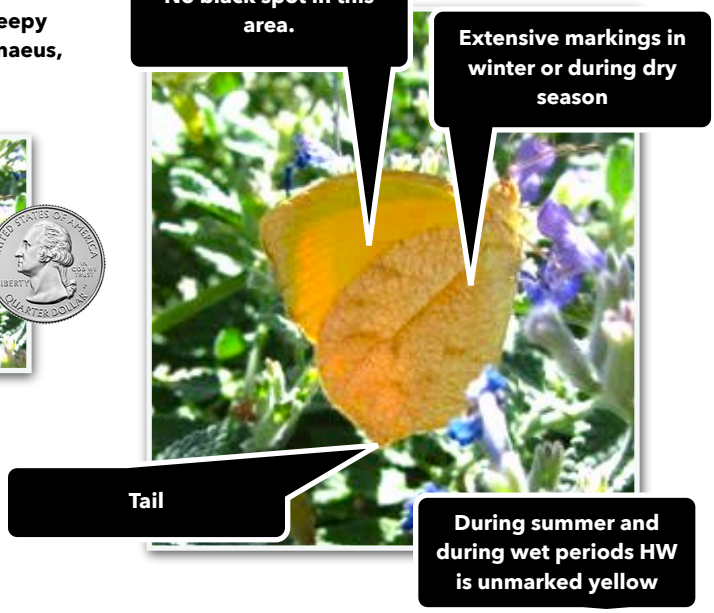


Range Map of *Eurema proterpia*
Tailed Orange
From sightings reported to
Butterflies and Moths of North America.

Other Resources (Tailed Orange)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center







Range Map of *Euscirrhopterus cosyra,* Staghorn Cholla Moth
From sightings reported to
Butterflies and Moths of North America.

Other Resources (Staghorn Cholla Moth)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide

Staghorn Cholla Moth
Euscirrhopterus cosyra
(Druce, 1896)
Hodges #9308

The photographs of Staghorn Cholla Moth instars shown on this page were taken by James Von Loh. They are feeding on Pencil Cholla.

The larval stage of this moth feeds externally on its host cactus (typically *Opuntia* or *Cylindropuntia*). Other species which feed on these hosts will often bore into the cactus.

The imago stage of the Staghorn Cholla Moth is quite striking (shown below in an image from Wikipedia).



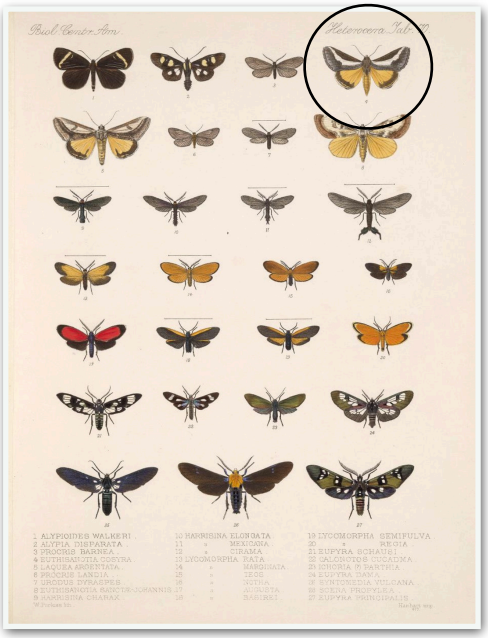
Photograph by Katja Schulz from Washington, D. C., USA - Staghorn Cholla Moth, CC BY 2.0. This individual was photographed in Madera Canyon, Arizona.

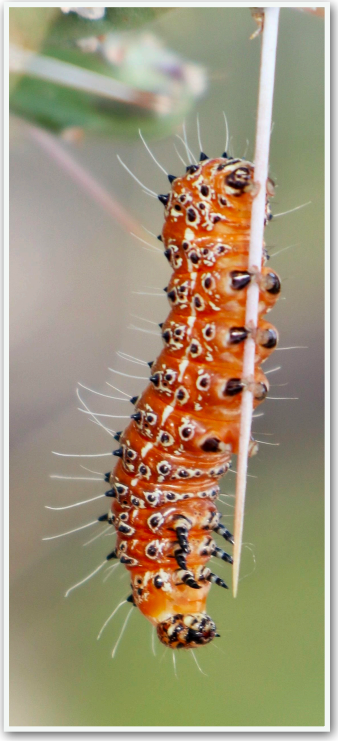


Herbert Druce
(1846-1913)

Druce was a noted English entomologist, as was his son Hamilton Herbert Druce. Plate 70 (right) of his *Biologia Centrali-Americana, Insecta, Vol. III*, included the type for *Euscirrhopterus cosyra*.







Purslane Moth
Euscirrhopterus gloveri
(Grote & Robinson, 1868)
Hodges #9307

Ron Parry has a nice image of a male *Euscirrhopterus gloveri*, Purslane Moth, on his website (see right). Although in the same genus, both the imago and the instar stages of *E. cosyra* and *E. gloveri* are quite different in appearance, see the North American Moth Photographers Group page on this species.

The original description of this species is shown below (*Transactions of the American Entomological Society, Volume 2, 1868-9*).





Range Map of *Euscirrhopterus gloveri*, Purslane Moth
From sightings reported to Butterflies and Moths of North America.



Family ZYGAENIDAE.

Subfamily CASTNIINAE.

Tribe EUDRIINI.

EUSCIRRHOPTERUS, Grote.

Euscirrhopterus gloveri, n. s.

♀.—Size of ♀ E. poeyi. Antennae simple. Thorax and head above clothed with mixed brownish scales, beneath, with under surface of abdomen, whitish. Abdomen above yellowish. Legs within clothed with long whitish, shading to griseous, scales; tarsi outwardly black subannulate with white.

Primaries with the costal region covered with mixed brownish and pale scales to just before the apex. The center of the wing is white, the white scales extending upward and intruding on the costal region before the apex. On this white ground of the wing, on the discal cell, lie the ordinary spots which are distinct, subequal, of the normal shape, brownish, distinctly darker ringed, and with dark centers. Superiorly they are merged in the dark scales of costal region which obtain between them. Terminally the wing is brown outside of the white center, which is edged unevenly. The brown color extends as a darker subterminal shade from the costa at apex, widening as it proceeds to internal margin, which it broadly margins to the base of the wing; centrally the border along internal margin is intruded upon by the white central space which here forms an irregular shallow sinus. The terminal space is paler. A dark interrupted terminal line, obsolete on the nervules and narrowly edged within by pale scales.

The secondaries are bright yellow, without discal spot, and with a broad, even dark brown border, interrupted before the angle by yellow scales. Fringes whitish, paler than on primaries. A dark and broken terminal line.

Beneath, both wings are bright yellow, with narrow brownish costal edgings and broad terminal borders tapering to internal and anal angles, and not continued along internal margins. These borders are paler shaded terminally, throwing the regularly interrupted dark terminal lines into relief. On the secondaries the border is interrupted by pale scales just before anal angle. Two dark discal spots on primaries, the outer larger and diffuse. A single spot on secondaries reduced in size and situate on the discal cross vein.

Expanse, 42 mil. *Length of body*, 20 mil.

Habitat.—Texas, (Prof. Townend Glover).

Differs from the female of the Cuban E. poeyi, *Grote*, as follows: The white central space of the primaries is broader, more irregularly

defined; the oblique and even dark subterminal line is absent; the reniform spot is very much smaller and differently shaped, being normal, whereas in E. poeyi it is elongated and completely divides the white field of the wing; the orbicular spot is absent in E. poeyi, in which species also the secondaries and both wings beneath are of a paler yellow, the primaries with a single discal mark, and the secondaries without a discal dot on either surface. The discovery of the male of this fine species will be attended with interest in view of the great structural disparity between the sexes of E. poeyi.

In dedicating this species to Prof. Glover we pay a very willing tribute to the scientific zeal and industry of the gentleman.

Forsebia Moth
Forsebia cinis
(Guenée, 1852)
Hodges #8613

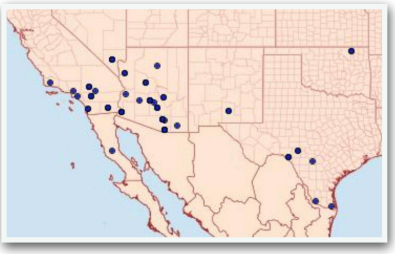
***Forsebia cinis* is the only member of the genus in the United States. Most individuals in the United States have been found in Southern California and Arizona.**

Flight occurs between February and October. Larva feed on species of *Parkinsonia*.

This individual was photographed on July 12, 2020 in Hillsboro. RAB

Note the similarity, especially at the bottom of the hindwing between the individual shown here and the individual identified as *Bulia deducta* earlier in this sampler. Both have been vetted through BugGuide.





Range Map of *Forsebia cinis*
From sightings reported to North American Moth Photographers Group.





Other Resources (Forsebia Moth)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide

Red-bordered Satyr
Gyrocheilus patrobas
(Hewitson, 1862)
Hodges #4602

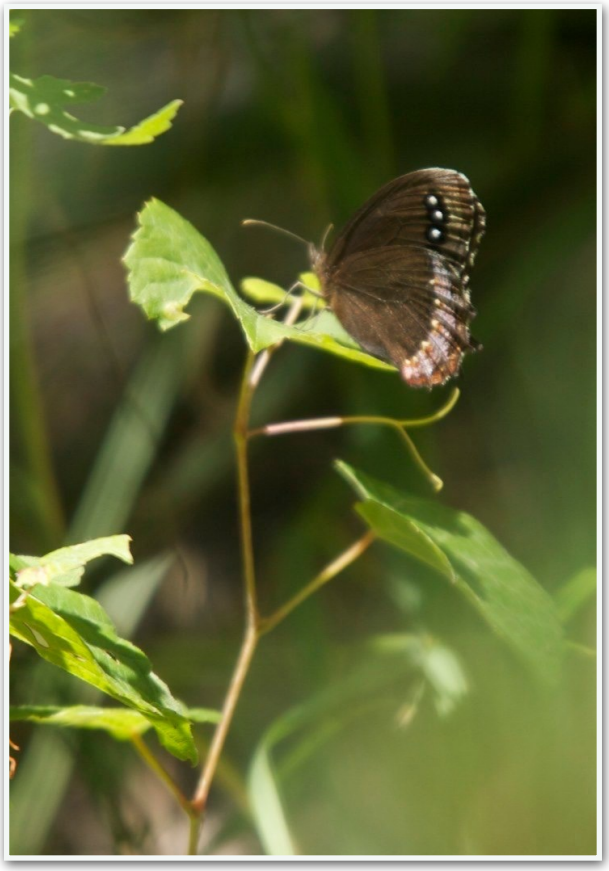
Muhlenbergia emersleyi **is a caterpillar host reported from Arizona, for this species. In Arizona, it is reported from riparian areas of open coniferous forests in the mountains of the central and southern parts of the state. This is the same habitat as Railroad Canyon.**

The genus is monotypic, the species is found as far south as Central America. There are two subspecies, the one found here is *G. p. tritonia* (Edwards, 1874).

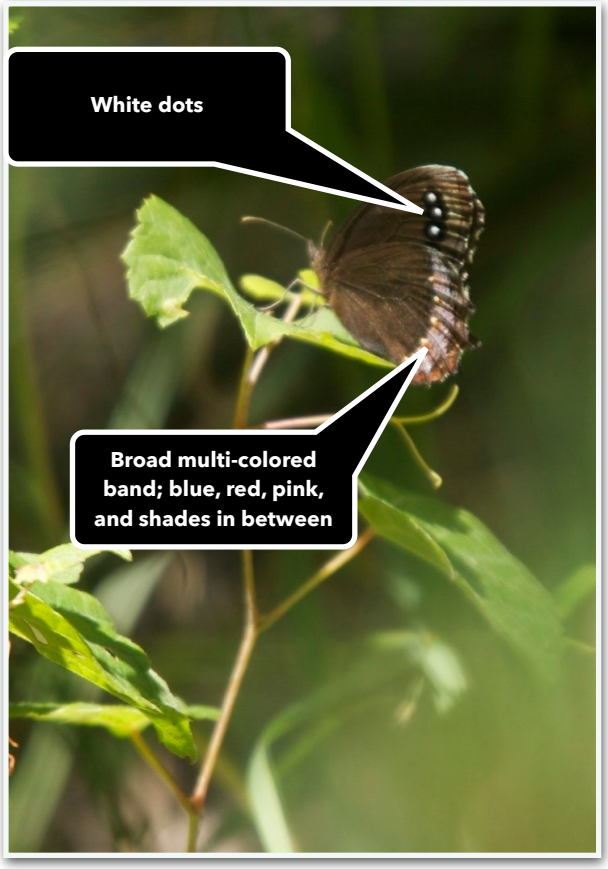
This species has one flight per year, between Mid-August and October.

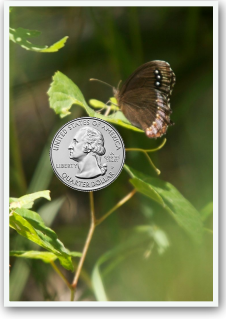


***Gyrocheilus patrobas*, Red-bordered Satyr**
Photographed in Railroad Canyon, Black Range. RAB



Photographed in Railroad Canyon, west slope of the Black Range, north of NM-152. RAB





Range Map of *Gyrocheilus patrobas*, Red-bordered Satyr, From sightings reported to Butterflies and Moths of North America.

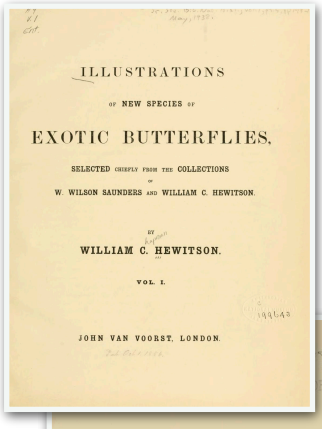


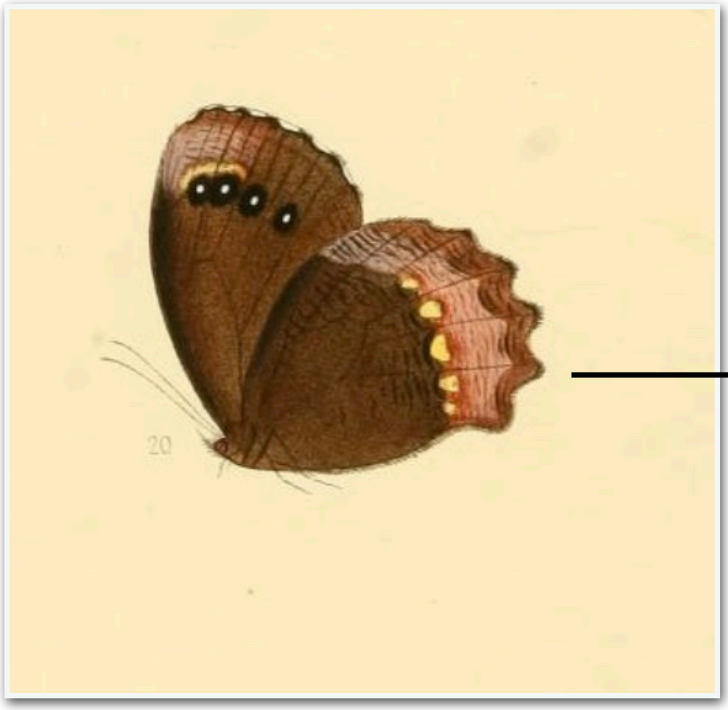
Other Resources (Red-bordered Satyr)

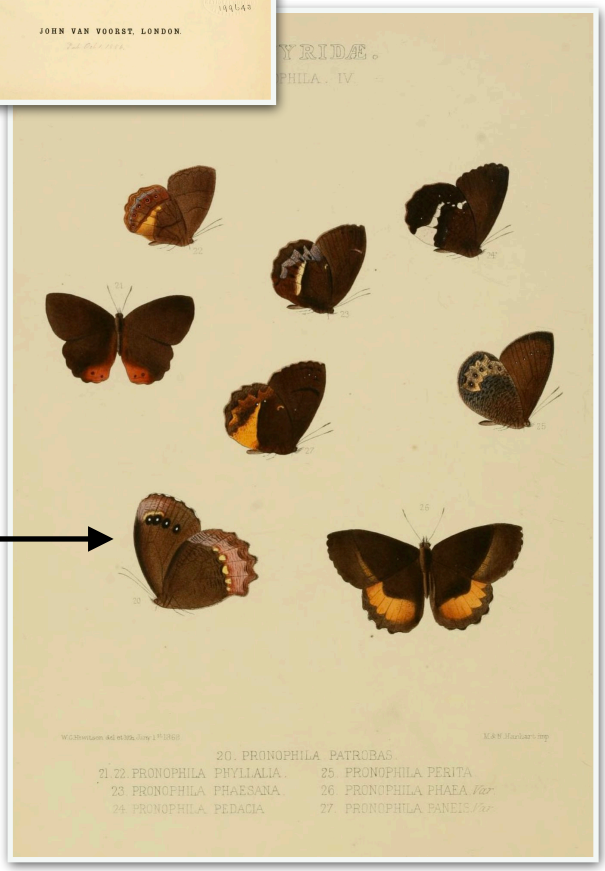
- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

William Chapman Hewitson
(1806-1878)

Hewitson was a British naturalist and scientific illustrator. His associates included Boisduval, Gray, and Wallace. He illustrated and published many significant works. The original depiction of this species is shown below (Satyridae: Pronophil IV - from *Illustrations of new species of exotic butterflies: selected chiefly from the collections of W. Wilson Saunders and William C. Hewitson* by Hewitson (Vol. 3 of 5).


ILLUSTRATIONS
OF NEW SPECIES OF
EXOTIC BUTTERFLIES,
SELECTED CHIEFLY FROM THE COLLECTIONS
OF
W. WILSON SAUNDERS AND WILLIAM C. HEWITSON.
BY
WILLIAM C. HEWITSON.
VOL. I.
JOHN VAN VOORST, LONDON.




20. PRONOPHILA PATROBAS.
21.22. PRONOPHILA PHYLLALIA.
23. PRONOPHILA PHAESANA.
24. PRONOPHILA PEDACIA.
25. PRONOPHILA PERITA.
26. PRONOPHILA PHAEA.
27. PRONOPHILA PANEIS.

Other Resources
(Corn Earworm Moth)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Pacific Northwest Moths



Pacific Northwest Moths

The glossary (link above) at the Pacific Northwest Moths is incredibly good.

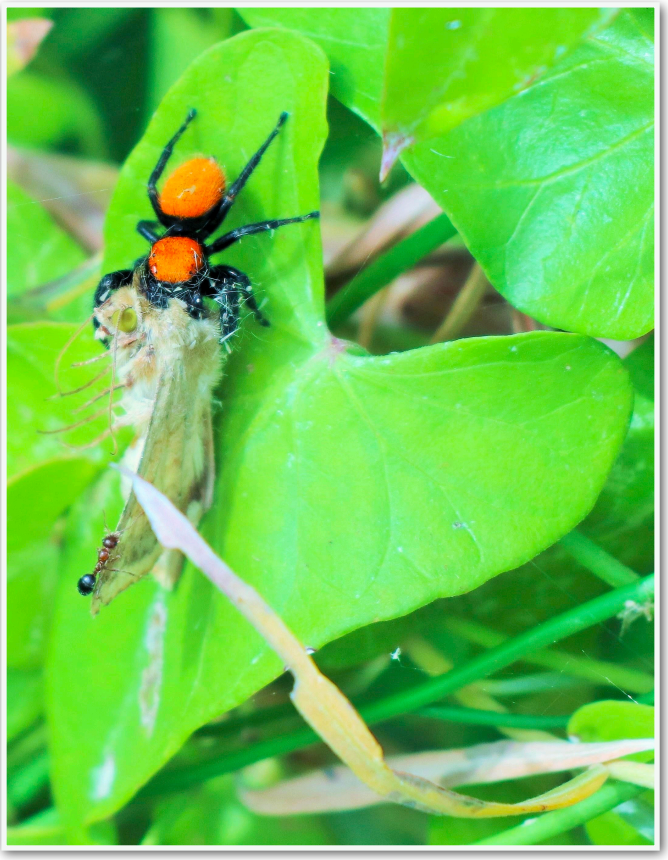
One of the diagnostics you will find referenced when trying to identify a Corn Earworm Moth is the appearance of the discal spot. If you don't know what that is, or what it looks like, use this glossary. You will find a narrative description and the image to the right. You will find similar material on scores of other terms. Somehow, comprehensive, does not quite get there as a description of this site.

Corn Earworm Moth
Helicoverpa zea
(Boddie, 1850)
Hodges #11068

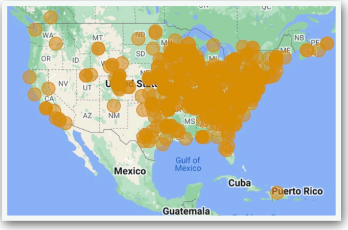
This species is known by several other English common names, including Cotton Bollworm and Tomato Fruitworm, an indication of the eclectic taste of the larval stage. In the case of the Latin binomial, "*zea*" means corn.

This species will go through four to six instars. During the initial instars, many caterpillars are found eating together. During later instars they become more aggressive and cannibalistic, and fewer are found feeding together. The larvae image is from the University of Minnesota.



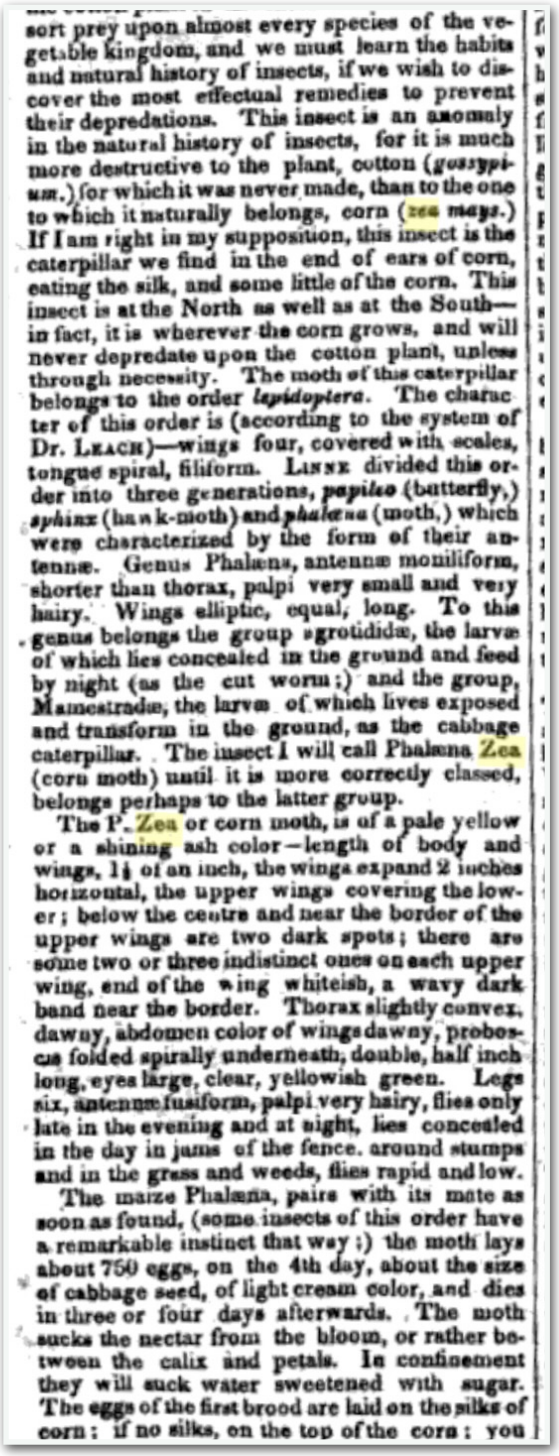


Those that consume are consumed. James Von Loh captured the image above in 2019. The Corn Earworm Moth has been captured and is being ingested by an Apache jumping spider (male), *Phidippus apacheanus* (Chamberlain & Gertsch, 1929).



Range Map of *Helicoverpa zea*
Corn Earworm Moth
From sightings reported to Butterflies and Moths of North America.

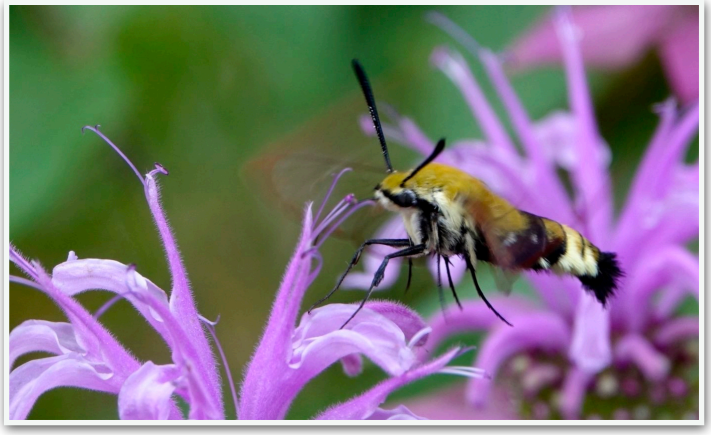
Below: Part of John W. Boddie's original description of *Helicoverpa zea* which he named *Phalaena zea*. It was published in Vol. 8 of the *Southern Cultivator,* January 1850.



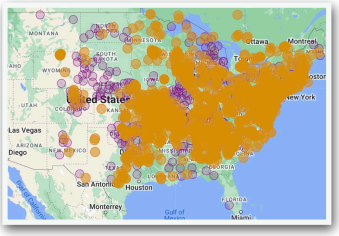
sort prey upon almost every species of the vegetable kingdom, and we must learn the habits and natural history of insects, if we wish to discover the most effectual remedies to prevent their depredations. This insect is an anomaly in the natural history of insects, for it is much more destructive to the plant, cotton (*gossypium.*) for which it was never made, than to the one to which it naturally belongs, corn (*zea mays.*) If I am right in my supposition, this insect is the caterpillar we find in the end of ears of corn, eating the silk, and some little of the corn. This insect is at the North as well as at the South—in fact, it is wherever the corn grows, and will never depredate upon the cotton plant, unless through necessity. The moth of this caterpillar belongs to the order *lepidoptera*. The character of this order is (according to the system of Dr. LEACH)—wings four, covered with scales, tongue spiral, filiform. LINNE divided this order into three generations, *papilio* (butterfly,) *sphinx* (hawk-moth) and *phalæna* (moth,) which were characterized by the form of their antennæ. Genus Phalæna, antennæ moniliform, shorter than thorax, palpi very small and very hairy. Wings elliptic, equal, long. To this genus belongs the group agrotidæ, the larvæ of which lies concealed in the ground and feed by night (as the cut worm;) and the group, Mamestradæ, the larvæ of which lives exposed and transform in the ground, as the cabbage caterpillar. The insect I will call Phalæna Zea (corn moth) until it is more correctly classed, belongs perhaps to the latter group.

The P. Zea or corn moth, is of a pale yellow or a shining ash color—length of body and wings, 1¼ of an inch, the wings expand 2 inches horizontal, the upper wings covering the lower; below the centre and near the border of the upper wings are two dark spots; there are some two or three indistinct ones on each upper wing, end of the wing whitish, a wavy dark band near the border. Thorax slightly convex, dawny, abdomen color of wings dawny, proboscis folded spirally underneath, double, half inch long, eyes large, clear, yellowish green. Legs six, antennæ fusiform, palpi very hairy, flies only late in the evening and at night, lies concealed in the day in jams of the fence, around stumps and in the grass and weeds, flies rapid and low.

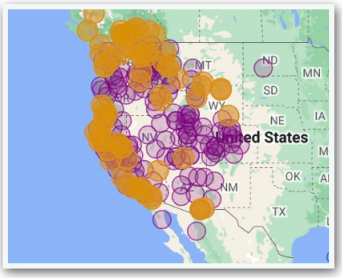
The maize Phalæna, pairs with its mate as soon as found, (some insects of this order have a remarkable instinct that way;) the moth lays about 750 eggs, on the 4th day, about the size of cabbage seed, of light cream color, and dies in three or four days afterwards. The moth sucks the nectar from the bloom, or rather between the calix and petals. In confinement they will suck water sweetened with sugar. The eggs of the first brood are laid on the silks of corn: if no silks, on the top of the corn: you



Hemaris thetis, Rocky Mountain Clearwing
Photographed in Railroad Canyon, Black Range. RAB



Top Range Map:
Range of *Hemaris diffinis*
Snowberry Clearwing
From sightings reported to
Butterflies and Moths of North America.



Bottom Range Map:
Range of *Hemaris thetis*
Rocky Mountain Clearwing
From sightings reported to
Butterflies and Moths of North America.

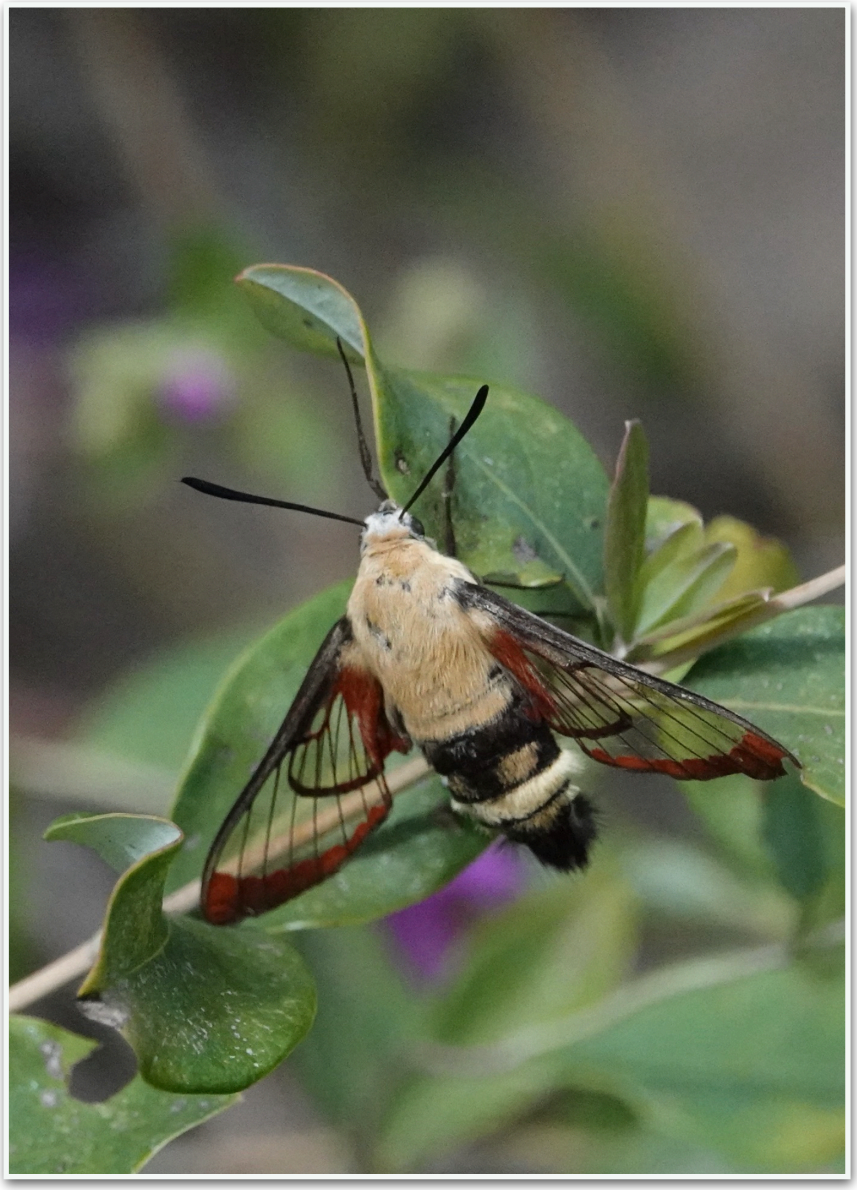
Rocky Mountain Clearwing
Hemaris thetis
Boisduval, 1855
Hodges #7855.1

First consider the common name, it is problematic. The family *Seslidae* is also referred to as the Clearwing Moths. Sometimes *Hemaris* are called Hummingbird Moths, but that is also a term used for the Sphinx Moths. In the United Kingdom, *Hemaris* are called Bee Hawk-Moths.

The Snowberry Clearwing is an eastern species, the Rocky Mountain Clearwing is a western species. At one time they were considered the same species. The line dividing their geographic ranges seems to run along the crest of the Black Range, or there about. The Butterflies and Moths of North America (BAMONA) website gives the range of *H. diffinis* as "East of the Continental Divide, through most of the United States to Maine and Florida. Some overlap with *Hemaris thetis* just east of the Divide."

Adult Snowberry Clearwings fly during the day nectaring on *Lantana*, Snowberry, thistles, some violets, etc. Snowberry Clearwing caterpillar hosts include Snowberry, honeysuckle, and dogbane.

All of that said, the individuals shown here are identified as Rocky Mountain Clearwing, utilizing, in part, the information provided at the Pacific Northwest Moths website. Identification should not be considered definitive. The larva of this species are honeysuckle and snowberry food plant specialists.



Rocky Mountain Clearwing, photographed in Hillsboro during August 2022. RAB





Transparent wings and bumblebee-like flight are diagnostic for *Hemaris*.

Yellow extends through this area in *H. diffinis*.

All black (perhaps with some yellow hairs). *H. diffinis* has a solid yellow center area.

Other Resources (Rocky Mountain Clearwing)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Pacific Northwest Moths
- Southwestern Moths



Dorsal view of wing is light blue in male, female light brown), with dark border.

Not shown here, but in the dorsal view there are dark spots on the HW at the outer border. In Florida, there is one dark spot, in Texas there are two, but in Southeastern Arizona there may be either one or two.

Other Resources (Ceraunus Blue)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

Ceraunus Blue

Hemiargus ceraunus

Fabricius, 1793
Hodges #4359

The blues are small butterflies, this one has a wingspan which rarely extends more than an inch.

In the southern most parts of its range the Ceraunus Blue can be found flying throughout the year. Flight time is more limited in the northern parts of the range. Its range extends southward to South America. It can typically be found in open (including disturbed) areas.

Caterpillar hosts plants include the woody legumes, in our area look for them on mesquite. The adults feed on flower nectar (undifferentiated?).



Ceraunus Blue, *Hemiargus ceraunus* (Fabricius 1793), taking nutrients from moist rock near the Soledad Canyon Trail head. Photograph by James Von Loh.

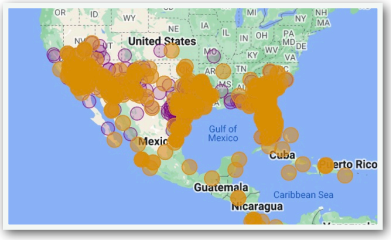
Vladimir Nabokov

1899-1977

Vladimir Nabokov (Владимир Владимирович Набоков, in Russian) wrote *Lolita, Pale Fire, Speak Memory* and many other works. Many know him only as an author.

He was, however, a renowned entomologist. His early inspiration, by the work of Maria Sibylla Merian, became a life-long love. Among other important roles, he was the curator of Harvard University's butterfly collection during the 1940s. Nabokov was even the subject of one of Stephen Jay Gould's essays ("No Science Without Fancy, No Art Without Facts: The Lepidoptery of Vladimir Nabokov"). When asked if he considered himself a scientist or a writer, Nabokov responded with his now famous quote, "There can be no science without fancy. No art without facts."

Among Nabokov's many accomplishments was the development of a hypothesis that the *Polyommatus* blues (Ceraunus Blue is one) crossed the Bering Strait in five waves as they populated the Americas. His theory was not accepted by the scientific establishment for several decades, but with the insights gained through genetic analysis and the development of "genetic distance" concepts it is now regarded as fact.



Range Map of *Hemiargus ceraunus*, Ceraunus Blue From sightings reported to Butterflies and Moths of North America.



***Hemiargus ceraunus* instar from Berry Nall's website, shown here under a Creative Commons Attribution-Non-Commercial 4.0 Inter-national License.**



Glover's Silkmoth

Hyalophora gloveri

Strecker, 1872
Hodges #7769



The Glover's Silkmoth, is considered a subspecies of *Hyalophora columbia* by some authorities. Synonyms include *Platysamia gloveri* (Strecker, 1872), *Platysamia gloveri var. reducta* (Neumoegen, 1891), *Platysamia columbia nokomis* (Brodie, 1894), *Platysamia columbia winonah* (Brodie, 1894), and *Samia columbia* (Smith, 1865).

The taxonomic status of this species and *H. columbia* is somewhat confused and the distinctions between various populations poorly understood.

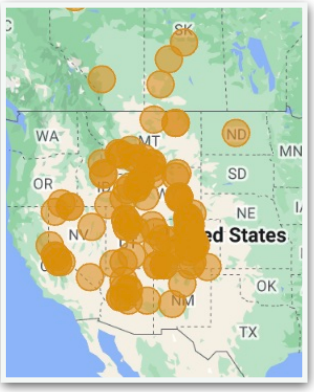
This species is found along the eastern and western slopes of the Rocky Mountains in the United States, extending northward into Canada and southward into the northern states of Mexico. The populations found here are more closely related to the "Mexican Variants" of the species than to the northern and plains populations. When lumped with *H. columbia*, the population found here is sometimes referred to as *Hyalophora columbia ssp. gloveri* ("Mexican variants").

In our area adults fly from late July into August and the larvae are present from July into October.

The populations here are generally bivoltine, they produces two broods in a season. Voltinism refers to the number of broods per year that a species produces. Most populations of this species are thought to be univoltine (one brood). It is factors like this which lead some authorities to posit that the Mexican Variants may represent a different taxa.

The adult moth is large (5" wingspan) and strikingly beautiful. The instar shown here was more than 3" long. Véronique De Jaegher photographed this caterpillar in her yard in Kingston, New Mexico on September 20, 2022.





Range Map of *Hyalophora gloveri* Glover's Silkmoth From sightings reported to Butterflies and Moths of North America.

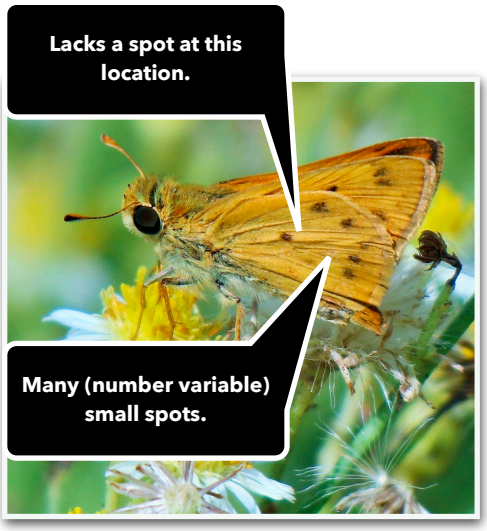


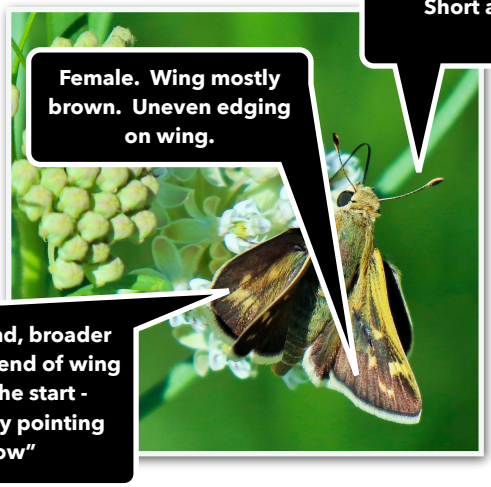
Image from the Southwestern Moths website of Ron Parry, used with permission.

Other Resources
(Fiery Skipper)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center







Fiery Skipper
Hylephila phyleus
Drury, 1773
Hodges #4013

The male of this species will generally perch in grass awaiting a female. Single eggs are laid on grass blades. The caterpillars eat the leaves and structure a shelter, which lie horizontally on the ground, from them.

The caterpillars of this species specialize on grasses for a food source (Bermuda Grass, crabgrass, etc.) while adults nectar from a variety of plant species including milkweed, aster, knapweed, thistles, etc.

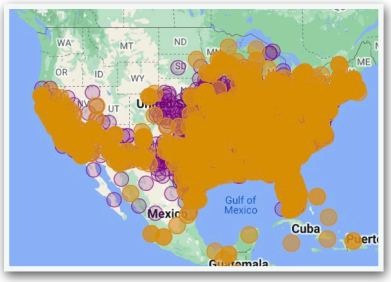
Although this species can not survive harsh winters it will often travel into northern areas during the summer. Its range extends southward as far as Argentina. In this area, the population seems to reach its maximum in September as multiple flights overlap. In south Texas and Florida this species is known to brood throughout the year.



Fiery Skipper, nectaring from Spiny Choracantha, on June 22. Uncommon. JVL



Fiery Skipper, *nectaring from Spine-aster,* along the Rio Grande at Las Cruces. JVL

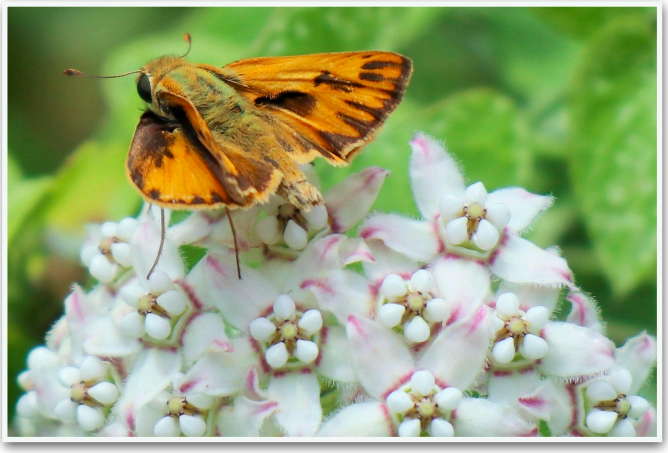


U. S. Range Map of *Hylephila phyleus,* Fiery Skipper
From sightings reported to [Butterflies and Moths of North America](#).





Above: Fiery Skipper, nectaring from Horsetail Milkweed flowers. JVL
Below: On Climbing Milkweed flowers. JVL









Right Column: Fiery Skipper
Top: An interesting pair with unique color combinations (male is lower right).
Two individuals at center and bottom; the Fiery Skipper is an uncommon butterfly nectaring from Spine-aster flowers. JVL

White-lined Sphinx
Hyles lineata
(Fabricius, 1775)
Hodges # 7894

The White-lined Sphinx is found in most of the Americas, as far north as southern Canada and as far south as Argentina. Its range includes the West Indies. Previously, this species was considered conspecific with *Hyles livornica,* which is found in parts of Eurasia and Africa. As might be expected with such a range, it is found in a variety of habitats, including deserts and foothills.

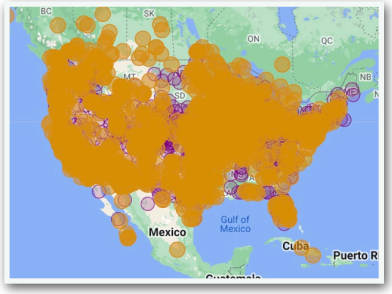
Associated with such an extensive range, the larvae of this species feed on a variety of plants, including many evening primrose (*Onagraceae*), rose (*Rosaceae*), four o'clock (*Mirabilis*), and tomato (*Lycopersicon*) species. Adults of this species nectar on many flowers including honeysuckle, clovers, thistles, and datura.



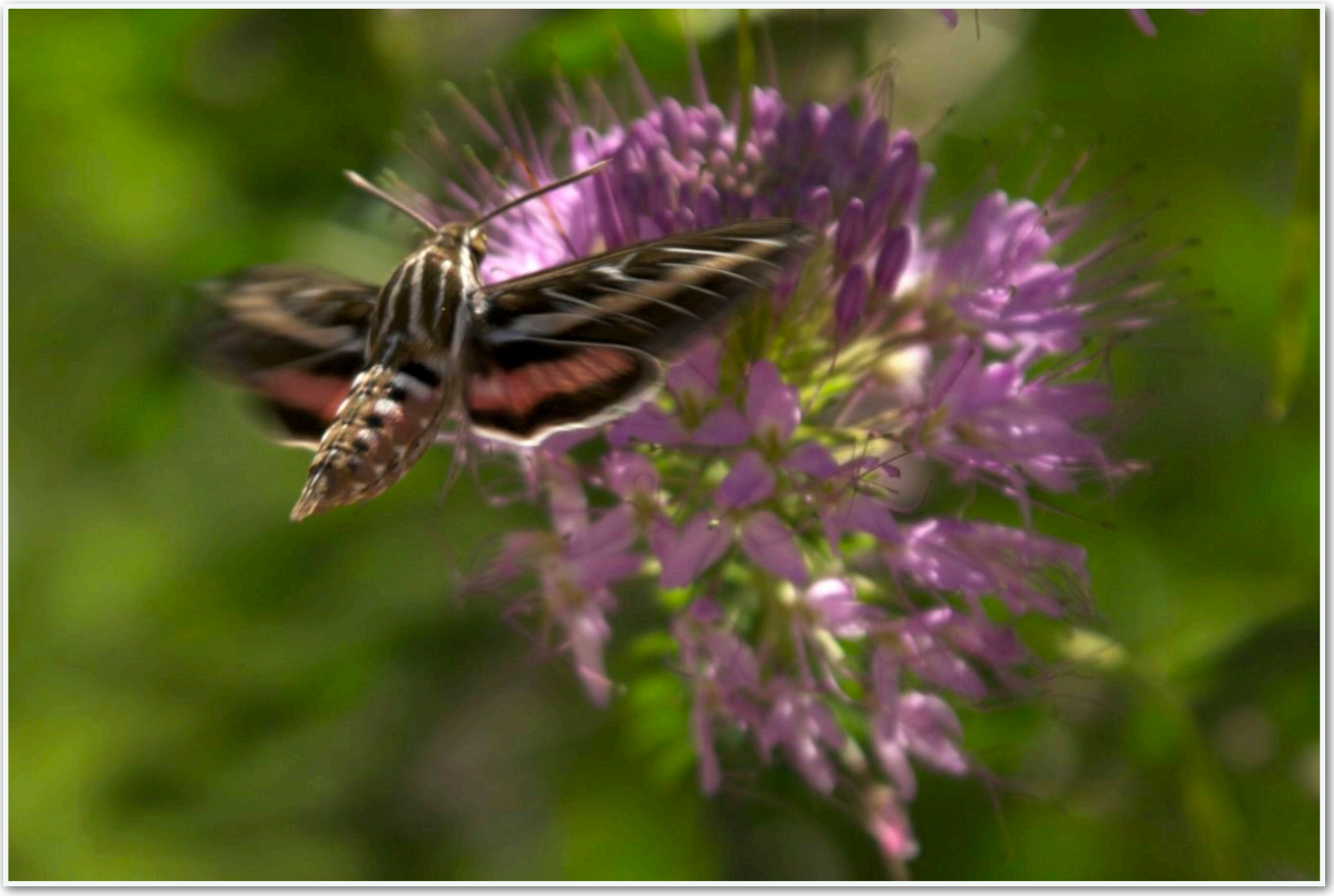
The larval stage of the White-lined Sphinx is highly variable in appearance (see later). Larvae will, however, have orange or green speckled heads and anal plates and possess a yellow or orange "horn" near the anal plate. The "horn", which is not a stinger, will often have a blackish tip or even be blackish in color.

This species will generally produce two or more broods a year, between February and November. When the larvae are through eating, they will excavate a shallow burrow and pupate underground. The length of pupation varies but may be as little as three weeks.

In the world of common names, the larval stage of this species is sometimes called Purslane Caterpillar. Latin binomial synonyms include *Sphinx lineata* and *Deilephila lineata*. "*Lineata*" refers to the white lines which cross the forewing from front to back on the diagonal. These markings are not found on other moths in this genus in the Americas. Sphinx moths are often called Hummingbird Moths because of their flight behavior. They flit about flowers like a small hummingbird.



U. S. Range Map of *Hyles lineata,* White-lined Sphinx From sightings reported to Butterflies and Moths of North America.



White-lined Sphinx, *Hyles lineata*, photographed at San Lorenzo, Grant County, New Mexico - on *Cleomella serrulata*, Rocky Mountain Bee Plant

White-lined Sphinx is catalogued as Hodges #7894. This number refers to the number given in Ronald Hodges et al. *Check List of the Lepidoptera of America North of Mexico,* published in 1983. The initial publication established the basic numbering system which is now (sometimes) called the MONA number (Moths of North America).

James Von Loh (Las Cruces) noted that much of his most recent work has been in or around Las Cruces. The images on the following three pages were taken by Jim in that area, not the Black Range per se.

Von Loh notes that he often see butterflies and moths on wet earth; that is where they obtain the water and some of the salts and other nutrients that they need. But actively drinking? That is something he has rarely seen.



White-lined Sphinx moths drinking water from pools at Achenbach Canyon (top), Dripping Springs Visitor Center (middle), and at Soledad Canyon Spring (bottom) - all in the Organ Mountains.

- Photos by James Von Loh
Las Cruces





The larvae of the Black Caterpillar Hunter Beetle, *Calosoma prominens*, prey on the White-lined Sphinx caterpillar. One attacks and begins to eat a White-lined Sphinx caterpillar in the photo above. This photo is supplemented by a short video clip.

Other larval forms are depicted at the North American Moth Photographers Group Website.

The two beetles to the left are probably the adult form of *Calosoma prominens*. (Probably, because there are 40 species of this genus in the Americas, north of Mexico.) *Calosoma* (Caterpillar Hunter Beetles) species number around 125.

Several of the plant species which Sphinx nectar on are shown on the following page.

-Photos and video by
James Von Loh
Las Cruces



White-lined Sphinx nectaring;
(Images by James Von Loh)

1. ***Asclepias subverticillata*, Horsetail Milkweed,**
2. ***Ipomoea* (Morning-glory), possibly *I. hederacea* or *I. purpurea***
3. ***Funastrum cynanchoides*, Climbing Milkweed,**
4. ***Polanisia dodecandra*, Clammyweed,**
5. ***Allionia incarnata*, Trailing Windmills,**
6. ***and Acourtia wrightii*, Brown-foot.**













The two caterpillars shown on this page and the ones shown on pages 150 and 151 are all larvae of White-lined Sphinx, *Hyles lineata*. The two photographs on this page were taken in/near Hillsboro by Bob Barnes. The one below was photographed on August 26, 2021. Not only do the instars of the caterpillar stage differ, there are more general regional differences as well.



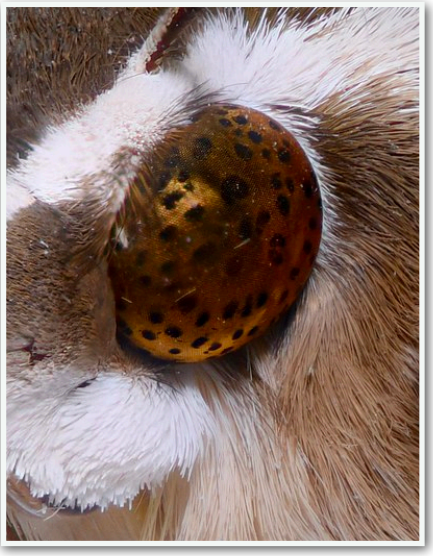


The caterpillar shown on this page is another larvae of White-lined Sphinx, *Hyles lineata*. The variability of instars of this species (by stage, region, and other factors?) cry out for research. This photograph was taken by Véronique De Jaegher in Kingston, N.M.



Above: Gordon Berman took this photograph of of White-lined Sphinx caterpillars on the Fillmore Canyon Trail in the Organ Mountains. A dramatic photo for all sorts of reasons. Note, for instance, how different the caterpillar in the background looks from the two in the foreground. The "horn" on the rump of the caterpillar of this species is a key diagnostic feature, both in terms of shape and (bi)-color.

The head of a White-lined Sphinx, from Wikipedia, gives some idea of its eye structure. Like the proboscis which is evident in the photographs on previous pages, a wonderful adaptation.









Fall Webworm Moth

Hyphantria cunea

(Drury, 1773)

Hodges #8140

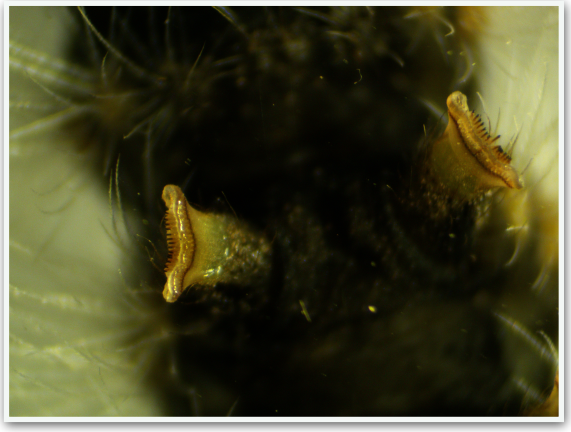
***Hyphantria cunea which are* frequently found in our area, may have as many as four generations per year. The caterpillar stage is often found in Fremont Cottonwood (*Populus fremontii*) - see left, and willows. Photographs from Hillsboro, Black Range. RAB**



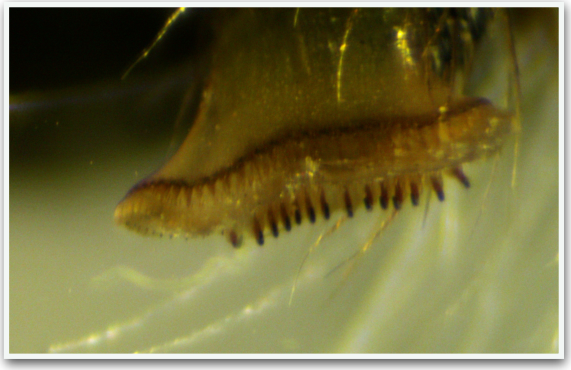






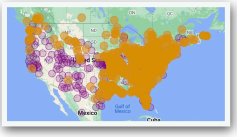




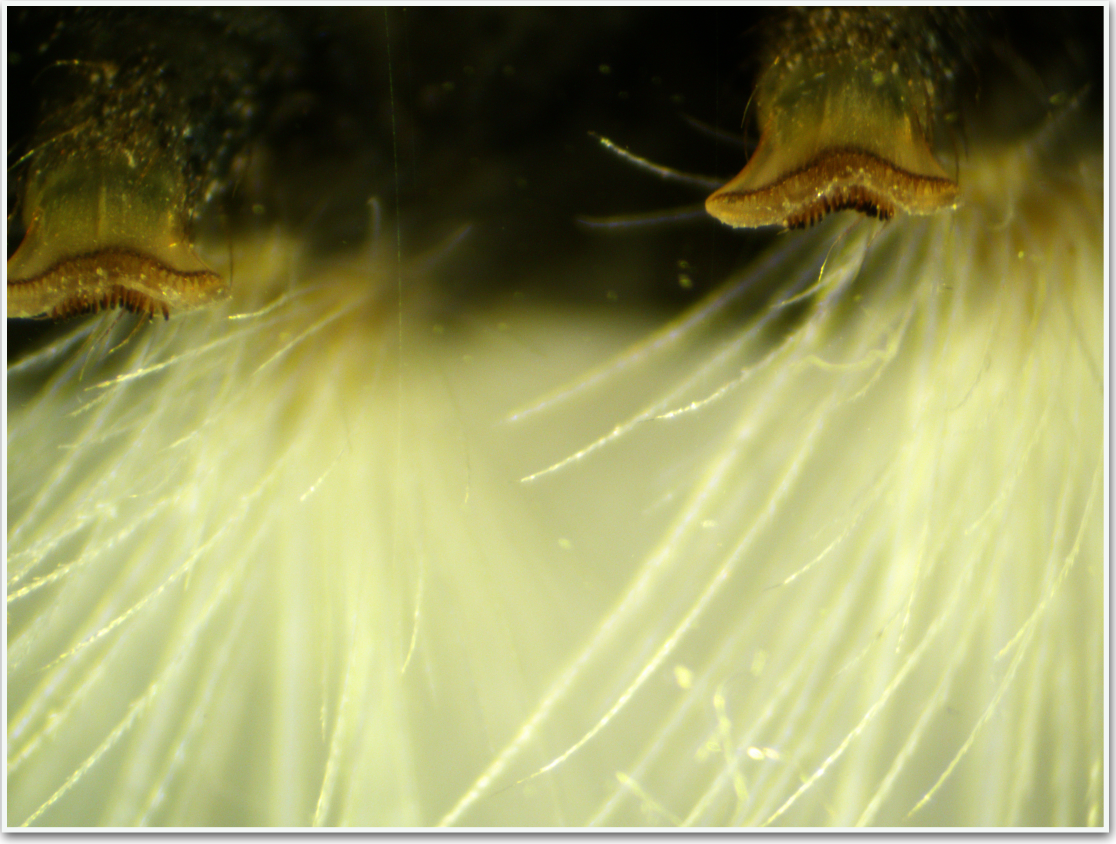




Photographs on this and the preceding page were taken in Hillsboro on October 10, 2022. RAB



U. S. Range Map of *Hyphantria cunea*, Fall Webworm Moth From sightings reported to [Butterflies and Moths of North America](#).

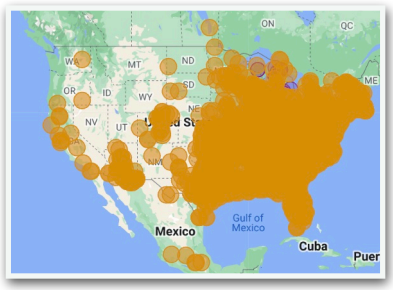




Common Buckeye
Junonia coenia
Jacob Hübner, 1822
Hodges #4440

The plate that accompanied Hübner's original description of the Common Buckeye is shown below (Sammlung exotischer Schmetterlinge (1819 -1827) Vol. 2 Plate 32.

The Common Buckeye, photographed near Kingston (right), has a range which is mostly limited to the east of the Rocky Mountains.



U. S. Range Map of *Junonia coenia,* Common Buckeye
From sightings reported to Butterflies and Moths of North America.

If you have an older field guide, it will not show that the Gray Buckeye (see following page) has been split from the Common Buckeye - and the range for the species will stretch across the southern tier of the United States and southward to southern Mexico.

Steve Cary maintains an excellent blog on the Pajarito Environmental Education Center website. His entry for June 10, 2020 addressed buckeye species in New Mexico. A wonderful and informative discussion - well worth the time! His latest blog effort is located at this link - New Mexico Butterfly Blog.

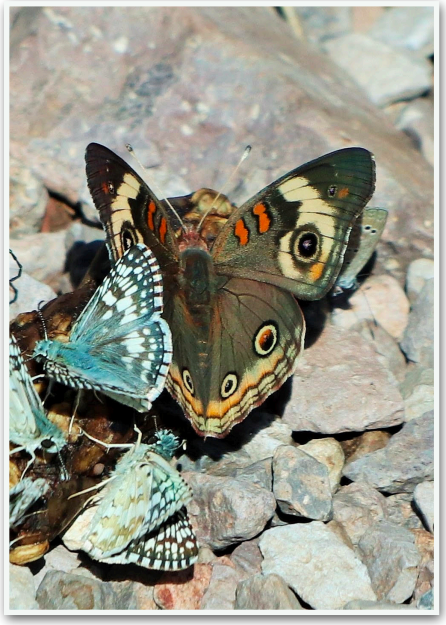


***Junonia coenia*, Buckeye**
Photographed at Bloodgood Spring (Kingston), July 2017.



Gray Buckeye
Junonia grisea
(Austin & J. Emmel, 1998)
Hodges #4444.2

Until recently, the Gray Buckeye, pictured to the right in a photograph by Gordon Berman was considered a subspecies of the Common Buckeye, *Junonia coenia* grisea (Lalonde & Marcus, 2018). This individual was photographed taking nutrients from saturated sand and small gravel of the Pine Tree Trail above Aguirre Springs Campground in the Organ Mountains.



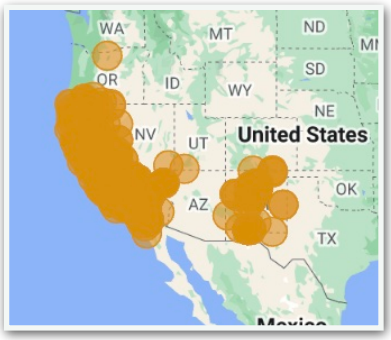
If your reference is current and recognizes this species, it will describe the range as west of the Rocky Mountains. At this point, you may be questioning how useful "range" is in determining the species of the butterfly you are attempting to identify. Sometimes it is very useful, sometimes not - and the "not" is more commonly the situation at the edges of a species' range. Obviously where species are found does not always match their described range.

In the photograph above, by James Von Loh, a Gray Buckeye and White Checkered-skippers are extracting moisture and nutrients from seed-filled wildlife scat near the Soledad Canyon Trailhead of the Organ Mountains.



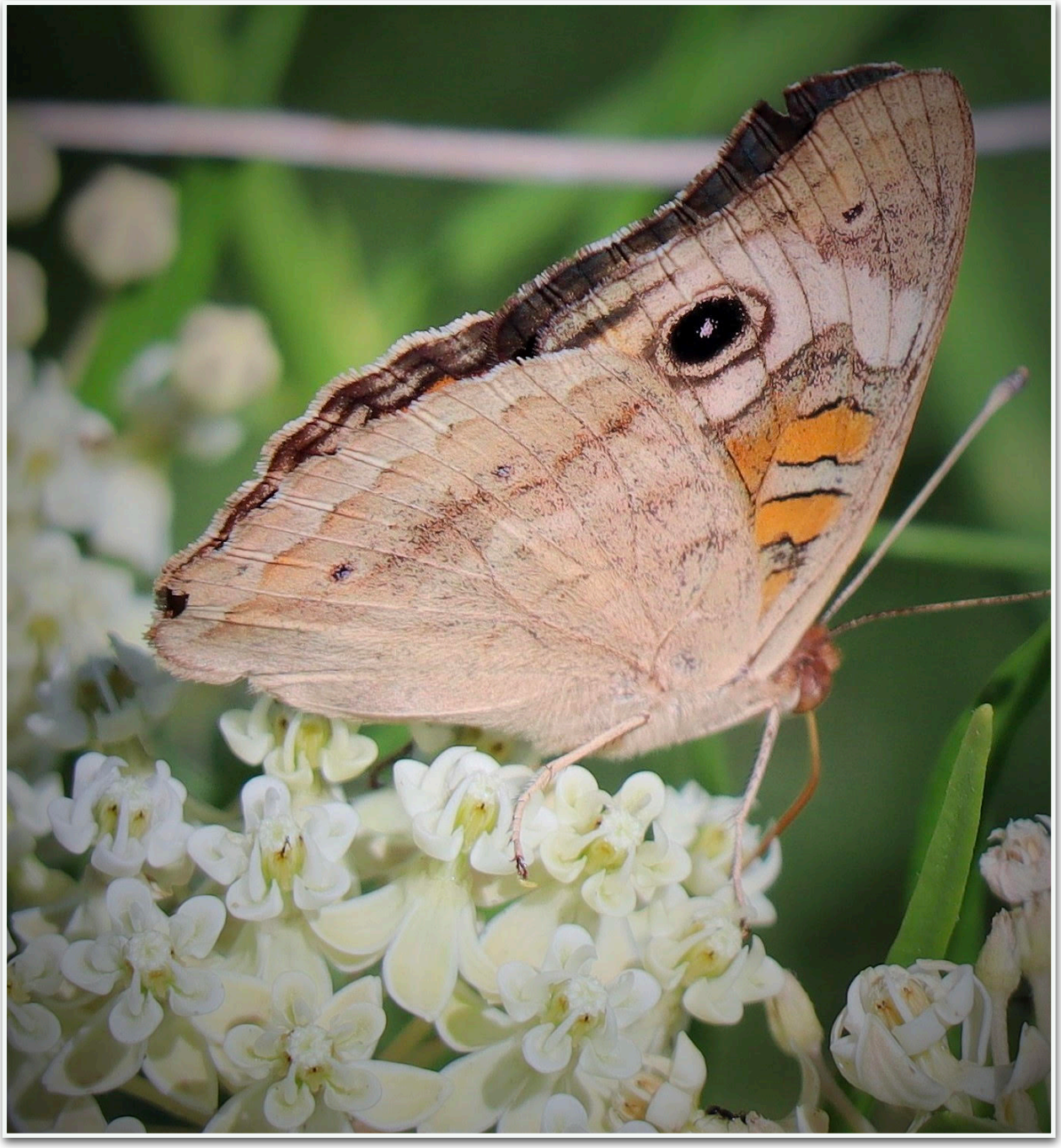


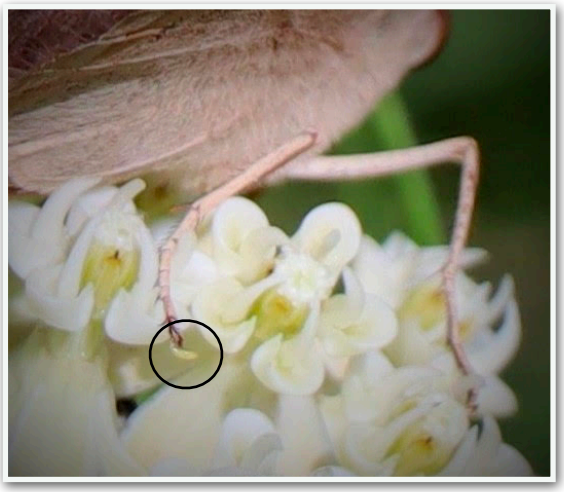
A Gray Buckeye (photo above and left), along the Soledad Canyon Trail. JVL



U. S. Range Map of *Junonia grisea*,
Gray Buckeye
From sightings reported to
Butterflies and Moths of North America.

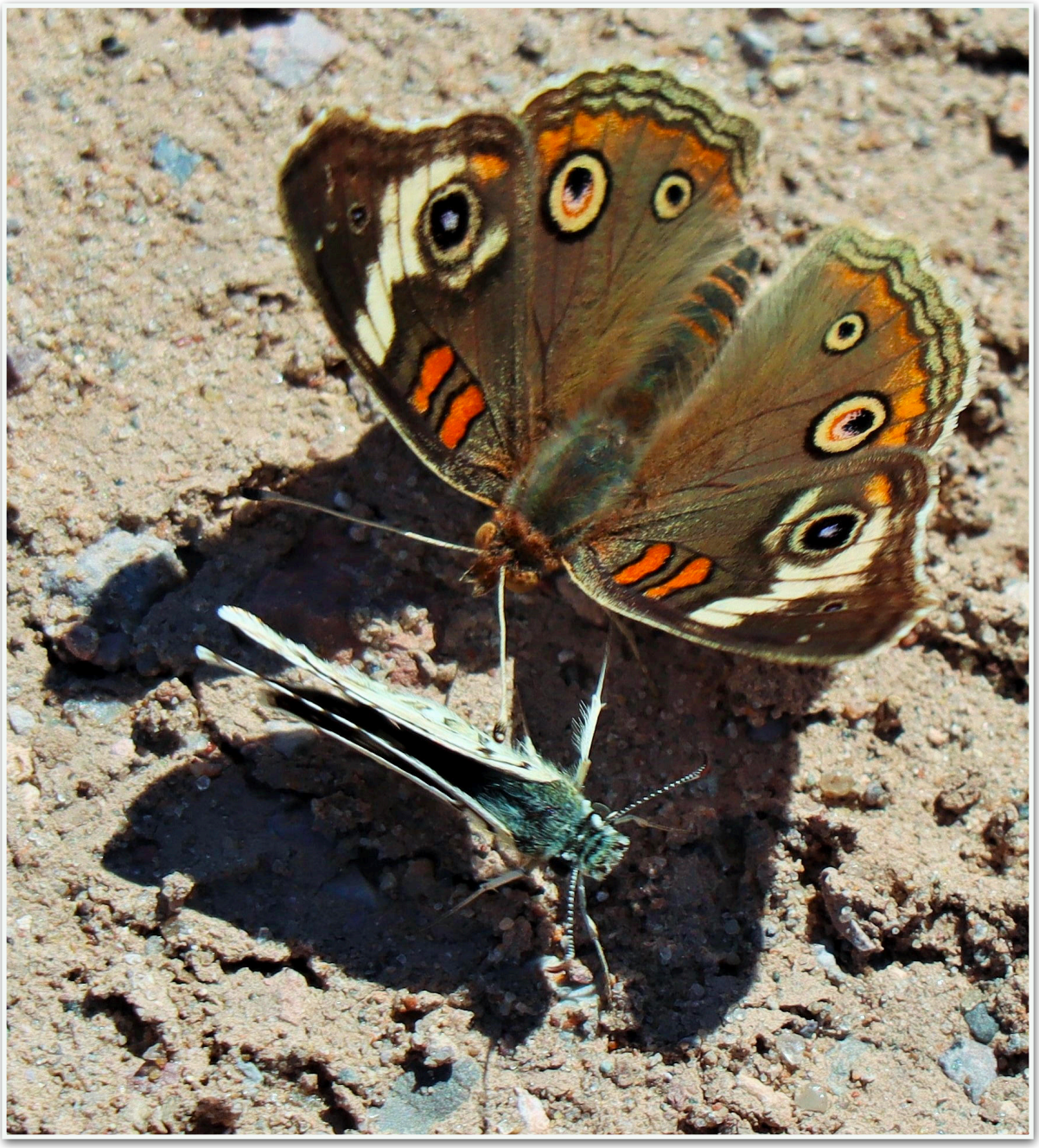




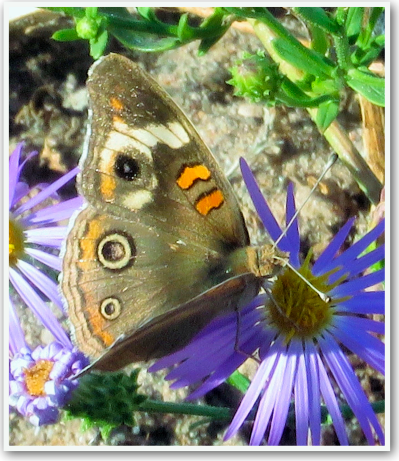


Gray Buckeye nectaring on Horsetail Milkweed flowers. In image above, and enlargement to left, note that a single pollinarium has been extracted via the stigmatic slit and clings to the leg where it could be transferred into another flower, thus achieving pollination. JVL





Above: Gray Buckeye stops nectaring from Spine-aster flowers to bump several times into White Checkered-skipper, *Burnsius* (*Pyrgus) albescens* (Plotz, 1884) that appeared to be displaying to attract a mate. This behavior occurred over several minutes and several "bumping" incidents. JVL. Photographs below by Gordon Berman







Gray Buckeye nectaring from Horsetail Milkweed flowers. JVL



Gray Buckeye, nectaring from Spiny Chloracantha flowers, on May 27 when it was uncommon along the Rio Grande. JVL



Gray Buckeye nectaring from Spine-aster flowers. JVL

Lalonde & Marcus
Austin & J. Emmel

In 2018, Melanie Lalonde and Jeffrey Marcus published research which led to the subspecies *Junonia coenia grisea* being elevated to full species status. ("Getting western: biogeographical analysis of morphological variation, mitochondrial haplotypes and nuclear markers reveals cryptic species and hybrid zones in the Junonia butterflies of the American southwest and Mexico", *Systematic Entomology*, 14 November 2018.) In the abstract of the paper they noted that "*The American southwest and northern Mexico has a great degree of endemic diversity compared with the rest of North America. The Pleistocene glaciations and the dispersal of species from glacial refuges in this region have been important engines for the production of biodiversity in the region. The New World Junonia are a recent radiation of butterflies that are thought to have spent time in these refuges during periods of glacial advancement. We have reconstructed the plausible movements and the contemporary geographic distributions of the five taxa (J. coenia, J. grisea, J. litoralis, J. nigrosuffusa and J. zonalis) that occur in the American southwest and northern Mexico . . .*" This paper contains significant amounts of information about the life history, morphology, and general natural history of the *Junonia* species. Some of the difficulties encountered when distinguishing between the *Junonia* species is created by hybridization, an example of the study's assessment of this issue is shown in Figure 8 of the cited work (see following page).

Melanie M. Lalonde is currently on the faculty of the University of Manitoba as is Jeffrey M. Marcus.

Austin and J. Emmel are credited with the identification of the subspecies, *J. coenia grisea* in 1998 and are given credit for the original species description by most sources. George T. Austin was a major figure in the study of the butterflies of western North America and the rest of the Americas. John F. Emmel appears to have specialized in the butterflies of the western United States and especially California. He worked in various other international locales.

The speciation of the Buckeye's has been a center of confusion for many years. In "Speciation in North American Junonia from a genomic perspective", Qian Cong et al. perform a great service in tackling the question. (*Systematic Entomology*, 2020 October ; 45(4): 803-837, doi:10.1111/syen.12428). Many people will find the numerous graphics, like that shown in two pages, to be very helpful.

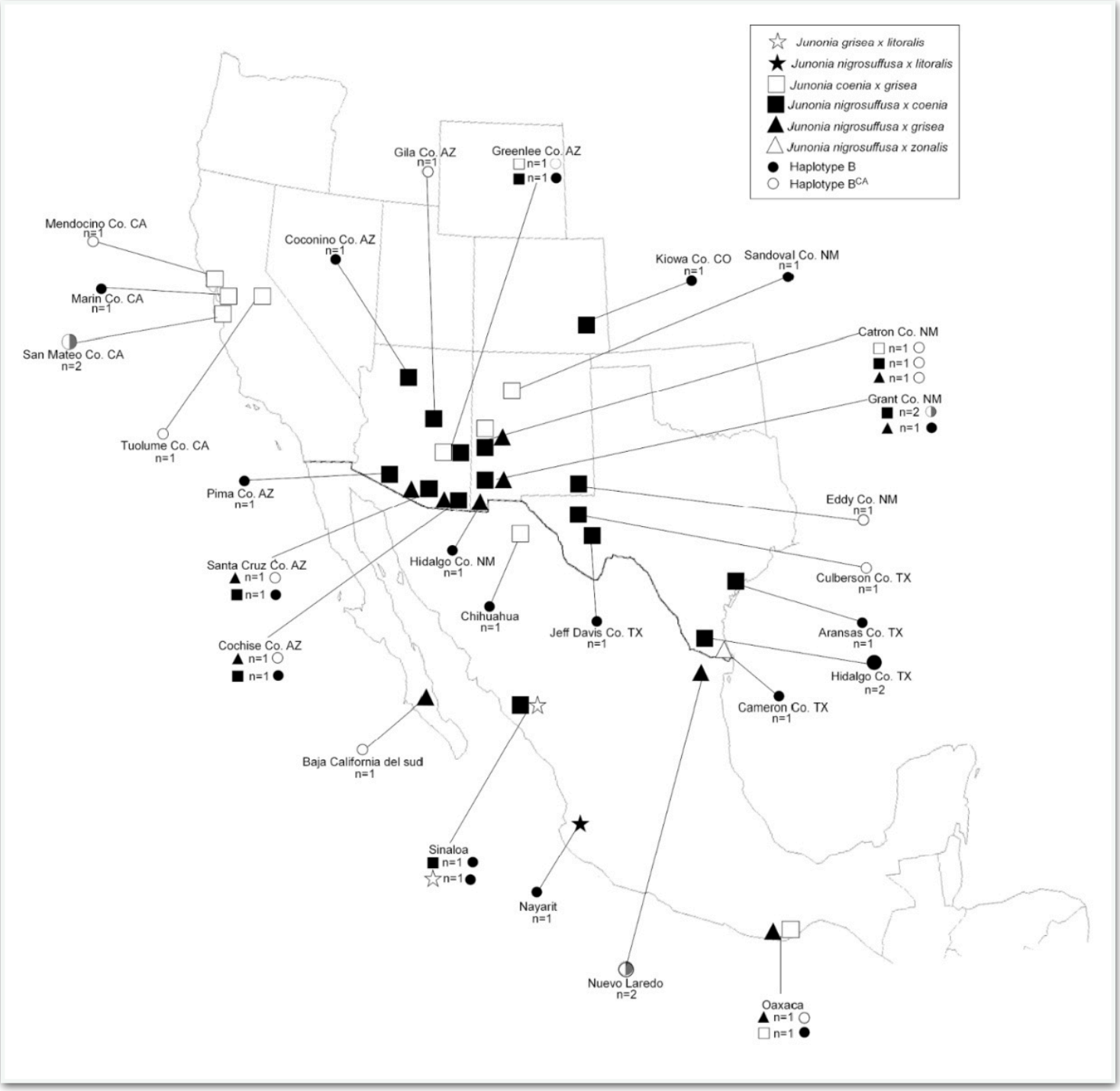


Fig. 8. Map of the American Southwest and Mexico showing the distributions of Junonia species hybrids using collection localities, and cytochrome oxidase subunit I (COI) haplotype group assignments from this study. The specific hybrid combinations are shown in the figure legend.

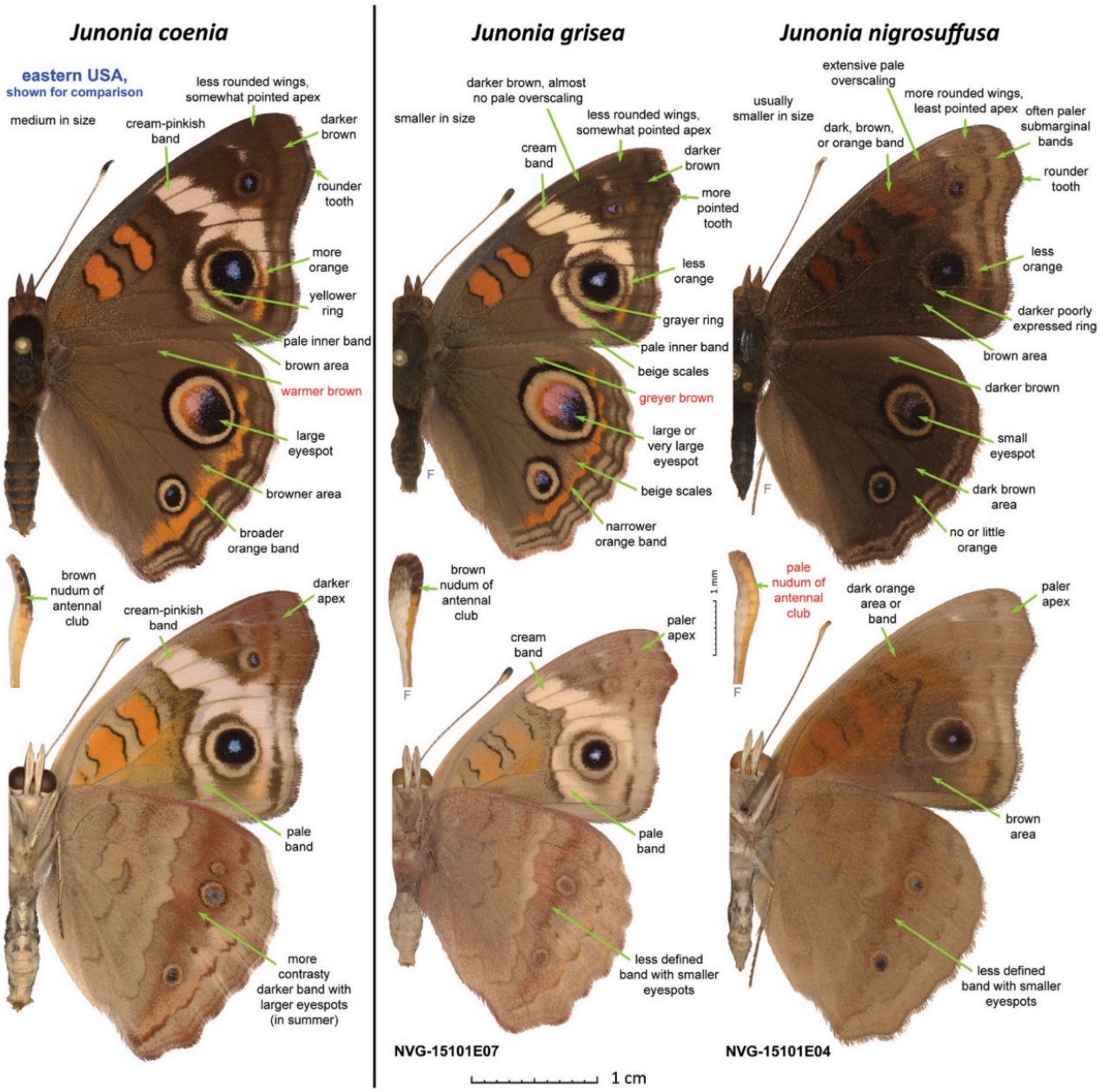


Fig. 3.

Differences between males of the two *Junonia* species from western U.S.A. and *J. coenia*. The three specimens are those shown in Fig. 1. *Junonia coenia* (U.S.A.: Texas, Wise Co., LBJ National Grassland, ex larva, eclosed 11-Sep-1997), *J. grisea* (NVG-15101E07; see Table S1 for the data), and *J. nigrosuffusa* (NVG-15101E04) are shown in the left, middle and right columns, respectively; dorsal and ventral views of the same specimen are shown above and below; and ventral view of the antennal club (shrivelled to various extents) is shown between them. All images are to scale: 1 cm scale (specimens); 1 mm (antennal clubs). Characters typical for males of each species are listed on the images with green arrows pointing to these features. A single most reliable character to identify each species is marked in red. 'Nudum' is a bare, scale-free portion of antenna beneath. 'F' indicates a flipped image (left/right inverted). Specimen images were edited to remove imperfections

From: "Speciation in North American Junonia from a genomic perspective", Qian Cong et al. perform a great service in tackling the question. (*Systematic Entomology*, 2020 October ; 45(4): 803–837, doi:10.1111/syen.12428).

Dark-ribboned Wave
Leptostales rubromarginaria
(Packard, 1871)
Hodges #7179

The Dark-ribboned Wave shown below was located along the Hillsboro Peak Trail in the Black Range at about 9,000' (RAB).

In the world of identification, butterflies are difficult, but moths, that is a whole different level of difficulty entirely.

This moth is proof that they are not all dingy gray and brown. Although some of the moths of the genus are, in fact, gray and brown, this individual is certainly not. As we walked, this moth fluttered up from the trail. With a wingspan of less than 20 mm, it was quite small.

The identification of this individual required the help of the folks at the Iowa State University Department of Entomology. But eventually I got there. This species was known as *Acidalia rubromarginaria* for a short period but was placed in its current genus by Alpheus Spring Packard in 1871, the year he made the original description.

The Mississippi State University Mississippi Entomological Museum site was also helpful in the identification of this individual.

The host plant for the larvae is not known (4/19/23).

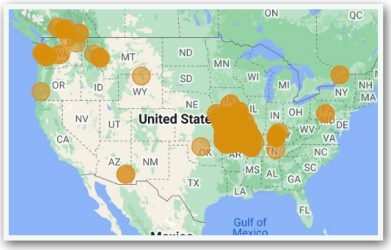
Other Resources
(Dark-ribboned Wave)

- **Butterflies and Moths of North America**
- **North American Moth Photographers Group**
- **BugGuide**

Alpheus S. Packard
(1839-1905)

Packard was the Massachusetts State Entomologist (1871-1873), member of the U. S. Entomological Commission (1877-1882), curator and director of the Peabody Academy of Science (1867-1878), a professor of zoology and geology at Brown University (1878-1905), founder and editor-in-chief of the American Naturalist for twenty-five years, a fellow of the National Academy of Sciences, etc. etc.





U. S. Range Map of
Leptostales rubromarginaria
Dark-ribboned Wave
From sightings reported to Butterflies and Moths of North America.

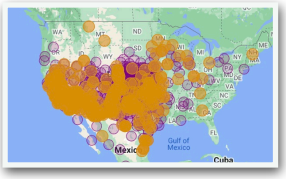
Among more than 400 monograms and other works he published was the *Textbook of Entomology* (1898).



Marine Blue
Leptotes marina
(Reakirt, 1868)
Hodges #4357



Marine Blue taking nutrients from moist rock near the Soledad Canyon Trailhead. JVL



U. S. Range Map of *Leptotes marina* Marine Blue From sightings reported to Butterflies and Moths of North America.





Marine Blue, photographed in Lake Valley, Black Range. DN





Marine Blue nectaring from Spiny Chloracantha flowers. James Von Loh observed this species on June 6th and 7th and took the two images above on July 16. Common.



Marine Blue nectaring from Horsetail Milkweed flowers. These small butterflies are abundant regionally but were less well represented along the Rio Grande in 2021. JVL

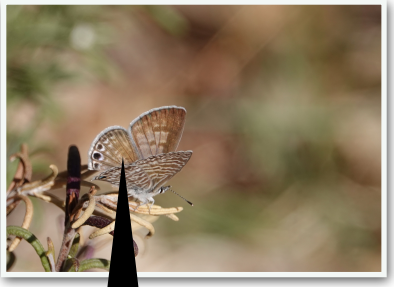
The Marine Blue larva shown to the right is a photograph from Berry Nall's website and is shown here under the provisions of a Creative Commons Attribution-NonCommercial 4.0 International License. Other larval stages may be green, reinforcing the fact that instar stages can look very different from each other.



The female will lay a single egg (multiple locations) on the flower buds of the caterpillar host plant (mesquite, milkvetch, legumes [including alfalfa], leadwort . . .). The caterpillar will eat the flowers and seedpods of the host plant.

The range of this species extends down the Baja Peninsula and as far south as Guatemala. This species is found throughout New Mexico but tends to be uncommon above 8,000'. This species generally prefers more open areas.

Look for this species between late March and late November.



The wings of the male (below) are "solidly" colored, females have white spotting on interior of both FW and HW.



Darker blue in the Marine Blue than in Cassius Blue.



Two spots very obvious (and different from others) on hind wing

This "block" is gray to brown in the Marine Blue, all white in Cassius Blue. An unbroken brown line across the FW.

General appearance is that of brownish streaking. In Cassius Blue the general appearance is white with brown streaks. As a result, Marine Blues generally look darker than Cassius Blues.

Alternating brown and white pattern across wings distinguishes Marine and Cassius Blues from other Blues.

Range of Cassius Blue is farther east.



Female Marine Blue photographed in Hillsboro on April 4, 2021. RAB



Additional Resources

- North American Moth Photographers Group
- BugGuide
- Butterflies and Moths of North America
- Pajarito Environmental Education Center

American Snout

Libytheana carinenta

(Cramer, 1777)
Hodges #4411

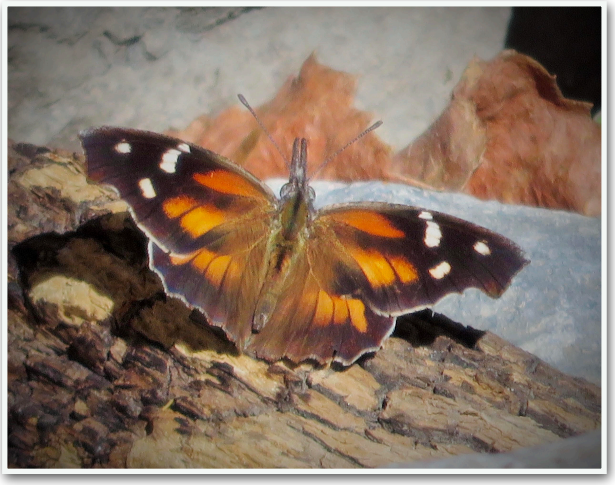
The American Snout pictured below was photographed by James Von Loh at the Dripping Springs Visitor Center in the Organ Mountains. This is one of the smaller solitary puddlers which were present during the 2021 season. It is taking nutrients from the moist soil of a retention pond.

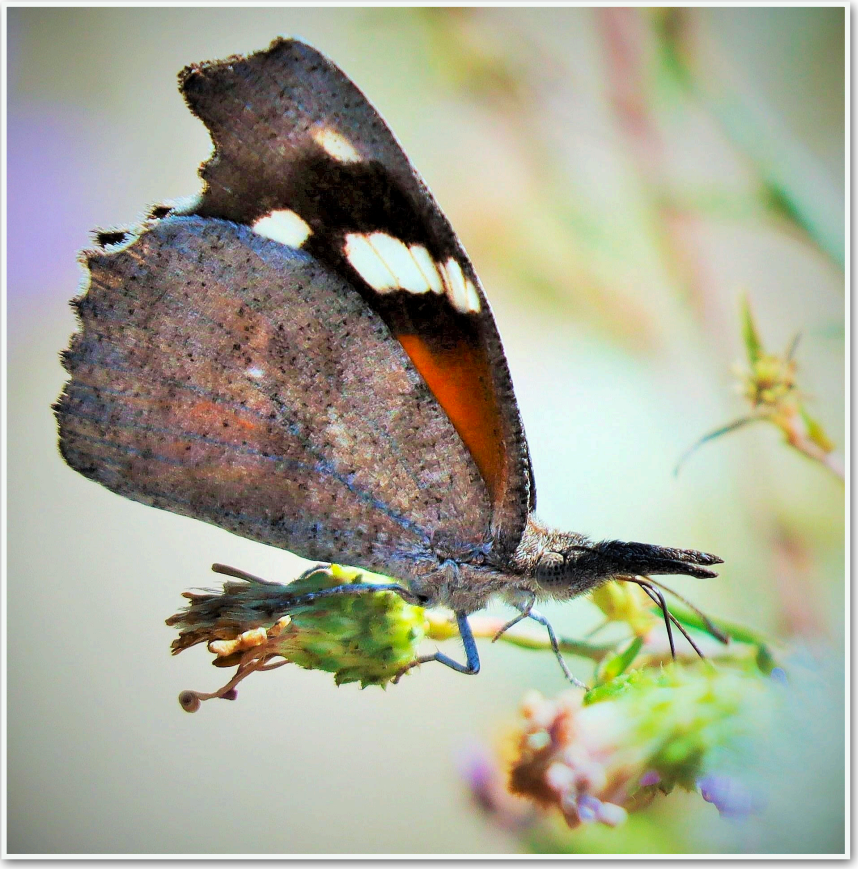
Hackberries are a major plant host for the larvae of the species.

This is the only Snout species found in the United States. Its population fluctuates with the intensity and duration of dry periods. It is sometimes found as far north as southern Ontario, to the south it it found in Mexico.

Photograph immediately below: American Snout taking nutrients from moist substrate below the Fillmore Canyon Waterfall. Photograph by Gordon Berman.





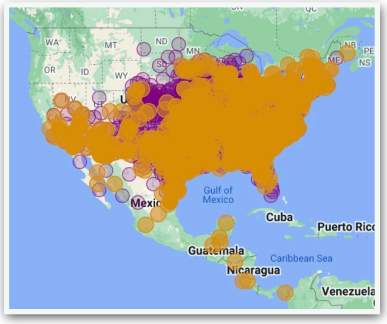






Left and two above: American Snout was an abundant butterfly often found nectaring from Spine-aster flowers during 2021. As shown to the left, individuals became darker in color near the end of October. JVL

Above: American Snout nectaring from Horsetail Milkweed flowers. JVL

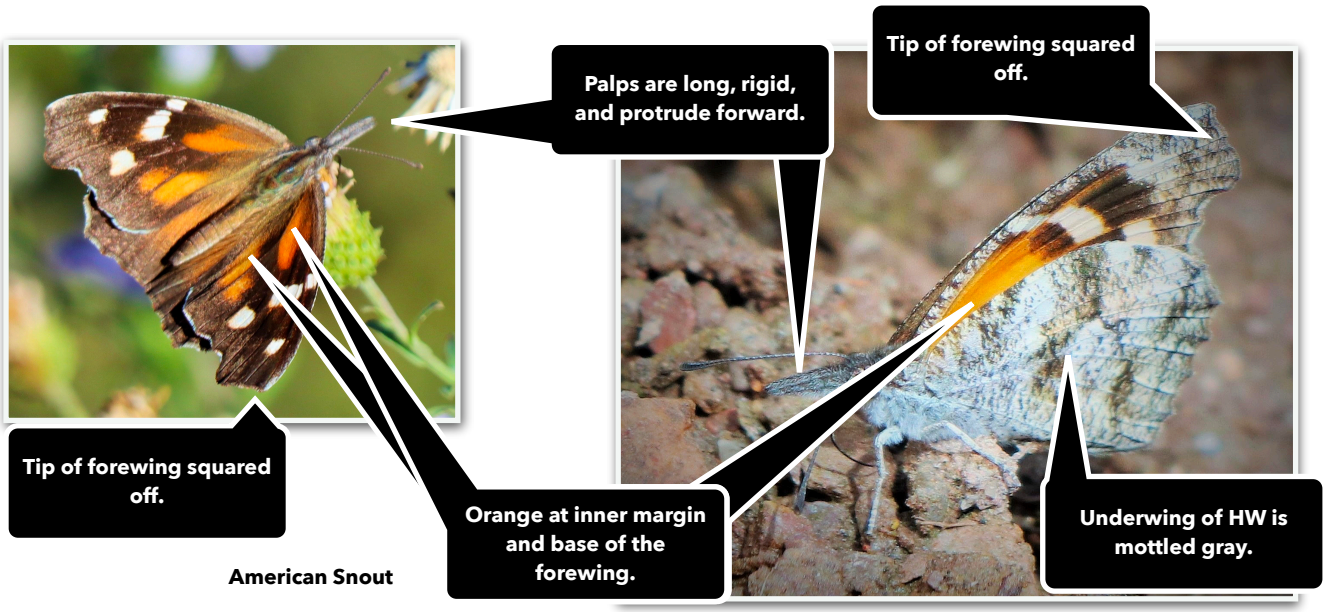


U. S. Range Map of
Libytheana carinenta
American Snout
From sightings reported to
Butterflies and Moths of North America.



Other Resources
(American Snout)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



American Snout

Why Not Just Viceroy?

If you are out and about and run across a local Viceroy you are likely to call it a "Viceroy". If you are writing about the encounter in a casual correspondence you are likely to call it a "Viceroy".

But if you write about your encounter in a more formal publication you might write it as:

> Viceroy, *Limenitis archippus obsoletus*, W. H. Edwards, 1882
> or *Limenitis archippus obsoletus* (W. H. Edwards, 1882)
> or *Limenitis archippus (Cramer, 1776) obsoletus* (W. H. Edwards, 1882) or Desert Viceroy *Limenitis archippus obsoletus* (W. H. Edwards, 1882)

Part of the reason for the variance is the perceived need to indicate which taxonomic determination we are talking about. Ornithologists rarely have to indicate who the original describers of a species or subspecies was when they list a species. The universe is really quite limited. Botanists and entomologists on the other hand have a very large universe to address. To begin with, there are simply many more species and subspecies to describe. Not only does that create a initial problem of accurately distinguishing between the species and subspecies but it also means that the possibilities for the revision of earlier taxonomic determinations increase dramatically. To ensure that everyone is on the same page, the original describer, and the date of the description, of a species is almost always listed when discussing a particular species. If a subspecies has been identified, the original describer of the subspecies is also listed, with the date of the description.

What happens when the genus of a species (or subspecies of a species) is changed following the original description? Generally, the original describer and date of description is listed, even though the latin binomial is no longer that which they gave the species. This is also the general rule which is also followed for subspecies determinations.

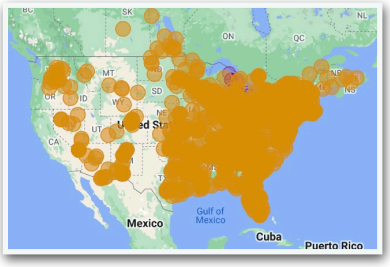
What is the rule when a species is split or lumped?

The International Code of Zoological Nomenclature outlines the rules for how species are described and which describers gets credit under which conditions. It is an extensive set of rules, covering just about any situation which might occur. But it is a complicating listing and its rules are not always followed in the manner that everyone agrees is appropriate. The International Commission of Zoological Nomenclature is the body which makes the official determinations when there is a disagreement in these matters. And, disagreements about these matters can become quite heated, not the least of which is caused by rules applied when the "strict adherence to the Code would interfere with stability of usage" - nothing better for controversy than adding some subjectivity into a field where extensive efforts have been made to make it objective.

So when a name listing isn't easy to understand, or does not quite make sense to you, do the best that you can and live with it, don't fight over it.

Other Resources (Viceroy)

- Butterflies and Moths of North America
- North American Moth Photographers Group (Note especially the information about flight times on this page)
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of
Limenitis archippus
Viceroy
From sightings reported to Butterflies and Moths of North America.

(Desert) Viceroy
Limenitis archippus obsoletus
(Cramer, 1776 - species)
(W. H. Edwards, 1882 - subspecies)
Hodges #4523

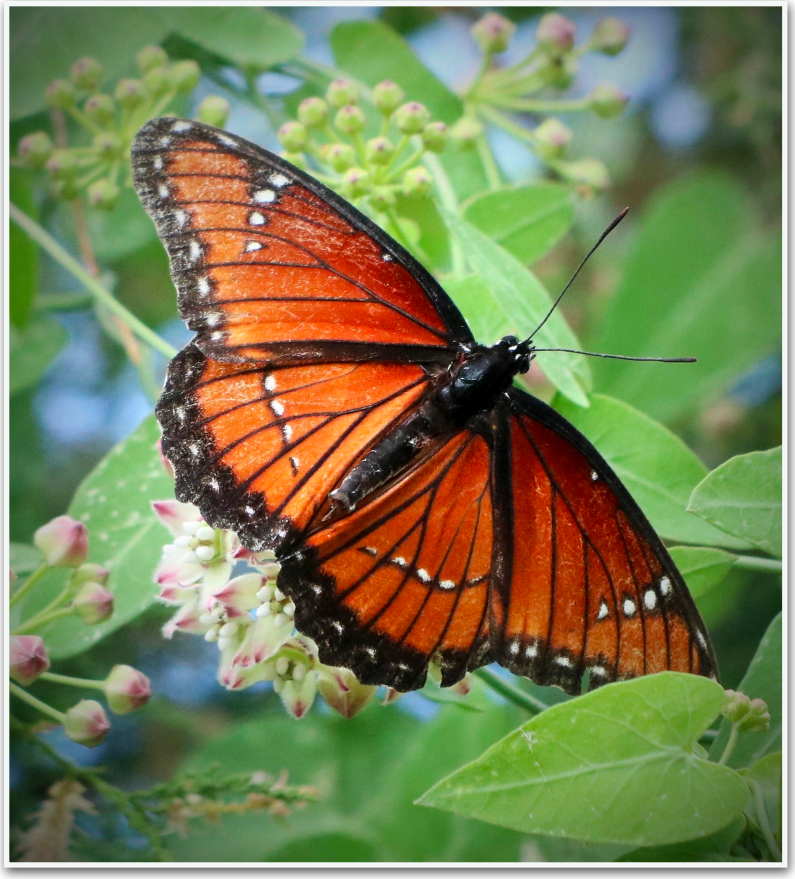
The Viceroy is smaller than the Monarch and flies with shallower wing beats. The Monarch will often glide with wings apart in the form of a "v".

In the northern part of their range, Viceroys mimic Monarchs. In the southern part of their range they mimic Queens. Viceroys are lighter in color in the northern part of the range than they are in the southern part.

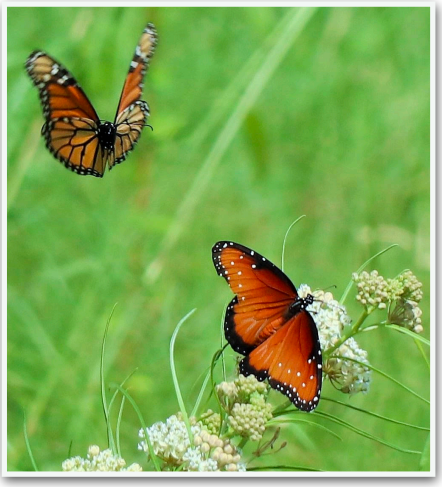
Viceroy caterpillar host plants include willows, poplars, and cottonwoods. Females will lay two or three eggs near the tip of the leaves of host plants and then move on to another location.

Early in the season (or when flowers are few) adults will feed on aphid honeydew, dung, or decaying meat or fungi. When flowers are available they nectar, favoring composites like asters and thistles.

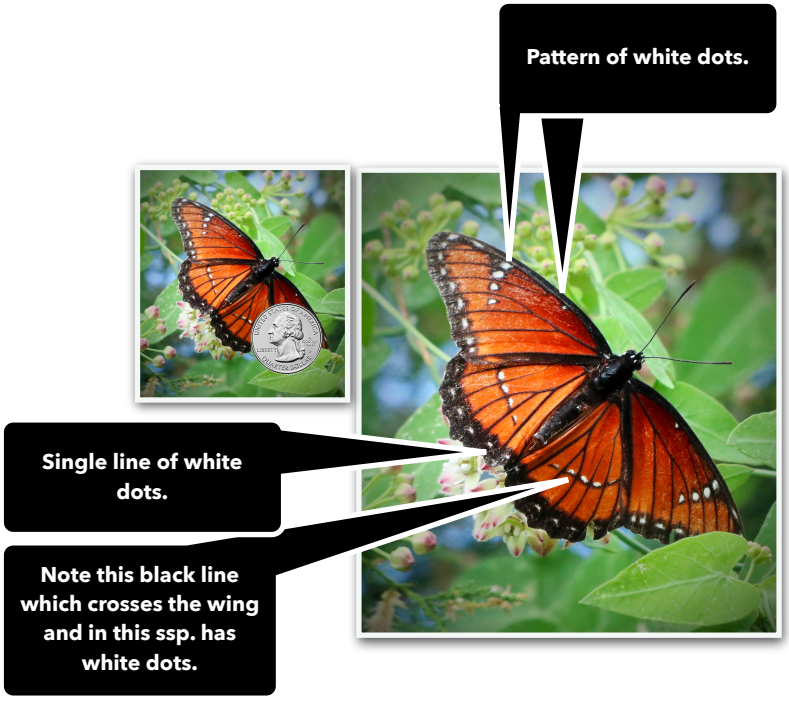
***L. a. obsoletus*, known as the Desert, Southwest, Arizona, or Obsolete Viceroy has lost much of its habitat because of water impoundment, human "development" of its habitat, and the encroachment of Salt Cedar.**

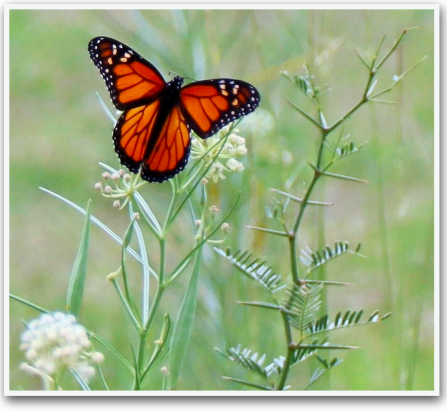


Above: This Desert Viceroy, *Limenitis archippus*, (dorsal wing view) is the only one I observed nectaring from milkweed flowers in three seasons. This individual is nectaring from Climbing Milkweed flowers. JVL



Compare the Viceroy with the Queen and Monarch (above) and Monarch (below). JVL.





Red-spotted Admiral
Limenitis arthemis arizonensis
(Species: Drury, 1773)
(Sub-species: W. H. Edwards, 1882)
Hodges #4522

The Red-spotted Admiral which is found in our area is a subspecies of the Red-spotted Purple form of this species. It is also known as the Arizona Red-spotted Purple. The range of this subspecies is limited to parts of Arizona, New Mexico, and Texas in the U. S. and to the northern states of Mexico.

This species has been widely studied, especially in the eastern United States. In that region, *L. a. arthemis* (White Admiral), is found to the north and is non-mimetic while *L. a. astyanax* is mimetic, mimicking the poisonous Pipevine Swallowtail, as does *L. a. arizonensis*.

There is disagreement about whether or not *L. a. arizonensis* and *L. a. astyanax* are distinct subspecies. The differences in morphology and behavior appear to be minor. In general *L. a. arizonensis* is found in more narrow canyons (in New Mexico, generally between 5,000' and 8,000') than is the eastern form. That, however is to be expected given the topography of the west.

This subspecies is known to hybridize with *L. weidemeyeri, L. archippus obsoleta,* and *L. arthemis*. Species in *Limenitis* are know to hybridize with relative ease where they come into contact.

Caterpillar host plants include many (primarily tree) species including, cottonwoods, oaks, poplars, aspen, and wild cherry. *L. a. arizonensis* appears to prefer willow more than the eastern subspecies. Adults sometimes will nectar from flowers but generally get their nutrition from dung, carrion, sap, and rotting fruit.

The most common behavior, in butterflies, is to hold the wings vertically above the body when at rest or nectaring, or opening and closing their wings slowly. General rules can be misleading. Sometimes, butterflies will "bask", holding their wings open to absorb heat from the sun.

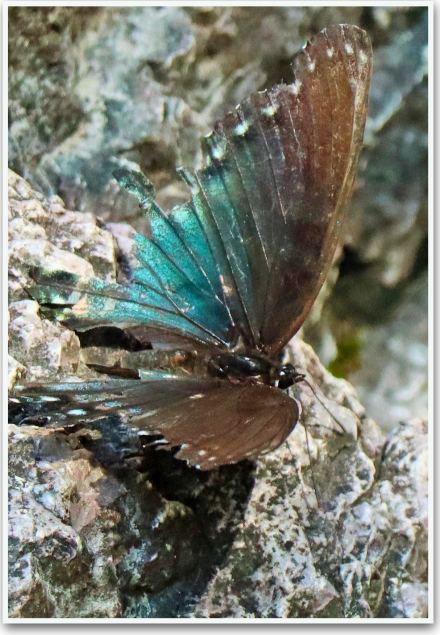


Red-spotted Admiral photographed in Mineral Creek, Black Range, September 2017. RAB



This Red-spotted Admiral is taking nutrients from the bedrock surfaces forming Soledad Canyon Waterfall. JVL

Wings are everything to a butterfly. If it loses a wing or if its wings are damaged, it is at a severe disadvantage. There are many reasons that a butterfly's wings may become damaged, like those in the image to the right. Its wings may have been damaged by material stress, wear and tear of flight, and random encounters with objects. Such stress may be especially prevalent during migration when butterflies are often traveling significant distances, often in inclement weather conditions. Or, the wings may have been damaged when the butterfly was attacked by a predator. The butterfly shown to the right was taking nutrients from outcropping bedrock forming Soledad Canyon Waterfall, photograph by James Von Loh.

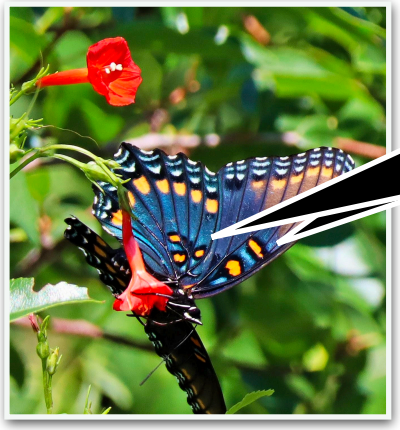


Other Resources (Red-spotted Admiral)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center
- Wikipedia

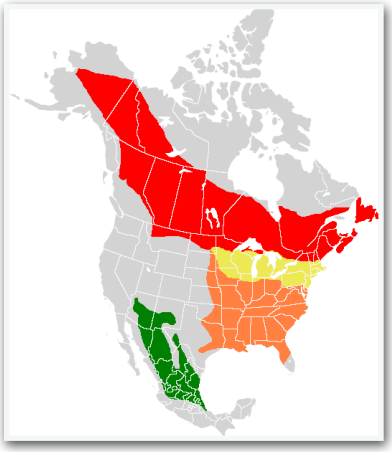








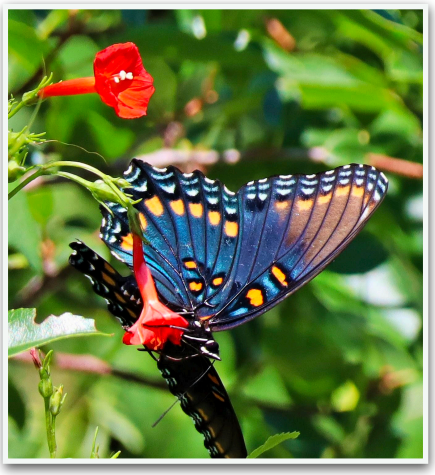
Above: Photographed in Mineral Creek, Black Range, September 2017. Right: In Kingston, N.M. RAB

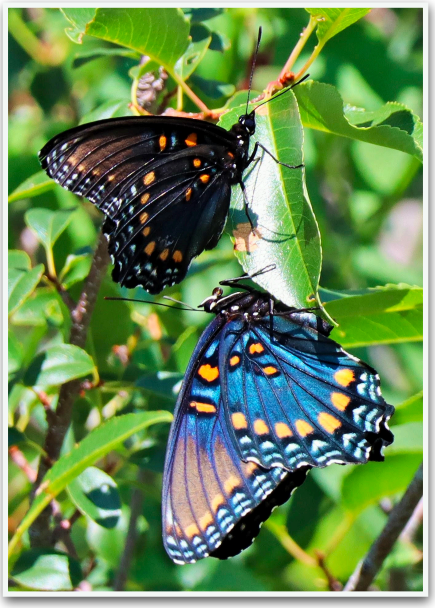


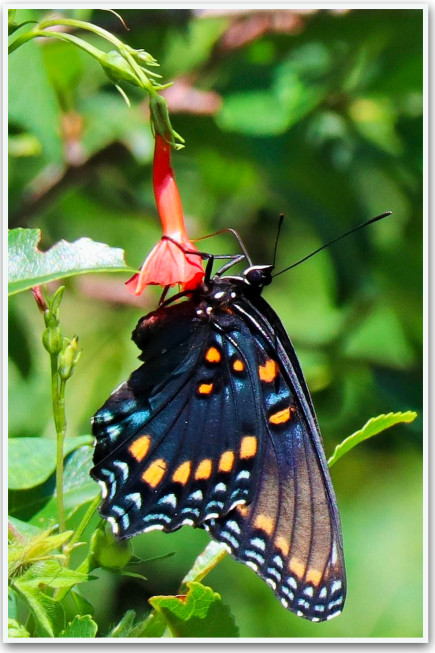
Range Map Attribution

This map shows the distribution of *Limenitis arthemis*. The red shows the range of *L. a. arthemis*; the orange shows the range of *L. a. astyanax*; the green shows the range of *L. a. arizonensis*; and the yellow shows where the ranges of *L a. arthemis* and *L. a. astyanax* overlap.









In the three images to the right, Red-spotted Admirals are nectaring from a Scarlet Morning-glory which adorns a tall Black Cherry shrub. In the middle photo of the series, a pair of Red-spotted Admirals is in the Black Cherry. They were also in a nearby Apache Plume, which also had Scarlet Morning-glory intertwined with its branches. The top butterfly in the middle photo is laying eggs on a Black Cherry leaf. JVL

Weidemeyer's Admiral
Limenitis weidemeyerii angustifascia

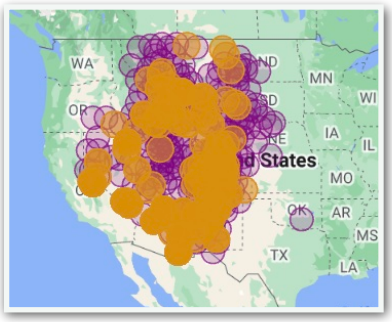
(Species: W. H. Edwards, 1861)
(Subspecies: W. Barnes & McDunnough, 1912)
Hodges #4524

Within the Black Range this species is generally found above 6,500'. The larvae plant hosts of this species include willow, aspen and *Prunus*. There are two overlapping flights in New Mexico, with the highest population occurring in late summer.

Like some skippers, the larvae will protect themselves by rolling a leaf to make a shelter.

There are two subspecies of Weidemeyer's Admiral found in New Mexico, the nominate form is found in the central and northern part of New Mexico and has relatively wide white bands. *L. w. angustifascia*, like the one shown below, is found in the southwestern part of the state and has more narrow white bands.

Barnes and McDunnough described this subspecies as *Basilarchia angustifascia* in 1912.



U. S. Range Map of *Limenitis weidemeyerii* Weidemeyer's Admiral From sightings reported to Butterflies and Moths of North America.



Other Resources (Weidemeyer's Admiral)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



Width of white band varies between the subspecies.

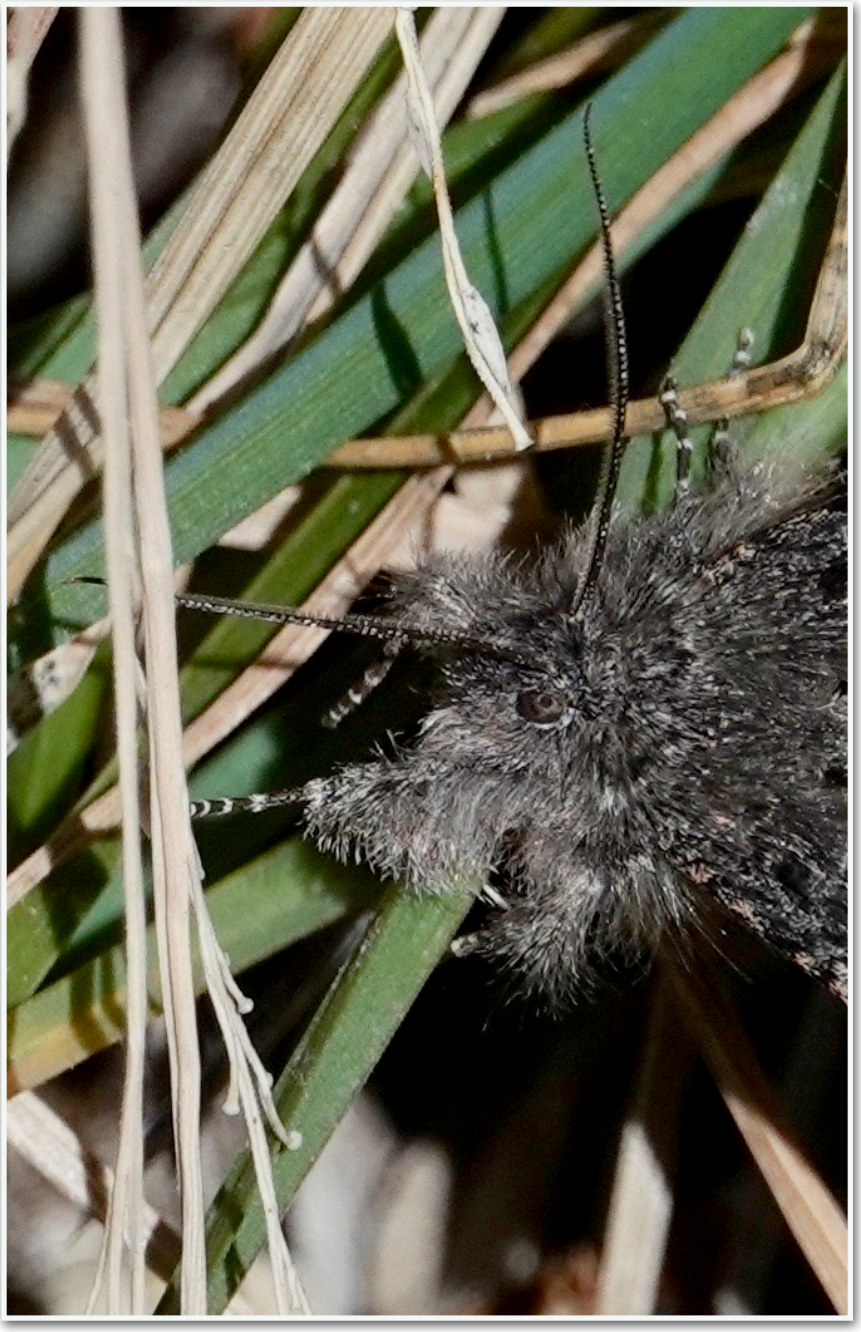
Row of small faint white spots.



Weidemeyer's Admiral Photographed in Railroad Canyon, Black Range, June 2017. RAB

Litocala Moth
Litocala sexsignata
(Harvey, 1875)
Hodges #8597





The Litocala Moth shown to the right and on the following page was photographed (RAB) in Southwest Canyon (6,500′), south and west of Kingston, Black Range on March 7, 2021.

Beauty, and the unexpected, sometimes come in small packages. In the January 2021 issue of the *Black Range Naturalist*, Ron Parry introduced us to the world of moths, and his excellent website, Southwestern Moths. In the April 2021 issue, moths and their place in the web of living things were discussed as part of a series of articles about plantings.

These moths were present where bedrock forced the water to the surface of the canyon bottom. Just a trickle of water running over the marble, but lots of thick grass on the stream edges. The *Litocala* were not seen at other locations.

The moths would flit about, rarely flying more than 20′ before landing and crawling into the grass. Sometimes they would land on a rock or on the mud. Not always easy to see.

This species is the only one of the genus which is found in North America, primarily in the western part of the United States but also into northern Baja California.

The website bugguide.net, notes that the adults fly from March until June. The species is diurnal and often nectars at flowers (including willow catkins, per Pacific Northwest Moths). It is often seen sipping water from mud.

The beauty of this creature would be missed if it did not periodically become the focus of our attention.

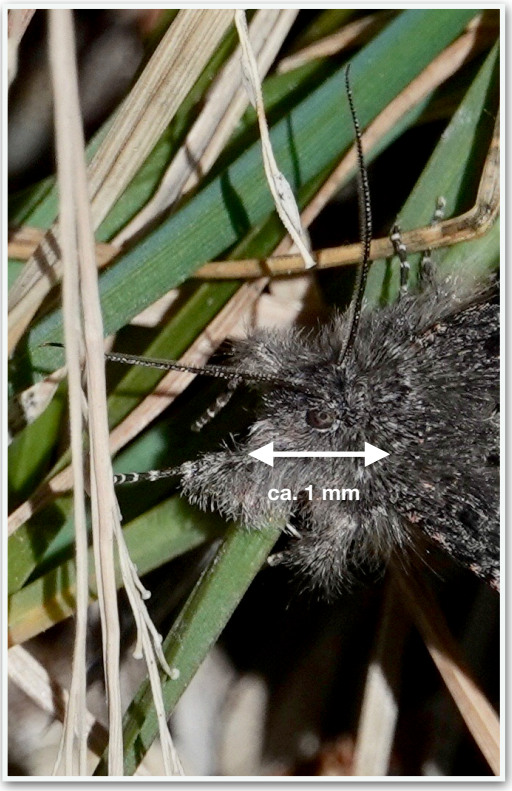
Not all moths are small, however. The wing span of moths can be as narrow as 2-3 mm or as wide as 150 mm.

This larvae of this species feed on various oak species.



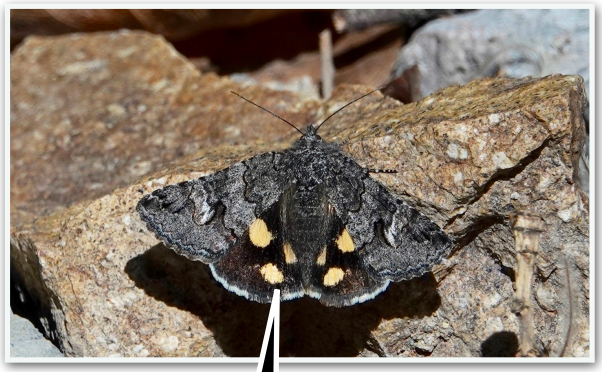


U. S. Range Map of
Litocala sexsignata
From sightings reported to
Butterflies and Moths of North America.



Other Resources
(*Litocala sexsignata*)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Southwestern Moths



The species name, *sexsignata*, refers to the six spots on the hindwings.

Leon F. Harvey
1837-1912

Harvey was an American entomologist who published a number of scientific articles on the moths and butterflies of North America. He was a founding member of the Buffalo Society of Natural Sciences and served as both Treasurer and President of that organization. Augustus R. Grote was also associated with that organization.



Taxiles Skipper

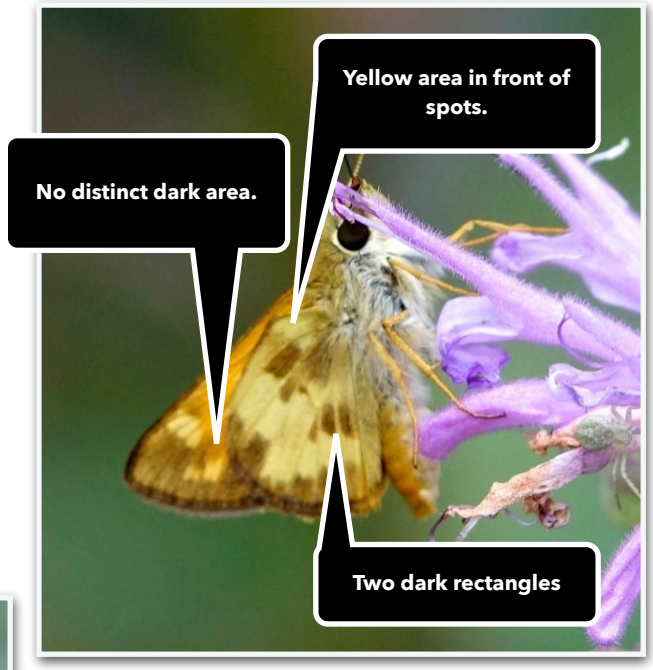
Lon (Poanes) taxiles

(W. H. Edwards, 1881)
Hodges #4061

The larvae feed on various grasses and adults nectar on flowers. Caterpillars feed on the grass leaves and tie leaves together with their silk to make shelter.

The range of this species extends well into Central America. The individuals shown here were photographed in Railroad and Gallinas Canyons on the west slope of the Black Range. In New Mexico, they are typically found in such riparian areas at elevations between 7,000′ and 9,000′.

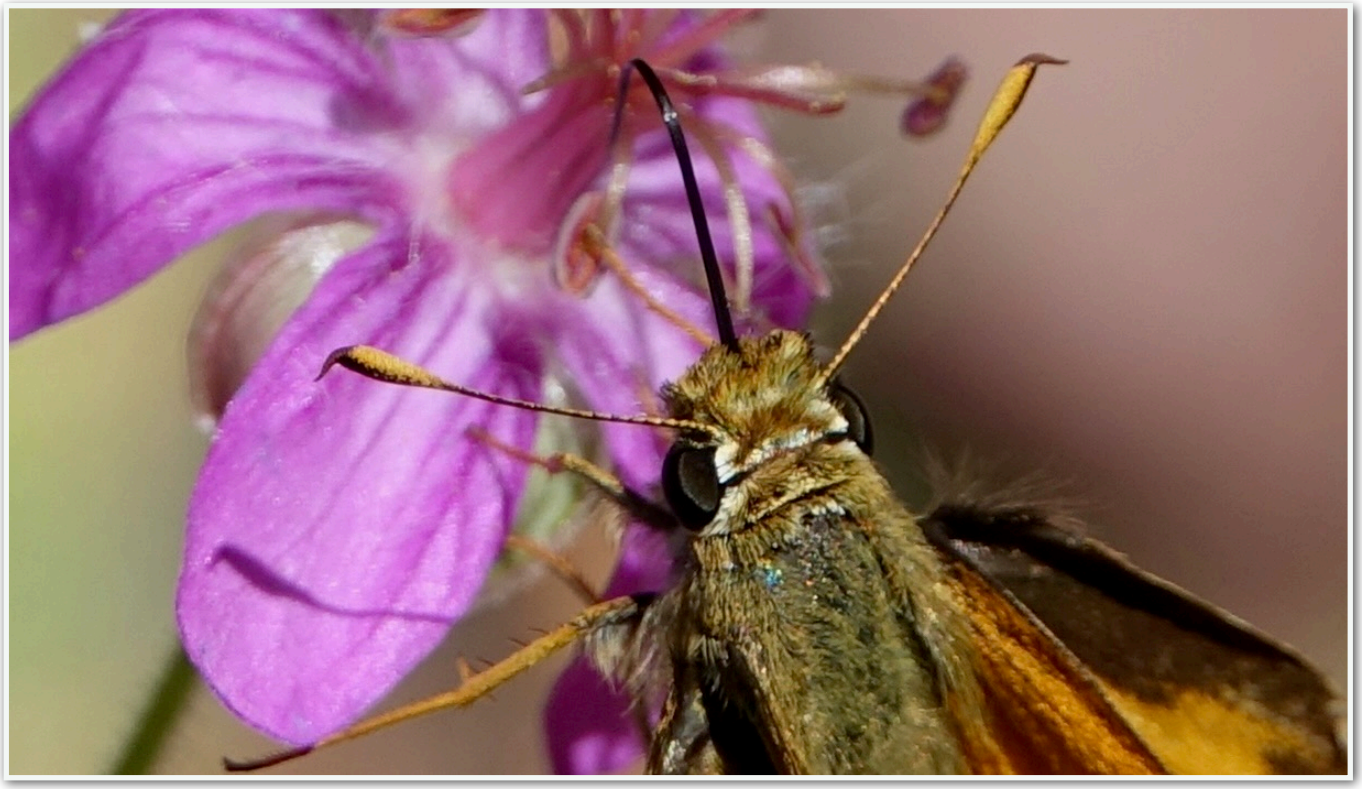
Formerly in the genus *Poanes*, this species was transferred to the genus *Lon* in 2019.





Other Resources (Taxiles Skipper)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



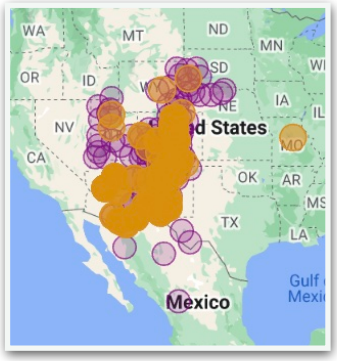
***Taxiles Skipper*, photographed in Gallinas Canyon, Black Range. RAB**



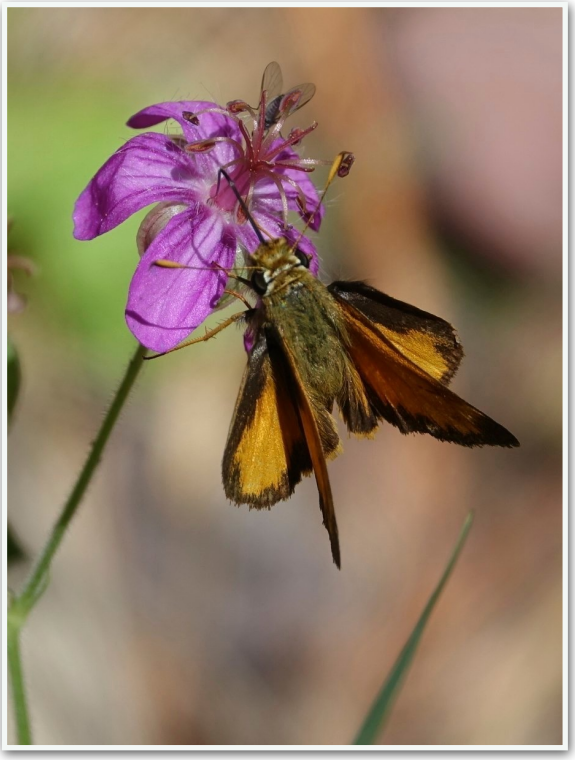
***Lon taxiles*, Taxiles Skipper on Bergamot, *Monarda fistulosa*. Photographed in Railroad Canyon, Black Range. RAB**

Males and females are very dissimilar in appearance. The male is shown here. Males apparently will defend small sunlit territories. They will perch from three to five feet above the ground.

The identification of skipper species can be difficult at times, seek a variety of resources when doing so.



U. S. Range Map of *Lon (Poanes) taxiles* Taxiles Skipper From sightings reported to Butterflies and Moths of North America.



Taxiles Skipper, photographed in Gallinas Canyon, Black Range. RAB



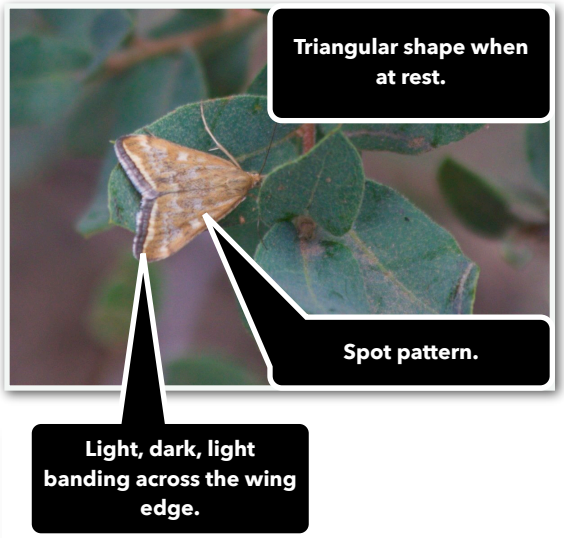
Taxiles Skipper on Bergamot, *Monarda fistulosa*. Photographed in Railroad Canyon, Black Range. RAB



Beet Webworm
Loxostege munroealis
(Leraut, 2005)
Hodges #5004

The species found here was formerly treated as *L. sticticalis*, a species of the Eastern Hemisphere.

Typically found in fields, gardens, disturbed areas, prairie areas, and aspen parkland. Larvae feed on a variety of plant species, including Lamb's Quarters (*Chenopodium album*), beet crops, wormwood, sunflowers, and spinach.





Loxostege munroealis **Beet Webworm**
Photographed along Middle Percha Creek, west of Kingston, Black Range, July 2017. RAB



Larvae form silk-lined cells, in which they overwinter in loose soil. The moth stage is both diurnal and nocturnal, they are attracted to light.

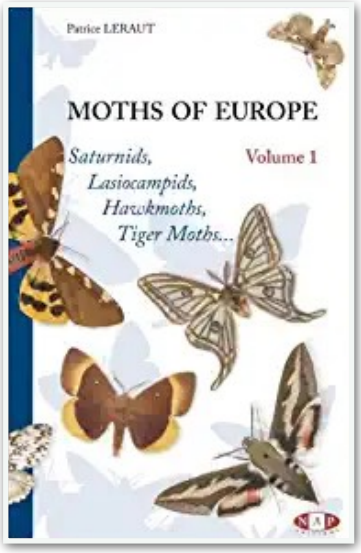
Other Resources (Beet Webworm)

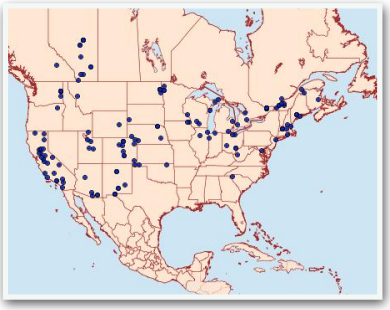
- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Southwestern Moths
- Moths of North Dakota
- University of Alberta Museum

Patrice J. A. Leraut

Leraut has described more than 200 species, he is a French entomologist. He separated *Loxostege munroealis* from *L. stricticalis* in: Leraut, P.J.A., 2005. Contribution à l'étude de quelques genres et espèces de Pyraustinae (Lepidoptera: Crambidae). (Contribution to the study of some genus and species of Pyraustinae Lepidoptera, Crambidae) *Nouvelle Revue d'Entomologie*, 22(2): 123-139.

In addition to his many scientific publications, Leraut has also written many books on the butterflies of Europe.





U. S. Range Map of *Loxostege munroealis* Beet Webworm From sightings reported to North American Moth Photographers Group.

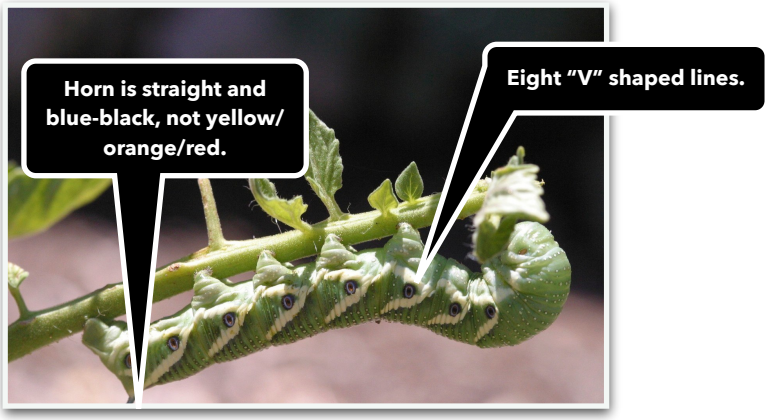
Five-spotted Hawkmoth Caterpillar - Tomato Hornworm
Manduca quinquemaculata
(Haworth, 1803)
Hodges #7776

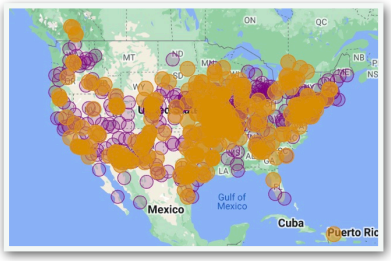
To paraphrase Shakespeare, in a Macbethean sort of way - "out, out, damn caterpillar". A refrain heard in many a garden. But in truth, unlike the Lady, most people who "out" the larval stage of the Five-spotted Hawkmoth show little remorse.

Video of the caterpillar stage of this species, being attacked by ants can be viewed here.

Large (wingspan between 9 and 13.5 cm) adults fly at dusk. They nectar on honeysuckle and phlox among other things. Females lay a single egg on the upper surface of host plants. Host plants are in *Solanaceae* and include potato, tomato, and nightshade.

Pupa overwinter in the soil in brown 2-inch long, spindle-shaped pupal cases. Caterpillars will feed for about a month before they enter the soil to pupate.





U. S. Range Map of *Manduca quinquemaculata* Five-spotted Hawkmoth/Tomato Hornworm From sightings reported to Butterflies and Moths of North America.

Other Resources (Five-spotted Hawkmoth)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Pacific Northwest Moths

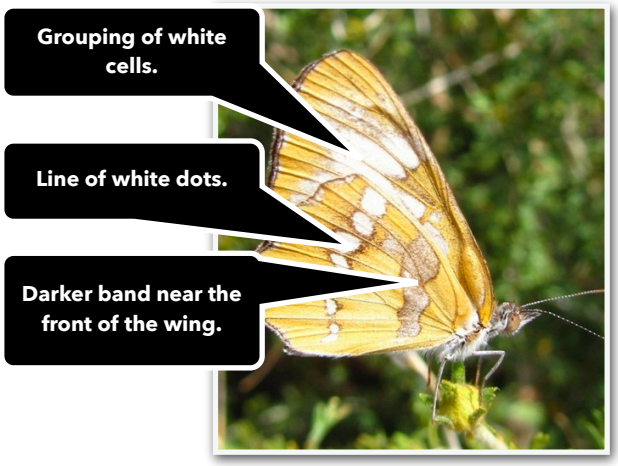


Five-spotted Hawkmoth - Caterpillar: Tomato Hornworm. Hillsboro, New Mexico. RAB

Common Mestra
Mestra amymone
(Ménétriés, 1857)
Hodges #4537

Host plants are in the spurge family, slow flying adults usually stay close to host plants and grasses. They have been reported roosting under juniper trees at night.

This species is found as far south as Costa Rica. It is the only species of *Mestra* found outside of South America and the West Indies. Some authorities consider it to be a subspecies of *M. dorcas*. Within New Mexico, it is more common in the southeastern part of the state than in the southwestern part. Apparently, this species is not reported within New Mexico during some years.



Other Resources
(Common Mestra)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center
- Berry's Butterfly Photos (Excellent life history including photos of all life stages)



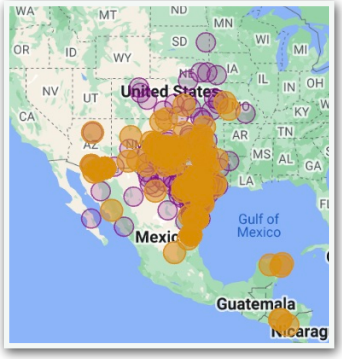
***Mestra amymone*, Common Mestra**
Photographed in Lake Valley, Black Range by Debora Nicoll.

Adrian Hardy Haworth
(1767-1833)

An English entomologist who named several taxa and twenty-two genera of moths. He wrote *Lepidoptera Britannica* (1803-1828) which was considered the authoritative text for several decades.

He was a member and fellow of most of the natural history societies of his time.





U. S. Range Map of
Mestra amymone
Common Mestra
From sightings reported to Butterflies and Moths of North America.

Dainty Sulphur
Nathalis iole
(Boisduval, 1836)
Hodges #4248

Adult males fly a few inches above the ground. Females lay single eggs on *Asteraceae* (Aster) seedling leaves which are the host plants for the caterpillar. Adults nectar on (among other things) asters and rabbitbrush.

Adults bask by closing their wings and sitting perpendicular (not parallel) to the sun. However, note the shadows in the identification key to the right, this species does not always sit perpendicular to the sun. It is typically found in open dry areas.

There is a summer/wet season form and a winter/dry season form of his species. As shown to the right, colors are darker in the winter/dry season form.

Dainty Sulphurs (sometimes called Dwarf Yellows) do not do well with cold winters. Although found to the far north in the United States these individuals have migrated north following the winter. In our area, their flights may be year around.

Dainty Sulphurs are found above 3,000' in most of New Mexico. They are found southward to Central America (Nicaragua and north). A subspecies, *N. i. natalia*, is described from Colombia.

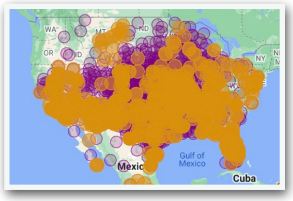




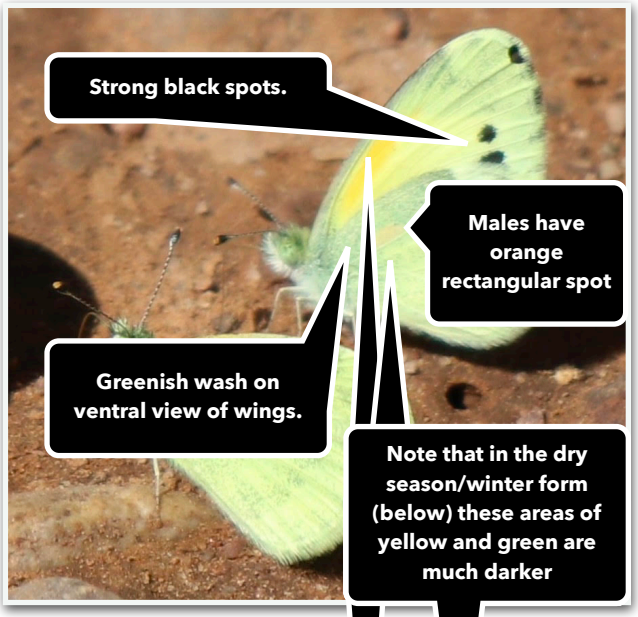
Other Resources
(Dainty Sulphur)

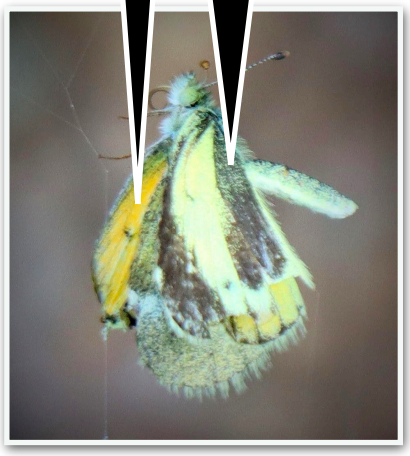
- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center





U. S. Range Map of *Nathalis iole* Dainty Sulphur From sightings reported to Butterflies and Moths of North America.

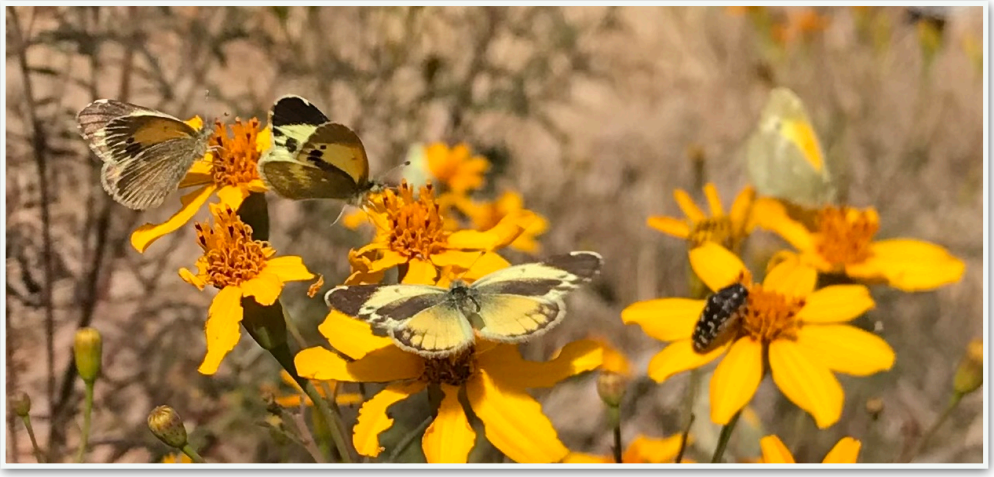




Above Left: The Dainty Sulphur was common, nectaring on Spiny Chloracantha flowers, with photographs from June 14, 16 (left), 18, and 19. Left: Dainty Sulphur taking nutrients from moist soil around the retention pond at Dripping Springs Visitor Center. JVL

Right: Multiple Dainty Sulphur, on Tagetes. JVL

Second Row: Dainty Sulphurs, were abundant along the Rio Grande, nectaring from Spine-aster flowers. JVL





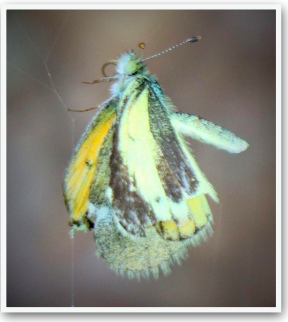




Dainty Sulphur Photographed east of Hillsboro, Black Range. RAB



Dainty Sulphurs taking nutrients from moist soil at the arroyo edge near the beginning of Soledad Canyon Trail. JVL



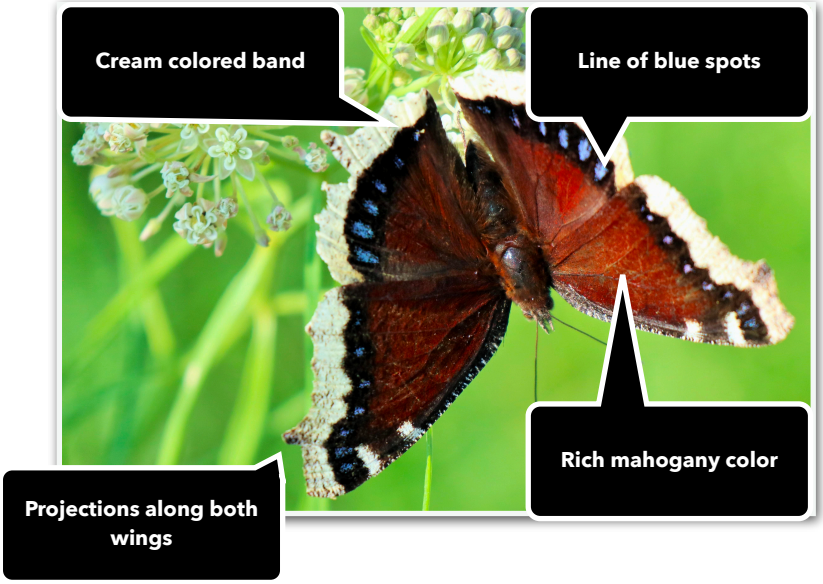
Dainty Sulphur has become recently ensnared on a sticky spider web strand and will eventually be consumed. JVL

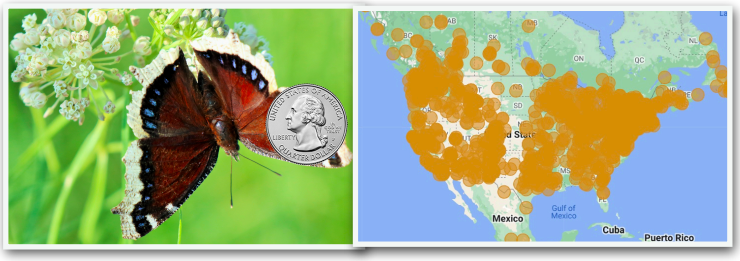


Dainty Sulphur nectaring from Horsetail Milkweed flowers. JVL



Dainty Sulphur photographed east of Hillsboro. RAB





Other Resources (Mourning Cloak)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center
- Wikipedia

U. S. Range Map of *Nymphalis antiopa* Mourning Cloak From sightings reported to Butterflies and Moths of North America.

Larger Butterfly Species Nectaring on Milkweed Along the Rio Grande

Larger butterfly species were observed visiting Milkweed habitats along the Rio Grande during 2019 and 2021; they included Mourning Cloak, *Nymphalis antiopa* (Linnaeus, 1758), Black Swallowtail, *Papilio polyxenes* (Fabricius, 1775), Pipevine Swallowtail, *Battus philenor* (Linnaeus, 1771), and Variegated Fritillary, *Euptoieta claudia* (Cramer, 1775). These butterfly species were photo-documented perching on and nectaring from both Horsetail and Climbing Milkweed flowers; the most common flower visitor during 2021 was Variegated Fritillary.

Black and Pipevine Swallowtails and Variegated Fritillaries flutter their wings while nectaring and often make a challenging photographic target. I counter this somewhat by visiting the habitats when temperatures are cooler and collect images while they perch to warm in the sun's rays. Mourning Cloaks were rarely observed in prior years, but a few arrived during the 2021 migration. Images shown on the next two pages represent my first observations and photo-documentation of Mourning Cloaks nectaring from Horsetail and Climbing milkweed flowers. JVL



Mourning Cloak nectaring from Horsetail Milkweed. JVL

Mourning Cloak
Nymphalis antiopa
(Linnaeus, 1758)
Hodges #4432

The Mourning Cloak is a cosmopolitan species and is found in much of the northern Hemisphere. Within the Black Range they can be found at all elevations. Here they have up to four broods a year and may be found flying about in every month of the year.

See an article by Steve Siegfried, in the July 2019 issue of the Black Range Naturalist, for more information about this species.







Center Right: Mourning Cloak ventral wing view, taking nutrients while puddling. JVL
Center: Mourning Cloak nectaring from Horsetail Milkweed. JVL
Bottom Right: Not all individuals are brightly colored. This aged individual has lost many of the scales on its wings. Photographed in Railroad Canyon, Black Range on March 27, 2019. RAB

The caterpillars of this species use willows, elm, cottonwood, hackberries, alder . . . as host plants. Adults seem to prefer tree sap (especially oaks). The mourning Cloak is typically found in riparian areas. Eggs are found encircling the twigs of host plants. Caterpillars will form a communal web and feed together on the host plant.



Mourning Cloak is one of the large solitary puddlers, it uses both moist and saturated soils to take nutrients near the Soledad Canyon Trailhead. It was one of the rarest puddlers at this location. JVL



Morning Cloak, photographed along North Percha Creek, Black Range. RAB



Western Poplar Sphinx, photographed in Hillsboro, Black Range, July 2017. RAB

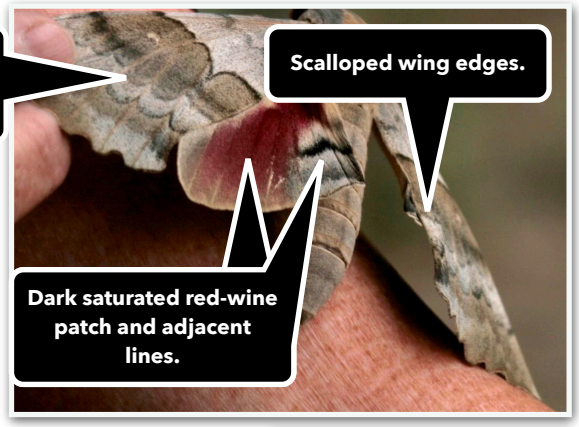
Western Poplar Sphinx
Pachysphinx occidentalis
(Edwards, 1875)
Hodges #7829

The caterpillar prefers cottonwoods as a host plant but also feeds on willows.

Adults are nocturnal, come to light, and do not feed.

This species is one of our largest moths and may be the heaviest.

It is known as Big Poplar Sphinx in some sources, since there are two species which share this common name BugGuide recommends the common name above. The other species known as Big Poplar Sphinx is *P. modesta*.



Other Resources (Western Poplar Sphinx)

- Butterflies and Moths of North America (listed as Big Poplar Sphinx)
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pacific Northwest Moths (listed as Western Poplar Sphinx Moth)
- Southwestern Moths





U. S. Range Map of
Pachysphinx occidentalis
Western Poplar Sphinx
From sightings reported to
Butterflies and Moths of North America.



Western Poplar Sphinx,
photographed in Hillsboro,
Black Range, July 2017. RAB

Two-tailed Swallowtail

Papilio (Pterourus) multicaudata

(W. F. Kirby, 1884)
Hodges #4178

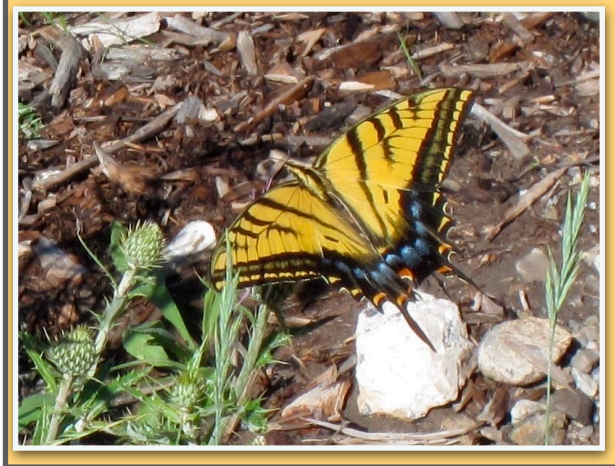
At every stage of life, the Western Tiger Swallowtail and the Two-tailed Swallowtail can be difficult to tell apart and, of course, their ranges overlap. The imago stage of the two species is shown to the right. One of the ways they are told apart is by the width of the black bars which start at the leading edge of the forewing and taper as they fade to the interior. The bars are wider on the Western Tiger Swallowtail.

Various instar (caterpillar) stages of the Two-tailed Swallowtail are shown on the following page. The markings which distinguish it from the caterpillar of a Western Tiger Swallowtail (of the same stage) can be obscure. Observe the "eyespots" on the thorax very carefully: 1) They are more elongated in the Two-tailed; and 2) the ring inside the large yellow spot is thicker in the Western; in both species it is generally black. The markings of the Two-tailed Swallowtail are clearly seen in Todd Stout's image at the lower left on the following page.

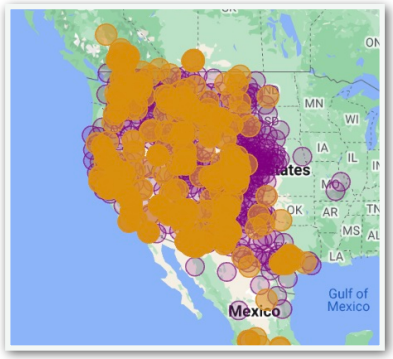
Earlier instars of both species look like bird droppings. The larva of the Two-tailed is often darker than that of the Western.

And, of course, count the tails. Three-tailed is sometimes found in southeastern Arizona.





The Western Tiger Swallowtail, *Papilio rutulus*, at the top was photographed by Bob Barnes in Railroad Canyon, Black Range, on June 9, 2019. The Two-tailed Swallowtail (below) was photographed by Véronique De Jaegher in Kingston.



U. S. Range Map of *Papilio multicaudata* Two-tailed Swallowtail From sightings reported to Butterflies and Moths of North America.



Two-tailed Swallowtail, *Papilio (Pterourus) multicaudata* (W.F. Kirby, 1884), nectaring from a Scarlet Morning-glory flower in Soledad Canyon. JVL

Other Resources (Two-tailed Swallowtail)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America (listed as Pterourus multicaudata)
- Pajarito Environmental Education Center (listed as Pterourus multicaudata)





Third instar of Two-tailed Swallowtail, left, above, and to the right. Photographs by Todd Stout.





Egg (ovum) of Two-tailed Swallowtail. Photographed by Todd Stout.

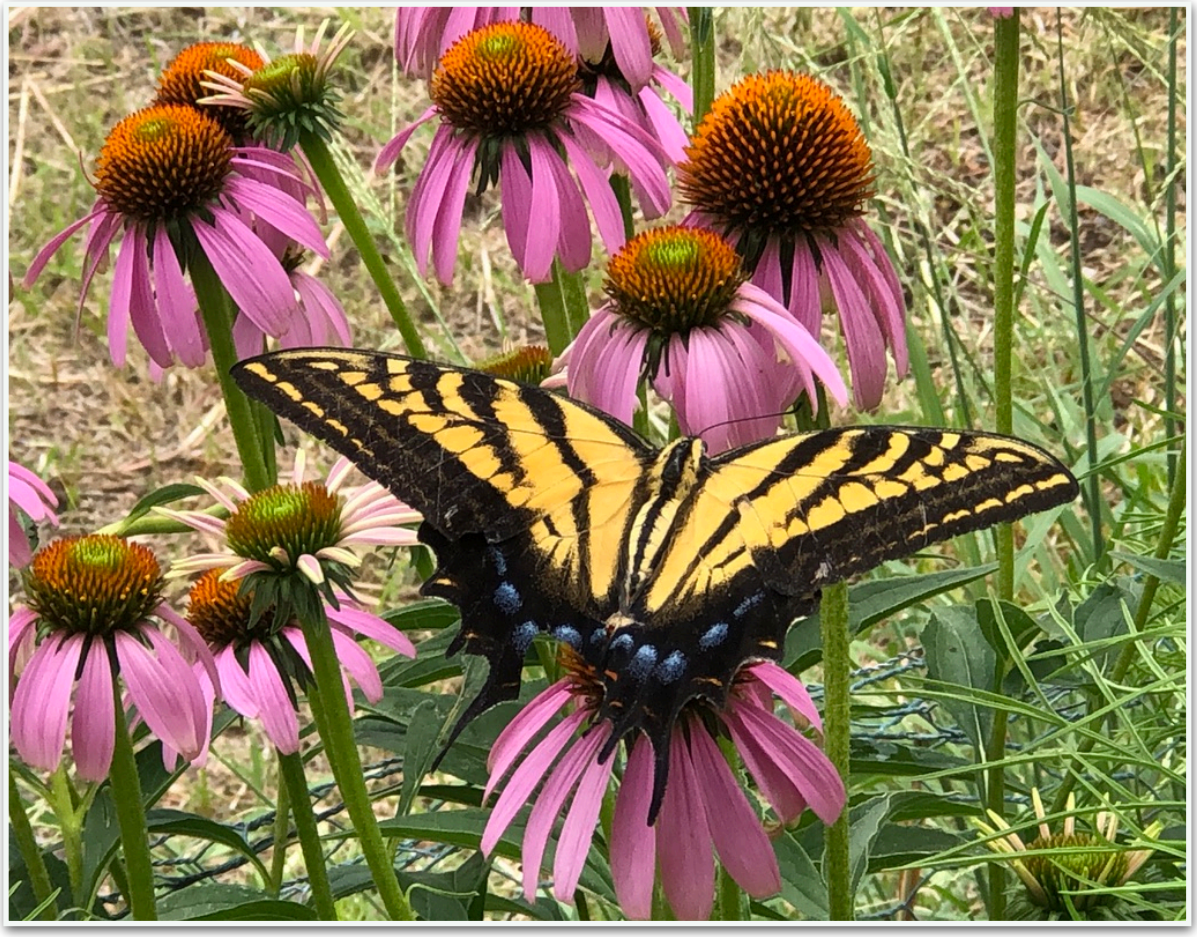
Special Reference

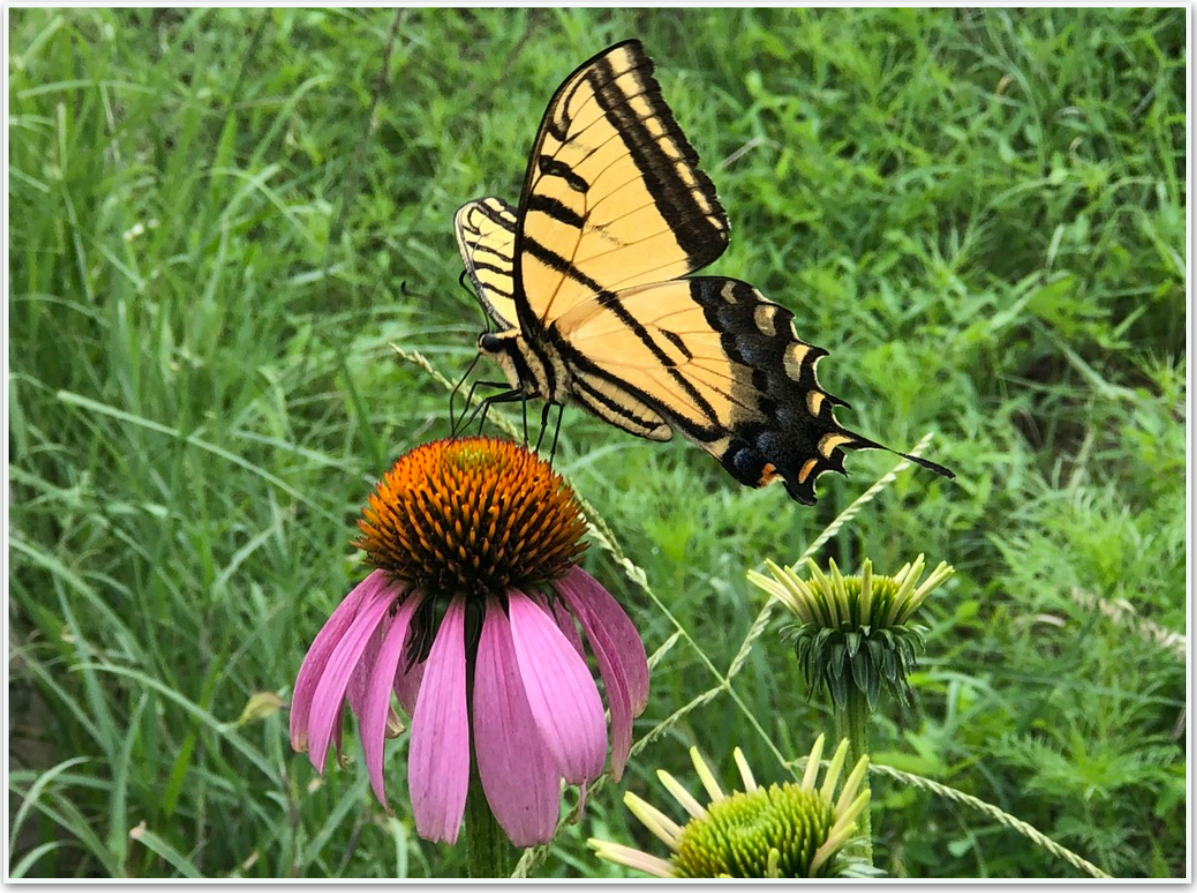
Todd Stout's website, Raising Butterflies, has a wealth of information on the life stages of butterflies. If you are interested in raising butterflies from eggs or larvae, his website sells materials which will be helpful.





Fifth instar of Two-tailed Swallowtail, immediately above and to the left. Photos by Todd Stout.





Two-tailed Swallowtail photographs by Véronique De Jaegher in Kingston, August 2022.



Gordon Berman took this photograph of the caterpillar of *Papilio multicaudata* at the Dripping Springs Visitor Center. It is a fifth instar approaching the pupation stage.

Solitary Puddlers

by James Von Loh

It can be difficult to focus on individual butterflies among displays of hundreds-to-thousands of puddle clubbers, constant flitting, and when disturbed the explosions of color into the air. The diverse species of solitary puddlers appear not to be influenced much by this activity, settling in to take moist soil and seep nutrients alone or perhaps accompanied by another-to-few other individuals.

Species of solitary puddlers arriving at the moisture and nutrient-providing seeps, soil, gravel, and rocks present differing behaviors; some individuals isolate from puddle clubs while others land in or near the large congregations.

Puddlers of all sizes take nutrients from moist soil, often as individuals or in pairs.

Species which are large solitary puddlers include Monarch, Queen, Red-spotted Admiral, Mourning Cloak, Question Mark, Goatweed Leafwing, Black and Two-tailed Swallowtail, and Arizona Sister.

In the middle size range of solitary puddlers there are species like: Southwestern Orangetip, Painted Lady, Hackberry Emperor, Gray Buckeye, Variegated Fritillary, Red Satyr, and the Red-spotted Admiral.

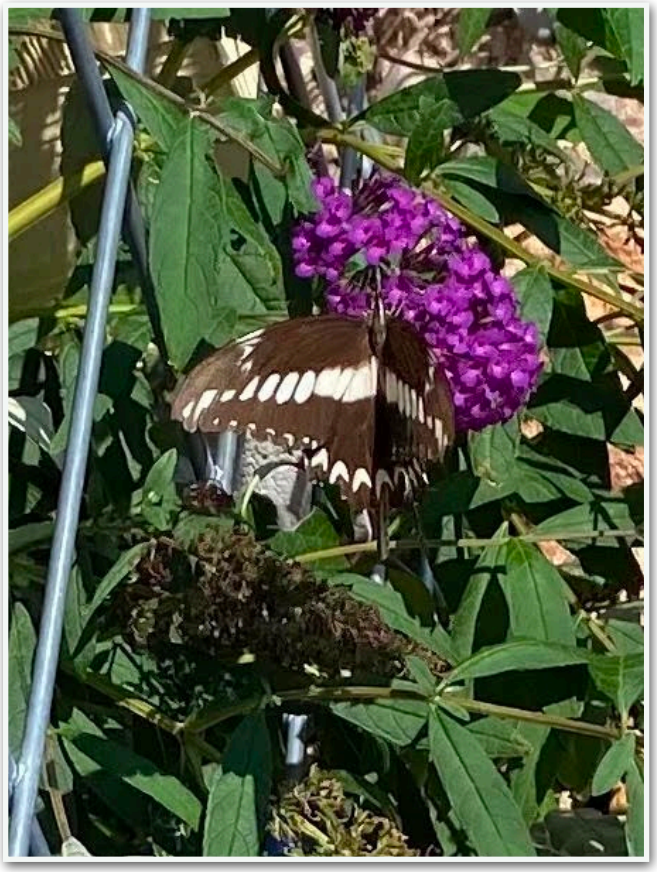
Among the smaller sized solitary puddlers in the Organ Mountains during the summer of 2021 were Tiny Checkerspot, Theona Checkerspot, American Snout, White Checkered-skippers, Common Sootywing, Northern Cloudywing, Mournful Duskywing, Sleepy Duskywing, Texas Crescent, Reakirt's Blue, Ceraunus Blue, Marine Blue, Lupine Blue, Dainty Sulphur, and Dun Skipper.

Of note is the fact that sometimes some species of sulphur will act as solitary puddlers rather than being in a "club". Among the species which exhibit this behavior are Mexican yellow, Cloudless Sulphur, Clouded Sulphur, and Sleepy Orange.

Ornythion Swallowtail
Papilio ornythion
(Boisduval, 1836)
Hodges #4174

Rare in New Mexico, this Ornythion Swallowtail was photographed in Hillsboro by Jan Richmond in August 2021. See the January 2022 issue of The Black Range Naturalist for more details. This species is usually found in Mexico and Guatemala.









The Female of this species has two forms. One looks like the male, the other is mostly black with large greenish-gray spots forming a marginal row on the hindwing.

Caterpillar hosts are listed as citrus, adults nectar on flowers.

Compare this species with the similar looking *P. astyalus* (see BugGuide for a discussion of the differences).

Other Resources
(Ornythion Swallowtail)

- Butterflies and Moths of North America
- North American Moth Photographers Group (lists this species as *Heraclides ornythion*)
- BugGuide
- Butterflies of America (lists this species as Heraclides ornythion)
- Pajarito Environmental Education Center (lists this species as Heraclides ornythion)



U. S. Range Map of *Papilio ornythion* Ornythion Swallowtail From sightings reported to Butterflies and Moths of North America.

Black Swallowtail
Papilio polyxenes
(Fabricius, 1775)
Hodges #4159

Black Swallowtail is found throughout New Mexico at elevations between 3,300 feet and 9,000 feet. In our area there are typically three flights a year, with most imagoes being seen in April, July, and September. There is a yellow form of this species, which has a broad band of yellow cells across the middle of the wings. It is generally found in California and western Arizona. To the south, it ranges as far as northern South America.

Caterpillar hosts are generally in the *Apiaceae* family (parsley). Adults nectar on milkweed, thistle, and clover.

Not all larva look like the ones shown here, they change appearance dramatically between molts.

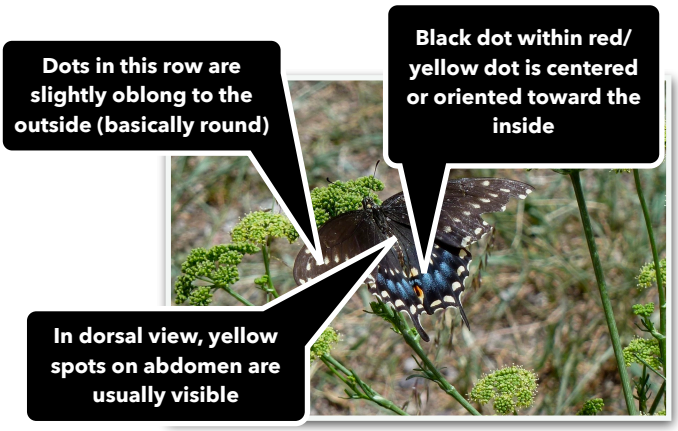


Male Black Swallowtail, photographed in Kingston, Black Range, by Véronique De Jaegher.





Two photos above, Black Swallowtail nectaring from Horsetail Milkweed (upper) and Climbing Milkweed flowers (lower). JVL



Other Resources (Black Swallowtail)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of *Papilio polyxenes* Black Swallowtail From sightings reported to Butterflies and Moths of North America.



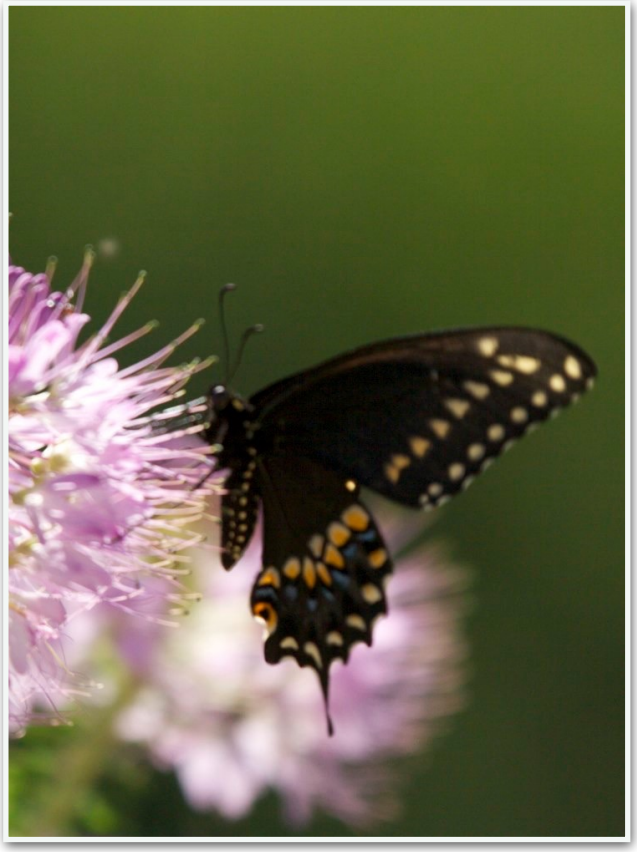


Left: Nichole Trushell photographed this instar of a Black Swallowtail at her home in Kingston, Black Range.



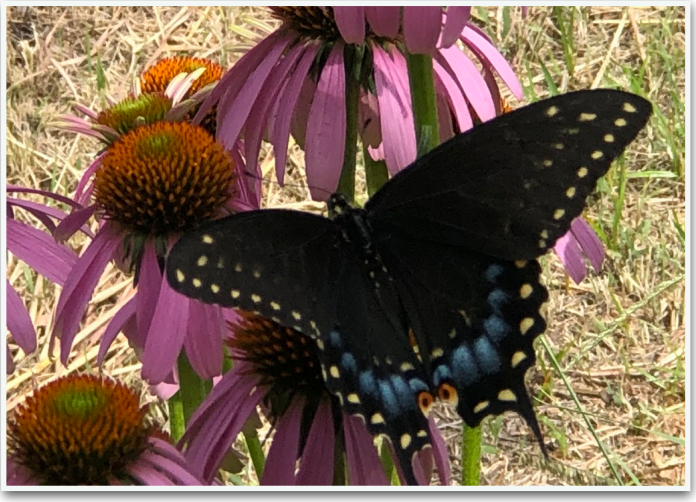


Immediately Above and Below: Black Swallowtails photographed on the Sawyers Peak Trail, Black Range, New Mexico, June 30, 2019. RAB





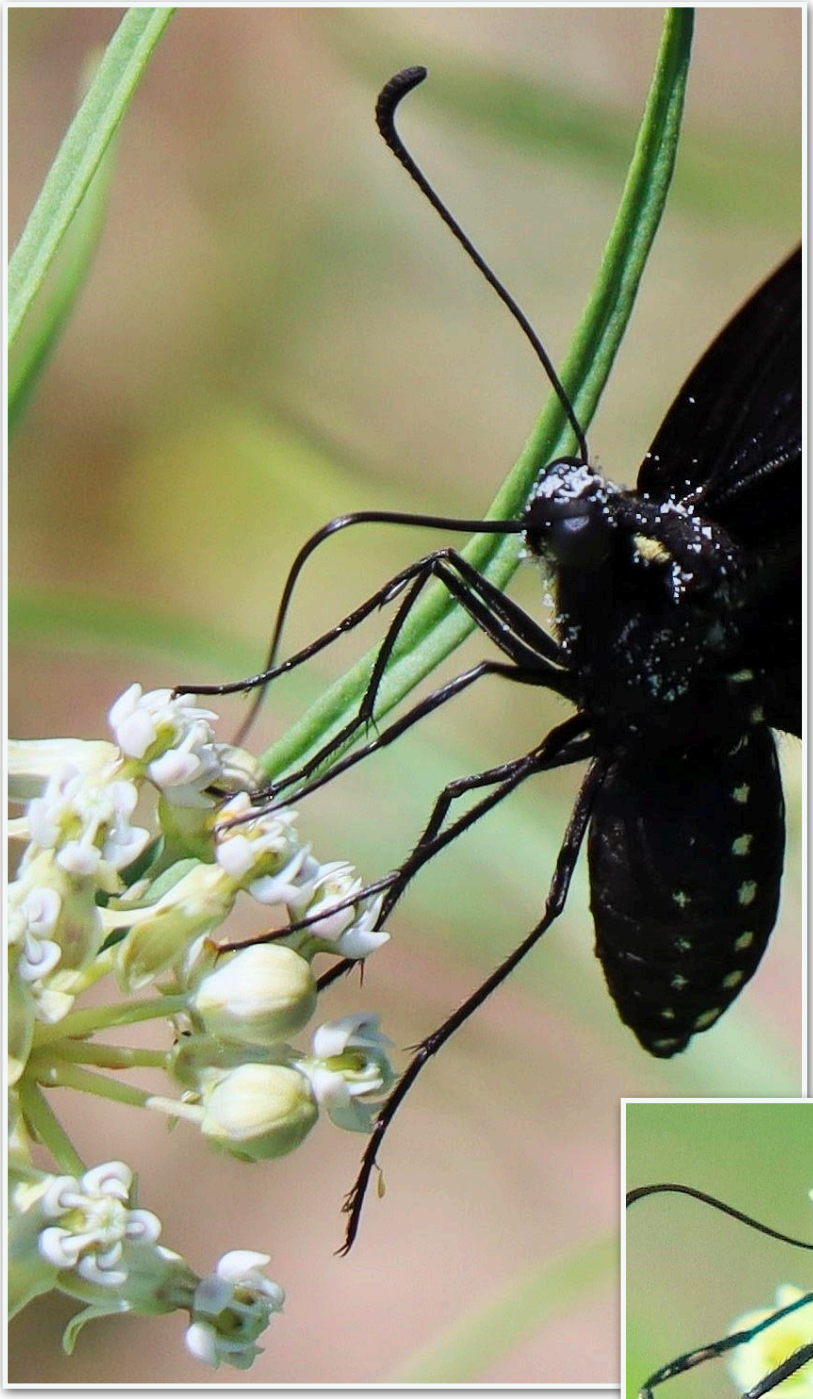
Black Swallowtail caterpillars photographed by Debora Nicoll in Lake Valley, Black Range, New Mexico, August 2022.



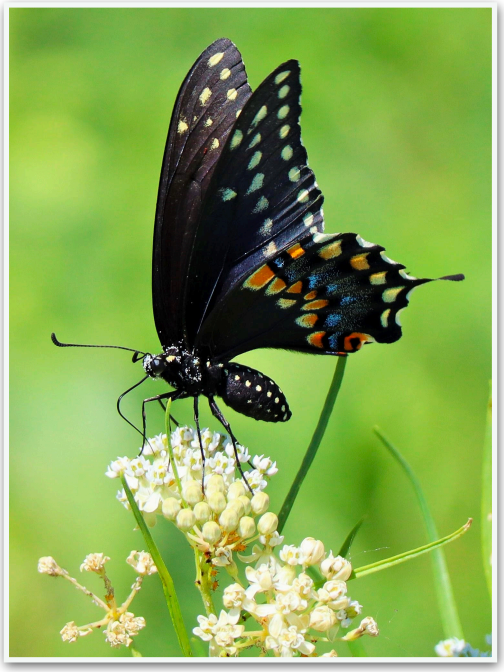
Black Swallowtail, (female) photographed in Kingston, Black Range, by Véronique De Jaegher in August 2022.

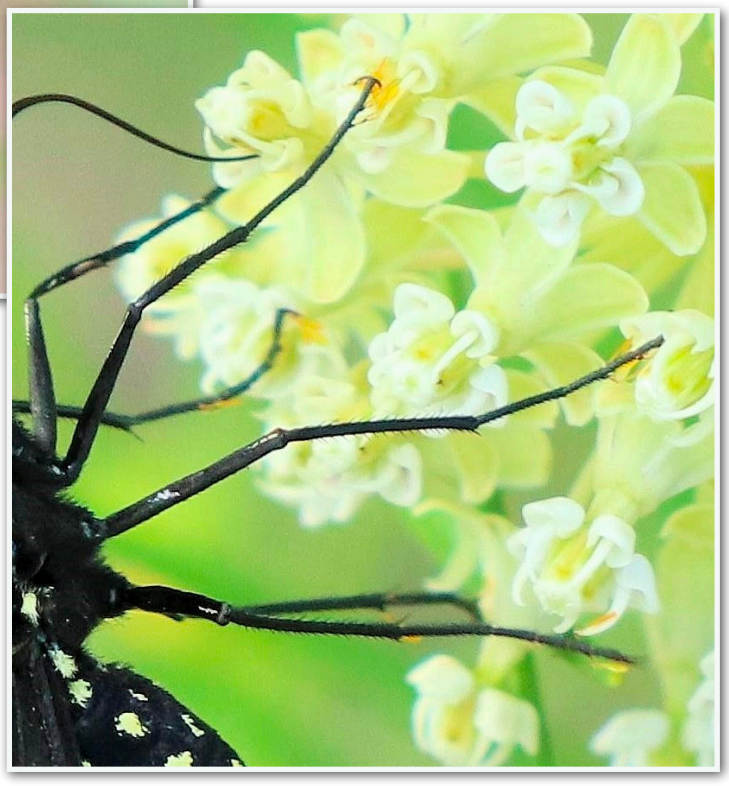


Immediately Above: Black Swallowtails photographed at San Lorenzo, Black Range, New Mexico. RAB









Black Swallowtail nectaring from Horsetail Milkweed flowers. Note that multiple pollinaria have been extracted and cling to the legs where they could be transferred into another flower, thus achieving pollination. When present, Black Swallowtails could represent efficient pollinators of Milkweed flowers. JVL



Nichole Trushell photographed this Black Swallowtail at her home in Kingston, Black Range.



Climbing Milkweed vines, typical progression of flower development and nectaring opportunities available to migrating butterflies such as this Black Swallowtail; vines are draped on Coyote/Sandbar Willow, tall shrubs to 4-8 m high. JVL

Western Tiger Swallowtail
Papilio (Pterourus) rutulus
(Lucas, 1852)
Hodges #4177

Care should be exercised when identifying the yellow swallowtails in our area. This would seem to be a relatively easy task but butterflies can become quite frayed as the season progresses and things like tails may be missing. In addition, relative size of bands and bars can sometimes - especially in the field - be quite subjective.

This species has one flight per year, generally in the height of summer (June-July). The caterpillar hosts include cottonwoods, aspens, elms, willows, ash, and wild cherry. Larvae make shelters by curling leaves and making an enclosure with their silk. The adults nectar on a variety of flowers including thistles.

Some authorities split several of the species of *Papilio* into a different genus, *Pterourus*. This is the treatment followed by the Pajarito Environmental Education Center website and by the Black Range Website.

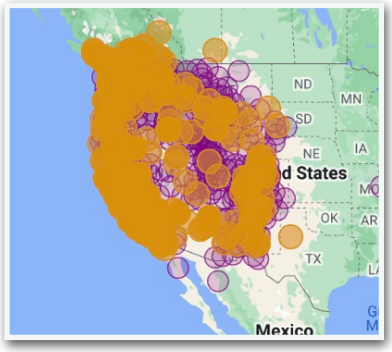
This species is found from the eastern edge of the Rocky Mountains westward to the coast. It is usually found in wooded areas and in riparian zones. In our area, generally at elevations between 7,000 and 10,000 feet - basically the more heavily wooded areas of the Black Range. The photograph below and the two on the following page were all taken in Railroad Canyon, on the west slopes of the Black Range, June 9, 2019.

The taxonomic placement of this species is debated by various authorities. Of note for us, is the fact that the subspecies *Papilio rutulus arizonensis* is found in our area, it has broader black margins on the wings. See the link at Butterflies of America for examples of the subspecies. Although a bit uncertain, it is likely that the butterflies found in the entire Gila region are *P. r. arizonensis*.



Other Resources
(Western Tiger Swallowtail)

- Butterflies and Moths of North America
- North American Moth Photographers Group (Lists this species as *Pterourus rutulus*)
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center (Lists this species as *Pterourus rutulus*)



U. S. Range Map of
Papilio rutulus
Western Tiger Swallowtail
From sightings reported to Butterflies and Moths of North America.







***Papilio (Pterourus) rutulus,* Western Tiger Swallowtail, (Hippolyte Lucas, 1852) Hodges #4177**
Photographed in Railroad Canyon, Black Range, June 2019. RAB

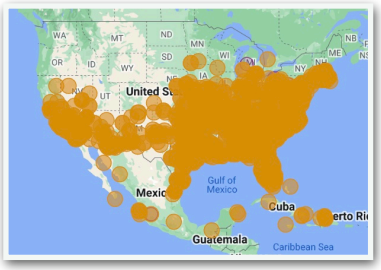


Cloudless Sulphur
Phoebis sennae
(Linnaeus, 1758)
Hodges #4228

This species lacks dark borders on its wings or for that matter any strong dark markings at all.

Caterpillars will host on legumes and *Senna* species. It is probable that there are two flights a year in our area although numbers appear to peak in the summer months. Records of the species in New Mexico range from late March to early December.

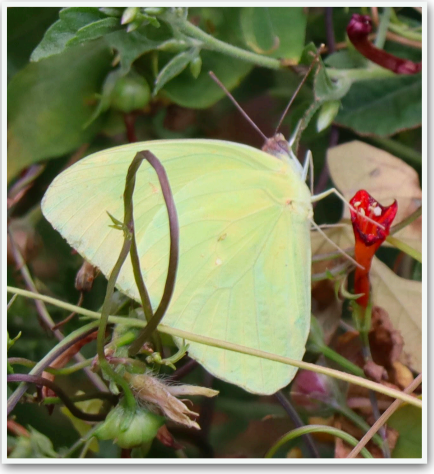
There are a number of subspecies which may be present here, confusing matters.



U. S. Range Map of
Phoebis sennae
Cloudless Sulphur
From sightings reported to
Butterflies and Moths of North America.

Other Resources
(Cloudless Sulphur)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center





Male above and female right: Cloudless Sulphur nectaring from Scarlet Morning-glory flowers. JVL

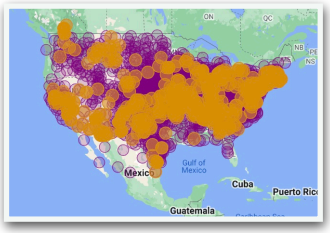


Common Sootywing
Pholisora catullus
(Fabricius, 1793)
Hodges #3977

The three Common Sootywing butterflies shown to the right were photographed by James Von Loh at the Soledad Canyon Trailhead in the Organ Mountains. This species is found southward into central Mexico.

Host plants for caterpillars include pigweed and lamb's quarters.





U. S. Range Map of *Pholisora catullus* Common Sootywing From sightings reported to Butterflies and Moths of North America.





The larva of the Common Sootywing is an image by Berry Nall from his website. Shown here under a Creative Commons Attribution-Non-Commercial 4.0 Inter-national License.







Other Resources (Common Sootywing)

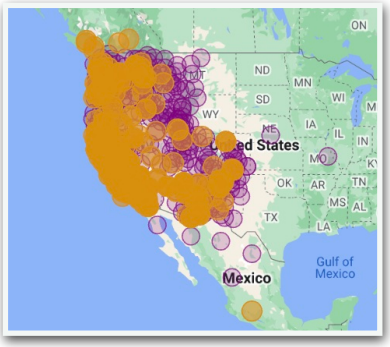
- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

Mylitta Crescent
Phyciodes mylitta
(W. H. Edwards, 1861)
Hodges #4488

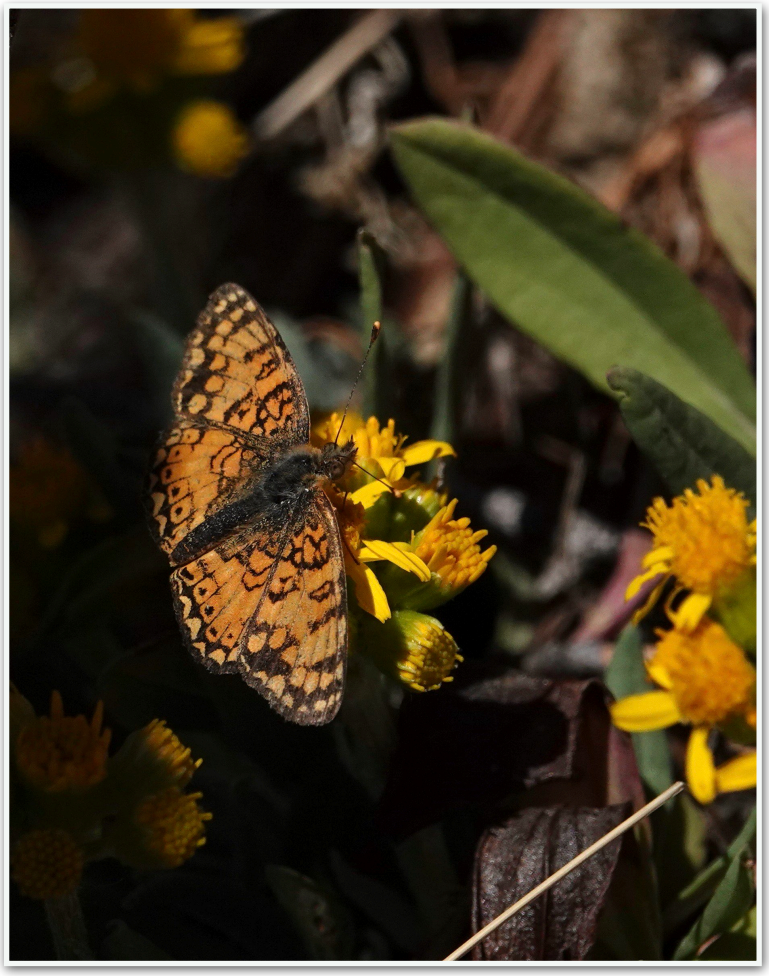
The Mylitta Crescent shown here and on the following page was photographed along Mineral Creek, north of Kingston, NM on April 22, 2022. RAB

This species is generally found below 7,000' in New Mexico. To the south it is found well within Mexico.

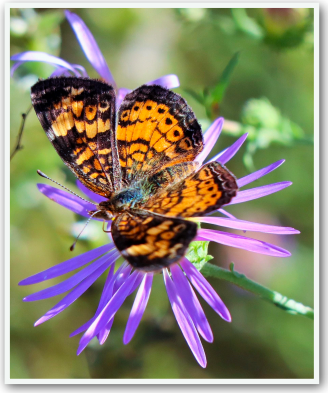
Thistles are a common caterpillar host, adults nectar on flowers.



U. S. Range Map of
Phyciodes mylitta
Mylitta Crescent
From sightings reported to
Butterflies and Moths of North America.









Compare with Pearl Crescent

Narrow bar.



Lack of a black spot, within the orange spot at the outer lower part of the forewing, distinguishing it from the butterflies in the Pearl Crescent group

Other Resources (Mylitta Crescent)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

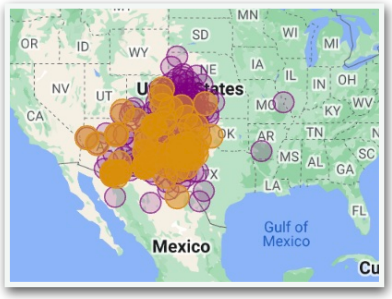




Painted Crescent
Phyciodes picta
(W. H. Edwards, 1865)
Hodges #4484

Caterpillar host plants for the Painted Crescent include Field Bindweed*, Convolvulus arvensis,* asters, and Hairy Tubetongue (*Siphonoglossa pilosella*). Eggs are laid in clusters on the undersides of host plant leaves.

The nominate subspecies is typically found in New Mexico. This species is generally found below 8,500'.



U. S. Range Map of
Phycoides picta
Painted Crescent
From sightings reported to
Butterflies and Moths of North America.

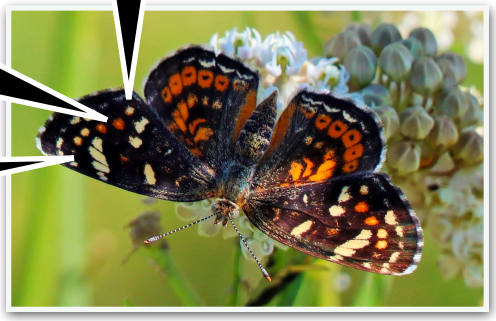


No black spot within this spot which is usually pale

Hindwing in ventral view is white

Orange spots are "narrow"

Row of spots are orange and white.

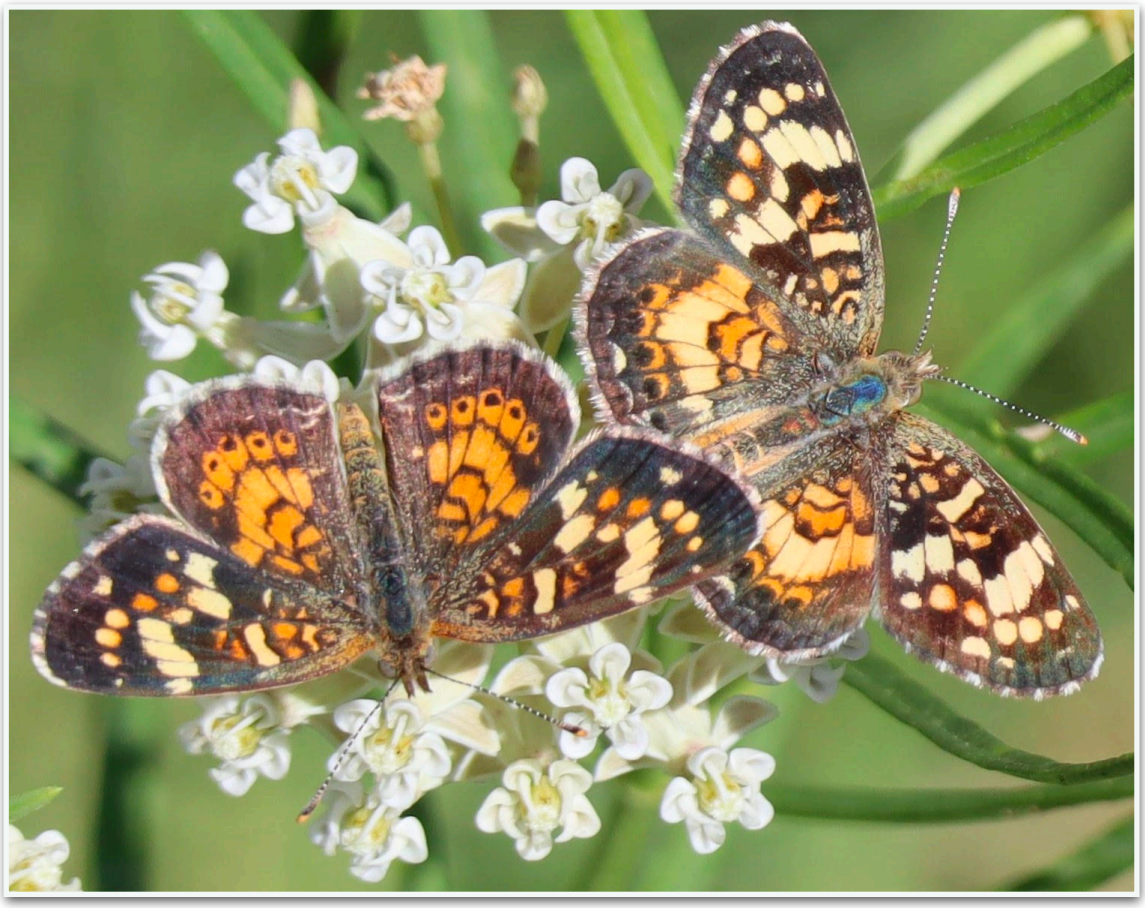




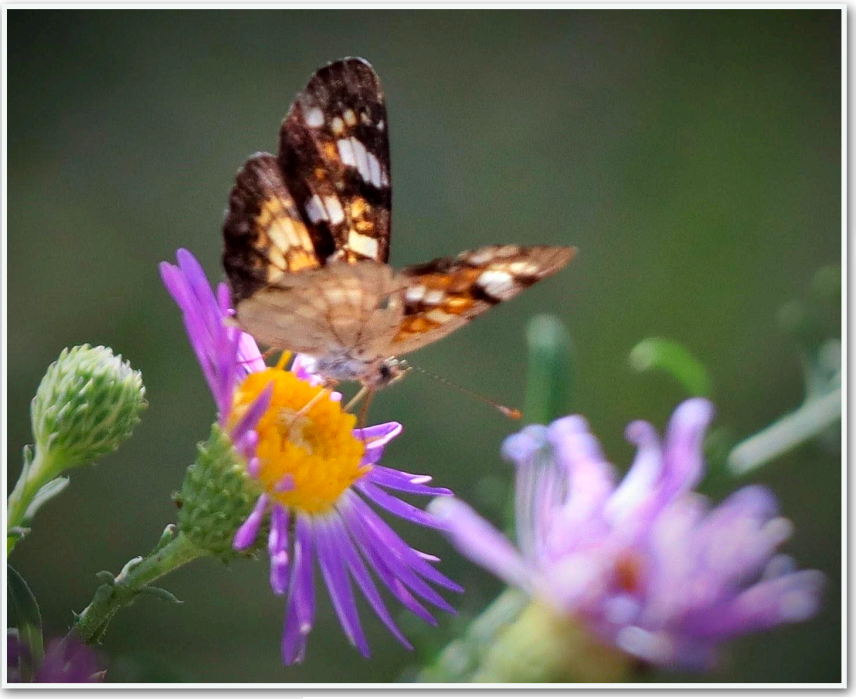
Painted Crescent nectaring from Horsetail Milkweed flowers. They are abundant in milkweed habitats and, in my opinion, represent the most commonly observed/photo-documented butterfly species along the Rio Grande. JVL

Other Resources
(Painted Crescent)

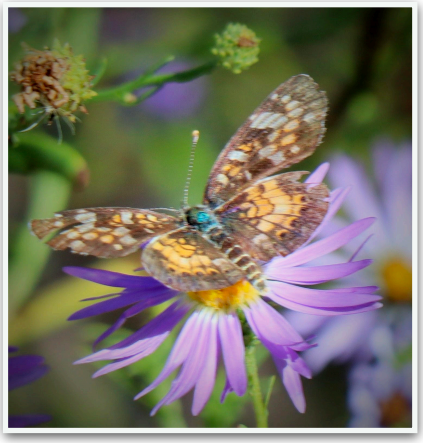
- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



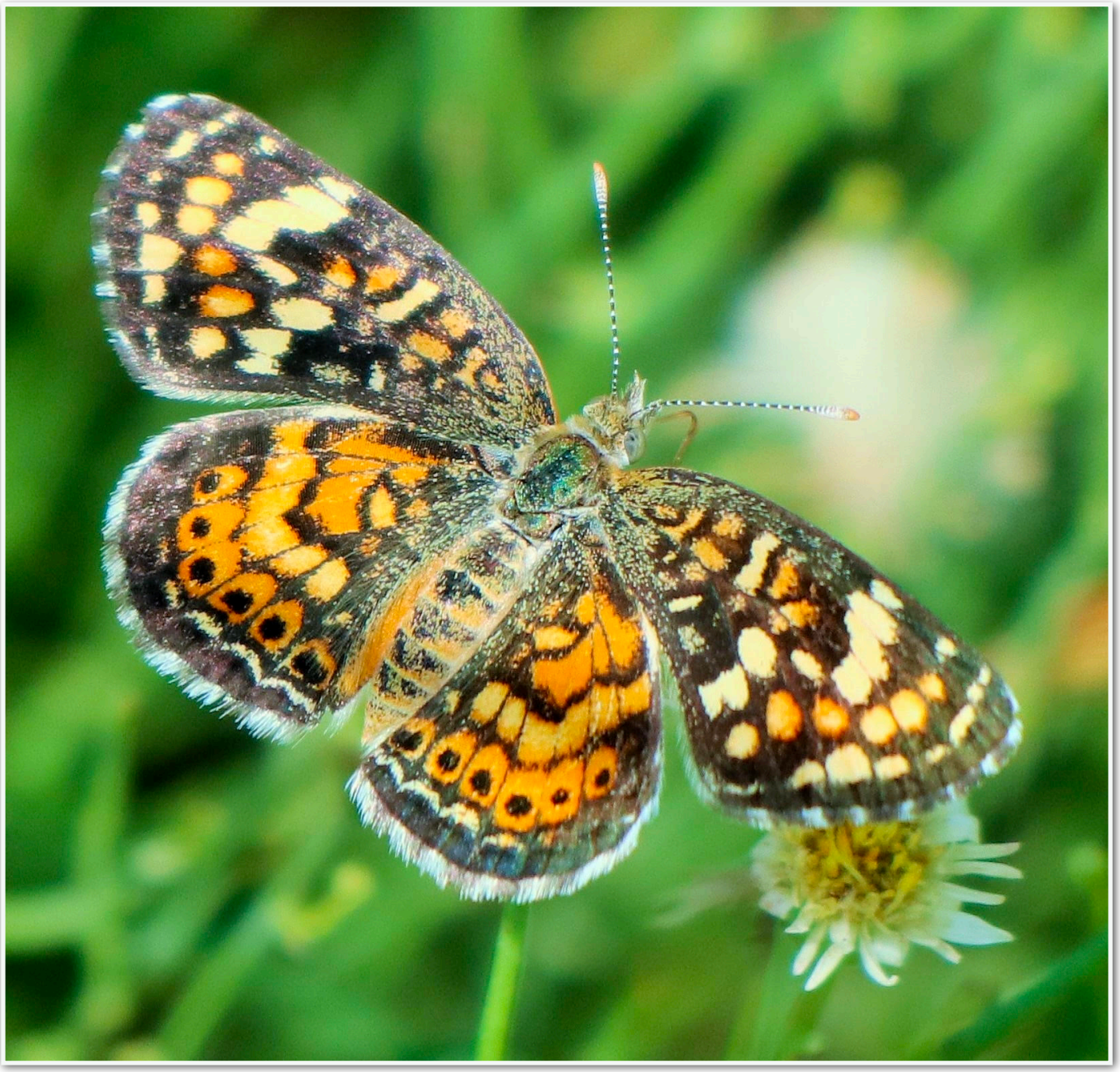
Painted Crescent nectaring from Horsetail Milkweed flowers. JVL





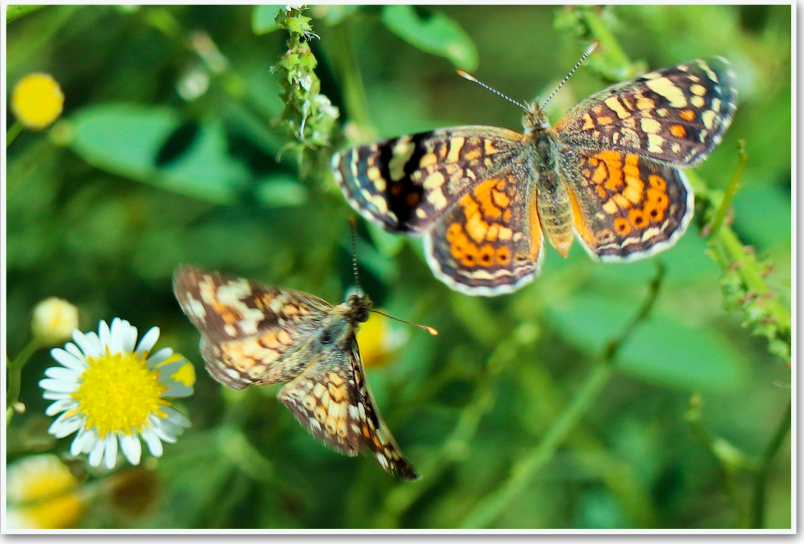


Above: Painted Crescent often was found nectaring from Spine-aster flowers. JVL



Painted Crescents nectaring from Spiny Chloracantha flowers. Above on June 22, on June 8 to the right, and on June 17 below. Abundant. JVL





Field Crescent
Phyciodes pulchella camillus
(Boisduval, 1852)
Hodges #4482.1

The Field Crescent is typically found in open areas, but note that this individual was photographed in Railroad Canyon. It is a higher elevation butterfly, found from 6,000′ to 10,000′ in New Mexico (most of the wooded area of the Black Range).

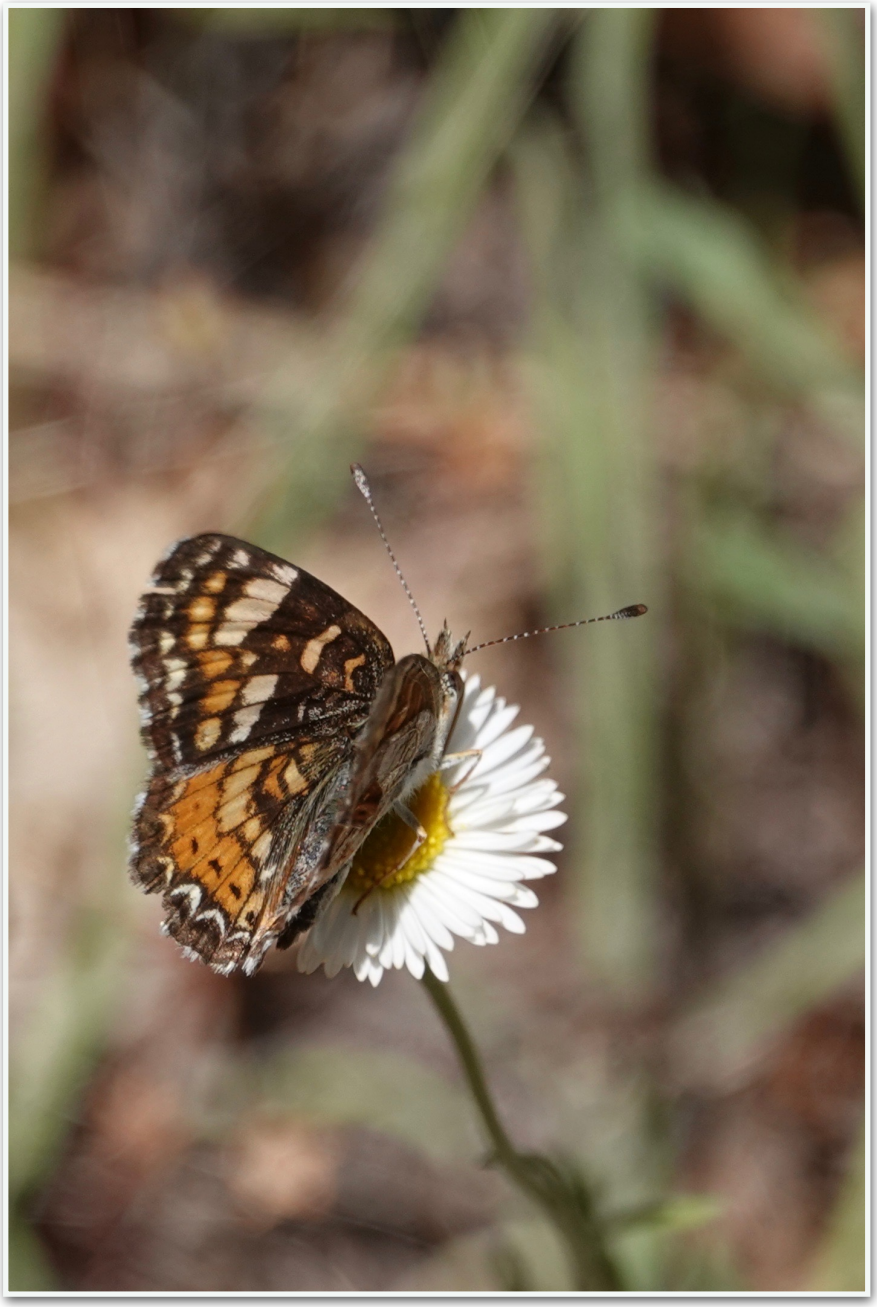
Caterpillar host plants are in *Asteraceae*. Adults nectar on flowers, especially fleabane.

There are two flights a year here, generally May to June and August to September.

Eggs are laid in large groups on the underside of host plant leaves. Young caterpillars may live in a loose web.

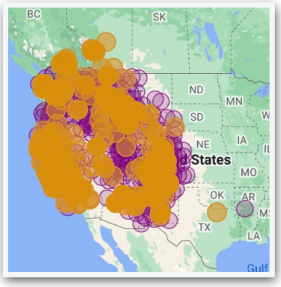


Field Crescent, photographed in Railroad Canyon, Black Range, June 2019. RAB









U. S. Range Map of *Phycoides pulchella* Field Crescent From sightings reported to Butterflies and Moths of North America.

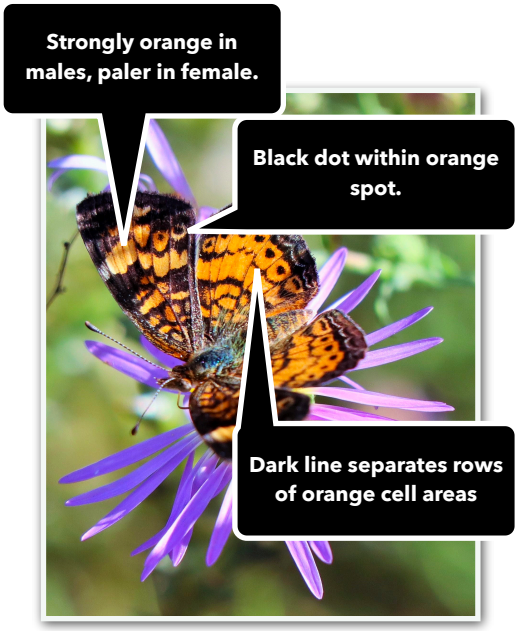
Other Resources (Field Crescent)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

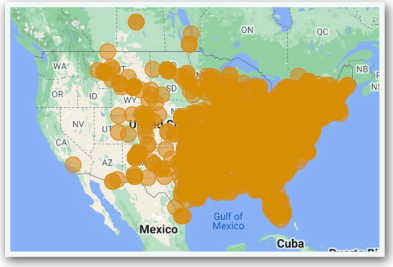
Pearl Crescent
Phyciodes tharos
(Drury, 1773)
Hodges #4481

Caterpillar host plants for the Pearl Crescent include several aster species. Adults nectar on a variety of flowers including asters, dogbane, and milkweed. Eggs are laid in small groups on the underside of host plant leaves.

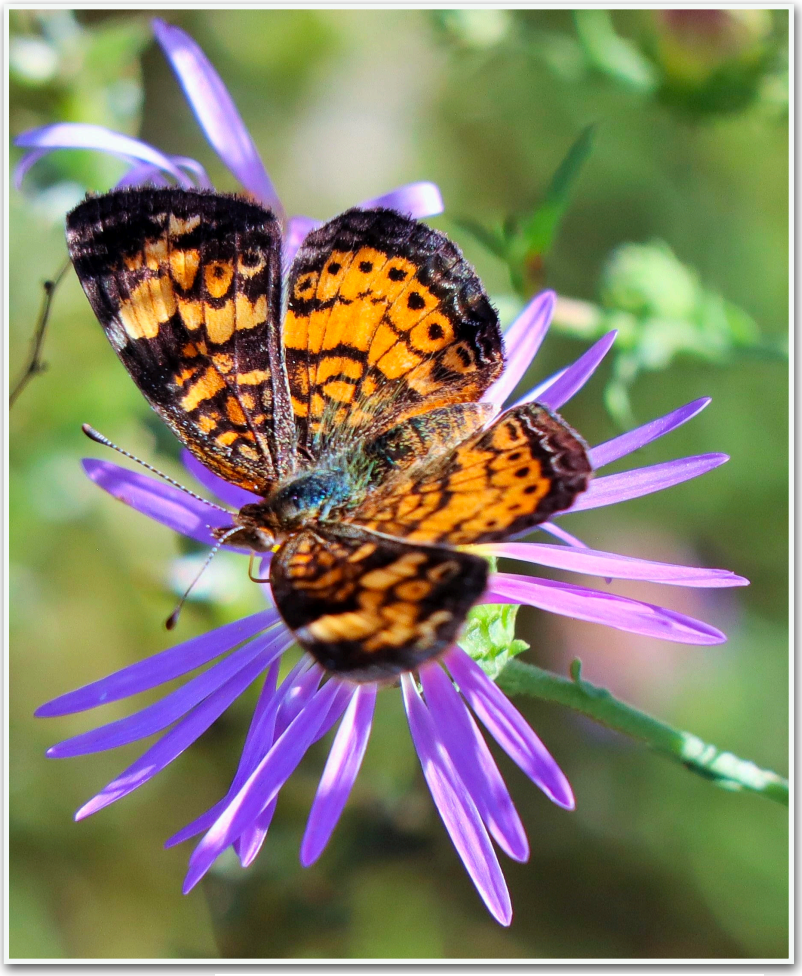
This species favors open areas. There may be several flights in a year.



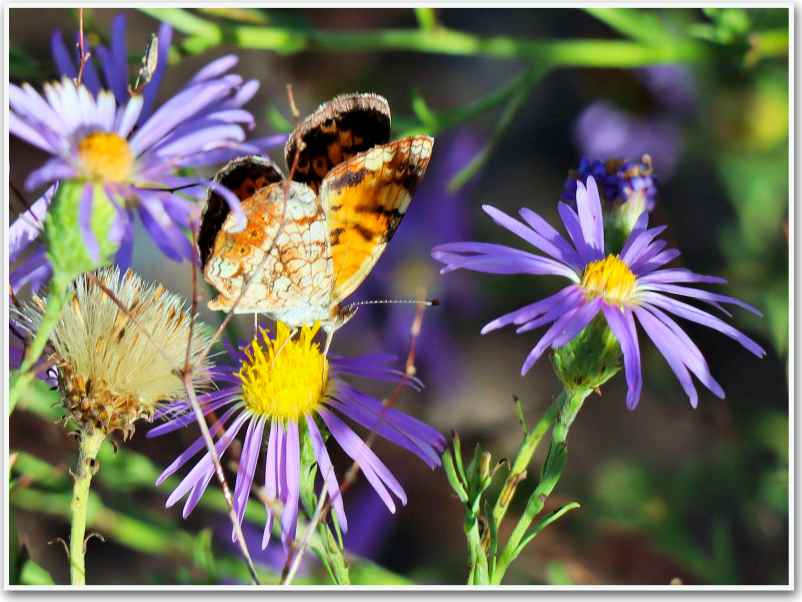




U. S. Range Map of
Phyciodes tharos
Pearl Crescent
From sightings reported to Butterflies and Moths of North America.



Above and below: Pearl Crescent is a rare butterfly, seen here nectaring from Spine-aster flowers. JVL



Other Resources
(Pearl Crescent)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

European Cabbage White
Pieris rapae
(Linnaeus, 1758)
Hodges #4197

The European Cabbage White is an invasive from Europe which has spread throughout most of the United States. It was introduced near Montreal in the 1860s. It is called simply Cabbage White in some sources.

Caterpillar host plants are often non-native *Brassicaceae* (mustards/cabbages). Adults nectar on mustards, asters, clover, dandelion . . .

During the shorter days (early spring/fall) of its flights this species will tend smaller with less yellow and reduced black areas.



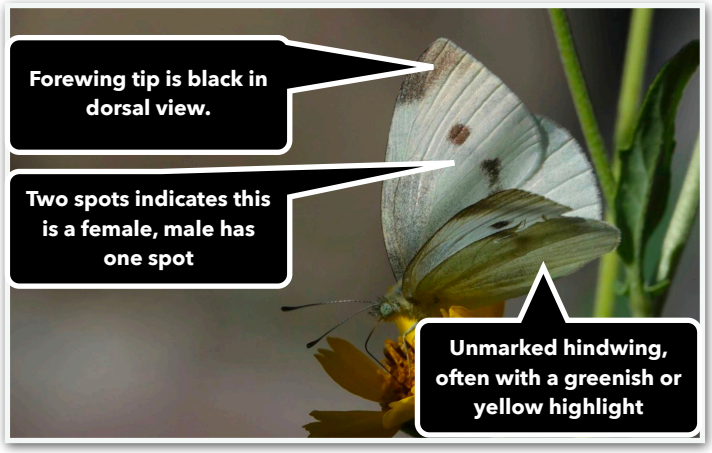
Cabbage White, photographed in Hillsboro, Black Range. RAB



European Cabbage White nectaring from Spiny Chloracantha flower on May 26. Occasional. JVL

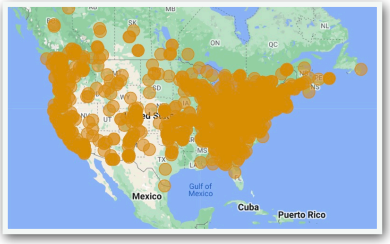


Cabbage White, photographed in Hillsboro, Black Range. RAB





U. S. Range Map of
Pieris rapae
European Cabbage White
From sightings reported to Butterflies and Moths of North America.



Other Resources
(European Cabbage White)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center





Above and at right: European Cabbage White, note that while nectaring from Horsetail Milkweed flowers, the butterfly to the right had its leg trapped within a stigmatic slit, making this individual a target for predation. JVL









Above and three to left: European Cabbage White. A common butterfly nectaring from Spine-aster flowers. JVL

Acmon Blue
Plebejus acmon
(Westwood, 1851)
Hodges #4380

Lupine Blue
Plebejus lupini
(Boisduval, 1869)
Hodges #4381

Caterpillar host plants include buckwheats, milkvetches, lupines, and lotus. (Note that Steve Cary states that Lupine Blue caterpillars do not eat lupines.) Female lays a single egg on the leaves or flowers of the host plant. Caterpillars are often tended by ants. Adults nectar on various flowers.

In the recent past the species determination for this butterfly has been in flux. *The Butterflies of North America* - James A. Scott - p. 411, defines this butterfly as Acmon Blue (aka Silver-studded Blue), *Plebejus acmon*. *The Peterson Field Guides - Western Butterflies* by Opler and Wright list the genus as *Icaricia lupini* (p. 252) (Lupine Blue).

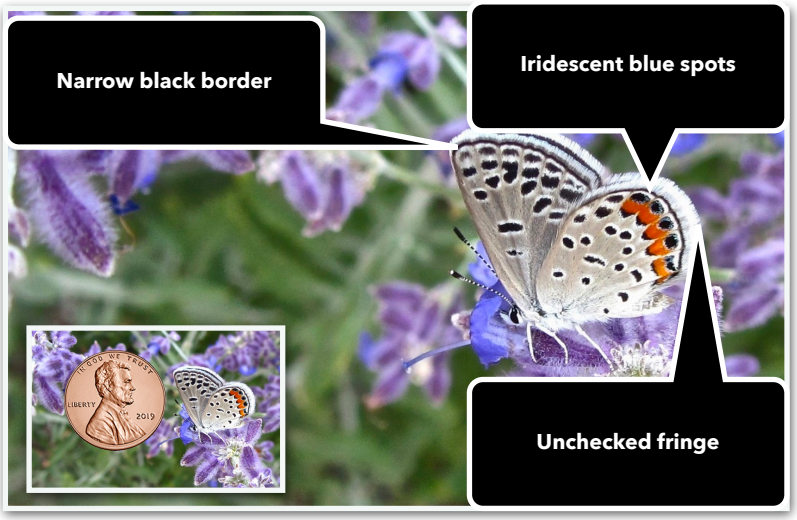
Whatever the genus/species name you choose. This species is frequently found at mid-elevations (about 5,400' in Ready Pay Gulch east of Hillsboro). It is a small butterfly with a wingspread of between 1.5 and 2 cm. This species was first described by Jean Baptiste Boisduval in 1869. Along the way it has gone by several synonyms, including; *Plebejus lupinus, Lycaena lupini, Plebejus lupini, Icaricia lupini,* and *Rusticus chlorina*.

- **In 2002, P. A. Opler and A. D. Warren concluded that *Plebejus lupine - P. acmon* represented a species complex of an undetermined number of species.**
- **By 2003, Opler had concluded that *P. acmon* was monotypic and restricted to the west coast of the United States and Baja, Mexico.**
- **Some authorities consider *P. lupini* to have 11 or more subspecies. In one version of the Lupine Blue taxonomy, the subspecies which we have here is *Icaricia lupini texanus* (Goodpasture, 1973).**
- **Of importance to us is that Steve Cary treats this species as Icaricia lupini (Boisduval 1869) Lupine Blue.**
- **Jeffrey Glassberg's, *A Swift Guide to Butterflies of North America*, 2nd Edition, treats this species as Acmon Blue**

In this species account we punt, giving both names for the individuals found here. It is probable that this species will be known as Lupine Blue but it does seem clear that we do not have both Acmon Blues and Lupine Blues here. Either they are lumped or they are split, and if split, it is not clear how.

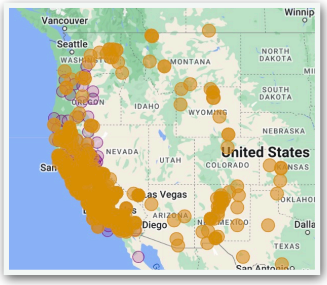


Acmon Blue/Lupine Blue - Photographed in Lake Valley, Black Range, by Debora Nicoll.

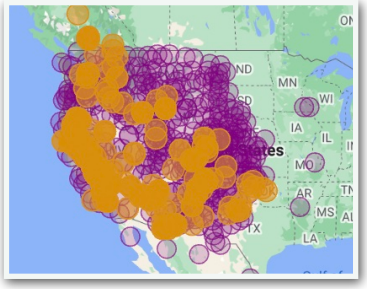


Other Resources (Acmon/Lupine Blue)

- **Butterflies and Moths of North America**
- **North American Moth Photographers Group (*Icaricia acmon*)**
- **BugGuide (Acmon Blue)**
- **BugGuide (Lupine Blue)**
- **Butterflies of America (*Icaricia acmon* - the west coast butterfly)**
- **Butterflies of America (*Icarica lupine* - a Pacific Northwest butterfly)**
- **Pajarito Environmental Education Center**



U. S. Range Map of *Plebejus acmon*, Acmon Blue from sightings reported to Butterflies and Moths of North America.



U. S. Range Map of *Plebejus lupini,* Lupine Blue from sightings reported to Butterflies and Moths of North America.



Lupine Blue/Acmon Blue taking nutrients from moist soil near the trailhead of Soledad Canyon. Photograph by James Von Loh.



Lupine Blue/ Acmon Blue taking nutrients from moist soil in Ready Pay Gulch east of Hillsboro, Black Range. June 2016. RAB

Milkweed Rio Grande Small-sized Butterfly Species

Thirteen small-sized species of butterflies have been photo-documented visiting milkweed habitats along the Rio Grande. They are varied, including species of snout, metalmark, sulphur, hairstreak, crescent, blues, and skippers/skipperling. Small-sized butterfly species nectar from flowers of both milkweeds; however, their small size and short legs make them doubtful pollinators of these specialized flowers. They are potentially subject to entrapment on milkweed flowers. Representative individuals of these species were photo-documented nectaring from both Horsetail and Climbing Milkweed flowers.

Painted Crescents, *Phycoides picta* (W. H. Edwards, 1865), were the most commonly observed small butterfly nectaring from milkweed flowers. During 2021, American Snouts, *Libytheana carinenta* (Cramer, 1777), were abundant during the summer months, nectaring from milkweed flowers. In the prior two years (2020 and 2019) I had observed only a single individual nectaring from White Sweetclover, *Melilotus albus* (Medik.) flowers.

Melissa Blue

Plebejus melissa melissa

(W. H Edwards, 1873)
Hodges #4375



Referred to as *Lycaeides melissa* in the 2nd Edition of the *Swift Guide to Butterflies of North America*. Most other sources follow Opler and Warren in lumping *Lycaeides* with the genus *Plebejus*.

Caterpillar hosts include lupines, lotus, legumes, peas, among others. Adults nectar on milkweed (other flowers?). We have observed them locally using: Horsetail Milkweed, Spiny Chloracantha, Alkali Swainsonpea, and one was seen perching on an orange mallow leaf. Caterpillars are tended by ants which feed on sugary secretions produced by the caterpillars. Adults live only two or three weeks, there are two flights a year in New Mexico.

We have the nominate subspecies in our area.

Below and right: Melissa Blue nectaring from Horsetail Milkweed flowers near to a paper wasp (Hymenoptera (Linnaeus, 1758 - Family: Vespidae) foraging through flowers of an adjacent umbel. JVL









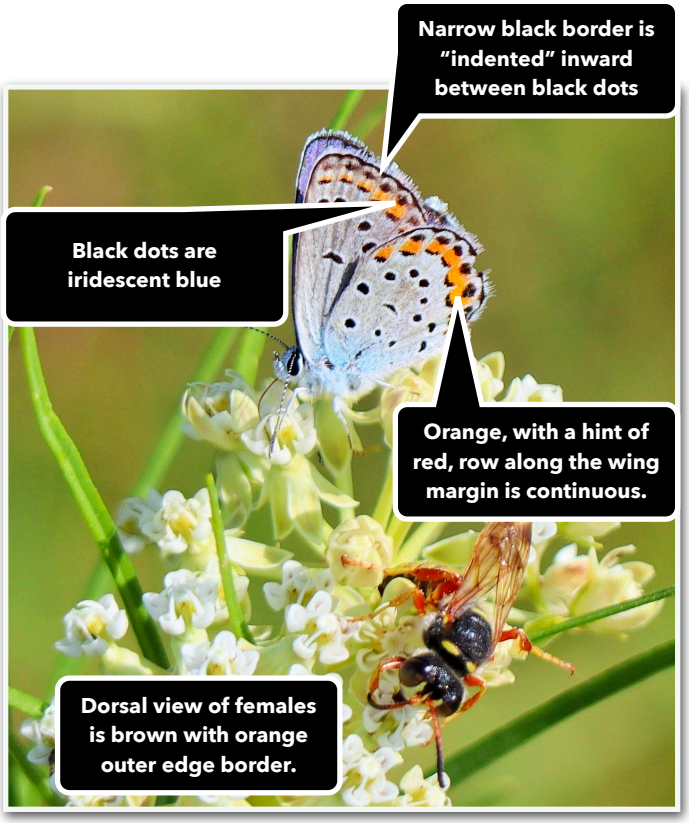








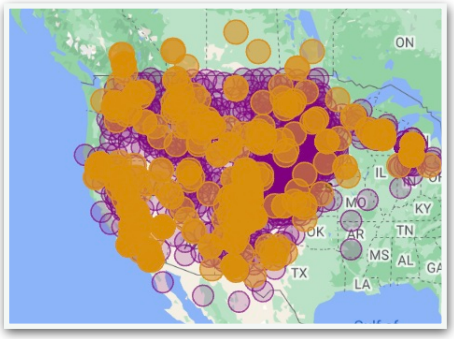
The female Blues are not blue, or at least not that bright blue of the male dorsal wings. Generally the female dorsal wings are brownish in tone, with only a few having a hint of blue. Female Melissa Blue butterflies demonstrate this coloration well, as shown by these photographs by Gordon Berman. The comparison with the males on the previous page is quite dramatic. The photographs were taken on September 19 and 20, 2022 on the Rio Grande levee at Las Cruces. The composite flower in four of these photographs is *Chloracantha spinosa*. JVL (Images by GB)



Other Resources (Melissa Blue)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center





U. S. Range Map of
Plebejus melissa
Melissa Blue
From sightings reported to
Butterflies and Moths of North America.

Butterfly Species Using Mammal Scat as a Moisture and Nutrient Source (JVL)

Entomologists and naturalists alike have observed many insects, including butterflies, collecting nutrients from moist substances including mud, rotting plant matter, carrion, and dung. During the summer of 2022 we noticed and documented some of this behavior, ancillary to field visits to photo-document butterflies visiting seeps, ponds, and springs. From the fluids retained in wildlife and domestic dog scat piles, butterflies obtain salts and amino acids.

Within the arroyo near the beginning of the Soledad Canyon Trail, a large Buffalo/Coyote Gourd, *Cucurbita foetidissima* (Knuth in Humb.), with long vines and many immature fruits became established. A scat filled with immature gourd seeds was deposited, probably by a coyote, near the gourd plant. A single Gray Buckeye, was documented, in addition to White Checkered-skipper, Burnsius Complex and Reakirt's Blue, *Echinargus isola*, individuals which were attracted to this scat to acquire nutrients. On a site in Fillmore Canyon, the Hackberry Emperor was documented extracting nutrients from domestic dog scat piles.

Milkweed Rio Grande Intermediate-sized Butterfly Species. (JVL)

In addition to the larger butterfly species observed visiting Milkweed habitats along the focus Rio Grande reach, an intermediate-sized group of butterfly species occurs. They include ten species which are most commonly observed nectaring from Milkweeds. This group includes Orange Sulphur, *Colias eurytheme* (Boisduval, 1852), European Cabbage White, *Pieris rapae* (Linnaeus, 1758), Checkered White, *Pontia protodice* (Boisduval & Le Conte, 1830), and Painted Lady, *Vanessa cardui* (Linnaeus, 1758).

The Great Purple Hairstreak, *Altides halesus* (Cramer, 1777) are uncommon visitors to Milkweed habitats and when present nectar from Horsetail Milkweed flowers. They are efficient foragers, moving slowly from flower to flower to nectar and in the process extract many yellow pollinaria/pollina (pollen sacs) which attach to their leg bristles and hairs. When present, Great Purple Hairstreak individuals may approach flower wasp species in terms of being extremely likely pollinators of Horsetail Milkweed flowers.

It is not uncommon for butterfly species of this group and smaller butterflies to have difficulty pulling their legs from the stigmatic slit of Milkweed flowers. This struggle is also true of bees the size of Western Honey Bee, *Apis mellifera* (Linnaeus, 1758) and smaller. Sometimes individuals become trapped by the leg and struggle to fly from the flower; if they cannot attain release or break their leg off, they become subject to predation or may die stuck to the Milkweed flower.

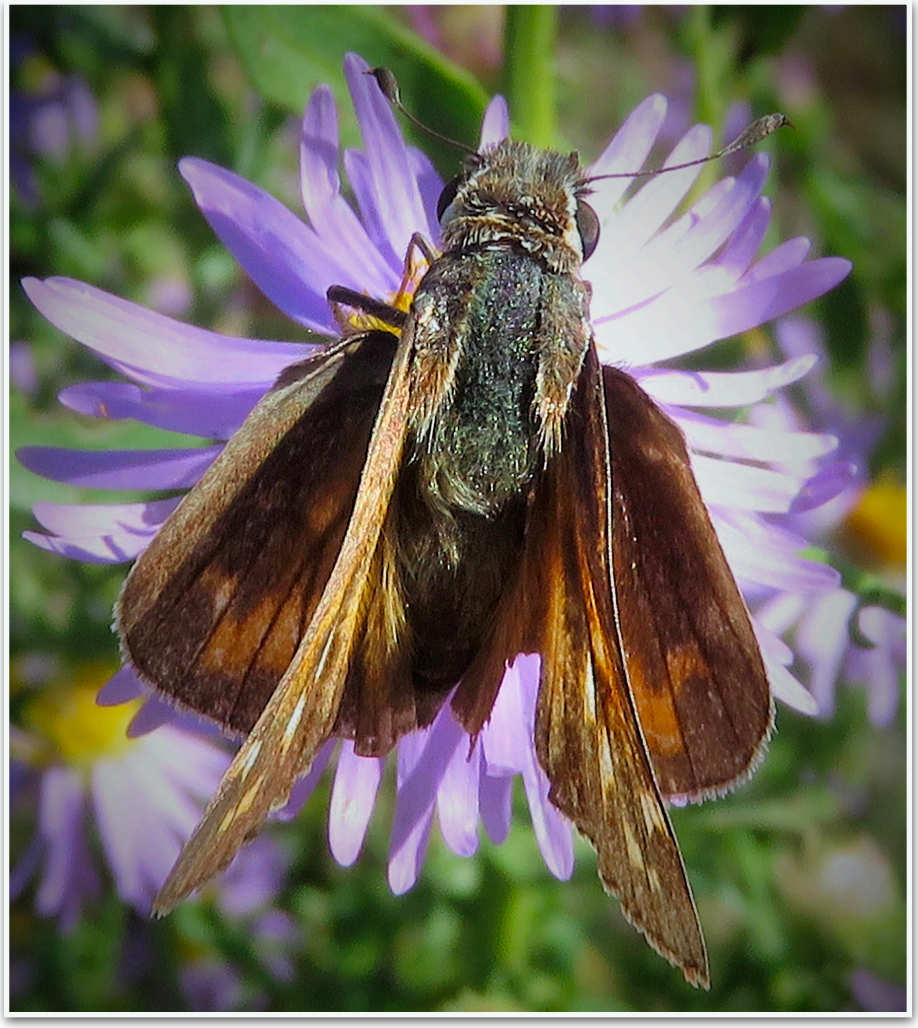
Carus Skipper

Polites (Yvretta) carus

(W. H. Edwards, 1883)
Hodges #4105

In general, species of skippers are among the smallest of butterflies visiting Rio Grande habitats; they nectar from flowers of both milkweed species. Their small size and short legs make them unlikely pollinators of these specialized flowers. The most commonly observed skipper species nectaring from milkweeds is the Fiery Skipper, *Hylephila phyleus* (Drury, 1773).

While visiting the more exposed Horsetail Milkweed flowers, skippers may be quick to fly during photo-documentation attempts and are often subject to interruption/ harassment by aggressive bees and wasps. I have found it somewhat easier to photograph skippers nectaring from Climbing Milkweed flowers which are associated with a tangle of vines, large leaves, and cover from supporting shrubs that provide hiding cover. When photographing skippers, patience is your greatest virtue (right next to pure luck). JVL



Carus Skipper is an uncommon butterfly in this area. Seen here nectaring from Spine-aster flowers. Photograph by Gordon Berman.

Adults nectar on milkweed and caterpillars apparently use a variety of grasses for host plants. There are two flights a year in our area (mid-April to late June and mid-July to mid-August).

The range of this species extends southward into Central America. It is typically found in grasslands, in New Mexico, between 4,600′ and 7,500′.

Some authorities treat *Yvretta* as a full genus (in which case this species is *Yvretta carus*) while others treat it as a sub-genus of *Polites*.



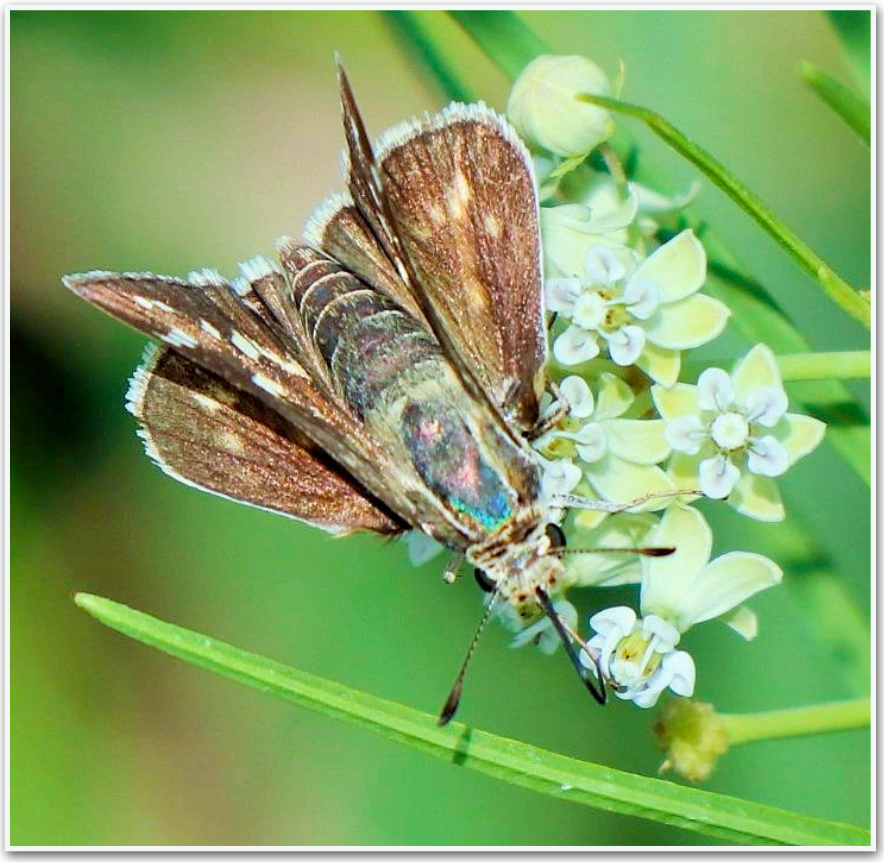
In our species accounts we treat each species individually. In nature, however, nothing is individual. Everything affects everything and even the smallest spaces are inhabited by many species. Here we see a range of butterfly sizes in one small area. Upper Left: White Checkered-skipper, *Burnsius communis* (Grote, 1872); Lower Left: Painted Lady, *Vanessa cardui* (Linnaeus, 1758); and, Right: Question Mark, *Polygonia interrogationis* (Fabricius, 1798). Photograph by James Von Loh

Other Resources (Carus Skipper)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of *Polites carus*, Carus Skipper, From sightings reported to Butterflies and Moths of North America.



Bottom Left: Carus Skipper nectaring from Climbing Milkweed flowers. JVL
All Others: Carus Skipper nectaring from Horsetail Milkweed flowers. JVL

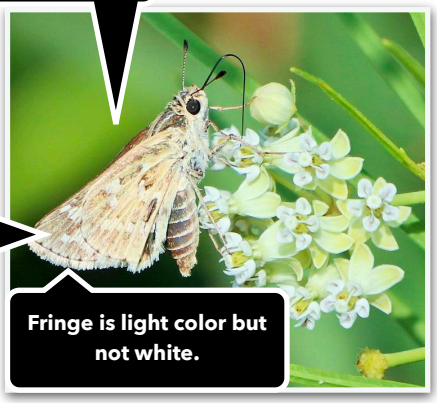






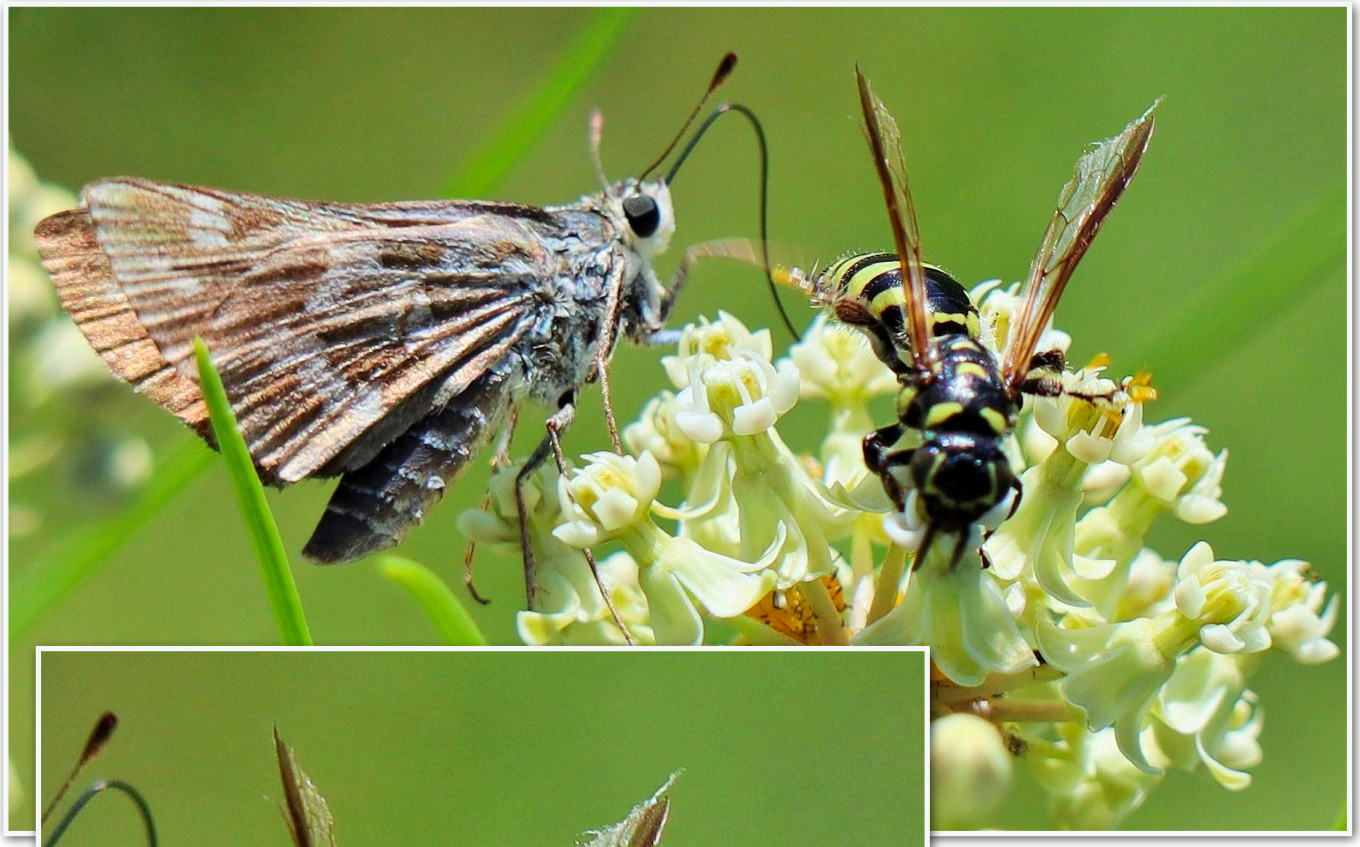


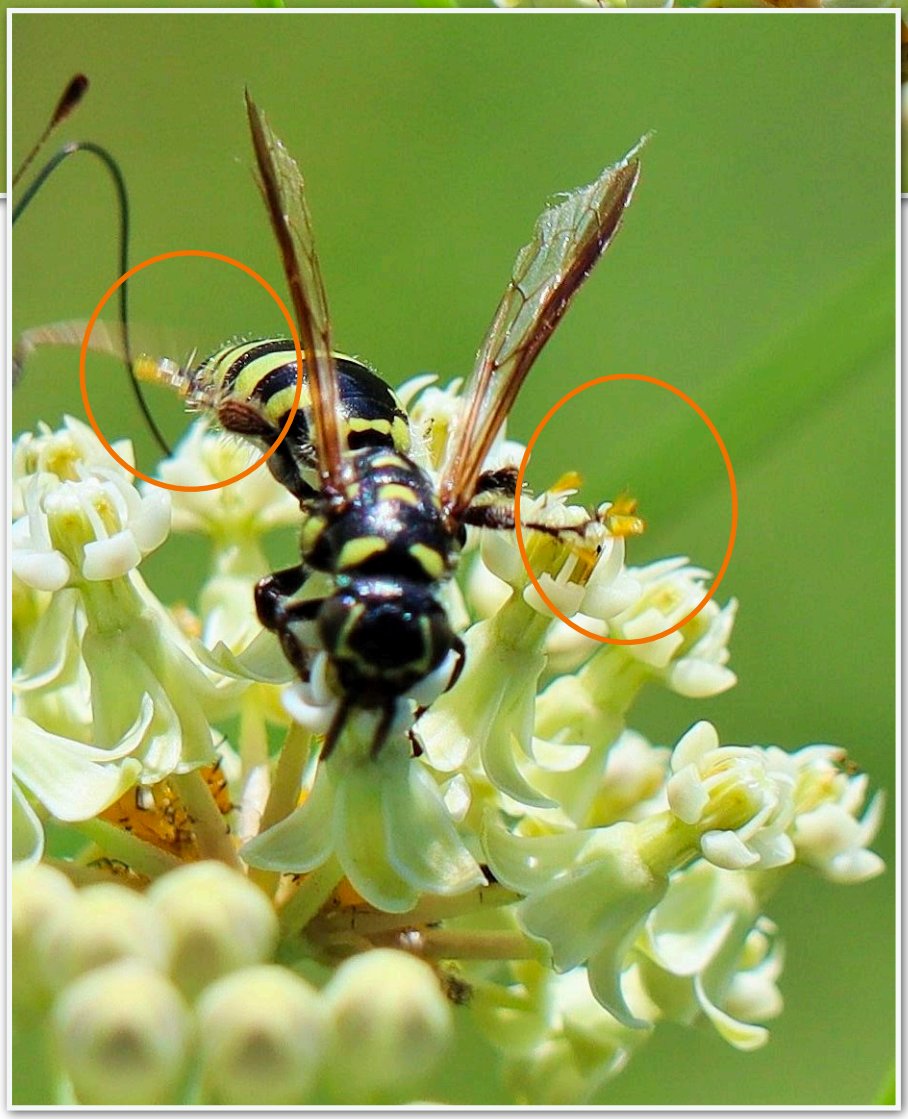
Basic color pattern is light gray-brown, yellow-brown, with hints of white. All subdued.



In our area you may wish to compare this species with the Rhesus Skipper. The shaded areas in the ventral view of the Carus Skipper are much lighter in color than they are on the wings of the Rhesus.

Fringe is light color but not white.





Above and left: Carus Skipper nectaring from Horsetail Milkweed flowers. The skipper shares a Horsetail Milkweed flower cluster with a foraging Weevil Wasp, *Cerceris* (Latreille, 1802 sp.) Note that the wasp's leg bristles have collected several yellow-colored pollen packets (pollinaria/pollinia), and it is a likely pollinator, transferring the packets to other flowers while foraging. JVL

Augustus Radcliffe Grote
(1841-1903)

More than 1,000 species of moths/ butterflies were described by Grote. He was an British entomologist who spent much of his time in the United States. For a while he was a member of the Buffalo Society of Natural Sciences where he knew Leon Harvey. Among Grote's many works was *The Hawk Moths of North America,* published in 1886.

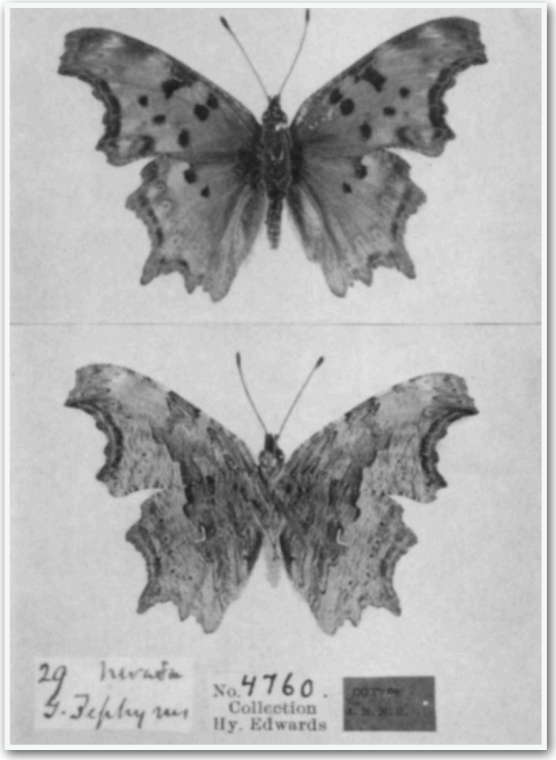
Hoary Comma
Polygonia gracilis zephyrus
(Species: Grote & Robinson, 1867)
(Subspecies: W. H. Edwards, 1870)
Hodges #4427

Caterpillar hosts for this species include gooseberries and currants. Adults nectar from flowers and eat sap. Adults which are found in the spring have overwintered. Females lay eggs in the spring (until June) and then die.

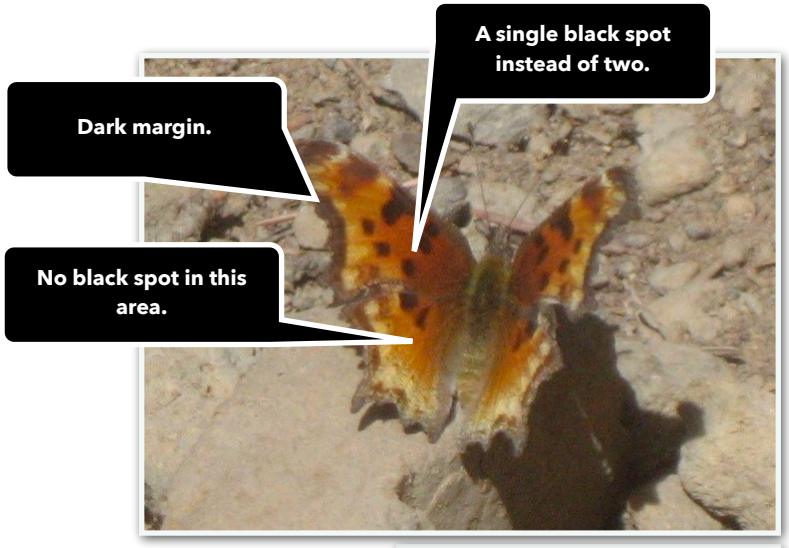
In some sources, this sub-species is known as the Zephyr Anglewing. Francis H. Snow collected the first specimen of this sub-species from New Mexico in his 1881 expedition to the Magdalena Mountains (Water Canyon) in Socorro County. The type specimen of *P. g. zephyrus* was collected a decade prior (1870) by W. H. Edwards near Virginia City, Nevada. That specimen is held by the American Museum of Natural History (shown below).



Hoary Comma photographed on McKnight Mountain Road, Black Range, by Steve Morgan.



Species are delineated using a variety of techniques in today's study of the natural world. Those techniques do not always yield compatible results. Julian R. Dupuis, Christianne M. Mcdonald, John H. Acorn, and Felix A. H. Sperling in "Genomics-informed species delimitation to support morphological identification of anglewing butterflies (Lepidoptera: Nymphalidae: *Polygonia*)" provide a way through some of the issues we encounter when we place things in boxes. Their study was published in *Zoological Journal of the Linnean Society*, Volume 183, Issue 2, June 2018, Pages 372–389, https://doi.org/10.1093/zoolinnean/zlx081.

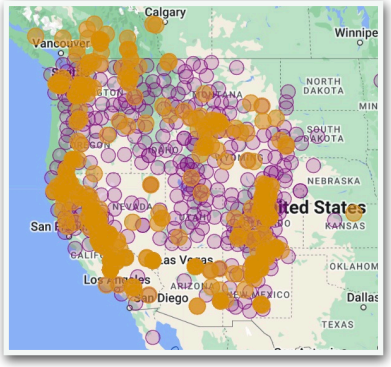


Other Resources (Melissa Blue)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of *Polygonia gracilis* Hoary Comma From sightings reported to Butterflies and Moths of North America.





Question Mark at a water seep (spring). JVL

Question Mark

Polygonia interrogationis

(Fabricius, 1798)

Hodges #4420

In the Black Range, we are at the western edge of the range of this species. The photographs shown here were taken in the Organ Mountains, only slightly east of the western edge of its range.

There are at least two forms of the adult butterfly. The Von Loh photographs are of the black form, which is more common in summer. During the spring and fall, the red form is more prevalent, with much of the black color in the hind wings replaced with red hues.

The adult Question Mark will nectar only if it fails to find carrion, rotting fruit, dung, or tree sap to feed on. Larvae will feed on a number of different host plants.



Berry Nall took the photograph of a larva of the Question Mark to the left. Shown here under a Creative Commons Attribution-Non-Commercial 4.0 International License.



The Question Mark (above) used both moist and saturated soils to take nutrients near the Soledad Canyon Trailhead. JVL

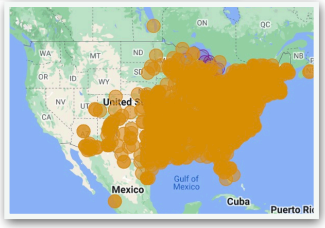




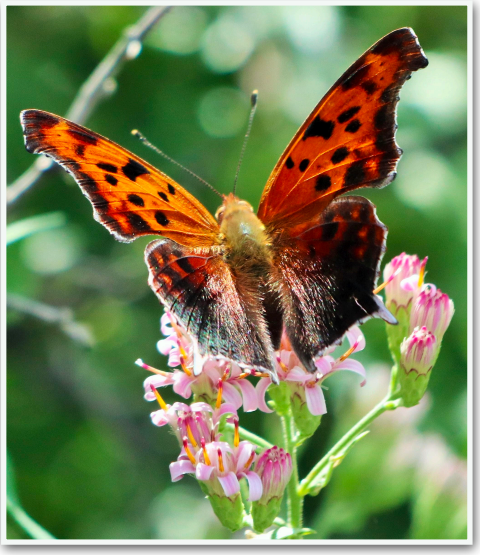
Note white dot and "comma" which make up the "question mark". JVL

Other Resources (Question Mark)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of *Polygonia interrogationis* Question Mark From sightings reported to Butterflies and Moths of North America.



Question Mark nectaring from Brown-foot flowers. JVL

Satyr Comma

Polygonia s. satyrus

(W. H. Edwards, 1869)

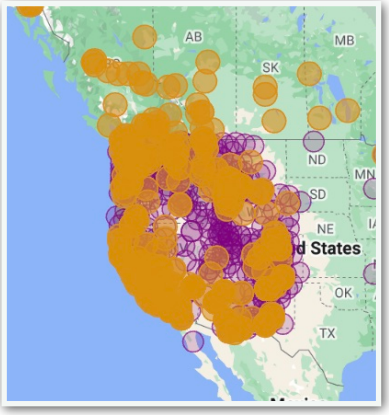
Hodges #4422



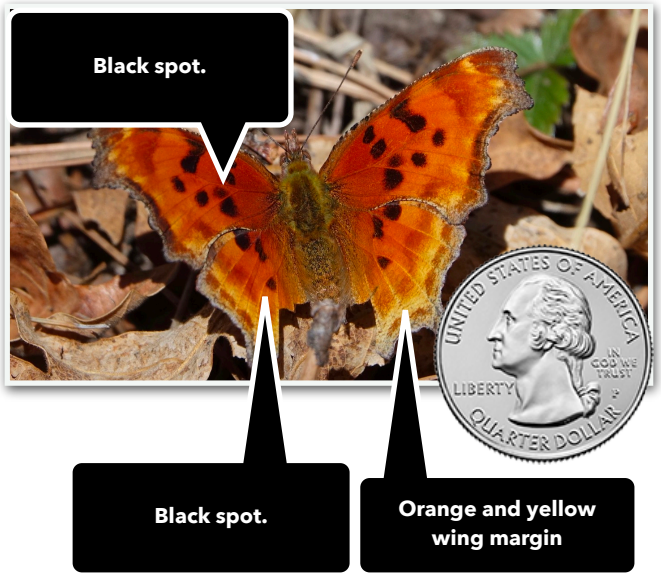
Nettles are the primary caterpillar host plants for this species. Eggs are laid on the bottom side of the nettle leaves. Adults consume tree sap, rotting fruit, animal dung, moist ground, and nectar from flowers - including blackberries.

Synonyms for this species include the original designation by Edwards, *Grapta satyrus*. Other common names include Satyr Anglewing, Golden Comma, and Western Comma.

The difference in basic color between the dorsal and ventral view is helpful in distinguishing this species from others.

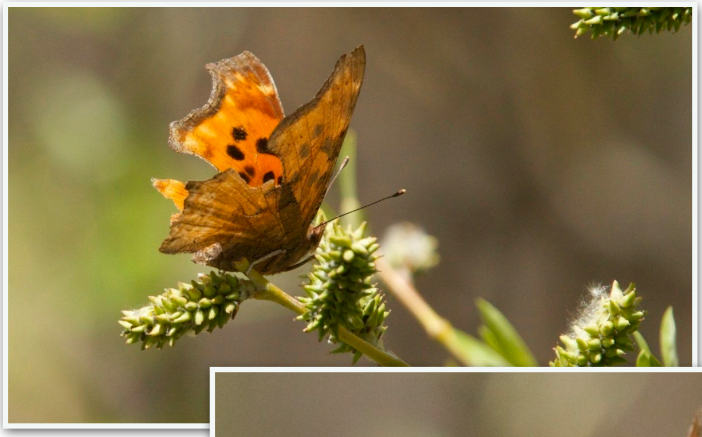


U. S. Range Map of
Polygonia satyrus
Satyr Comma
From sightings reported to
Butterflies and Moths of North America.





***Polygonia satyrus*, Satyr Comma**
Photographed in Railroad Canyon, Black Range, March 2018. RAB



Other Resources
(Satyr Comma)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



Satyr Comma photographed along Percha Creek, Black Range. RAB



Checkered White
Pontia protodice
(Boisduval & Le Conte, 1830)
Hodges #4193

Like most butterfly species, male and female markings differ. Male spotting is on the outside part of wing, female has more markings but they tend to be less sharply marked and browner in color. Hindwings of both male and female are white. Markings on butterflies of the spring flight are stronger than those on the wings of butterflies in later flights.

Caterpillar host plants are in the mustard and caper families. Caterpillars will eat the leaves of host plants but seem to prefer the buds, fruits, and flowers. Adults nectar at various composites, alfalfa, and mustards.



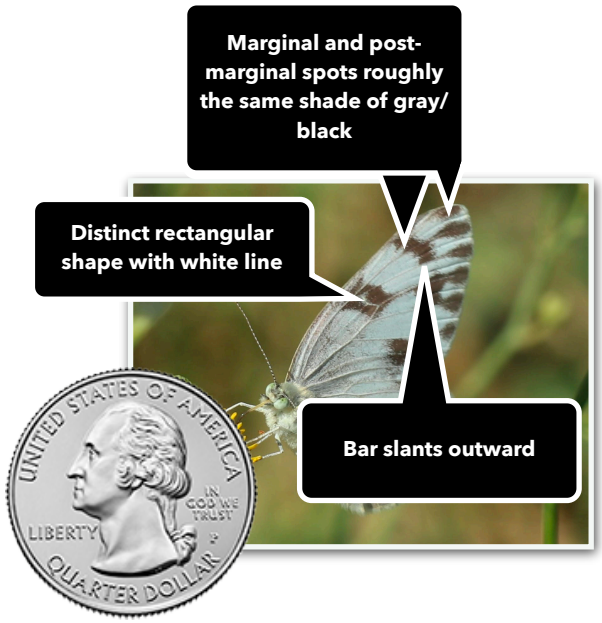
Checkered White was common through most of June and July nectaring from Spiny Chloracantha flowers in each image on this page. Above on June 15. JVL



Checkered White and foraging Weevil Wasp, *Cerceris* (Latreille, 1802) sp., on May 26. Common. JVL

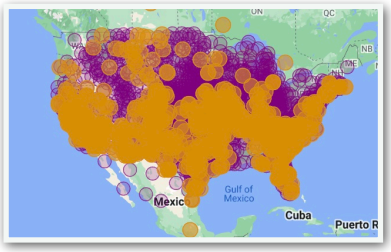


June 22. JVL



Other Resources
(Checkered White)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of
Pontia protodice
Checkered White
From sightings reported to Butterflies and Moths of North America.

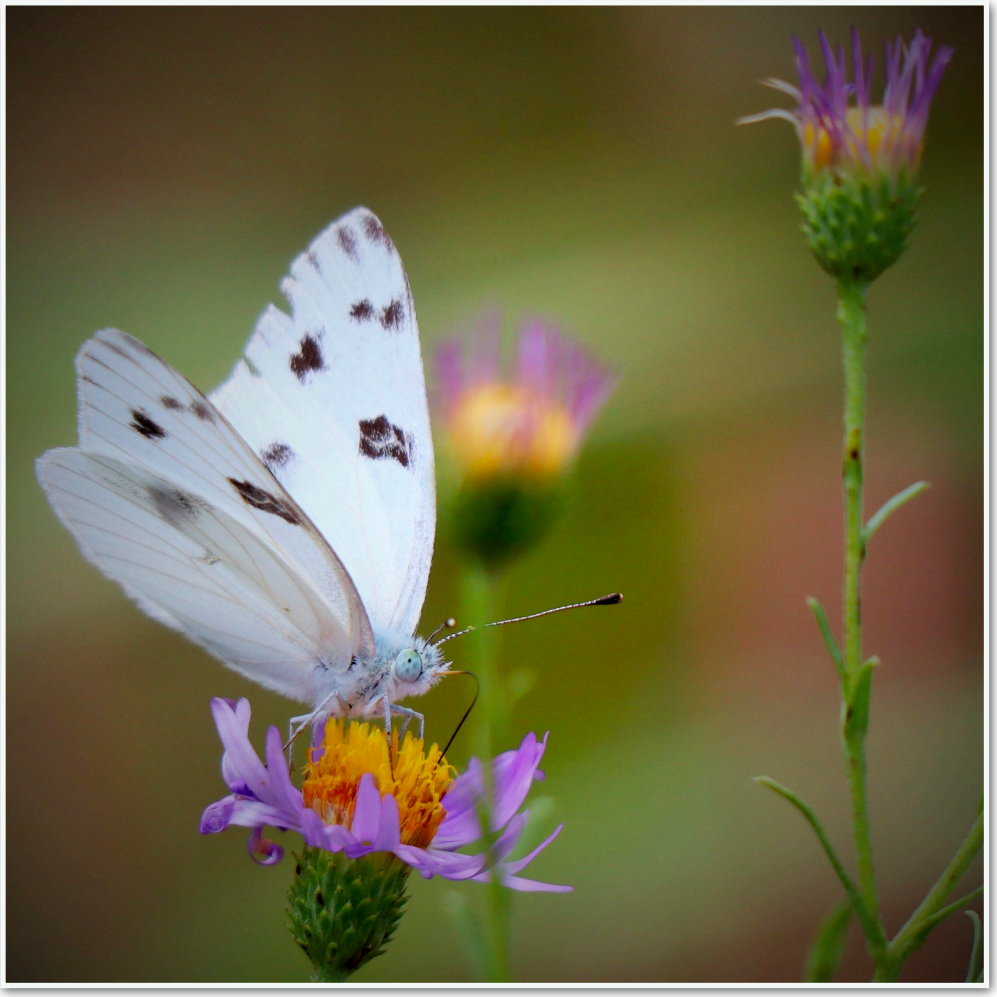


Checkered White nectaring from climbing milkweed flowers. JVL





The Checkered White (two above and below) was photographed nectaring from blanketflowers in San Lorenzo, Black Range. RAB



Above: Checkered White nectaring from Spiny-aster. JVL



Spring White
Pontia sisymbrii
(Boisduval, 1852)
Hodges #4192

Caterpillar host plants are in the mustard family. Single eggs are laid on any part of the host plant. Young caterpillars are more likely to eat the leaves of the host plant while older ones seem inclined to eat the flowers. Larvae may sequester "mustard oils" from their host plants, making them unpalatable.

This species is known as the California White in some sources. Boisduval initially described it as *Pieris sisymbrii*.

Spring White is typically a butterfly of the mountains.

This Spring White (3 images this page), was photographed in Railroad Canyon, Black Range, March 2018. RAB







Sisymbria **has been elevated to full genus status by some authorities, including the Pajarito Environmental Education Center. Following this taxonomy most of the individuals in New Mexico key to *S. s. elivata* (W. Barnes & Benjamin 1926). Other authorities treat *Sisymbria* as a subgenus of *Pontia*.**

Richard Holland, in "Distribution of Selected Anthocharis, Euchloe and Pontia (Pieridae) in New Mexico, Texas, Chihuahua and Sonora", *Journal of the Lepidopterists' Society*, 49(2), 1995, 119-13, discusses some of the issues associated with this species. The plate shown below is from that work.

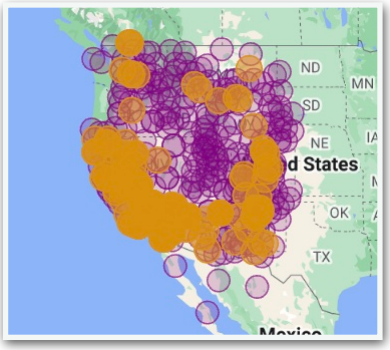
William Barnes
(1860-1930)

William Barnes was an American entomologist who named 31 taxon. His publications were quite extensive. His personal collection of more than a half million butterflies and moths is now part of the United States National Museum (Smithsonian). His collection is thought to include more than 10,000 species.

Foster Hendrickson Benjamin
(1895-1936)

Benjamin was the curator of the William Barnes Museum (Decatur, Illinois) for a period starting in 1922.





U. S. Range Map of
Pontia sisymbrii
Spring White
From sightings reported to Butterflies and Moths of North America.

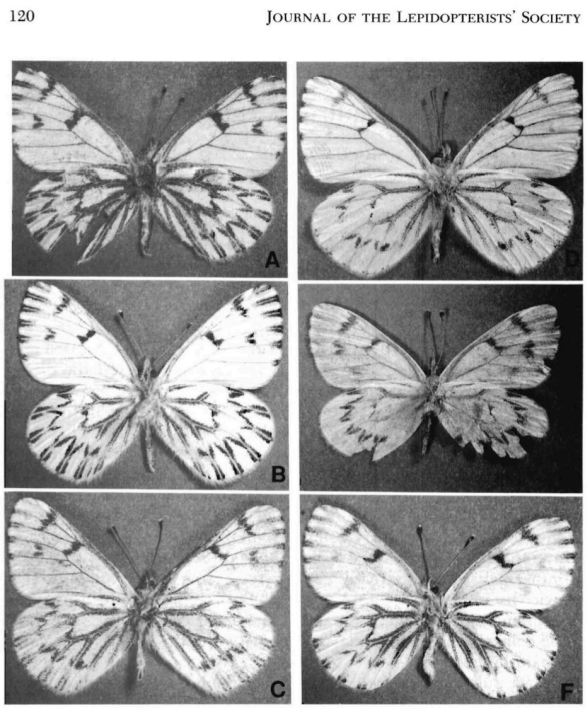


FIG. 1. Ventral surface of *Pontia sisymbrii* phenotypes: **A**, typical male morph, SW slope, Black Range, USFS Road 152, Grant Co., NM, ca. 7500′, 9-iv-89; **B**, intermediate male, Baylor Canyon, NW slope, Organ Mts., Dona Ana Co., NM, 6000′, 16-iii-79; **C**, *transversa* male paratype, North Franklin Peak, Franklin Mts., El Paso Co, TX, ca. 6000′, 1-iv-87; **D**, male paratype with extreme expression of *transversa* features, Gray Ranch, Deer Creek, SW slope, Animas Mts., Hidalgo Co., NM, ca. 5400′, 31-iii-93; **E**, *transversa* male paratype with an unusually dominating VHW transverse postmedial band, 26 mi. E of Ascencion on Mex. Hwy 2, Mun. Ascencion, Chih., 3800′, 1-iv-85; **F**, *transversa* female paratype, Gray Ranch, Deer Creek, SE slope, Animas Mts., Hidalgo Co., NM, ca. 5400′, 31-iii-93.

Other Resources
(Spring White)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center

Yellow-striped Armyworm Moth
Spodoptera ornithogalli
(Guenée, 1852)
Hodges #9669

As with nearly all of the caterpillar images in this article, identification to species is tentative. The adult stage of this species is called the Yellow-striped Armyworm Moth. The caterpillar stage of this species is also called the Cotton Cutworm, and it feeds on various cash crops in addition to other vegetation.

Images by James Von Loh. The caterpillar at the top of the following page is foraging on slender janusia (*Janusia gracilis*) fruits (flowering plant shown below): the larva at the bottom of this page is on a Wright's Beebalm.

Guenée originally named this species *Prodenia ornithogalli*. The species ranges well into South America so the list of synonyms is extensive.

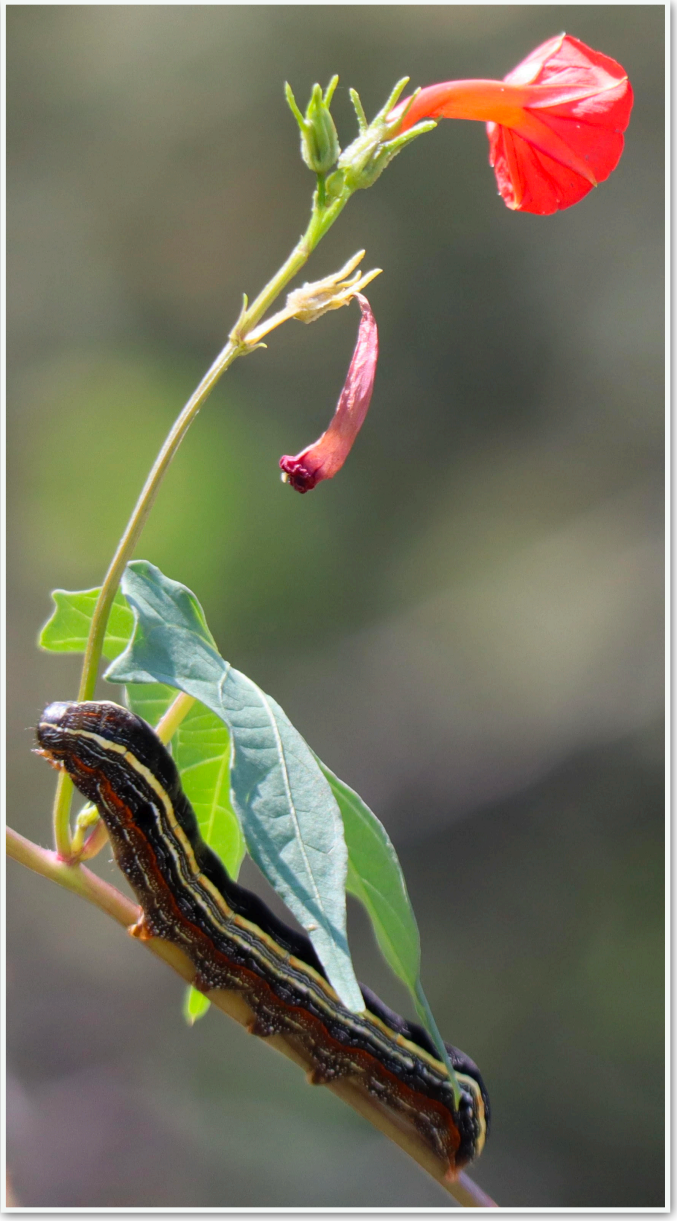
This species overwinters as a pupae in soil near host plants, emerging in April-May. Host plants include many species including alfalfa, asparagus, jimsonweed, morning glory, etc. etc. The entire life cycle of an individual takes from four to six weeks, there are several flights each year.



U. S. Range Map of *Spodoptera ornithogalli* Yellow-striped Armyworm Moth From sightings reported to North American Moth Photographers Group

Other Resources (Yellow-striped Armyworm Moth)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Southwestern Moths



Yellow-striped Armyworm, foraging on Red Morning Glory Vine. JVL









***Spodoptera ornithogalli*, imago and instar, University of Georgia. Shown under a Creative Commons License 3.0.**



Spodoptera ornithogalli - female - Ron Parry





Caterpillar images by James Von Loh. Caterpillars are foraging on Apache Plume at left and on desert willow below left.

Achille Guenée
(1809-1880)

Guenée was a French entomologist who authored at least 63 professional publications. Among his collaborators was Boisduval, with whom he wrote *Histoire naturelle des Insectes. Species général des Lépidoptères* (Vols 5–10, 1836–57). One of his more noteworthy publications was his contribution of *Species des nocturnes* (six volumes, 1852–1857), part of the 89 volume *Suites à Buffon*. He described species from specimens, never having seen many in life.

Examples of plates from his works are shown below.





Golden-headed Scallopwing
Staphylus ceos
(W. H. Edwards, 1882)
Hodges #3930

The top of the head is called golden colored by many, others consider it orangish.

Caterpillar host plants are in the *Chenopodium* genus (goosefoot).

Edwards initially described this species as *Pholisora ceos*. It is also called the Gold-Headed Scallopwing.

Little is known of the natural history of this species. It is generally found between 4,000′ and 6,500′, sometimes higher.

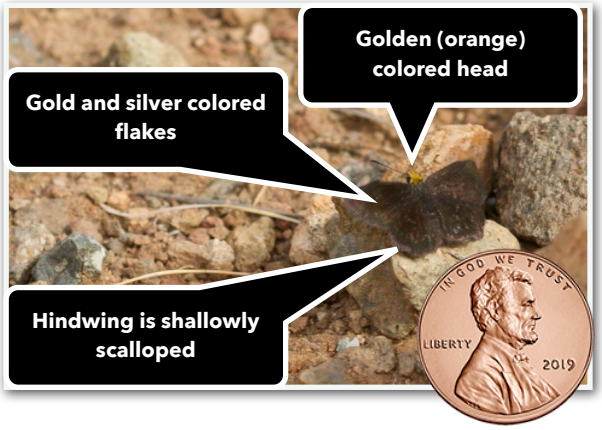
Other Resources (Golden-headed Scallopwing)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of *Staphylus ceos* Golden-headed Scallopwing From sightings reported to Butterflies and Moths of North America.







Golden-headed Scallopwing photographed east of Hillsboro, Black Range. RAB

Gray Hairstreak
Strymon melinus franki
(Species: Hübner, 1818)
(Subspecies: W. D. Field, 1938)
Hodges #4336

Caterpillar host plants are extensive, perhaps with a preference for the pea and mallow families. Single eggs are laid on the host plants. Young caterpillars prefer flowers and fruit, older ones may eat leaves. Adults nectar on many plant species including goldenrod, milkweed, clover . . .

Amazingly, Hübner's original name for this species is still used. Other English names include Common Hairstreak.

The Idaho Museum of Natural History notes that caterpillars of this species are sometimes attended by ants. The ants provide protection and eat a sugary solution produced by the dorsal nectary organ of the caterpillar. This relationship is called myrmecophily.

Within New Mexico, this species has been found from 3,000′ to 10,000′. There are one or two flights per year.

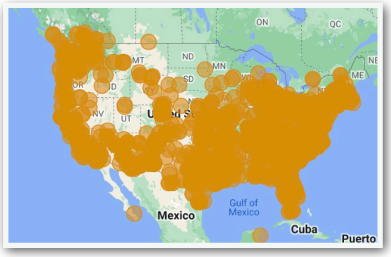


Gray Hairstreak photographed in Lake Valley, Black Range, by Debora Nicoll.

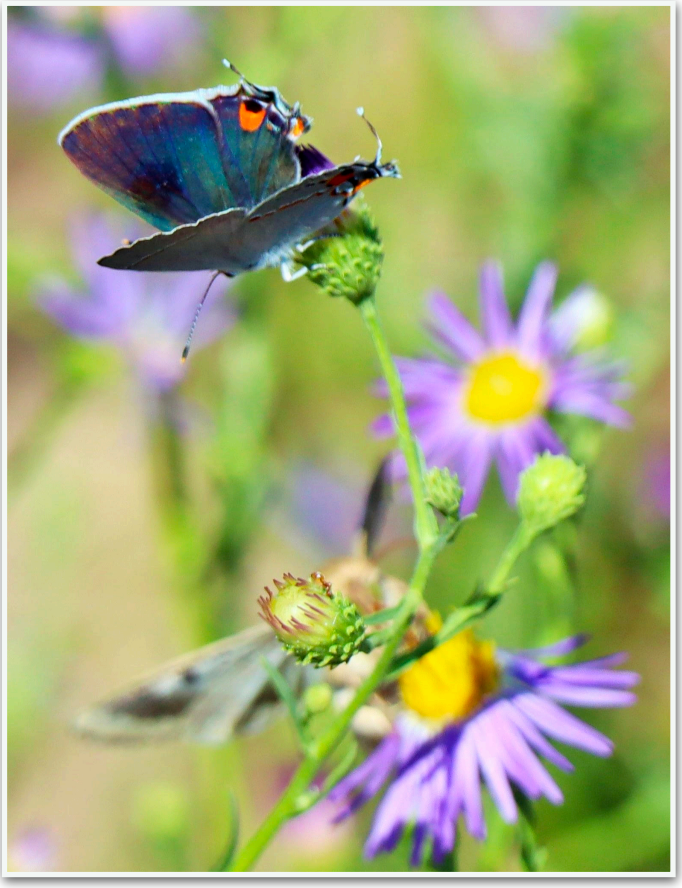


Other Resources
(Gray Hairstreak)

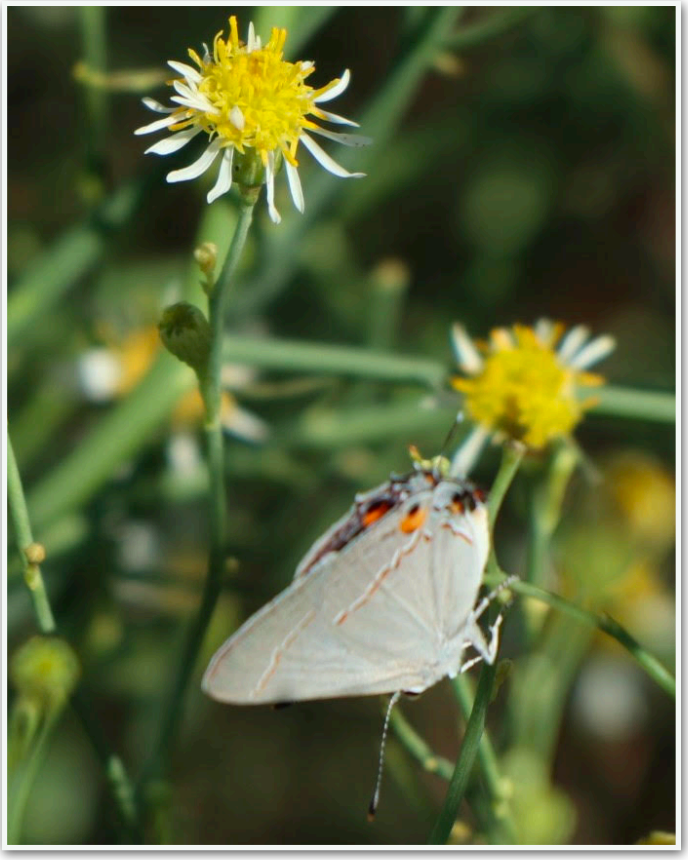
- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



U. S. Range Map of
Strymon melinus
Gray Hairstreak
From sightings reported to Butterflies and Moths of North America.



Above: Gray Hairstreak on Spine-aster flowers. JVL
Below: On May 22, when it was occasional on Spiny Chloracantha flowers. JVL





Above: Gray Hairstreak nectaring from Horsetail Milkweed flowers. JVL



Gray Hairstreak photographed in Lake Valley, Black Range, by Debora Nicoll.

Jacob Hübner
(1761-1826)

Hübner was a German entomologist and the author of one of the most important early works in entomology, *Sammlung Europäischer Schmetterlinge* (1796–1805). He was the initial describer of a substantial number of species and genera.

Hübner's drawing of the Gray Hairstreak, from *Zuträge zur Sammlung exotischer Schmettlinge: bestehend in Bekundigung einzelner Fliegmuster neuer oder rarer nichteuropäischer Gattungen* / *von Jacob Hübner* (1818-1837), Plate 164, is shown on the following page.

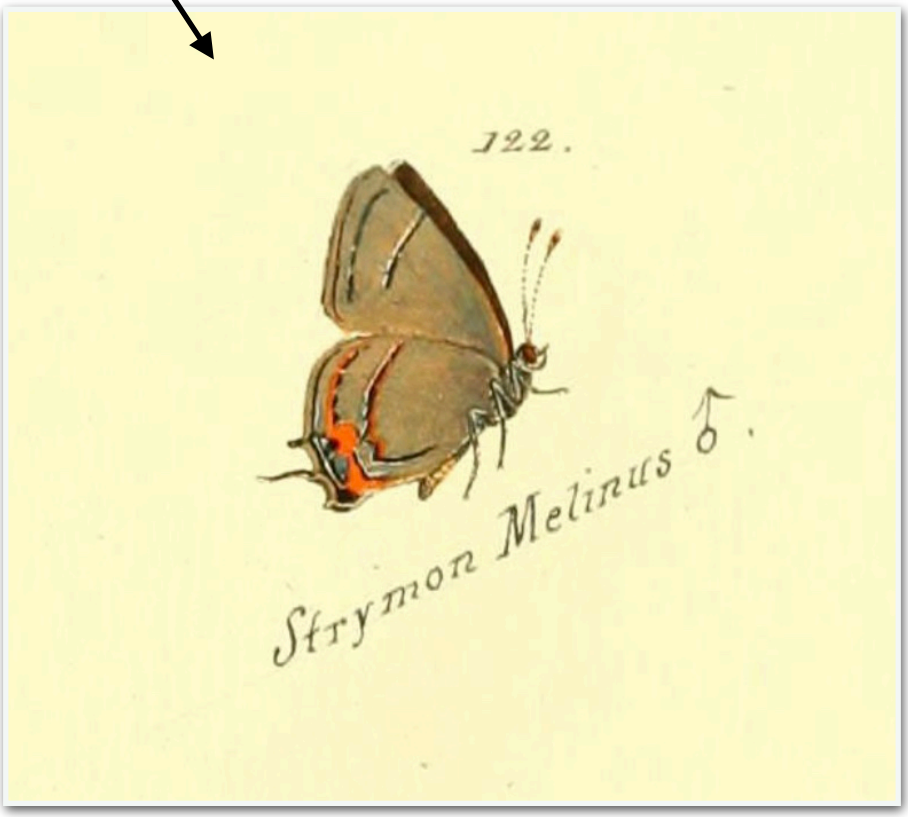


Peter Carl Friedrich Geyer
(1802-1889)

Geyer was a German (Kingdom of Bavaria) lepidopterist, illustrator, and engraver. He did the engravings for Hübner. His work is discussed earlier in this Sampler.

Following Hübner's death, Geyer finished the publication of his collection. He is the author of the volumes published after 1826.

The role of the engraver in early natural history publications was critical. Geyer's engravings are excellent. To make an engraving the artist might work from a specimen or an image drawn by someone else. The materials used in engraving varied over time and application. In all cases it was tedious and exacting work. In works like the ones shown here, the engravings were printed and then hand colored as part of a separate process. Because this was an elaborate process which took time, works were often published in multiple volumes over several years or in the case of works like those of Audubon and Gould sold, as part of a subscription, as the individual prints were produced - made into books at a later time.



Northern Cloudywing
Thorybes pylades
(Scudder, 1870)
Hodges #3910

The Northern Cloudywing is the most common Cloudywing in our area. Synonyms include *Cecropterus pylades* and *Eudamus pylades*.

Caterpillar host plants are in the pea (*Fabaceae*) family. Single eggs are laid under the leaves of host plants. Caterpillars form shelters of rolled leaves, tied with silk, as shelter. Adults nectar from a variety of plant species; vetches, milkweed, clover . . .

Various populations are recognized without rising to the level of a subspecies. The individuals found here are typified as the "southwestern segregate population".

In our area there is probably one flight per year, but just south of here there are probably two flights per year.

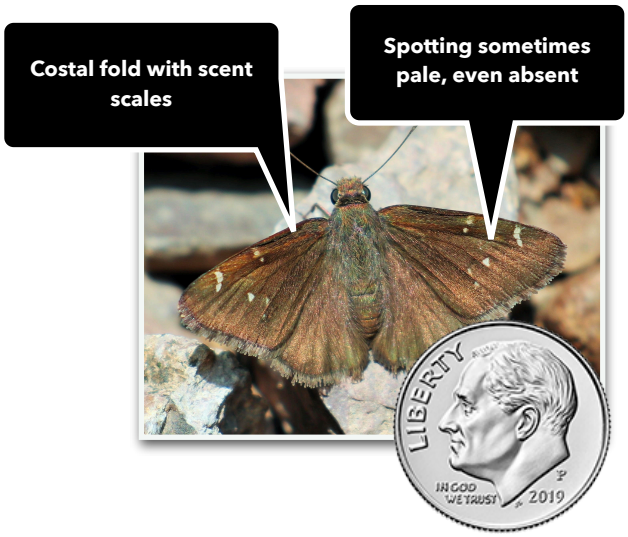


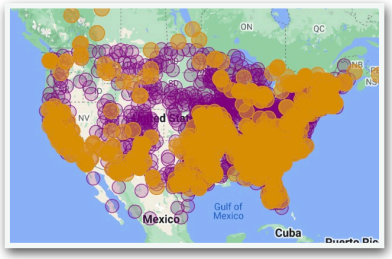
Above and Below: Northern Cloudywing taking nutrients from moist soil under gravel near the Soledad Canyon Trailhead. JVL





Northern Cloudywing photographed north of Kingston, Black Range. RAB





U. S. Range Map of *Thorybes pylades* Northern Cloudywing From sightings reported to Butterflies and Moths of North America.

Other Resources (Northern Cloudywing)

- **Butterflies and Moths of North America**
- **North American Moth Photographers Group**
- **BugGuide**
- **Butterflies of America**
- **Pajarito Environmental Education Center (lists this species as *Cecropterus pylades*)**





Above: Northern Cloudywing, Hillsboro, New Mexico
Two images directly below: Northern Cloudy-wing, Middle Percha Creek, west of Kingston, N. M. RAB

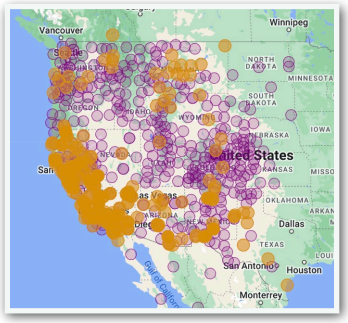




Steve Cary (at link) cautions that this species can be very difficult to define to species when only the dorsal view is available. The fact that it is common and has a costal fold helps but definitive determinations require ventral views.

The Northern Cloudywing butterflies were taking nutrients from moist bedrock of the Soledad Canyon Waterfall. GB

West Coast Lady
Vanessa annabella
(Field, 1971)
Hodges #4436



U. S. Range Map of *Vanessa annabella* West Coast Lady From sightings reported to Butterflies and Moths of North America.

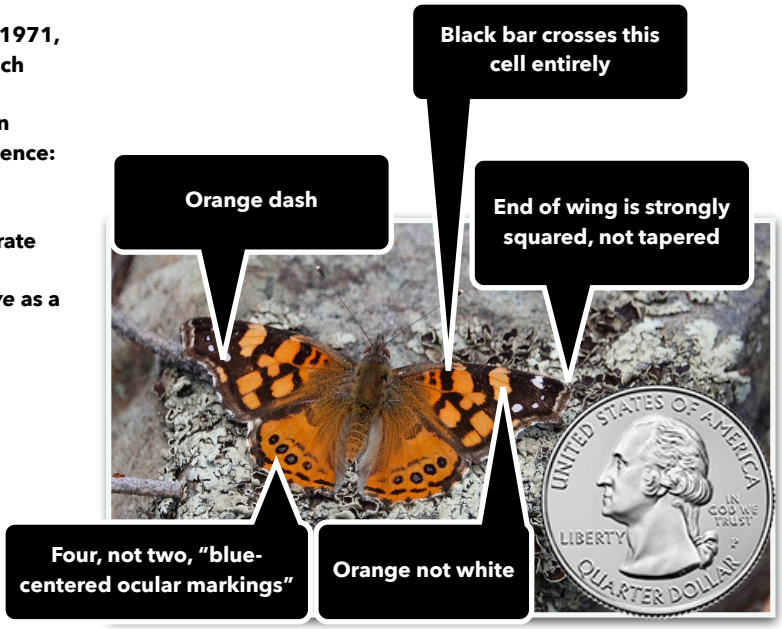
Caterpillar host plants include many species of mallow and hollyhock. Single eggs are laid on the underside of host plant leaves. Caterpillars build silk nests as shelter.

There may be two flights a year in the lowlands and only one at higher elevations.

Synonyms include Western Painted Lady and *Cynthia annabella* (original combination by W. D. Field). Until 1971, this species was *Vanessa carye* (which has a range which extends as far south as Bolivia). Field considered *V. annabella* a separate species and most North American sources agree. However, to quote the BugGuide reference: "The two are virtually identical; both molecular and morphological differences are minimal (and possibly inconsistent?). Opinions vary, and distinction as separate species or not is debated. It seems possible that *V. annabella* could eventually be placed back into *V. carye* as a synonym, or considered as a subspecies."

Other Resources (West Coast Lady)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center





West Coast Lady photographed on Sawyers Peak Trail, Black Range, June 2019. RAB



West Coast Lady photographed on Sawyers Peak Trail, Black Range, June 2019. RAB

Vanessa annabella
Vanessa atalanta
Vanessa cardui
Vanessa virginiensis

The natural history of these four species is full of interesting little tidbits. Take for instance:

- *V. annabella,* West Coast Lady, is usually found flying along side *V. cardui*, Painted Lady, and the two not only look alike, their behavior is similar;
- *V. annabella* and *V. atalanta*, Red Admiral, hybridize producing an "intermediate" looking offspring. These crosses were labeled *V. atalanta* variety *edwardsi* by F. Grinnell (1918);
- As noted in the species listing for *V. annabella*, that "species" may be a subspecies of *V. carye*; and
- *V. virginiensis*, American Lady, is often found with *V. cardui,* which is very similar in appearance.

The taxonomic determinations in this genus are a bit uncertain at times and the ranges of the various species overlap extensively. It makes for some interesting discussions between the splitters and the lumpers.

William Dewitt Field
(Original description of *Vanessa annabella*)

Among his efforts at the Smithsonian's Museum of Natural History, Department of Entomology, was the publication of *Butterflies of the Genus Vanessa and of the Resurrected Genera Bassaris and Cynthia (Lepidoptera: Nymphalidae)*, Smithsonian Contributions to Zoology, number 84, 105 pages, 1971. Although taxonomic nomenclature may have changed since the publication, this paper remains an extraordinary repository of information about the genus *Vanessa (Cynthia).* At page 56 he begins his description of a new species, *Cynthia annabella*, supported later by plates at pages 86 and 91. In his description he notes:

> This species and *C. carye* are easily distinguished from all other species of *Cynthia*, except *C. terpsichore* and some females of *C. virginiensis*, in having the bar just beyond cell on upper side of forewing tawny instead of white. From *C. terpsichore* and *C. virginiensis* they are easily distinguished by having four, instead of two, blue-centered ocular markings on upper side of each hindwing.

He notes that without close examination of the genitalia, it is not possible to separate the male and female of this species.

Following the separation of *V. annabella* and *V. carye* a search for the type specimen for *V. carye* was unsuccessful, requiring a deferral to Hübner's original drawing of the species (from a specimen found in the Andes) in *Sammlung Europäischer Schmetterlinge*, Volume 1, plate 45, shown below.



Red Admiral

Vanessa atalanta rubria

(Species: *Linnaeus, 1758*)
(Subspecies: Fruhstorfer 1909)
Hodges #4437

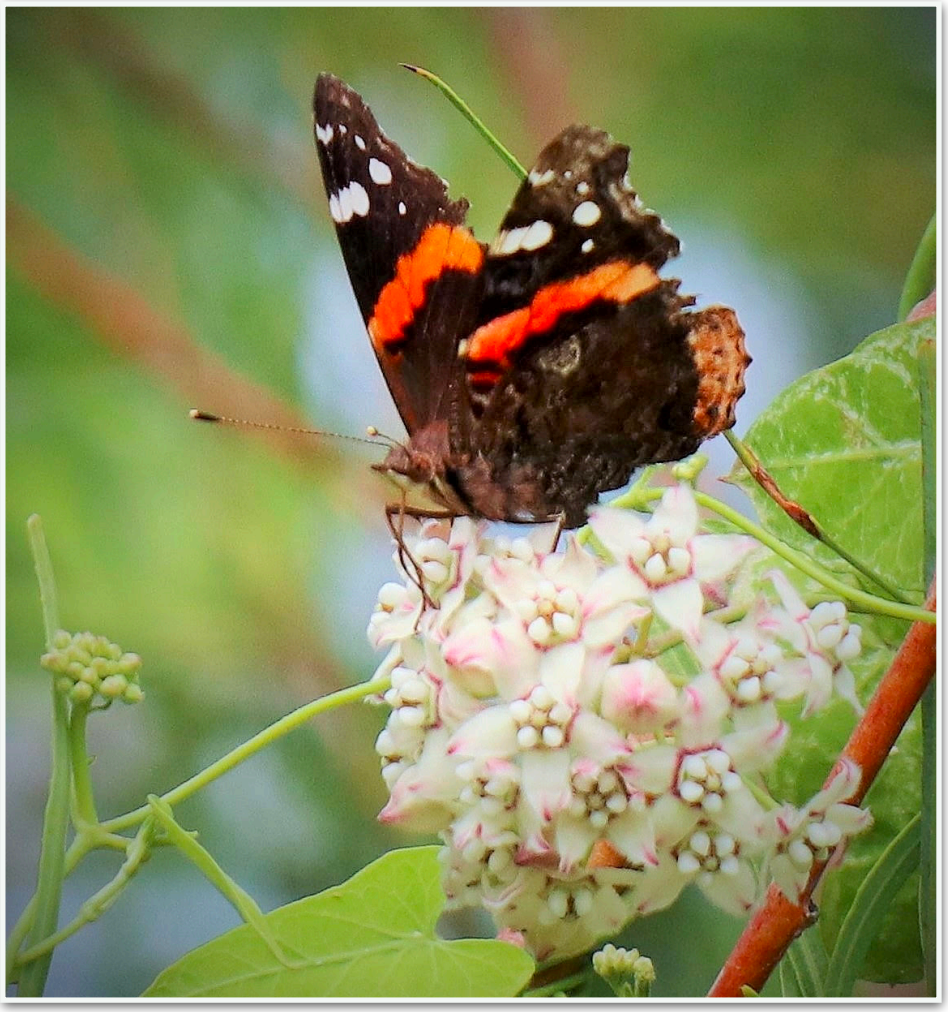
Red Admirals use nettles of various types as caterpillar host plants. Reports that caterpillars use thistles as host plants may be incorrect. Adults prefer sap, bird droppings, old fruit, and as a last resort flower nectar (alfalfa, milkweed, asters, thistle, clover, among others).

Red Admirals do not survive freezing weather. Its range, however, extends through much of North America - so there are often major migrations of this species as it heads north. (There is some recent evidence that some of the northern population may fly south as far as Mexico, rather than dying out in the north, a matter to be resolved.)

Young caterpillars shelter within folded leaves. Later stages use their silk to tie a few leaves together for shelter.

This species is found from Guatemala to well into Canada. It is a cosmopolitan species being found in much of the northern hemisphere. During their migration they may be found in any habitat. Otherwise they prefer moist areas but can be found in many other places.

In New Mexico there are two flights annually.



Red Admiral. A rare observation, nectaring from Climbing Milkweed flowers. JVL



Red Admiral larva, March 24, 2012 by Berry Nall.

Other Resources
(Red Admiral)

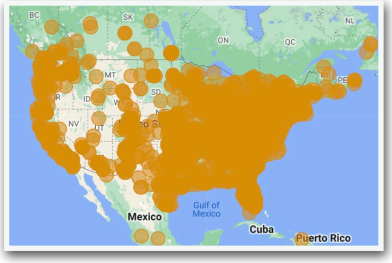
- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



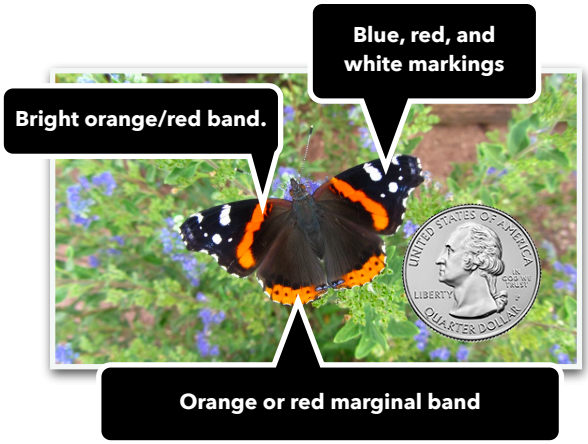
Red Admiral taking nutrients from large gravel below the Soledad Canyon Waterfall in the Organ Mountains, photograph by Gordon Berman.



Red Admiral. A rare observation, nectaring from Climbing Milkweed flowers. JVL



U. S. Range Map of
Vanessa atalanta
Red Admiral
From sightings reported to
Butterflies and Moths of North America.





Vanessa atalanta, Red Admiral
Photographed in Lake Valley, Black Range, by Debora Nicoll.

Painted Lady
Vanessa cardui
(Linnaeus, 1758)
Hodges #4435

Painted Lady is frequently raised by elementary school children as a science project.

This species is found on every continent (except Antarctica). It is found throughout New Mexico and can be found at any time of the year, except in the very coldest weather. Apparently, at least some of the individuals we may see here in the fall have migrated south to avoid severely cold weather, which can kill all life stages of the species.

Instars seem to prefer thistles, mallow, and hollyhock, but also feed on a variety of other composites (over 100 host plant species have been identified. Adults nectar on many composites, apparently they prefer flowers 3-6 feet high.

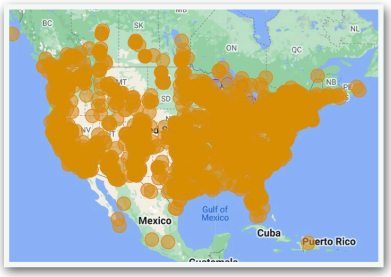
Although the spring migration north is easy to predict the number of individuals involved is not. Numbers will fluctuate significantly from year to year.

See C. B. Williams, "The Migrations of the Painted Lady Butterfly, Vanessa Cardui (Nymphalidae) with Special Reference to North America", *Journal of the Lepidopterists' Society*, Vol. 24, No. 3, 1970, pp. 157-175.



Painted Lady taking nutrients from moist sand and gravel near the Soledad Canyon Trailhead (above) and nectaring on Spiny-aster along the Rio Grande (below). JVL



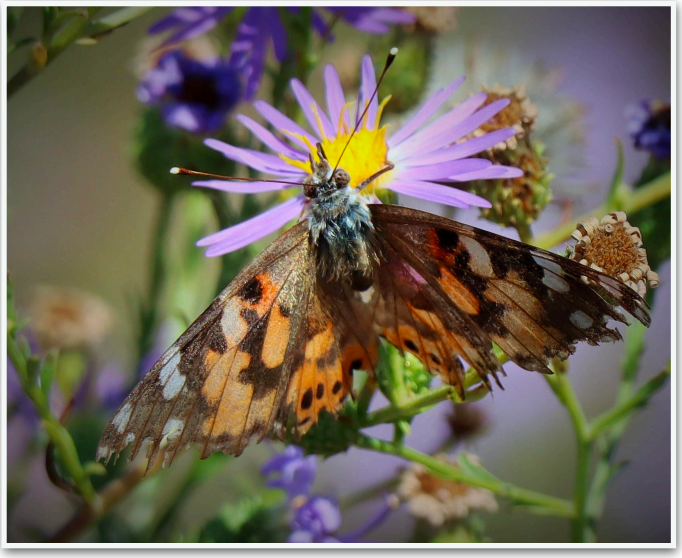


U. S. Range Map of
Vanessa cardui
Painted Lady
From sightings reported to Butterflies and Moths of North America.



Other Resources
(Painted Lady)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



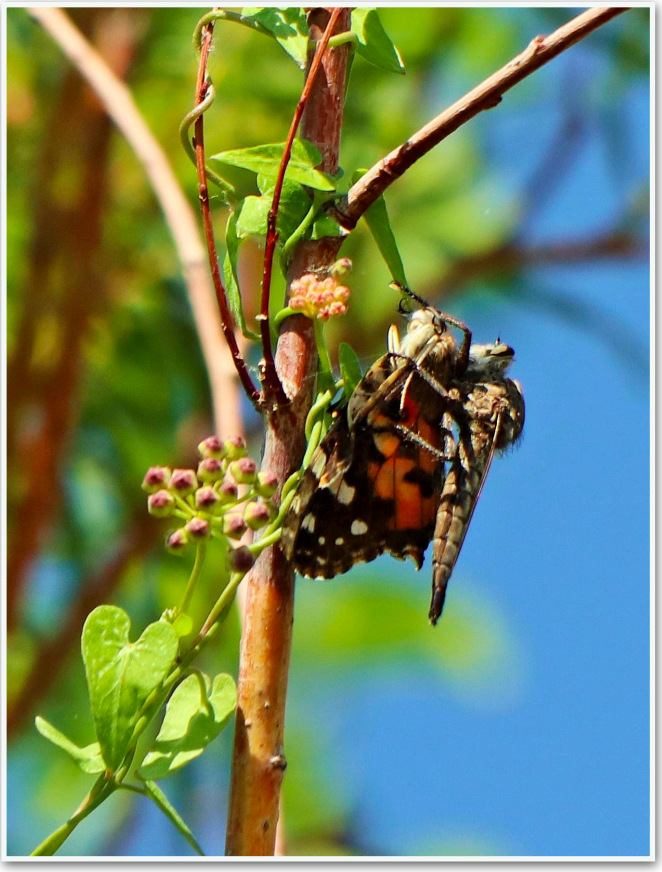
Painted Lady. This individual is showing the tattered wings and wing-tears common to many butterflies migrating during 2021. Photograph taken along the Rio Grande at Las Cruces. JVL



Painted Lady photographed along the Hillsboro Peak Trail, Black Range, October 2017. RAB

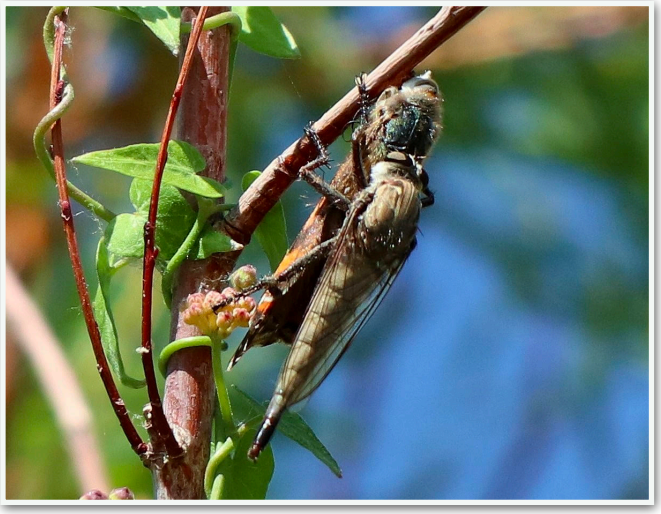


Above and immediately below: Painted Lady nectaring from Brown-foot flowers. JVL





Right Center: Hunting around Climbing Milkweed vines and flowers, this Giant Robber Fly, *Proctacanthus* (Macquart, 1838) sp., has captured and is ingesting nutrients/fluids from a Painted Lady. Right: When I began digitally recording this event, the Robber Fly moved higher up the Climbing Milkweed vines to find additional visual cover and more distance. JVL



Above: Painted Lady. Photograph taken along the Rio Grande at Las Cruces in 2021. JVL



Painted Lady was common on the Spine-aster flowers in 2021. JVL.



Left: Painted Lady nectaring on Horsetail Milkweed. JVL



Above and Right: Painted Lady nectaring from Climbing Milkweed flowers. JVL

Bottom Left: Railroad Canyon, November 11, 2021. RAB





American Lady

Vanessa virginiensis

(Drury, 1773)

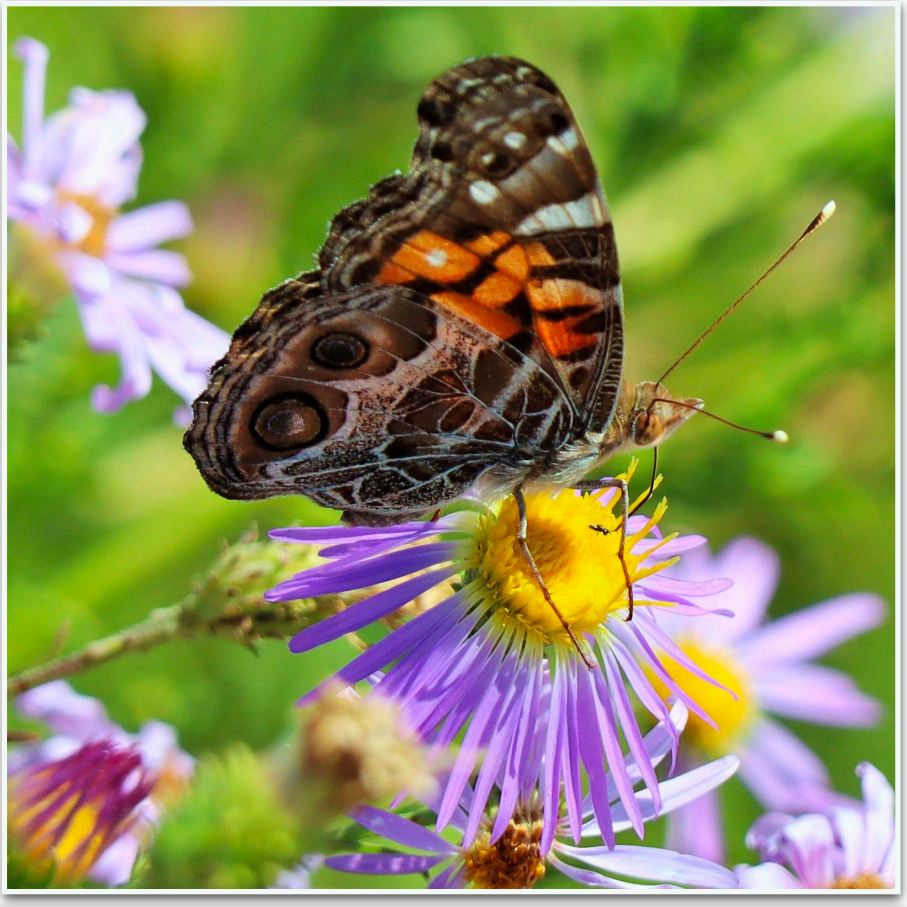
Hodges #4434

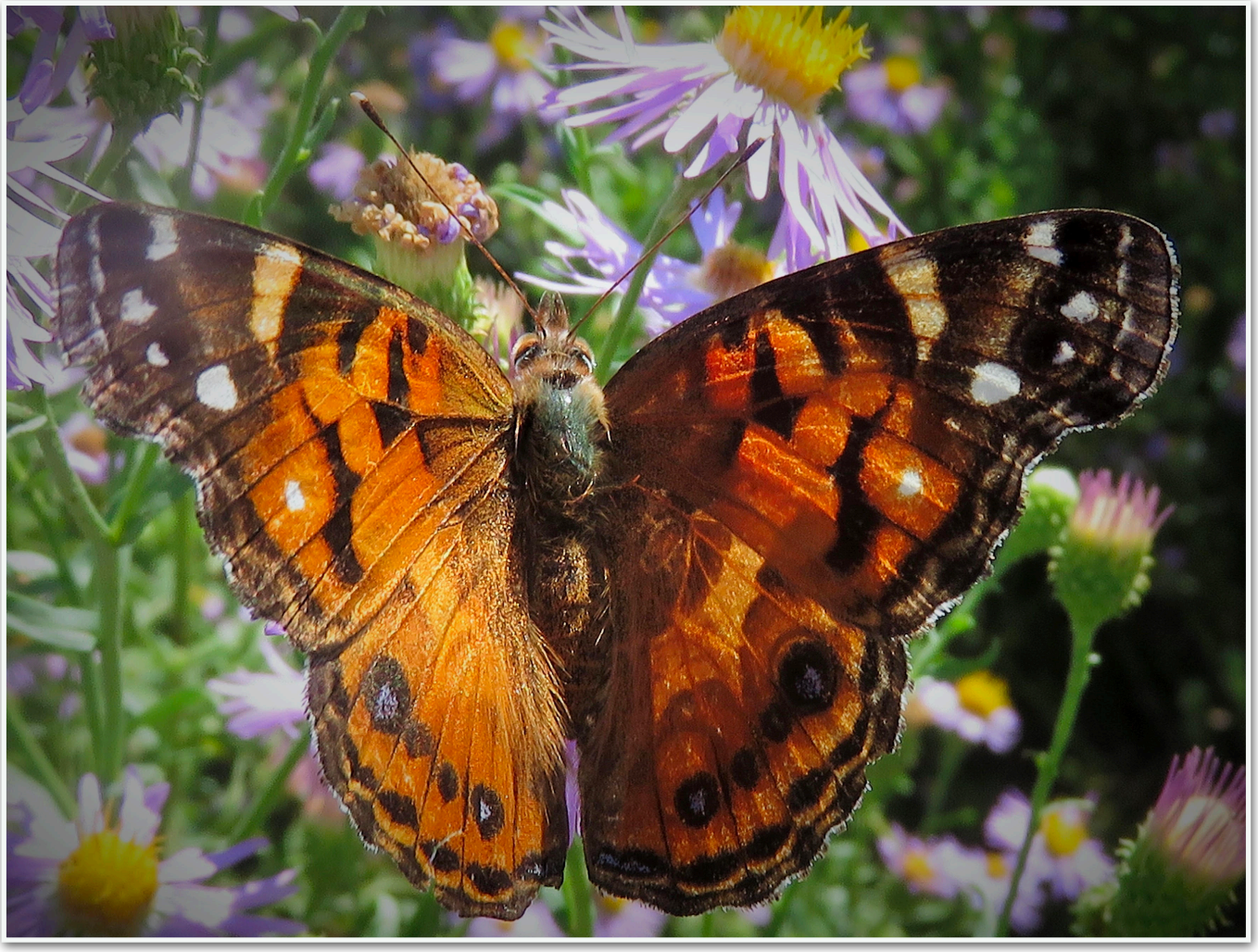
Caterpillar host plants are in the sunflower family; pearly everlasting, burdock . . . Caterpillars shelter individually within nests of leaves tied together with their silk. Adults only nectar. They seem to prefer milkweed, goldenrod, asters, and vetch.

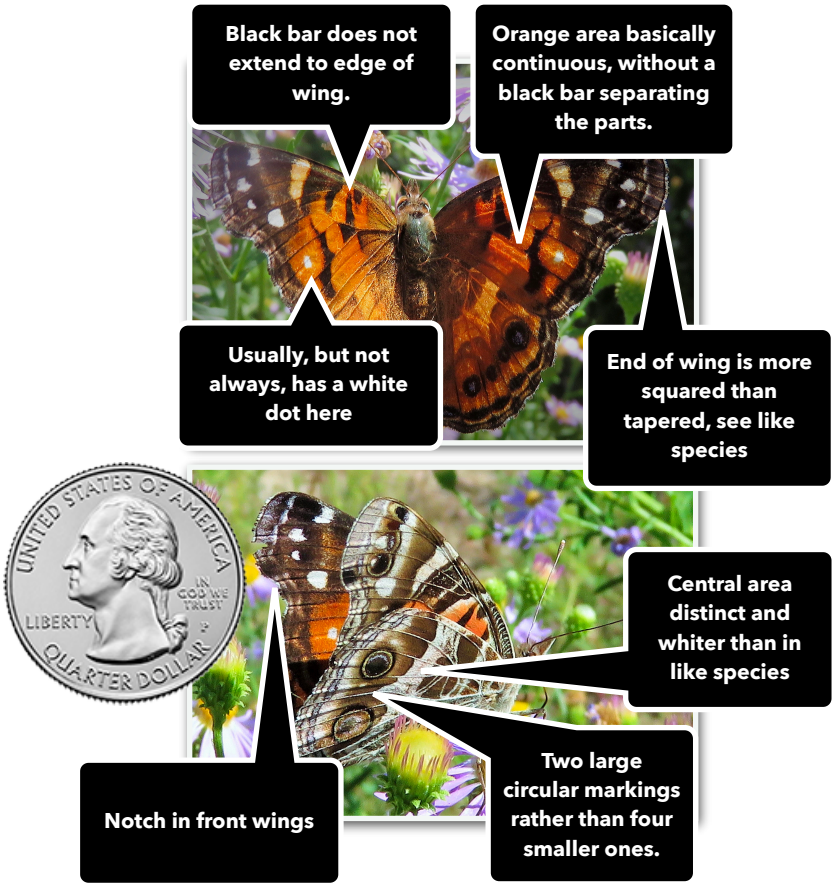
The range of this species extends into northern South America (Colombia and Venezuela).

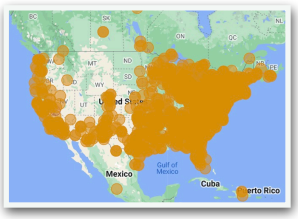
In New Mexico, there may be one or two flights depending on elevation. At lower elevations, they hibernate and fly again as early as April.

Right: American Lady nectaring from Spine-aster flowers, where it was uncommon along the Rio Grande at Las Cruces. JVL
Below: American Lady. Gordon Berman









U. S. Range Map of
Vanessa virginiensis
American Lady
From sightings reported to Butterflies and Moths of North America.

Other Resources (American Lady)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



Above: American Lady nectaring from Spine-aster flowers, where it was uncommon. By Gordon Berman, from the Rio Grande at Las Cruces.

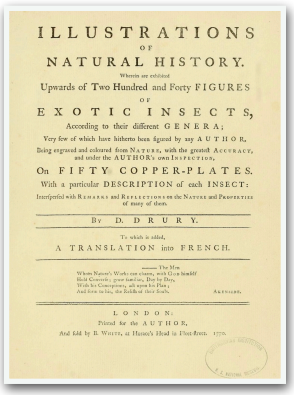


Above: American Lady photographed in Railroad Canyon, Black Range. RAB

Dru Drury (1724-1803)

Drury was a British entomologist known mostly for his collection. It was not customary to record a great deal of information about individual specimens in a collection during his life so his collection, although extensive, was of limited scientific value. His original description of the Fiery Skipper (see page 143) was based on specimens from St. Christoper's, Antigua, and Nevis. In his Illustrations of Natural History . . . Vol. 1, Plate XVIII, Drawings 4 & 5, pp 25-26, he made the original drawing and published the original description of the species, this in 1770. He did not, however, name the species until 1773.

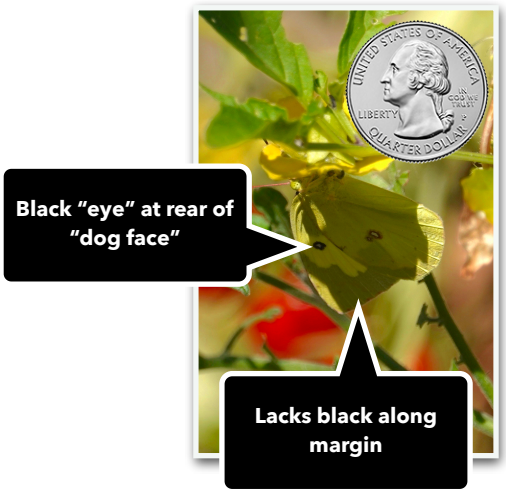


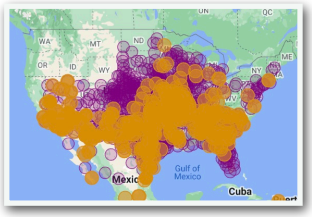


Southern Dogface
Zerene (Colias) cesonia
(Stoll, 1790)
Hodges #4224

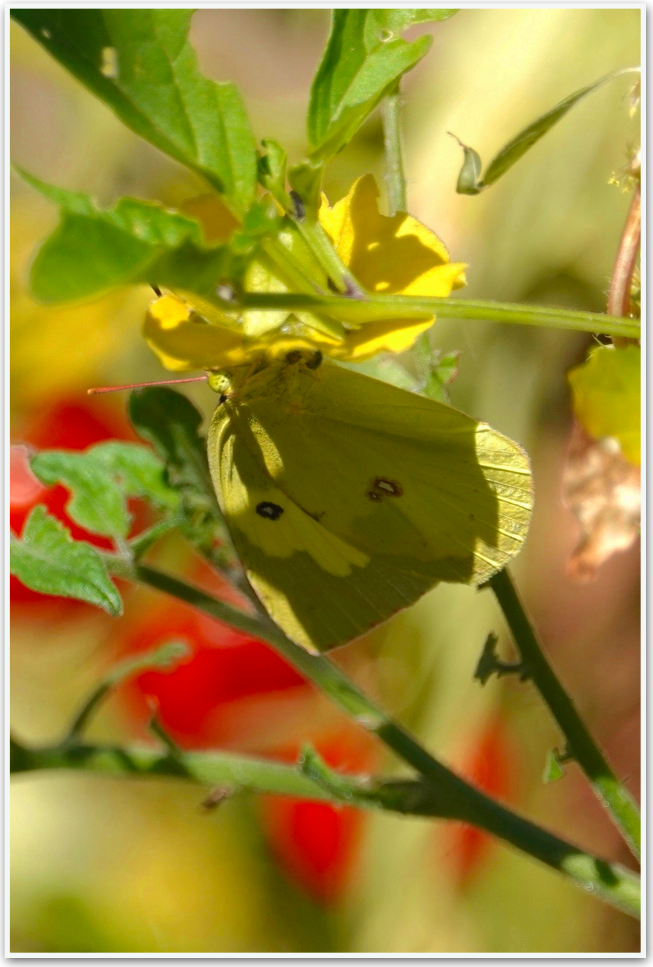
Caterpillar host plants are in the pea family (alfalfa and clover). Adults nectar from these same plants plus verbena.

The range of this species extends as far south as Argentina. It is generally found below 7,000′ in New Mexico and is more common in the south than in the north.





U. S. Range Map of
Zerene cesonia
Southern Dogface
From sightings reported to Butterflies and Moths of North America.



Southern Dogface photographed in Hillsboro, Black Range, October 2021. RAB

Other Resources
(Southern Dogface)

- Butterflies and Moths of North America
- North American Moth Photographers Group
- BugGuide
- Butterflies of America
- Pajarito Environmental Education Center



White Checkered-skippers joining a small puddle club with mixed species of sulphurs. Sleepy Orange, *Abaeis nicippe* (Cramer, 1779) and Southern Dogface are both present here. As are marine blues, *Leptotes marina* (Reakirt, 1868), and individuals of other butterfly species. JVL



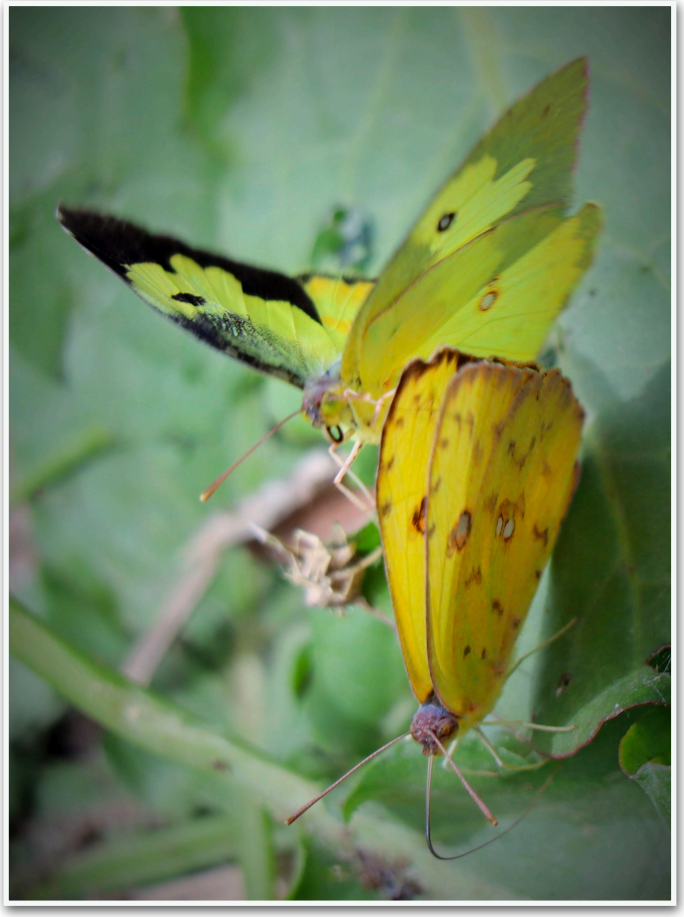




James Von Loh took the two top photographs at the left, of Southern Dogface along the Rio Grande at Las Cruces. This species is a common-to-abundant butterfly nectaring from Spine-aster flowers.



Southern Dogface nectaring from Horsetail Milkweed flowers. JVL



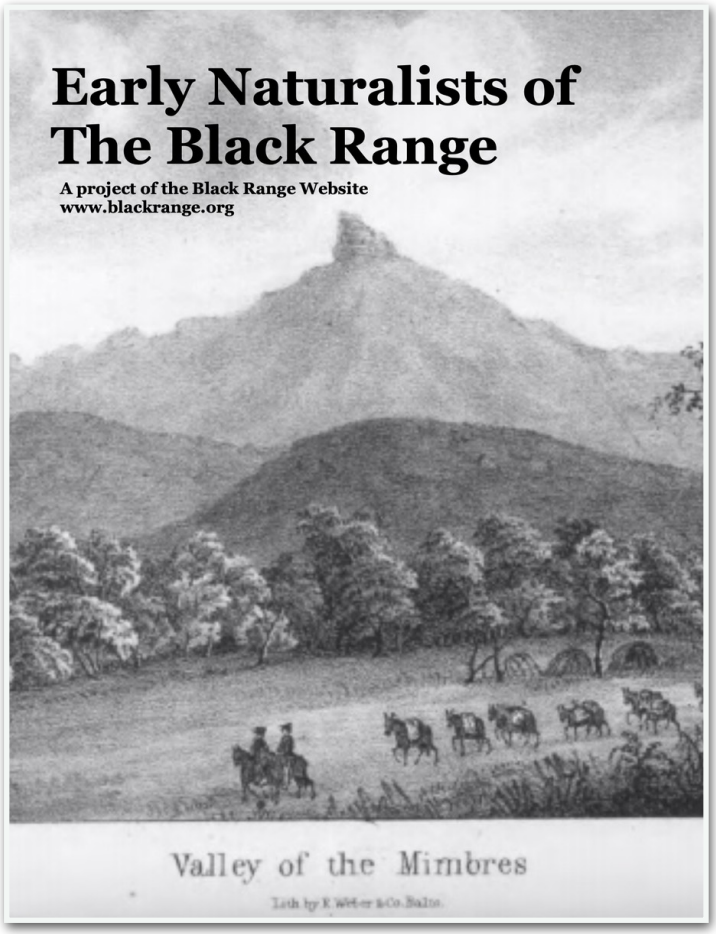
Southern Dogface, *Zerene cesonia* (Stoll, 1790), formerly *Colias cesonia*. JVL

Left: Southern Dogface, *Zerene cesonia*, and Western Pygmy Blue, *Brephidium exilis*, on Chamisa. Steve Morgan

Other Publications of the Black Range Project

Early Naturalists of the Black Range is our survey of the people who have added to our understanding of the natural history of the Black Range.

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[Webpage at the Black Range Website]
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Fire is a natural process, but natural processes are not always pleasant. During the summer of 2013 a major forest fire swept through the Black Range: trees were burned; helicopters were flying; people were evacuated from their homes; and every day brought a new report of acres burned, smoke indexes, fire crew status....

The blog entries on the Free Range and Silver Fire Blogs captured our thoughts as we lived through the Silver Fire. This reprint of those blog entries and never before published images by Véronique De Jaegher and Catherine Wanek are a vivid reminder of what the communities of the Black Range went through during the summer of '13. Although reformatted to fit this publication, the blog entries otherwise remain unchanged. Read the blogs carefully and you will see that our understanding of what was happening; changed over time, was not always clear, and was full of dread and hope.
At the end there are photographs of the fire and Range which were not published on the Black Range website.

[Webpage at the Black Range Website]
[Download Copy of the Book (30.5 MB)]



[See webpage for download links.]

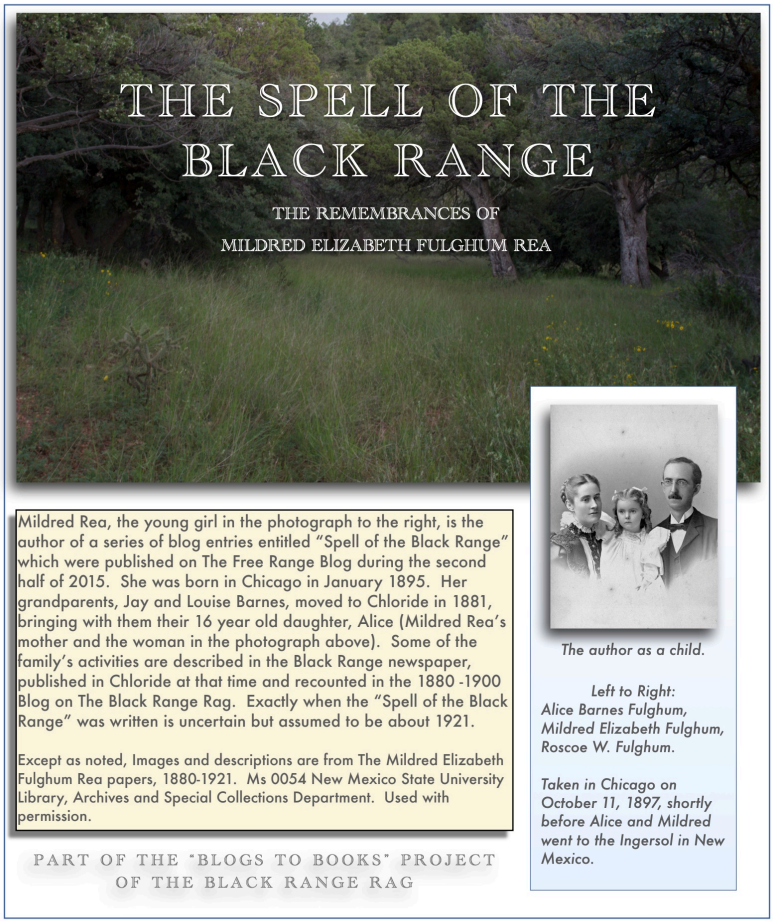
Published prior to the Black Fire.

PLANTS+ OF THE BLACK RANGE IN THREE VOLUMES
(Arranged by:)

VOL. 1 - Scientific Family
VOL. 2 - Latin Binomial
VOL. 3 - English Common Name

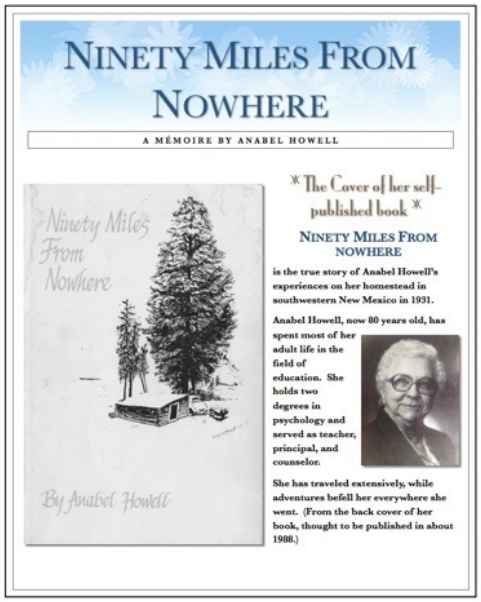


[See webpage for download links.]



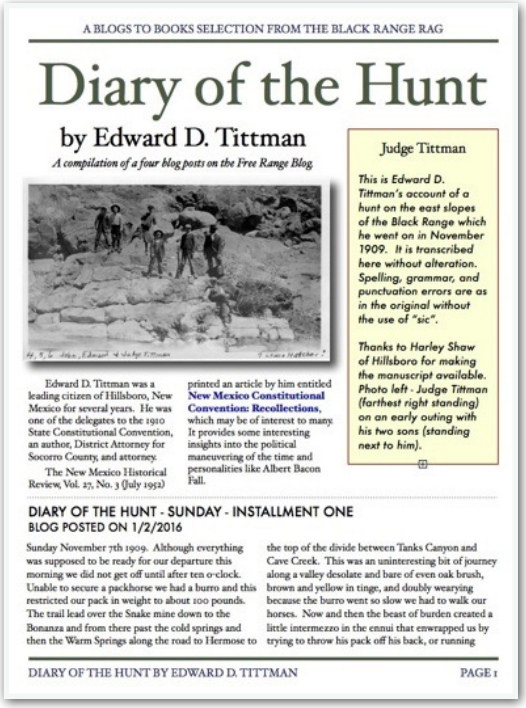
Mildred Rea, the young girl in the photograph to the left, is the author of a series of blog entries entitled "Spell of the Black Range" which were published on The Free Range Blog during the second half of 2015. She was born in Chicago in January 1895. Her grandparents, Jay and Louise Barnes, moved to Chloride in 1881, bringing with them their 16 year old daughter, Alice (Mildred Rea's mother and the woman in the photograph above). Some of the family's activities are described in the Black Range newspaper, published in Chloride at that time and recounted in the 1880 -1900 Blog on The Black Range Rag. Exactly when the "Spell of the Black Range" was written is uncertain but assumed to be about 1921. Except as noted, Images and descriptions are from The Mildred Elizabeth Fulghum Rea papers, 1880-1921. Ms 0054 New Mexico State University Library, Archives and Special Collections Department. Used with permission.

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"Ninety Miles From Nowhere" is the true story of Anabel Howell's experience on her homestead in southwestern New Mexico in 1931..." It was serialized on The Free Range blog during 2015-1016. We offer it here as a "Blog to Book".

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Diary of the Hunt, Edward D. Tittman's account of a hunt on the east slopes of the Black Range, which he went on in November 1909, was published in the Free Range Blog during the first quarter of calendar year 2016. It has now been put into a .pdf format as part of our Blogs to Books program.

Webpage
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