

NEWS

OF THE

LEPIDOPTERISTS' SOCIETY

Volume 51, Number 1 Spring 2009



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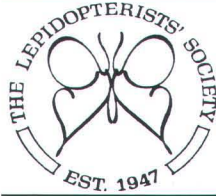
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Volume 51, Number 1
Spring 2009



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The Lepidopterists' Society is a non-profit educational and scientific organization. The object of the Society, which was formed in May 1947 and formally constituted in December 1950, is "to promote internationally the science of lepidopterology in all its branches; to further the scientifically sound and progressive study of Lepidoptera, to issue periodicals and other publications on Lepidoptera; to facilitate the exchange of specimens and ideas by both the professional worker and the amateur in the field; to compile and distribute information to other organizations and individuals for purposes of education and conservation and appreciation of Lepidoptera; and to secure cooperation in all measures" directed towards these aims. (Article II, Constitution of The Lepidopterists' Society.)

The **News of the Lepidopterists' Society** (ISSN 0091-1348) is published quarterly by The Lepidopterists' Society, c/o Los Angeles County Museum of Natural History, 900 Exposition Blvd., Los Angeles, CA 90007-4057, USA., and includes one or two supplements each year. The **Season Summary** is published every year as Supplement S1 and is mailed with issue 1 of the News. In even numbered years a complete **Membership Directory** is published as Supplement S2 and is mailed with issue 4 of that volume of the News. Please see the inside back cover for instructions regarding subscriptions, submissions to, and deadline dates for, the News.

Periodicals Postage paid at Los Angeles, CA and at additional mailing office (Lawrence, KS).

POSTMASTER: Please send address changes to **News of the Lepidopterists' Society**, c/o Los Angeles County Museum of Natural History, 900 Exposition Blvd., Los Angeles, CA 90007-4057.

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Correction

In the Autumn/Winter, 2008 , Number 3,4 issue, the Editor mistakenly ran two photos on pp. 75 as the robber fly *Wyliea mydas*. In fact, the photo on right is a mydas fly, *Mydas xanthopterus* in the same mimicry complex.

Issue Date: March 3, 2009

ISSN 0091-1348

Front Cover:

Paralaxita orphna. Photo by Steve Fratello. See article on pp. 16.

Conservation Matters:
Contributions from the Conservation Committee

Efforts to Restore the Baltimore Checkerspot (*Euphydryas phaeton*) in Maryland

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Until the early 1990s, the Baltimore Checkerspot was common in central and far western Maryland within its wet meadow habitat, historically reported from 15 of the state's 23 counties. The orange-and-black wing markings of *Euphydryas phaeton*, the only representative of its genus on the East Coast, are reminiscent of the Maryland State flag, which is based on the family coat of arms of George Calvert, the first Lord Baltimore. At the urging of the Maryland Entomological Society, in 1973 the butterfly became Maryland's official state insect, joining 16 other icons of the state, which include the Baltimore oriole, blue crab and black-eyed Susan.

That few Marylanders have seen their state insect is not surprising. In recent decades, much of the state's Piedmont pastureland, where Baltimore Checkerspot colonies were once found with some frequency, has given way to development. Most of the state's few remaining colonies are remotely located in rocky bottomlands traversing power line rights of way or in high elevation bogs, and only where there also is an abundance of the species' primary regional host, white turtlehead *Chelone glabra*, and where adjacent fields provide consistent and plentiful sources of nectar throughout the univoltine species' June-July flight. The sedentary Baltimore Checkerspot tends to stay close to its natal colony.

By the early 1990s, field reports began to suggest that the species was losing ground in the state. Development radiating west from the Baltimore-Washington corridor was an obvious

cause, but colonies in undeveloped areas had winked out as well. Similar reports from other mid-Atlantic states suggested a region-wide decline. The loss of a population at Ward Pound Ridge in Westchester County, NY over the past decade suggests an even more extensive decline (H. Zirlin, pers. comm.).

Circumstances in Maryland point, at least in part, to the region's rapidly expanding population of white-tailed deer, known for their taste for white turtlehead, primary host of the region's Baltimore Checkerspot population. Extensively browsed turtlehead has been observed at most Baltimore Checkerspot sites in Maryland. Browsing does not necessarily destroy the plant, but can sever eggs or larvae on ingested leaves. The top leaves, most preferred by deer, are also where the female Baltimore Checkerspot typically deposits her lifetime's production of eggs, usually in three or four nickel-sized batches of 100-700 eggs, and where early instar larvae locate their communal webs. It is not unusual to find more than one egg batch on a single plant – sometimes on the same leaf — or a number of egg batches on plants in close proximity. Thus, it is possible for a single browsing deer to destroy hundreds of eggs or larvae within a matter of seconds.

Deer overpopulation is increasingly implicated as a cause of butterfly species decline in the East. The apparent extirpation of Mottled Duskywing *Erynnis martialis* from Maryland is linked to extensive deer browse on the species' host, New Jersey tea. (R.H.

Smith Jr., pers. comm.) *The Connecticut Butterfly Atlas* ranks deer impact as the third highest threat to the state's butterfly species.

Other possible explanations for the Baltimore Checkerspot's decline in Maryland include introduced insect predators and parasitoids, stepped-up spraying for gypsy moth, increased use of herbicides to control vegetation on utility rights of way, succession of former pasture fields, and a trend in remaining rural areas away from dairy farming in favor of row crops. Global warming may also be a factor, possibly nudging the species into colder areas of the state.

By 2000, only five large and distinct colonies were known to remain in Maryland. When results of the Maryland Rare Butterfly Survey of 2002-2003, sponsored by the state's Wildlife and Heritage Service, confirmed the species' decline, *E. phaeton* was added to Maryland's endangered list, with the designation S-3 ("watch-listed"). At this level, the state is not required to track the species, nor is the species eligible for state-funded conservation funds. In 2002, the Washington (DC) Area Butterfly Club launched the Baltimore Checkerspot Restoration Project (BCRP) as its main conservation effort. BCRP has no formal funding and its work is performed entirely by a few knowledgeable volunteers.

Surveying and Monitoring

From its inception, BCRP has conducted surveys to monitor existing Baltimore Checkerspot colonies and

search for previously unknown colonies. Because the flying season is so short, searching for potential sites continues into the summer. Promising sites are put on a list to survey the following year. In 2008, the state's Wildlife & Heritage Service hired two BCRP volunteers for a dedicated Baltimore Checkerspot survey, which will conclude in June 2009. The results of this survey may lead to an increased imperiled ranking of the Baltimore Checkerspot in Maryland, potentially making the species eligible for state-funded conservation efforts.

By 2008, five additional colonies had been added to the list, increasing the number of BCRP-verified Maryland colonies from five to ten. One of those colonies was a chance discovery by volunteer botanists searching for rare plants on recently sold Montgomery County farm. The surprising find in Montgomery County, where the Baltimore Checkerspot was thought to be extirpated, spurred a more intensive BCRP search of the county's 90,000-acre, rurally zoned Agricultural Reserve in 2006. BCRP developed and distributed a brochure on how to identify the Baltimore Checkerspot, and conducted an identification workshop for 26 residents of the Agricultural Reserve. A list of promising sites was drawn up and their owners contacted about permission to survey their land. Although no additional colonies were discovered during the six-week search of the Agricultural Reserve, one of the surveyed sites would become BCRP's first Baltimore Checkerspot introduction project.

Introduction

Rubin's Marsh was chosen for a small, trial introduction site for a number of promising attributes. Its small but healthy white turtlehead population indicated conducive conditions for the plant. The wetland supports a vibrant population of MulberryWing *Poanes massasoit*, a skipper species that often occurs with Baltimore Checkerspot. The surrounding fields are well-populated with nectar sources that

bloom during the annual Baltimore Checkerspot flight. Moreover, the landowner, an enthusiastic conservationist, was willing to help underwrite the project, and he had already placed his land in permanent conservation, meaning that any colony that might be established would be protected from development. The landowner provided manpower to install 400 additional first-year turtlehead plants in five plots and installed deer exclosures around each plot. BCRP prepared the plots, supplied the turtlehead "plugs," and supervised the project.

In late June 2008, BCRP collected four gravid females from existing Maryland colonies, two from a Piedmont colony in Frederick County and two from a colony in a privately owned high-altitude bog in Garrett County. The females were confined on white turtlehead, where they deposited only three batches of eggs. The resulting larvae were hand-reared on the turtlehead through the third instar, when Baltimore Checkerspot larvae enter a period of aestivation that extends into late fall. In early August, two webs, containing an estimated 300-400 aestivating larvae, were attached to mature turtlehead plants within the marsh. The larvae were checked by BCRP in late September, early October, late October and mid-November. After more than three months on their own, the larvae had consolidated within a single web and appeared healthy. By late November, they had abandoned the web and presumably retreated to the leaf litter for the winter. BCRP will resume regular monitoring in mid-April, when Baltimore Checkerspot larvae normally emerge to complete metamorphosis. During spring and summer 2009, BCRP will periodically weed the turtlehead plots to prevent the young plants from being overrun by more mature vegetation and will introduce more captive-bred larvae. If this trial introduction is successful, BCRP will attempt similar introductions at other sites where conditions seem promising.

Habitat Enhancement

Meanwhile, five sites in Maryland are in the process of being enhanced with white turtlehead and appropriate nectar plants in preparation for potential introductions. The high cost of nursery-grown perennials and the eventual need for potentially thousands of white turtlehead plants to enhance habitat has necessitated BCRP's learning how to propagate the plant in quantity. Success was elusive until we discovered that white turtlehead seeds take much longer than most perennials to germinate, and that fumigating the seeds to destroy parasite larvae was necessary to achieve a satisfactory germination rate. Fumigating, which is done before the seeds are stratified, is achieved by storing the seeds for three days in an air-tight container containing a No-Pest Strip. (D. Gibbs, pers. comm.) A number of volunteers are propagating white turtlehead for future enhancement projects.

BCRP is still working out methods to prevent young turtlehead plants installed at remote enhancement sites from being overrun by existing vegetation and from drying out before their roots become established. At Rubin's Marsh in 2008, we tried plantings in the fall, when adjacent vegetation is less active and cooler weather is less likely to desiccate the newly installed plants.

Captive Rearing

With the turtlehead propagation problem resolved, BCRP's next challenge is to develop a source of captive-reared stock for our initial introduction project at Rubin's Marsh and for possible future introductions. In anticipation, BCRP has been working with the Maryland Zoo in Baltimore since 2004 to establish a captive-rearing facility, the Zoo's signature project for the Butterfly Conservation Initiative, sponsored by the American Zoo and Aquarium Association. The Zoo's horticultural department has successfully propagated

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The Genus *Hamadryas* (Nymphalidae: Biblidinae: Ageroniini) in Texas, with a Report of a New Record for Texas and the USA

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Hamadryas Hübner [1806] is a Neotropical genus of about 20 species which are easily distinguished by adult and larval characters; however certain species and subspecies are confusingly similar and are frequently misidentified in collections, and sometimes in the literature. Many popular butterfly books and field guides published before 1983 have errors in identification and ranges of this genus. The intention of this article is to provide illustrations of those species that have been recorded from Texas, and to provide some helpful hints to identification. For guidance, we have relied on the Dale Jenkins 1983 revision of the genus.

Hamadryas are basically forest butterflies, which will come out into open areas around the edges of the woods occasionally; especially if attracted to suitable baits, sap flows, or rotting fruit. *Hamadryas* are rarely attracted to flowers, but this has been observed on *Hispanola* (Schwartz, 1989). *Hamadryas* typically perch on tree trunks with wings outspread in a head-down position, but may alight on nearby foliage or on the ground.

They are agile in flight, with a "flap-glide" pattern reminiscent of *Myscelia ethusa*, which they are often found with in Texas. Males (and some females) of most species are well-known for sound-production; usually described as "clicking" or "cracking" sounds occurring during flight only, and usually in the company of other males. The sound-producing phenomenon is rarely heard in Texas, as only solitary individuals are usually found there. The sound production has been attributed by various authors to "sclerotized rods"

on the male genitalia, but more recently has been demonstrated to be caused by modified thickened veins on the male forewing (Otero, 1990).

Hamadryas are fairly long-lived as adults. The same individuals sometimes have been observed for over a month in the same location. The spiny larvae feed on Euphorbaceae (*Dalechampia* sp. in Mexico and *Tragia* sp. in Texas.) For more detailed information of *Hamadryas* behavior and life history, see Young & Borkin, 1985.

Locating *Hamadryas* in Texas and other places mainly involves baiting. The authors use a mixture of over-ripe fruit (bananas, mangos, papayas), brown sugar, beer, and yeast. The bait works best when active fermentation occurs. This mixture is usually smeared on tree trunks, close to the edge of dense woods. It can also be used in bait traps, although these traps quickly fill up with *Asterocampa* spp., flies, bees, and wasps. *Hamadryas* may also be found in deeply shaded, but relatively open woods.

Of the six *Hamadryas* species attributed to Texas, three are known from only one record (*H. iphthime joannae*, *H. amphinome mexicana*, and *H. glauconome glauconome*); one from less than 10 records (*H. feronia farinulenta*); and two from more than 10 records (*H. februa ferentina* and *H. guatemalena marmarice*). Two species previously attributed to Texas in the literature (*H. fornax fornicalia* and *H. amphichloe ferox*) were based on misidentified specimens, (Jenkins, 1983). Two species are recorded from Arizona (*H. glauconome grisea* and *H. atlantis lelaps*) from one record each,

(Bailowitz & Brock, 1991), and one species is recorded from Florida (*H. amphichloe diasia*) (Jenkins, 1983, 1985).

***Hamadryas februa ferentina* (Godart) [1824]**

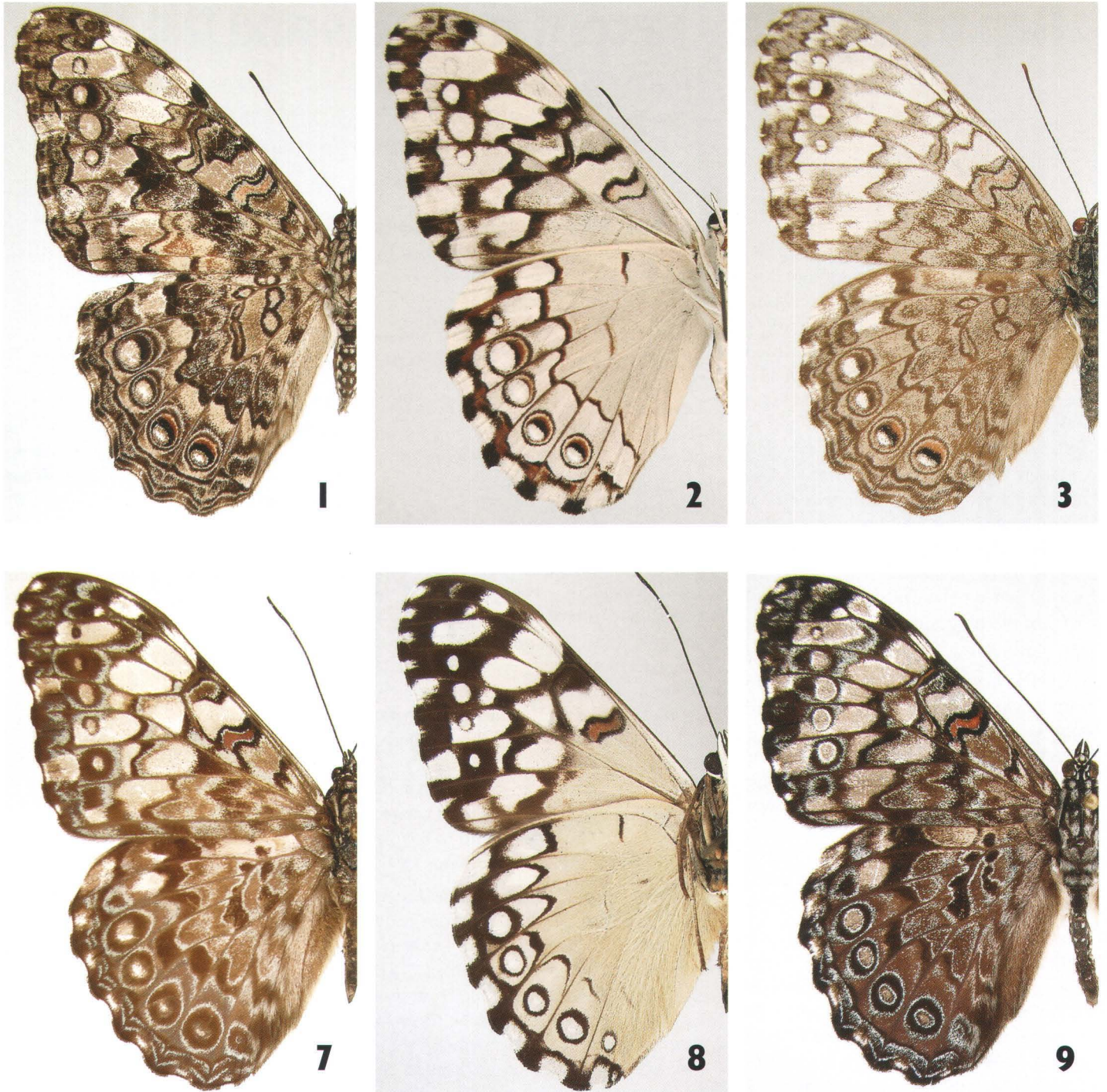
Historically, the most frequent species to occur north of Mexico and also the most widespread and abundant species from Mexico south to Brazil. This species was reported from Texas by McGuire & Rickard, 1974. In recent years (2003-2008), *Hamadryas guatemalena marmarice* has been the most commonly found species in south Texas.

H. f. ferentina is distinguished by the gray-brown "calico" pattern on the upperside with little, if any blue or purple scaling; and white to buff underside, with orange scales in the hindwing ocelli. Among the species in Texas, it is most likely to be confused with *H. iphthime joannae* (see remarks below, under *H. i. joannae*). *H. f. ferentina* has been found from June-January in south Texas, as far north as Victoria, TX. Usually found as single individuals, occasionally gatherings of 5-10 individuals may be found in deep shade. As is the case with similar species, old and worn individuals may appear whitish, with a washed-out pattern.

***Hamadryas glauconome glauconome* (Bates) 1864**

The nominate subspecies is newly recorded from Texas and the USA, based on a single male specimen collected in Starr Co., TX, 5 miles N. Rio Grande City, on 8 Nov., 2008, by the senior

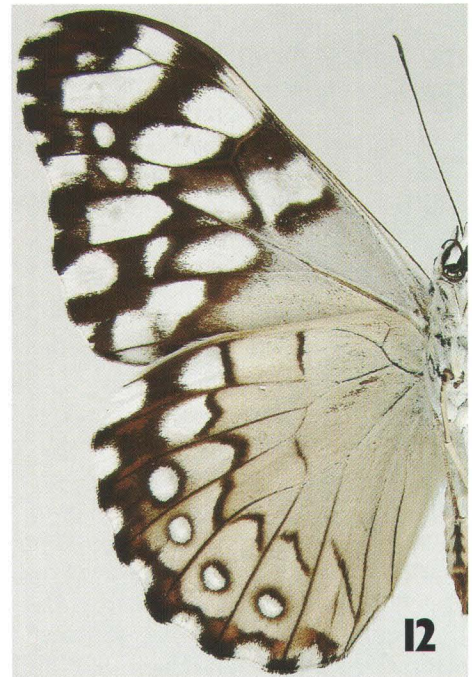
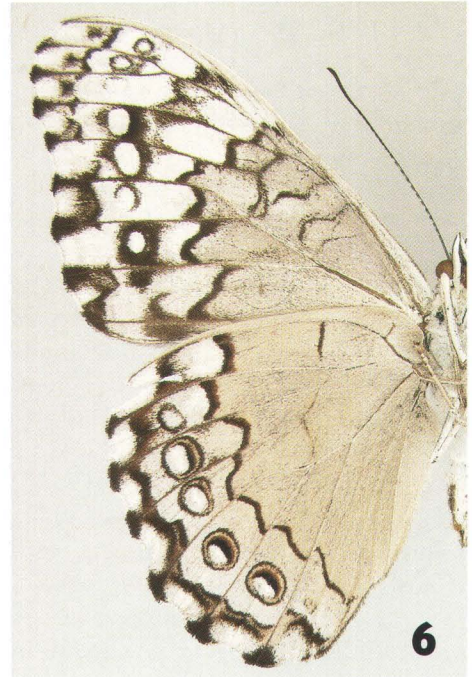
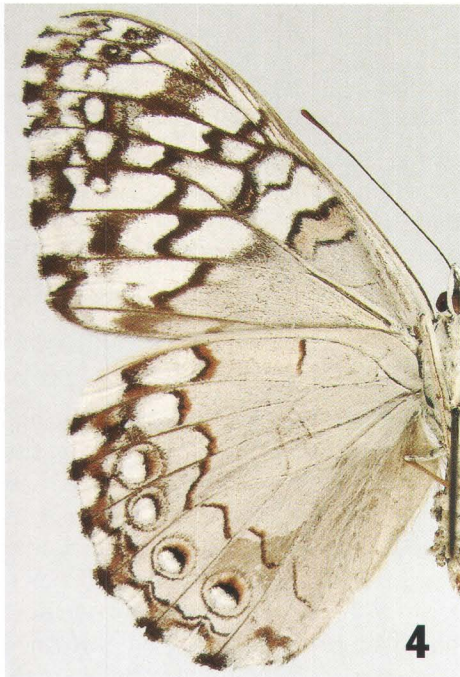
The Genus *Hamadryas* in Texas, with a



Hamadryas in Texas...

Fig.1 *Hamadryas februa ferentina* male, USA: TX: Hidalgo Co., Mission, La Lomita, 17-XI-07, leg. C. Bordelon, Texas Lepidoptera Survey collection. **Fig.2** (same, underside). **Fig.3** *Hamadryas amphichloe diasia* female, Dominican Rep., 24-VI-94, leg. G. Muise. TLS coll. **Fig.4** (same, underside.). **Fig. 5** *Hamadryas glauconome glauconome* male, USA: TX: Starr Co., 5 mi. N of Rio Grande City, 8-XI-08, leg. C. Bordelon. TLS coll. **Fig. 6** (same, underside). **Fig.7** *Hamadryas feronia farinulenta* male, USA: TX: Hidalgo Co., Loop 374, 6 miles west of Mission, 15-VII-72 leg. W. & N. McGuire,

Report of a New Record for Texas and the USA



Texas A&M (Kendall Collection). **Fig.8** (underside, same data) **Fig.9** *Hamadryas guatemalena maramice* male, USA: TX: Hidalgo Co., Mission, La Lomita, 20-X-07 leg. C. Bordelon, TLS coll. **Fig.10** (underside, same data). **Fig.11** *Hamadryas iphthime joannae* male, MX: Chiapas: Playa del Gloria, VIII-02 TLS coll. **Fig.12** (underside, same data). Figures continued on pp. 9.

author. A different subspecies, *H. glauconome grisea* Jenkins occurs in western Mexico and was collected once in southeastern Arizona (Bailowitz & Brock, 1991.) The nominate subspecies is distinguished from others by having a "chalky" confluent white patch in the subapical area of the forewing, which is less pronounced in the females. The upperside of the wings is gray, variably suffused with light blue to purplish-blue scales. These colors tend to fade in specimens weeks after death. The underside of the wings is white to cream, with a slightly "flattened" contour of the hindwing ocelli. This is the only species treated here that has any significant sexual dimorphism.

The western (and Arizona) subspecies has a reduced white patch on the forewing and less blue scaling, so that it superficially resembles *H. februa ferentina*. *H. g. glauconome* occurs south to Costa Rica and is common in Mexico. It was predicted by the authors to stray to Texas (Bordelon & Knudson, 2001).

***Hamadryas feronia farinulenta* (Fruhstorfer) 1916**

Although reported from Texas with some frequency, we know of few confirmed records. This species has been confused with *H. guatemalena marmorice*, both in the older, and recent literature.

The illustrated example was the single Texas specimen found in the Kendall Collection at Texas A&M University, and is the example cited by Jenkins, 1983. Other records are in McGuire & Rickard, 1974, and Sassine (pers. comm.), specimen lost. Therefore, we must conclude that this is, at best, a rare stray to Texas. *H. f. farinulenta* is distinguished by blue to purple coloration in fresh specimens, and buff to yellow ground color on the underside. The hindwing ocelli are black, with a white center and a blue outer band. The underside of the FW lacks the white subapical spot that is found in the next species. This subspecies is common in Mexico, south to Brazil.

***Hamadryas guatemalena marmorice* (Fruhstorfer) 1916**

This species was first reported from the USA from a specimen collected by Frank Hedges in Hidalgo Co., TX, Bentsen State Park in 1974. (Kendall & McGuire, 1984). It has subsequently become a frequent stray and probably is at least a temporary resident in the lower Rio Grande Valley of Texas. *H. guatemalena marmorice* occurs only in Mexico and extreme south Texas. It is distinguished from *H. feronia farinulenta* by overall larger size and broader forewings; a tendency to have more greenish-blue coloration in fresh specimens, hindwing ocelli with black ring having both inner and outer blue rings and a grayish pupil, and possessing a white subapical spot on the underside of the forewing. This butterfly is known from at least 20 specimens and many live photos from the valley in the past 5 years. Known from June - March.

***Hamadryas iphthime joannae* Jenkins, 1983**

This is known from the USA and Texas from a single specimen collected in Burnet Co., Texas, (date unknown), which is in the American Museum of Natural History. Another specimen, found in the Carnegie Museum, was of the nominate subspecies, which does not occur in Mexico and was believed to be mislabeled (Jenkins, 1985.) Despite this dubious history, this is a species that is likely to stray to Texas on occasion, as it not uncommon in northern Mexico. This butterfly is very similar to *H. februa ferentina*. The mid-costal bar on the forewing does not usually have any red; the underside of forewing has a subapical white spot and heavier black margins over the distal third; the HW ocelli lack any brown or red, and the hindwing ground color is yellowish-white.

***Hamadryas amphinome mexicana* (Lucas) 1853**

This species is known from a single confirmed record from Texas and the USA, (Kendall, 1974).

The specimen is illustrated here. There are a few other unsubstantiated sightings. This distinctive butterfly can be confused with nothing else, except, perhaps *H. belladonna* (Bates), which is found only in South America. The brilliant blue upperside, with a white forewing band and the brick-red underside are most distinctive. *H. amphinome mexicana* is a common and wide-ranging species, occurring from south Texas to northern South America.

***Hamadryas fornax fornicalia* (Fruhstorfer) 1907**

We include this species because it has been reported from Texas in the literature, based on misidentified specimens and photographs. (Jenkins, 1983,1985). Scott, 1986, included, and correctly illustrated this species as a stray to Texas, but did not provide data for this record. There are no confirmed USA records. The illustrated example should enable easy identification. This subspecies ranges from Tampico, Mexico to northern South America.

***Hamadryas amphichloe ferox* (Staudinger) 1886**

This has been erroneously reported from Texas in the older literature. This subspecies occurs in northern South America. We illustrate *Hamadryas amphichloe diasia* (Fruhstorfer) 1916, which is the subspecies that occurs in the West Indies and Florida (rare). *H. a. ferox* differs in having more blue on the upperside. Scott, 1986, placed this species in the synonymy of *H. glauconome*, but this has not been followed by subsequent authors.

Literature cited

- Bailowitz, R. & J. Brock, 1991. Butterflies of Southeastern Arizona Sonoran Arthropod Studies Inc. Tucson 260-262.
- Bordelon, C. & E. Knudson, 2001. Illustrated Checklist of Butterflies of the Lower Rio Grande Valley, Texas, Texas Lepidoptera Survey, pub. 9a, Houston (private).
- Jenkins, D. 1983. Neotropical Nymphalidae. 1. Revision of *Hamadryas*. Bull. Allyn Mus. 81. 1-46.
- Jenkins, D. 1985. *Hamadryas* in the United States (Nymphalidae). Jour. Lepid. Soc., 98 (3) 171-175.



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Kendall, R. 1974. Confirmation of *Rhopalocera* (Pieridae, Nymphalidae) previously recorded for Texas and the United States. *Jour. Lepid. Soc.* 28 (3) 249-252.

Kendall R. & W. McGuire 1984. Some New and Rare Records of Lepidoptera Found in Texas. *Bull. Allyn Mus.* 86 1-50.

McGuire W. & M. Rickard 1974. An Annotated Checklist of Butterflies of Bentsen-Rio Grande Valley State Park and Vicinity. Texas Parks and Wildlife Dept. Mimeo, 1-23.

Otero, L.D. 1990. The Stridulatory Organ in *Hamadryas* (Nymphalidae) Preliminary Observations. *Jour. Lepid. Soc.* 44 (4) 285-288.

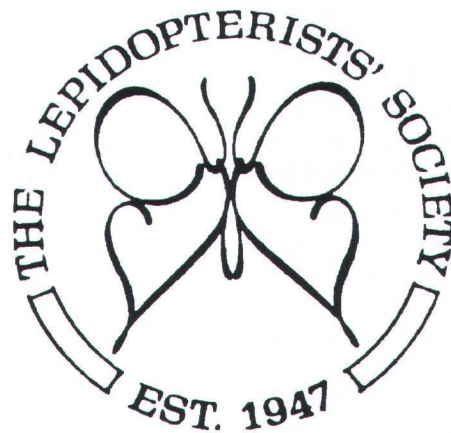
Schwartz, A. 1989. The Butterflies of Hispaniola. University of Florida Press, Gainesville 345-349.

Scott, J., 1986. The Butterflies of North America. Stanford University Press, Stanford, CA, 266-271.

Young, A. & S. Borkin, 1985. Natural History Notes for Some *Hamadryas* Butterflies (Nymphalidae: Nymphalinae: Ageronini) in Northwestern Costa Rica During the Dry Season. *Jour. Lepid. Soc.* 39 (3) 229-235.

Acknowledgements

The authors wish to thank Texas A & M University, Dept. of Entomology, for permission to photograph specimens from the R.O. & C.A. Kendall Collection.



Hamadryas figures (cont.)

Fig.13 *Hamadryas amphinome mexicana* male, USA: TX: Hidalgo Co., Bentsen State Park, 3-IX-72 leg. W. & N. McGuire, Texas A & M (Kendall coll.). **Fig.14** underside, same data. **Fig.15** *Hamadryas fornax fornicalia* male, El Salvador: (no date) TLS coll. **Fig.16** underside, same data.



Baeotis zonata (R. Felder, 1869) (Riodinidae): A New Record for Arizona and the United States

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Montosa Canyon, Santa Rita Mts., Santa Cruz Co., Arizona (31.673056, -110.938611, ca. 4400' or 1340 m) is one of the top spots to find butterflies in Southeastern Arizona. Located in the Coronado National Forest a bit south of the well-known Madera Canyon, and about 24 miles from the Mexican border, this east-west canyon has mesquite, acacia, grasses, and various flowering shrubs; the intermittently-flowing riparian area features desert and netleaf hackberry, desert broom, wild cotton, and willow, while the steep and rocky hillsides sport ocotillo and cacti. The area is home to an incredible diversity of butterflies, especially during the fall months.

The authors were searching for butterflies at this location on October 22, 2008, a day we found fifty species. We joked about finding one or more rarities. About 3:00 PM, we found ourselves heading down canyon on the road near where a large culvert carries the stream under the roadway. There was much turpentine bush (*Ericameria laricifolia* = *Haplopappus laricifolium*) blooming in the area. We both began searching the blooms on the right side of the road, when John said, with mock severity, "Shouldn't you be on the other side of the road?" Within a few minutes of examining the blooms on the left, Judy noticed a small, strange, black-and-yellow insect nectaring on the turpentine bush. In a no-nonsense voice, she urgently summoned John to see the creature. The excitement in her voice had him immediately running over, net poised to swing. Upon seeing an insect he was completely unacquainted with, John instantly netted it.

For the first instant John thought he had caught a day-flying moth. Then Judy pointed out the antennal clubs. The next thought that came to mind was a very faded *Microtia elva*, a species which had been reported twice recently in the same mountain range, but which neither of us had ever seen before. The catch was papered and temporarily put out of mind as the authors continued exploring the blooming plants, adding several more species to the day's total.

Once pinned and spread (Fig. 1, pp.30), doubts immediately surfaced regarding the identity of the butterfly. An internet search was unable to pin a name to the creature. Two days later, John brought the mystery butterfly to Doug Mullins, a lepidopterist with much experience, including with Mexican butterflies. Within a second of opening the box containing the prize, Doug pronounced the creature a male *Baeotis zonata*, a new species and genus for the state of Arizona. At this point, we expected that, surely, *B. zonata* had already turned up in Texas, but were unable to find the species or even the genus listed in a recent catalogue (Pelham, 2008). An excited phone call to Jim Brock to share the news revealed that the life history of *B. zonata* is not yet known.

Here is a summary of what is known about the species in Mexico. *Baeotis zonata* is widely distributed in eastern and western Mexico, and has been reported from Sonora, Sinaloa, Nayarit, Jalisco, Colima, Michoacán, Guerrero, Morelos, México, Oaxaca, Chiapas, Veracruz, Puebla, San Luis Potosí, Campeche, Quintana Roo and Yucatán (Llorente et al. 2006). The species is generally distributed below about 2000 m elevation, and inhabits a wide

variety of habitat types, ranging from lowland tropical forest to seasonally dry thorn scrub, as well as disturbed semi-urban areas. *B. zonata* is usually encountered as solitary individuals, rarely are more than 5 individuals seen in a day, usually just one. Adults tend to be less active during morning hours, often perched on the undersides of leaves, and are most active during late afternoon hours, when they are most frequently seen in flight, and at damp ground (pers. comm. A. Warren, 2008).

Baeotis zonata is also known as the "Bumblebee Metalmark," or the "Square-spotted Yellowmark." The voucher specimen is currently housed in the collection of the senior author.

Acknowledgements

The authors wish to thank Doug Mullins for determining the species, and Jim Brock and Andy Warren for discussions and information regarding what is known about this insect. We also wish to thank Richard Bailowitz for reading and commenting on a draft of this article.

Literature Cited

- Llorente, J. E., A. M. Luis & I. F. Vargas. 2006. Apéndice general de Papilionoidea: lista sistemática, distribución estatal y provincias biogeográficas, pp. 945-1009. In: Morrone, J. J. & J. Llorente (Eds.). Componentes Bióticos Principales de la Entomofauna Mexicana. Las Prensas de Ciencias, UNAM, Mexico, D. F. 2 Vols.
- Pelham, J. P. 2008. A Catalogue of the Butterflies of the United States and Canada. Journal of Research on the Lepidoptera (Vol. 40).
- Warren, A. D. October 31, 2008 e-mail to John Saba and Judy Winslow.



A Visit to the Home of the Famous Entomological Author Jean-Henri Fabre

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Jean-Henri Casimir Fabre (1823–1915) lived all of his life in southern France. Although he had a very diverse career as a teacher of physics, mathematics, and chemistry, a writer of poetry, an expert on fungi and lower plants, and a composer of music, he is best remembered for his popular-level writings on insect behavior. Fabre's immense popularity as an author was partly due to the fact that the public in Europe and North America was increasingly literate and able to buy and own books. Books of course supplied a choice activity needed for leisure time at home before the eras of television, video and computer games, and the internet. Fortunately, the internet will increase public awareness of this remarkable personality, but I still like books.

Before I go any further, let me offer a quick lesson in French for those who may be inclined to pronounce his first name as Gene and his last name as Fah-BRAY. Jean, pronounced Zhahn, is the French word for John, and sounds rather like it. There is no accent on the e in Fabre, so that name is pronounced as FAH-ber. As for Henri, try something like AHWN-ree, not the English Henry. And do not forget the hyphen if you are borrowing from this article to write your third-grade report. French double names must have the hyphen, and including it will not cause your teacher to accuse you of plagiarism.

Weeks before I visited Claude Lemaire in 1985, I sent a letter asking if he could take me to the home of Fabre (Fig. 5, pp. 13), and he wrote back that it would be easy to do so. It was not too far from Claude's summer home in Gordes, in the Department of Vaucluse. On the drive

there we passed through the village of Orange, and briefly visited an ancient theatre built by the Romans (Fig. 3). Fabre's estate, which he named L'Harmas, is owned and operated by the Laboratoire d'Entomologie, Muséum National d'Histoire naturelle, far to the north in Paris. Upon arrival, I was given a type-written leaflet of four pages outlining the life and accomplishments of Fabre, and was instructed to sit on a bench and read it prior to entering the house. I still have that leaflet and extracted from it some of the information used in this article. Having read some of Fabre's books in libraries at my schools and universities, beginning as a young child, I found it surreal to walk through the house and garden (Figs. 1, 4) where so many observations on insect behavior were carried out by the world-renowned entomologist. I discreetly collected a few insects in Fabre's garden, admittedly premeditated. One was a small black bee, which I gave to the insect collection at Texas A&M University, and you can be certain it was labeled with the *precise* locality. Another was that pretty stink bug (*Graphosoma lineatum*) with bright red stripes that is common in southern Europe.

The *Souvenirs Entomologiques* (literally Entomological Recollections) is an exhaustive multi-volume set of his writings. It was originally published in 1871–1879, and reprinted editions appeared over the next decades, referred to as "series." A lot of the volumes can stand alone, or have been condensed and/or translated into a large permutation of publications attributed to Fabre. The work covered a low number of local species, but each species

was observed and discussed in great detail. These included the spider, the scorpion, crickets, grasshoppers, the praying mantis, the great peacock moth (*Saturnia pyri*), the cicada (called the cigale in both the French and English editions, but like we Americans, Britons call these insects cicadas), several kinds of beetles including a carabid, weevils, and some scarabaeoid beetles, bees, the hunting wasp, the pine processionary caterpillar (*Thaumetopoea pityocampa*), and several others. Fabre was an accomplished observer, as pointed out by his contemporary Charles Darwin, and experimented with insect behavior following the scientific method.

The books of Fabre have been translated into numerous languages. I recently saw one copy in Chinese offered on the internet. There are so many pre-owned copies of his works offered for sale on eBay and Bookfinder.com, that I am left wondering why Kessinger Publishing has re-issued some of his works because I thought that publisher reprinted mainly books that are rare and hard to find. Once Fabre's works are all posted on the internet in various languages, his writings will be available to those students who never buy or open books unless required to do so by their instructors (because they rely almost entirely on the internet for their studies). When I visited a bookshop in Lyon in 2003, I could not resist buying a small octavo edition of his collected works on insects in the original French (Fig. 2), nicely rebound in half-leather with marbled boards, classic endpapers, and gold lettering on the spine. Bibliophiles will understand all of the jargon in the previous sentence. Stefan Naumann recently sent me a Czech language edition of Fabre (Fig. 2) that

he bought in an antiquarian bookshop in Prague, printed there in 1961 during the dark days of communism. I am told by Toshimasa Mitamura that Fabre is popular in Japan. Figure 8 shows the package of a small plastic *Saturnia pavonia* model that he bought in a 7-Eleven convenience store and sent to me. But it is all about Fabre, not the emperor moth.

For us lepidopterists, most of what he wrote about moths and butterflies is gathered into Volume 6, entitled "Life of the Caterpillar." It is entertaining to read about the insects themselves, and much of this basic information on life-histories never changes. A serious lepidopterist, whether studying the taxonomy, ecology, or ethology of a particular species, can glean some good scientific data from these passages. Fabre's writing is also a glimpse into life in southern France a century ago, so there is something there for the historian also. A barefooted urchin of age 7 arrives at his door selling turnips and tomatoes as usual, and then thrills Fabre by offering a cocoon of the oak eggar (*Lasiocampa quercus*). Fabre pays the boy more for that cocoon than the price of the vegetables.

The agenda of NABA to observe living insects has been around since humanity itself. In his essay on the oak eggar, Fabre wrote, "It is true that I am not a fervent butterfly-catcher; the dead insect of the collector's cabinet has little interest for me; I must have it living,..." But not so fast, nabids, because his collection of local fossils (Fig. 1) attests to his instinct to collect, another agenda that has been around since most of humanity abandoned the hunter-gatherer lifestyle. Although Fabre did not collect insects "fervently," some of his pinned specimens are displayed in his house, and others apparently are preserved at a small natural history museum in Avignon called Requien Museum.

Fabre's parents were poor peasants. In the United States, we are fond of saying that only here can someone born in poverty rise to greatness, but any

historian or sociologist will tell you that this happens in many countries. The key of course is always hard work, determination, and persistence. His family moved him from place to place as a child. Fabre was very productive as a teacher and author throughout his life. At the age of 32 in 1885, he successfully submitted a doctoral thesis in biological science at the Faculty of Sciences in Paris. He lived for four years on the Mediterranean island of Corsica where he taught mathematics at the Imperial College in Ajaccio. Next he taught chemistry and physics for almost 17 years at the Imperial College in Avignon. Over many years he won several prizes and awards in recognition of his accomplishments and contributions. The French President Raymond Poincaré visited him in 1913 to pay homage of the nation. France still considers Jean-Henri Fabre to be a national hero (Fig. 6).

After his career in formal education, he bought property at Sérignan. There he named his place The Harmas, which means a tract of uncultivated land. He produced a large set of about 700 watercolor paintings on fungi (mainly mushrooms) of the region. Of those, 262 are exhibited in a special room on the ground floor of The Harmas. He produced several musical compositions which he played on the harmonium in his house. He published several poems in his youth, and when elderly wrote a series of verses in Provençal. Provençal is a regional language still spoken in southeastern France, and also by smaller numbers of people in northern Italy, Monaco, and, yes, northern California. His first wife Marie Villard died in 1885 at the age of 64; they had raised seven children. Two years later he married his second wife Marie Joséphine Daudel, who was many years younger than him, and they had three children.

Claude Lemaire told me that he enjoyed reading Fabre as a youngster, like virtually every French entomologist. Presenting insect behavior to the public can be challenging, especially considering how common entomo-

phobia is. Fabre revealed that insects were unexpectedly interesting and that their brief lives were playing out just outside the window of one's own house. Fabre's colorful and entertaining writings showed his readers that one does not have to visit tropical places nor need a lot of technical training to enjoy entomology. I hope this article will encourage a few readers to get hold of one of Fabre's books and that they will be glad they did so. Better yet, buy one of Fabre's books and give it to a budding young entomologist—in a language he or she can read. And then unplug the kid's computer.

A few days after visiting The Harmas, Claude drove me to visit Pierre-Claude Rougeot (1920–2002), who had retired in the nearby town of Beaumes de Venise in southern France. I had met Rougeot in 1979 at the Paris Museum (Muséum National d'Histoire naturelle) and had brought along my copy of one his books for him to inscribe. Those who study Saturniidae will recognize his name, because he named dozens of saturniids of Africa. Rougeot's house had a spectacular view across a valley and displayed artifacts from Africa where he had lived many years. He and his wife raised four daughters.

Acknowledgments

I acknowledge the late Dr. Claude Lemaire, my friend and colleague for 32 years, for driving me to the estate of Fabre in 1985. I thank Dr. Toshimasa Mitamura (Fukushima Agricultural Technology Center) and Dr. Stefan Naumann (Berlin) for sending me objects cited and illustrated here.



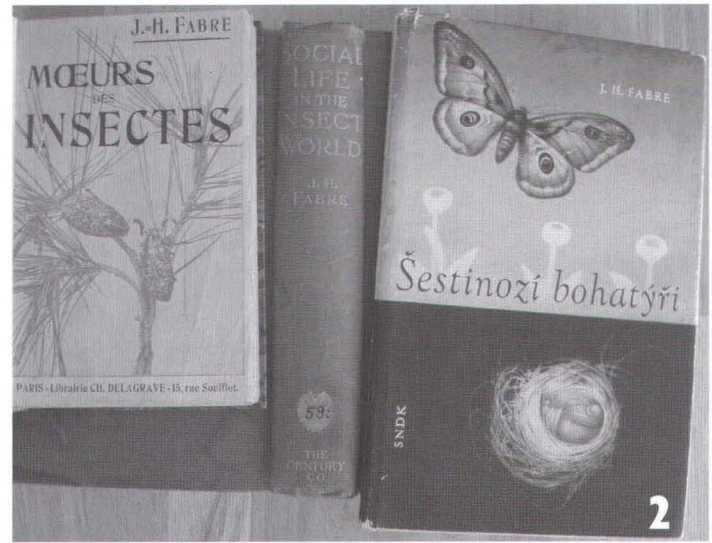


Fig. 1. Fabre's fossil collection in his house. **Fig. 2.** Scores of books have reprinted Fabre's original writings on insects, including these which I own in French (1916), English (1912), and Czech (1961). **Fig. 3.** Saturniidologists in the Gallo-Roman theatre built about 2000 years ago in the town of Orange. (Photo 26 July 1985.) **Fig. 4.** Claude beside the pond in the garden of Fabre. (Photo 26 July 1985.) **Fig. 5.** Claude Lemaire and me at the front gate to Fabre's estate. (Photo 26 July 1985.) **Fig. 6 & 7.** Postage stamps issued by France in 1956 and Monaco in 1973 commemorating Fabre. Both stamps also show *Saturnia pyri*. **Fig. 8.** Label for a plastic trinket of *Saturnia pavonia* sold at a 7-Eleven convenience store in Japan, commemorating Fabre.

Direct competition for nectar in some Patagonian butterflies

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Ritual fighting is common among butterflies, but the physical violence is rarely observed. However, it does occur. Intraspecific violence has been observed between males of *Papilio indra*, which are territorial to the extent that they can tear each other to pieces (Eff, 1962). Physical competition among males for a place on a female pupa is found in *Heliconius* (e. g., Sourakov, 2008). Males of monarchs and some other butterflies attempt forceful mating with females (e.g., Frey, 1997).

Here I present an example of apparent physical competition that does not involve sexual selection, but involves interspecific competition for food among three species of Nymphalidae from

Patagonia. In February 2008, I observed how *Vanessa terpsichore* was repeatedly "attacked" by *Cosmosatyrus leptoneuroides* in the southern Andes, Patagonia, Argentina. Male of the latter species came repeatedly towards male of *V. terpsichore* feeding on a nectar source, which was attractive to many butterflies in the area. Several times, it came into brief physical contact with the feeding butterfly, but was unsuccessful in dislodging *V. terpsichore* from the flowers, although attacks created sufficient discomfort for it to start flapping its wings. The photos presented here were created by capturing individual frames from a digital video. This video, as well as the

video of pupal mating in *Heliconius charithonia* can be viewed at <http://www.lepidopterist.org/butterflies-fighting.htm>

I thank George Austin for bringing one of the references to my attention.

Literature Cited

Efaf, D. 1992. A little about the little-known *Papilio indra minori*. *J. Lep. Soc.* 16(2): 137-142.
 Frey D. 1997. Resistance to mating by female monarch butterflies. North American Conference on the Monarch Butterfly, Jürgen Hoth (editor). 428 pages.
 Sourakov A., 2008. Pupal mating in Zebra longwing (*Heliconius charithonia*): photographic evidence. *News of Lepidopterists' Society.* 50(1): 26-29, 32.

Figure captions (opposite page):

Row 1: *Vanessa terpsichore* approached by *Yramea cytheris*. **Rows 2-5:** *Vanessa terpsichore* repeatedly approached by *Cosmosatyrus leptoneuroides* in an apparent attempt to dislodge it from the flower. View video at <http://www.lepidopterist.org/butterflies-fighting.htm>

Lepidopterists' Society Election Results

A total of 441 ballots were received in time to be counted. One ballot was received after the deadline and was not counted. The results are (* indicates elected officials):

President Elect		Executive Council		Honorary Life Member	
Astrid Caldas	204	Richard Brown*	300	Charles V. Covell, Jr.*	402
John Shuey*	208	Charles V. Covell, Jr.*	340	Don R. Davis*	378
		Steve Fratello	154	Covell	Davis
		Dan Rubinoff*	195	Yes	402
Vice President		Jennifer Zaspel	187	No	19
Joaquin Baixeras*	247	Dave Iftner	1	Abstain	20
Marcelo Duarte*	294	Charles Patton	1	Percent	0.911565
Soren Nylin*	276				0.857143
Andreas Zwick	242				
Jackie Miller	1	Jordan Medal			
Kilian Roever	1	Gerardo Lamas	169		
		Felix Sperling*	232		





Photos by Andrei Sotnikov

Two Trips to Taman Negara National Park, Malaysia: Part 3

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The Riodinids are another quintessential Neotropical butterfly group, the region harboring over ten times the diversity of the world's other biogeographical regions combined. Mostly diminutive, the Neotropical Riodinids exhibit a staggering variety of facies: colors, patterns, shapes, that superficially, makes it hard to believe they all reside in one butterfly family.

The Palaeotropical and all other Old World Riodinids belong to the strictly Old World subfamily Nemeobiinae, which are mostly small medium-sized butterflies. Of the approximately 100 species in this subfamily, evolutionary factors have left the Afrotropical Region with an impoverished Riodinid fauna; of the remaining approximately 85 Old World Riodinid species, the bulk are Indo-Australian, making this rainforest region, after the Neotropics, the region manifesting the greatest Riodinid diversity.

Within this modicum of variety, is an Oriental Region fauna that boasts a small genus, *Paralaxita*, whose members are among the most strikingly beautiful Riodinids and butterflies, with their carmine color and exquisite patterns. The genus is predominantly Neomalayan, with three of four species residing on the Malay Peninsula: *P. damajanti* C. & R. Felder, *P. telesia* Hewitson and *P. orphna* Boisduval. As a group, during my visits, they were occasional in the understory of primary forest. Most if not all I saw were males; they were generally very inactive, perching/resting with their wings closed on the upperside of leaves (from 1-1.5m above the forest floor, occasionally higher) for long periods of time unless disturbed. I probably observed *P. orphna* the most often, the males very distinctive with

their dorsal, broad oblique bluish-white forewing band. I believe I saw a couple/few *P. damajanti* but don't believe I saw *P. telesia*.

Closely related to *Paralaxita* are the predominantly Neomalayan *Laxita* and *Taxila*; *Laxita* with two species (one confined to Borneo) and *Taxila* monotypic. I don't believe I saw *Laxita thuisto* Hewitson. I observed *Taxila haquinus* Fabricius a couple/few times. I believe the few *T. haquinus* I saw were all males and their habits were the same as described above for *Paralaxita*, though the male photographed was perching with wings partially open.

Abisara ranges from the Afrotropics through the Oriental Region to the southern realms of the eastern Palaeartic Region. Four of the five *Abisara* resident on the Malay Peninsula can be found at low elevations and should be found in Taman Negara's lowlands; unfortunately, I saw none. Until a few days prior to the end of the second trip to Taman Negara, the only Riodinids seen were *Paralaxita* and *Taxila*. On a long day hiking in primary forest, my girlfriend Danusia and I saw two others within about an hour: *Zemerus emesoides* Felder and *Stiboges nymphidea* Butler. *Z. emesoides* is confined to Neomalaya; the other species in the genus, *Z. flegyas* Cramer, is also resident in W. Malaysia and is more widespread in the Oriental Region. The monotypic *S. nymphidea* ranges widely in Oriental Region rainforests.

Danusia spotted *Z. emesoides* flying fairly low in a very large tree fall light gap. Even in flight, its orange and dark brown, banded appearance was very apparent. *S. nymphidea* flew from perch to perch in the low understory of

primary forest, landing under leaves, wings closed. Mainly white, its name correctly implies that it is superficially very similar to Neotropical *Nymphidium* Fabricius Riodinids, which however, always rest/perch with their wings spread and like *S. nymphidea*, usually under leaves.

Lycaenids- Not Only Hairstreaks!

Differing dramatically from both Afrotropical and Indo-Australian lowland rainforests where a number of subfamilies are represented, the Neotropical lowland rainforests are almost the exclusive realm of Hairstreaks (Theclinae). I am fairly certain there are Blues (Polyommatinae) along large rivers and other microhabitats in certain regions of Neotropical lowland rainforest, though I have never seen even one in my hundreds of days exploring these forests. As for the Neotropical Hairstreaks, even more amazing is that almost all of the 1,200 plus species in the region, and all in lowland tropical rainforests are members of one tribe, Eumaeini, one of twenty or so tribes worldwide.

In stark contrast is an Oriental Region fauna that boasts over a dozen Hairstreak tribes, only the Eumaeini and a few small Old World tribes with insignificant speciation are absent. At the subfamily level, six of the world's seven Lycaenid families are present: Curetinae, Miletinae, Poritiinae, Theclinae, Lycaeninae and Polyommatinae, only the large Afrotropical subfamily Lipteninae is absent. Taman Negara NP, with its extensive primeval lowland, hill and montane forests, is blessed with all these Lycaenidae subfamilies and all or nearly all these Theclinae tribes.

Fiery Curetis – The Sunbeams, Anomalous Lycaenids

The sole genus of Curetinae, *Curetis* contains 20 or so species, which are mainly confined to the Oriental Region but with weak extensions into the Papuan Subregion and southeastern Palaearctic. There is still ongoing debate concerning their taxonomic position among the Lycaenids and their possible close relationship with Riodinids. Of the nine species found on the Malay Peninsula, most should be resident in Taman Negara. As a group, all the species share a striking similarity; the males are all fiery orange above with black borders that vary in width and shape according to species, duller colored females (some species white) and both sexes with silvery white undersides with rather obscure markings.

I had two encounters with these large, fast flying Lycaenids, both during the second trip. As is customary of the males visiting moist spots along forest watercourses, the first encounter was with a male visiting wet rocks at the cascades Lata Berkoh for an extended time in the late morning, often with wings partly open displaying the brilliant orange dorsal surface. The second encounter, which I believe was a different species, involved a couple of males perching and flying in a small light gap in the late afternoon (approximately 4:30-5:30 PM). They perched on sunlit foliage from approximately 3-5m up, again, often with their wings partially open and with confrontations between them resulting in very speedy flight into the light gap above. My vague memory recalls that one rested briefly under a leaf, wings closed, near the tail end of this activity period.

Besides this *Curetis* activity, this small light gap and surrounding forest provided one of the great lepidoptera spectacles during my 37 days at Taman Negara, all in the late afternoon (4:30-6 PM). Other Lycaenids included a few species of Blues, one medium-sized species especially brilliant (*Jamides?*),

a few 'Nymphalines', at least one, probably two or three Hesperid species, a diurnal moth (*Agaristine?*), a couple of patrolling *Atrophaneura coon* (see Part 1) and a few *Mycalesis* of two species, *M. orseis* and *M. maianas* (see Part 2).

Miletinae – The Carnivores

This is the predominant and most renowned carnivorous butterfly group in the world, almost exclusively Old World Tropical except for the familiar (to our Nearctic members) Harvester, *Feniseca tarquinius* Fabricius, sole representative of the subfamily in the Western Hemisphere. Their larval prey is usually various small Homoptera, for some species, ant larvae within their nests. The Harvester is also anomalous in that it has orange coloration, the Miletinae as a whole, dominated by drab grays and browns.

This drab coloration certainly predominates in the largely Oriental Region Miletini, which also includes a small, solely Afrotropical genus and a few species in the Papuan Subregion. This tribe constitutes by far the greater majority of Miletinae species in the Oriental Region, and on the Malay Peninsula reside numerous species, often difficult to differentiate, in the following genera: *Miletus*, *Allotinus*, *Logania*. At Taman Negara, as a group, they were relatively common, usually seen in mid to late afternoon (some in the morning, presumed different species) along forest trails, presumed males perching on low vegetation, usually at 1-1.5m and always with wings closed. Often there were small local groups, with resultant presumed male-male flight interactions followed by individuals returning to their perches. I believe I saw mostly *Allotinus* and few if any *Miletus* and the smaller *Logania*. Striking when viewed at close range, was their long, thin abdomens, somewhat reminiscent of Ithomiines, though the butterflies themselves are very different.

A few other species of Miletinae from three other tribes are resident in West Malaysia and should be found in Taman

Negara. From the mainly Afrotropical Liphyrini (often considered a separate subfamily), the incredible Moth Butterfly, *Liphyra brassolis* Westwood, in wingspan one of the world's largest Lycaenids, in bulk, definitely the largest. It has a widespread Indo-Australian distribution, the only other *Liphyra* species, the similar *L. grandis* Weymer, is endemic to northern mainland N. Guinea.

The very widespread Palaetropical *Spalgis* contains a few small, drab species, *S. epius* Westwood a widespread Indo-Australian species. *Spalgis* and The Harvester are the sole members of the tribe Spalgini. The tiny tribe Tarakini contains two small species, both rare on the Malay Peninsula: *Taraka hamada* Druce and *T. mahanetra* Doherty. *T. hamada*, with its striking black-spotted white venter, ranges from the Oriental Region into the eastern Palaearctic Region; the less distinctive and possibly non-congeneric (Eliot et al, 1978) *T. mahanetra* with a much smaller range of Malaya and Sumatra.

Poritiinae – Jewels of the Orient

Many Lycaenids and Riodinids, especially small species with glittering, brilliant colors, are often considered the jewels of the butterfly world. Among these stands the small Oriental Region subfamily, Poritiinae – the Gems, the name given to the group in Eliot et al. Their larvae and pupae resemble those of the huge Afrotropical Lipteninae and some modern systematic revisions consider them both in the same subfamily, with the older name Poritiinae having priority, their close relationship having been discerned for a long time. Neomalaya is the center of diversity of the group and the Malay Peninsula is home to four of five genera: the monotypic *Cyaniriodes*, *Poritia*, *Simiskina* and *Deramas*, with each of the last three genera having a number of species in Malaya. The appellation Gems comes from their males' gorgeous dorsal sides, which are black with patches and/or dashes and spots of iridescent blue, turquoise or green; the

sexually dimorphic females are less brilliant above, either with non-iridescent colors or more subtle iridescence replacing their males' brilliance and often with somewhat different wing shapes. The venters of both sexes are similar and exquisitely patterned in *Cyaniriodes* and a number of *Poritia* and *Simiskina* species.

Eliot et al report all species as rare on the Malay Peninsula and occurring only in forest, their general rarity certainly the main reason why I disappointedly saw so few during 37 days in Taman Negara's forest. I am fairly sure that I saw one on the first trip, possibly another on the second trip. On the first trip, I saw what I believe was a *Deramas* species, land and rest briefly, wings closed, amongst the scrubby, poor soil forest on the Gunung Indah ridge, and if it was a male, never even gaining a glimpse of its jewel like dorsal markings.

Gargantuan *Arhopala*, Long-Tailed Hairstreaks and Many Others

The Neotropics can certainly be considered the 'Hairstreak Region' with the diversity described above, and though this variety is packed into one immense tribe, the variety of unique and distinctive phenotypes is still preeminent in the Neotropics. And as for sheer splendor, what can match *Arcas* Swainson and *Evenus* Hubner Hairstreaks from Neotropical rainforests? Still, the Indo-Australian Region, like the Afrotropics, has rainforest Theclinae of mind-boggling beauty and variety – a quartet of predominantly Neomalayan glories: *Neomyrina nivea* Godman & Salvin (The White Imperial), *Jacoona anasuja* C. & R. Felder, *Neocheritra amrita* C. & R. Felder (The Grand Imperial) and the aptly named giant Hairstreak, *Purlisa gigantea* Distant, all should occur at Taman Negara, along with a multitude of other Hairstreak species. A good percentage of that multitude entails the genus *Arhopala*.

Arhopala is the predominant genus of the mainly Indo-Australian (weak extension into the eastern Palaearctic)

Arhopalini; this gargantuan genus contains over 200 species with over 100 species recorded from the Malay Peninsula. I saw many individuals and species at Taman Negara, usually disturbed or seen flying, not too rapidly, in the low understory of primary forest, with the flights of short duration and subsequently perching for extended periods, mostly from 1-3m above the ground. Only revealing their iridescent dorsums in flight, they always perched/rested on top of leaves with their wings shut and according to Eliot et al, "When the sun goes in they often leave these lowly perches and fly up into the forest canopy." A couple/few times, I saw 5-10 *Arhopala* in an hour or so while walking in the forest, I'm sure a number of species represented during each of these occurrences. The first two times observed, it was on consecutive days, the first day it was close to midday in brilliant sunshine (and I believe during similar conditions the following day), a couple of days after heavy rains during a generally dry period. Perhaps these meteorological conditions and a blazing tropical sun accounted for a recent emergence and caused this occurrence of *Arhopala* plenty in the forest understory.

Though seeing many, a novice like myself could not discern species groups, let alone species, happy enough to view them as a genus. Many species are very similar to others, the one photographed showing a rather typical ventral pattern, and though the majority possess short HW tails, many are tailless. They are rather round-winged, especially the hindwings, compared to most Hairstreaks, most are iridescent purple or blue above, often brilliant, the females usually similar but with broader black wing borders, the undersides usually very similar. Some of the male *A. eumolphus* Cramer group are glittering green and in 4 of 5 species in the Neomalayan *A. aurea* Hewitson group, the males are an even more brilliant yellow-green; the other species, *A. caeca* Hewitson, the rarest of the group, the male with a sensational green and violet dorsum

and less marked venter. Unfortunately, I saw none of these green species and though I saw a few blue *Arhopala*, the vast majority were purple. The one *Arhopala* species I was able to distinguish was the large *A. anthelus* Westwood, seen at least once, that time the very dark brown spots on the coastal half of the FW and along the coastal margin of the HW easily seen and very distinctive.

Though I saw numerous *Arhopala*, I saw relatively few other hairstreaks and no other Arhopalini in the 5 other genera (comparatively few species) resident on the Malay Peninsula. Among other Hairstreaks, the highlight and much anticipated, was seeing a small number of the long-tailed Hairstreaks of the region. Not uncommon was *Drupadia ravindra* Horsfield (Cheritrini), The Common Posy, males most often seen perching in small understory light gaps in the afternoon. The one photographed (fig. 4, pp. 44) was one of two males perching on sunlit vegetation in a small ravine from 4:30-5:00 PM, a bridge across the ravine affording great viewing and photography opportunities.

Besides *D. ravindra*, I saw only a few other long-tailed hairstreak species and infrequently. A couple of times I viewed what I believe was *Cheritra freja* Fabricius (Cheritrini), The Common Imperial. The second time, a male was perching approximately 3 meters up in a large tree fall light gap; the first time, I saw one flying low, not too rapidly, amongst the scrubby forest on the Gunung Indah ridge. Because of the slow flight it was easy to observe the extremely long tails, simply spectacular while flying, and the whitish venter with brown-orange along the FW costa and at the apex.

Zeltus amasa Hewitson (Hypolycaenini), the Fluffy Tit, was seen a couple/few times. One, what had to be a recently emerged male, perched low in a light gap with partially open wings. The dorsal forewings, which would normally appear black, were an incredible deep blue when seen in

sunlight. According to Eliot et al, *Zeltus* is "Allied to, and only doubtfully separable from, *Hypolycaena*, the chief structural difference being the longer tail (about 12mm.) at vein 1b of the hindwing." This statement would apply only to the Indo-Australian *Hypolycaena*, as *Hypolycaena* is Palaeotropical, and a number of Afrotropical *Hypolycaena* have very long tails like *Zeltus*.

Soon after seeing this fresh *Z. amasa*, I came across two medium-large Hairstreaks on a few flowered spike of a large herbaceous plant, presumed Marantaceae.

They were completely brownish orange below with black markings in the tornal area, tails not too long. The one on a small inflorescence (feeding?) was very fresh and somewhat smaller (presumed male), the one behind it was larger and not so fresh (at the time, presumed female). After checking references at home, I am still stumped as to what species this was and if I was indeed seeing two sexes?!

This Hairstreak pair plus the *Z. amasa* were incredible photo opportunities, some of the best of the first trip, but I had packed my camera away in my backpack for the 3 km or so walk from the Bumbun Kumbang animal hide to my boat pick-up at Kuala Trenggan on the large Tembeling River. This was one of the best butterfly afternoons and days on the first visit, my walk out coinciding with cloudless, brilliant mid-afternoon sun. Besides these Hairstreaks, I reveled under the spell of a superb show, among others: many *Arhopala*, a couple of *Drupadia ravindra*, one fresh, *Paralaxita orphna*, a *Ragadia* satyrine(s), Hesperids, a giant female *Troides amphrysus* in the understory of a forest light gap, a number of 'nymphalines' including *Tanaecia* and a glorious, recently emerged male *Lexias pardalis* basking in the sunlight, which I was able to approach very closely, along with the hairstreaks, a great photo chance missed. Earlier in the day, also with plentiful sunshine, I had also seen good

butterfly variety and numbers besides the Trenggan River, in the adjacent forest and along a small creek, this being the second of the two consecutive days that I saw 5-10 *Arhopala* within an hour or so – all told, what a butterfly and Hairstreak day in towering lowland mixed dipterocarp forest!

The pair of Hairstreaks with the brownish orange venter, belong to a suite of species representing a number of tribes, with brownish orange predominating but with a range of warm brown to orange color on their ventral sides. Unlike the pair I saw on the presumed Marantaceae, most have these colors contrasted with some, and often, extensive whitish color. This whitish coloration is manifested most often on the anal half of the hindwing, where on quite a few species, the whitish color itself is contrasted with bold black markings, with any other ventral markings being absent. Both the solid species and the more numerous species with contrasting coloration, are striking in facies and striking in the fact that they seem to be converging on common patterns. Could mimicry be in play with these Hairstreaks?

A small number, most with the contrasting coloration, belong to the tribe Iolaini, the hostplants of nearly all known Iolaini being Loranthaceae. Loranthaceae is the hostplant for *Delias* and related Pieridae, which are presumed to be protected by poisonous chemicals and the adults are certainly aposematic. Might these Iolaini Hairstreaks also be poisonous and involved in Batesian and perhaps Mullerian mimicry rings with other sympatric Hairstreaks (an analogous phenomenon occurring in the Afrotropics where the great majority of Iolaini bear white venters and similar markings)? This facies phenomenon is much more prevalent in the southeastern Oriental Region, especially rich in Neomalaya. If there is protective coloration and mimicry involved, it is interesting to note that a great many other Iolaini in this region, actually the majority, have the

'typical' ventral garb of many Hairstreaks.

As previously mentioned, also striking is the very long tails of numerous Oriental Region Hairstreaks in a number of tribes, a characteristic also shared with a good number of Afrotropical species. Again, in the Oriental Region, it is much more prevalent in the southeastern part of the region, especially so in Neomalaya. What natural processes are shaping this exquisite phenomenon: convergent evolution among different lineages driven by natural selection from predation pressures, ancestral genetic traits being retained by some species and not others, a combination of both causes, or both possibly combined with unimagined and unknown causes? Many of these long-tailed Hairstreaks are also the seemingly aposematic species discussed above; and if some are truly aposematic, interesting questions abound considering protective coloration coupled with the retention of very long tails as false targets?

Outstanding among many glorious long-tailed species are the four mentioned above: *Purlisa gigantea*, *Jacoona anasuja*, *Neocheritra amrita* and *Neomyrina nivea*. *P. gigantea*, one of the largest Oriental Region Hairstreaks, has moderately long tails and both sexes are shining light blue above, the female's black borders more extensive. The other three have some of the longest tails of any of the world's Hairstreaks, the Borneo race of *N. amrita*, perhaps the longest of all. Dorsally, male *N. amrita* (excepting Borneo, where they are green) and *J. anasuja* have differing shades of iridescent blue and differing patterns of this blue combined with black; ventrally, they are similar, the females as well, brownish orange with contrasting whitish and black on the HW as discussed above. Slightly smaller than *P. gigantea*, the unique and extraordinary *N. nivea*, besides having very long tails, has probably the widest tails of any Hairstreak in the Oriental Region. As the species name implies, they are predominantly shining white,

males with a dorsal blue purple FW apical area, this area black in the females, and both sexes with the venter marked with light gray bands and a couple of iridescent green spots in the HW tornal area. Though I didn't see any, knowing these infinitely sublime Hairstreaks were probably in that forest, was and is a thrill enough.

Of the few other Hairstreaks seen, very noticeable because of habit, was a visitor to moisture along the Tahan River, The Common Tit, *Hypolycaena erylus* Godart (Hypolycaenini). According to Eliot et al, visiting moist spots is a habit shared by other Oriental Region members of this tribe; I saw two *H. sipylus* Felder doing the same along a large creek in northern Sulawesi many years prior. A very large *Arhopala* also visited moisture along the Tahan River, though briefly, the only *Arhopala* seen doing so and I believe a rarity for this great genus.

Though not seen, two other Hairstreaks need be mentioned: *Hypochrysopteryx coelisarsus* Butler (Luciini) and *Austrozephyrus absolon malayicus* Pendlebury (Theclini). Predominantly Neomalayan, *H. coelisarsus* is one of only two known (the other from Sulawesi) Oriental Region members of this large Papuan and Australian tribe. Both belong to *Hypochrysopteryx* (The Jewels), one of the two large genera in the tribe and so named for their jewel like ventral markings. *H. coelisarsus* is very rare on the Malay Peninsula but perhaps occurs in Taman Negara.

The Theclini are predominantly Sino-Himalayan and Palaearctic in distribution; *Austrozephyrus*, with two species, is restricted to Sundaland and the only Theclini resident there. *A. absolon* Hewitson is found in the mountains of the Malay Peninsula, Sumatra and Java and a replacement species is found in the mountains of northern Borneo. Both species are found above approximately 5,000 ft in the mountains and *A. absolon malayicus* should be found on Taman Negara's highest mountains.

Scintillating *Heliophorus*:

The Sapphires

The Coppers, Lycaeninae, are predominantly Holarctic in distribution with weak expression in all the world's tropical regions. The eastern Palaearctic Region/Oriental Region mountain blend zone contains the greatest variety of subtropical/tropical Lycaeninae, all in the montane genus *Heliophorus*. Here reside, in subtropical (and temperate?) forests of the Himalayas and adjoining ranges, the majority of the dozen or so *Heliophorus* species, with a few species found as far south as the mountains of Sundaland. The brilliant males sport dorsal iridescence that can be purple, blue, green, or in one species, bronzy orange; the blue, green and bronzy orange species are especially lustrous. The females are dark brown with orange patches and bands dorsally, both sexes similar ventrally, deep brownish yellow with strong marginal/submarginal red bands and markings, more prominent on the hindwings.

Two species are resident on the Malay Peninsula: *H. epicles tweediei* Eliot, The Purple Sapphire, and *H. ila malaya* Pendlebury. The males are rather similar, both with deep purple dorsal iridescence and some orange above; the females less so, *H. ila malaya* being largely orange above, unlike *H. epicles tweediei* and other *Heliophorus* species, where the orange is more restricted. From northern India, both range widely but have somewhat different Southeast Asian distributions. According to Eliot et al, "*H. epicles* is confined to the forested hills above 2,000 feet", so I assume it occurs in Taman Negara's hills and mountains. Though they don't mention the Malayan distribution of *H. ila malaya*, I assume it is montane like the other *Heliophorus* and may occur in Taman Negara.

The Ciliate Blues, and The Lycaenopsis Group

Though there is substantial (and far greater than previously thought) Polyommata diversity in Neotropical austral temperate S. America and the

Andes, as previously related, there is a dearth of Polyommata in Neotropical lowland rainforests. In contrast, both Afrotropical and Indo-Australian lowland rainforests have relatively diverse Blue faunas. In African rainforests, the bulk of this variety is composed of the Ciliate Blues or Hairtails (Lycaenesthinae), so named for the characteristic ciliate tails in the tornal area of the HW found on most species.

Lycaenesthinae are Palaetropical in distribution, most of the well over 100 species Afrotropical. *Anthene* is by far the largest genus and the only one represented outside of Africa; of the approximately 100 *Anthene* species, 10 or so are Indo-Australian. The Indo-Australian *Anthene* males are deep blue-purple dorsally and like many African *Anthene*, they are fairly robust-bodied Blues. I saw two individuals during exploration of Taman Negara, both along rivers and presumed males, since visiting moisture is characteristic of them. Of the three species resident on the Malay Peninsula, I believe both that I saw were the most common species, *A. emolus* Godart (The Ciliate Blue), the one photographed was visiting rocks along the Tahan River.

I was expecting to see *Jamides* (Caerulians) also frequent water-courses, as I saw a few times in Papua New Guinea, but that was not the case in Taman Negara. As a group, they were not that common and when seen, they were flying erratically and not too rapidly in the lower and upper understory of primary forest; I don't remember seeing even one alight. *Jamides* is an extensive Indo-Australian genus of some 60 species with 15 or so species resident on the Malay Peninsula. In the Papuan Subregion, a few are mimics of the protected *Danis* Fabricius Blues and I believe one Sulawesi species is also mimetic. As their common name Caeruleans implies, some are a rich, deep cerulean blue, others bear a broad range of dorsal iridescent blues, from

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2009 Meeting of the Lepidopterists' Society

Combined with the ELEN (III Encuentro sobre Lepidoptera Neotropical), and the Association for Tropical Lepidoptera

City of Chetumal, Quintana Roo, Mexico

June 16-20, 2009

Additional Information and forms can be found at <http://w2.ecosur-qroo.mx/ElenIII/indexingles.htm>

or email Carmen Pozo at: cpozo@ecosur.mx

FIELD TRIPS RESERVATIONS:

VERY IMPORTANT!! The collecting permits are exclusively to ones going to the field trips organized by the ELEN & Lep-Soc meeting, otherwise it is ILLEGAL.

Reservations will be accepted until April 20, 2009. Make your reservations soon; limited seats.

To make your reservations please download the form at (<http://w2.ecosur-qroo.mx/ElenIII/indexingles.htm>) and submit it with proof of payment.

Photo Safari will be lead by professional wildlife photographers Humberto Bahena and Kim Garwood.

Kohunlich (Photo Safari)

Kohunlich is an ideal place because of its remarkable ecological, environmental, physiographic and cultural characteristics. It is located in the corozos hills. Corozo is a common palm in the south of the Yucatan's peninsula. Kohunlich comes from the english word cohoonridge, which means corozal or corozo hills). A pre-Columbian city once thrived in the area and the remaining prehispanic ruins make the area particularly attractive. Kohunlich has also become a key wildlife refuge for birds, mammals, and reptiles.

The weather is warm, semi-humid with a rain peak in the summer that reaches 1,500 mm but may vary between 1,200 and 1500 mm. Temperature ranges between 25°C and 27°C and there are constant winds coming from the Antillean Ocean, which bring humidity to the area.

Oxtankah (Photo Safari)

Oxtankah is the name of a large prehispanic settlement located north of Chetumal city. It was named because of the large number of Ramón trees (ox in Mayan) that surround the place. The beauty of the forest and its proximity to the beach make this place not only attractive as an archeological spot but also environmentally and ecologically intriguing for picture taking.

Vegetation is mostly medium canopy jungle. Oxtankah is the largest and most important prehispanic site of the Chetumal bay and some researchers suggest that the old Chetumal could have witnessed the first documented racial mix.

San Felipe Bacalar (BUTTERFLY AND MOTH COLLECTING TRIP)

San Felipe Bacalar is a forest laboratory that belongs to the National Institute of forest and agricultural research (INIFAP). The site covers 8000 hectares in which different ecosystems can be found, including tropical forest, lakes, and large areas of tropical timber. About 6000 ha are well preserved (4508 mid canopy forest and 2185 low canopy forest), 500 ha of savanna, and 300 ha of lakes, which make part of the Bacalar-Xul Ha water system.

In 2007 the eye of hurricane Dean passed over the forest damaging part of the vegetation. However the location continues to be an excellent protected spot where different animal species of the region have sought shelter.

Sian Ka'an (BUTTERFLY AND MOTH COLLECTING TRIP)

Sian Ka'an was named biosphere reserve on January 20th, 1986 with 528000 ha and in 1987 was included in the world heritage list by UNESCO. Sian Ka'an means "place where the sky was born" or "gift from the sky" in mayan. Among the most important historical facts we can highlight the Mayan occupation in the late post-classic (1200-1500 a.c.). During the Colonial times no definite settlements were built because of continuous pirate attacks, usually coordinated from Belize. The war between casts let the English to exploit these lands. In 1915 the capital was moved to Payo Obispo, which is today's Chetumal city. Gum and forest products were the main products of the area until the 60s when fishing and copra (dried coconut) production initiated big changes in the region. Later on copra production decreased due to the lethal yellowing of coconut.

The area is flat with at least 30 mosl and the weather is warm semi-humid with an average rain of 1050 mm throughout the year. Among the region natural areas we can highlight a 120 km reef barrier, marine grass, mangroves, coastal

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ELEN III, LEPsoc 2009 & ATL. REGISTRATION FORM

(Fill out one reservation form per person)

Name (last name, first name, middle name) _____

Institution _____

Address _____

City _____

Country _____ Zip code _____

Phone _____ Fax _____

Passport (country & number) _____

E-mail _____

Fees: (Amounts are in U.S. dollars)

Type	From 11/16/2008 to 4/30/2009	After 5/1/2009
Regular	\$ 120 USD	\$ 140 USD
Student *	\$ 90 USD	\$ 110 USD
Associate's Conference	\$ 120 USD	\$ 140 USD
Associate's Program	Check at the "Miscellaneous" main menu.	

* A copy of the student ID must be included with the registration

Social Events	Price	Vegetarian Y/N
BBQ	\$ 15 USD	
Banquet	\$ 30 USD	
Live translation Spanish, English, Portuguese	\$ 50 USD (4 days)	
Field collecting at San Felipe Bacalar	\$ 80 USD (by each day with box lunch)	
Field collecting Botanical Garden, near Cancún	\$ 400 USD (3 days /including meals and lodging)	
Field collecting at Sian Ka'an	\$ 300 USD (3 days /including meals and lodging)	
Photo safari Kohunlich	\$ 50 USD (by day with box lunch)	
Photo safari Oxtankah	\$ 50 USD (by day with box lunch)	

Payment of registration (please write the amount) _____

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Banquet (please write number of tickets and amount) _____

Simultaneous translation (please write the amount) _____

Collects Field (please write the amount) _____

Photo Safari (please write the amount) _____

Associate's program (Please type the number and amount) _____

Total _____

Payment Details: Make a deposit in Pesos or USD

Please send the registration forms to cpozo@ecosur.mx

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Bank-account: 65-50054386-9

Clabe: 014690655005438693

Office: 5136

Place: CHETUMAL, QUINTANA ROO

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*** Please write the checks to the name of: Carmen Pozo_

*** Please add a note telling us which fees are you paying (e.g. registration + banquet, etc.)

Payment option 2: PAY BY CREDIT CARD FOR MOST COUNTRIES

If you want to pay with credit card, please send the payment through Paypal (www.paypal.com <<http://www.paypal.com>>) to the following account: salcedo.christian@gmail.com

If paying by credit card please add 3% to the total amount you are submitting. This will cover credit card processing fees.

For example if you are submitting \$120, please send \$123.6

ABSTRACT SUBMISSION FORM. ELEN III, LEPsoc 2009 & ATL

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Abstract (No title or Author) Here:**Field Trips (Cont.)**

lakes, swamps, fresh water savannas, interior lakes, marshes, and swamp forest. Near 150000 ha are protected deciduous tropical and subperennial forest.

The flora of the area is very similar to the one found in the gulf of México and Antilles. It is composed of about 1048 species including, marine species, mosses, ferns, shrubs, and tropical timber. Faunal inventories have recorded 103 mammal species (including protected species such as pumas, jaguars, tigrillo, ocelot, jaguarondis, tapir, manatee, spider and howler monkeys), 339 bird species (219 resident and 120 migratory, and several protected species), 90 precinctive bee species, 47 dragonfly, 74 beetles, 310 fly, and 318 diurnal butterflies species. Among marine species 84 coral and 276 crustacean species are highlighted. Marine turtle nesting areas are found as well as several bird types nesting areas. The region is also an important corridor for birds and monarch butterflies migration, whose final destination is still unknown.

Botanical Garden Dr. Alfredo Barrera Marín (BUTTERFLY AND MOTH COLLECTING TRIP)

The Garden belongs to ECOSUR and it is located in the Mayan Riviera. It is a great place to learn about Yucatan's

Peninsula fauna and flora, which offers exuberant jungles, prehispanic ruins, and more than 250 animal species. The park is located south of Morelos port (between Cancún and Playa del Carmen) and covers 60 ha.

The botanical collection is made of an epiphytarium where bromeliads and orchids are highlighted. Also members of the families Cactaceae and Agavaceae, and 56 medical plant species make part of the collection. Wild and greenhouse ornamentals make part of the collection as well. The park has trails along a mangrove line where an observation tower let the visitors have a spectacular view of the jungle and the Caribbean Sea. A tree nursery serves as an educational tool to teach the visitors on precinctive species protection. A particular remark is the gum field, which represents a typical Mayan gum production settlement.

Outstanding vegetation types at the park are mid canopy subperennial jungle composed of at least 300 species. The Rizophora mangle mangrove predominates and its natural cover is very dense.

HOW TO ARRIVE TO CHETUMAL

Access routes to the city of Chetumal VIA MEXICO CITY

Chetumal has airport with two daily flights from Mexico City:

AVIACSA Exit from Mexico at 10:25 hrs, arriving to Chetumal at 12:15 hrs.

VIA CANCÚN (approximately 5 hours by bus, 4:30 by car. 400 km)

Cancún has international airport with multiple daily flights arriving from North America, Central America, South

America and Europe. In the airport are different car rental companies. From the airport leave buses to the bus Terminal where you may take a bus to Chetumal. It is recommended to take first class bus.

Exit schedules and booking: www.ticketbus.com.mx/

VIA BELIZE (approximately 3 hours by bus. 200 km)

Belize City has international airport, a taxi service leave you to the bus Terminal where you may take a bus to Chetumal City.

Taman Negara, Malaysia

Continued from pp 20

the palest silvery blue to purple blue, a couple of species are purple, these purple species not found on the Malay Peninsula. The Malay Peninsula is home to the distinctive Sundaland endemic, *J. Abdul Distant*, the male blue green with very broad black borders. Typical of Polyomattines, male *Jamides* have more extensive blue and are more brilliant than females, on a good number the iridescence is scintillating and I was lucky enough to see a few of these jewels in Taman Negara's forest understory.

Seen only a couple of times on the first trip but more frequently on the second trip were small black and white Blues, both along small forest streams and rivers, males congregating at moisture along forest watercourses characteristic of the Indo-Australian group (others are Afrotropical) of these anomalous Blues. All but one seen were *Caleta* species, either *Caleta roxus* Godart, The Straight Pierrot, or *Caleta elna* Hewitson, the Angled Pierrot, both black and white on both wing surfaces. This small genus has a few Oriental Region species and one in the Papuan Subregion, both *C. roxus* and *C. elna* with widespread but somewhat different Southeast Asian distributions. Though I didn't look to differentiate the species, as their common names imply, they are easily told apart: the Straight Pierrot with a straight subbasal black band on the ventral FW, it being angled on the Angled Pierrot.

Seen once at moisture along the Trenggan River was *Discolampa ethion* Westwood. *Discolampa* is closely related to *Caleta* and similar in distribution, *D. ethion* with a very widespread Oriental Region distribution. *D. ethion* is more spectacular than the *Caleta* species, white and black ventrally with a somewhat similar pattern to *Caleta*, the female also similar dorsally to *Caleta* but the male possessing iridescent blue purple on the dorsal surface surrounding the rather reduced white discal band. Two other black and white

species, more closely related to each other than to *Caleta* and *Discolampa* and both containing at least some dorsal blue or blue purple, are found on the Malay Peninsula and should be found in Taman Negara: the monotypic *Castalius rosimon* and *Tarucus waterstradti* Druce. *C. rosimon* has a very widespread Oriental Region distribution, *T. waterstradti* less so. According to Eliot et al, on the Malay Peninsula, *C. rosimon* "is common in secondary growth...on the plains" and *T. waterstradti* is a very rare lowland forest butterfly.

Even tinier than *Caleta*, *Discolampa* and *Castalius*, are many of the Blues of the large genus *Nacaduba* and their superficially similar and closely related, much smaller genera: *Ionolyce*, *Prosotas*, *Catopyrops* and *Petrelea*. As a group, they are found throughout the Indo-Australian rainforest region and a few range to islands of southwest Pacific Oceania. The great majority, have a small tail at vein 2 of the HW, the males are purple blue to purple dorsally and the underside patterns all are very similar to the ones photographed (fig. 6, pp 44). I saw a good number of 'Nacadubas' on the second Taman Negara visit, all visiting moisture along forest watercourses which is characteristic of males of the group; I saw very few on the first visit, this fitting the pattern of a great more Blue diversity and numbers on the second visit, though both visits were at the same time of year. A dozen or so *Nacaduba* species, eight *Prosotas* species and one species each in all three other genera are resident on the Malay Peninsula. I don't think I saw great variety at Taman Negara; I believe most that I saw were of one species, one of the smallest of the group, the tiny *Prosotas nora superdates* Fruhstorfer, The Common Line-blue, which is buff ventrally, unlike most others which are gray brown to brown.

I saw a few Blues of the *Lycaenopsis* group, familiar to nearly all Holarctic lepidopterists because of the common and extremely widespread *Celastrina argiolus* of the Palaearctic Region and

the equally common and widespread *C. ladon* complex of the Nearctic Region. The group has its greatest diversity in the mountains of Southeast Asia and New Guinea; the Malay Peninsula is very rich in species, Sumatra and Borneo even richer, each with some endemic species. According to Eliot et al, "in Sundaland most of the species are montane or sub-montane", so it is no surprise that I saw just a few species (and individuals, except for the possibility of numerous *Neopithecops*, see below) in the great lowland mixed dipterocarp forests of Taman Negara; many more species should be found in Taman Negara's mountains. I saw these few individuals along forest watercourses – a small stream and small rivers, males congregating at moisture also a characteristic of this group.

The small *Megisba malaya* Horsfield photographed (fig. 5, pp. 44) was the only one seen and also one of a few species in the group where the males are brown dorsally, this species and many in the group having females with brown dorsal surfaces. It is very interesting that through the greater part of its range, *M. malaya* is tailed, but a couple of geographic populations are tailless, while its replacement species east of Weber's Line, *M. strongyle* C. Felder, is tailless, except for a tailed race in the Bismarck Archipelago. There is a good chance that I saw another small, dorsally brown blue in this group, *Neopithecops zalmora* Butler. It and the non-*Lycaenopsis* Blue that it strongly resembles, *Pithecops corvus* Fruhstorfer, The Forest Quaker, both have very widespread Oriental Region ranges. Both fly rather feebly in the forest's low understory and I believe I saw numbers of either/both of these species doing just that, but I never saw any alight to get definite determinations.

A glorious lowland rainforest member of the *Lycaenopsis* group is the monotypic species that the group is named after, *Lycaenopsis haraldus* Fabricius. The gorgeous male is shining royal blue above with black wing

borders that are very broad at the FW apex, the aberrant venter is white and unmarked except for delicate black marginal markings on both wings; the female has a similar venter with the marginal markings heavier and the dorsum is black with a wide white discal band on both wings. A Blue/Lycaenid/butterfly I most wanted to see, it ranges throughout Sundaland and weakly into continental Southeast Asia; Eliot et al report that on the Malay Peninsula, "*L. heraldus* is rare in primary forest, and is less uncommon on the plains."

I did see a number of other Blues, but without great knowledge, knowing the species or even the genus in this diverse fauna was a problem. They and the great majority of the Indo-Australian Blues belong to the tribe Polyommata, greatly dominant worldwide except for Africa. The lovely Candalidini, modest in species, is restricted to the Papuan Subregion and Australia. The Malay Peninsula is home to 3 of the 4 Blue tribes, as the very small, predominantly Oriental Region Niphandini, contains a single genus, *Niphanda*, with five species, four of which occur on the Malay Peninsula. Three of the species should be found in Taman Negara and I believe I would have recognized one if seen, as they are distinctive as a group. The fourth, the small, strikingly anomalous *N. stubbsi* Howarth, has an orange and black male. The single specimen known (at the time of Eliot et al) was taken on Fraser's Hill, a classic Malay Peninsula collecting locality; perhaps it exists in Taman Negara's mountains?

To be Continued...

The final section with associated photos will include much less detailed accounts of Hesperids and Moths, observations of butterfly nectaring, a very brief account of Taman Negara's other animal inhabitants and a summation on Taman Negara: how to get there, where to stay, where to go,...

Author's Notes: as in the first two parts, this section is at times comparative to the Neotropical fauna.

I hope this is of interest to the many I believe, have more extensive knowledge of the Neotropical fauna than the Indo-Australian fauna.

Solely for simplicity's sake and with no disrespect to later revisionary works, nomenclature in this report follows Eliot et al (1978), except for the higher classification of the Riodinidae. *Zeltus*, as predicted by Eliot, was made a synonym of *Hypolycaena* by later revisionary work. Also for simplicity's sake, subspecific trinomials are only used in a few cases where I wished to make a specific reference concerning the Malayan race. Anyone interested in further information about the superb *Lycaenopsis* group Blues, please see the excellent monograph written by Eliot & Kawazoe (1983), "Blue Butterflies of the *Lycaenopsis* group", a work in which many new species and genera are described.

All photos were taken with a Canon Powershot S3 IS, all except *Paralaxita* orphna in natural light.

Literature Cited

- Corbet, A. & Pendlebury, H., Revised by Eliot, J. 1978. The Butterflies of the Malay Peninsula, Third Edition. Kuala Lumpur: Malayan Nature Society.
- D'Abrera, B. 1986. Butterflies of the Oriental Region, Part III. Victoria: Hill House.
- Eliot, J. & Kawazoe, A. 1983. Blue butterflies of the *Lycaenopsis* group. London: British Museum (Natural History).
- Heywood, V. Ed. 1993. Flowering Plants of the World. New York: Oxford University Press.
- Lamas, G. et al 2004. Atlas of Neotropical Butterflies. Checklist: Part 4A Hesperioidea - Papilionoidea. Gainesville: Scientific Publishers.
- Larsen, T. 2005. Butterflies of West Africa, Text volume & Plate volume. Stenstrup: Apollo Books.
- Parsons, M. 1999. The Butterflies of Papua New Guinea, Their Systematics and Biology. San Diego: Academic Press.
- Seki, Y. & Takanami, Y., Otsuka, K. Ed. 1991. Butterflies of Borneo, Vol. 2, No. 1, Lycaenidae. Tokyo: Tobishima Corporation.
- Vane-Wright, R. & de Jong, R. 2003. The Butterflies of Sulawesi. Leiden: National Museum of Natural History.

Acknowledgements

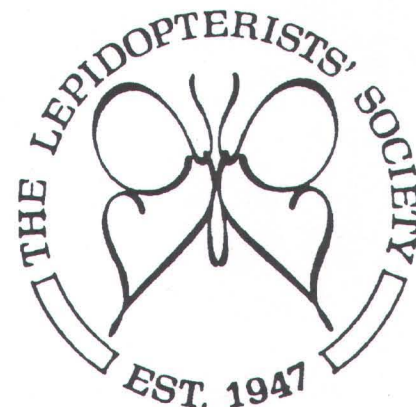
Thanks to my girlfriend Danusia for being such a great partner on the second Taman Negara trip. Once again, thanks to my friend Holly Gordon for

her indispensable computer help with the digital photos. Thanks to the enthusiasts, collectors and authors whose hard work provided me with the broad general knowledge of this region's butterfly fauna; among authors, especially A. Corbet, H. Pendlebury and J. Eliot for their excellent natural history volume and Bernard D'Abrera for his magnificent pictorial Oriental Region volumes. For carmine *Paralaxita*, exquisite long-tailed Hairstreaks, the noble Archduke, glorious Birdwings and all others, for the miracle of evolutionary processes, biotic and abiotic, that helped manifest their physical existence, I thank our Great God.

Correction & Addition

In the first Taman Negara article, I erroneously stated that climbing rattan palms were restricted to the Indo-Australian rainforest region. According to Heywood et al (1993), *Calamus*, a dominant rattan genus, is common to both Asia and Africa.

In the second Taman Negara article, I mentioned seeing the Amathusiini *Thaumantis klugius* not uncommonly during the second visit and the possibility that I saw either or both of its two W. Malaysian congeners as well. From studying my notes of the first trip further, I definitely believe I saw *T. odana* as well; one day's notes describe seeing at least one (and probably a few more) fairly large Amathusiini with somewhat rounded wings and a paleish blue dorsal FW band - a very accurate description for *T. odana*.



Use of *Buddleja* as Host Plant by *Euphydryas chalcedona* in the Sierra Nevada foothills, California

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and

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Butterfly-Bush (*Buddleja* species, also spelled *Buddleia*) is commonly recommended and planted as a nectar source for butterflies in gardens worldwide. It enters the literature as a butterfly larval host plant by way of a cryptic reference by Charles M. Dammers (1940). Referring to southern California desert-mountain populations of the Variable Checkerspot, *Euphydryas chalcedona*, he says: "*Buddleia* can be used as a substitute for their usual *Scrophularias*; the larvae take to it readily in all instars" (p.124).

There is no mention of the plant being used in Nature, though as so frequently happens it has been included in various subsequent lists of host plants with no indication that its use was solely a laboratory artifact.

How did Dammers discover that *Buddleja* was an acceptable host? At that time and until recently, it was generally placed in its own family, Buddleiaceae, or in the Loganiaceae, although it was obvious that these families were closely related to the Scrophulariaceae (in which all the known hosts of *E. chalcedona* were then placed; Scrophulariaceae has been dismembered since.) The secondary chemistry of *Buddleja* was unknown in 1940, so Dammers would not have tried it on the basis that it contained a mix of terpenoids including iridoid glycosides—the class of compounds apparently critical for host selection, sequestered and used for defense by this butterfly genus (Bowers and Puttick,

1986). *Buddleja* is now placed in the Scrophulariaceae *sensu stricto* (Olmstead et al., 2001). Its chemistry has been thoroughly reviewed by Duff et al. (1965) and Houghton et al. (2003) and no one should be surprised at its acceptability to *Euphydryas* based on this recent information. We here report what we believe to be the first instance of *E. chalcedona* breeding spontaneously and successfully on this non-native plant.

In June 2008 one of us (KH) contacted the other (AMS) about this phenomenon. KH's garden is located in Mariposa, Mariposa County, in the western foothills of the Sierra Nevada, at about 2700' elevation about 0.5 mi. from the W fork of the Chowchilla River. It is on a W-facing riparian hillside where *E. chalcedona* is common. There are about 20 *Buddleia davidii* plants (variety unspecified) grown from cuttings scattered about the garden, with the densest concentration planted to screen a propane tank in an area close to native vegetation. They were planted in 2005 and colonized by *E. chalcedona* the same year, and it has bred on them successfully every year since, typically with 3-4 pre-diapause larval webs/plant (each presumably representing a separate egg mass); larvae have been abundant enough at times to defoliate the plants. After diapause the larvae resume feeding on the plants but singly, exactly as they would on a native host. The life history as played out in the garden is illustrated, in part, in the accom-

panying photographs (see pp. 39). AMS verified both pre- and post-diapause feeding and growth in the laboratory on the unnamed small-leaved variety of *B. davidii* from KH's garden and on two other, larger-leaved varieties of the same species (native to China), and pre-diapause feeding on *B. cordata* (native to Mexico) and *B. globosa* (native to Chile) as well as the garden hybrid *B.X weyeriana*, all from gardens in Davis, Yolo County. We conclude that *Buddleia davidii* represents yet another exotic plant adopted as a larval host by a native California butterfly (Graves and Shapiro 2003) and that other members of the genus may also be used as the opportunity arises.

Literature Cited

- Bowers, M.D. and G.M. Puttick. 1986. Fate of ingested iridoid glycosides in Lepidopteran herbivores. *J. Chem. Ecol.* 12: 169-178.
- Dammers, C.M. 1940. *Euphydryas [sic] chalcedona* Dbldy. & Hew. *Bull. So. Cal. Acad. Sci.* 39(2): 123-125.
- Duff, R.B., J.S.D. Bacon, C.M. Mundie, V.C. Farmer, J.D. Russell and A.R. Forrester. 1965. Catalpol and methylcatalpol: naturally occurring glycosides in *Plantago* and *Buddleia* species. *Biochem. J.* 96: 1-5.
- Graves, S.D. and A.M. Shapiro. 2003. Exotics as host plants of the California butterfly fauna. *Biol. Conserv.* 110: 413-433.
- Houghton, P.J., A.Y. Mensah, N. Iessa and L.Y. Hong. 2003. Terpenoids in *Buddleja*: relevance to chemosystematics, chemical ecology and biological activity. *Phytochemistry* 64: 385-393.
- Olmstead, R.G., C.W. DePamphilis, A.D. Wolfe, N.D. Young, W.J. Elisons and P.A. Reeves. 2001. Disintegration of the Scrophulariaceae. *Am. J. Bot.* 88: 348-361.



The Marketplace

IMPORTANT NOTICE TO ADVERTISERS: If the number following your advertisement is "504" then you must renew your advertisement before the next issue! Remember that all revisions are required in writing.

Books/Videos

For Sale: Entomological books from personal library, mostly in excellent condition. Includes such titles as "Butterflies of the Indian Region" by Wynter-Blyth; "Butterflies of the Malay Peninsula" by Corbet & Pendlebury and "Butterflies of South Africa" by Swanepoel. Prices are negotiable. Write or email for list. Alan J. Hanks, 34 Seaton Drive, Aurora, ON L4G 2K1, Canada or email: alan.hanks@sympatico.ca

specialises in selling secondhand, out of print and antiquarian books and prints about butterflies and moths. Visit their website at www.aurelianbooks.co.uk. Proprietor David Dunbar welcomes enquiries and correspondence for your wants and further information about Aurelian Books at 31 Llanvanor Road, Childs Hill, London NW2 2AR UK Tel.: 00-44 208 455 9612.

Part 2 - just published! Price GBP £110 (+ postage and packing at cost). Please order from the author/publisher, Andrew Neild (email: andrew.neild@blueyonder.co.uk, phone: +44 (0)20 8882 8324, or post: 8 Old Park Ridings, London N21 2EU, United Kingdom). 1451 figures on 84 colour plates display all 196 species (355 subspecies) of Venezuelan Acraeinae, Ithomiinae, Libytheinae, Morphinae, and Nymphalinae. 8 new species, 91 new subspecies, 4 neotypes, 10 lectotypes, 272 text pages, 84 colour plates, 31 figures, 2 tables, 4 maps. Laminated hardback, 22 x 30 cm. Details and sample plates: www.thebutterfliesofvenezuela.com

Wanted: Books wanted: Zimmerman E. G. (1978) *Insects of Hawaii*, vol. 9 (parts 1 and 2) *Microlepidoptera*, Univ. of Hawaii Press. Also, Hampson, G.F. (1894) *Fauna of British India, Moths*, (Vol. 2 *Arctiidae* only) - preferably the 1976 reprint by Today and Tomorrow's Printers and publishers of India. Matthew Barnes Upper Cow Leys Far, Piddington, Bicester, Oxon OX25 1QE England or email: mothman@belizemail.net

New Issues of *Papilio* (New Series): #18, Geographic variation and new taxa of western N.A. butterflies, especially from Colorado. By James Scott and Mike Fisher, some parts by David Wright, Stephen Spomer, Norbert Kondla, Todd Stout, Matthew Garhart and Gary Marrone. 72 p., 4 color plates, \$9. #19, Corrections/reviews of 58 North American butterfly books. J. Scott. 127 p., \$8. #20, Biological Catalogue of North American butterflies. J. Scott. 49 p., \$5. #18-20, \$21; #1-20 \$89, postpaid in U.S. James Scott, 60 Estes St., Lakewood, Colorado 80226-1254 USA

New Book on American butterflies: R.R. Askew & P. A. v. B. Stafford: *Butterflies of the Cayman Islands*. December 2008. Hardback, 24x17cm., 172 pages incl. 6 color plates and 119 color photos. Maps and other figures. US \$69.50. Also available: Larsen: *Butterflies of West Africa*. Hardback 28 x 21 cm. 865 pages in two volumes. 125 color plates

Aurelian Books of London, England

For sale: *The Butterflies of Venezuela*

The aim of the Marketplace in the *News of the Lepidopterists' Society* is to be consistent with the goals of the Society: "to promote the science of lepidopterology...to facilitate the exchange of specimens and ideas by both the professional worker and the amateur in the field..." Therefore, the Editor will print notices which are deemed to meet the above criteria, *without quoting prices*, except for those of publications or lists.

No mention may be made in any advertisement in the *News* of any species on any federal threatened or endangered species list. For species listed under CITES, advertisers must provide a copy of the export permit from the country of origin to buyers. **Buyers must beware and be aware.**

Only members in good standing may place ads. **All advertisements are accepted, in writing, for two (2) issues unless a single issue is specifically requested.**

Note: All advertisements must be renewed before the deadline of the third issue following initial placement to remain in place.

All ads contain a code in the lower right corner (eg. 481, 483) which denote the volume and number of the *News* in which the ad. first appeared. **Renew it Now!**

Advertisements must be under 100 words in length, or **they will be returned for editing**. Ads for Lepidoptera or plants must include full latin binomials for all taxa listed in your advertisement.

Send all advertisements to the Editor of the News!

The Lepidopterists' Society and the Editor take no responsibility whatsoever for the integrity and legality of any advertiser or advertisement.

Disputes arising from such notices must be resolved by the parties involved, outside of the structure of The Lepidopterists' Society. Aggrieved members may request information from the Secretary regarding steps which they may take in the event of alleged unsatisfactory business transactions. A member may be expelled from the Society, given adequate indication of dishonest activity.

Buyers, sellers, and traders are advised to contact your state department of agriculture and/or PPGAPHIS, Hyattsville, Maryland, regarding US Department of Agriculture or other permits required for transport of live insects or plants. Buyers are responsible for being aware that many countries have laws restricting the possession, collection, import, and export of some insect and plant species. Plant Traders: Check with USDA and local agencies for permits to transport plants. Shipping of agricultural weeds across borders is often restricted.

depicting more than 1,400 specimens. US \$256.00. *Monastyrskii: Butterflies of Vietnam*, softcover, 21 x 15 cm., Vol. 1: Satyrinae. 199 pages incl. 35 color plates, US \$64.00. Many others available. Visit website: www.apollobooks.com or contact Peder Skou, Apollo Books, Kirkeby Sand 19, DK-5771 Stenstrup, Denmark, or ask for a copy of our 2008-09 catalogue. 504

For Sale: Fascicle 118 (Noctuidae) of *Lepidopterorum Catalogus* by Robert W. Poole. Three volumes/mint condition. \$150 for set or best offer. Edgar Cohen 5454 Marsh Hawk Way, Columbia, MD 21045 edcohenfam@yahoo.com 511

Wanted: Vol. 37 of the *Journal of Research on the Lepidoptera*. Jon H. Shepard, 6420 Barabanoff Rd. Nelson, BC V1L 6Y1 Canada shep.lep@netidea.com 511

Equipment

Light Traps: 12 VDC or 120 VAC with 18 inch vanes (15 & 32 Watt) and 24 inch (40 Watt). Rigid vanes of Stainless Steel, Aluminum, or Plexiglass. Rain Drains and beetle screens to protect specimens from damage. **Collecting Light:** Fluorescent UV 15, 32 & 40 Watt. Units are designed with the ballast enclosed in a weather tight cast aluminum enclosure. Mercury Vapor: 160 & 250 Watt self ballast mercury vapor with medium base mounts. Light weight and ideal for trips out of the country. **Bait Traps:** 15 inch diameter and 36 inches in height with a rain cloth top, nylon coated fiberglass screen, and supported with 3/16 inch steel rings. A plywood platform is suspended with eye bolts and S hooks. Flat bottom has a 3/16 inch thick plastic bottom that will not warp or crack. Bait container is held in place by a retainer. For more information, visit our web site at: www.leptraps.com, or contact Leroy C. Koehn, Leptraps LLC, 802 South Third Street, Watska, IL 60970-1607: Tel: 815-515-4060 504

Specimens

Wanted: North American butterflies, both common and rare. Particularly I

need wester *Papilio*, *P. appalachiensis*, *joanae*, etc., *Speyeria* sp., (*diana*, etc.), and many others. Please contact me with your trade list. I can exchange tropical and exotic worldwide leps, or possibly purchase your material. Josh Lewallen, P.O. Box 1446 Fort Davis, TX 79734. Phone: 432-426-3851 or email: insects@hughes.net 504

For Sale or Trade: Worldwide Butterflies (+ few beetles from Africa and the Caribbean). Many caribbean species and neotropical species. Mexican butterflies from Chiapas with export permits. Huge selection Holarctic leps and interesting butterflies from remote South Pacific Islands. Worldwide Saturniidae. Website: www.theinsectcollector.com Robert Westphal, Steinwies 13 1/2/85077 Manching, Germany. Ph. 49+8459+323409. Email: westphal.robert@t-online.de 504

Wanted: Want to trade butterflies from Japan with individuals from USA and Canada. Shigeo Nomura 1-3 Goryoucho Higashimatu-yama-shi Saitama-ken Japan shigeonomura2@ybb.ne.jp 511

Research

Delano S. Lewis (PhD candidate) and Dr. Charles V. Covell Jr. seek to borrow, purchase or exchange for specimens of yellow-and-black, diurnal, neotropical geometrid moths (Sterrhinae, Cyllopodini) for revisionary study. These mimetic moths are often mixed with similarly colored members of other moth families in collections, such as Notodontidae (Dioptinae) and Arctiidae. Many thanks. Please contact us at dlewis@ufl.edu or covell@louisville.edu McGuire Center for Lepidoptera and Biodiversity, FLMNH, Hull Rd. at SW 34th St., Gainesville, FL, 32611-2710. 504

Drs. Gerhard Gries and Paul Schaefer have made significant progress on identification of the sex pheromone of the Planthopper Ectoparasitic Moth, *Fulgoraacia exigua* (Epipyropidae). We expect to first field test a synthetic lure in mid-August 2009. If successful, we immediately wish to conduct a widespread distributional survey for F.

exigua. We call on any Society members willing to cooperate by receiving a sticky trap and lure and then to deploy same in a convenient forested hardwood habitat (likely supporting host planthoppers) to contact us at: paulschaefer60@hotmail.com or mail to: Paul Schaefer, 4 Dare Drive, Elkton, MD 21921. Please provide name and mailing address to which we might send trap, lure and instructions in late August 2009. We thank all willing to help by field trapping for this unique moth. 504

Seeking short series (5-10 individuals) of recently collected papered specimens (since 2003) of species in the genus *Celastrina* from the Americas (especially localities far from Kentucky), Asia, Europe, etc. for a student project in molecular phylogenetics. Good locality data essential. Specimens collected in 2009 are particularly desirable. We are happy to reimburse for postage. Jeffrey Marcus, Department of Biology, Western Kentucky University, 1906 College Heights Blvd., #11080, Bowling Green, KY 42101 USA or email: jeffrey.marcus@wku.edu 511

Announcement

The Lepidopteran Course 2009

Where: Southwester Research Station, Portal, AZ. **When:** August 22-28, 2009 **Organizers:** P.D. Hulce (SRS), Richard Zweifel (American Museum of Natural History) and Jim Miller (AMNH).

Course Objectives: Course is designed for students, amateur naturalists, conservation biologists, and others who have an interest in learning more about butterfly and moth taxonomy. Lectures and field trips.

Fees: Tuition for 6-day, 7-night course is \$850 for students and \$950 for non-students.

How to Apply: application form at:

<http://research.amnh.org/swrs/butterflycourse.htm>

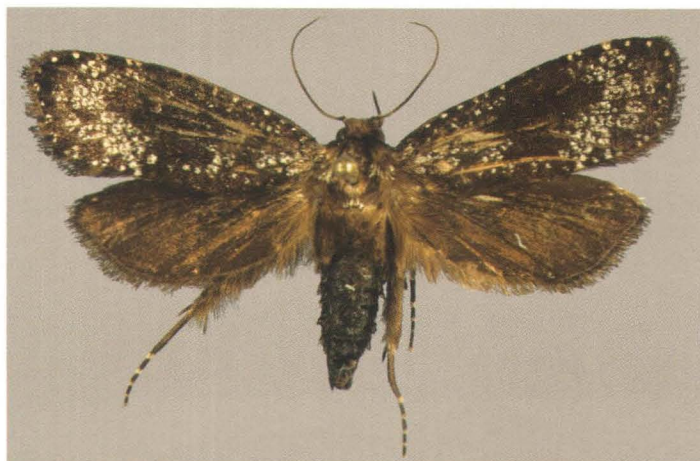
Or contact P.D. Hulce at SRS, P.O. Box 16553, Portal, AZ 85632 email: dhulce@amnh.org 520-558-2396



Baltimore Checkerspot Restoration in Maryland

1) Female *Euphydryas phaeton* ovipositing on *Chelone glabra*. 2) Larval nest. 3) Rearing tent at the Maryland Zoo used for reintroduction. 4) Second graders learning about the plight of the Baltimore Checkerspot in Maryland as part of the public education process. See article on pp. 3.

Wanted: Dead or Alive



Adult male of a probable new genus and species of tineoid moth from Guatemala. See article pp. 30.

Baeotis zonata: New for the USA



The above specimen was taken on October 22, 2008 in Santa Cruz Co., AZ. See article on pp. 10.

Baltimore Checkerspot

continued from pp. 4

hundreds of white turtlehead plants. With the generous advisory assistance of Dr. M. Deane Bowers, Professor and Curator of Entomology, University of Colorado at Boulder, BCRP helped the Zoo staff set up a breeding tent and other necessary equipment, provided a day-long training session for the volunteers who would care for the breeding stock, and brought in a half-dozen gravid females to start the project. After three unsuccessful attempts and restarts in following years, the 2008 crop survived the summer. In the fall, webs of aestivating larvae were placed in the Zoo's manmade bog to over-winter. If the larvae emerge in the spring, finish their metamorphosis, and successfully breed, the Zoo will be on course to expand its captive-rearing effort. Long range plans include a permanent Baltimore Checkerspot conservation exhibit, where the public can observe the butterfly and captive breeding practices.

With the hope of creating one or two additional captive-rearing projects, BCRP presented a captive-breeding workshop to 21 participants in November 2008. The day-long event included BCRP's PowerPoint show on the life history of the Baltimore Checkerspot, sessions on propagating

white turtlehead and on setting up a low-budget captive-rearing facility, and a field trip to Rubin's Marsh. Participant evaluations were encouraging. To date, one participant has committed to starting a captive-rearing facility; three more are considering the undertaking. BCRP will work with these volunteers to set up their captive rearing facilities.

Public Education

Informing the Maryland public about their state insect and its conservation status has been an important aspect of BCRP's work. The BCRP brochure on the life history and conservation status of the Baltimore Checkerspot has been widely circulated to Maryland-based nature centers, garden clubs and other organizations. BCRP's PowerPoint show, "Saving Maryland's Baltimore Checkerspot," a 30-illustrated lecture on the life history of the butterfly and its decline in the state, has been presented to more than a dozen natural history and garden groups. A simplified version of the show with a teacher's script has been incorporated into Montgomery County's second-grade science unit on butterflies. With BCRP's assistance, the Maryland Zoo has developed its own comprehensive youth outreach program on the species. *The Baltimore Sun*, Maryland's newspaper of record, has steadily

reported on efforts to restore the Baltimore Checkerspot in the state, each article illustrated with a striking color photo of the butterfly. The result of these efforts is an enthusiastic Maryland constituency for the Baltimore Checkerspot.

Where do we stand? Admittedly, still a long way from restoring the Baltimore Checkerspot in Maryland. Dependable captive-rearing and introduction techniques have yet to be developed, wild colonies need long term protection, and many more volunteers must be recruited and trained to take on the workload. However, because the Baltimore Checkerspot is not yet hopelessly imperiled, BCRP believes there is still time to reverse its decline in the state.

References

- Cech, R. & G. Tudor. (2005): Butterflies of the East Coast: an observer's guide. Princeton University Press, Princeton NJ: p.179.
 Scott, J.A. (1986): The butterflies of North America: a natural history and field guide. Stanford University Press, Stanford CA. pp. 292-293.
 Wagner, D. L. 2007. Butterfly conservation. pp. 289-309. In J.E. O'Donnell, L. F. Gall, and D. L. Wagner (eds.), Connecticut Butterfly Atlas. Connecticut Department of Environmental Protection, Hartford, CT.
 Wagner, D. L. 2007. Dead bugs do tell tales. *News Lepid. Soc.* 49: 50-51, 67.

2009 Meeting of the Pacific Slope Section of the Lepidopterists' Society Taft, California: Carrizo Plain National Monument April 17-19, 2009

The 2009 meeting of the Pacific Slope Section of the Lepidopterists' Society will take place on April 17-19 at Taft, California, the gateway to the Carrizo Plain National Monument. The meeting will be held at the "Fort", (a charming refurbished old fort), 915 N. 10th Street, Taft, CA. The Carrizo Plain National Monument biologist have granted all participants a blanket-collecting permit as a guided field collecting trip during the three day meeting.

Travel: Taft, California is approximately 35 miles southwest of Bakersfield or 100 miles from Los Angeles. Bakersfield has an international Airport for those whose wish to fly. Car rentals are available.

Housing and Restuarants: Housing in Taft has three adequate motels. (Holland Inn 661-763-1536; Topper's Motel 661-765-4145; Caprice Motel 661-765-2161). An additional Motel 8 is located in Maricopa six miles to the southeast. There are many good restaurants and fast food eating establishments in Taft but only a single fast food site in Maricopa.

Contact Peter Jump for registration forms and further information: call 805-933-9912 any time or e-mail hpjump@earthlink.net

Membership Update...

Julian Donahue

Includes all changes received by 27 February 2009.

"Lost" Members

(publications returned: "temporarily away," "moved," "left no address," or "addressee unknown"):

Piot, Debra (Santa Barbara, CA; "temporarily away")

Additions/corrections to entries in 2008 Membership Directory:

Ford, Peter M.: correct street address is 2330 Hughes Road

Kelley, Stephanie: name change [now Stephanie Kalthoff; new address below]

Mikkola, Kauri: new P.O. Box is 17

Ortiz Garcia, Manuel: correct e-mail address is boliche_y_chapinete@yahoo.es

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Metamorphosis...

Julian Donahue

The Society has learned of the death of the following members. Our condolences to their families.

Conway, Patrick J. of Galva, Illinois. Mr. Conway had been a member of the Society since 1952. [Information from David Hess; no further details available.]

Holmberg, Henry of Helsinki, Finland, in July 2008. Mr. Holmberg had been a member of the Society since 1965, specializing in the Macrolepidoptera of Europe and the Microlepidoptera of Finland.

Johnson, Joel Mack, at his home in Payson, Utah, on 25 February 2009. He was 88. The eldest of 10 children, he was born 26 March 1920 in Benjamin, Utah, to Alma Joel and Ruth Selin Johnson. All four of his grandparents were Mormon immigrants from Vastmanland Province in central Sweden. After serving in the Texas-Louisiana [Mormon] Mission, he spent three years as an electronics technician with the U.S. Navy during World War II. He graduated from Brigham Young University (chemistry) and received a Master's Degree (Education and Counseling) from the University of Texas. He taught high school chemistry and physics for 37 years, finishing his career at Payson High School. He loved the outdoors, hunting, fishing, and raising animals, and enjoyed farming with his brother, Hal. An avid collector of butterflies and moths, he was a member of the Utah Lepidopterists' Society and had been a member of The

Lepidopterists' Society since 1979; many lepidopterists became acquainted with him at the 1996 Pacific Slope meeting he helped organize in Utah. His vast collection of moths was donated to Brigham Young University. Joel is survived by his wife, Jane Bullock Johnson, five siblings, seven children, 23 grandchildren and eight great-grandchildren. [information kindly supplied by Todd Stout]

Robertson, Ronald "Ron" of Santa Rosa, California, on 27 January 2009, after a three-year battle with cancer. He was 63. Ron, who taught biology in the Sonoma Valley school system for 31 years, until his retirement in 2006, was born in Earlimart, California, to Wanda Massey, a single mother who immigrated to the California Central Valley from Tupelo, Oklahoma, after the Great Dust Bowl. He met his future wife, Judy Robertson, in the sixth grade at the John S. Park elementary school in Las Vegas, Nevada, where as a boy of 11 he took his first solitary hike through the Charleston Mountains and returned with a nascent love for the plants, animals, and topography of the Great Basin ecosystem. In his senior year of high school he supported himself by working the night shift as a dishwasher in several casinos. He graduated at the top of his class, and was awarded an engineering scholarship to the Colorado School of

Mines in Golden, Colorado. After serving in the United States Marine Corps he attended the University of California at Berkeley on the GI bill, and graduated with a degree in Biology. He was an avid naturalist and lepidopterist who worked with the California Academy of Sciences, and tirelessly conducted research on noctuid moths. Five moth species, and one species of moss, have been named after him, and his collections can be found in herbariums at UC Davis, UC Berkeley, and Sonoma State University. He was also a member of the California Lichen Association and the British Lichen Society. He leaves behind his beloved wife of 37 years, Judy Robertson, one sister, and two daughters, Lisa and Kelly, who learned from him the appropriate way to catch a sheep moth in the high altitude Sierra Nevada and how to identify a Mourning Cloak butterfly in mid flight. He believed in hard work in the face of obstacles, the enduring power of the written word, and the ecological mystery of the American Southwest, where he ultimately found the greatest peace. [edited from submission received from Judy Robertson]



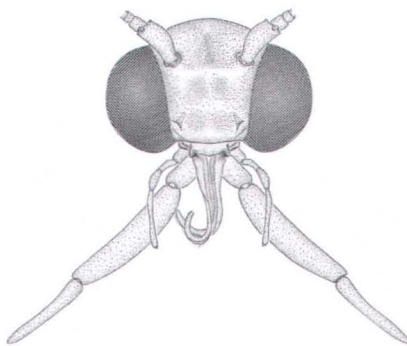
Wanted – Dead (much preferred) or Alive

Donald R. Davis

Department of Entomology, Smithsonian Institution, P.O. Box 37912, Washington, D.C. 20013-7012

The tineoid family Acrolophidae was formerly believed to consist of only the single large genus *Acrolophus* (Hasbrouck, 1964, Proc. U.S. Nat. Mus., no. 3475). Current research has revealed at least six additional genera in this exclusively New World family, with the possibility of others, such as the new genus referred to herein. Peter Jump and I are now in the final throes of completing a MONA revision on the North American Acrolophidae and have examined two males of a new genus and species of moth from Central America for which more material is urgently needed. We suspect this species to be a representative of the Acrolophidae, although some features suggest that its family affinities might lie within Tineidae. The primary significance of the species is that it appears to be the most basal member of the Acrolophidae,

if indeed it can be shown to belong to that family. This primitive state is strongly suggested by the presence of well developed, four-segmented maxillary palpi. Because the reduced female ovipositor is one of the most diagnostic synapomorphies for the



Head morphology of the moth in question.

Acrolophidae, female specimens are in special demand. We wish to urge collectors who either have collected or plan to collect in Central America to search for this problematic moth. This request is especially addressed to those who will be attending the meetings of the Lepidopterists Society in Chetumal City this June, and who may also be collecting in more humid areas in southern Mexico where the species more likely occurs. If any specimens are found, then we would be grateful for a loan of the material, especially of the critical female, for our study.

The two known males were collected at the following localities: Ixcansan, Huehuetenango, Guatemala, 26 July 2000, and 5 miles north of Teziutlan, Puebla, Mexico, 27 June 1975. The wingspan is approximately 45 mm (1 3/4").

Locality data for the Pawpaw Sphinx, *Dolba hyloeus* (Drury, 1773) in Atlantic Canada

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The Pawpaw Sphinx, *Dolba hyloeus* (Drury) was first reported in Atlantic Canada, from New Brunswick, by Troubridge & Lafontaine (2004). They gave no further data. Tuttle (2007) somehow missed this record and showed the northeastern distribution of the Pawpaw Sphinx as not quite reaching the Canadian border in New Brunswick, as shown as a dashed line in Fig. 1. (pp. 38). Brower (1974) listed this species from three localities in southern Maine, (Augusta, Biddeford, and Norway), and 6 localities in east central Maine, Hope (Fig. 1, site 1), Bar Harbor (Fig. 1, site 2), Vassalboro (Fig. 1, site 3), Orono (Fig. 1, site 4), Enfield

(Fig. 1, site 5), and Lincoln (Fig. 1, site 6). There are no records for this species included in the Lepidopterists' Society Season Summary (on line) for Maine and no records for New Brunswick.

Between us we have collected the Pawpaw Sphinx at 5 localities in southern New Brunswick, Canada. The senior author collected eleven moths using 22 watt BL traps unless noted otherwise at the following 3 localities: Welsford, Queens Co., gas station wall, 1 October 2002 (1 moth) (Fig. 1, site 7) and illustrated in Fig. 2; North Lake, York Co., (Fig. 1, site 8) 4 August 2000 (4 moths); Acadia

Research Forest, Sunbury Co., (Fig. 1, site 9) 17 June 1999 (1 moth), 27 June 1999 (2 moths), 26 July 2002 (1 moth), 28 July 2002 (1 moth), 31 July 2002 (1 moth). The junior author collected one female at MV light at Charters Settlement, York Co., on 14 July 2000 (Fig. 1, site 10), obtained eggs, reared larvae on *Ilex verticillata*, and obtained five adults that emerged on June 24 and 25, 2001. Another moth was collected at MV light near Scotchtown, Queens Co. on 5 July 2006 (Fig. 1, site 11).

According to Tuttle (2007) the Pawpaw sphinx has only one generation in the

Continued on pp. 41

Hot Spots of the East: The New Jersey Pine Barrens

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Few areas on the east coast of North America have played a more important role in the study of the Lepidoptera than the New Jersey pine barrens ("NJPB" or simply "pine barrens"). A vast natural area of about 1.1 million acres (4,500 km²), covering parts of Ocean, Burlington, Camden, Gloucester, Atlantic, Cumberland and Cape May counties (Boyd, 1991), the barrens have long been a magnet for lepidopterists from the nearby metropolitan centers of New York City and Philadelphia. Alexander B. Klots would take collecting trips to Lakehurst from the American Museum of Natural History, Sidney Hessel (for whom the beautiful pine barrens denizen, *Callophrys hesseli* was named) would visit the pine barrens from Long Island, NY or Washington, CT and for decades members of the Newark Entomological Society would collect there. The marvelous moth fauna has been intensively studied by Otto Buchholz, John G. Franclemont, Fred Lemmer, Joseph Muller, Charles Rummel and Dale F. Schweitzer, among others.

The pine barrens are characterized by sandy, acid and sterile soils composed primarily of coarse sands and gravels deposited by ancient seas. (Boyd, 1991). Water drains rapidly through these soils to form a priceless system of underground reservoirs of fresh water. These soil characteristics leave the surface dry in spite of an average annual rainfall of nearly 45 inches. The dominant trees are various pines, oaks and Atlantic White Cedar (*Chamaecyparis thuyoides*) with an undergrowth of heath-like shrubs.

One of the attractions of the barrens as a collecting area is that so much of it is undeveloped – the soil described above is poor for most agricultural uses, so it

has remained relatively undisturbed. Within the pine barrens are Wharton State Forest, Brendan T. Byrne State Forest and Bass River State Forest. In addition, there are numerous state parks and wildlife management areas – in fact, over 300,000 acres of the pine barrens are public land. Even outside these designated natural areas, much of the land is either wholly undeveloped or sparsely populated. Moreover, in an effort to protect this unique area, the pine barrens are subject to the Federal Pinelands National Preserve Act of 1978 and The New Jersey Pinelands Commission oversees further development plans within the area under a Comprehensive Management Plan. Two important areas where rare and uncommon species are found are not accessible to the public – Fort Dix and the Lakehurst Naval Air Station. As an aside, it is up to you to ascertain what rules and restrictions govern in any place you wish to collect and you should check in advance and obtain any permits necessary. And on the topic of disclaimers, be prepared for deer flies, mosquitoes, ticks and, worst of all, chiggers.

The same soils that kept the area from being developed are the primary reason for the pine barrens' rich diversity of Lepidoptera – the soils support a unique flora adapted to these conditions. In addition to soil characteristics, many of these plants are also adapted to frequent fires which has important conservation implications. The unique flora, in turn, serve as hosts for many taxa of butterflies and moths. Some of these taxa are either found nowhere else or are much less common elsewhere. The notcuid *Agrotis buchholzi*, for example, is apparently endemic to the NJPB as is *Crambus daeckellus*. (Schweitzer & McCabe

2004). Other species are found only here and in a limited area of eastern North Carolina. (Schweitzer & McCabe, 2004).

From the cranberry bogs at Lakehurst and Wharton State Forest, to the ubiquitous white cedar swamps and from the pygmy pitch pine and scrub oak forests along Rt. 72 and Rt. 539 to the sweetfern vales in Greenwood WMA, there are many different habitats within the barrens, each habitat with its own blend of flora and fauna.

Although there are interesting Lepidoptera to be found anytime that it is warm enough for adult activity, the first reliable activity is in March or early April, depending upon the weather. The first of the non-hibernating butterflies to appear—usually in March, but sometimes by the end of February southward, is *Celastrina lucia*. Locally known as the Blueberry Azure, for which the NJPB is a disjunct southern outlier, this species can be common in swamps. Later in March (southward) or April (in the core barrens). *C. idella* (Atlantic Holly Azure) appears and along the western and southern fringes, but not in the core pine barrens, *C. ladon* (Spring Azure), occurs locally (and not usually abundantly) with them in April. In a way, this is typical of the pine barrens where common species are often uncommon or absent and "rare" or disjunct species replace them.

Some time in April, the first of the elfin species in the genus *Callophrys* appear. A great spot to see three species of elfin – *Callophrys augustinus*, *C. nippon* and *C. polios* – is Warren Grove WMA, near the radio tower. You can see *Callophrys hesseli* in Warren Grove, too, usually during the first week of May. Check the Sand Myrtle (*Leiophyllum buxifolium*) blossoms or those of the highbush



A small sampling of some butterflies of the New Jersey Pine Barrens

Fig. 1. *Callophrys gryneus*, Lakehurst, Ocean County, New Jersey, May 14, 1996. **Fig. 2.** *C. hesseli*, on Sand Myrtle: vic. Chatsworth, New Jersey, May, 2000. **Fig. 3.** *C. niphon*, Warren Grove, New Jersey, May 9, 1992. **Fig. 4.** *Lycaena epixanthe* from Lakehurst. Ocean County New Jersey June 15 1998. **Fig. 5.** *C. irus*, Lakehurst, NJ, May 14, 1996. **Fig. 6.** Typical pine barrens habitat: Warren Grove, New Jersey, May 9, 1992.

blueberry (*Vaccinium corymbosum*) that grow among the Atlantic White Cedar on Beaver Dam Road. Also flying at the same time is *Erynnis brizo*, one of several duskywings in the NJPB and perhaps the one that is most characteristic of the pine-oak habitat. Two other species of elfins occur in the pine barrens, *Callophrys irus* and *C. henrici*. I have found the former rarely in Lakehurst and the latter in Tuckahoe WMA where its foodplant, American Holly (*Ilex opaca*) grows.

Try to get to the barrens as early in the morning as possible and then check around the walls and lights of gas stations and convenience stores for any moths still sitting around from the night before. By doing so in March and April, you can obtain many of the special spring Noctuidae and Geometridae without having to freeze in front of a mercury vapor light shining on a sheet. Nights can get really cold in the spring. Two of my spring favorites here are *Lycia ypsilon* and *Ferralia major*.

In late April and early May, the introduced weedy mustards are in bloom in the old cedar fields around Lakehurst and elsewhere. These red cedar (*Juniperus virginiana*) fields are not natural habitats in the pine barrens, as red cedar is an adventive in old, disturbed fields. Although the mustard plants are probably a net negative as far as having an impact on the environment, their flowers are often covered with *Callophrys gryneus siva*, the various spring *Erynnis* species, *Anthocharis midea* and an occasional *Parhassius m-album*. A native shrub that blooms in April that also attracts many butterflies is shadbush (*Amelanchier canadensis*). Another pretty native flower that attracts its share of butterflies in spring is pyxie (*Pyxiedanthera barbulata*), which also happens to be the foodplant of the endemic *Agrotis buchholzi* (Schweitzer & McCabe, 2004). In spring you can also find *Hesperia metea* around and, very rarely, *Amblyscistes vialis*. A pretty dayflying moth that one can find on the sand myrtle is *Epelis truncataria*. This

little geo looks surprisingly like a metalmark in the genus *Calephelis*.

As May heats up, the elfins become more worn, but you can flush another pretty dayflier from the heather: *Drasteria graphica atlantica*. (Although *atlantica* is usually treated as a subspecies of *graphica* it is almost certainly specifically distinct). (D. F. Schweitzer, pers. com.) Both *D. g. atlantica* and the more northern *D. occulta* are fairly common at Warren Grove.

By mid-June, the first of the *Satyrium* hairstreaks should be emerging. Especially sought after is *Satyrium favonius ontario* which is also the first to emerge. They are occasional on dogbane (*Apocynum cannabinum*) blossoms in Greenwood WMA except in their very rare boom years when they can be almost (but not quite) common. With them are *S. liparops*, *S. calanus falacer* and *S. titus*, especially at Lakehurst – less so or not at all in the core barrens. Also emerging in June and flying into July is *Hesperia attalus* another uncommon species with a disjunct population in the NJPB.

In mid-to-late June, the cranberry (*Vaccinium macrocarpon*) bogs can be alive with *Lycaena epixanthe* and *Euphyes bimacula*. Around the first week of July, *Neonympha areolata septentrionalis* will flit about in these same bogs – fresh among the worn *L. epixanthe* and *E. bimacula*, but the *Euphyes dion* are out fresh now.

As July swelters along, the butterflies in the pine barrens become less common and less interesting species predominate although *C. hesseli* has a small and irregular second brood (Gochfeld & Burger, 1997). Fortunately though, mid-July into early August is great for moth hunting. Now is the time to set up your blacklights, and mercury vapor lights and stay up all night in front of the sheet (or catch a few winks in your vehicle). Sugaring for *Catocala*, *Acrionicta* and other moths is also productive now. Although the prize underwing for most is *Catocala herodias gerhardi*, (which comes to light, but

almost never to sugar) there are other nice species to be had such as *C. jair*, *C. pretiosa*, *C. praeclara*, *C. andromeda*, *C. sordida* and many others. Sphingids are also common in the summer, a favorite here is *Paonias astylus* and the most abundant is *Lapara coniferarum*. The pretty silkmoth, *Anisota stigma*, also comes to light in the summer.

In July and August the sweet pepperbush (*Clethra alnifolia*) is in bloom and attracts the late summer butterflies. *Celastrina neglecta* and *Calycopis cecrops* seem especially fond of it, but one never knows what may come to it. I was with Ira Nadborne when he collected a bilateral gynandromorph of *C. neglecta* on sweet pepperbush in Lakehurst years ago. August also sees an influx of more southern species, the most conspicuous being *Phoebis sennae*, but vagile skippers such as *Atalopedes campestris*, and *Hylephila phylaeus* are also around, especially in disturbed areas. Late summer into fall is also the time to look for the noctuid species in the genus *Schinia*.

The fall harbors its own treasures with *Hemileuca maia* zigging over the pines as the oaks turn scarlet. Another late season prize is *Psectraglaea carnosa*, a beautiful pinkish-gold noctuid that looks as though it blends with the fall foliage, although I have only seen them at light. To bring the year full cycle, I understand from some other moth collectors that if there is a warmish night in February or early March, it can be good sugaring for *Lithophane* species and other so-called “winter moths”, but I have never attempted this myself.

An article such as this can, of course, only skim the surface of the butterfly and moth diversity present in the NJPB. To fully appreciate this unique area, you need to go there – many times!

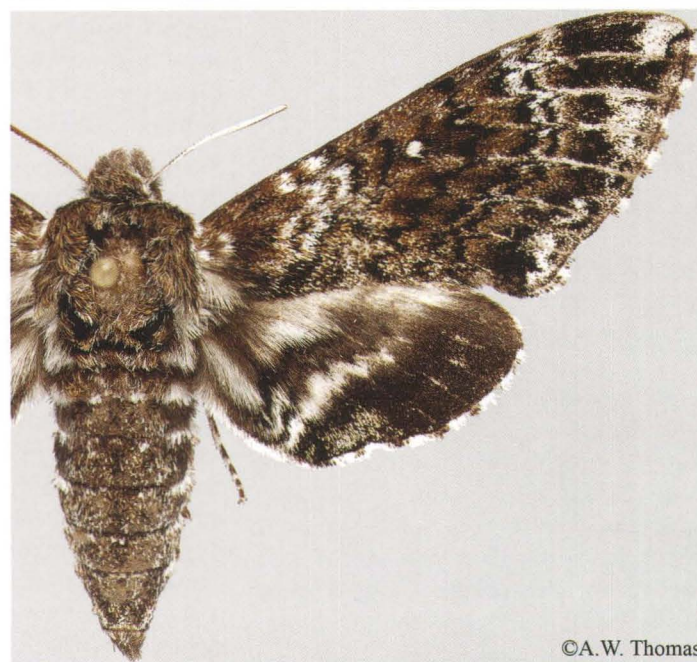
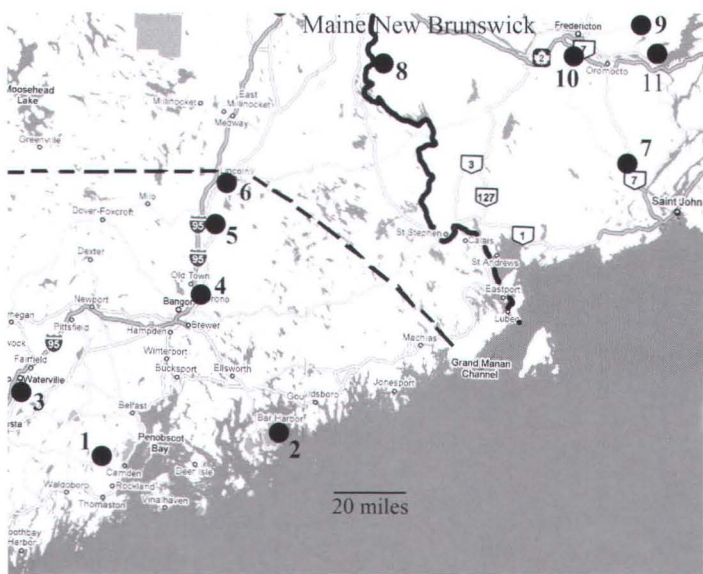
Acknowledgements

The author thanks Dale F. Schweitzer for his invaluable insights (and patience) during the preparation for this article. Any errors of

Continued on pp. 41

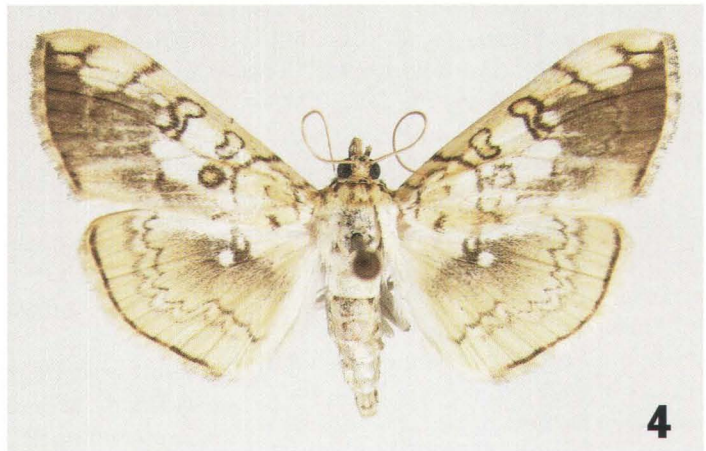
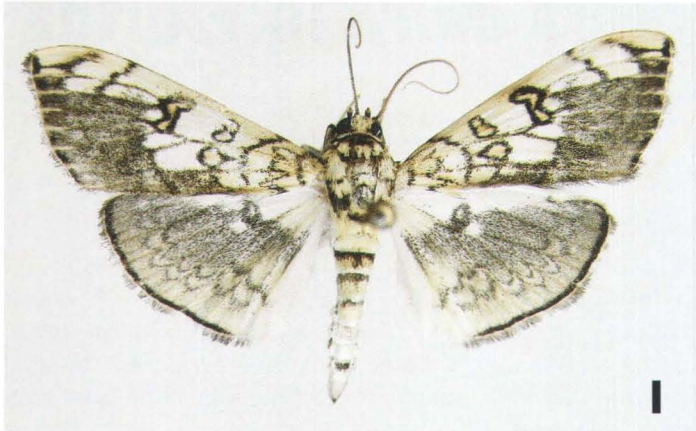


Seasonal forms of *Eurema daira* (Pieridae) in Florida exhibiting season-specific crypsis. ©Andrei Sourakov. See article pp. 40.



©A.W. Thomas

Fig.1. Localities for Pawpaw Sphinx (*Dolba hylaeus*) in east central Maine (Brower 1974); and for recent collections in southwestern New Brunswick. **Fig. 2.** *D. hylaeus* specimen 1 October 2002 in New Brunswick (Fig. 1, site 7). See article pp. 34.



***Pantographa suffusalis*, a New Record for the USA**

1) *Pantographa suffusalis* male, USA, TX: Hidalgo Co., Mission, 10-XI-08 leg. C. Bordelon. 2) *Pantographa suffusalis* male Mexico, San Luis Potosi, Cd. Valles, 28-XI-78 leg. E. Knudson. 3) *Pantographa limata* male, USA, TX: Rusk Co., 1 mile S. Kilgore, 2-VII-94 leg. C. Bordelon. 4) *Pantographa limata* female, USA, TX: Tyler Co., Big Thicket National Preserve, Turkey Cr. Unit, Hester Bridge, 22-VI-96 leg. E. Knudson. See article on pp. 41.



Buddleia davidii*, an introduced host for *Euphydryas chalcedona

A female *Euphydryas chalcedona* ovipositing on Butterfly Bush (*Buddleia davidii*) and larvae feeding on same in a garden in Mariposa, California. See article on pp. 27. Photos: Katie Hertfelder.

On polyphenism of *Eurema daira* in Florida

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Here, I present a short photo essay, depicting two seasonal forms of Barred Yellow butterfly, *Eurema daira*. Daniels (1995) suggested that the observed seasonal polyphenism "may enhance thermoregulation and/or crypsis for dry season form individuals faced with cooler conditions and distinctly different vegetative landscapes." The photographs presented here that were taken in July (A, B) and December (C, D) (see photo pp. 38) at the same hour and on the same spot support crypsis theory. The observed changes in coloration seem to also correspond to changes in behavior. While in the summer, a disturbed *E. daira* tends to escape into the vegetation and hide under leaves, where it can be easily mistaken for one of the numerous white flowers, the winter form seeks refuge on the ground, blending with the fallen leaves.

Brakefield and Larsen (1984) argue, that dry season and wet season divergent phenotypes of *Bicyclus* are nothing else but anti-predator adaptations. The wet season form's large eyespots, they suggest, function in the deflection of attacks, while the

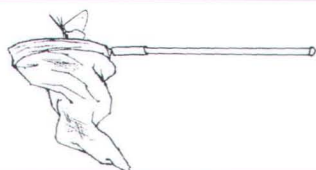
dry season individuals that have small or no spots are cryptic. They note that change in this species also corresponds to behavior: wet season butterflies are more active than dry season ones and, as they put it, "reproductive success is optimized in each season by interaction of phenotype and behavior."

It has been suggested that "the phenotypic plasticity is to be expected to be built in every genome for every character since it is the primitive character that is governed by physiological processes sensitive to such environmental variables as temperature, nutrient supply, ionic environment..." Frederick Nijhout's laboratory at Duke University has been making a tremendous progress in understanding physiology of phenotypic plasticity in Lepidoptera (e.g., Rountree and Nijhout, 1995; Suzuki and Nijhout, 2008). These studies suggest that a mutation that makes the phenotype sensitive to environmental and genetic changes at a single locus can uncover cryptic genetic variation for plasticity. Nijhout's model assumes presence of selective pressure (such as predators) on continuous polygenic reaction norm,

which leads to evolution of distinct phenotypes, suggesting therefore that evolution of polyphenism is "consistent with the adaptive evolution theory." Though selectionist explanations have led evolutionary ecologists astray in the past (as it might have been the case with industrial melanism in peppered moths (Hooper, 2002)), such explanations are as highly probable, as their ecological testing is difficult.

References

- Brakefield P. M. & T. B. Larsen 1984. The evolutionary significance of dry and wet season forms in some tropical butterflies. *Biol J Linn Soc* 22: 1-12.
- Daniels J. C. 1995. Seasonal variation in the little sulphur butterfly, *Eurema lisa lisa*, in central Florida: how it compares to other sympatric *Eurema* species (Lepidoptera: Pieridae). *Holarctic Lepidoptera* 2(2): 59-65.
- Hooper J. 2002. *Of the Moths and Men: An Evolutionary Tale*. W.W. Norton & Co., 377 p.
- Rountree, D. B. & H. F. Nijhout. 1995. Genetic Control of a Seasonal Morph in *Precis coenia* (Lepidoptera: Nymphalidae). *J. Insect Physiol.* Vol. 41, No. 12, pp. 1141-1145.
- Suzuki, Y. & H. F. Nijhout. 2008. Genetic basis of adaptive evolution of a polyphenism by genetic accommodation. *J. Evol. Biol.*, 21 57-66.



Mailbag...

This is in response to the article "First Alaskan Collections of Compton Tortoiseshell" by Jordan Metzgar in the Summer 2008 issue of the News. Jordan stated that he collected *Nymphalis vau-album* at Fort Yukon, Alaska and that is the northern most collection of this species. I have collected *vau-album* at Coldfoot, Alaska. Coldfoot is along the Dalton Highway 48 miles north of the Arctic Circle,

which makes Coldfoot 40 miles farther north than Fort Yukon. The Koyukuk River runs basically south through this area. On August 13, 2005 I collected 15 specimens of *vau-album* in the Coldfoot area. The butterflies were common in the Coldfoot area. The farthest north that specimens were collected was 1.5 miles north of Coldfoot at 67°16' 35" N, 150°10' 22"W and an elevation of 1040 feet. The butterflies

were caught while visiting mud or basking on bare ground. I knew that *vau-album* had been reported from Wiseman so I thought that was a capture. However, Jordan reported in his article that it was a sighting.

The next day I collected 20 specimens 4 miles north of the Yukon River along the Dalton Highway. The butterflies were also common at this location. They were collected while basking on bare ground and while perched on leaves of birch trees.

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Pantographa suffusalis Druce (Crambidae: Spilomelinae) a New Record for Texas and the USA

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This article is intended to document the occurrence of *Pantographa suffusalis* Druce in southern Texas, a Neotropical species not previously documented to occur in the USA.

A single male specimen was collected by the senior author at light, in Mission, Hidalgo Co., TX, on Nov. 10, 2008. He recognized that it was different from *Pantographa limata* (Grote & Robinson), 1867, which occurs in much of eastern North America, including east Texas (Bordelon & Knudson, 1999). The junior author later confirmed this impression and matched it to a male specimen collected in northeastern Mexico, many years earlier. The species is described and illustrated in Druce, [1891-1900], although the painting in this work is not one of the best. The determination was finally confirmed by Dr. M. Alma Solis (pers. comm.) from a photo of the Texas specimen.

Pantographa suffusalis is similar to *P. limata* and it is not easy to describe specific differences in maculation

between them. *P. limata* is larger (FW length average in 10 TX specimens is 18 mm., as opposed to 15 mm for 2 specimens of *P. suffusalis*). The wings of *P. suffusalis* appear proportionately narrower than in *P. limata*. The general coloration of *P. limata* is a warm yellow, with brown suffusion over the outer third of the FW and basal HW. In *P. suffusalis* the ground color is paler yellowish, with a more extensive colder brown suffusion over both wings. The terminal band and fringes of *P. suffusalis* appear darker than on *P. limata*. The thorax and abdomen of *P. suffusalis* has more dorsal brown markings than in *P. limata*.

Pantographa suffusalis occurs from extreme southern Texas through Central America. The larval hosts in Costa Rica include various Malvaceae and Tiliaceae (Janzen & Hallwachs, (2008, www).

Pantographa limata occurs in most of eastern North America including eastern Texas (Covell, 2005.) It has not

been seen from south Texas. *P. limata* is commonly called the Basswood Leaf Roller and foodplants include Tiliaceae, Ulmaceae, and Fagaceae. Appropriate food plants for *P. suffusalis* may exist in extreme south Texas (Malvaceae: *Wissadula* sp.) Ornamental *Hibiscus*, which is planted were the Texas specimen was collected may also serve as a food plant.

Literature cited

- Bordelon C. & E. Knudson, 1999. The Lepidoptera of the Big Thicket National Preserve. Houston (private).
 Covell, C. 2005. Field Guide to Moths of Eastern North America, Virginia Museum of Natural History, Special Publication 12, Martinsville, VA p. 402.
 Druce, H., [1891-1900], Insecta, Lepidoptera Heterocera Vol. III in *Biologia Centrali Americana*, p. 239.
 Janzen, D. & W. Hallwachs {www.janzen.sas.upenn.edu }.

Acknowledgements

The authors are grateful to Dr. M. Alma Solis for providing the determination for *Pantographa suffusalis*.

Hot Spots of the East

Continued from pp. 37

omission or commission, are, of course, the author's. The author also thanks Kelly Richers for supplying the impetus for this article with his "Classic Collecting Campaigns" series.

References Cited

- Boyd, H.P. 1991. A Field Guide To The Pine Barrens of New Jersey. Plexus Publishing, Inc. 423 pp.
 Gochfeld, M. & Burger, J. 1997. The Butterflies of New Jersey. Rutgers University Press. 327 pp.
 Schweitzer, D.F. and McCabe, T.L. 2004. The Taxonomy, Larva and Ecology of *Agrotis buchholzi* (Noctuidae), with a New Sibling Species from North Carolina. *Journal of the Lepidopterists Society* 58(2): 65-74.
 Schweitzer, D.F. e-mails to Harry Zirlin dated 2/4/09 - 2/9/09.

Pawpaw Sphinx

Continued from pp. 35

northern portion of its range with a flight season that extends to early August. The late August (Maine, Brower 1974) and October records suggests that the Pawpaw Sphinx may have a partial second generation in this region.

Our records show the known range of the Pawpaw Sphinx in the Maritime Provinces of Canada. The common occurrence of *Ilex verticillata* in southern New Brunswick (Hinds 1986) and the very fresh condition of most of the moths suggests that the Pawpaw

Sphinx is a resident species in this region.

Literature Cited

- Brower, A.E. 1974. A list of the Lepidoptera of Maine - Part 1 The Macrolepidoptera. Life Sciences and Agriculture Experiment Station, University of Maine at Orono. Technical Bulletin 66. 136pp.
 Hinds, H.R. 1986. Flora of New Brunswick. University of New Brunswick. 885pp.
 Troubridge, J. and J.D. Lafontaine. 2004. Index to the Bombycoidea, Drepanoidea, Lasiocampoidea, and Mimallonoidea of Canada, with regional distributions. http://www.cbif.gc.ca/spp_pages/misc_moths/phps/alphindex_e.php
 Tuttle, J.P. 2007. *The Hawk Moths of North America. The Wedge Entomological Research Foundation. Washington, DC. 253pp.*

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4. Typed copy, double-spaced suitable for scanning and optical character recognition. Original artwork/maps should be line drawings in pen and ink or good, clean photocopies. Color originals are preferred.

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2 Summer	May 15, 2009
3 Autumn	Aug. 15, 2009
4 Winter	Nov. 15, 2009

Reports for Supplement S1, the Season Summary, must reach the respective Zone Coordinator (see most recent Season Summary for your Zone) by Dec. 15. See inside back cover for Zone Coordinator information.

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Lycaenids of the Taman Negara National Park Malaysia

1) *Taxila haquinus* male, perching, low understory. 2) *Anthene emolus* male, bank of the Tahan River. 3) *Curetis* species male, visiting rocks at the cascades Lata Berkoh – photo by Danusia Antonowicz. 4) *Drupadia ravindra* male. 5) *Megisba malaya* male, *Lycaenopsis* group Blue, bank of the Tahan River. 6) *Prosotas nora superdates* males & giant neighbor, bank of the Tahan River. All photos (except fig. 4) by Steve Fratello. See article on pp. 16.