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J. BARRY LOMBARDINI: EDITOR

## THE OCCURRENCE OF *ATLIDES HALESUS* (LEPIDOPTERA: LYCAENIDAE) IN WESTERN ARKANSAS

BY  
DAVID RUPE

*Atlides halesus* (Fig. 1) is a brilliantly colored hairstreak that ranges from coast to coast in the southern half of the US. *A. halesus* has a global ranking of G5, and a statewide ranking of S2S3 (NatureServe, 2010). The author has observed four colonies of this butterfly in Arkansas beginning in the summer of 1998. These colonies have been observed in the following counties in western Arkansas: Crawford, Garland, Scott, and Yell. Adults have been observed in all four counties, and larval stages have been observed in Scott and Yell Counties (Table 1).



Fig. 1. *Atlides halesus*, male  
(Garland Co., AR, 15-March-2012)

The flight period of *A. halesus* in western Arkansas appears to be approximately March-late October. Adults have been observed in the months of March, April, July, August, September, and October. It appears there are 3 broods in western Arkansas, with the spring brood being the least numerous (N=3). The summer and fall broods, which occur from July-October, are the most common (N>20).

This hairstreak may occur in a number of different habitat types, the most important factor being an abundance of mistletoe (*Phoradendron leucarpum*), which is the larval host plant. Small towns in western Arkansas typically support a number of trees heavily infested with mistletoe, as do riparian zones and old farm sites, i.e., fencerows. Trees in Arkansas that are especially susceptible to mistletoe infestations include: winged elm (*Ulmus alata*), American elm (*Ulmus*

*americana*), sycamore (*Platanus occidentalis*), post oak (*Quercus stellata*), white oak (*Quercus alba*), black gum (*Nyssa sylvatica*), and to a lesser extent ash (*Fraxinus* spp.).

County	Site ID	7.5' Quad and STR	Year Discovered
Crawford	Alma, near Frog Bayou	Alma Quad, S8, T9N, R30W	2003
Garland	Hot Springs, Arlington Hotel	Hot Springs North Quad, S33, T2S, R19W	2012
Scott	Nola, near Jones Creek	Little Texas Quad, SE ¼ S34, T3N, R26W	1998
Yell	Plainview	Plainview Quad, NW ¼ S24, T4N, R22W	2005

Table 1. Location data for *Atalides halesus* in western Arkansas

The author has observed the males to be particularly local, often repeatedly perching on a specific twig on a tree or shrub. If disturbed the male would repeatedly return to this site to await passing females. The author has found the best method for determining this species' presence is by searching for pupae at the base of trees infested with mistletoe, however, most pupae collected were heavily parasitized by wasps such as Braconids or Chalcidids.

#### Literature Cited

- NatureServe, 2010. Comprehensive Report: *Atalides halesus* <http://www.natureserve.org/explorer/servlet/>  
 Opler, P.A. and V. Malikul, 1992. *A Field Guide to Eastern Butterflies*. Peterson Field Guide # 4. Houghton-Mifflin Publishers, Boston. 396 pages, 48 color plates.  
 Scott, J.A., 1986. *The Butterflies of North America: Natural History and Field Guide*. Stanford University Press Stanford, CA.

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## WILLIAM JACOB HOLLAND

William Jacob Holland starts his treatise on moths in "*The Moth Book, A Popular Guide to a Knowledge of the Moths of North America*" with a color plate on the larvae of a variety of moths and ends (see "THE END") with the following thoughts:



EXPLANATION OF PLATE I  
(FRONTISPIECE)  
LARVAE OF MOTHS

1. *Hyloicus chersis* Hübner.
2. *Callosamia promethea* Drury.
3. *Cucullia convexipennis* Grote & Robinson.
4. *Citheronia regalis* Fabricius.
5. *Euchaetias egle* Drury.
6. *Sibine stimulea* Clemens.
7. *Catocala innubens* Guenée.
8. *Samia cecropia* Linnaeus.
9. *Prolimacodes scapha* Harris.
10. *Seirarctia echo* Abbot & Smith
11. *Mamestra picta* Harris.
12. *Achatodes zae* Harris.
13. *Datana ministra* Drury.
14. *Phobetron pithecium* Abbot & Smith.
15. *Nerice bidentata* Walker.
16. *Eurycyttarus confederata* Grote & Robinson.
17. *Lycia cognataria* Guenée.
18. *Cerura multiscrypta* Riley.
19. *Tortricidia testacea* Packard.

## THE END

"When the moon shall have faded out from the sky, and the sun shall shine at noonday a dull cherry-red, and the seas shall be frozen over, and the ice-cap shall have crept downward to the equator from either pole, and no keels shall cut the waters, nor wheels turn in mills, when all cities shall have long been dead and crumbled into dust, and all life shall be on the very last verge of extinction on this globe; then, on a bit of lichen, growing on the bald rocks beside the eternal snows of Panama, shall be seated a tiny insect, preening its antennae in the glow of the worn-out sun, representing the sole survival of animal life on this our earth, — a melancholy 'bug.'"

Holland, W.J., 1917. *THE MOTH BOOK, A Popular Guide to a Knowledge of the Moths of North America*. Garden City, New York, Doubleday, Page & Company, 1917, 48 color plates, 479 pgs.

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# THE GENUS *MORRISONIA* GROTE (1874) (LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY  
VERNON ANTOINE BROU JR.



Fig. 1. *Morrisonia triangula* paratypes, Louisiana, St. Tammany Parish, \*Abita study site: dates of capture, males. a-c (3-30-1998, 4-10-1998, 3-25-2002), d. female (3-28-2004).

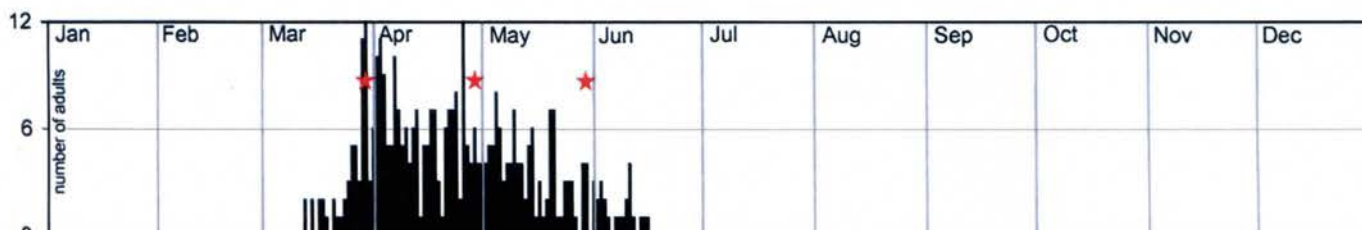


Fig. 2. *M. triangula* captured in Louisiana. n = 376

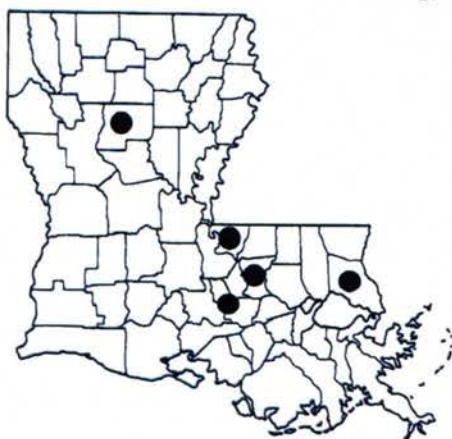


Fig. 3. Parish records for *M. triangula* by this author.

In Louisiana I have taken the recently described noctuid species *Morrisonia triangula* Sullivan & Adams (Fig. 1) for over four decades. This species was previously reported in Louisiana even earlier by Chapin and Callahan (1967) as *Morrisonia n. sp.*

Lafontaine & Schmidt (2010) listed five species of the genus *Morrisonia* in the Tribe Orthosiini Guenée, 1837: *Morrisonia mucens* (Hübner, [1831]) (Fig. 6g-r), *Morrisonia evicta* (Grote, 1873), *Morrisonia confusa* (Hübner, [1831]) (Fig. 6a-f), *Morrisonia triangula* Sullivan & Adams, 2009, and *Morrisonia latex* (Guenée, 1852).

Sullivan and Adams (2009) stated the flight season for *triangula* extends over a span of five months, from March to June, and perhaps early July, yet remarkably further state there is no evidence for more than one brood.



Fig. 4. *M. mucens* captured in Louisiana. n = 684



Fig. 5. *M. confusa* captured in Louisiana. n = 782



In Louisiana, *triangula* clearly has three consecutive broods peaking end of March, end of April and the least populated brood at the end of May, indicated by red markers on Fig. 2, unlike *mucens* which has one brood peaking early to mid-March (Fig. 4) and *confusa* which has one brood peaking end of March (Fig. 5). The species, *Morrisonia mucens* was previously reported for Louisiana by Chapin & Callahan (1967). The parish records for the three currently known Louisiana species are illustrated in Figs. 3, 7 and 8.



Fig. 6. Adult phenotypes: *M. confusa*: a-b. males, c-f. females; *M. mucens*: g-n. males, o-r. females.

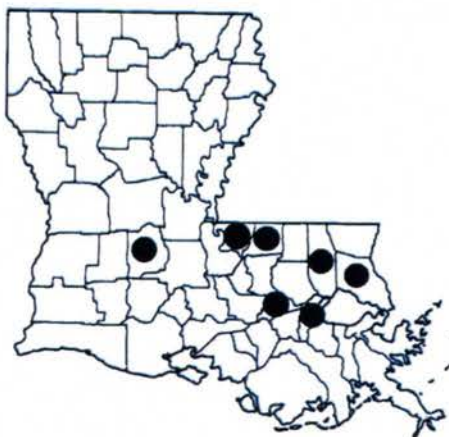


Fig. 7. Parish records for *M. confusa*.

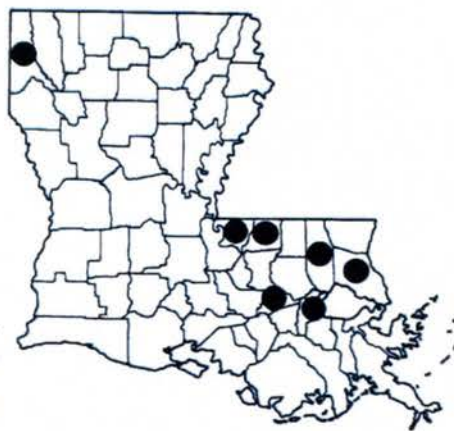


Fig. 8. Parish records for *M. mucens*.

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- Lafontaine, J.D., B.C. Schmidt, 2010. Annotated check list of the Noctuoidea (Insecta, Lepidoptera) of North America north of Mexico. *ZooKeys* 40: 1-239. doi: 10.3897/zookeys.40.414.
- Sullivan, J.B. & J.K. Adams, 2009. A new species of *Morrisonia* (Noctuidae) from southeastern North America. *Jour. Lepid. Soc.* 63: 21-26.

\*Abita entomological study site: sec. 24T6SR12E, 4.2 miles northeast of Abita Springs, St. Tammany Parish, Louisiana.



# THE OCCURRENCE OF *PARRHASIUS M-ALBUM* (LEPIDOPTERA: LYCAENIDAE) IN WESTERN ARKANSAS

BY  
DAVID RUPE



Fig. 1. *Parrhasius m-album*, ♂, Logan Co., AR (2008)

*Parrhasius m-album* (Figs. 1 and 2) is a bright, iridescent blue hairstreak that ranges throughout much of the eastern US, but seems to be most common in the southern portion of that range. *P. m-album* is generally considered uncommon in Arkansas with a state ranking of S2S3 (NatureServe, 2010). The author has observed this butterfly within Arkansas beginning in the summer of 1997. These populations have been observed in Logan, Newton, and Scott counties in western Arkansas (Fig. 3). The following table (Table 1) provides location information of individuals observed between the years 1997 and 2009 (Jones Creek site consists of multiple observations).

The flight period of *P. m-album* in western Arkansas appears to be approximately February-late October. Adults have been observed in the months of February, April, July, September, and October. Based on the flight period, it appears there are three (3) broods in Arkansas. The late summer/fall brood, which apparently occurs from September-October, is the most common brood encountered by the author.

Table 1. Location information for *P. m-album* in Arkansas.

County	Site ID	Quadrangle/Legal Description	Number of Individuals Observed per Location
Scott	Nola, near Jones Creek	Little Texas Quad, T3N, R26W, S34, SE 1/4	>20
Scott	Nola, near Garner Creek	Gravelly Quad, T3N, R26W, S24, NW1/4, SW1/4	1
Newton	Big Creek	Parthenon Quad, T14N, R21W, S12, SE 1/4	1
Logan	Corley	Blue Mountain Quad, T7N, R26W, S25	2



Fig. 2. *Parrhasius m-album*, ♂, Scott Co., AR (2009)

This hairstreak most commonly occurs in forest edges and openings near stands of oak (*Quercus spp.*). Oak is reported as the host plant for this species, however, in Arkansas it is unclear as to which species are utilized. In areas where the author has observed this hairstreak, the following species of oaks were observed: *Quercus alba*, *Q. muehlenburgii*, *Q. shumardii*, *Q. stellata* and *Q. phellos*. In 1999 the author collected a larval *P. m-album* on the ground under a small stand of *Q. shumardii*, and it was assumed the larva was feeding on these trees. This species most likely utilizes several species of oaks in Arkansas as larval host plants.



Fig. 3. Locations where the author has observed *Parrhasius m-album* in Arkansas.

The author has observed this species nectaring on plants such as thoroughwort (*Eupatorium sp.*) and old man's beard (*Verbesina virginica*). While never common, this species is observed annually in the Scott County population. The author speculates that this butterfly resides in tree canopies and only occasionally alights near the ground to take nectar. Therefore, it may not be as rare as often reported.

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- NatureServe, 2010. Comprehensive Report: *Parrhasius m-album*  
[http://www.natureserve.org/explorer/servlet/NatureServe?sourceTemplate=tabular\\_report.wmt&loadTemplate=species\\_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular\\_report.wmt&elKey=114288&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=114288&offPageSelectedElType=species&offPageYesNo=true&post\\_processes=&radiobutton=radiobutton&selectedIndexes=114288](http://www.natureserve.org/explorer/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=114288&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=114288&offPageSelectedElType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=114288)
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## BEAUTIFUL BUTTERFLIES

BY

H.G. ADAMS (1871)



1. Comma Butterfly, 2. Painted Lady,  
3. Scarce Painted Lady



1. Large Tortoise-shell,  
2. Camberwell Beauty

"And now let me read to you a lesson...in the words of a German fabulist; this story is called an Allegory: – a humming-bird met a Butterfly, and being pleased with the beauty of its person and glory of its wings, made an offer of perpetual friendship.

'I cannot think of it,' was the reply, 'as you once spurned me, and called me a drawling dolt.'

'Impossible,' exclaimed the humming-bird, 'I always entertained the highest respect for such beautiful creatures as you.'

'Perhaps you do now,' said the other, 'but when you insulted me, I was a caterpillar. So let me give you this piece of advice: never insult the humble, as they may one day become your superiors.'

No, never insult the humble, nor despise that which is mean-looking merely because it is so. The smallest and lowliest creatures have in them much that is worthy of admiration, aye, even of respect...."

["*Beautiful Butterflies*," Described and Illustrated with the History of a Butterfly Through all its Changes and Transformations; and an Explanation of the Scientific Terms used by Naturalists in Reference Thereto. H.G. Adams. Published by Groombridge and Sons, 5 Paternoster Row, London 1871, pg. 31.]

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## DISTRIBUTIONAL RELATIONS OF FOUR SOUTHWEST BUTTERFLY POPULATIONS

BY  
RO WAUER

The desert mountain areas of the southwestern United States and adjacent Mexico, namely the Maderas del Carmen (Carmens) in Coahuila, Mexico, and the Chisos, Davis and Guadalupe mountains in Texas, possess many similarities as well as numerous differences. Each upland area is surrounded by an arid environment; the four areas possess many of the same plant species and many similar forms of wildlife. Principal differences include their relative size, varied topography and elevations, and a handful of plants and animals not found elsewhere.

The similarities and differences have already been described for the plants and birdlife by Wauer & Ligon (1972). However, there has been no assessment of the butterfly fauna within the four areas. This paper will attempt to address that shortcoming.

### The Four Preserves

The four areas lie within coordinate 28 degrees 45 minutes and 32 degrees 15 minutes by 102 degrees 30 minutes and 104 degrees 55 minutes. Each possesses ecological zones that range from desert scrub in the lowlands to a band of grasslands, to pinyon-jumper-oak woodlands, to coniferous forest, although the conifer forest habitat in the smaller Chisos Mountains are present only in cooler upland canyons. The four areas south to north, are further described as follows:



Fig. 1. Maderas del Carmen highlands (June 1968)



Fig. 2. Chisos Mountains, Big Bend National Park (October 11, 2005)(photo by Betty Wauer)

**The Carmens (Fig. 1)** form an impressive mountain system containing several peaks over 8000 feet (2438 m) elevation; the highest point is 8960 feet (2731 m). The area is of igneous origin and is steeply faulted and forms magnificent cliffs and deep canyons on the western slope but is more gradual with gentle but dissected canyons on the eastern slope. The Carmens are not part of Mexico's Sierra Madre Oriental that lie about 200 miles (320 km) to the southeast, but are uniquely situated between the Chihuahuan Desert to the west and the Tamaulipan Province to the east. Approximately 115 square miles (299 sq. km) lie above 5500 feet (1676 m) elevation.

**The Chisos Mountains (Fig. 2)**, which form the core of Big Bend National Park, lie about 40 miles (64 km) northwest of the Carmens and are considered the southernmost mountains within the United States. The Chisos are an igneous mass of intrusive and extrusive rocks that rise out of the desert lowlands to 7835 feet (2388 m) elevation at the summit of Emory Peak. The Chisos peaks, canyons, foothills, and alluvial fans are less extreme than those of the Carmens. The area is bordered on the south by the Rio Grande and on the north by arid lowlands.

**The Davis Mountains (Fig. 3)** are situated 100 miles (160 km) north of the Chisos. They are of igneous origin, and form rolling hills and open, grassy valleys at mid-elevations and rocky canyons and jagged peaks in the highlands. The highest point is Mount Livermore at 8352 feet (2546 m), and Pine Peak and Mount Locke are over 6800 feet (2073 m) in elevation. Approximately 70 square miles (182 sq. km) lie above 5500 feet.



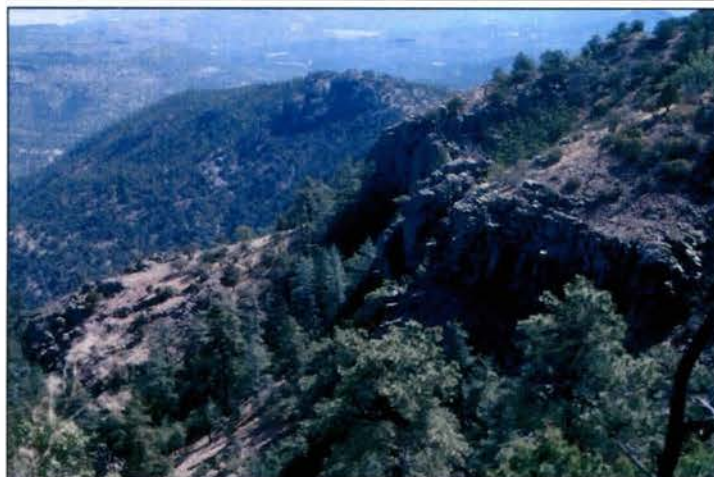


Fig. 3. Davis Mountains, view from Mount Livermore (8352') (June 2000)

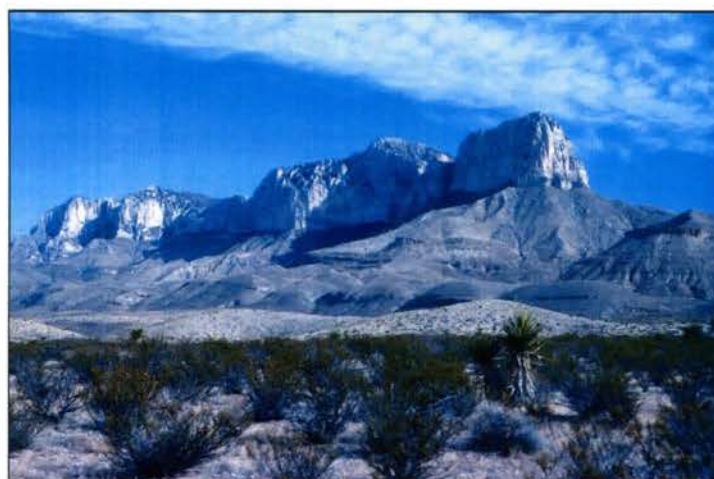


Fig. 4. Guadalupe Peak (8749'), Guadalupe Mountains National Park (June 31, 2006)

*leiophyllum*), beargrass (*Nolina* sps.), desert olive (*Forestiera angustifolia*), Apache plume (*Fallugia paradoxa*), resin-bush (*Viguiera stenoloba*), evergreen sumac (*Rhus virens*), catclaw (*Acacia greggii*), and cat's-claw mimosa (*Mimosa biuncifera*).

Common vegetation of the pinyon-juniper-oak woodlands include pinyon (*Pinus* sps.), alligator and one-seeded junipers (*Juniperus deppeana* & *J. monosperma*), gray oak (*Quercus grisea*), netleaf hackberry (*Celtis reticulata*), mountain mahogany (*Cerocarpus montanus*), and Texas madrone (*Arbutus xalapensis*). Only a few species are common within the forest-type zone; examples are Arizona/ponderosa pine (*Pinus* sp.) and bigtooth maple (*Acer grandidentatum*).

There are a handful of trees and shrubs that are unique to only one or two of the four areas. Examples include Coahuila fir (*Abies durangensis*) only in the Carmens, but Arizona cypress (*Cupressus arizonica*), drooping juniper (*Juniperus flaccida*), Havard's agave (*Agave havardiana*), dwarf oak (*Quercus intricate*), and Gregg's ash (*Fraxinus greggii*) occur in both the Carmens and Chisos Mountains. In addition, Mexican manzanita (*Arctostaphylos pungens*) is fairly common in the Carmens and sparse in the Chisos. Although there are no unique Chisos trees and shrubs and none that occur only within the Chisos and Davis Mountains, the Davis and Guadalupe Mountains share Parry's agave (*Agave parryi*). Two pertinent species are found only in the Guadalupe: pinyon (*Pinus edulis*) and New Mexico agave (*Agave neomexicana*).

Also of interest, Southwestern white pine (*Pinus strobiformis*) is common in the Carmens and Guadalupe but does not occur in the Chisos and Davis Mountains. This may be related to the higher elevations and greater mountain masses of the two ranges. This might also explain the relative density of chinkapin oak (*Quercus muehlenbergii*), which is common in the Carmens and Guadalupe but sparse in the Chisos and Davis Mountains. And Douglas fir (*Pseudotsuga menziesii*) occurs in the Carmens, Chisos and Guadalupe but is strangely absent in the Davis.

**The Guadalupe Mountains (Fig. 4)**, 100 miles (160 km) northwest of the Davis Mountains, are the northernmost area under consideration. The Guadalupe are formed by a long north-south range of Permian limestone (King 1948) in southeastern New Mexico and adjacent Texas. The northern Guadalupe are lower in elevation and drier than the southern half of the range which forms a magnificent escarpment at its southern end. From north to south, the range ascends gradually to 8749 feet (2667 m) at the summit of Guadalupe Peak. The eastern slope is heavily dissected by many canyons, while the western escarpment is very steep with open alluvial fans. Approximately 65 square miles (168 sq. km) lie above 5500 feet (1676 m) elevation.

### The Vegetation

All four areas possess the same basic vegetative zones: desert scrub, generally below 3500 feet (1066 m) elevation; grasslands, starting at 3500 feet and blending into the pinyon-juniper-oak woodlands that occur between 4500 (1372 m) and 8000 feet (2438 m); and forest-type vegetation occurs only on the highest peaks, in cool canyons and highland depressions, and on upper north slopes.

Many desert scrub plants are common to all four areas. Dominant species include lechuguilla (*Agave lechuguilla*), creosote bush (*Larrea tridentata*), tarbush (*Flourensia cernua*), four-winged saltbush (*Atriplex canescens*), ocotillo (*Fouquieria splendens*), and Torrey yucca (*Yucca torreyi*). Grassland vegetation common to all four areas includes sotol (*Dasyllirion*





Photographing Joboni Satyr (*Neominois carmen*) in the Carmens (left to right are Jim Brock, Bob Behrstock, Bonnie McKinney, Eric Finkelstein, Sally Finkelstein, Ro Wauer, and Jonas Villalobos.) (photo by Betty Wauer)

General information on the vegetation of the four areas was derived from Wauer & Ligon (1972). More detailed data on the Carmens were derived from McKinney *et al.* (2003) and Muldavin *et al.* (1999). McDougall and Sperry (1951) discussed the plants and vegetative zones in the Chisos, and Wauer (1971) and Plump (1992) provided additional analysis of the area habitats. Hinckley (1944) described the vegetation of the Mount Livermore area and summarized earlier botanical studies. And Guadalupe Mountains vegetation has been studied by numerous authors: Vernon Bailey (1905) was first to analyze the Guadalupe vegetation zones, Burleigh and Lowery (1940) summarized earlier work and discussed faunal areas, Gehlbach (1967) discussed the general vegetation, and Burgess and Northington (1977) addressed the desert vegetation.

### **The Butterfly Fauna**

The butterfly fauna of the four areas occur primarily within vegetative zones where their larval foodplants are present; exceptions include strays away from their essential habitats or as either migrants or emigrants or as accidentals due to unusual weather conditions. Table 1 includes 229 species of which 36 are considered strays only, leaving 193 species that are considered breeders in at least one of the four areas. These include 149 species in the Carmens, 150 in the Chisos, 139 in the Davis, and 130 in the Guadalupe. Strays include three in the Carmens, 34 in the Chisos, 35 in the Davis, and 19 in the Guadalupe. These numbers undoubtedly are at least partly related to the amount of study undertaken within the four areas rather than the area richness alone.

Thirty-three of the 193 breeding species are unique, occurring in only one of the four areas. The Carmens host 20 species, far more than the other three areas. These include Zilpa Longtail; Two-barred Flasher; Gold-costa Skipper; Pacuvius Duskywing; Many-spotted Skipperling; Coahuila Giant-Skipper; Mexican Tiger Swallowtail; Barred Yellow; Tailed Orange; Mexican Dartwhite, although a small population of this species persisted in the Chisos from 1972 through 1982; Mountain Greenstreak; Mallow Scrub-Hairstreak; Clytie Ministreak; Zela Metalmark; Soldier; Weidemeyer's Admiral; Mexican Fritillary; Black Checkerspot; JoBoni Satyr; and Common Wood-Nymph. Seven unique species are known in the Chisos: Scudder's Duskywing, Ocola Skipper, Red-lined and Bromeliad Scrub-Hairstreaks, Rita Blue, and Hepburn's and Chisos Metalmarks. Only one species - Mexican Cloudywing - is known for the Davis Mountains, and the Guadalupe possess six species: Desert and Sara Orangetips, Spring White, Melissa Blue, Satyr Comma, and Dotted Checkerspot.

The number of unique species that occur in the Carmens is even more impressive when considering 15 additional species that are shared with only one other area. These include Chisos Banded-Skipper, Juvenal's Duskywing, Chisos Skipperling, Ornythion Swallowtail, Boisduval's and Mimosa Yellows, Orange-barred Sulphur, Orange-crescent Groundstreak, Gray Ministreak, Arizona Hairstreak, Mexican Silverspot, Zebra Heliconian, and Crimson Patch with the Chisos; Russett and Four-spotted Skipperlings with the Davis Mountains; and Mylitta Crescent with the Guadalupe.

### **Analysis**

Why are there so many unique species in the Carmens, an area situated only 40 miles (64 km) south of the Chisos and only 140 miles (224 km) south of the Davis? The answer undoubtedly relates to latitude, altitude, and greater size, resulting in greater habitat diversity. Three of Carmen's unique butterflies are of Mexican affinity and are at the northern edge of their range: Mexican Tiger Swallowtail, Mexican Dartwhite, and Mountain Greenstreak. A fourth species, JoBoni Satyr, was only discovered in 2006 (Warren *et al.*, 2008) and appears to be endemic.

Altitude and greater size are also significant, resulting in larval foodplants not found in smaller areas with lower elevations. Example species found only in the highest more diverse areas include Short-tailed Skipper, Russett and



Four-spotted Skipperlings, and Colorado and Thicket Hairstreaks. Short-tailed Skipper, also known from the Guadalupe, utilizes oaks. Russet and Four-spotted Skipperlings, also known from the Davis Mountains, utilize grasses. Colorado Hairstreak, also known from the Guadalupe, utilizes Gamble oaks. And Thicket Hairstreak, also known from the Davis and Guadalupe Mountains, utilizes dwarf mistletoe that occurs in conifers.

Four of Carmen's unique species are of western affinity, found in New Mexico and/or Arizona, but are unknown in Texas. This group includes Gold-costa Skipper, *Pacuvius Duskywing*, Wiedemeyer's Admiral, and Black Checkerspot. However, their essential foodplants – buckbrushes; willows, chokecherry and serviceberry; and paintbrushes, consecutively - do occur in Texas, so it is surprising that none of these butterflies have so far been recorded in the three Texas areas. Three of the unique Carmens species are of eastern affinity, although their presence there may be equally representative of southern affinity: Tailed Orange, Mallow Scrub-Hairstreak, Clytie Ministreak. And at least one species – Common Wood-Nymph – is of northern affinity.

Exceptions to all of these may be corrected if eventual study proves them to be a new species; possibilities exist for Russet and Many-spotted Skipperlings, Gold-costa Skipper, *Pacuvius Duskywing*, Colorado Hairstreak, Wiedemeyer's Admiral, and Common Wood-Nymph.

Species diversity of the breeding butterfly fauna does not necessarily comply with all of the ecological factors, but probably is also related to the amount of study undertaken in the Chisos in comparison with that in the Davis, Carmens and Guadalupe. The Carmens, with a total of 149 breeding species, contain several peaks over 8000 feet (2438 m) and have extensive areas of coniferous forest. The Guadalupe, however, also harbor a large area of coniferous forest, but have the fewest species (130). Yet the Chisos, with the smallest size and lowest elevation, possesses the highest number of breeders (150). And the Davis area, considerably larger than the Chisos, has the third highest butterfly species (139).

The southern three areas exhibit isolationism due to the lack of nearby recruitment areas. Conversely, the Guadalupe are an obvious southern extension of similar habitats to the north. The number of unique and/or endemic species, especially in the Carmens and to a lesser extent in the Chisos and Davis, support that contention.

### Species of Special Interest

The following species need some additional comment. Each represents either an unexpected occurrence or one that merits additional taxonomic assessment that may even result in a brand new species.



Fig. 5. Short-tailed Skipper (*Zestusa dorus*)

**Short-tailed Skipper (*Zestusa dorus*) (Fig. 5.)** Finding this montane species in the Carmens represents the first for northcentral Mexico. It previously was known for oak woodlands only from the highlands of southwestern Colorado to Arizona, New Mexico, the Davis and Guadalupe Mountains of west Texas, and Mexico's Sierra Madre Occidental. Known larval foodplants are limited to Emory and Arizona oaks (*Quercus emoryi* & *Q. arizonica*).

**Two-barred Flasher (*Astraptes fulgerator*)** Considered fairly common in the Carmens from July to November where its larval foodplant – coyotillo (*Karwinskia*) - is fairly common (B. McKinney). The species has not previously been reported for north-central Mexico. It does occur in Mexico to the west and east where its range barely extends north to southern Arizona and it occurs regularly in the Lower Rio Grande Valley to the east.



Fig. 6. Chisos Banded-Skipper (*Autochton cincta*)

**Chisos Banded-Skipper (*Autochton cincta*) (Fig. 6.)** Although it occurs only sporadically in the Chisos, it is fairly common in the Carmens, apparently the recruitment area for the Chisos. Its range, within pine-oak woodlands, extends south throughout Mexico to El Salvador.

***Pacuvius Duskywing* (*Erynnis pacuvius*).** Finding this western skipper in the Carmens represents the eastern-most record and the first for northcentral Mexico. It was previously known only for California, most of Arizona and New Mexico, and southward through Mexico's Sierra Madre Occidental to Central America.





Fig. 7. Chisos Skipperling  
(*Piruna haferniki*)



Fig. 8. Four-spotted Skipperling  
(*Piruna polingii*)



Fig. 9. Many-spotted Skipperling  
(*Piruna aea*)

**Chisos Skipperling (*Piruna haferniki*) (Fig. 7).** Like Chisos Banded-Skipper, this species is found only sporadically in the Chisos, but it is fairly common in the pine-oak woodlands in the Carmens. It occurs nowhere else in the U.S., but its Mexico ranges extends south to Hidalgo.

**Four-spotted Skipperling (*Piruna polingii*) (Fig. 8).** While this species is fairly common in the Carmen highlands, it has not been recorded in the Chisos, but it has been found in the Davis. It also occurs in central Arizona and southeastward into southern New Mexico. Its Mexico distribution includes grassy areas in the transition zone of both the Sierra Madre Occidental and Oriental.

**Many-spotted Skipperling (*Piruna aea*) (Fig. 9).** This skipperling was previously known only from southeast Arizona and adjacent Mexico. Finding it in the Carmens represents the eastern-most record, and the distance from the earlier known sites suggests a possible new form.



Fig. 10. Morrison's Skipper  
(*Stinga morrisoni*)



Fig. 11. Mexican Tiger Swallowtail  
(*Papilio alexiaries garcia*)



Fig. 12. Mexican Dartwhite  
(*Catasticta n. nimbece*)

**Morrison's Skipper (*Stinga morrisoni*) (Fig. 10).** It occurs only in spring in the Davis and Guadalupe Mountains within the upper Sonoran zone where it utilizes grasses. Since its broader range extends from Colorado south to Central Mexico, it should also occur in the Carmens.

**Mexican Tiger Swallowtail (*Papilio alexiaries garcia*) (Fig. 11).** This report represents the first for the Mexican state of Coahuila. It is a Mexican species that barely reaches Texas in the Chisos Mountains (Grishin and Warren, 2004a) where it may breed. Its Mexican range extends beyond Coahuila to San Luis Potosi, Tamaulipas, Nuevo Leon, and Durango.

**Barred Yellow (*Eurema dairia*).** This little tropical species is "common every year Aug-Nov" in the Carmens (McKinney *et al.*, 2003). Its presence in the Carmens represents the first for north-central Mexico.

**Mexican Dartwhite (*Catasticta n. nimbece*) (Fig. 12).** Its presence in the Carmens represents the northern edge of its range that extends southward to Costa Rica. There was, however, a small breeding population in the Chisos from 1972 to 1982, although none have been reported since.

**Colorado Hairstreak (*Hypaurotis c. crysalus*).** Finding this species in the Carmens was unexpected, because its range extends throughout the Intermountain West and southward to the Guadalupe in West Texas and southeastern



Arizona and south into Mexico's Sierra Madre Occidental. Its presence in the Carmens, within the conifer forest, combined with its absence in the Davis and Chisos, suggests isolationism that might lead to a new form.



Fig. 13. Mountain Greenstreak (*Cyanophrys longula*)



Fig. 14. Thicket Hairstreak (*Callophrys spinetorum millerorum*)



Fig. 15. Orange-crescent Groundstreak (*Ziegleria guzanta*)

**Mountain Greenstreak (*Cyanophrys longula*)(Fig. 13).** Another unexpected find in the Carmens; the nearest known population is in Nuevo Leon. There also is a lone U.S. record in southern Arizona.

**Thicket Hairstreak (*Callophrys spinetorum millerorum*)(Fig. 14).** There were no previous records in the Carmens or in the eastern half of Mexico. It is a western highland species of the U.S. and Mexico, utilizing montane mistletoe species.

**Orange-crescent Groundstreak (*Ziegleria guzanta*)(Fig. 15).** The first U.S. record of this species was one collected by Chris Durden at Langtry, Val Verde County, on 27 October 1991. I photographed this species in the Chisos on 9 September 1999, representing the second U.S. record. A third individual was collected in the Chisos on 29 May 2004 (Grishin & Warren 2004b). It is reasonably common in the Carmens where it undoubtedly serves as a recruitment base for the Chisos. It also has been recorded in Hidalgo County, Texas, and its range extends south through most of Mexico's Sierra Madre Oriental.



Fig. 16. Arizona Hairstreak (*Eurora quaderna*)



Fig. 17. Chisos Metalmark (*Apodemia chisosensis*)



Fig. 18. Widemeyers's Admiral (*Limenitis wiedemeyerii siennafascia*)

**Arizona Hairstreak (*Erora quaderna*)(Fig. 16).** This species can be found only in oak woodlands of the Carmens and the Chisos where there are no recent sightings. The Carmens records represent the first for north-central Mexico. It is better known for the mountainous areas of southern Arizona and New Mexico and south into the Sierra Madre Occidental of western Mexico.

**Hepburn's Metalmark (*Apodemia h. hepburni*).** Found only in the Chisos lowlands and in extreme southeast Arizona and adjacent Mexico, little is known about its life history.

**Chisos Metalmark (*Apodemia chisosensis*)(Fig. 17).** Earlier considered a subspecies of Nais Metalmark (*A. nais*), it is known only from the greater Chisos area in Brewster and Terrell Counties.

**Wiedemeyer's Admiral (*Limenitis wiedemeyerii siennafascia*)(Fig. 18).** It is present in the Carmens but nowhere else in Mexico. In the U.S. its range lies in the southern Rocky Mountains and there are two Texas records, near El



Paso and south of the Davis Mountains. The juxtaposition of the Carmens population requires additional study.



Fig. 19. JoBoni Satyr  
(*Neominois carmen*)

**Mexican Silverspot (*Dione moneta poeyii*).** This tropical longwing occurs in the Carmens and Chisos only, perhaps representing a temporary colonist. It also is found in the Lower Rio Grande Valley, and it occurs in Mexico southward to Central America.

**Cyneas (Black) Checkerspot (*Chloysne cyneas*).** Its presence in the Carmens represents the northern-most record in eastern Mexico, although it occurs in extreme southeastern Arizona and southward to Central America. There are no Texas records.

**JoBoni Satyr (*Neominois carmen*)(Fig. 19).** First discovered in the Carmens in 2004 by Bonnie McKinney and Jonas Villalobos, additional sightings and specimens were taken the following year by Jim Brock. Further study of the specimens by Andy Warren and colleagues led to a description as a totally new full species (Warren *et al.*, 2008). It appears to be endemic to the Carmens.

Table 1. Comprehensive List of Butterfly Species\*

The order of listing and scientific names are derived from Jonathan P. Pelham's "A Catalogue of the Butterflies of the United States and Canada" (2008).

Symbols: X=breeds; s=stray

	<u>Carmen</u> (152)	<u>Chisos</u> (184)	<u>Davis</u> (174)	<u>Guad.</u> (149)
<b>Family HesperIIDae</b>				
<b>Subfamily Eudaminae</b>				
Silver-spotted Skipper ( <i>Epargyreus clarus</i> )		s	s	s
Hammock's Skipper ( <i>Polygonus leo</i> )		s	s	s
White-striped Longtail ( <i>Chionides albofasciatus</i> )		s	s	
Zilpa Longtail ( <i>Chionides zilpa</i> )	X	s	s	
Short-tailed Skipper ( <i>Zestusa dorus</i> )	X		X	X
Arizona Skipper ( <i>Codatractus arizonensis</i> )	X	X	X	
Long-tailed Skipper ( <i>Urbanus proteus</i> )			s	
Dorantes Longtail ( <i>Urbanus dorantes</i> )		s		
Two-barred Flasher ( <i>Astrartes fulgurator</i> )	X		s	
Golden Banded-Skipper ( <i>Autochton cellus</i> )	X	X	X	X
Chisos Banded-Skipper ( <i>Autochton cincta</i> )	X	X		
Desert Cloudywing ( <i>Achalarus casica</i> )	X	X	X	
Coyote Cloudywing ( <i>Achalarus toxeus</i> )		s		
Drusius Cloudywing ( <i>Thorybes drusius</i> )	X	X	X	X
Northern Cloudywing ( <i>Thorybes pylades</i> )	X	X	X	X
Mexican Cloudywing ( <i>Thorybes mexicana</i> )			X	
Potrillo Skipper ( <i>Cabares potrillo</i> )		s		
Acacia Skipper ( <i>Cogia hippalus</i> )	X	X	X	
Gold-costa Skipper ( <i>Cogia caicus</i> )	X			
Dull Firetip ( <i>Apyrrothrix araxes</i> )		s	s	
Golden-headed Scallopwing ( <i>Staphylus ceos</i> )	X	X	X	X
Common Sootywing ( <i>Pholisora catullus</i> )	X	X	X	X
Mexican Sootywing ( <i>Pholisora mejicanus</i> )	X	X	X	X
Saltbush Sootywing ( <i>Hesperopsis alpheus</i> )		X		X
Hermit Skipper ( <i>Grais stigmatica</i> )		s	s	
White-patched Skipper ( <i>Chiomara georgina</i> )		s		
Sleepy Duskywing ( <i>Erynnis brizo</i> )		X	X	X
Juvenal's Duskywing ( <i>Erynnis juvenalis</i> )	X	X	s	
Rocky Mountain Duskywing ( <i>Erynnis telemachus</i> )		X	X	X
Meridian Duskywing ( <i>Erynnis meridianus</i> )	X	X	X	X
Scudder's Duskywing ( <i>Erynnis scudderi</i> )		X	s	
Mournful Duskywing ( <i>Erynnis tristis</i> )	X	X	X	X
Pacuvius Duskywing ( <i>Erynnis pacuvius</i> )	X			



Funereal Duskywing ( <i>Erynnis funeralis</i> )	X	X	X	X
Sickle-winged Skipper ( <i>Eantis tamenund</i> )		s	s	
Texas Powdered-Skipper ( <i>Systasea pulverulenta</i> )	X	X	X	X
Arizona Powdered-Skipper ( <i>Systasea zampa</i> )	X	X	X	X
Common Streaky-Skipper ( <i>Celotes nessus</i> )	X	X	X	X
Scarce Streaky-Skipper ( <i>Celotes limpia</i> )	X	X	X	X
Small Checkered-Skipper ( <i>Pyrgus scriptura</i> )	X	X	X	X
Common Checkered-Skipper ( <i>Pyrgus communis</i> )	X	X	X	X
White Checkered-Skipper ( <i>Pyrgus albescens</i> )	X	X	X	s
Desert Checkered-Skipper ( <i>Pyrgus philetas</i> )	X	X	X	X
Erichson's White-Skipper ( <i>Heliopyrus domicella</i> )	X	X	X	s
Laviana White-Skipper ( <i>Heliopetes laviana</i> )	s			

**Subfamily Heteropterinae**

Russet Skipperling ( <i>Piruna pirus</i> )	X		X	
Chisos Skipperling ( <i>Piruna haferniki</i> )	X	X		
Four-spotted Skipperling ( <i>Piruna polingii</i> )	X		X	
Many-spotted Skipperling ( <i>Piruna aea</i> )	X			

**Subfamily Hesperinae**

Orange Giant-Skipper ( <i>Agathymus neumoegeni</i> )	X	X	X	X
Mary's Giant-Skipper ( <i>Agathymus mariae</i> )		X	X	X
Coahuila Giant-Skipper ( <i>Agathymus estelleae</i> )	X			
Yucca Giant-Skipper ( <i>Megathymus yuccae</i> )			X	X
Ursine Giant-Skipper ( <i>Megathymus ursus</i> )	X	X	X	X

**Subfamily Hesperinae**

Tropical Least Skipper ( <i>Ancyloxypha arene</i> )	X	X	X	
Edward's Skipperling ( <i>Oarisma edwardsii</i> )	X	X	X	X
Orange Skipperling ( <i>Copaeodes aurantiaca</i> )	X	X	X	X
Southern Skipperling ( <i>Copaeodes minima</i> )		X	X	
Sunrise Skipper ( <i>Adopaeoides prittwitzi</i> )		X	X	X
Brazilian Skipper ( <i>Calpodus ethlius</i> )			s	s
Ocola Skipper ( <i>Panoquina ocola</i> )		X	s	
Cassus Roadside-Skipper ( <i>Amblyscirtes cassus</i> )		X	X	
Bronze Roadside-Skipper ( <i>Amblyscirtes aenus</i> )	X	X	X	X
Oslar's Roadside-Skipper ( <i>Amblyscirtes osleri</i> )	X	X	X	X
Texas Roadside-Skipper ( <i>Amblyscirtes texanae</i> )	X	X	X	X
Slaty Roadside-Skipper ( <i>Amblyscirtes nereus</i> )	X	X	X	X
Nysa Roadside-Skipper ( <i>Amblyscirtes nysa</i> )	X	X	X	X
Dotted Roadside-Skipper ( <i>Amblyscirtes eos</i> )	X	X	X	X
Celia's Roadside-Skipper ( <i>Amblyscirtes celia</i> )	X	X	X	
Orange-headed Roadside-Skipper ( <i>Amblyscirtes phylace</i> )	X	X	X	X
Julia's Skipper ( <i>Nastra julia</i> )		X	X	s
Eufala Skipper ( <i>Lerodea eufala</i> )	X	X	X	X
Clouded Skipper ( <i>Lerema accius</i> )	X	X	X	X
Fiery Skipper ( <i>Hylephila phyleus</i> )	X	X	X	X
Uncas Skipper ( <i>Hesperia uncas</i> )			X	X
Apache Skipper ( <i>Hesperia woodgatei</i> )			X	X
Pahaska Skipper ( <i>Hesperia pahaska</i> )		X	X	X
Green Skipper ( <i>Hesperia viridis</i> )			X	X
Carus Skipper ( <i>Polites carus</i> )			X	X
Whirlabout ( <i>Polites vibex</i> )				s
Sachem ( <i>Atalopedes campestris</i> )	X	X	X	X
Taxiles Skipper ( <i>Poanes taxiles</i> )	X	X	X	
Umber Skipper ( <i>Poanes melane</i> )	X	X		X
Morrison's Skipper ( <i>Stinga morrisoni</i> )			X	X
Delaware Skipper ( <i>Anatrytone logan</i> )		X	X	X
Simius Roadside-Skipper ( <i>Notamblyscirtes simius</i> )		X	X	X
Dun Skipper ( <i>Euphyes vestries</i> )	X	X	X	X
Viereck's Skipper ( <i>Atrytonopsis vierecki</i> )	X	X	X	X
White-barred Skipper ( <i>Atrytonopsis pittacus</i> )		X	X	
Python Skipper ( <i>Atrytonopsis python</i> )		X	X	X
Sheep Skipper ( <i>Atrytonopsis edwardsi</i> )		X	X	X



**Family Papilionidae****Subfamily Papilioninae**

Pipevine Swallowtail ( <i>Battus philenor</i> )	X	X	X	X
Black Swallowtail ( <i>Papilio polyxenes</i> )	X	X	X	X
Thoas Swallowtail ( <i>Papilio thoas</i> )			s	
Giant Swallowtail ( <i>Papilio cresphontes</i> )	X	X	X	X
Broad-banded Swallowtail ( <i>Papilio astyalus</i> )		s		
Ornythion Swallowtail ( <i>Papilio ornythion</i> )	X	X	s	s
Eastern Tiger Swallowtail ( <i>Papilio glaucus</i> )		s	s	s
Mexican Tiger Swallowtail ( <i>Papilio alexiares garcia</i> )	X	s		
Western Tiger Swallowtail ( <i>Papilio rutulus</i> )				s
Two-tailed Swallowtail ( <i>Papilio multicaudata</i> )	X	X	X	X

**Family Pieridae****Subfamily Coliadinae**

Lyside Sulphur ( <i>Kricogonia lyside</i> )	X	X	X	X
Dainty Sulphur ( <i>Nathalis iole</i> )	X	X	X	X
Barred Yellow ( <i>Eurema dairia</i> )	X			
Boisduval's Yellow ( <i>Eurema boisduvaliana</i> )	X	X		s
Mexican Yellow ( <i>Eurema mexicana</i> )	X	X	X	X
Tailed Orange ( <i>Pyrisitia proterpia</i> )	X	s	s	
Little Yellow ( <i>Pyrisitia lisa</i> )		X	X	X
Mimosa Yellow ( <i>Pyrisitia nise</i> )	X	X		
Sleepy Orange ( <i>Abaeis nicippe</i> )	X	X	X	X
Clouded Sulphur ( <i>Colias philodice</i> )		s	X	X
Orange Sulphur ( <i>Colias eurytheme</i> )	X	X	X	X
Southern Dogface ( <i>Zerene cesonia</i> )	X	X	X	X
White Angled-Sulphur ( <i>Anteos clorinde</i> )	s	s	s	s
Yellow Angled-Sulphur ( <i>Anteos maerula</i> )	s		s	
Cloudless Sulphur ( <i>Phoebis sennae</i> )	X	X	X	X
Large Orange Sulphur ( <i>Phoebis agarithe</i> )	X	X	X	X
Orange-barred Sulphur ( <i>Phoebis philea</i> )	X	X		

**Subfamily Pierinae**

Desert Orangetip ( <i>Anthocharis cethura</i> )				X
Sara Orangetip ( <i>Anthocharis sara</i> )				X
Florida White ( <i>Glutophrissa drusilla</i> )			s	
Mexican Dartwhite ( <i>Catasticta nimbice</i> )	X			
Cabbage White ( <i>Pieris rapae</i> )	X	s	X	X
Checkered White ( <i>Pontia protodice</i> )	X	X	X	X
Spring White ( <i>Pontia sisymbrii</i> )			s	X
Great Southern White ( <i>Ascia monuste</i> )		s		

**Family Lycaenidae****Subfamily Theclinae**

Colorado Hairstreak ( <i>Hypaurotis crysalus</i> )	X			X
Great Purple Hairstreak ( <i>Atlides halesus</i> )	X	X	X	X
Coral Hairstreak ( <i>Satyrium titus</i> )			s	
Striped Hairstreak ( <i>Satyrium liparops</i> )			s	
Oak Hairstreak ( <i>Satyrium favonius</i> )				s
Poling's Hairstreak ( <i>Satyrium polingi</i> )	X	X	X	X
Soapberry Hairstreak ( <i>Phaeostrymon alcestis</i> )		X	X	X
Mountain Greenstreak ( <i>Cyanophrys longula</i> )	X			
Juniper Hairstreak ( <i>Callophrys gryneus</i> )	X	X	X	X
Xami Hairstreak ( <i>Callophrys xami</i> )	X	X	X	
Sandia Hairstreak ( <i>Callophrys mcfarlandi</i> )	X	X	X	X
Thicket Hairstreak ( <i>Callophrys spinetorum</i> )	X		X	X
Henry's Elfin ( <i>Callophrys henrici</i> )		X	X	X
Orange-crescent Groundstreak ( <i>Ziegleria guzanta</i> )	X	X		
Dusky-blue Groundstreak ( <i>Calycopis isobea</i> )	X	X	X	s
Gray Hairstreak ( <i>Strymon melinus</i> )	X	X	X	X
Red-lined Scrub-Hairstreak ( <i>Strymon bebrycia</i> )		X		
Mallow Scrub-Hairstreak ( <i>Strymon istapa</i> )	X	s	s	
Bromeliad Scrub-Hairstreak ( <i>Strymon serapio</i> )		X		



Leda Ministreak ( <i>Ministrymon leda</i> )	X	X	X	X
Clytie Ministreak ( <i>Ministrymon clytie</i> )	X			
Gray Ministreak ( <i>Ministrymon azia</i> )		X	X	s
Arizona Hairstreak ( <i>Erora quaderna</i> )	X	X	s	

**Subfamily Polyommatainae**

Cassius Blue ( <i>Leptotes cassius</i> )		X		X
Marine Blue ( <i>Leptotes marina</i> )	X	X	X	X
Western Pygmy-Blue ( <i>Brephidium exilis</i> )	X	X	X	X
Cyna Blue ( <i>Zizula cyna</i> )	X	X	X	s
Eastern Tailed-Blue ( <i>Cupido comyntas</i> )	X	s	X	
Western Tailed-Blue ( <i>Cupido amyntula</i> )				s
Southwestern Azure ( <i>Celestrina echo</i> )	X	X	X	X
Spring Azure ( <i>Celestrina argiolus</i> )			X	X
Ceraunus Blue ( <i>Hemiargus ceraunus</i> )	X	X	X	X
Rita Blue ( <i>Euphilotes rita</i> )			X	s
Reakirt's Blue ( <i>Echinargus isola</i> )	X	X	X	X
Melissa Blue ( <i>Plebejus melissa</i> )			s	X
Acmon Blue ( <i>Plebejus acmon</i> )	X	X	X	X
Lupine Blue ( <i>Plebejus lupine</i> )				s

**Family Riodinidae****Subfamily Riodininae**

Fatal Metalmark ( <i>Calephelis nemesis</i> )	X	X	X	X
Rounded Metalmark ( <i>Calephelis perditalis</i> )		s		
Rawson's Metalmark ( <i>Calephelis rawsoni</i> )	X	X	X	
Freeman's Metalmark ( <i>Calephelis freemani</i> )			X	X
Zela Metalmark ( <i>Emesis zela</i> )	X	s		
Dury's Metalmark ( <i>Apodemia duryi</i> )		X	X	X
Palmer's Metalmark ( <i>Apodemia palmeri</i> )	X	X	X	X
Hepburn's Metalmark ( <i>Apodemia hepburni</i> )		X		
Chisos Metalmark ( <i>Apodemia chisosensis</i> )		X		

**Family Nymphalidae****Subfamily Libytheinae**

American Snout ( <i>Libytheana carinenta</i> )	X	X	X	X
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**Subfamily Danainae**

Monarch ( <i>Danaus plexippus</i> )	X	X	X	X
Queen ( <i>Danaus gilippus</i> )	X	X	X	X
Soldier ( <i>Danaus eresimus</i> )		X	s	
Tiger Mimic-Queen ( <i>Lycorea halia</i> )			s	

**Subfamily Limenitidinae**

Red-spotted Purple ( <i>Limenitis arthemis</i> )	X	X	X	X
Wiedemeyer's Admiral ( <i>Limenitis wiedemeyeri</i> )	X			
Viceroy ( <i>Limenitis archippus</i> )	X	X	X	X
Arizona Sister ( <i>Adelpha eulalia</i> )	X	X	X	X
Mexican Silverspot ( <i>Dione moneta</i> )	X	X		s
Gulf Fritillary ( <i>Agraulis vanillae</i> )	X	X	X	X
Isabella's Heliconian ( <i>Eueides isabella</i> )		s		
Zebra Heliconian ( <i>Heliconius charithonia</i> )	X	X	s	s
Variegated Fritillary ( <i>Euptoieta claudia</i> )	X	X	X	X
Mexican Fritillary ( <i>Euptoieta hegesia</i> )	X	s		

**Subfamily Apaturinae**

Hackberry Emperor ( <i>Asterocampa celtis</i> )		X	X	X
Empress Leilia ( <i>Asterocampa leilia</i> )	X	X	X	X
Tawny Emperor ( <i>Asterocampa clyton</i> )	X	X	X	

**Subfamily Biblidinae**

Red Rim ( <i>Biblis hyperia</i> )		s	s	
Common Mestra ( <i>Mestra amymone</i> )	X	X	X	
Dingy Purplewing ( <i>Eunica monima</i> )		s		



**Subfamily Cyrestinae**

Many-banded Daggerwing ( <i>Marpesia chiron</i> )		s		
Ruddy Daggerwing ( <i>Marpesia petreus</i> )		s		
American Lady ( <i>Vanessa virginiensis</i> )	X	X	X	X
Painted Lady ( <i>Vanessa cardui</i> )	X	X	X	X
West Coast Lady ( <i>Vanessa annabella</i> )	X	X	X	X
Red Admiral ( <i>Vanessa atalanta</i> )	X	X	X	X
Mourning Cloak ( <i>Nymphalis antiopa</i> )	X	X	X	X
Question Mark ( <i>Polygonia interrogationis</i> )	X	X	X	X
Satyr Comma ( <i>Polygonia satyrus</i> )				X
White Peacock ( <i>Anartia jatrophae</i> )	s		s	
Malachite ( <i>Siproeta stelenes</i> )			s	s
Common Buckeye ( <i>Junonia coenia</i> )	X	X	X	X
Tropical Buckeye ( <i>Junonia evarete nigrosuffusa</i> )	X	X	X	X
Dotted Checkerspot ( <i>Poladyas minuta</i> )		s	s	X
Crimson Patch ( <i>Chlosyne janais</i> )	X	X		s
Definite Patch ( <i>Chlosyne definite</i> )		X	s	X
Theona Checkerspot ( <i>Chlosyne theona</i> )	X	X	X	X
Chinati Checkerspot ( <i>Chlosyne theona chinatiensis</i> )	X	X	X	X
Black Checkerspot ( <i>Chlosyne cyneas</i> )	X			
Fulvia Checkerspot ( <i>Chlosyne fulvia</i> )	X	X	X	X
Bordered Patch ( <i>Chlosyne lacinia</i> )	X	X	X	X
Tiny Checkerspot ( <i>Dymasia dymas</i> )	X	X	X	X
Elada Checkerspot ( <i>Texola elada</i> )	X	X	X	X
Texan Crescent ( <i>Anthanasia texana</i> )	X	X	X	X
Vesta Crescent ( <i>Phyciodes graphica</i> )	X	X	X	X
Painted Crescent ( <i>Phyciodes picta</i> )	X	X	X	X
Mylitta Crescent ( <i>Phyciodes mylitta</i> )	X			X
Phaon Crescent ( <i>Phyciodes phaon</i> )	X	X	X	X
Pearl Crescent ( <i>Phyciodes tharos</i> )	X	X		X

**Subfamily Charaxinae**

Tropical Leafwing ( <i>Anaea aidea</i> )	X	X	X	X
Goatweed Leafwing ( <i>Anaea andria</i> )		X	X	X

**Subfamily Satyrinae**

Canyonland Satyr ( <i>Cyllopsis pertepida</i> )	X	X	X	X
JoBoni Satyr ( <i>Neominois carmen</i> )	X			
Red Satyr ( <i>Megisto rubricata</i> )	X	X	X	X
Common Wood-Nymph ( <i>Cercyonis pegala</i> )	X			
Mead's Wood-Nymph ( <i>Cercyonis meadii</i> )	X	X	X	X

Breeds:	149	150	139	130
Strays:	3	34	35	19

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#### Flowers from the Garden of Gary Noel Ross in Baton Rouge, Louisiana.



**Daffodil:** A two-toned cultivar of the common English daffodil. It is a seasonal (late winter, early spring) perennial throughout much of my shade garden. Flowers are infrequently visited by bees, but never butterflies. Reproduction seems to be by multiplication of the underground bulb. Flowers add a bit of color to the landscape when practically nothing else is blooming.



**Trumpet vine/creeper (*Campsis radicans*)** in the Bignoniaceae family is a common, invasive, deciduous vine throughout the South. I have to control it in my garden, limiting specimens to only a few trees although underground runners are always a problem. Flowers in early spring are large and beautiful, and are pollinated by bees and hummingbirds.



## COLLECTING IN COLORADO AND VISITING WITH FAMILY

BY

ROBERT BEIRIGER

It had been almost a year since my daughter and I had seen members of my family. We talked about going to visit them in Nebraska but what evolved was a short collecting trip to Colorado and then meeting my parents, one of my sister and her two sons in Estes Park for a few days. My sister was available from mid to late July and during a normal year, this probably have been too late for some of the species I wanted. I had collected in alpine areas during previous years around the 4<sup>th</sup> of July and done quite well. However, this year with all the snow that fell in northern Colorado, I knew that the butterflies would fly late and I decided that it was worth checking out. This is a short account of our trip and the butterflies we encountered.

We left West Palm Beach on July 19 and flew into Denver, Colorado arriving about 1:00 pm. People were talking about the heat in the Denver area, but the weather was rather nice after coming from hot, humid South Florida. We started our trip by leaving the airport and traveling by bus to pick up our rental car. After we filled out our paperwork for the car, we walked out onto the lot and were stopped by the lot manager. He ask me about my John Deere belt buckle and then asked, if I would like to drive a truck for the same price. Apparently, trucks do not get a lot of use during the summer and they were just happy to get one off the lot and keep the car for someone else. So far this trip started out great with an upgrade to a king cab, 4X4 GMC Canyon pickup. This was a collecting vehicle.

Helen and I loaded our bags into the truck and headed out west via I-70. The drive was rather uneventful and as we drove by Idaho Springs, I made a mental note to stop by and see one of the gold mines on our way back. We left I-70 and turned onto US 40 and headed up Berthoud Pass. I had collected here in the past and planned on



Fig. 1. Habitat at Beaver Creek

stopping near the top to stretch our legs and see if any leps were flying. We found a good place just past the top of the pass. We found plenty of flowers along the road and a lot more as we headed up a trail that led to a nice meadow but did not see any butterflies and just a couple brown moths. It was rather disappointing and the start of a pattern that would continue for the trip. For the Coleopterous collectors, I collected one red *Cicindela longilabris* on the path. After looking around Bethound Pass for a while, we headed to our hotel in Winter Park and went to dinner

Do not recommend that you go from sea level to 8000 feet in one day like we did. I had a little trouble catching my breath for the first night. For economy sake we were forced to take the trip this way. I had planned to spend the first couple days in the Front

Range around Denver, but everyone in Denver area must go to the mountains for the weekend, as prices for the hotel rooms in the Winter Park area doubled.

By the morning of July 20<sup>th</sup>, I was able to catch my breath and we headed towards Beaver Creek, Grand County. Beaver Creek flows into the Colorado River near where you turn off US 40. The Colorado River was out of its banks and had overflowed into the low laying area along the river due to large amount of snow melt. For those of you not familiar with Beaver Creek, it is an area of sagebrush and grassland with shrubs and small tree near the creek (Fig. 1). The area was a little greener than normal and there were some areas of water along the road where a few butterflies were concentrating. We stopped and collected at several areas where we could pull the truck off the road. We continued up the road but could only go so far as the road was washed out about 8 miles from Highway 40. We parked near the road closed sign and spent some time collecting butterflies and beetles near this area. In other areas along Beaver Creek, butterflies were rare unless you could find rabbit bush blooming and even then, there was only a butterfly or two per plant. That was not the case by the road closed sign. It was almost if they could read and did not go any farther than this. We collected more specimens here than any other





Fig. 2. Helen trying to collect *Euphilotes ancilla*, *Plebejus saepiolus*, and *P. icaroides* with her hands



Fig. 3. Helen by snow slide near top of Rollins Pass

place along the creek. I took this picture (Fig. 2) of my daughter trying to collect *Euphilotes ancilla*, *Plebejus saepiolus*, and *P. icaroides* with her hands. The butterflies are not visible in the photograph but there was about 50 blues swarming around her. It was fun to see her try and catch them. At Beaver creek we collected species like *Oarisma garita*, *Satyrium californica*, *S. fuliginosum*, *Plebejus icaroides*, *P. saepiolus*, *P. acmon*, *Glaucopsyche lygdamus*, *Euphilotes ancilla*, *Colias scudderii*, *C. alexandra*, *Agriades rustica*, *Speyeria mormonia eurynome*, *S. zerene sinope*, *Euphydryas anicia*, *Chlosyne palla*, *Anthocharis sara*, along with a few *Cerambycides*.

After collecting in Beaver Creek, we then headed up Road 55 to an area of sagebrush similar to Beaver Creek but with a lot more flowers. It looked to have had more rain or stayed wetter than Beaver Creek. We found a few butterflies feeding on these flowers. We collected some of the same species as Beaver Creek along with *Lycaena nivalis*, *L. rubidus*, *Papilio rutulus*, *Nymphalis antiopa*, and *Limenitis weidemeyerii*. Late in the afternoon, we headed back to our hotel and then went shopping for some souvenirs. I was told by several people in town that they had seen few butterflies this year, even though the whole town of Winter Park was planted with flowers along the main road and in front of the business, I never saw one butterfly in the town.



Fig. 4. Habitat near top of Rollins Pass

Next day, July 21, we attempted to climb Rollins Pass to collect the good alpine meadow near the top. Leroy Koehn, David Fine, Ricky Paterson and I made it up to the top in Leroy Koehn's van during summer 2004 so I had no doubt that a 4x4 would easily make it to the top. I was wrong. Rocks 12-14 inches tall were common on the road and it looks as if the snow melt had removed all the dirt from the road. All that was left was a very rocky road and travel up to the pass was very slow. As we got near tree line, we found a few holes in the road that were two foot deep and bigger than the truck. We stopped on the road as close as we could to the top and spent some time walking around. Here are a couple pictures of the habitat we were able to drive to and all the snow still around in late July (Figs. 3 and 4). Even though

the weather was partly cloudy, no butterflies were seen in these alpine conditions as most areas were just starting to green up. After spending some time looking around, we reluctantly turned around and decided to head to St. Louis Creek. Here collecting was better as both sexes of *Colias alexandra* and *C. scudderii*, including some white form female, a form I had never collected before, were common. It was nice to add females of both these species to my collection as I had a lot more males than females. Other species seen included *Plebejus saepiolus*, *P. acmon*, *Chlosyne palla*, *Lycaena helloides*, *Cercyonis oetus*, *Speyeria mormonia eurynome*, *Erebia epipsodea* and *Artogeia napi*.

The next day, we left Winter Park and headed towards Jones Pass and Loveland Pass on our way to our next hotel





Fig. 5. Meadow on way up Jones Pass



Fig. 6. Snow on mountains around Jones Pass. Still lot of snow for late July



Fig. 7. Habitat on Loveland Pass



Fig. 8. Helen with net looking for butterflies at Loveland Pass

in Louisville, just north of Denver. On the way up Jones Pass we stopped at a nice meadow (Fig. 5) that had very fresh *Oeneis chryxus*. It was a windy day that was cool, but in calmer areas near the trees, species like *Echoed ausonides*, *Speyeria mormonia eurynome*, *Agriades rustica*, *Polites draco*, *Plebejus saepiolus*, *Artogeia napi* and *Pyrgus centaureae* could be found. Even though there were some very fresh butterflies flying around, it was still early in the season at high altitude (Fig. 6). After this we headed to Loveland Pass. The road to Loveland Pass had a lot of curves but we made it along with a large number of other people. As we walked around the Pass, we saw almost no butterflies or other insects and a fair amount of snow (Figs. 7 and 8). Only species seen were two specimens of *Erebia magdalena* that "fought" with each other for a few seconds. One flew off while the other flew straight down. I searched that rock pile for twenty minutes trying to find that specimen without any luck. The rest of the time spent at Loveland Pass failed to yield any more sightings or specimens. During this trip, any time we got near or above 10,000 feet, limited number of butterflies were seen. From what I could see, the alpine species would be very late this year.

After leaving Loveland Pass we stopped in Idaho Springs off I-70 and found a rock shop. It was worth the stop, as I found some excellent Eocene beetle fossils from Northwest Colorado, Rio Blanco County, that were priced right. These were the best, non amber fossils that I have in my collection. Next stop was the Phoenix gold mine (Fig. 9). It was interesting to see the tunnels that were dug into the mountain over 100 years ago. They then would mine the 4 foot wide rich pyrites and lead ore vein, called the Phoenix vein (Fig. 10), that ran at a 45 degree angle to the main tunnel. They also have found another vein, that is currently being mined, called the resurrection vein (Fig. 11). This vein has less lead, but more copper and gold than the Phoenix vein. I was able to collect several nice gold ore samples from both veins. We then spent some time panning for gold in the nearby creek. We found very little gold but did collect some more rock samples that had a high silver content from the tailings pile of the old Comstock Mine, which is above the Phoenix mine. Helen was able to find a few new friends at the mines (Fig. 12). According to the people at the mine, these ground squirrels and chipmunks have been coming to the mine to be fed for as long as anyone can remember. They were very tame and made a good photo op.

As we left the Phoenix Mine and headed towards Denver on along I-70, we saw a Big Horn Sheep crossing sign. I have seen plenty of these signs throughout the west but was surprised to see two young females along the Interstate a mile or so later. If we were not on the Interstate, I would have stopped and taken a photo.

The next day we started to head towards Caribou Bog. As we passed through downtown Boulder, they were having a green market. We decided to stop and see what was





Fig. 9. Phoenix mine with ore cart at entrance



Fig. 10. Phoenix vein, rich pyrites mixed with lead (the darker gray material)



Fig. 11. Resurrection ore vein at Phoenix mine

available along with the quality and cost of the produce. Being in vegetable research in South Florida, it is an area that I am always interested in. After viewing what was available and the prices, I should move to Colorado and start growing organic produce. Prices were higher than expected and people were buying the produce as we saw numerous people leaving with full sacks. Helen was happy that PETA was giving free samples of coconut milk ice cream bars. They were trying to convince people that using cows to produce milk was unethical and that this was an alternative. The ice cream was ok with, as expected, a slight coconut flavor, but as with most alternative products, I would hate to see the price of these ice cream bars. Only purchase I made was some early, tree ripe peaches to eat along the way from Boulder to Nederland and Caribou Bog.

As we headed towards Caribou Bog, there were a couple nice meadows we had stopped in the past to collect. Unfortunately, they were part of the green areas of Boulder County and collecting was not allowed. Once we reached Caribou Bag, I was happy to see no more of these green area signs; however the main part of the bog had a "No Trespassing Private Property" sign which was just as bad. This was the area we had good luck collecting *Bolivia* in the past. In the other areas outside the bog, there still were large piles of snow in the shaded area and we could see other areas where the snow had recently melted.

The rest of the area outside the bog was fairly green with a lot of flowers which provided fair collecting for both beetles and lepidoptera with species like *Polygonia zephyrus*, *Plebejus icarioides*, *Speyeria mormonia eurynome*, *Erebia epipsodea*, *Agriades rustica*, *Papilio zelicaon*, *Parnassius phoebus sayii*, *Colias scudderii*, *Artogeia napi*, *Polites draco*, *Echinargus isola* and *Cercyonis oetus* and a small reddish moth which looks like some type of *Shinia* or related species.

After looking around the old mine site outside of Caribou Bog, we then headed north of Nederland to Brainard Lake. Around the parking area near the lake, the vegetation was still fairly very brown and the weather cool, cloudy and the wind had picked up. I saw only a couple butterflies that flew by so fast I was not able to identify them. After looking around for a while and not seeing much else, we headed down in elevation and found a couple small areas to collect species like *Polygonia zephyrus*, *Plebejus icarioides*, and *Speyeria hesperis*.

Next we headed towards Beaver Reservoir. There were several areas with a large number of flowers in the open areas along the road. These areas yielded fair collecting with species like *C. alexandra* including females, *Lycaena castro*, *Phyciodes pulchella*, *Piruna pirus*, *Cercyonis oetus*, *Euphilotes ancilla*, and several new species of longhorns.

After leaving Beaver Reservoir, we drove north to Estes Park to meet up with my family. My sister had rented a cabin that we all shared. The following day, Helen decided to spend some time with her cousins, aunt and grandparents as they went to visit Rocky Mountain National Park. This meant that I was free for a day collecting. I decided that Highway 14, that followed the Poudre River up to Cameron Pass, would be a good area to look for



butterflies. In the lower elevations fritillaries like *Speyeria edwardsii*, *S. coronis halcyone*, *S. aphrodite*, *S. hesperis*, *S. zerene sinope*, along with *Cercyonis pegala*, *Phyciodes pulchella*, *Papilio rutulus*, *Callophrys siva*, were somewhat common but were difficult to collect since they did not spend a great deal of time nectaring on the available flowers. As I headed up the highway, collecting should have been better as flowers, including rabbit bush and milkweeds, were in full bloom, plentiful and the weather was warm and sunny, but each patch had only a couple bugs on them. On these flowers along the road or in the meadows, I collected or saw *Lycaena heteronea*, *Oarisma garita*, *Hesperia nevada*, *Satyrium titus*, *S. behrii*, *Plebejus saepiolus*, *P. melissa*, *P. lupini*,

*Leptotes marina*, *Piruna pirus*, *Artogeia napi*, *Erebia epipsodea*, and *Colias scudderii*. The closer I got to Cameron Pass few butterflies were seen or collected. At Cameron Pass, the ground was still brown and only a few lilies were seen poking their way up and the only butterfly that I saw was *Plebejus saepiolus*. Moose were more common feeding along the road in marshy areas than butterflies. After this sad sight and it being late afternoon, I headed back to Estes Park. The only highlight the rest of the day was I found a Runza restaurant on the way back. Being from Florida, I rarely get to eat runzas unless I am in the Midwest.



Fig. 12. Helen with her new friends

Park. I did find a nice, reasonably priced, beetle in amber in one of the rock shops. The only other insect collected was a longhorn beetle that was found near the wood pile at the cabins.

The next day weather was much better, the sun came back out, and I found several areas to collect in the Roosevelt National Forest, south of Estes Park. These areas were a nice mix of sagebrush and woodlands. The areas were green, had plenty of flowers with beetle and butterflies common. *Colias alexandra* was the most common species with numbers of *Lycaena heteronea*, *Plebejus lupini*, *P. icarioides*, *P. acmon*, *Callophrys spinetorum*, *Chlosyne palla*, *Speyeria atlantis*, *Cercyonis oetus*, and *Phyciodes pulchella*. By mid afternoon, the sky had clouded up and I headed back to Estes Park.

The next day we got up early and reluctantly headed towards the Denver airport and from there, back to Florida. The only excitement for the day was when I tried to go through security at the Denver airport. They asked if I had rocks in my bag. I told them that I had several ore samples and you should have seen the look I got from the screener. They probably were still rocks to her. Other than this, the trip to Florida was uneventful.

This trip had several surprises. High altitude provided poor opportunity to collect any of the normal species as few of these species were flying around the end of July. There was more snow than I have ever seen in July in Colorado and looked more like fall than mid-summer. This season, I collected fewer skippers and more *Colias* and *Speyeria* than I had in previous years. It was not the trip expected, but did add a lot of new location records and a few new species to my collection along with seeing part of my family. All good reason to go.

(robert.beiriger@att.net)

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## DEFINITIONS:

**Porrect**<sup>(1)</sup> - extended, extended forward, stretched out. Examples: **porrect** palpi, **porrect** mandibles.

**Antrorse**<sup>(2)</sup> - upward or forward, bent or curved forward or upward. Example: hairs on some plant stems appear to be bent **antrorsely**.

**Pectinate**<sup>(3)</sup> - having narrow parallel projections or divisions suggestive of the teeth of a comb. Example: Many of the antennae of the moths are feathered or **pectinate** (comb-shaped).

1) <http://www.wordnik.com/words/porrect>

2) <http://www.thefreedictionary.com/antrorse>

3) <http://www.merriam-webster.com/dictionary/pectinate>



# BAILEYA OPHTHALMICA (GUENÉE, 1852) (LEPIDOPTERA: NOLIDAE) IN LOUISIANA

BY  
VERNON ANTOINE BROU JR.

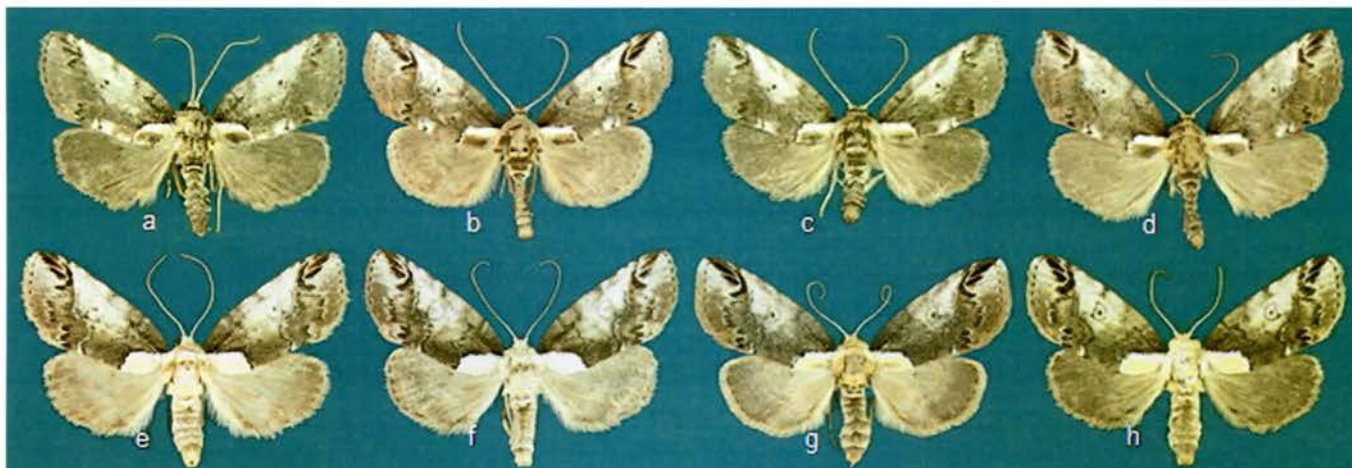


Fig. 1. *Baileya ophthalmica* (Guenée, 1852) phenotypes: a-d. males, e-h. females.

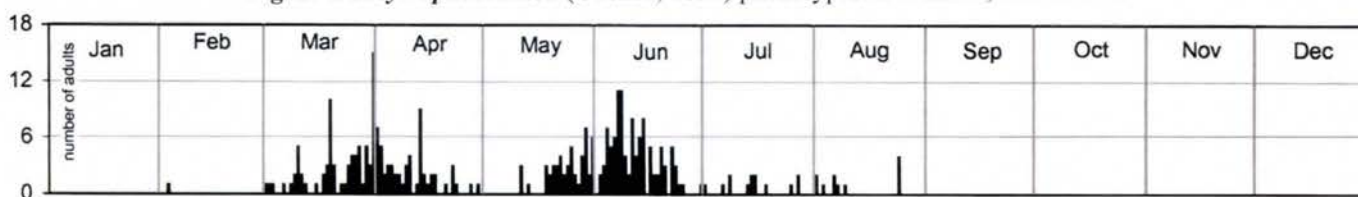


Fig. 2. Adult *Baileya ophthalmica* (Guenée, 1852) captured in Louisiana. n = 313

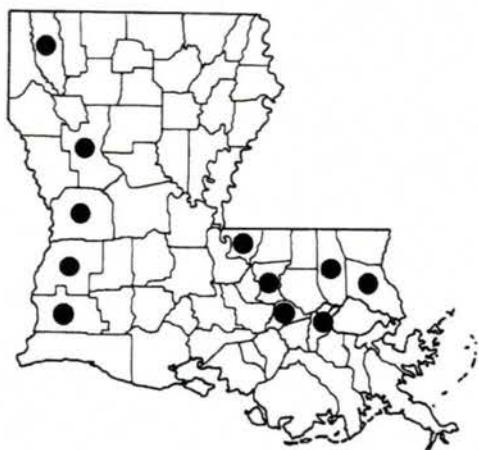


Fig. 3. Parish records for *B. ophthalmica*

In the process of describing two new species of the genus *Baileya* Grote, I reported *Baileya ophthalmica* (Guenée) (Fig. 1) to occur in Louisiana during the months March through August in the parishes: Ascension, Bossier, Calcasieu, East Baton Rouge, St. Tammany, Tangipahoa, Vernon, and West Feliciana Parishes, representing at least three broods (Brou, 2004). *B. ophthalmica* is one of seven described species of the genus *Baileya* known to occur in Louisiana.

This publication provides multiple adult images and phenology data confirming two well populated broods and a partial third brood of *ophthalmica* in Louisiana (Fig. 2).

*Baileya ophthalmica* is the only species of the genus previously reported by Chapin & Callahan (1967). Updated parish records are illustrated in Fig. 3.

## Literature Cited

- Brou Jr., Vernon A., 2004. Two New Species of *Baileya* Grote (Nolidae: Risobinae) from the southeastern United States. *Jour. Lepid. Soc.* 58: (2), 94-99.
- Chapin, J.B. and P.S. Callahan, 1967. A list of the Noctuidae (Lepidoptera, Insecta) collected in the vicinity of Baton Rouge, Louisiana. *Proc. La. Acad. Sci.* 30:39-48.

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## VISITING ARIZONA, PART 2

BY

KELLY RICHERS

In the first article about visiting Arizona to collect moths, several mountain ranges were explored briefly, notably the Chiricahuas, the Huachucas and the Baboquivaris (*Southern Lepidopterists' NEWS*, Vol. 33 NO.4, 2011, pgs. 178-180). Pena Blanca and Sycamore Canyon were also mentioned. However, the most notably famous of the ranges in Arizona, the Santa Ritas, were left out, as this range bears special mention.



*Antheraea oclea* (Brown Canyon, Baboquivari Mountains, Pima Co., AZ, 3900', Aug. 7, 2005)



*Rothschildia cincta* (Brown Canyon, Baboquivari Mountains, Pima Co., AZ, 3900', Aug. 7, 2005)



*Eupackardia calletta* (F) (Brown Canyon, Baboquivari Mountains, Pima Co., AZ, 3900', Aug. 2, 2008)

From the time birders discovered Madera Canyon, in the Santa Rita Mountains, moth collectors were not far behind. Virtually every notable North American moth studier has been to Madera Canyon or goes to Madera Canyon at some time in his or her career. Madera Canyon continues to bring new and exciting records throughout its length, for several reasons. Again, in late July or early August the Chubasco winds bring rain from Mexico, which invariably falls on the highest area of Madera Canyon and the slopes below. There are two main areas where collecting takes place currently in Madera Canyon, and there is a third area historically famous.

At the picnic grounds near the entrance to the canyon, the elevation is around 4700', and the area is in Pima County. Somewhere below the Santa Rita Lodge area, which is at 4880' elevation, the county line crosses into Santa Cruz County. The Santa Rita Lodge was the historical collecting area in the last century until a fire destroyed significant portions, but there are still sleeping accommodations. At the entrance to the canyon, further down, is a picnic area. If one sets up a light at the picnic area that overlooks the woods to the south, there is excellent collecting of lower elevation species. If one goes up to the top of the canyon road at a much higher elevation, at least 5400', there is a different assortment of moths completely. This is because the vegetation changes completely on the climb, even though there is only about a 700' difference in elevation. Try to collect in both areas, as they are unique in some ways from each other.

Near the entrance to Madera Canyon, there are two other areas that attract moth collectors, as these are the areas where the Saturn and Sphinx moths fly in early August, and the variety can be amazing. These two areas are Box Canyon and Florida Canyon. They are different, and pose different collecting challenges. Both, by the way, are excellent areas to walk in daylight for butterflies or day flying moths, but the walks are different. The photos of moths accompanying this article are mainly of sphinx moths and saturn moths available in these areas.

Box Canyon has a road that parallels it for all of the important parts. Coming from the Green Valley area or the west, where any available motels are, there is a bridge that crosses the canyon, which is more of a shallow arroyo than a canyon. This would mark the lower end of the collecting hotspots. The road then parallels the arroyo, going east, and eventually crosses a cattle guard and fence that marks the upper portion of the collecting areas. At this upper area, if one treks down to the actual stream bed, which is virtually always dry in summer, a sheet set up can bring in up to twenty different species of sphinx moths. I think that is the record, anyway, though it is all second hand knowledge





*Hyalophora gloveri* (Ash Canyon,  
Huachuca Mountains, Cochise Co., AZ,  
5200', Aug. 5, 1999)

completely different. Just when you would think you might know Arizona collecting from these significant canyons, you then still have Mount Graham, Greer and the Hualapai Mountains to visit, not to mention Oak Creek Canyon.

Mount Graham is reached by a torturous road off Rt. 191 north of I-10 east of Willcox and Tucson. The entire range is called the Pinaleno Mountains, but is commonly referred to as Mount Graham, which looms at over 10,000' elevation in the area. The road is officially Rt. 366, but you will forget that designation as you come up with more imaginative names in all the turns and twists. This, by the way, may be the longest dead-end road in the world, excluding the road to Hana on Maui, unless that road has changed. They will both make you wonder what you are doing after about the first half hour or so. On this road you climb to 8500' or so and you can see for fifty miles, at least, on a normal day, as if you could spare time to look over the precipices.

There are several excellent underdeveloped campgrounds, with few persons in most of them. I have stayed at Cunningham and caught many unusual moths, some endemic to the area. Both sheet and trap collecting can be done with excellent results, and the daytime will bring various butterflies and day flying moths to add to the interest. These are not the same moths as the canyons to the south, or even the Chiricahua Mountains, for the most part. Neither are they all the same as Greer, to the north another half day travel.

Greer is a paradise, which has unfortunately been "discovered" by the vacation set of the world. Where once there were trees there are now million dollar cabins of the rich, but this has not impacted the moth collecting at the end of the road through Greer. You do get to annoy more people with your blacklights, though...and you can collect off building lights at first light if you are bold enough.

Greer lies at an elevation of around 8500' at the headwaters of the Little Colorado River, in largely evergreen forests. New species are still being discovered at Greer, because every year has that unique Arizona feature, about 1/3 new species for the

given to me over a beer or two. I have caught up to eight or nine species in one night. This is sheet collecting for sphinx moths at its best, but trap collecting is more difficult as they get rubbed in a trap.

Florida Canyon has a road that goes up to a labor camp of some kind at its terminal upper end. Just before the labor camp grounds there is a parking lot off to the left, which has given me the largest one night trap results in my collecting history. Over 1000 moths, many large, many unusual, were in a trap one rainy night when I set the trap under an evergreen at the end of the parking lot, on a night when three other traps in Box Canyon resulted in maybe a couple of hundred each. It is possible to set traps in one canyon and collect in the others at a sheet in a single busy night.

And now for something



*Manduca florestan* (F) (Brown Canyon,  
Baboquivari Mountains, Pima Co., AZ,  
4125', Aug. 2, 2008)



*Manduca rustica* (Brown Canyon, Baboquivari  
Mountains, Pima Co., AZ, 3900', Aug. 7, 2005)



*Ceratomia sonorensis* (Madera Canyon,  
Santa Rita Mountains, Pima Co., AZ,  
4700', Aug. 4, 1991)





*Sphinx istar* (Onion Saddle, Chiricahua Mountains, Cochise Co., AZ, 7600', Aug. 1, 2005)



*Sphinx chersis* (1 mi. S. Pena Blanca Lake, Santa Cruz Co., AZ, 3960', Aug. 4, 1999)



*Sphinx libocedrus* (Brown Canyon, Baboquivari Mountains, Pima Co., AZ, 4130', July 27, 2007)



*Sphinx dollii* (1 mi. S. Pena Blanca Lake, Santa Cruz Co., AZ, 3960', 4, 1999)



*Peroserpinus terlooii* (Brown Canyon, Baboquivari Mountains, Pima Co., AZ, 4130', July 27, 2007)



*Eumorpha typhon* (1 mi. S. Pena Blanca Lake, Santa Cruz Co., AZ, 3960', Aug. 3, 1991)

collector from previous visits. Greer is not low elevation large moth collecting, however, but is more high elevation like Rustler Park or Mount Graham, with a decided Rocky Mountain influence different from other Arizona locations. Cabins can be rented in Greer, and that is the way to go, as it is difficult to get to, remote, and can be crowded enough to not be places able to just pull off the road. There are restaurants and grocery stores.

Oak Creek Canyon is a location that may have become too commercialized to provide the kind of collecting that once made it well known. At the present time it takes reservations months ahead of time for campgrounds, many of which seem terminally closed, and there is a fee for either parking or driving the canyon-seriously. That is what comes of being next to Sedona, I guess. At one time, however, around the 4<sup>th</sup> of July was the time to be there, as moths fly there at that time that fly in few other such concentrations around the state.

Appropriately, the last place to mention is the Hualapai Mountains, just east of Kingman. Appropriate, because these mountains receive the moths from the south later than other areas, and can provide excellent collecting when the other locations have subsided. Late August or September is an excellent time to visit this area. Collecting at building lights, at sheet or by trap all give excellent results. Many California collectors can do this in a one night visit if they can



make the drive during the hot desert day. Kingman is where you must stay if looking for accommodations.

So, if you want a trip to remember for the rest of your life, go to Arizona. Then return for even more species and adventures!



*Erynnis ello* (Brown Canyon, Baboquivari Mountains, Pima Co., AZ, 4130', July 27, 2007)



*Xylophane falco* (Onion Saddle, Chiricahua Mountains, Cochise Co., AZ, 7600', July 17, 1998)



*Manduca muscosa* (Carr Canyon, Huachuca Mountains, Cochise Co., 5500', Aug. 7, 1999, uv trap)

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## DEFINITIONS:

***Evanescent***<sup>(1)</sup> - tending to fade from sight, vanishing, disappearing, tending to become imperceptible, scarcely perceptible.

***Concordant***<sup>(2)</sup> - consistent, to be in agreement, harmonious. Example: "All three tests have concordant results."

***Depauperate***<sup>(3)</sup> - stunted, lacking in growth or development, severely diminished, impoverished. Example: "The knowledge of the plant flora in many regions of Texas is quite depauperate..."

1) <http://dictionary.reference.com/browse/evanescent>

2) <http://www.merriam-webster.com/dictionary/concordant>

3) <http://www.thefreedictionary.com/depauperation>

[It has been asked where I obtain the words that I define in this filler section named "DEFINITIONS". The answer is mostly from various lepidoptera journals and newsletters - The Editor.]



# COLOMYCHUS TALIS (GROTE, 1878) (LEPIDOPTERA: PYRALIDAE) IN LOUISIANA

BY  
VERNON ANTOINE BROU JR.

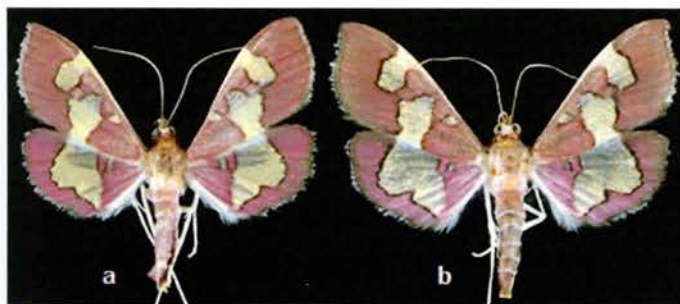


Fig. 1. *Colomychus talis*: a. male, b. female.

The small dull-red and opaque-yellow pyralid moth *Colomychus talis* (Grote) (Fig.1) occurs mid March to early October (Fig. 2) across much of Louisiana (Fig. 3).

There appears to be at least six annual broods within Louisiana. The initial brood peaks in early April, the second brood peaks beginning of June with subsequent brood peaks at 30-day intervals. The brood peaks are identified in Fig. 2 by red markers.

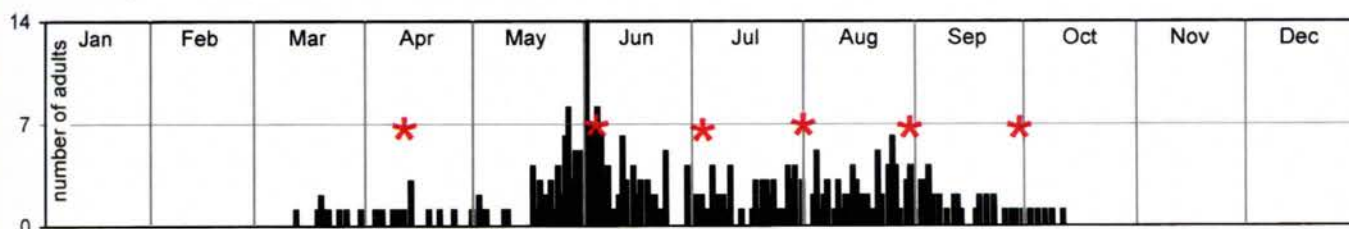


Fig. 2. Adult *Colomychus talis* captured in Louisiana. n = 328

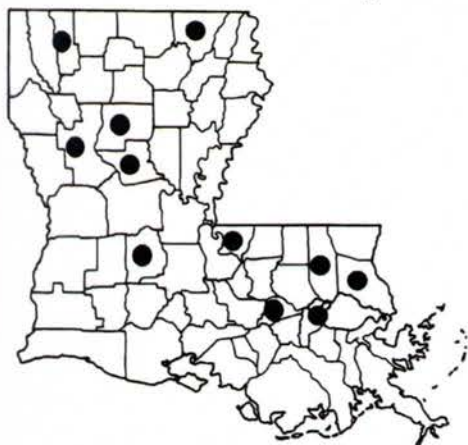


Fig. 3. Parish records by this author.

This species was not addressed by Covell (1984), nor Powell and Opler (2009). Heppner (2003) listed the range of *talis* to be the Gulf Coast: Florida to Texas.

*C. talis* is commonly collected using ultraviolet light traps.

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- Covell, Jr., C.V., 1984. *A Field Guide to the Moths of Eastern North America*. The Peterson Field Guide Series No. 30. Houghton Mifflin Co., Boston. xv + 496pp., 64 plates.
- Heppner, J.B., 2003. *Arthropods of Florida and neighboring land areas*, vol. 17: Lepidoptera of Florida, Div. Plant Industry, Fla. Dept. Agr. & Consum. Serv., Gainesville. x + 670 pp., 55 plates.
- Powell, J.A. and P.A. Opler, 2009. *Moths of Western North America*, Univ. Calif. Press xiii + 369 pp + 64 plates.

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## WELCOME TO OUR NEW MEMBERS

Henry & Mary Anne Poor  
7921 SW 129 Terrace  
Miami, FL 33156-6155

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## MT. MAGAZINE AND DIANA FRITILLARIES: A PHOTO ESSAY

BY

GARY NOEL ROSS

With an abundance of mountains, forests, wildlife, and sparse human population, Arkansas is distinguished as "*The Natural State*." Indeed, most residents and visitors regard recreation within their state as a "*biological imperative*." While it is difficult to single out any one or two things that trump others, Mt. Magazine and the Diana Fritillary (*Speyeria diana*) butterfly patently receive top billing.

**MOUNT MAGAZINE.** Located at 35.10 degrees north latitude and 93.38 degrees west longitude in Logan County (and to a lesser degree, Yell County) in northwest Arkansas. At 2,753 feet, Mt. Magazine is the highest point in "*The Natural State*." Indeed, the mountain is often described as "*the highest point between the Appalachian Mountains of the East and the Rocky Mountains of the West*." Mt. Magazine rises from the agricultural Red River Valley in Logan County, northwest Arkansas. Nearby peaks include Mount Nebo and Petit Jean Mountain. Considered to be part of the Ouachita Mountain system, these three geologic monoliths are referred to as the Interior Highlands of the Midwest.

Mount Magazine is approximately 7 miles long (east to west) and less than one-mile across. The mountain's pinnacle is a plateau forked at its eastern end. The actual summit, "*Signal Hill*," is a knoll atop the tableland, which is rimmed by steep, jagged sandstone bluffs dating back to the Pennsylvanian Period (320-280 million years ago). The predominate type of vegetation on the plateau of the mountain is a mesic oak-hickory forest although shortleaf pine (*Pinus echinata*) and red cedar (*Juniperus virginiana*) are common as subclimax species (all

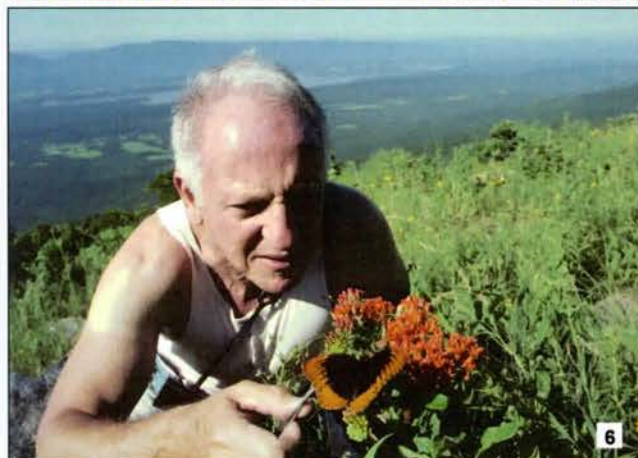
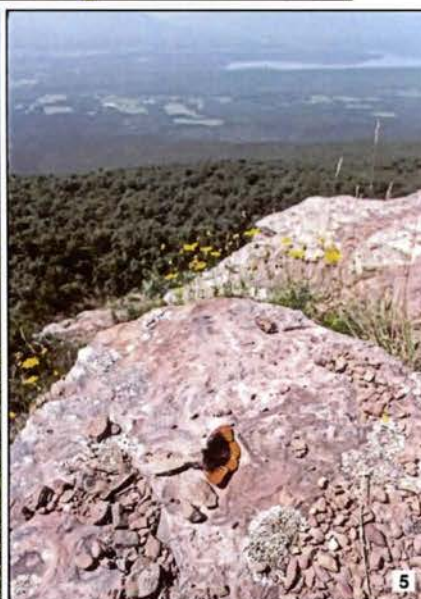
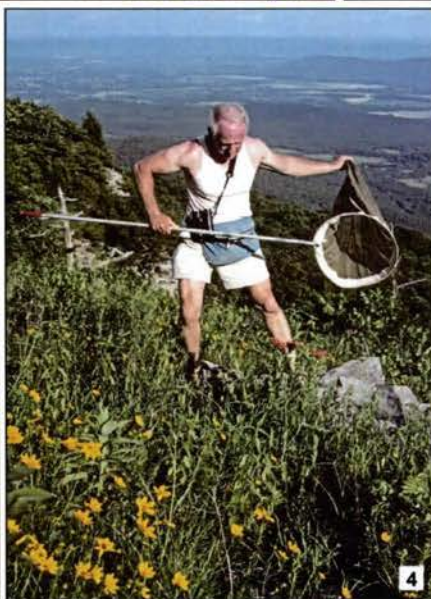
trees are only moderate in height). Slopes are covered with mixed hardwoods and shortleaf pine (taller than on plateau). Northwest Arkansas shares an historical affinity with the Appalachian Mountains of the East; Mt. Magazine, however, receives less rainfall—the summit averages 54 inches annually—and there is very little surface water. As such, the two systems share plant and animal species that are found nowhere else. The U.S. Forest Service has designated 39 species on Mount Magazine as of "*concern*," that is endemic, rare, threatened, or sensitive.

Mount Magazine has a history of human settlement. In 1890, three sections of the plateau were plotted into town sites known as "*Town of Magazine*." The cooler summer temperatures (as much as 8-10 degrees below those of the valley) made the plateau an attractive venue for homes and a hotel ("*Skycrest Hotel*"). But because of an unreliable water source, by 1920 most sites were abandoned. Then between 1938 and 1941, under President F.D. Roosevelt's "*New Deal*" cabinet, the Civilian Conservation Corps (CCC) and the Works Progress Administration (WPA) constructed roads, a lake, a two story - 26 room lodge, 18 rustic cabins, employee dormitories, campsites, picnic areas, and hiking trails. But again, an unreliable water supply coupled with the burning of a cabin in the late 1960s and then the lodge in 1971 led to the abandonment of the mountain once again. From 1971 until 1997, Mount Magazine was managed by the U.S. Department of Agriculture, U.S. Forest Service (Magazine Ranger District), as a primitive recreational area within the Ozark-St. Francis National Forest. But

during the summer of 1997, the top of the mountain was dedicated as "*Mt. Magazine State Park*." In addition, the reigning governor, Mike Huckabee, decreed that the new park, along with the two nearby sister parks of Mount Nebo and Petit Jean Mountain, would be promoted as a "*Tri Peaks State Parks Destination*," a distinction that afforded extra funding, development, and campaigns to foster nature-oriented tourism. Today Mount Magazine boasts modern tourist facilities—including a 60-room lodge and 13 cabins. The park is serviced by good highways from two communities: Paris (known as "*The Gateway to Mt. Magazine*") from the north and Havana from the south.

I first visited Mt. Magazine in June 1958. At 18 years of age, I and my family drove to the recreational area and stayed in one of the tourist cabins for a week. Although I had hoped to see many butterflies (including a Diana), I was disappointed—most of the days were cool, foggy. Later, between 1991 and 2002, I revisited the area on 21 different occasions and during all seasons to conduct research on the Diana Fritillary and to survey for other butterflies as part of the "*Fourth of July Butterfly Count*" program administered by the North American Butterfly Association. Turns out that of the state's known 127 resident butterfly species, Mt. Magazine has logged 91. This relatively high and unusual diversity is in my opinion due to several things: (1) the geographic location of Mt. Magazine, that is, the mountain is in a more or less central part of the country—not too far east or west, not too far north or south, (2) the mountain's range in altitude, which produces a broad diversity of habitats, (3) the mountains





1. Purple coneflowers (*Echinacea purpurea*), four Great Spangled Fritillaries and one Painted Lady in dappled light of forest atop plateau on Mt. Magazine; favorite nectar plant in late spring and early summer.
2. Female Diana Fritillary on purple coneflower; favorite nectar plant in early summer.
3. Female Diana Fritillary on gayfeather (*Liatis aspera*), favorite nectar plant in mid summer.
4. Author netting a Pipevine Swallowtail nectaring on butterfly weed (*Asclepias tuberosa*) in a wildflower meadow on the south-facing plateau; yellow flowers are tickseed (*Coreopsis grandiflora*).
5. Male Diana basking on rock outcrop on southern slope of mountain; yellow flowers are tickseed (*Coreopsis grandiflora*).
6. Author inspecting a male Diana atop butterfly weed (*Asclepias tuberosa*) in early summer.
7. Author inspecting roadside violets during early June for signs of larval feeding.



extraordinary abundance of wildflowers that serve as both nectar and host plants, and (4) a rather long history of low human impact. In fact, I regard Mt. Magazine as one of America's "butterfly hot spot." How the new state park will affect the mountain's butterfly populations in the future remains to be seen.

**DIANA FRITILLARY (or simply, DIANA)** is a showcase American butterfly, currently found only in restricted forested ecosystems in the Appalachian Mountains in the East and the Ouachita Mountain system in the Midwest (Arkansas and Oklahoma). Unlike rank and file fritillaries, Dianas are sexually dimorphic. Specifically, males are dark brown with bright orange borders; females are black with pale blue patches and dots. Underneath, both species resemble dried leaves. Additionally, *S. diana* also is maverick when it comes to habitat: Fritillaries are usually denizens of sunny meadows whereas the *S. diana* is a shade-dependant forest dweller.

As with other greater fritillaries, Dianas have but one generation each year. Violets (*Viola*) are the exclusive host plants. On Mt. Magazine, males take flight usually in late May to early June and continue on the wing only until mid July. On the other hand, females don't eclose until early July. After mating, females delay oviposition until the cool days of autumn—late September through mid October. Population size is always modest—approximately 200 individuals each year. Males are usually active during most daylight hours. Males are avid flower visitors, focusing on butterfly weed (*Asclepias tuberosa*), a common wildflower in meadows and along roadsides. In contrast, females are rather sluggish. In the summer they remain within their cool shadowy

forests occasionally basking for ten minutes or so in dappled light falling on the leaves of understory plants. Then when ambient temperatures drop in late afternoon, they fly into open, sunny areas to visit wildflowers, principally purple coneflower (*Echinacea purpurea*). Other favored seasonal species include: wild bergamot (*Monarda fistulosa*), mountain mint (*Pycnanthemum tenuifolium*), and gayfeather (*Liatris aspera*). In autumn, in response to cooler temperatures, females take flight later. Usually by midday, however, females have warmed sufficiently to nectar on fall-blooming thistles (*Cirsium altissimum* and *C. discolor*)—both common along forest edges and roadsides and in open areas. An individual female often remains for hours during mid morning on a single thistle inflorescence. (I have theorized elsewhere that these nectar plants provide not only necessary nutrients but phytochemicals that are utilized to extend life spans and to increase egg production. I further theorize that some of these substances are passed to early instar larvae. There they aid in surviving the hardships of an extended life span throughout the winter.)

During the cooler days of autumn, females cease nectaring about one o'clock in the afternoon. Then they fly into the forest, drop to the ground and walk about searching for chemical signatures of violet plants—principally bird's foot (*Viola pedata*) and wood violet (*V. palmata*). Because at this time the plants are usually quite desiccated, a female will deposit a single, tiny egg in the vicinity on a bit of detritus. This behavior usually continues for up to 10 minutes, after which the female will fly to another nearby area to search again. When the ambient temperature begins to dip—usually by four o'clock in the

afternoon—the butterflies select an overnight site within the lower branches of a hardwood tree. When depleted of eggs, the tattered females still remain active until autumn frosts end their lives.

Eggs hatch within three-four weeks, but first instar larvae do not feed. Instead, these tiny, spiny caterpillars hibernate throughout the winter in detritus and beneath snow on the forest floor. Then, in early spring and when the numerous violets are beginning to leaf, the larvae break their diapause and begin feeding. Development proceeds in typical lepidopteran fashion.

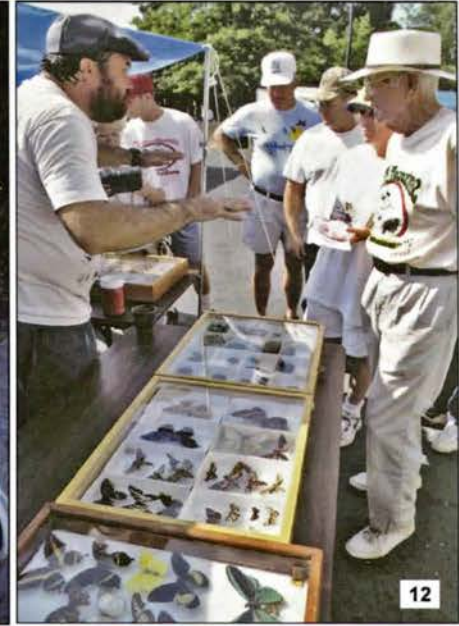
Because of publicity generated by my extensive work in the region, on August 1-3 1997, the North Logan County Chamber of Commerce (currently, Paris Area Chamber of Commerce) hosted the first Mount Magazine International Butterfly Festival. Attendance was estimated at 10,000 with visitors hailing from 45 states and six countries. The festival is currently held in late June of each year.

During the summer of 1996, a videographer and producer from Louisiana Public Broadcasting, accompanied me about Mt. Magazine to film some of my activities. Footage was included in the feature video/DVD titled "An Enchantment of Butterflies" released in 1997.

All work was personally funded except for the year 1996, which was funded by a research grant by the National Geographic Society.

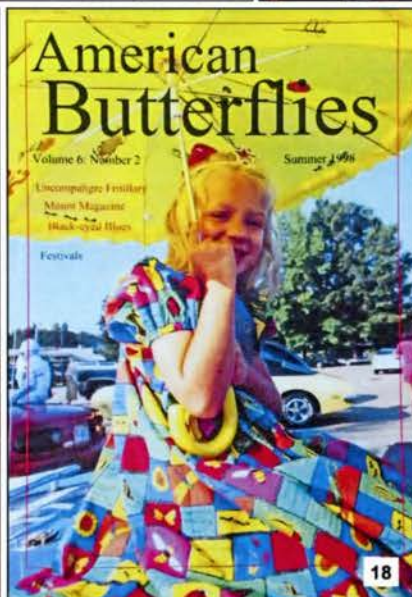
The following is a selection of some of my favorite photos that I have taken during my long-term research on Mt. Magazine. All were taken with two Canon AE-1 cameras loaded with Kodachrome 64 film.





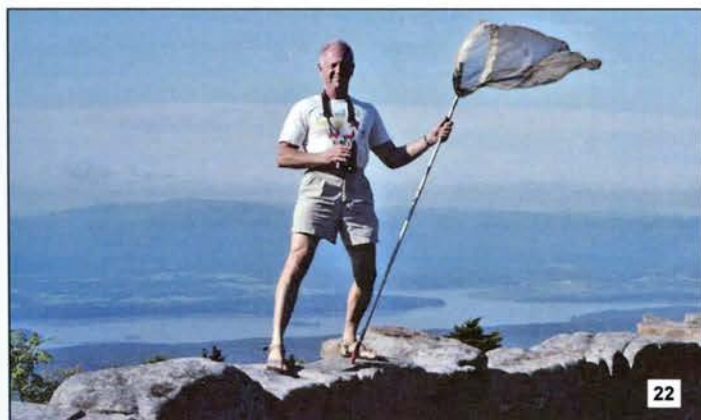
8. Costumed family in parade of first Mt. Magazine International Butterfly Festival (August 1, 1997).
9. Physically challenged gentleman in Paris expresses his support for the butterfly parade in downtown Paris (1997).
10. "Mother Nature" costume in butterfly parade in downtown Paris (1997).
11. Child costumed as "The Young Dr. Ross" in 1997 butterfly parade referring to the author's recent inclusion in National Geographic magazine (January 1997 issue).
12. Educational exhibit (UA) atop plateau on Mt. Magazine at 1997 butterfly festival.
13. Caterpillar costume in butterfly parade in downtown Paris in 1997 butterfly festival.
14. Educational exhibit (UA) atop plateau on Mt. Magazine at 1997 butterfly festival.





15. Participants in "Fourth of July Butterfly Count" (North American Butterfly Association) assembled at old lodge site atop plateau (July 1997).
16. Two Paris school teachers costumed for butterfly parade (August 1, 1997).
17. Costumed child in butterfly parade in downtown Paris (1998).
18. Cover of AMERICAN BUTTERFLIES magazine (Summer 1998) featuring author's photograph of "Miss Mount Magazine Tiny Miss" in parade of first Mt. Magazine International Butterfly Festival (August 1, 1997); festival attendance estimated at 10,000 visitors.
19. Costumed school children in butterfly parade in downtown Paris (August 1, 1997).
20. Male and female Dianas involved in courtship atop a purple coneflower (*Echinacea purpurea*).
21. Costumed student atop plateau (August 1, 1997).





22. Author at old lodge site atop plateau.

23. Liberty church, one of old structures still extant on Mt. Magazine, surrounded by wild onion (*Allium canadense* var. *mobile*); flowers attract small insects, including skippers (May 1997).

24. Male Diana nectaring on cultivated zinnia in garden of resident on lower northern slope of mountain (July 1998).

25. Author marking a male Diana as part of mark-recapture research to estimate the population size of Diana Fritillary on Mt. Magazine (June 1996).

26. Cove Lake, a 160-acre recreational area at 1,000 feet in elevation and accessed by the northern (Paris) approach to the plateau; lake was created by federal CCC/WPA between 1938 and 1941.

27. Primitive campground on plateau during ice/snow storm on January 13, 1997.

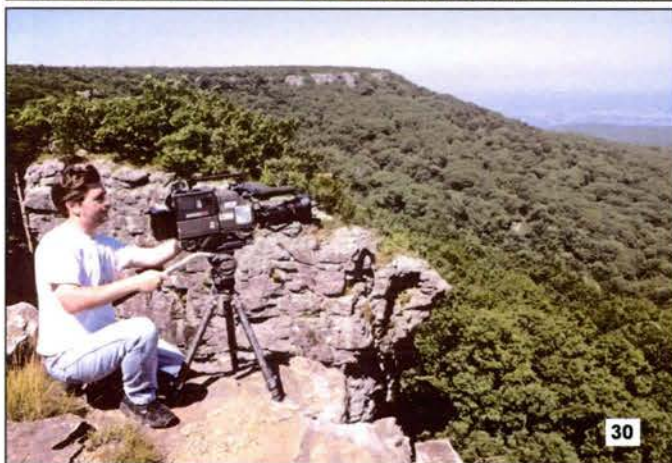




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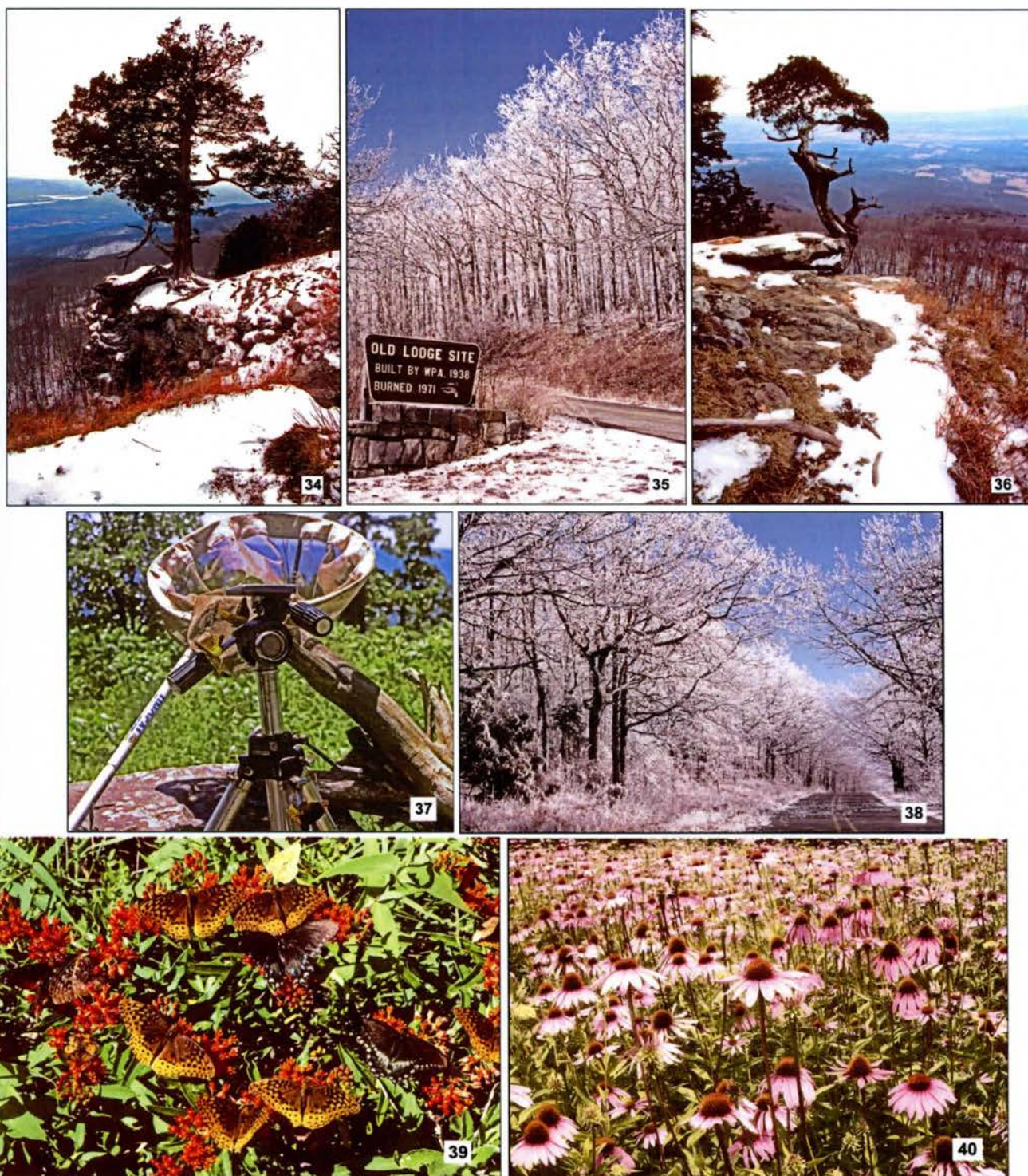
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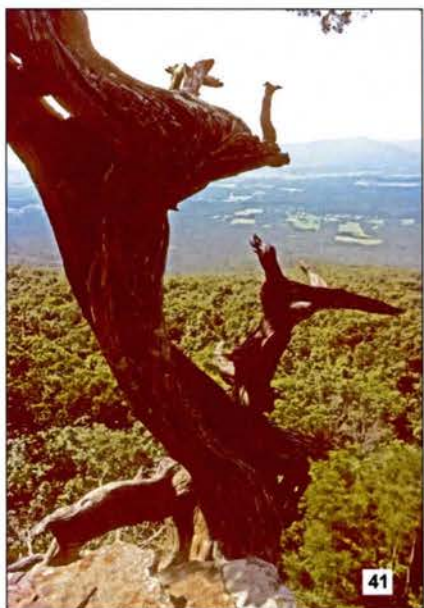
28. Hang glider preparing to launch from the plateau's south-facing slope (1996); common activity throughout summer.
29. Hang glider after launch from plateau (1997).
30. Videographer filming for "*An Enchantment of Butterflies*," a Louisiana Public Broadcasting feature production (1997) featuring author.
31. Installation of new water pipe line from Blue Mountain Lake in southern lowlands to service the developing Mt. Magazine State Park (1996).
32. Vista from north-facing slope of plateau during an ice/snow storm on January 13, 1997.
33. Service berry (*Amelanchier arborea*) in spring bloom on ledge of north-facing plateau; flowers attract early spring insects.





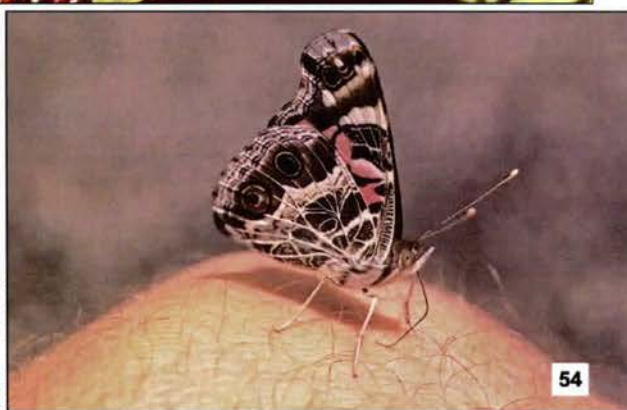
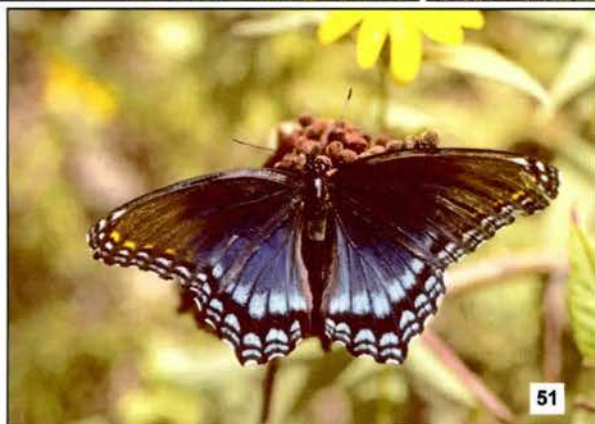
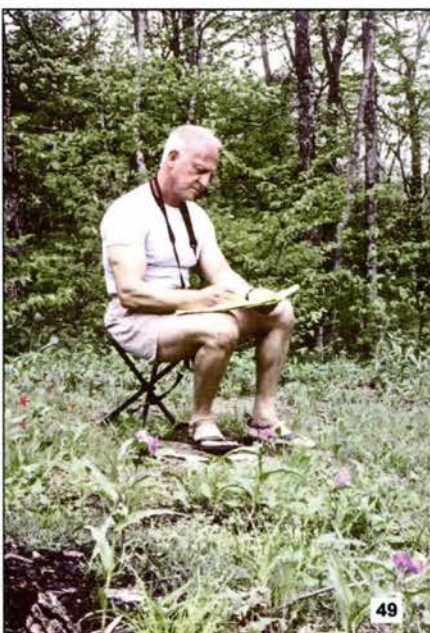
34. Statuesque red cedar (*Juniperus virginiana*) on rock ledge of south-facing slope of plateau during an ice/snow storm on January 13, 1997; cedars on bluffs often are picturesque.
35. Old lodge site sign after an ice/snow storm on January 13, 1997.
36. Windblown red cedar (*Juniperus virginiana*) on rock ledge of south-facing slope after an ice/snow storm on January 13, 1997; specimen has become the signature image for Mt. Magazine.
37. Great Spangled Fritillaries attracted to salt residue from perspiration on author's net and photographic tripod.
38. Road near old lodge site after an ice/snow storm on January 13, 1997.
39. Butterfly weed (*Asclepias tuberosa*) is a magnet for butterflies such as Great Spangled Fritillary, Spicebush Swallowtail (male and female) and Orange Sulphur.
40. Colony of purple coneflower (*Echinacea purpurea*), a butterfly magnet, in electric right-of-way to old fire tower.





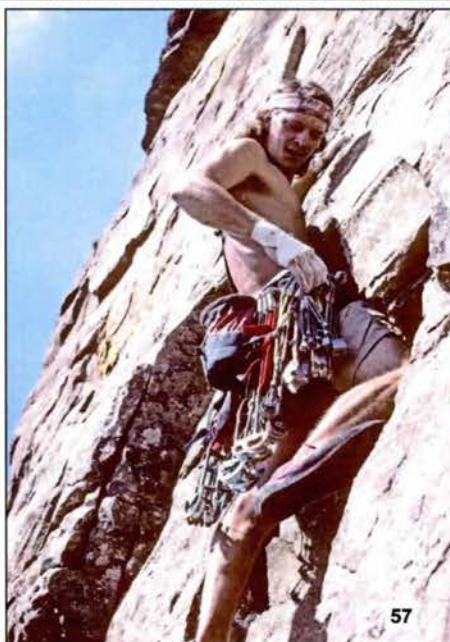
41. Windblown red cedar (*Juniperus virginiana*) on rock ledge of south-facing slope during summer; specimen is a signature image for Mt. Magazine.
42. Abandoned fire tower on western end of plateau.
43. Seedpod of antelope horn/spider milkweed (*Asclepias viridis*), a common wildflower in pastures on lower slopes of mountain and in surrounding lowlands.
44. Controlled burn on the plateau by U.S. Forest Service personnel to remove underbrush and to encourage herbaceous plants (April 1997).
45. Female Tiger Swallowtail nectaring on butterfly weed (*Buddleia davidii*) in garden of resident along roadside on lower northern slope of mountain; butterfly is abundant.
46. Author in primitive campground during autumn and full leaf color (October 1997).
47. Historic (1939) ranger's cabin near fire tower with purple coneflowers (*Echinacea purpurea*) in former garden (July 1993).





48. Wildflower meadow at an old cabin site on south-facing slope of plateau; yellow flowers are tickseed (*Coreopsis grandiflora*), common in spring.
49. Author taking notes while seated amidst wildflowers such as spiderwort (*Tradescantia* sp.) and the rare fire pink (*Silene virginica*).
50. Fall-blooming ironweed (*Vernonia* sp.) is abundant along roadsides and is a magnet for butterflies such as Monarch, Great Spangled Fritillary and Silver-spotted Skipper.
51. Male Red-spotted Purple on seedpod of mountain sumac (*Rhus copallinum*) near old lodge site; butterfly is abundant and often mistaken for a female Diana.
52. Male Pipevine Swallowtail on butterfly weed (*Asclepias tuberosa*); butterfly is abundant on plateau throughout warm months.
53. Northern Pearly Eye on forest floor; butterfly is common in wooded areas on plateau.
54. American Lady imbibing perspiration on author's knee; butterfly remained for nearly 30 minutes—even during my leisurely walk.





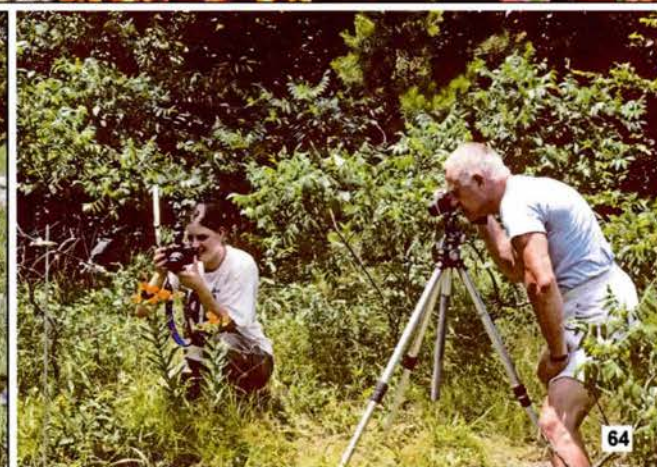
55. Migrating Monarch nectaring on gayfeather (*Liatris aspera*) on rock outcrop of the north-facing plateau (August 1997).

56. Tomb at historic B.H. Benefield Farm (1880's-1930) at East End Picnic Area atop plateau.

57. Rock climbers find Mt. Magazine's precipitous slopes of the south rim of plateau ideal for recreation (October 1996).

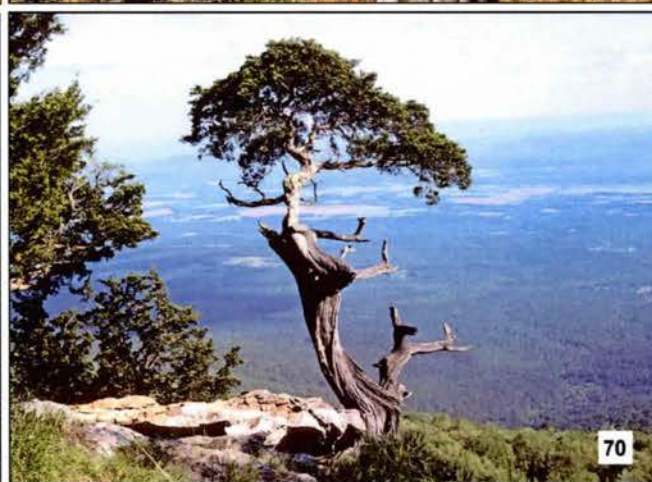
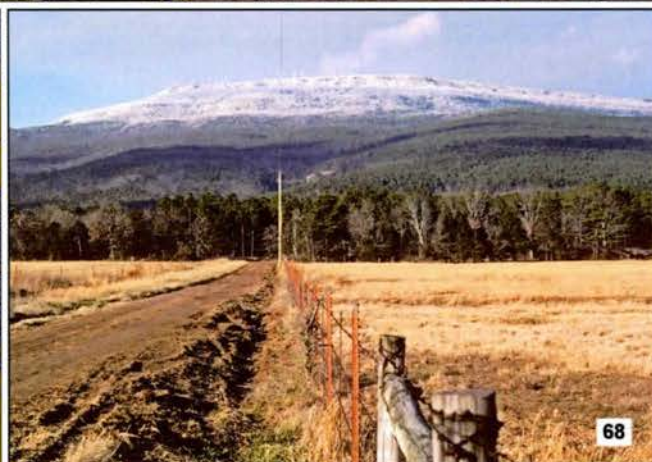
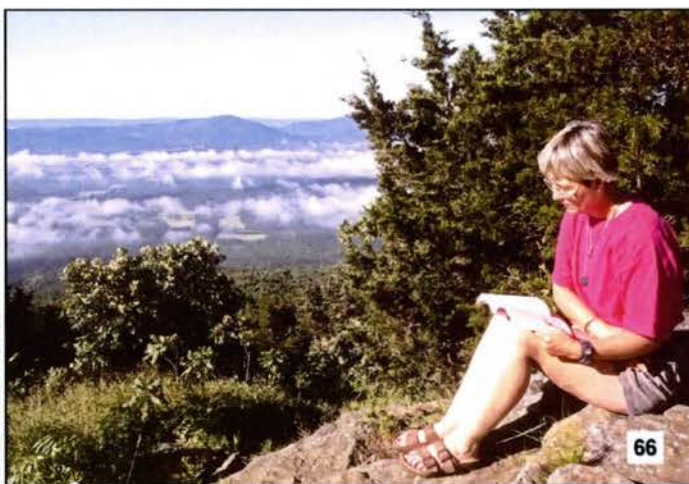
58. Author force-feeding a sugar solution to a female Diana in an attempt to coax egg-laying in a brown paper bag (October 1996).





59. Zebra Swallowtails "puddling" at a stream bed seep; butterfly is abundant on plateau in spring .
60. Female Diana nectaring on purple coneflower (*Echinacea purpurea*), a favorite food plant.
61. Female Diana resting on purple coneflower (*Echinacea purpurea*), favorite nectar plant in early summer.
62. Male Diana nectaring on butterfly weed (*Asclepias tuberosa*), favorite nectar plant during late spring/summer.
63. Author netting a butterfly in a wildflower meadow by old cabin site on south-facing slope of plateau; blue flowers are spiderwort (*Tradescantia*).
64. Author and college student photographing a male Diana nectaring on its favorite plant, butterfly weed (*Asclepias tuberosa*) (June 1996).





65. Clump of butterfly weed (*Asclepias tuberosa*) visited by several butterflies such as Diana (male), Zebra Swallowtail, Spicebush Swallowtail (male) and Pipevine Swallowtail (male/female).
66. Isolated bluff with a picturesque view provides a contemplative venue for leisure activities.
67. Female Diana basks on a cool autumn morning on an all-purpose road atop plateau.
68. Snow-capped Mt. Magazine viewed from the lowlands via a southern approach following an ice/snow storm on January 13, 1997.
69. Aerial view of Mt. Magazine the day after an ice/snow storm on January 13, 1997.
70. Windblown red cedar (*Juniperus virginiana*) on a southern bluff; tree has become a signature image for Mt. Magazine.





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71. Oxeye daisy (*Leucanthemum vulgare*), a non-native species that is a good nectar plant for hairstreaks, especially 'Olive' Juniper Hairstreak.
72. Showy orchis (*Galearis spectabilis*), a rare spring flower in rich hardwood forests atop Mt. Magazine.
73. Multi-headed fall-blooming field thistles (*Cirsius discolor* and *C. altissimum*) are the final nectar source for spent female Dianas before the onset of cold temperatures.
74. A spring wildflower meadow on the south-facing slope of the plateau; yellow flowers are tickseed (*Coreopsis grandiflora*)—pollinated principally by bees.
75. Rose vervain (*Verbena canadensis*), a spring bloomer and a good nectar source for early butterflies.
76. Liberty Cemetery on the eastern slope of Mt. Magazine with a carpet of spring violets—host to Diana and Great Spangled Fritillaries; cemetery still in use (May 1997).





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77. Mountain azalea (*Rhododendron prinophyllum*), an uncommon species, in spring bloom in a cool, moist site near a small cave in the heavy hardwood forest on the northern slope of the mountain.
78. Mountain azalea (*Rhododendron prinophyllum*) in spring; flowers are attractive to swallowtail butterflies.
79. Dwarf (mountain) larkspur (*Delphinium tricorne*) in spring bloom in a meadow on the plateau; pollinated chiefly by bees.
80. Fire pink (*Silene virginica*), a flamboyant and rare species in spring bloom in a meadow atop the plateau.
81. Western wall flower (*Erysimum capitatum*) (Brassicaceae) in spring bloom on western section of plateau; classified as "sensitive" by the U.S. Forest Service.
82. Mt. Magazine from the northern Paris approach; chicken farming is a common occupation in lowlands.





83. Early spring at Cove Lake (elevation 1,000 feet) midway up Mt. Magazine, Paris approach; red maple (*Acer rubrum*) in seed.
84. Bird's foot violet (*Viola pedata*) in spring bloom regenerating in a recently burned forest; species is common in disturbed areas and serves as a host for the Diana Fritillary and Great Spangled Fritillary.

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## BUTTERFLY TRANSFORMATIONS

BY

CLARENCE M. WEED (1925)



**THE PAINTED LADY:**  
Caterpillar, chrysalis, and butterfly  
(From a drawing by W.I. Beecroft)

"The butterflies furnish the best known examples of insect transformations. The change from the egg to the caterpillar or larva, from the caterpillar to the pupa or chrysalis, and from the chrysalis to the butterfly or imago is doubtless the most generally known fact concerning the life histories of insects. It is a typical example of what are called complete transformations as distinguished from the manner of growth of grasshoppers, crickets, and many other insects in which the young that hatches from the egg bears a general resemblance to the adult and in which there is no quiet chrysalis stage when the little creature is unable to eat or to move about."

[*"Butterflies worth Knowing."* Clarence M. Weed, Published by Doubleday, Page & Company for Nelson Doubleday, Inc., The Country Life Press, Garden City, New York, 1925, pg. 5.]



**THE MOURNING-CLOAK:**  
Caterpillar, chrysalis, and butterfly  
(From a drawing by W.I. Beecroft)



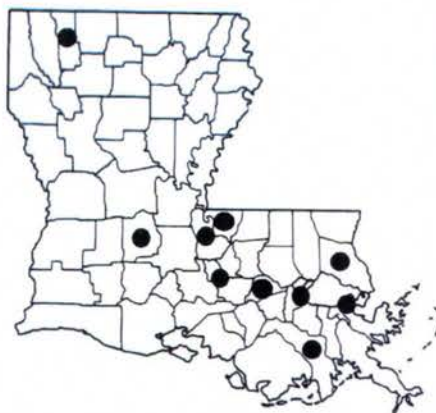
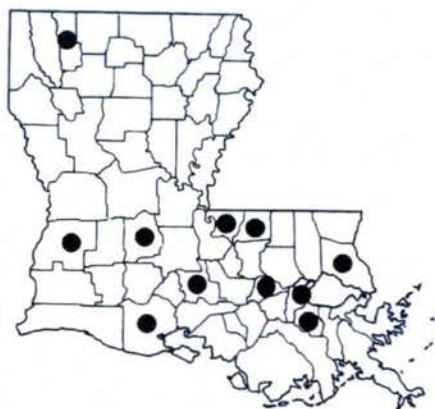
*LOCHMAEUS MANTEO* DOUBLEDAY AND  
*LOCHMAEUS BILINEATA* (PACKARD) IN LOUISIANA

BY  
VERNON ANTOINE BROU JR.



Fig. 1. *Lochmaeus mantea*, a - e. males, f - n. females; *Lochmaeus bilineata*, o - v. males, w - z. females.

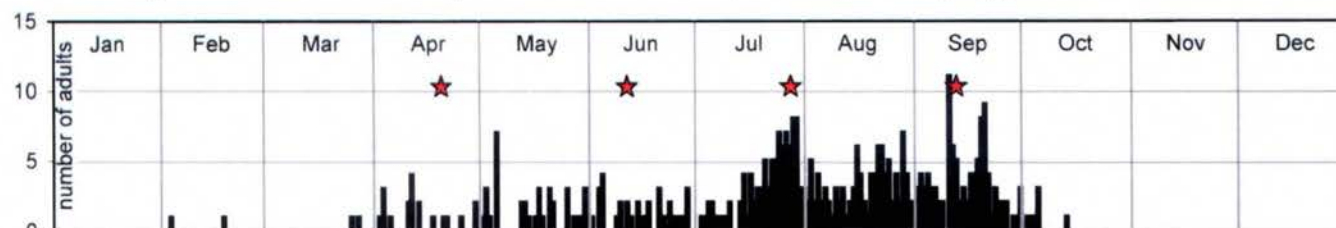


Fig. 2. Parish records for *L. manteo*.Fig. 3. Parish records for *L. bilineata*.

Both of these species have lead-gray upper body and wing ground color and display considerable variation in forewing maculation. I have provided a series of adult phenotype images which illustrate this variation for both *Lochmaeus* species in Louisiana (Fig. 1). Covell (1984) stated that among specimens of *bilineata*, the populations occurring along the Gulf Coast are paler (color) and smaller (size).

The notodontid moths *Lochmaeus manteo* Doubleday (Fig. 1a-n) and the smaller in size, *Lochmaeus bilineata* (Packard) (Fig. 1o-z) are common residents in Louisiana. Packard (1895) stated that *manteo* can sometimes be abundant enough to be destructive to oaks in the southern states. The parish records for both species are illustrated in Fig. 2 and Fig. 3.

Within Louisiana, both species of *Lochmaeus* appear to have four annual broods. The brood peaks are indicated by red markers in Fig. 4 and Fig. 5. Covell (1984) stated *manteo* occurs from Nova Scotia to Florida, west to Minnesota and Texas, a common species occurring April to October. This same author stated *bilineata* occurs commonly throughout eastern North America from April to October.

Fig. 4. *Lochmaeus manteo* captured at sec.24T6SR12E, 4.2 mi NE Abita Springs, Louisiana. n = 1544Fig. 5. *Lochmaeus bilineata* captured at sec.24T6RS12E, 4.2 mi NE Abita Springs, Louisiana. n = 401

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# ADULT FEEDING OF THE SNOWBERRY CLEARWING (*HEMARIS DIFFINIS*, SPHINGIDAE), INCLUDING DRINKING AT A STREAM

BY  
ROBERT DIRIG

Richard Gillmore's interesting article on stream-drinking by sphinx moths in the previous issue (Gillmore 2012), with his appeal for other observations of this behavior, prompted this account of stream-drinking and other adult feeding by the Snowberry Clearwing, *Hemaris diffinis* (Fig. 1).



Fig. 1. Fig. 1: A newly expanded Snowberry Clearwing (*Hemaris diffinis*) with all scales intact, photographed on roadside vegetation along Rt. 41, on the east edge of Babcock State Park in Fayette County, West Virginia, on 31 July 2000. (© 2012 by Robert Dirig.)

behavior in southwestern Pennsylvania — Small-eyed Sphinx (*Paonias myops*), Blinded Sphinx (*P. excaecatus*), Four-horned Sphinx (*Ceratomia amyntor*), and Waved Sphinx (*C. undulosa*) — are all night fliers, and were stream-drinking at the beginning of their active cycle. The Snowberry Clearwing I saw was doing the same thing at the end of its day's activity. Gillmore (2012) suggested that night-flying sphingids may also stream-drink at dawn. Details of any observations of this would be valuable in the literature.

During 50 years of making thousands of observations of adult feeding in butterflies and diurnal moths, I have only rarely seen butterflies truly drink water, as opposed to puddling on wet soil.

**Mourning Cloaks** (*Nymphalis antiopa*) occasionally sip water from rills in early spring, following snow-melt, in the Catskill Mountains, Delaware County, N.Y.; and I watched two **Baltimore Checkerspots** (*Euphydryas phaeton*) drink water from a small calcareous stream draining a large fen at McLean Bogs Preserve in the Finger Lakes Region, Tompkins County, N.Y. On a smaller scale, I have seen a **Karner Blue** (*Plebejus samuelis*) drink water from "wells" of collected dewdrops in the center of their Wild Lupine (*Lupinus perennis*) foodplant's leaves in Saratoga County, N.Y.; and observed a **Juvenal's Duskywing** (*Erynnis juvenalis*) drink dewdrops that formed on a spider's horizontal web in a shale barrens near Flintstone, Allegany County, Maryland (Fig. 2), without becoming snared by its feet or proboscis!

I visited friends in a rural area outlying Lawrenceburg in Anderson County, Kentucky, between 31 July and 2 August 1991. This was my first time in that state, and I was eager to explore their 100-acre old farm for Lepidoptera and plants. Before dinner on 31 July, I strolled down their driveway to a sleepy brook, hardly flowing over its flat limestone bed at the edge of the lawn. A veritable frenzy of insect life was evident in the growing gloom beneath overhanging trees, as dusk approached. Notable among these was a hovering **Snowberry Clearwing** that dipped the end of its extended proboscis in the water twice, evidently drinking, before settling for the night on a tall streamside herb, with its wings folded flat, much like a large fly. This behavior struck me as unusual, in the sense of my not having previously encountered the situation and timing in which it occurred: Snowberry Clearwings are primarily diurnal fliers, and I do not regularly visit shaded streamsides at dusk. My article in *The Kentucky Lepidopterist* (Dirig 1994) gave more details of the Lepidoptera and plants of this place of timeless charm and fascinating natural history.

The four sphinx species mentioned by Gillmore (2012) that were exhibiting similar



Fig. 2: A Juvenal's Duskywing (*Erynnis juvenalis*) drinking dewdrops on a spider web in shale barrens at the Green Ridge State Forest near Flintstone in Allegany County, Maryland, on 7 May 1999. (© 2012 by Robert Dirig.)



Perhaps the Snowberry Clearwing's stream water in Kentucky and the Baltimores' in N.Y. had abundant dissolved calcium that these lepidopterans were seeking? I wondered the same thing while watching a **Red Admiral** (*Vanessa atalanta*) repeatedly probe soggy mortar along an old stone wall in Etna, Tompkins County, N.Y.

The usual feeding observed in adult Snowberry Clearwings is nectaring. Here are my records of flowers visited from 1965 to the present (plant names follow the New York Flora Atlas [<http://newyork.plantatlas.usf.edu>]; asterisks indicate non-native species):

**In Oxford County, Maine:** at Rhodora (*Rhododendron canadense*), 2 observations (obs.); \*Mouse-eared Hawkweed (*Pilosella officinarum*) and \*Orange Hawkweed (*P. aurantiaca*), 1 obs. each.

**In alvar vegetation over outcropping limestone near Watertown, Jefferson County, N.Y.:** at Spreading-podded Rock Cress (*Boechera grahamii*), 2 obs.; Prairie Smoke (*Geum triflorum*), 1 obs.; Wild Blue Phlox (*Phlox divaricata*), 15 obs.; Bearberry (*Arctostaphylos uva-ursi*), 5 obs.; and \*Common Lilac (*Syringa vulgaris*, purple flowers), 50 obs.

**In the Catskill Mountains, southern Delaware and Sullivan Counties, N.Y.:** at Pink Azalea (*Rhododendron periclymenoides*), Robin's Plantain (*Erigeron pulchellus*), \*Red Clover (*Trifolium pratense*), Common Milkweed (*Asclepias syriaca*), and \*Brittle-stemmed Hemp-Nettle (*Galeopsis tetrahit*), 1 obs. each.

**In the Finger Lakes Region, Tompkins and Schuyler Counties, N.Y.:** at Common Milkweed, 1 obs.; \*Field Basil (*Clinopodium vulgare*), 8 obs.; \*Spotted Knapweed (*Centaurea stoebe* ssp. *micranthos*), 13 obs.; \*Lesser Burdock (*Arctium minus*), 10 obs.; \*Marsh Hedge-Nettle (*Stachys palustris*), 7 obs.; Wild Bergamot (*Monarda fistulosa*), 8 obs.; and Canada Goldenrod (*Solidago canadensis*), 1 obs.

**At the Albany Pine Bush, Albany County, N.Y.:** at Pink Azalea, 1 obs.; \*Winter Vetch (*Vicia villosa*), 2 obs.; and \*Spotted Knapweed, 6 obs.

**In Cape May County, New Jersey:** at cultivated, purple-flowered \*Butterfly Bush (*Buddleja davidii*), 15 obs.

Predominant flower colors were pink, lavender, magenta, and purple (17 plants), with visits to two plants with yellow flowers, and one visit each to orange- and red-flowered species.

I append a photograph of a wild, recently expanded adult Snowberry Clearwing that had not flown, showing its full component of wing scales (Fig. 1), from West Virginia. Eliot & Soule (1902) reared this species, and tried to preserve newly emerged specimens with scales intact for photographs, but "could not get one with all the scales on because the least breath or touch detached them" (page 74 and facing plate). As with the stream-drinking and roosting I happened upon in Kentucky, I was very lucky to encounter this fresh moth in the wild.

Thanks to Akito Y. Kawahara for his logistical help in West Virginia, and to Steven Daniel, Carolyn Klass, and Scott LaGreca for reading a draft of this article.

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#### DEFINITIONS:

**Suffuse** - to pour beneath, diffuse beneath or upon, to overspread so as to fill with a glow, color, or fluid.  
**Suffusion** is the act of pouring a fluid over or into the body or surrounding tissues. Also defined as a coloring spread over a surface.



**CICINNUS MELSHEIMERI (HARRIS, 1841)**  
**(LEPIDOPTERA: MIMALLONIDAE) IN LOUISIANA**

BY  
 VERNON ANTOINE BROU JR.

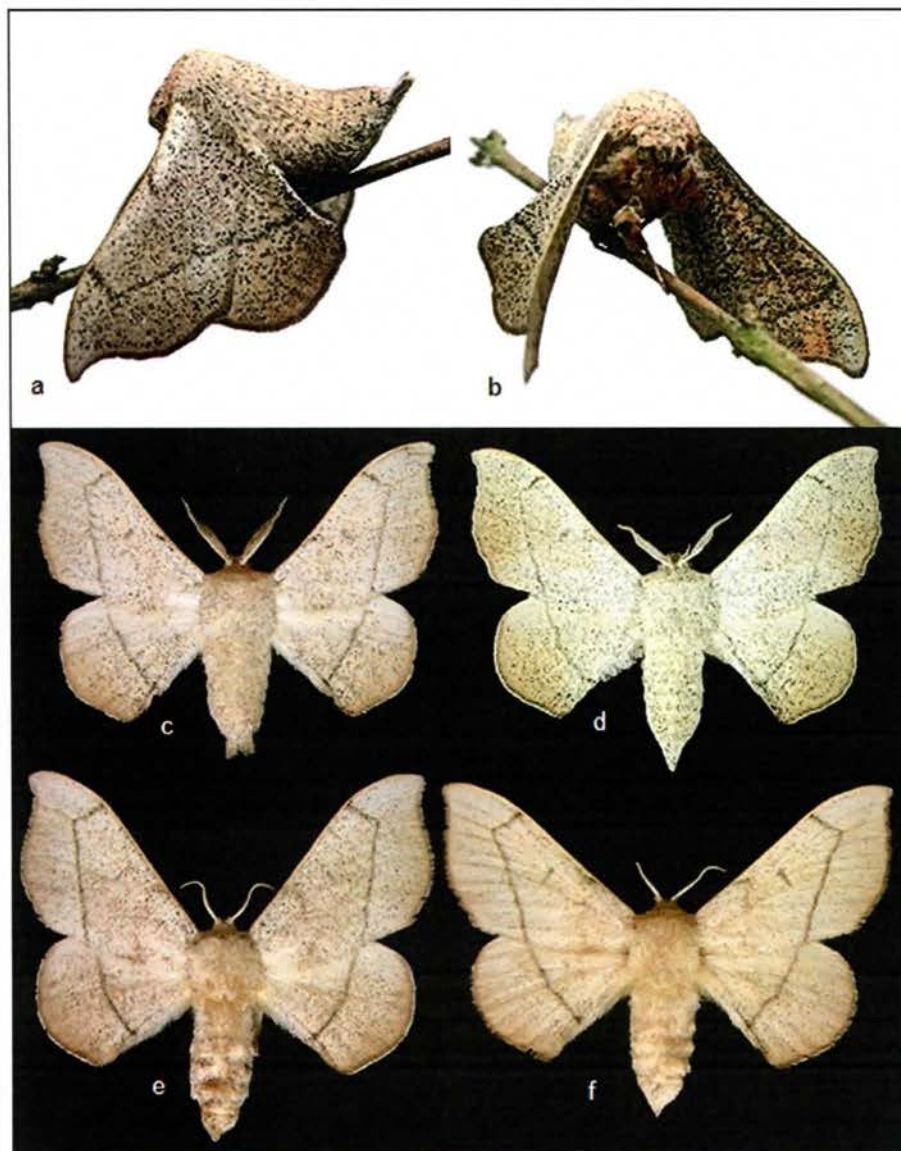


Fig. 1. *Cicinnus melsheimeri*: males (a-d), females (e-f).

*Cicinnus melsheimeri* (Harris, 1841) (Fig. 1) was first reported in Louisiana by von Reizenstein (1863). This pinkish-brown colored moth is quite common where encountered. On most specimens, the entire upper surface is peppered with individual black scales. On the upper surface of forewings and hindwings of all specimens there is a distinct dark postmedial line and most also exhibit a faint to nearly nonexistent antemedial line which may occasionally extend to include the hindwings. Most individuals exhibit a broad, diffuse and barely evident area of darker shading more concentrated along the outer margin of forewings and hindwings but not occurring proximal of the postmedial line.

The larvae of *melsheimeri* reportedly utilize oak species as host plants (Franclemont, 1973). This same author implied that *melsheimeri* has an association with "sandy oak barren" habitats. Though where encountered within Louisiana, this species occurs in areas of heavy dense forestation.

Franclemont (1973) states *melsheimeri* has a range to include: southern New England, southern Ontario, west to Colorado, south to central Florida and northern Mexico.

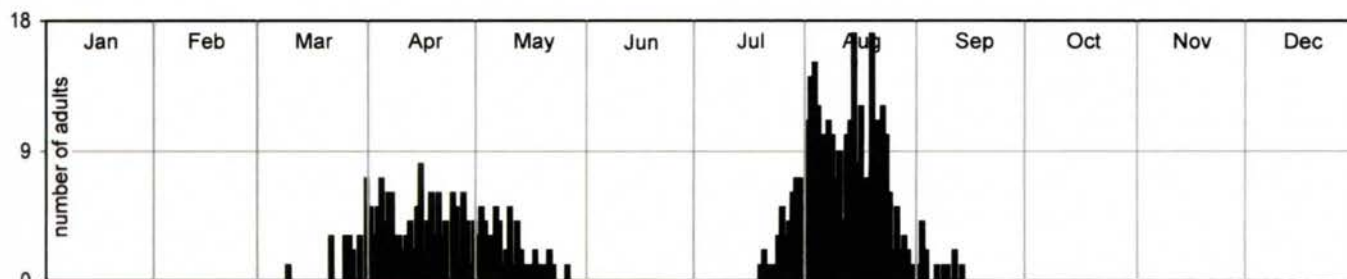


Fig. 2. *Cicinnus melsheimeri* captured at sec.24T6SR12E, 4.2 mi. NE of Abita Springs, Louisiana. n = 526

The type locality is Dover, York County, Pennsylvania, the home of Dr. Melsheimer.

Covell (1984) stated adults fly during the months May - July. In Louisiana, adults of *melsheimeri* occur from late March to mid-September in two well separated broods peaking late April and early August (Fig.2). In this study, the





Fig. 3. Parish records for *C. melsheimeri*.

second brood has double the population density compared to the first brood.

Heppner (2003) indicates adults occur from January to November in Florida and foodplants to include *Quercus sp.* and *Ilex verticillata* (L.) Gray; this holly species is listed by Brown (1945) to also occur in southeastern Louisiana.

The Louisiana parish records are illustrated in Fig. 3.

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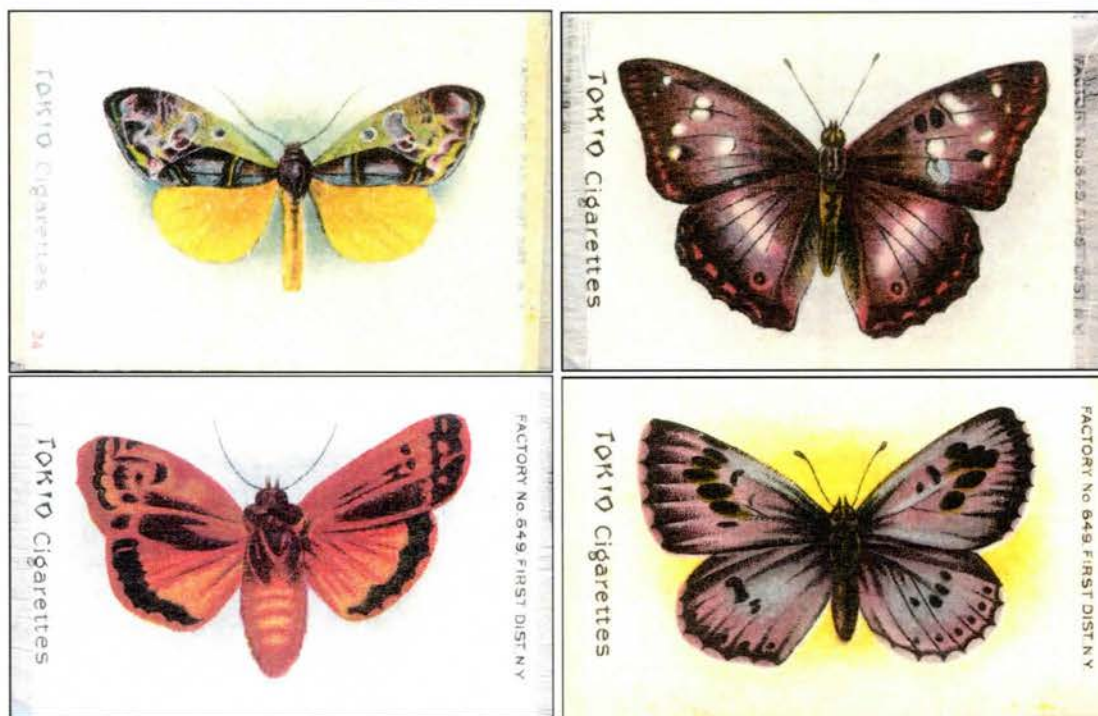
(Vernon Antoine Brou Jr., 74320 Jack Loyd Road, Abita Springs, Louisiana 70420 USA; E-mail: [vabrou@bellsouth.net](mailto:vabrou@bellsouth.net))

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## BUTTERFLY / MOTH TOBACCO "SILKS"

SENT IN BY

ROBERT S. BRYANT



Tokio Cigarettes (American Tobacco Co.) butterfly tobacco "silks" (3 x 2 inches) - early 1900's (circa 1910/1912). These silks were included in packs of cigarettes as promotional items, i.e., advertising. The American Tobacco Company also issued these butterfly/moth silks in packages of Clix, Piedmont and Old Mill Cigarettes. There is reported to be 125 different silks with lepidoptera. In addition there are series of tobacco silks depicting world flags, actresses, sports' players, politicians, American Indians, University banners, flowers and many other subjects.



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**Centers for Disease Control and Prevention Morbidity and  
Mortality Weekly**

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**Report (MMWR)**

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**Caterpillar-Associated Rashes in Children —  
Hillsborough County, Florida, 2011**

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**Weekly****March 30, 2012 / 61(12);209-211**

In March and April 2011, the Hillsborough County Health Department (HCHD) Epidemiology Department (Tampa, Florida) investigated three clusters of rash illness linked to the white-marked tussock moth caterpillar among persons at two child care centers and one elementary school. At least 23 children and one adult were affected; most had direct contact with caterpillars. HCHD provided recommendations on treatment and preventing caterpillar exposure to the three facilities, health-care providers, and local agencies, and through local news media. Child care centers and elementary schools in Hillsborough County previously have experienced caterpillar-associated rash outbreaks in 2004 and 2005 (1). Awareness of this problem, particularly during periods of caterpillar infestation, can minimize morbidity and help to avoid inappropriate diagnoses and treatment by health-care providers.

On March 30, 2011, a local elementary school in Hillsborough County reported a cluster of rash illnesses to HCHD. Among the initial four cases of rash, one child received a diagnosis of molluscum contagiosum, one of viral rash, and two siblings received a diagnosis of varicella. All four children had received the recommended 2 doses of varicella vaccine. By April 6, an additional eight cases of a mild pruritic rash were reported among children at the school. No systemic signs of illness, such as fever, were reported. Because caterpillar-associated rash outbreaks had occurred in previous years, the school nurse was asked about potential exposure to caterpillars or other environmental factors that could cause contact dermatitis among the children, but none were reported.



**White-marked Tussock Moth caterpillar (*Orgyia leucostigma*).** This moth ranges through much of the eastern United States and as far west as Texas and Colorado. (Photo/David Atrubin, Florida Department of Health)

On April 5, a second rash illness cluster was reported to HCHD by a local child care facility located within 2 miles of the elementary school. The facility reported a mild pruritic rash in three of 34 children and one of three staff members, all with an onset of April 5. The affected staff member had a history of allergic reactions. When asked if caterpillars were present around the facility, the director said the caterpillars were so numerous that staff members had stopped allowing the children on the playground. The description of the caterpillars was consistent with the white-marked tussock moth caterpillar (*Orgyia leucostigma*) (Fig. 1), which ranges through much of the eastern United States and as far west as Texas and Colorado. The facility was advised to notify parents of affected children about the caterpillars so that they could discuss this with their child's pediatrician as the potential cause of rash. On April 6, epidemiologists conducted a field visit to the affected elementary school and child care facility to determine the type of caterpillars present and the extent of contact between the children and the caterpillars. White-

marked tussock moth caterpillars and their cocoons were observed on the trees and playground equipment at both sites and at the front entrance of the child care facility.

On April 7, 2011, another child care facility called to inquire about recommendations for preventing the spread of methicillin-resistant *Staphylococcus aureus* (MRSA). A child had been clinically diagnosed with MRSA folliculitis and treated with antibiotics. However, no pustules were noted, and no testing was performed. When asked, the director of the child care facility said the center's playground had been infested with caterpillars the previous week.

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The affected child reportedly had captured a caterpillar from the facility playground and likely had touched the caterpillar. Her pruritic rash was located on her abdomen. An additional seven children in the facility also experienced pruritic rashes on their abdomens. HCHD again recommended preventing contact between children and caterpillars. In addition, basic MRSA education was provided, and a request was made that any child testing positive for MRSA be reported to the HCHD epidemiology program.

For the three facilities experiencing outbreaks of rash illnesses in 2011, recommendations included 1) preventing contact between the children and caterpillars or cocoons, 2) notifying parents of the risks associated with caterpillar exposure, and 3) power-washing playground equipment to remove the caterpillars, cocoons, and their hairs. HCHD also implemented a strategy to notify the community and health-care providers about the risks for caterpillar- and cocoon-related illness. Informational sheets with pictures of the caterpillars and basic prevention messages were distributed to the school district, child care licensing, and county Head Start program offices. Interviews with local media were conducted advising the public to avoid contact with caterpillars and cocoons. Information describing the caterpillar and typical symptoms associated with exposure was provided to health-care providers directly by fax and distributed in the HCHD epidemiology department newsletter. The local agriculture extension office also was notified of the situation.

### Reported by

David Atrubin, MPH, Lea Wansbrough, MPH, Kelly Cruse, MPH, CHES, Danielle Stanek, DVM, Carina Blackmore, DVM, PhD, Florida Dept of Health. **Corresponding contributor:** Carina Blackmore, [carina\\_blackmore@doh.state.fl.us](mailto:carina_blackmore@doh.state.fl.us), 850-245-4732.

### Editorial Note

The 2011 clusters of caterpillar- and cocoon-associated dermatitis follow the pattern of similar outbreaks at child care facilities that were investigated in Hillsborough County in the spring of 2004 and 2005 (1). The association between caterpillars and rash became apparent in 2005, when HCHD observed that three child care facilities had reported rash outbreaks during April of successive years. Attack rates for rash among children at the three facilities ranged from 12.6% to 21.7%. The affected children did not experience an immediate reaction, but rather a self-limiting pruritic, papular rash with distribution on the abdomen, chest, back, arms, or legs. Physical contact with the caterpillars was reported by almost all of the children experiencing a rash illness. Area physicians variously diagnosed the children as suffering from varicella, scabies, flea bites, mosquito bites, scarlet fever, fifth disease, contact dermatitis, or nonspecific viral rash. As a result of these misdiagnoses, the children often were treated inappropriately and excluded from child care unnecessarily. An entomologist for the Florida Department of Agriculture and Consumer Services identified the caterpillar associated with the 2005 rash outbreak as the white-marked tussock moth larva/caterpillar (*O. leucostigma*). He reported that this caterpillar can cause contact dermatitis and that it previously had been linked to rash outbreaks in the state.

The scientific literature clearly documents the ability of tussock moth caterpillars to cause rashes after physical contact. These include accounts of seven persons who developed rashes after handling the white-marked tussock moth caterpillar in Minnesota in 1921 (*O. leucostigma*) (2). In 2000, the Douglas-fir tussock moth caterpillar (*Orgyia pseudotsugata*) was the cause of rash illnesses in Boy Scouts at a summer camp in New Mexico (3).

The pathologic mechanism of caterpillar-associated rash is not understood entirely and depends on the caterpillar species. The mechanism is thought to involve exposure to chemicals on caterpillar or cocoon hairs (spicules) or mechanical irritation (4). Contact with hairs on the body and cocoon of the white-marked tussock moth caterpillars appears to cause skin irritation. Additionally, when caterpillars and cocoons are in high density, particularly susceptible persons can develop a rash when the hairs become airborne. In these situations, the rash might not occur on the area of the skin where caterpillar or cocoon contact occurred; several children at the Florida facilities had rash on the abdomen and back.

Several other types of stinging caterpillars are common in Florida, including the io moth caterpillar (*Automeris io*), the saddleback caterpillar (*Sibine stimulea*), and the puss caterpillar (*Megalopyge opercularis*) (5). Contact with these caterpillars often will cause a more severe sting for which the pain will be apparent immediately to the victim. In contrast, the white-marked tussock moth produces delayed, minor irritation (2). Time from exposure to onset of rash



is likely minutes to hours, similar to the onset time reported after exposure to other species of tussock moths. Treatment recommendations include placing adhesive tape over the affected area and repeatedly stripping the tape off to help remove the tiny hairs, washing the area with soap and water, applying ice packs to reduce the stinging sensation, and applying a topical, low potency steroid cream (4). If the eyes are involved; the person has a history of hay fever, asthma, or allergies; or allergic reactions develop, a health-care provider should be contacted.

In light of these outbreaks, exposure to caterpillars and their cocoons should be considered when investigating rash illness outbreaks of unknown etiology during times of the year when the insect larvae are common. Factors that raise suspicion of a caterpillar-cocoon-associated outbreak, especially among children, include 1) mild pruritic rash on the abdomen, chest, back, arms, or legs that is not accompanied by fever; 2) pruritic rash outbreaks that have varied physician diagnoses; and 3) most importantly, the presence of caterpillars and cocoons known to cause pruritic rash combined with the opportunity for exposure.

### Acknowledgment

Tom Loyless, Florida Dept of Agriculture and Consumer Svcs.

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[Note: Larry Hribar notified me of this article and both of us thought it might be of interest to the membership of the SLS. The article originated from the Centers for Disease Control and Prevention. Address: 1600 Clifton Rd., Atlanta, GA 30333, USA. [Phone: (800)232-4636, (888)232-6348]; website: [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6112a3.htm?s\\_cid=mm6112a3\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6112a3.htm?s_cid=mm6112a3_e) The Editor]

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Gary describes his photograph as follows: "Blooming this season was not as good as last, but nonetheless, the red poppies produced quite a show. (The garden to the right in the photo featured purple poppies, but they flowered a bit earlier.) The red-flowering vine on the brick wall in the background is coral honeysuckle. The honeysuckle has proven to be a good nectar source for hummingbirds while the poppies are magnets for both bumble and honey bees."

Gary Noel Ross in his Garden in Baton Rouge, Louisiana (April 1, 2012)



# METARRANTHIS LATERITIARIA (GUENÉE, 1857) (LEPIDOPTERA: GEOMETRIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.



Fig. 1. *M. lateritiaria* phenotype variations: a-d. males, e-f. females.

Adults of the geometrid moth *Metarranthis lateritiaria* (Guenée) (Fig. 1) have been captured annually in ultraviolet light traps at the \*Abita Study site since 1982.

Schweitzer *et. al.*, (2011) listed the range of true *lateritiaria* to include southeastern North Carolina southward to the Florida Panhandle and westward to southern Louisiana. These same authors indicate most of the 20th century references to this species actually refer to a much smaller undescribed northern species.

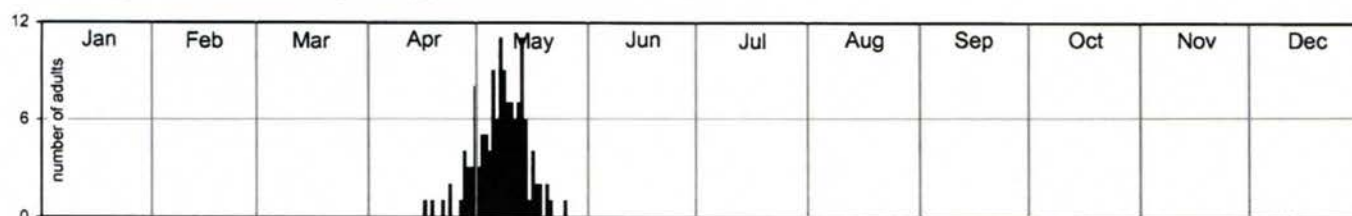


Fig. 2. Adult *M. lateritiaria* captured in Louisiana. n = 133.



Fig. 3. Parish record for *M. lateritiaria*.

In rearing *Papilio palamedes* Drury numerous times over the years by enclosing wild captured females within a polyester fabric bag tied over a branch of the food plant *Persea palustris* (Raf.), I enclosed several larvae of an unknown moth species. This small tree commonly known as Swampbay is quite abundant at the \*Abita Springs study site. Brown (1945) reported *palustris* to be abundant in the swamps of eastern Louisiana. These larvae and subsequent pupae were allowed to hatch and adult *lateritiaria* emerged, which allowed for positive determination.

*M. lateritiaria* is univoltine, the population peaking the second week of May at the \*Abita Study site (Fig. 2). The parish record is illustrated in Fig. 3.

\* Abita Springs Entomological Study site: sec. 24T6S R12E, 4.2 miles northeast of Abita Springs, Louisiana.

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 Schweitzer, D.F., M.C. Minno, and D.L. Wagner, 2011. *Rare, declining, and poorly known butterflies and moths (Lepidoptera) of forests and woodlands in the eastern United States*. USDA Forest Service, Forest Health Technology Enterprise Team.

(Vernon Antoine Brou Jr., 74320 Jack Loyd Road, Abita Springs, Louisiana 70420 USA; E-mail: [yabrou@bellsouth.net](mailto:yabrou@bellsouth.net))

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## REPORTS OF STATE COORDINATORS

**Alabama:** C. Howard Grisham, 573 Ohatchee Road, Huntsville, AL 35811, E-Mail: [chgrisham@Comcast.net](mailto:chgrisham@Comcast.net)

**Arkansas:** Mack Shotts, 514 W. Main Street, Paragould, AR 72450, E-Mail: [cshotts@grnco.net](mailto:cshotts@grnco.net)

David Rupe sends in the following report:

*Atlides halesus* was collected on the side of the Arlington Hotel in Hot Springs, Garland County, Arkansas, on March 15, 2012. Not only was it interesting to find it resting on the hotel in Hot Springs, but was also fairly early for this species in Arkansas.

**Florida:** Charles V. Covell Jr., 207 NE 9<sup>th</sup> Ave, Gainesville, FL 32601, E-Mail: [covell@louisville.edu](mailto:covell@louisville.edu)

SLS field report from Charlie Covell for Florida, March – May, 2012:

Terry Arbogast reported a *D. gilippus berenice* in his yard, June 12.

Barbara Woodmansee reported some additional records of sightings and photos taken, not reported in our last issue. At Bill Sadowski County Park, Miami-Dade County, Dec. 21, 2011: *Urbanus proteus*, *U. dorantes*, *L. cassius*, *J. genoveva*, *A. jatrophae*, *M. petreus*, *D. iulia*, *A. vanillae*, *H. charithonia*, *D. gilippus*, and *D. plexippus*. On that date at the Deering Estate in the same county, she recorded *U. proteus*, *Polites baacoa*, *Aasbolis capucinus*, *H. cresphontes*, *P. sennae*, *Aphrissa statira*, *Pyrisitia dina*, *J. genoveva*, *A. jatrophae*, *H. charithonia*, *D. gilippus* and *D. plexippus*. On Dec. 22 on Lignumvitae Key, Monroe Co., she recorded *U. proteus*, *P. pigmalion*, *Polygonus leo*, *P. agarithe*, *P. philea*, *Ascia monuste*, *J. genoveva*, *Eunica tatila tatilista*, *H. charithonia*, *D. iulia*, *A. vanillae*, *Calycopis cecrops*, *Brephidium pseudofea*, *L. cassius*, and *Danaus eresimus*. On Dec. 24 she recorded the following at Fairchild Tropical Botanical Gardens, Miami-Dade Co.: *U. proteus*, *Erynnis horatius*, *Phocides pigmalion*, *A. capucinus*, *Cymaenes tripunctus*, *Battus polydamas*, *H. cresphontes*, *P. sennae*, *P. agarithe*, *P. philea*, *A. statira*, *Abaeis nicippe*, *S. martialis*, *Eumaeus atala*, *Strymon martialis*, *L. cassius*, *A. jatrophae*, *H. charithonia*, *D. iulia*, *A. vanillae*, and *D. plexippus*.

Kathy Malone saw a *H. charithonia* at her residence in High Springs, Alachua Co., on April 29. [I have heard of another sighting in this county, but have not seen one since the freezes of December, 2009! – CVC] She recorded *Phyciodes texana seminole* at Orlando Wetlands Park, Christmas, Orange Co., Feb. 4. She further reported: "Rick Owen, DEP district biologist, observed 500 - 1,000 of *Callophrys henrici margaretae* on Feb. 29, and at our field trip this weekend, March 10, we observed about the same number, estimated, of course. They were nectaring on willow, blackberry, ty ty, fleabane and viburnum. It was just an incredible sight. In recent years, the most we have seen at any one given time is about 20 individuals on that 7-mile road.

As of this June 11, Sandy Koi reports many thriving colonies of *Eumaeus atala* in south Florida.

Charlie Covell's Gainesville area list for March – May includes many sightings of *P. sennae* and *A. vanillae* – the most commonly encountered butterflies throughout the year, and dates not listed below. As of May 30, 18 species have been recorded at the Covell home (16 in 2011). In addition, here are some other records, listed in order of their first appearance of the year:

*Vanessa atalanta*, March 3, 6, 9, 10, 14, 24, April 4, 7, 10, 12, 13, 16, 20, 25

*Junonia coenia*, March 3, 6, 9, 14, 16, 18, 20, 21, 24, 28, April 1, 4, 5, 7, 14, 17, 25, 28, May 1, 4, 26

*Ancyloxipha numitor*, March 6, 9

*Phyciodes tharos*, March 6

*Heraclides cresphontes*, March 8, 10, 16, 19, May 19, 21

*Papilio palamedes*, March 9, 13, 16, April 6

*Vanessa virginiensis*, March 9, 13, 14, 17, 18, April 4, 7, 10, 11, 12, 13, 16, 17, 20, 23, 24, 25, 26, 30, May 1, 11, 14, 15, 18

*Papilio polyxenes asterius*, March 14, April 7, 11, 14, 17, 25, 28, May 1, 19

*Atlides halesus*, March 15 (on viburnum blossoms), 17, 18, 19, May 15



*Libytheana carinenta*, March 15 (on viburnum blossoms), 17, 18, 27, May 18  
*Atalopedes campestris*, March 16, May 19  
*Abaeis nicippe*, March 16, 25, May 4, 26  
*Hylephila phyleus*, March 17, 19, 29, April 4, 10, 13, 17, 20, 26, May 11, 26  
*Danaus plexippus*, March 17, 20, 28, 29, April 4, 16, 23, May 14, 15, 26, 27, 30  
*Parhassius m-album*, March 18, April 4, 12, 13, 17  
*Euphyes vestris*, March 19, April 17  
*Papilio glaucus*, March 21, April 15, 25  
*Polygonia interrogationis*, April 4, 12, 20  
*Hemiargus ceraunus*, April 11, 16, 26, May 1, 5, 26  
*Urbanus proteus*, April 12  
*Phyciodes tharos*, April 12, 29  
*Strymon melinus*, April 14  
*Nathalis iole*, April 16, 27  
*Erynnis horatius*, April 17, 30, May 3, 4, 7, 11, 14, 15, 19, 21, 26  
*Nymphalis antiopa*, April 20 (uncommon here)  
*Vanessa cardui*, April 23, 24  
*Limenitis archippus*, April 23  
*Leptotes cassius*, April 24, May 21  
*Pontia protodice*, April 25, May 13 (common along Rt. 26 outside Gainesville)  
*Phyciodes phaon*, April 28  
*Papilio troilus*, May 5  
*Euptoieta claudia*, May 7, 19  
*Danaus gilippus*, May 7, 11  
*Pyrgus communis* complex, May 10  
*Epargyreus clarus*, May 14  
*Lerema accius*, May 14  
*Phoebis philea*, May 18 (unconfirmed but probable)  
*Polites vibex*, May 18  
*Wallengrenia otho*, May 19

Geometridae (behind the McGuire Center, Gainesville):

*Idaea taturata*, May 2  
*Pleuroprucha insulsaria*, May 2  
*Leptostales pannaria*, May 3

At the Marjorie Kinnan Rawlings house in Cross Creek, Alachua Co., Covell saw *B. polydamas*, *P. glaucus*, *P. troilus*, *P. polyxenes asterius*, *P. palamedes*, *E. vestris*, *P. sennae*, *V. atalanta*, and *H. sosybius*.

**Note:** On April 5 the Miami Blue, *Cyclargus thomasi bethunebakeri*, was officially placed permanently on the Federal List of Endangered Species effective April 6, 2012. Because of similar appearance, the following species are also protected as Threatened in coastal Florida counties south of the Interstate 4 corridor, Tampa to Daytona Beach: Cassius Blue, *Leptotes cassius*, Ceraunus Blue, *Hemiargus ceraunus*, and Nickerbean Blue, *Cyclargus ammon*. We anticipate more extensive article on this matter in the Sept. issue. For more details go to the following website: <http://www.fws.gov/southeast/>

**Georgia:** James K. Adams, 346 Sunset Drive SE, Calhoun, GA 30701, E-Mail: [jadams@daltonstate.edu](mailto:jadams@daltonstate.edu) (Please check out the GA leps website at: <http://www.daltonstate.edu/galeps/>).

The contributors include James Adams (JKA or no notation) and Irving Finkelstein (ILF). Other contributors are spelled out with the appropriate records. Most records presented here represent new or interesting records (range extensions, unusual dates, uncommon species, county records, etc.), or more complete lists for new locations/new times of year. We had a strong flight of *Uresephita reversalis* in N GA, typically uncommon in the north and more abundant southward. All known new **STATE** and **COUNTY** records are indicated, and all dates listed below are 2012 unless otherwise specified. We have four new state records to report – the geometrid *Caripeta angustiorata*, the noctuids *Apamea vulgaris* (four specimens) and *Derrima stellata* (eight specimens), and the oecophorid *Decantha stecia*.



Dalton State College Campus, Bioblitz, Whitfield Co., April 21, JKA and ILF:

**SATURNIIDAE:** *Antheraea polyphemus*. **NOTODONTIDAE:** *Nadata gibbosa*, *Heterocampa biundata*, *H. guttivitta*, *Schizura unicornis*. **EREBIDAE:** *Virbia opella*, *Spilosoma congrua*, *S. virginica*, *Idia americalis*, *I. aemula*, *I. rotundalis*, *I. julia*, *I. diminuendis*, *Chytolita morbidalis*, *Zanclognatha marcidilinea*, *Renia adspersgilus*, *R. flavipunctalis*, *Bleptina inferior*, *B. caradrinalis*, *Palthis asopialis*, *Hyperstrotia secta*, *Hysoropha monilis*, *H. hormos*, *Pangrapta decoralis*, *Parallelia bistriaris*, *Zale metatoides*, *Z. intenta*. **EUTELIIDAE:** *Paectes pygmaea*. **NOCTUIDAE:** *Acrionicta impleta*, *A. ovata*, *A. tritona*, *A. afflicta*, *Polygrammate hebraeicum*, *Ogdoconta cinereola*, *Elaphria cornutinus*, *Crocigrapha normani*, *Ulolonche culea*, *Orthodes cynica*, *Hormothodes lindseyi*, *Athetis tarda*, *Lacinipolia renigera*, *L. anguina*. **GEOMETRIDAE:** *Macaria minorata*, *M. transitaria*, *M. bicolorata*, *M. granitata*, *Glena cribrataria*, *Ectropis crepuscularia*, *Protoboarmia porcellaria*, *Iridopsis vellivolata*, *Epimecis hortaria*, *Hypagyrtis unipunctata*, *H. esther*, *Euchlaena amoenaria*, *Probole amicaria*, *Tetracis crocallata*, *Dichorda iridaria*, *Idaea productata*, *Costaconvexa centrostrigaria*, *Eupthecia* spp. (2). **ZYGAENIDAE:** *Pyromorpha dimidiata*. **CRAMBIDAE:** *Pyrausta acronialis*, *Palpita magniferalis*, *Herpetogramma* sp., *Crambus laqueatellus*. **PYRALIDAE:** *Scoparia biplagiata*, *Oneida lunulalis*, *Euzophora ostricolorella*. **OECOPHORIDAE:** *Antaeotricha schlaegeri*. **ATTEVIDAE:** *Atteva aurea*. **ELACHISTIDAE:** *Agonepteryx* sp.

Crest of Rocky Face Ridgeline, just SW of Dalton, Whitfield Co.:

April 4, 2012:

**NOCTUIDAE:** *Agriopodes fallax*, *Callopietria cordata*, *Ulolonche modesta* (4; uncommon in N GA), *Lacinipolia anguina*. **GEOMETRIDAE:** *Helimata infulata* (COUNTY).

April 21, 2012, with ILF:

**NOCTUIDAE:** *Apamea vulgaris* (STATE), *Properigia costa* (only known location in Georgia), *Lacinipolia anguina*.

April 29, 2012:

**EREBIDAE:** *Grammia anna* (common), *G. figurata*, *Metria amella* (uncommon in north GA). **NOCTUIDAE:** *Apamea vulgaris* (3), *Properigia costa*, *Ulolonche modesta*, *Lacinipolia anguina*, *Noctua pronuba* (second from this location, first in 10 years). **GEOMETRIDAE:** *Helimata infulata*, *Lytrosis permagnaria* (EARLY).

Carbondale, I-75 exit 326, Whitfield Co.:

**EUTELIIDAE:** *Eutelia pucherrimus*, March 21, 22 and 25, and April 2 and 9 (7 specimens). **NOCTUIDAE:** *Acrionicta dollii*, March 22. **GEOMETRIDAE:** *Erastria cruentaria*, Feb. 25 (Early). **CRAMBIDAE:** *Uresephita reversalis*, April 27 (COUNTY).

Calhoun, Gordon Co. (346 Sunset Drive SE; home of JA):

**NOCTUIDAE:** *Elaphria georgei*, strong flight from mid March to early April.

Pine Log WMA, Bartow Co., April 7, Dan Vickers:

**LYCAENIDAE:** Harvester (*Feniseca tarquinius*; EARLY), Brown Elfin (*Callophrys augustinus*). **HESPERIIDAE:** Cobweb Skipper (*Hesperia metea*; 3), Dusted Skipper (*Atrytonopsis hianna*; 2).

Chattahoochee National Forest, Union County, April 27, Pierre Howard:

**HESPERIIDAE:** Hobomok Skipper (*Poanes hobomok*). **PAPILIONIDAE:** Eastern Tiger Swallowtail (*Papilio glaucus*; many), Appalachian Tiger Swallowtail (*Papilio appalachiensis*; 2). **NYMPHALIDAE:** Meadow Fritillary (*Boloria bellona*; female laying eggs; COUNTY).

Gates Chapel Rd., 8 mi. N.W. Ellijay, Gilmer Co., March 28-30, ILF:

**PAPILIONIDAE:** *Papilio troilus*, *Eurytides marcellus*. **PIERIDAE:** *Anthocharis midea*. **SATURNIIDAE:** *Actias luna*, *Callosamia angulifera*, *C. promethea*, *Dryocampa rubicunda*. **LASIOCAMPIDAE:** *Pyllodesma americana*. **SPHINGIDAE:** *Paonias myops*, *Deidamia inscripta* (probably saw close to 100 of them!!!). **EREBIDAE:** *Hypena bijugalis*, *H. baltimoralis*, *Hemeroplanis scopulepes*, *Phoberia atomaris*, *Zale duplicata*, *Z. calycanthata*, *Z. unilineata*, *Z. metatoides*, *Z. helata*, *Z. lunifera*. **EUTELIIDAE:** *Marathyssa basalis*. **NOLIDAE:** *Baileya dormitans*. **NOCTUIDAE:** *Anagrapha falcifera*, *Megalographa biloba*, *Panthea acronyctoides*, *Charadra deridens*, *Morrisonia confusa*, *M. evicta*, *Feralia major*, *Psaphida electilis*, *Psaphida resumens*, *Lithophane querquera*, *Achatia distincta*, *Orthosia hibisci*, *O. rubescens*, *Egira alternans*, *Leucania adjuta*. **NOTODONTIDAE:** *Furcula borealis*, *Nadata gibbosa*, *Hyperaeschra georgica*, *Symmerista albifrons*, *Ellida caniplaga*. **DREPANIDAE:** (Thyatirinae): *Euthyatira pudens*. **GEOMETRIDAE:** *Macaria fissinotata*.



*M. granitata*, *Lomographa semiclarata* (UNCOMMON), *L. glomeraria*, *L. vestaliata*, *Pero honestaria*, *Besma quercivoraria*, *Eutrapela clemataria* (slightly yellow), *Caripeta angustiorata* (STATE), *Metarranthia angularia*, *Probole amicaria*, *Plagodis fervidaria*, *Cladara anguilineata*, *C. atroliturata*, *C. limitaria*, *Epimecis hortaria*, *Anavitrinella pampinaria*, *Ectropis crepuscularia*, *Phigalea titea*, *P. strigataria*, *Aethalura intertexta*, *Costaconvexa centrostrigaria*, *Horisme intestinata*, *Hydriomena transfigurata*, *Nemoria lixaria*, *N. bistraria*, *Chlorochlamys chloroleucaria*. **PTEROPHORIDAE:** *Hellinsia* sp. (all white)

Sapelo Island, McIntosh Co., March 29, John Hyatt:

**NOCTUIDAE:** *Derrima stellata* (an astounding 8 specimens; likely STATE record; although it should be elsewhere in the state, these are the first specimens for GA of which I am aware).

US 1 near (SE of) Race Pond (at lights) Charlton Co. (N30.981 W82.120) March 2, 2012, Jim Vargo:

**OECOPHORIDAE:** *Decantha stecia* (STATE).

Dawson Forest, March 25, Dan Vickers:

**PAPILIONIDAE:** *Eurytides marcellus*. **PIERIDAE:** *Pieris virginiensis*. **LYCAENIDAE:** *Feniseca tarquinius* (EARLY), *Callophrys niphon*.

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The following Mississippi records are reported by Ricky:

- 1 April 2012, Natchez, Adams County (County Record), *Pyrgus oileus*
- 25 April 2012, Grand Gulf, Claiborne County, *Eumorphia pandorus*
- 8 May 2012, Vicksburg, Warren County, *Paratrea plebejus*
- 9 May 2012, Vicksburg, Warren County, *Catocala insolabilis*, (early for this species)
- 14 May 2012, Grand Gulf, Claiborne County (County Record), *Eumorphia achemon*

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The following selected butterfly records were submitted by Harry LeGrand. Place names refer to counties unless otherwise stated, and records are not new county reports unless indicated. Records are all from February through May 2012. This season was remarkable for its record high temperatures in March (in some cities by several degrees); and with a warmer than normal February, most species were flying 10-14 days earlier than normal. Thus, record early flight dates were made for dozens of species. The best "spring hatch" of *Vanessa virginiensis* and *Vanessa atalanta* in several decades was noted in 2012; there were numerous daily counts of several dozen, with the best count being 100 *Vanessa atalanta*. In addition, though hardly an invasion, there were about five state reports for *Vanessa cardui*. This season was highlighted by a handful of parties exploring several areas of Madison and Buncombe over several weeks in April and May. Many first records were made in Madison, a low-elevation mountain county, and most of these species are known from only one to several other counties in this province.

#### **PIERIDAE:**

*Euchloe olympia*, a follow-up to last spring's remarkable discovery in Madison thankfully yielded a handful of individuals between April 7 and 12. The peak count was five on April 7 by Derb Carter.

*Pyrisitia lisa*, prior to 2012, there was just a single spring record for the mountains. However, this season, all eight reports of the species in the state remarkably came from this region – all from Buncombe and Madison. The peak daily count was an outstanding 10 on May 6 (Doug Johnston).

#### **LYCAENIDAE:**

*Satyrrium kingi*, record early for the state by a week was an adult seen by Bob Cavanaugh in his yard at Newport in Carteret on May 13.

*Callophrys irus*, a well-known colony in Pender had a record flight this season, when Jeff Pippen and Harry LeGrand counted 30 individuals on April 15.



*Callophrys henrici*, just the fourth county record for the mountains was one noted in Madison (COUNTY) on April 12 by Gail Lankford and Doug Johnston.

*Callophrys niphon*, rare for the mountains was one seen in Madison (COUNTY) on April 12 by Gail Lankford and party.

*Glaucopsyche lygdamus*, a record state count of 14 was noted by Doug Johnston at Sandy Mush Game Land in Buncombe on March 22.

### NYMPHALIDAE:

*Libytheana carinenta*, large-scale outbreaks of this species in the state have seldom been reported. An estimated 120 in Northampton, near the Roanoke River, on May 31 (Steve Hall, Harry LeGrand) was a record state count.

*Agraulis vanillae*, by over a month the earliest state record was an adult seen by Bob Cavanaugh on February 17 in Carteret.

*Phyciodes cocyta incognitus*, up to six were seen and photographed by Derb Carter, Will Cook, and Jeff Pippen in Madison on April 8 and 9. This taxon's range and abundance is still not well understood, though it appears not to be rare in parts of the mountains.

*Euphydryas phaeton*, the earliest record for the state by exactly two months was of individuals seen at separate sites in Watauga on March 12 by Mark Rose. At a single locale in Madison, two parties (Eric Shaw on May 6 and Gil Lankford on May 17) each tallied six individuals. Doug Johnston also saw two in Buncombe on May 20.

*Vanessa cardui*, Taylor Piephoff had a notable spring count of three individuals in Mecklenburg on April 28.

*Lethe portlandia*, only a second county record for the mountains was one photographed by Janie Owens on May 26 in Transylvania (COUNTY).

*Lethe creola*, supported by photos in each instance, first county records were made by Ali Iyoob on May 8 in Orange (COUNTY) and by Janie Owens on May 28 in Buncombe (COUNTY). The latter record is quite rare for the mountain region.

### HESPERIIDAE:

*Autochton cellus*, always of note, this rarity was seen at a site in Madison on both May 6 (Eric Shaw party) and May 17 (Gail Lankford party). A third report came from Graham, where Logan Williams saw one on May 17.

*Staphylus hayhurstii*, just the second county record for the mountains, three adults were seen in Madison (COUNTY) on May 6 by Eric Shaw and party.

*Erynnis martialis*, several individuals of this rare species were found in Madison from April 7-9 by Derb Carter and others.

*Hesperia metea*, singles seen in Madison (COUNTY) on April 9 (Jeff Pippen, Will Cook) and on April 12 (Gail Lankford party) represented just the third county record for the mountain region.

*Poanes yehl*, this species has a very rare or poorly-known spring brood in the Piedmont region; thus, quite notable was the observation of four adults along the Haw River in Chatham on May 28 (Richard Stickney).

*Atrytonopsis hianna*, this species is rare in the mountains, and a first for Madison (COUNTY) was reported by Gail Lankford and others on April 12, and Doug Johnston saw another in that county on April 20. Johnston had an excellent mountain tally of nine adults in Buncombe on May 6.

*Calpodus ethlius*, seldom seen in the state prior to July, remarkable were spring sightings of adults at Newport in Carteret on May 23 (Bob Cavanaugh) and at Raleigh in Wake on May 30 (Richard Stickney).

The following selected moth records were provided by Parker Backstrom, all from sites in the vicinity of the Deep River in the eastern Piedmont.

### GEOMETRIDAE:

*Lytrosis permagnaria*, photographed in Chatham County on May 3 (COUNTY/PIEDMONT). This is the first record for this rare species from east of the mountains.

### LASIOCAMPIDAE:

*Heteropacha rileyana*, photographed in Chatham County on April 3. One of a large suite of honeylocust feeders recorded in this vicinity.



*Lytrosis permagnaria* [Photographed by Parker Backstrom, May 3, 2012 (Chatham County)]



*Phyllodesma americana*, photographed in Chatham County on March 15.

**NOCTUIDAE:**

*Crambodes talidiformis*, photographed in Chatham County on May 8 (COUNTY/PIEDMONT). This species has previously been recorded in North Carolina only from the mountains.

*Cynia oregonensis*, photographed in Chatham County on May 9 (COUNTY).

*Eutelia pulcherrimus*, photographed in Chatham County on April 4 and May 2 (COUNTY).

*Nycteola metaspilella*, collected in Lee County on Feb 15. NC records for *Nycteola* may all belong to this species.

*Oligia chlorostigma*, photographed in Chatham County on May 17 (COUNTY).

*Psaphida grandis*, observed in Chatham County on February 24 and 29 (COUNTY).

**SATURNIIDAE:**

*Hyalophora cecropia*, observed in Chatham County on April 17 and 18.

Other miscellaneous moth records from North Carolina this past spring and late winter include:

**GEOMETRIDAE:**

*Helimata infulata*, photographed by Ali Iyooob at Falls Lake State Recreation Area on May 2. Dwarf locusts, the host plant for this species, are known to occur in the general area.

**NOCTUIDAE:**

*Eutelia pulcherrimus*, photographed by Ed Corey at Hammocks Beach State Park, Onslow County on March 30. This uncommon species has been previously recorded in Onslow County at Camp Lejeune (Hall, April 26, 1995).

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Ed sends in the following Spring 2012 report for Texas:

After such severe drought in 2011, 2012 started with mild weather including abundant rainfall in much of the state including east, central, and south Texas. West Texas has remained fairly dry.

Several butterflies have had outbreaks of unusual abundance, including *Nymphalis antiopa*, *Papilio palamedes*, and *Eurytides marcellus*, with the establishment of several new county records for each.

It was interesting to note that the massive outbreak of *N. antiopa* in extreme east Texas was the first of its kind in 30 years. In Beaumont, *P. palamedes* occurred en masse during early spring, which is usually just a late-summer straggler, and it also showed up in Dallas and Kaufman Co.'s for the first time.

Flights for many spring butterflies and moths seemed to be about 2 weeks earlier than usual, perhaps due to warm and rainy weather in early spring. Large outbreaks of *Colias eurytheme*, *Agraulis vanillae*, *Vanessa atalanta*, and *Polygonia interrogationis* also occurred.

**Other interesting butterflies reported included:**

*Proteides mercurius*, *Astrartes fuligator*, Hidalgo Co., Santa Ana NRW, 22-III-12, Mike Rickard; *Polygonus leo*, Sabine Co., Colorow Cr., 28-IV-12, C. Bordelon; *Megathymus yuccae reithalli*, *Atrytonopsis hianna*, *Amblyscirtes alternata*, Sabine Co., Fairmount, 16-18-III-12, Bordelon & Knudson; *Eurytides philolaus* Hidalgo Co., Mission, 1-IV-12, Mike Rickard; *Euchloe olympia*, Dickens Co., Dickens Spring Pk., 14-III-12, Jack Carter; *Aphrissa statira*, Jefferson Co., Beaumont, 12-IV-12, C. Bordelon; *Adelpha basiloides*, *Anartia fatima*, Santa Ana NRW, 14-III-12, Mike Rickard.

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Saturniid and Sphinx Moths

*Eupackardia calleta*, Medina Co., Devine, 21-28-II-12 (early!) Maury Heiman; *Callosamia promethia*, Sabine Co., Six Mile, 16-III-12, C. Bordelon (a gravid female which produced 16 viable pupae, several of which have emerged by 28-V-12 on Sweet Gum); *Isoparce cupressi*, *Ceratomia undulosa*, *Amorpha juglandis*, *Paonias excaecatus*, Sabine Co, Six Mile, 16-18-III-12, Bordelon & Knudson; *Manduca rustica*, Sabine Co., Fairmount, 28-IV-12, C. Bordelon; *Dolba hyloeus*, Sabine Co., Six Mile, 28-30-IV-12, Bordelon & Knudson; *Paratreia plebeja*, Harris Co., Spring Valley, 20-V-12, and also in Beaumont, C. Bordelon.

Noctuoidea

*Litocala sexsignata*, *Eupseudomorpha brillians*, Dickens Co., Dickens Spring Pk, 14-III-12, Jack Carter; *Latebraria amphipyroides*, Starr Co., Falcon Heights, 9-V-12, Berry Nall; *Morrisonia triangula*, *Acronicta triton*, *A. americana*, *A. retardata*, *Drasteria grandirena* Sabine Co., Six Mile, 16-18-III-12, Bordelon & Knudson; *Dasychira atrivenosa*, *Catocala crataegi*, *C. pretiosa*, *C. gracilis*, *C. ilia*, *C. micromympha*, *Argyrostroma anilis*, undescribed *Apameine* cane moth (our first!); *Catocala muliercula*, Jefferson Co., Beaumont, 25-IV-12, C. Bordelon; *Pygarctia neomexicana*, Brewster Co., Marathon, 18-V-12, York & Trudell; *Neoplynes eudora* Aransas Co., Stedman Isl. 9-V-12, James McDermott.

Sesiidae

*Paranthrene simulans*, Jefferson Co., Beaumont, 3-V-12, C. Bordelon; *Vitacea scepisiformis*, same location, 10-V-12, *Carmenta odda*, same location, 6-V-12.

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