Volume 55, Number 2 Summer 2013

NEWS OF THE LEPIDOPTERISTS' SOCIETY

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... and more!

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Front Cover:

Euthyatira pudens, May 12, 2007, Edmonton, Alberta. (photo by Gary Anweiler)

Life history of the Texas Wasp Moth, *Horama panthalon texana* Grote (Erebidae: Arctiinae)

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The Texas Wasp Moth, *Horama panthalon texana* Grote, is a tiger moth that is considered to be a mimic of paper wasps (*Polistes* species) (Dietz and Duckworth 1976, BAMONA 2013) (Fig. 14). It ranges from Southeastern Arizona to at least East Texas, south through Mexico to Guatemala (the nominate subspecies occurs throughout the Antilles into northern South America) (Dietz and Duckworth 1976). Adults fly throughout the year in south Texas, and usually become increasing abundant into the fall months, and persist through winter months as long as temperatures stay above freezing. Adults are avid nectarers, and seem particularly fond of flowers of plants in the Asteraceae family, including mistflowers (especially *Chromolaena odorata* King & H.E. Robins and *Conoclinium betonicifolium* King & H.E. Robins) and a cultivar known as Mexican Flame Vine (*Senecio confusus* Britten). Below we identify the host and describe the life history of the moth.

Materials and Methods

The initial discovery of the host plant was made while beating plants in a field in Starr County, Texas, in October, for caterpillars. One late-instar and two early-instar arctiinae caterpillars were taken on Desert Yaupon (*Schaefferia cuneifolia* A. Gray: Celastraceae). These were raised successfully and yielded *Horama panthalon texana*. Subsequent collections were made that fall from several different *Schaefferia cuneifolia* bushes, confirming the host. Four middle and late instars were preserved in alcohol and sent to David Wagner to be deposited at the University of Connecticut Insect Museum UCMS).

On 19 April, 2012, during a good flight of the moths, BN captured and held 4 adults in a twenty-liter netted container with cut host plant and fresh flowers for 48 hours. Two groups of eggs were obtained: 24 ova in one group; 7 in the other. An additional solitary egg was also deposited. All of the eggs eclosed. The caterpillars were initially housed in a similar netted container. Many of them left the host plant cuttings and wandered around, eventually dying. The surviving larvae were subsequently reared in 40-dram plastic vials. Three adults were obtained from this group. In December, 2012, BN found a group of 28 eggs. He cut the branch with the eggs and placed it in water in a closed four-liter plastic container. The eggs eclosed after two days. Again, the caterpillars began wandering near the end of the first or at the beginning of the second instar. However, this time BN observed only two fatalities. It may be that the quality of the host plant was an issue, but it seems more likely there is an innate dispersal mechanism at work. Even when fresh food was placed in the container, most caterpillars remained on the container walls. Those on leaves were either alone or in groups of two to three.

In November, 2012, BN found several recently eclosed larvae. These were collected and monitored daily to confirm number of instars and photographically document changes in larval features over the course of development. All larval collections were housed and reared in a room with no climate control proximate to where they were collected. Daily photos were taken for the initial study, and also for the 2012 collections.

Initial descriptions of each stage

Egg: 0.61-0.67 mm in diameter (n=7); approximately same height; hemispherical, with very faint dimpling over surface; light yellow-orange with a slight metallic sheen (Fig. 1).

Seven instars were observed. *First instar*: Uniform pale yellow-orange with sparse setae; head slightly darker than body. Length under 2 mm on eclosion (Fig. 2). *Second-fourth instars*: ground color darkens slightly; setae increase in number and length through each instar (Figs. 4-6). *Fifth instar*: Wide, dark stripe along middorsum from T3-A7; ground color deepening from yellow to orange; pinacula on T1?-T2 and A8-A9 orange; others dark; length ~10 mm (Fig. 7). *Sixth instar*: further darkening of subspiracular area; boldy contrasting with black middorsal stripe; subspiracular area with broken white stripe (Fig. 8). *Seventh (final) instar*: Length to ~20 mm; ground color pale and mostly unpigmented (Fig. 10) to black (Fig. 9); broad orange subdorsal stripe runs from T3 to A8; dorsum of T3 and A8 orange; long black to rusty subdorsal lashes on T3 and A8 directed towards and extending beyond ends of body; a 3rd less conspicuous set of forward projecting lashes subdorsal lashes from T2. On first seven abdominal segments, D1 and D2 verrucae separate, bearing dense, bundled, inner tufts of black setae as well as numerous white ungrouped setae issuing from periphery of dorsal verrucae. Dark forms often with thin white subspiracular stripe (Fig. 9). Head orange; upper portion occasionally black.

Cocoon. Length 15 mm (n=1); thin-walled with setae woven into wall; pupa visible within (Fig. 11). *Pupa*: Length 11 mm (n=1); smooth, shiny, initially orange (Fig. 12);

Figs 1-10. Texas Wasp Moth (*Horama panthalon texana*) early stages; all Starr County, TX. The same caterpillar is pictured in Figures 3-9. (1) Egg clutch. (2) Neonates, < 2mm. (3) First instar. (4) Second instar. (5) Third instar. (6) Fourth instar. (7) Fifth instar. (8) Sixth instar. (9) Seventh (ultimate) instar, dark form. (10) Seventh (ultimate) instar, light form.

cremaster terminating in a cone-forming cluster of 16+ recurved spines. Fully mature pupa with smoky orange-red bands ringing caudal half of first seven abdominal segments (Fig. 13).

Life History Notes and Discussion

Over the past three years, as part of a general survey for caterpillars, BN has used a beating sheet to collect

caterpillars from woody plants growing around Falcon Heights, Texas, and more to the point, areas where the *Horama* adults were observed to be common. *Schaefferia cuneifolia* was the only plant in Starr County on which caterpillars were found. In Costa Rica, Janzen and Hallwachs (2013) have reared *Horama plumipes* (Drury, 1773) from *Crossapetalum enervium* (n=2) and *C. parviflorum* (n=1). *Horama pretus* (Cramer) is reported to use *Cassine xylocarpa* Vent. in Puerto Rico (Robinson et al. 2013). All three host genera--*Cassine*, *Crossapetalum* and *Schaefferia*--are members of the Celastrinaceae. Moreover, ctenuchiines that feed on broad-leaved plants tend to be foodplant specialists (Wagner 2005, Conner 2009, Robinson et al. 2013).

Larvae can be collected from *Schaefferia* throughout much of the year, with abundance peak in late summer and fall. On mature bushes (generally 1 meter or more in height and diameter) various instars can frequently be found at the same time. Larvae primarily eat mature leaves; they were also observed to consume the green rind of *Schaefferia* fruits (a drupe). No cannibalism was observed among larvae raised in close quarters.

The eggs were deposited in small groups, close together but not touching. About half of the eggshell was consumed by the eclosing first instar. Seven instars were documented. Larvae dispersed and were essentially solitary from the second instar onward.

Young caterpillars usually rested on the underside of leaves; late instars were most often found on stems. The larvae dropped readily from their perches when disturbed, or crawled rapidly away from disturbances. Larvae spun translucent cocoons—the shiny orange pupae being visible within. In captivity, prepupal larvae preferentially formed their cocoons alongside those that had been previously spun (even if these had emerged). Adults issued after 8-15 days of warm summer weather (n=6).

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Continued on p. 57

Figs 11-14. Texas Wasp Moth (*Horama panthelon texana*). (11) Cocoon with pupa visible within. (12) Pupa. (13) Mature pupa, with orange bands of pharate adult encircling caudal half of abdominal segments. (14) Adult.

Notes on five California butterfly species (Lycaenidae)

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From 2002 to present, I have been collecting, rearing and observing butterflies in San Diego County, California. I would like to report some of the new findings as follows.

Bramble Hairstreak (*Callophrys dumetorum dumetorum*)

The Bramble Hairstreak is commonly found in Southern California, often flying around Deerweed (*Lotus scoparius*), its commonly used host plant. Other known host plants include Bishop's Lotus (*Lotus strigosus*), and a few species of Buckwheats (*Eriogonum* sp.) (Emmel & Emmel, 1973, Pyle 1981, Scott 1986, Monroe & Monroe 2005).

On April 13, 2007, I observed a female ovipositing on a fresh tip of Cupleaf Ceanothus (*Ceanothus greggii*) at one of the hilltops in the Laguna Mountains (fig. 1). At that time, I unaware of this unusual host plant. The use of Ceanothus by Bramble Hairstreaks is known from Rocky Mountain populations (Allen *et al*, 2005), which are considered as a separate species by some authors. This foodplant had not been recorded from Southern California.

On April 24, 2012, a single larva from Deerweed at Buckman Springs was obtained. The collected larva was then given a Cupleaf Ceanothus branch with young leaves, upon which it fed and grew (fig. 2).

On April 28, while I was observing ovipositing behavior of the Yucca Moth (*Tegeticula maculata*) at home, I placed a Chaparral Yucca (*Hesperoyucca whipplei*) flower with a Bramble Hairstreak larva. After few minutes, the larva started to feed on Yucca flower stalk (fig. 3) and by the next morning, it consumed the entire stem.

These observations suggest that the Bramble Hairstreak is capable of feeding on various chaparral plants not previously recorded. It is likely that these small jewels bear such capability to survive in chaparral, which can be changed drastically by wildfire.

Southern Silvery Blue (*Glaucopsyche lygdamus australis*)

On April 27, 2011, I found five Southern Silvery Blue larvae on the Wild Pea (Lathyrus vestitus) (fig. 4) growing near Pine Valley in the Laguna Mountains. Use of Lathyrus in northern California has been recorded by Shapiro (2007), but not in southern California. Since this discovery, I visited the same locations several times in 2011 and 2012, and the larvae were found on the Wild Pea consistently. Therefore, I feel comfortable to say that this is one of the commonly utilized host plants by the Southern Silvery Blue along with Deerweed (Lotus scoparius). I also noticed the color of larvae on Wild Pea is usually green with a purple tint, while larvae on Deerweed often are yellow or green, matching the color of host plant.

Smoky Arrowhead Blue (*Glaucopsyche piasus umbrosa*)

As of today, the only known host plant for the Smoky Arrowhead Blue is the Grape-Soda Lupine (*Lupinus excubitus*). I observed a female ovipositing on the Collar Lupine (*Lupinus trancatus*) along Pine Valley Road in the Laguna Mountains on April 27, 2011 (fig. 5). I returned to the same location 14 days later and confirmed several larvae feeding on the Collar Lupine flowers.

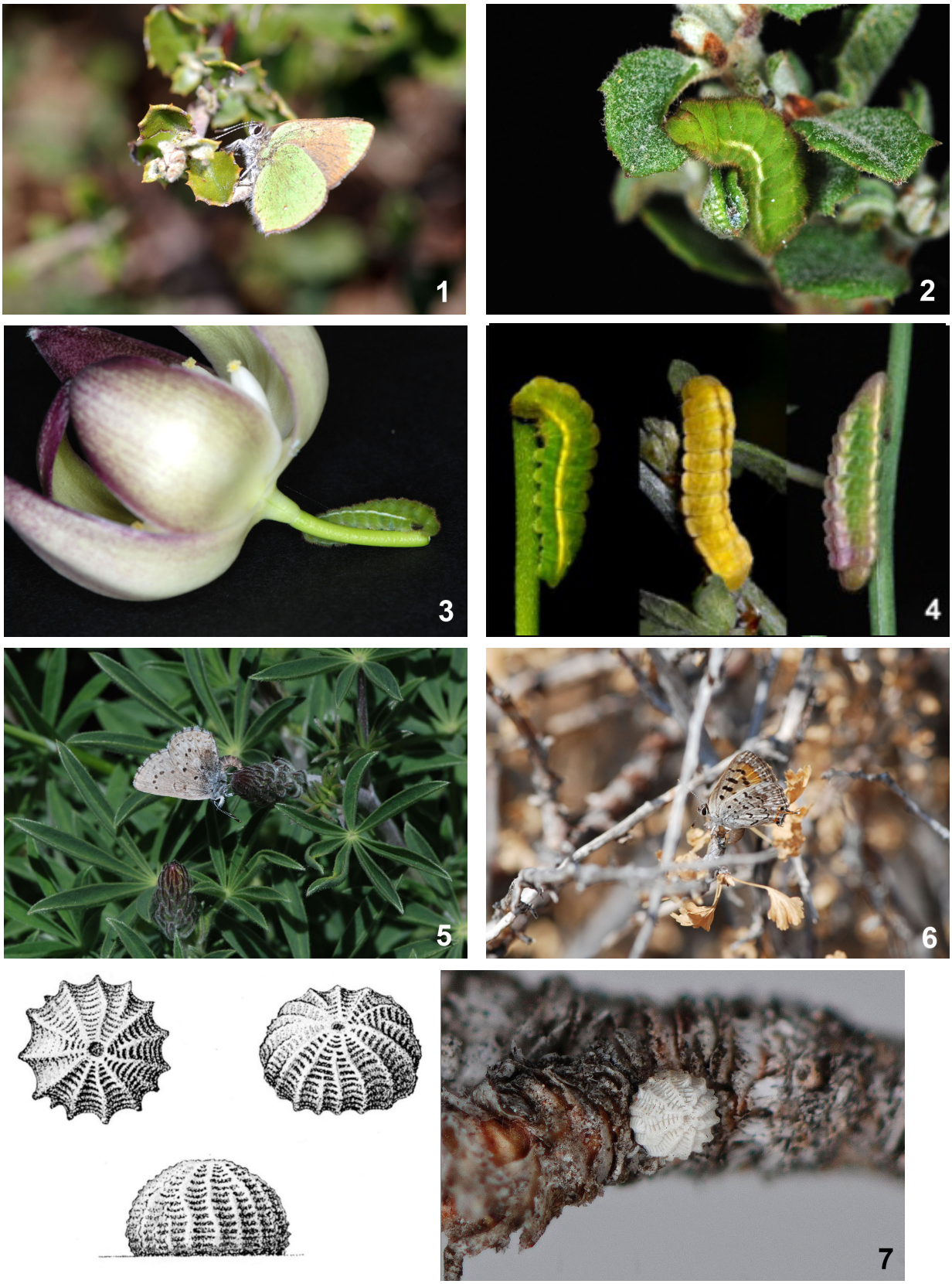
Tailed Copper (*Lycaena arota ssp.*)

On July 4, 2008, 2 ovipositing females of the Tailed Copper were fluttering in and out of Oak Gooseberries (*Ribes quercetorum*) near Jacumba. Females laid eggs singly on dried up twigs near overwintering buds (fig. 6). Two eggs were collected and observed for details. Compared to Comstock's illustration from *Butterflies of California* (1927), I noticed the egg has a different surface pattern. The egg of *L. arota* (ssp. *nubila*) from Comstock's illustration shows vertical ridges with horizontal lines in between. The two eggs I observed had vertical ridges, but the horizontal lines were interrupted by a vertical crevice, not continuous like the one illustrated (fig. 7). Eggs were reared to adults the following year.

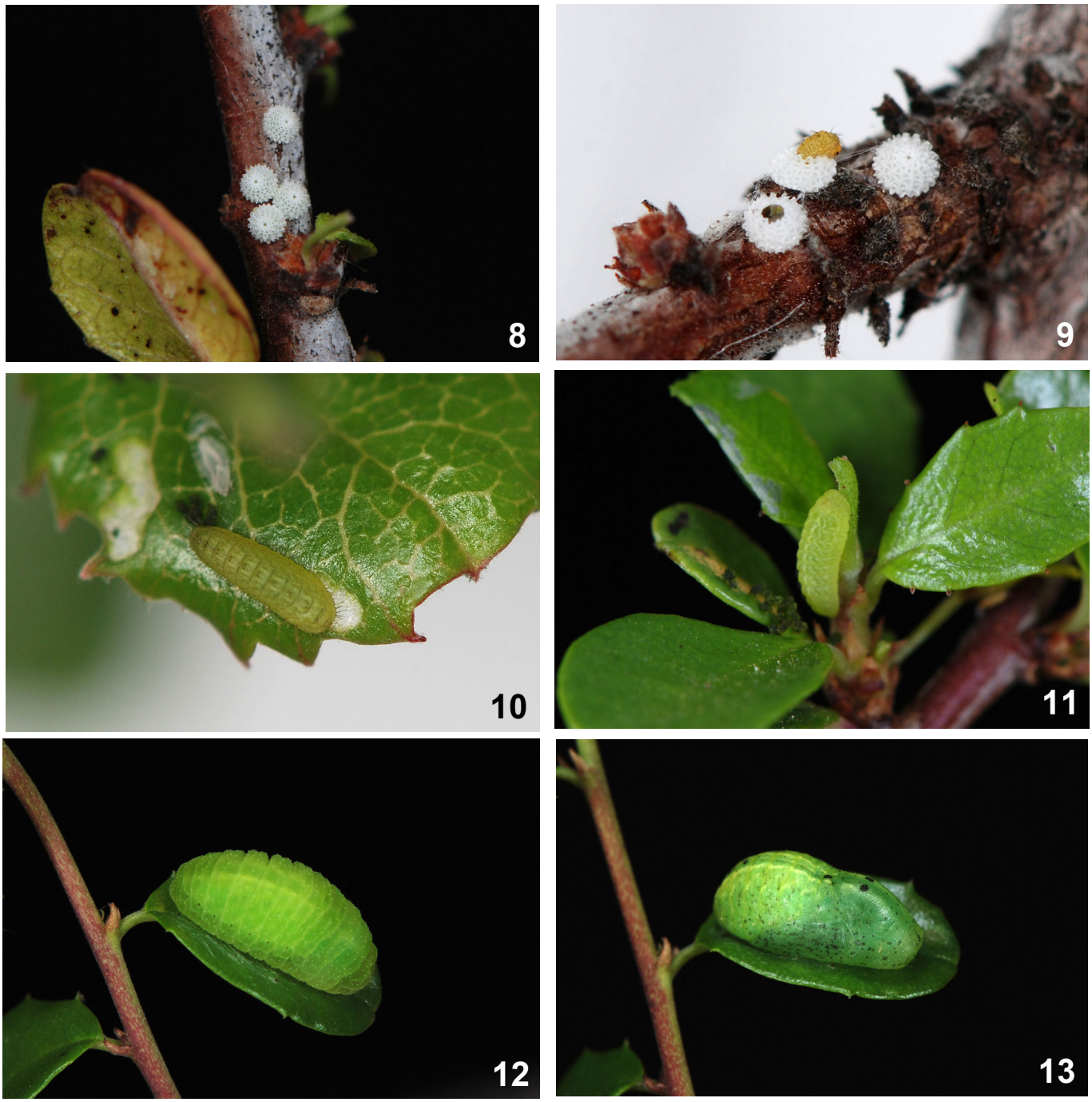
Hermes Copper (*Lycaena hermes*)

Popularly known as one of the endemic species of San Diego County (besides Baja California), there have been several attempts to rear this rare Copper in the past. Most of the records seem to be of larvae collected from the field. None have succeeded in overwintering eggs so far (Thorne 1963, Marschalek 2011).

A single female was collected on June 30, 2011, and was placed in a container with three Spiny Redberry (*Rhamnus crocea*) twigs. The female deposited 30+ eggs on twigs in 5 days (fig. 8). Most of the eggs were oviposited near the base of the branches. The twigs with eggs were then left in a room until December 18, and then were stored in the



Figs 1-7. (1) *Callophrys dumetorum dumetorum* ovipositing on *Ceanothus greggii* (Laguna Mountains). (2) Last instar *Callophrys dumetorum* larva eating *Ceanothus greggii*. (3) Last instar *Callophrys dumetorum* larva eating *Hesperoyucca whipplei*. (4) Last instar *Glaucopsyche lygdamus australis* larva on *Lotus scoparius* (left and center), and on *Lathyrus vestitus* (right). (5) *Glaucopsyche piasus umbrosa* female ovipositing on *Lupinus trancatus*. (6) *Lycaena arota* female ovipositing on *Ribes quercetorum*. (7) Egg of *Lycaena arota*, compared with Comstock's illustration.



Figs 8 - 13. (8) Eggs of *Lycaena hermes*. (9) *Lycaena hermes* eggs hatching. (10). 2nd instar *Lycaena hermes* larva with feeding marks on leaves. (11) 3rd instar larva of *Lycaena hermes*. (12) Prepupa of *Lycaena hermes*. (13) Pupa of *Lycaena hermes*.

refrigerator with a temperature around 5 to 8 Celsius. No moisture was given during the cooling process. Two eggs were also found on a California Buckwheat (*Eriogonum fasciculatum*) flower stem, which had been placed in the container with Spiny Redberry to provide a nectar source for the ovipositing female. At this moment, I do not know if this was an accidental oviposition by the female or not.

The first batch of eggs were taken out from the refrigerator on March 15, 2012, but none of them hatched. One of the eggs was cut open using a razor and a live curled up larva was found inside. The larva was taken out of the egg, but it did not break diapause and died eventually. When water was dropped on eggs, the eggshell absorbed the moisture and became very soft, like a wet towel, but water did not induced the eggs to hatch.

A second batch of eggs were taken out from the refrigerator on April 26 and then left at the room temperature. On May 4, one of twelve eggs hatched and ten more eggs

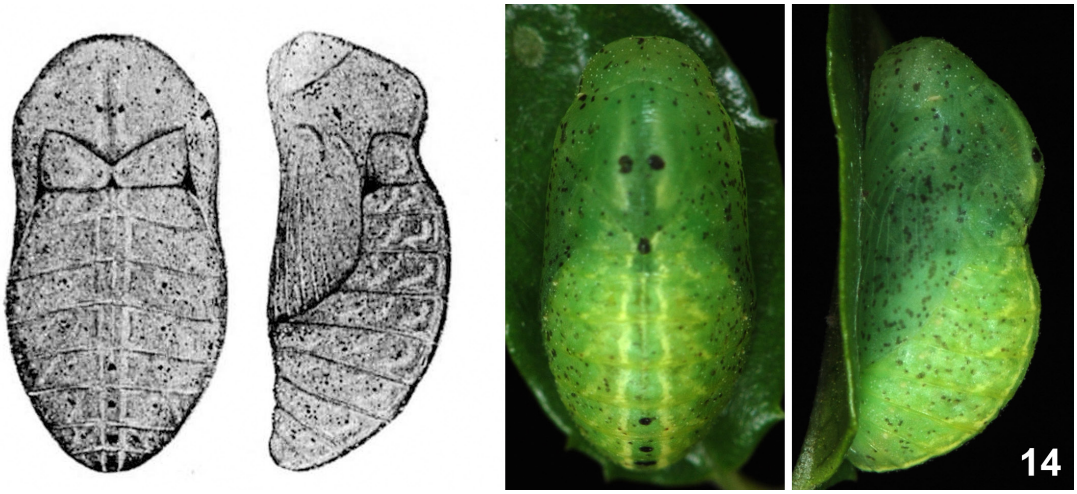


Fig 14. Comparison of *Lycaena hermes* pupa with Comstock & Dammers' illustration.

hatched after a few days (fig. 9). I had no access to Spiny Redberry at that time, so Holly-Leaf Redberry (*Rhamnus ilicifolia*) was given to the larvae, upon which they fed. Like many other Lycaenid species, the young (1st and 2nd instars) larvae only fed on the surface and mesophyll of the leaves, leaving distinct feeding marks (fig. 10). On May 7, a branch of Spiny Redberry with young leaves was collected and was given to the larvae. I did not notice until I got home that the branch I collected also had a 4th instar larva. For unknown reasons, most of the larvae rejected to feed on Spiny Redberry and starved to death. Only one larva reached the 3rd instar (fig. 11), but died.

The 4th instar collected from the field became prepupa on May 14 (fig. 12), and pupated on the 16th. The pupa is bright green and well camouflaged on the leaf (fig. 13). It has a very thin and delicate girdle and the appearance is different from the illustration of Comstock & Dammers, 1935 (fig. 14). The wings turned yellow on May 25, eyes turned brown on the 26th, and the adult emerged on the 29th.

The unhatched eggs were divided into two groups. Group-I was left in a room without any care to observe if they would hatch later. Group-II was put back into refrigerator on May 7. The eggs were examined again on October 27. All except one egg from Group-I were dead with dried up brown larvae inside. One egg had a dead green soft larva, which suggests that the larva had survived until recently. One of the eggs from Group-II was cut opened and a live larva was found inside.

Unfortunately, when I checked the Group-II eggs on February 2nd, 2013, all of the larvae had died. Since I provided no moisture (to avoid mold) during the storage, they may have dried out. However, most of the larvae looked green and fresh. This suggests that the Hermes Copper may be capable of diapausing multiple years in the egg stage.

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Life history of the Texas Wasp Moth

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Announcements:

62nd Annual Meeting of the Lepidopterists' Society, June 27-30, 2013

The 2013 Lepidopterists' Society Annual Meeting will take place July 23-29. The meeting will be held at the Hilton University of Florida Conference Center, Gainesville, not far from the McGuire Center for Lepidoptera and Biodiversity at the Florida Museum of Natural History on the University of Florida campus. The meeting is a joint meeting with the Association for Tropical Lepidoptera (ATL) and the Southern Lepidopterists' Society (SLS).

Registration for the meeting is now open. Early registration is $115 for non-students and $85 for students. Registration information and forms are currently available on the Lepidopterists' Society website at www.lepsoc.org, and should be available at www.lepsoc2013 as well. Accomodations are available at the Hilton for $129/night for a double, but there are several nearby motels that are quite a bit cheaper. For the schedule of events, description of field trips, some accomodation alternatives, hard copy registration form and call for papers, see the Winter 2012 News of the Lepidopterists' Society (54:4, pgs. 130-135).

Society of Kentucky Lepidopterists

The Society of Kentucky Lepidopterists is open to anyone with an interest in the Lepidoptera of the Great State of Kentucky. We are a very active organization. We have two or three field meetings every year. The schedule for the remaining 2013 meetings is as follows.

Summer Meeting: Henderson Sloughs WMA, Henderson County, August 23, 24, & 25

The Annual Meeting will be held in November 15 & 16 at the Insect Museum of University of Kentucky, Lexington, KY. Our featured speaker will be Dr. Michael Pogue who will speak on the Heliothinae moths of North America.

Annual dues are $15.00
To join the Society of Kentucky Lepidopterists, send dues to: Les Ferge, 7119 Hubbard Ave., Middleton, WI 53562.

2013 Lep Course, SE Arizona

The 2013 Lep course will be held 8 - 17 August, at the SouthWest Research Station (SWRS) in the Chirichahua Mountains in SE Arizona (a 2 1/2 hour drive from Tucson). With its extensive series of Sky-Island mountain ranges, SE Arizona has the highest lepidoptera diversity in the US. With low desert scrub, oak and mixed oak-pine woodland, lush riparian, juniper, Douglas fir, and mountain meadow habitats all within a 40 minute drive from the station, the SWRS is an ideal location from which to sample this diversity (of both habitats and species).

The focus of the lep course is to train graduate students, post-docs, faculty, and serious citizen-scientists in the classification and identification of adult lepidoptera and their larvae. Topics to be covered include an extensive introduction into adult and larval morphology with a focus on taxonomically-important traits, extensive field work on both adults and larvae, collecting and curatorial techniques, genitalic dissection and preparation, larval classification, and general issues in lepidoptera systematics, ecology, and evolution.

At present, the projected staff include Deane Bowers (Colorado), Richard Brown (Mississippi State), Jennifer Bundy (Arizona Western), Chris Grinter (Denver Museum), Eric Metzler (Michigan State), Ray Nagle (Arizona), Sangmi Lee (Arizona State), Bruce Walsh (Arizona), and Dave Wagner (Connecticut).

For additional information, see www.lepcourse.org or http://research.amnh.org/swrs/education/lepidoptera-course

PayPal: The Easy Way to Send Money to the Society

In these days of instantaneous Internet commerce, members may find it tedious to actually write and mail a real paper check to purchase Society publications, t-shirts, and back issues, or to pay late fees, or to donate money or make any other kind of payment to the Society. While membership dues can be paid online through PayPal, we have just discovered that anyone may make payments using PayPal without going through the Society website.

For those not familiar with PayPal, it is a convenient way to send money to anyone who has a PayPal account—even if the sender doesn't have an account, but does have a credit card. And it is available in many countries outside the U.S. The process is simple: sign on to www.PayPal.com, and navigate to "Send Money." To send money to The Lepidopterists' Society, use this recipient e-mail address: kerichers@wuesd.org; follow the instructions to complete the transaction, and be sure to enter information in the box provided to explain why the money is being sent to the Society. It's as simple as that—and be sure to let us know if you have any difficulties with the process.

More Announcements:

National Moth Week 2013 - Global Citizen Science Focused On Moths

The next National Moth Week will be held July 20-28, 2013. Registration materials and information is available on the website at **www.nationalmothweek.org**. The event is open to anyone interested in moths anywhere around the world. See the associated article on page 18 about the results from National Moth Week 2012.

Arkansas Lepidoptera Survey Website

The Arkansas Lepidoptera Survey announces its data is now available via its web site: <arkansaslepidopterasurvey.net> The site contains over 1200 species known to exist in the state as well as a bibliography of publications and web sites dealing with Arkansas' Lepidoptera species. The web site's data base will be updated as additional species are uncovered. Contact: Bill Ettman at **ettman@netzero.com**

2013 Pacific Slope Meeting of the Lepidopterists' Society

The 2013 Pacific Slope Meeting of the Lepidopterists' Society will be held August 7-10th, at Malheur Field Station in Princeton, Oregon. It will be hosted by the Oregon State Arthropod Collection and the Oregon State University Department of Zoology.

Nestled in the Southeastern part of Oregon, lies the Malheur Field Station - a unique confluence of dry sagebrush, spring-fed wetlands and mountains. A favorite location for birders - this region supports not only a high diversity of birds, but also unique plants, insects and other creatures. Broad, open landscapes and a lack of urban light pollution - make this area a perfect location to survey nocturnal insects (the meeting co-incides with a NEW MOON and some excellent opportunities to search for butterflies at high elevation sites in the nearby mountains).

The station has a variety of accommodations and meals that can be included in the registration. The meeting will take place during the week (Wednesday night arrival and Saturday morning departure), but attendees can opt to remain at the station for additional days* if they wish to spend more time in Southeastern Oregon.

Up to date information about the program and access to online registration (where you can pay via credit card) can be found online at:
http://osac.science.oregonstate.edu/pacificslope_2013

REGISTRATION

Registration for this year's meeting is being coordinated by OSU Conferencing and can be done online or via a printed, mail-in registration form, found at:
https://conferences.bus.oregonstate.edu/Conference/pacific-slope-2013/registration

Or you can download, print and fill out the registration form (http://osac.science.oregonstate.edu/Pac_slope_Registration_mailin) and mail it, along with your check made out to "OSU Conferencing Services", to the following address:

OSU Conferencing Services: Pacific Slope
200 LaSells Stewart Center
Corvallis, OR 97331

The registration form includes three components:

1. basic registration fee of $55 (includes the cost of the meeting space, fees, program & Friday night awards banquet)
2. various choices for rooming at Malheur Field Station (from $32-$64) are available depending on type of accommodation you prefer and whether you will be sharing a room or not*.
3. meal option of $79 (includes three breakfasts, two lunches and two dinners). Please let us know if you have particular dietary restrictions - or if it is possible to prepare your own meals as all rooms have access to shared kitchen/kitchenette areas.

* A limited number of RV hookup sites are available. Please contact Chris Marshall if you are interested in reserving one of these. Individuals choosing to bring an RV may still sign up for the meal plan, but will not be permitted to use the bathroom/kitchen areas associated with the dormitories or other housing options.

Contact Information:
For details, questions, trouble registering or more information, please contact:

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Fierce faces of Florida Tigers: moths mimicking spiders

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Tigers stalk their prey, then jump to bring it down. So do the jumping spiders, but nobody calls them "tiger spiders." Instead, the "tiger" epithet is reserved for the docile tiger moths, which to my knowledge never pounced on or bit anybody, and whose evasive action is usually limited to playing dead and falling in an awkward position into the grass, from which there is a long and painful way up through the vegetation populated by spiders. Nevertheless, tiger moths are not defenseless: they carry noxious chemicals that protect them from the predators.

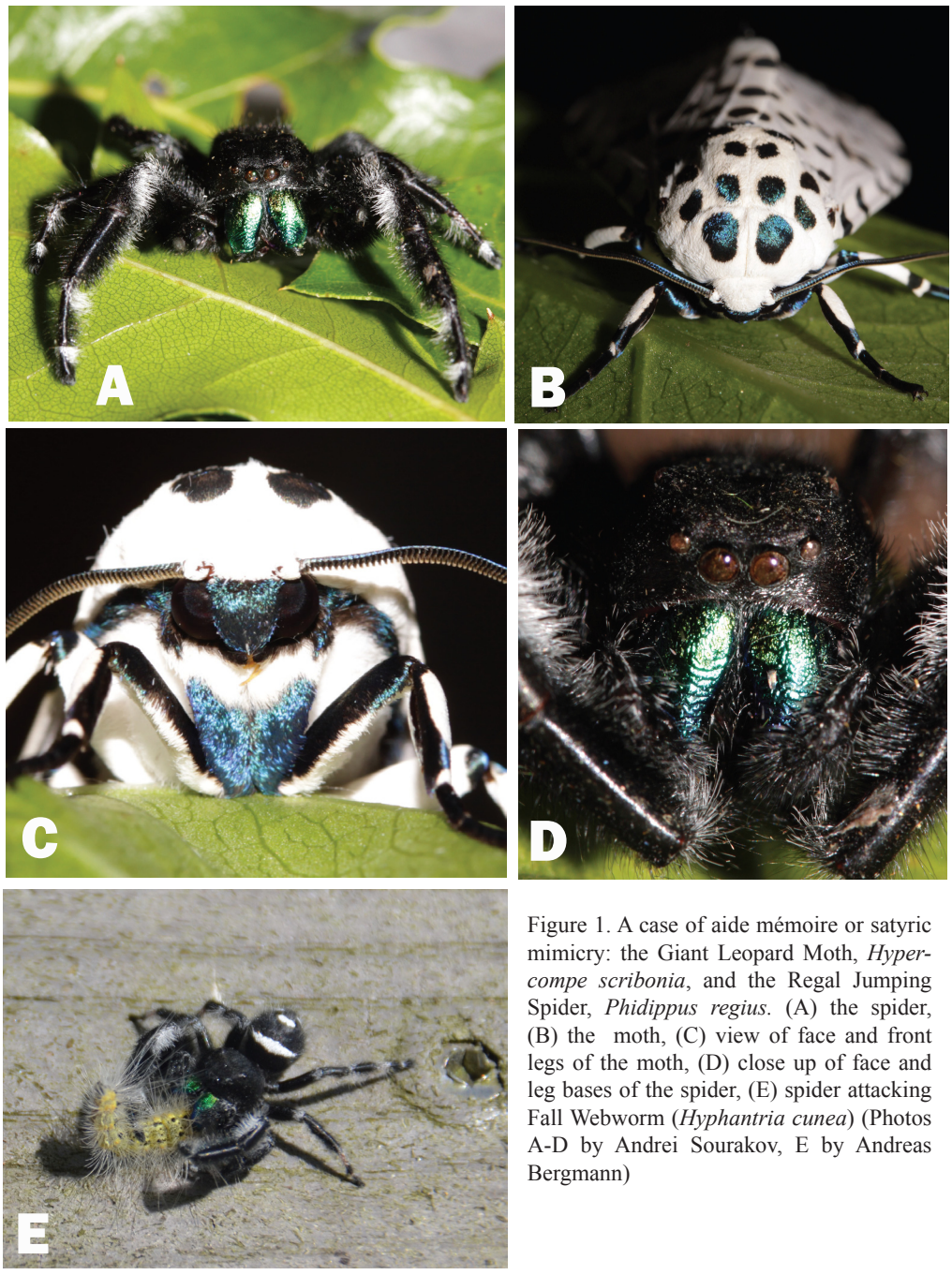

Figure 1. A case of aide mémoire or satyric mimicry: the Giant Leopard Moth, *Hypercompe scribonia*, and the Regal Jumping Spider, *Phidippus regius*. (A) the spider, (B) the moth, (C) view of face and front legs of the moth, (D) close up of face and leg bases of the spider, (E) spider attacking Fall Webworm (*Hyphantria cunea*) (Photos A-D by Andrei Sourakov, E by Andreas Bergmann)

Perhaps not coincidentally, the moths may have some markings on their front ends that resemble those of the spiders. When they crawl up a stem or reach a flower, the most probable way for them to meet with a spider or another predator is going to be "face-to-face." For instance, the Giant Leopard Moth, *Hypercompe scribonia,* carries iridescent markings on its head and thorax resembling those of the Regal Jumping Spider, *Phidippus regius*, which has iridescent chelicerae, and the moth's legs are patterned like those of the spider (Fig. 1). The Ornate Bella Moth, *Utetheisa ornatrix*, has on its thorax a pattern that closely resembles that of the Spiny-backed Orbweaver, *Gasteracantha cancriformis* (Fig. 2F-I). The resemblance is even more pronounced before the moth spreads its wings (Fig. 2F).

Howse and Allen (1994) refer to this type of mimicry as 'Satyric Mimicry,' previously introduced by Rothschild (1984) as the concept of 'Aide mémoire Mimicry'. This type of mimicry describes patterns that make predators recall a revolting encounter.

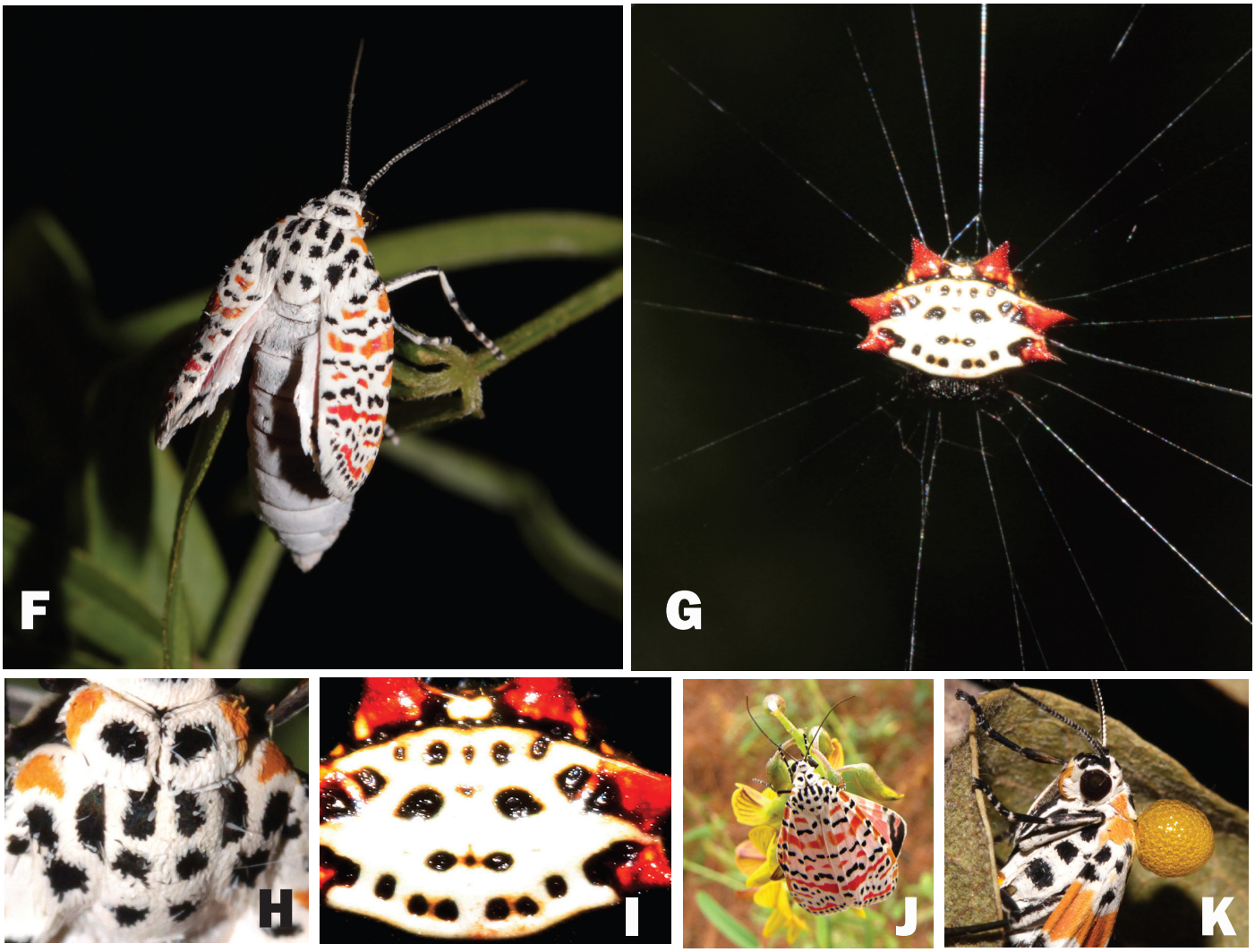

Figure 2. A case of aide mémoire or satyric mimicry: the Ornate Bella Moth, *Utetheisa ornatrix*, and the Spinybacked Orbweaver, *Gasteracantha cancriformis*. (F) Moth shortly after emergence, (G) The spider, (H) Detail on the back of the thorax and wing bases of the moth, (I) Detail on the back of the spider, (J) Moth ascending the flower, (K) Moth releasing noxious chemicals when disturbed. (Photos by Andrei Sourakov)

Recently, Rota and Wagner (2009) managed to experimentally prove that mimicking jumping spiders works for moths as a defense against the spiders themselves. They conducted well-designed controlled experiments, in which *Brenthia* metalmark moths (Choreutidae) were confronted with their supposed models – the solticid spiders, *Phiale formosa*, and the spiders mistook the moths for conspecific spiders - instead of attacking, they reacted with a display behavior. It is possible that the coloration of the moths featured in the present essay is also directed against the spiders they mimic. It is more likely, however, that the spiders and the tiger moths form Müllerian mimicry complexes: the toxic moths and the biting spiders are repugnant to a wider variety of predators including birds, mammals and invertebrates (e.g., Eisner and Eisner 1981). Experimental work proving the effectiveness of these patterns in instilling unpleasant memories in predators would be of great value to our understanding of mimicry.

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To promote Lepidoptera systematics, we should aid amateurs

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Wagner (2012) reported that there is now a crisis in Lepidoptera research, because most of the systematists who work on specimen-based taxonomic revisions are retiring, and replacements are not being hired. He pleaded for wealthy persons to donate money to hire systematists. This note attempts to assess the situation and offer solutions.

Costello, May, & Stork (2013) analyzed databases of taxonomists and reported that there are actually more taxonomists now than ever before, and their number is increasing faster than the rate of species descriptions. The difference now from prior decades, at least in lepidopterology, is that professional taxonomists are going extinct, while amateur taxonomists are proliferating. In the Rocky Mountain region for instance, there has never been a professional lepidopterist who was hired to work on Lepidoptera, yet half a dozen amateurs successfully accomplish the necessary systematics research. In the 250-year history of scientific Lepidopterology, nearly all have been amateurs.

So the question becomes, where should the money be spent to best support Lepidoptera systematists? Universities unfortunately take half the money given to them in grants as "overhead". In addition, university researchers generally must work on popular leading-edge topics such as mark-recapture studies, electrophoresis (no longer done), mtDNA (which has the large problem that a little bit of hybridization can introduce mitochondria that can rapidly sweep through the population and contradict the taxonomic placement deduced from morphology and nuclear genes), and now nuclear DNA. Taxonomy is no longer popular. And college biologists generally have heavy teaching loads that allow little time for research. Colleges are rapidly raising tuition rates, and more and more students are questioning why they should become encumbered with huge student debt to obtain a degree in a jobless field, so the future of colleges and universities does not look very bright. The future of education in America should be apprenticeships in the mid-teens coupled with lifelong adult education (Wyker 2012).

Giving money to governments to do systematics research also seems risky. What kind of bureaucratic snafus will conspire to eat up the donated money? Would the money go to actual systematics research?

In general, if you want something done, give it to the people who have proven that they know how to do it, not to organizations such as universities or governments. The best value for money to help systematics would be to donate it to systematists themselves to do the work. (The Nature Conservancy is the best place for money for conservation.) Because nearly all lepidopterists are now amateurs, the obvious way to improve Lepidoptera systematics research is to help amateur lepidopterists. There are at least 50 Ph.D.s and hundreds of M.S. holders in entomology in the U.S. who lack biology jobs. Many of them would contribute more time if they had more support. There are numerous retired or hobby lepidopterists who would expand their research with additional funds for equipment or travel. Here are suggestions to help amateur systematists:

1. Amateurs need good microscopes, travel money, and money to pay for DNA sequences, etc., so money for those would provide good results.

2. A donor could pay to produce a revision of some needy group of Lepidoptera. We need a book illustrating every single species of moth in North America. I see no reason why such a book could not be quickly constructed and published. At 50 photos per page (shrinking the photos of Saturniids and other monsters, and expanding the photos of micros), 400 pages could illustrate 20000 species/forms. Only the species name would appear below each photo; there would be no text. The text would come later, probably Wikipedia-style with numerous contributors, with references to existing revisions and genitalia drawings, etc. This book would enable amateurs to better identify moths, and would hugely increase research on them. If someone has money to support Lepidoptera systematics, they should help pay for this book.

3. Give your collection only to the few very largest museums. Don't give it to the local museum or your alma mater just because you live nearby or graduated from there. If you give it to a small museum, the retiring curator may not be replaced and your specimens could become dermestid dust, the fate of the Stallings and Turner collection of giant skippers. Small museums should give their scientific specimens to large museums. If a collection is "moth-balled off-site", that is a great opportunity to give it to a large museum which will appreciate it. This will help taxonomists, especially amateurs, who will have to visit just a few museums to get their work done. Currently, types are spread worldwide in numerous large to small difficult places, causing great expense to anyone forced to examine them. Good scientific specimens and types do not

belong in small museums.

4. We need to streamline the process of dealing with bad names and discarding old bad work. Amateurs do not have the money to visit faraway museums to examine types. Taxonomists are burdened by the time wasted in dealing with old bad names that had poor descriptions (or no description, just a surrealistic painting), bad or absent locality data, unidentifiable or missing type specimens or missing crucial parts, invalid lectotype, latinization problems, etc. Severe problems can only be fixed by petitioning the International Commission on Zoological Nomenclature, but those petitions take hundreds of hours to write and a year or two to publish, and not all are dealt with by the commission (a third are just ignored). Yet the Commission is now running out of money and needs $78000 just to get through 2013 and may shut down (Pennisi 2013). Taxonomists should be able to just publish a formal declaration that a name is a TOXOTAXON by stating the reasons, and then with that proclamation the offending toxotaxon name (including newly-discovered old names that, if resuscitated, would replace modern popular names) would be instantly banished to the Old Name Sewer as a nomen oblitum and we could rename the species properly with a new name, saving time and $. (If the ICZN shuts down, taxonomists will be able to do this.) Repealing the principle of priority would be the ideal solution to all these nomenclatural problems, as that rule requires expensive research of all old names and regrettably requires popular names to be replaced by ancient obscure ones (even Charles Darwin detested the principle of priority). Scott (2008) discusses these taxonomic problems, including a novel method of correcting inappropriate/misleading scientific names.

5. Our misguided laws governing collecting and permits and endangered/threatened species must be fixed. Permits to collect insects are now difficult to get for amateur lepidopterists. And studying many taxa is impossible because of restrictions on collecting in important areas. Existing laws covering insects mistakenly treat insects like deer so they wrongly assume insects must be protected by setting hunting limits; these laws must be rewritten to acknowledge that insects require preserving their habitat in the proper successional state. Collection for proper regular systematics research should be legal. The Endangered Species Act is working poorly. Scientific societies such as the Entomological Society of America and The Lepidopterists' Society should choose the Endangered/Threatened Species, write the recovery plans, and choose any legal penalties to be used for jailing people who perform reprehensible deeds against those species (notably collecting sedentary colonial species--those species are the only ones likely to be damaged by collecting, so only those should have legalized restrictions on collection). My pleas to legislatures with copies of my proposed law governing insects went nowhere; maybe if 50 lepidopterists endorsed a new law and sent it to legislators they might listen. (Wyker 2012 has solutions to fix this and other U.S. problems.)

6. Amateurs are greatly aided by useful identification devices, so we must encourage their creation. As part of that creation process, systematists need to make TABLES to identify and describe taxa, not KEYS. Keys are difficult to construct and involve many sequential decisions, so if you get only one out of a dozen decisions wrong you can end up with a grossly wrong "identification", with no way of knowing it's wrong. And adding or subtracting a species to a key is difficult as the key must be restructured. The table should include every character versus every taxon, and variation in the trait can be included in each box. With a table, one can usually identify a species even if one or a few traits are missing on your specimen, and one can quickly spot the distinctive traits of your specimen and quickly find those crucial traits on the table to make an efficient confident decision. And the table doubles as a description! And adding a new taxon to the table is simple, just add a new row or column. Most published descriptions fail to include some traits, and I am often annoyed at trying to find some trait in a description, only to find it missing; with a table, the glaring emptiness of unfilled boxes encourages their filling. Tables work like the human brain. The brain instantly recognizes distinctive traits, so our brain can identify even extremely difficult things such as the identity of human faces. Tables do not require more work; every competent systematist must know the state of every character for every taxon, and their variation, so you must determine those things, and placing them in the table will help you organize your data and ensure its completeness.

In addition, tables will be needed for the hand-held identifier, which I think will be the identification tool of the future (we can only dream about a hand-held DNA-zapper which will zap a bit of an organism and instantly sequence the DNA and compare it with the DNA database and then display the identified species—a hand-held DNA sequencer is evidently imminent at only $1000 [the MinION from Oxford Nanopore Technologies, Popular Science Magazine April 2013, but it requires purified DNA input]). It will be an iPAD-like touch-screen device, and each displayed screen will be essentially a table of little pictures or descriptions of parts representing all the characters and their different character states for various taxa, and you will choose the taxon that fits your organism, and then another screen will appear of different parts (another table) for the subtaxa of the chosen taxon, and you will choose a subtaxon there, until you identify your organism and the screen will show a photo and map etc. for that species. Tables are needed of taxa versus traits, in order to program those hand-held identifiers. Maybe the devices are here already; we just need the software. Some rich person should create a startup company to create these handheld identifiers; the first product (a bird identifier) would sell well.

7. News of the Lepidopterists' Society could be combined with the Journal of the Lepidopterists' Society, because the latter requires expensive page charges that amateurs

don't want to pay, and does not print color photos. The members of this society like the News, because it has good interesting articles and nice color photos and no page charges. Leaders of The Lepidopterists' Society could find a way to join the two while maintaining quality of the articles.

8. We need better methods to study the canopy of the tropical rain forest. Many or most butterflies such as Theclini and Riodininae evidently live on the forest canopy, and seldom come down near a Lepidopterist, so are rare in collections and little is known about them. Lepidoptera systematics is moving southward into Latin America, and we need to study the incredible diversity of the rain forest. Current catwalks and arborist climbing gear etc. don't get you out to the canopy where the sunlit action is, you're stuck on a crumbling interior limb with the green vipers. The 100-foot tower shown in the May 2011 National Geographic looks cumbersome and expensive. Hot-air balloons would seem to be too fragile for forest work with sudden gusts of wind near sharp branches, and a balloon above one's head would disturb the fauna. A helium-filled sphere 6.3 m wide would be required to lift 136 kg=300 lbs. including a 68 kg person and a 68 kg sphere and ropes, and a sturdy sphere that large would probably be too heavy to rise. Perhaps a person could ride upward in a protective frame at the top end of a vertical ellipsoid of helium, which after use would be pulled down and parked on a vehicle (the vehicle might have helical-screw rotating pontoons for propulsion through water and muck rather than tires, and the helium would help lift it above the muck a bit). Or a person could be raised to the canopy with an extensible ladder or a telescoping multisegmented hydraulic piston anchored on a "fire truck". This needs study and dollars for development.

To conclude, there are amateur lepidopterists available to do systematics. We just need to help them, and streamline the system to make things easier for amateurs.

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Metamorphosis

Julian Donahue

Robert Wayne Hancock, of Congress, Arizona, on 11 December 2012, at the age of 78. Mr. Hancock had been a member of the Society since 1997.

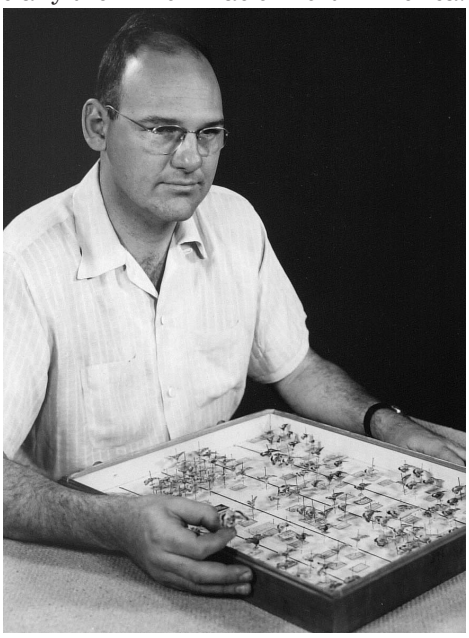
James David Hedbor, of South Hero, Vermont, at the age of 69 on 12 February 2013. Born in Fort Gordon, Georgia on 16 August 1943, Mr. Hedbor, a financial planner, was the founding president of the Vermont Entomological Society and co-author of the Vermont checklist of Lepidoptera. He was a Sustaining Member of the Society, having first joined in 1989. He and his wife delighted in exploring the world together, and he took pride in having driven in 27 countries. He is survived by his wife of 44 years, Eloise (Roberts) Hedbor, three siblings, four children, and 10 grandchildren. His collection has been donated to the McGuire Center for Lepidoptera and Biodiversity, Gainesville, Florida. *[The Burlington [Vermont] Free Press, 15 Feb. 2013, and his wife Eloise Hedbor]*

William E. Miller, Ph.D., of Saint Paul, Minnesota, at the age of 82 on 14 March 2013, from heart complications following a long battle with multiple myeloma. Born in McAllen, Texas on 13 July 1930, he first studied at Louisiana State University, obtaining a B.S. in Zoology. He received M.Sc. and Ph.D. degrees in the mid-1950's

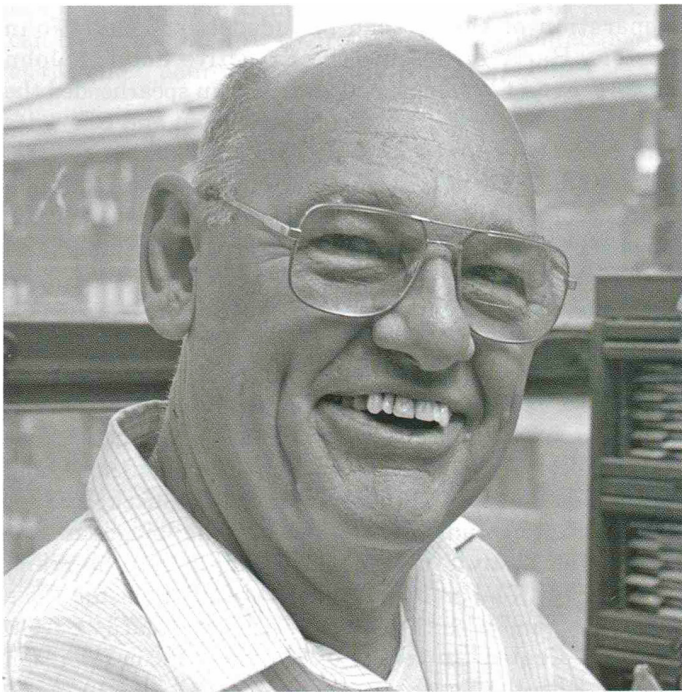
from The Ohio State University under the guidance of the famous larval expert Alvah Peterson. After a brief appointment in Germany, he served as Project Leader at the Lake States Forest Experiment Station in East Lansing, Michigan (1956-1964), and at the North Central Forest Experiment Station on the St. Paul campus of the University of Minnesota (1964-1982). He became an adjunct (and later emeritus) professor in the Minnesota Department of Entomology in 1976, where he generously contributed to teaching, mentoring of graduate students, and departmental service for more than 20 years. During his career, Dr. Miller authored more than 130 publications, including several monographs. In the realm of systematics, Bill was a specialist on the Tortricidae, subfamily Olethreutinae, although he also published on a diversity of other topics such as body size and its relation to geography and altitude, the correlation between adult feeding and oviposition, the diversity and life-histories of gall-forming Lepidoptera, and many others. Bill was a dedicated life member of the Lepidopterists' Society and first joined in 1957. He served on the Executive Council, as editor of the Journal from 1985-1988, and as editor of the Society's Memoirs for over a decade, providing the driving force behind the completion of the volume *Basic Techniques for Observing and Studying Moths & Butterflies*. For all of these contributions, Bill received one of the Society's highest honors, the William D. Winter Service Award, at the 2007 meeting in Bakersfield, California. In the last couple of years of his life, Dr. Miller continued to be a presence in the Department of Entomology as often as his health permitted and worked on his manuscripts from home and at his beloved cabin in Ely, Minnesota. He is survived by his wife of 35 years, Jocelyn Muggli, six children, and four grandchildren. We were privileged and thankful to have the talents, contributions, and scholarly spirit of William E. Miller in the service of Entomology and Lepidopterology for over six decades. His legacy will live on in his publications, students, and friends. [These are excerpts from a full obituary and bibliography that will be published in an upcoming issue of the Journal of the Lepidopterists' Society] *[Star Tribune, 17 March 2013, Michael Sabourin, and Todd Gilligan]*

Wilferd Darrell Owen of Belmont, California. We have received delayed word of Mr. Owen's death on 15 March 2010. He was born on 21 May 1931, and was a Life Member of the Society who first joined in 1965.

Frederick Hastings Rindge, Ph.D., of Aliso Viejo, California, on 20 April 2013 at the age of 92. For 55 years Dr. Rindge had been curator of Lepidoptera at the American Museum of Natural History in New York, New York, specializing in the taxonomy of the moth family Geometridae, especially the Ennominae of North America.



Dr. Rindge was a Charter Member of the Society, and was elected an Honorary Life Member in 1997. In 1986 the Society awarded him the Karl Jordan Medal. In his retirement he became a topical philatelist, collecting (and identifying) Lepidoptera stamps from all over the world, in addition to collecting art glass and coins. His wife and field companion, Phyllis Denton Rindge, predeceased him in 1997. A more thorough obituary will be published in one of our future issues. *[Julian P. Donahue and Marguerite Rindge Cox, Dr. Rindge's youngest daughter]*



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There's no place like (the road) home!

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Hi there – it's me again. Here we are, just a month before the 2013 Gainesville Annual Meeting of the Lepidopterist's Society, and I haven't even finished telling you all about my grand adventures associated with the 2012 meeting in Denver. But these things take time and should be savored slowly like good wine. And with a limited word count, a tireless pen, and a fading memory - believe me – we're all better off doing this slowly.

All road trips have their half way points, and with the arrival of the mid-point comes the exciting prospect of finding an equally interesting path back home. "Homeward Bound" is normally a pleasant notion – but if you haven't planned well and have depleted available time and budget, the experience can be sadly truncated and anti-climactic. Almost as bad is prematurely wearing out your non-lep-obsessed companions and forcing an abbreviated trip home (which for me is essentially guaranteed to happen). In any case, there's nothing worse than facing a 24 hour non-stop driving trajectory across four states that never departs the Interstate. Under these conditions, one copacetic option is to arrange for alternative transportation for your non-lep-obsessed companions. With a business trip to New Orleans wedged in between the 2012 meeting and my excursion back home, this is precisely what I was forced to do.

So, at 7:00 a.m. on Thursday, August 2, with the rest of my family already safely home, I landed and picked up my family vehicle at Denver International Airport and began meandering my way back home. For excitement, I had chosen a southerly path that would take me into various counties in Southern Colorado and Northern New Mexico – places that I had previously spent very little time in. A night in San Luis, a day along the Rio Grande River, and an afternoon off-roading my family vehicle across the mountains above Taos provided for some very exciting butterfly opportunities - though due to the lack of supervision, I danced dangerously close to destroying my 6th family vehicle within a single decade (for obsessed avocational lepidopterists, there must be 50 ways to lose your lover).

From here I would jet along I-25 and I-10 in a hurry to re-explore the higher elevations of the Chiracahua Mountains of Southeast Arizona. My target insect there was the distinctive black Apodemia mormo that flies along the higher slopes - not just because it is a beautiful creature

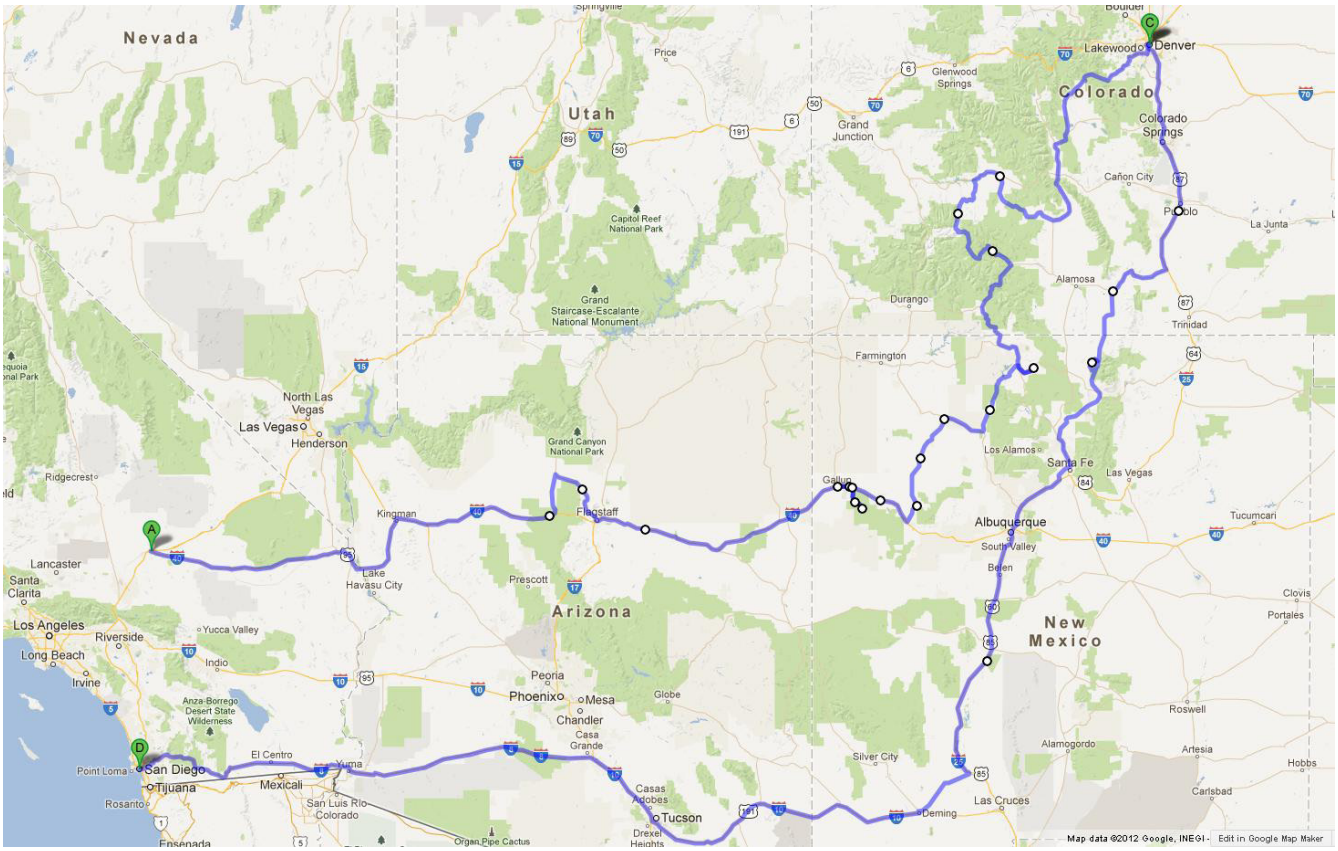

Figure 1. The Yellow Brick Road to and from Denver (in blue)

which had skunked me several times before, but also because I was anxious to compare it to the lovely Apodemia mormo I had just sampled from Costilla County, Colorado, and Taos County, New Mexico. After this, I would attempt a rendezvous with some of my butterfly homies from Tucson, and then complete my final leg in time for work on August 6.

On the Importance of Vouchering

In lieu of an 8-part lepisode documenting my detailed butterfly adventures back home, I have decided to focus on one amazing exploratory anecdote that occurred to me in the upper reaches of the Chiracahua Mountains on Saturday, August 4. However, before I do that I would like to approach a subject that has been nagging at me for some time. As I sit writing, pondering my entomological adventures, I can't help but wonder whether or not there are still many out there who truly recognize the intrinsic value that comes from consumptive entomological sampling by avocational lepidopterists like me. It occurs to me that an increasing number of readers may actually find the mention of wanton sampling and pinning of specimens on behalf of no one and for no apparent reason somewhat (if not entirely) offensive. It is to these readers that I offer this humble appeal.

Of course there is a purpose behind my well-developed passion for vouchering – and it is indeed a scientifically motivated one. I contend that if no one is actually sampling our entomological faunal resources, then our ever growing knowledge about them will cease to expand. The fact is that everything has not been sufficiently studied and determined, and there is much left to learn and discover. Every year the careful and frequent entomological observer has an opportunity to stumble upon something new. Each coming season proves to be unique in its own right and provides more than ample justification for turning over new stones. And for those for which entomological discovery is still an exceedingly rewarding pursuit, there continues to be the ultimate challenge: to find what insects are thriving where and when, under what conditions, and in what distributions. How does that compare to last year and the decade before that, and what is transpiring even now that is sure to make next year also worthy of additional study?

It is these questions that consume me, and I'm pleased to have found during all my years of avocational butterfly study that discovery is just a road trip away. This is especially true if you can find yourself in a rarely explored area, but it is equally true in places that have been scoured by experts for over a hundred years. In some cases you might find things which have never before been found, while in other cases you might find what was common is now scarce, and what was rare is now ubiquitous. Sometimes your discoveries are related to how the insects behave. It is for the benefit of all that the search for new information must go on, and those who are inclined to search must be encouraged to search – as well as share. Sadly, we seem to be moving in an opposite direction.

As far as butterflies are concerned, many of the recognized butterfly entities that exist today – a truly magnificent diversity -- have been discovered by inquisitive and insatiable amateurs. A pertinent question is "what is to become of entomological discovery if an insufficient number of obsessives are shaking the trees or turning over stones?" My own conservative estimate puts the total number of U.S. butterfly hunters at well less than 5000 nationwide (and shrinking). When compared to deer hunters (10.1 million - http://digitalmedia.fws.gov/cdm/ref/collection/document/id/207) and trout anglers (6.8 million - http://digitalmedia.fws.gov/cdm/ref/collection/document/id/52), this seems to be an exceedingly innocuous number. And yet, principally due to the economic benefits provided by the huge numbers of deer hunters and trout anglers, the U.S. Fish and Wildlife Service actually encourages these activities, while strongly discouraging the harvesting of butterfly specimens. The stated concern is one of conservation, but this idea is clearly betrayed by the sheer lack of butterfly hunters. Since their population at best represents around 0.07% of the trout angler population and 0.04% of the deer hunter population, it seems illogical that butterfly hunters can represent a more serious conservational threat than these other faunal consumers. I contend that if we continue to discourage the collecting of butterflies, we will surely stifle the expansion of knowledge concerning them. In the end, this would actually bring harm to the precious Lepidopteran resources that we all desire to protect.

As for making discoveries on my way to and from Oz, I attempted to focus on sampling whatever I found in whatever place I found myself in. Some of the more interesting vouchers (at least to me) included the odd looking *Plebejus icarioides* I found in McKinley County, NM (Cibola NF). These are probably ssp. *bucholzi*, but I found the dorsal to be distinctively dark.

Plebejus icarioides – 8000 ft., Cibola NF, McKinley County, NM 20 July 2013

Another pair of interesting vouchers included two *Euphydryas* specimens collected from a single high elevation meadow in the Carson NF in Rio Arriba County, NM. These were collected within a few feet of each other, but appear dissimilar. Meanwhile, they don't appear similar to any of the (many) nearby *anicia* ssp. described from New Mexico, Colorado, or Arizona.

Euphydryas (?) – 10000 ft., Carson NF, Rio Arrriba County, NM 21 July 2013

Sometimes discovery doesn't involve something new or strange, but rather confirmation of what's expected – perhaps in a place where it hasn't actually been recorded. One of my favorite vouchers of the entire road trip was made by my 8 year old son Weiss – a gorgeous female *Chlosyne damoetas* from near Spring Creek Pass in Hinsdale County, Colorado. This was the only specimen of this species seen during the entire road trip.

Chlosyne damoetas – 12500 ft., Snow Mesa, Hinsdale County, CO 22 July 2013

As I mentioned, some of the greatest pleasures come from finding things you don't expect - in places no one has sent you. That was the case when Tommy Horton and I stumbled into *Cercyonis pegala* in an obscure little creek below Dinosaur Ridge and Red Rocks Park, Colorado.

Cercyonis pegala – 6000 ft., Mt. Vernon Creek, Jefferson County, CO 23 July 2013

Other fun discoveries included late flying *Lycaena cupreus* located on three high mountain Colorado passes, *Plebejus shasta pitkinensis* from two Colorado passes, distinctive *Lycaena heteronea* along highway 160 from Costilla County, Colorado (02 Aug 2013), a decent flight of E*uphilotes rita coloradensis* from Costilla County on 03 Aug 2013, and the ever gorgeous *Ochlodes yuma anasazi* from Taos County, NM on 03 Aug 2013.

Ochlodes yuma anasazi – 7200 ft., Rio Grande, Taos County, NM 03 Aug 2013

As alluded to before, some of the more interesting discoveries enjoyed by avocational entomologists involve insect behaviors rather than presence. Sometimes this requires a willingness to go exploring even when it seems contrary to common sense.

It's Never a Bad Idea to Go Exploring

It was quite late on Friday, August 3, when I pulled into the motel in Deming, New Mexico. My plan was to get up early and try to reach the highest elevations in the Chiracahuas before any monsoonal activity began to obscure the sun.

Sadly, my plan to leave early was foiled on account of much needed sleep. And so with the sun already rising, I rushed my way to Portal, Arizona and then up the winding dirt road that heads to Rustler Park. The conditions along the way were actually pretty good, with good numbers of skippers perched on various roadside nectar sources, but I could hardly afford to dilly dally lest the clouds beat me to the summit. But all of my good intentions were for naught, for as I crested 7000 feet I could see the familiar thunderheads beginning to form – with much of the highest terrain already completely shaded.

I pushed on past Onion Saddle, climbing to 8000 feet, and found a place to park which provided access to the nearby ridgetop. I scrambled out of the car as the last of the sunshine was rapidly disappearing and rushed uphill to reach the nearest summit. I arrived, huffing and puffing, just as the last little patches of sunlight faded. There were many hilltopping butterflies present at that moment, including black swallowtails and the obligatory king-of-the-hill *Chlosyne theona*, but these quickly vanished with the sun as the thunderheads swept over the top of the mountain. I stood, still out of breath, and realized that I had beaten the clouds by only 15 seconds - not long enough to do any real surveying. Before long it began to rain – hard in fact – and I was completely exposed; standing alone in a T-shirt, holding a net, and still breathing heavy. It is at times like these that my normal stubborn, selfish, impatient, ungrateful, and demanding personality – characteristics which tend to provoke fist clenching and temper tantrums whenever I don't get my way – seem to be miraculously overtaken by a normally dormant but more powerful sense of humor.

As the rain began penetrating my clothing, I shrugged my shoulders, knowing that all my great intentions and hurrying had been in vain. I slowly walked along the ridgetop looking for a place to sit down – perhaps I could wait out the precipitation? Hopefully I would find some cover to at least keep my net dry. I found such a place on a steep north facing slope covered with large flat shale. I plopped down and adjusted my hat, trying to keep the raindrops from running down my face – though I was feeling like crying anyway. It was then that I noticed the rather large quantity of *Eriogonum kennedyi* growing among the talus down the very steep slope below me. Perhaps this was a good spot to find the black *Apodemia* I had heard so much about? Too bad the conditions were so awful, but surveying habitat is a worthy objective even if it has to be done without the pleasure of flying butterflies. It seemed as if my pursuit of this stunning phenotype would have to wait for another adventure (and perhaps decade!) – though these were getting increasingly scarce and difficult to dedicate to the pursuit of butterflies.

The rains continued as I stubbornly stayed parked on my rear in frustration. I was getting downright soaked now, but I remained in position well past noon and watched as the conditions worsened. Large black clouds now covered the Chiracahua's and rain could be seen falling all across the terrain. It was then that I made the most unusual discovery. I thought I saw something flit rapidly about 30 yards down the slope in front of me. "I must be seeing things", I thought, while squinting my failing eyes ever stronger. After a few quiet moments, I saw it again – and this time my eyes focused on what was clearly a Mormon Metalmark perching on some scrub some 30 yards down below. I watched in disbelief, as the lone male sat frozen in the rain and cold.

I laughed at the pathetic predicament I now faced, realizing that there was zero chance of climbing down the shale without either frightening away the butterfly or killing myself. I got up, but as predicted, found it exceedingly difficult to maneuver and establish the necessary footing I needed in order to approach the wary metalmark. One trip, and then a slip, and off flew the metalmark. I was left frozen in place, straddling the slope with one foot down below the other, looking about to see if I could see where it had flown off to. It was a painfully awkward stance and any motion at all caused one (or both) of my feet to slide.

I knew at once that I was going to have to be content with the sighting because the conditions were so terrible and this slope too treacherous. I glanced up to where I had been sitting and began the difficult climb back up, occasionally slipping again, but finally reaching my spot to sit. I plopped back down again, laughing even more at the bizarre episode. Just as I was finally ready to call it a day, I noticed another adult metalmark flitting about back down from where I had come. Again I stumbled slowly down, but again I scared it away before having any chance at a swing. This time I stayed below, and before long another opportunity presented itself. It appeared as if there were at least four or five adults performing this dance, and I was intent on vouchering one. Occasionally one would actually land on the flat rocks nearby where I was standing, but these would not stay long, as the rain seemed to keep them moving.

This cat-and-mouse game went on for about 20 minutes before I had actually successfully netted my first individual. I was amazed to find that it was immaculate – apparently freshly emerged in this inclement weather. I decided to stay, carefully approaching whenever I saw movement, but every downward step was accompanied by a fall, a slip, or a slide – usually landing in a position contrary to pursuing the target specimen. It was a slow and difficult pursuit.

At one point in between bursts of strong falling rain, one brave male came in an instant to bask (shiver?) on a flat stone immediately in front of me. It provided the easiest access of the day, and I quickly prepared my net bag so that I could drop down on top of the stunning little guy. He was another perfect specimen, as they all were that day, and I was delighted to voucher one more for posterity. But just as I was about to bring the hammer down, a crafty

Continued on p. 73

Impending collapse of the Spring Mountains ecosystem, Nevada

Bruce M. Boyd

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Habitat degradation and fragmentation caused by decades of fire suppression, the introduction and proliferation of invasive "weed" species, feral horses, introduced elk, increased recreational activity, private development and the infrastructure to support that development, road salt, a protracted drought, ignorance and apathy; and public development, and questionable actions made possible with vast quantities of money available to area land managers through the Southern Nevada Public Lands Management Act, have altered the Spring Mountains ecosystem, threatening several of the unique butterflies it supports with extinction.

The nine butterflies endemic to the Spring Mountains are well documented but certain other taxa require additional research to determine their exact taxonomic status. Four of those butterflies are identified below.

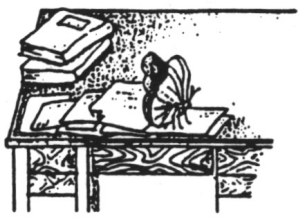
- A bivoltine race of *Papilio indra* occurs only in the Red Rock Canyon National Conservation Area. The Bureau of Land Management has recently initiated a program utilizing the widespread application (spraying) of herbicides in the conservation area in an attempt to control weeds.

- A species of *Euphilotes* found at elevations between 1500 – 1630 meters (below Pinyon – Juniper woodland) and flying from mid June through mid July occurs in the northwestern portion of the mountain range. The taxon most resembles *Euphilotes bernardino inyomontana* but its flight period, extending into mid July, is later than those of other populations of that subspecies.

- A population of *Glaucopsyche lygdamus* occasionally referred to as "near *oro*" and associated with silvery lupine is restricted to the south side of Kyle Canyon on the east side of the mountain range. Kyle Canyon is the most developed location in the mountain range and the amount of ongoing public development there is alarming.

- Individuals of *Coenonympha tullia* in the Spring Mountains are paler in color than those of *Coenonympha tullia pseudobrenda*. The taxon was common through the 1970s but has become extremely rare.

For additional information contact the author of this article. To express concerns about US Forest Service habitat management practices contact Randy Swick, Area Manager for the Spring Mountains National Recreation Area, **rswick@fs.fed.us**.



From the Editor's Desk

James K. Adams

With the completion of this issue, it has been two years since I took over the production of the News. After a shaky start, I have enjoyed being your editor. I hope the quality of the News has been to your satisfaction. See many of you VERY soon at the Lep Soc meetings in Gainesville, Florida!

ONE SIGNIFICANT REQUEST: PLEASE RESPOND to me by e-mail.

I have discussed briefly with a few people the initiation of new recurring, regular or irregular, columns that a majority of the membership could conceivably contribute to. One such column could be something like "Initiating Experiences" or "In the beginning . . ." Contributed articles would be about formative early life experiences that motivated you toward Lepidoptera or nature in general. A good example is Gary Noel Ross's "My life-changing experience" on the next page. Other possible columns could be "First Encounters", which would include articles about your first encounter (imagine that) with a long sought after elusive taxon; or "Dangers of Lepping" which would, of course, include those moments in your life where lepping led to some potential or actual injurious event. If you are interested in any/all of these, **AND** willing to contribute an article, please contact me by e-mail (jadams@daltonstate.edu). IF I get some significant interest, then I will start a new column. Also, if you have an idea for a DIFFERENT column, just let me know and I'll investigate further. Thanks!

www.lepsoc.org

My life-changing experience

Gary Noel Ross

6095 Stratford Ave., Baton Rouge, LA 70808 **GNRoss40@yahoo.com**

Summer has always been the best time for kids to discover. There is unbridled time to play and to travel on family vacations. While such activities are common place and often taken for granted today, such was not the case in the middle of the last century. Then, summer vacations, regardless of the itinerary or how mundane, were usually the anticipated highlight of the year.

Family vacations were certainly fun times in my early life. Now a craggy senior with lots of time on my hands, I frequently reflect on one particular family vacation that proved seminal to my future.

The year was 1953. I was 13 years of age in my natal New Orleans. Previously, my slightly younger brother (Grant) and I looked forward to our annual summer jaunts to Waveland, a small community on the Mississippi Gulf coast. There, my parents—sometimes in conjunction with another family of four—would rent a house for a week or two close to the beach. Our days were spent swimming in the not-so-blue Gulf water (sometimes we swam after dark, also, to observe the abundant luminescent comb jellies), trap netting for blue crabs, playing volleyball and the indoor board game "Pokeno," and just about anything else our minds could fancy in our pre-television life style. Because even at this early age, I professed a demonstrable fancy for butterflies, I always had my home-crafted net along so that I could walk along rural roadsides in good weather in order to collect specimens. At the end, we all returned home rejuvenated with lots of adventure stories to retell during the upcoming tedious school year.

But 1953 was different. In late May my father purchased the family's first automobile—a new Plymouth Cambridge sedan, "Luna Gray" in color. Back then, new vehicles needed a rather lengthy "break-in" period. Ideally, this entailed taking a vehicle on a long drive during which time and after so many hundreds of miles, you would gradually step-up the maximum driving speed. My father hatched a plan: We would embark on a three-week vacation to break in the vehicle. The road trip would center on visiting friends who a few years prior, had relocated to Los Angeles and Chula Vista, California to pursue their fortune in what was touted as the American "land of milk and honey."

The drive itself seemed mind boggling. Thousands of miles with my father being the only one with a driver's license. Now add: (1) none of us had ventured beyond the flat Mississippi Gulf coast meaning that deserts and mountains were mere concepts and visions acquired from magazines, (2) there was no interstate highway system to bypass cities, (3) no Global Positioning System (GPS), (4) no drive-thru fast food restaurants and convenience stores, (5) no self-serve gasoline stations, (6) no chain motels, and (7) no automobile air conditioning. Oh no, No sir. None of today's conveniences associated with travel on America's highways. So, our road trip was definitely going to be a major undertaking. Yet, my father at the age of 35 was still imbued with a whacky sense of adventure. As luck would have it, a close friend of our family did have some experience driving out of state. He suggested that we immediately join the American Automobile Association (AAA) so that we could request a map detailing a scenic itinerary to and from our destination. That we did, and within barely a week we had our detailed maps along with several brochures describing "must sees" en route.

June 10, three o'clock AM. D day. As the miles rolled beneath our wheels, Grant and I were animated chatter boxes. Lacking any electronic device for entertainment (no radio, no cellular phones or laptops with programmed games), we concentrated on learning to recognize models of cars and state logos on license plates. When it was mealtime, we kept a watchful eye for cafes and restaurants that advertised "TRUCKERS WELCOME" and during later afternoon we kept our eyes peeled for motels with neon signs flashing "FREE AIR CONDITIONING." Today, of course, I consider it a miracle that we managed. But in reality, in 1953 all highway travelers faced the same obstacles because there were no alternatives. To paraphrase an adage, "what you don't know won't hurt you."

Our first major "must see" tourist stop on our map was Carlsbad Caverns National Park in the Chihuahua Desert of New Mexico. We rented a quaint cabin for two nights in nearby Whites City since the park had no public lodge. After unpacking—and in defiance of my mother's admonition—we boys and dad bolted to the rocky hillside directly behind the cabin to scour for what had been only dreams based on textbook desert wildlife. We frantically turned over rocks searching for living desert treasures: tarantulas, scorpions, centipedes, horned toads, and our crowning wish, a huge, fat rattlesnake. (We did discover a few creepy crawlers and a horned toad, but nary a serpent).

The next morning we took the three and three-quarter hour, three mile-guided tour of the subterranean labyrinth. That included a walk through the cave's enormous hollowed-out entrance then down a switchback path to a depth of 750 feet; short lectures at key venues where we learned to identify icicle-like stalactites and towering stalagmites, fluted stone cascades and drapery, cave pearls, stone grapes, and crystalline pools; a sample of the eerie blackness and silence when lights and voices were hushed; a handy box

lunch in the underground domed cafeteria; a leisurely walk about the 14-acre cathedral-like chamber named the "Big Room" (the second largest natural underground expanse in the world); and finally an elevator back to the surface. We then accompanied a park ranger on a nature walk in the surrounding desert. There we were introduced to what for me were exotic plants with exotic names: ocotillo, lechuguilla agave, and soapweed yucca, to name a few that I still remember. At dusk, we along with other visitors gathered at the mouth of the cave to gaze and marvel upon the dark, thick plume of bats departing for their nightly hunt of insects. Of course, my brother and I secretly kept a watchful eye for a rattlesnake, but again, no luck.

Throughout the vacation we visited several of the nation's other "wonderlands" including White Sands, Death Valley, Grand Canyon, Petrified Forest and Painted Desert (incidentally, to my dismay, I never did cross paths with a rattlesnake). For a lad from the pancake and syrupy Gulf coast, I soaked in this celebration of Nature's magnificence and glory as a fantasy come true. However, Carlsbad Caverns National Park was the crowning glory. For me, the place was downright otherworldly, surreal. Here was my first intimate glimpse into the secretive, mysterious, magical, and even whimsical side of Nature.

Upon our return to New Orleans, my psyche was so transfixed by the caverns that I began a scrapbook of photographs featuring caves and national parks. (The photos were cut from newspaper articles and magazines. When my mother discovered that I had mutilated some of her National Geographic magazines, she was livid and I was forbidden to play outdoors after school for the following two weeks.) I even wrote a fictional adventure story titled *"The Cave."* The protagonists are my brother and I, two young teenagers living in Los Angeles, and who have a penchant for the outdoors. While hiking and collecting butterflies in a wildflower meadow in the nearby San Gabriel Mountains, Grant and I discover a cave. After reporting the cave to a newspaper journalist, the cave is explored and eventually developed into a popular state park. My father becomes superintendent, and my brother and I serve as park rangers. Writing the story was great fun. In addition, I was able to incorporate as details many of my still vivid memories from our tour of Los Angeles and its surroundings. The following fall, my seventh-grade teacher proofed the handwritten manuscript and later asked me to read the story to the class. Of course, I was embarrassed, but at the same time, honored to be able to share my thoughts.

Time passed. I graduated from high school in 1958. Although I had seriously studied piano and organ for nearly ten years, my passion and reverence for nature—and what had blossomed into a deep love of butterflies—moved me to matriculate in biology rather than classical piano, the profession my parents wished I would pursue. Graduate school centered on entomology and ecology. Later, I opted to teach at a university and conduct research in those same subjects for my life profession. When I designed my house in 1972, I opted to surround myself with an urban wildlife landscape. Now 73 years of age and still residing in the flatlands of south Louisiana, I remain active with research and writing in the field of natural history, hoping to inspire a younger generation.

Then in 2010, I read "*The Wilderness Warrior: Theodore Roosevelt and the Crusade for America,"* a tome by Douglas Brinkley published in 2009. The book pays homage to the unrelenting efforts of America's twenty-sixth president to establish national parks and monuments, federal bird reservations and national forests—in order to preserve, for generations yet unborn, millions of acres of wild America and an untold number of unique species of wildlife. President Roosevelt was unfamiliar with Carlsbad Caverns because of timing. [You see, the underground formations that today are known as Carlsbad Caverns National Park were discovered only in 1901 and not adequately explored until 1924-1925 by the National Geographic Society. The 46,766 acres embracing Carlsbad and at least eighty smaller caverns officially became a national monument in 1923 and upgraded to national park status on May 14, 1930. In 1995 the park was designated a UNESCO World Heritage Site, bringing in roughly one-half million visitors annually.] Nevertheless, the mood of the book reinvigorated my mind with images of the desert, its secret underworld, and my family's joyful vacation.

But that's not all. This nostalgia triggered another sleeping memory—the fact that my mother was a consummate "shutter bug" and "pack rat." With only a simple Kodak "Brownie," my mother photographed just about everything she considered noteworthy—including our summer vacations. In 1965, however, Hurricane Betsy, a Category 3 storm (wind speeds 111-130 mph) nicknamed "Billion-dollar Betsy" because it was the first U.S. storm to cause over a billion dollars in damage, had flooded our home in New Orleans with nearly four feet of silt-laden water. My parents lost most of their possessions. They did, however, manage to salvage some furniture and some memorabilia—including two cardboard boxes of old photographs and assorted documents. Upon their death in the early 1990s, these boxes passed to my brother and ultimately to me who simply stashed them away in a bedroom closet. Now, embracing a renewed mantra for our national parks, I decided the time was right for a trip down memory lane.

So, on a dreary December morning in 2010, I retrieved the moldy cache I had inherited. Against all odds, there they were: Sixty-eight 3 X 3 black and white photos from our 1953 vacation. I was spellbound! Although some of these 57 year old photos bore some water stains from "Betsy," most were in excellent condition. Best of all, a handful from Carlsbad Caverns graced the lot along with my scrapbook of published photos. And now the kicker—wrapped in a sheet of tissue paper, my handwritten seventh-grade story *"The Cave."* As I poured over these historic cameos

from my past, my mind flooded with details that had been shadowed for nearly six decades. Not until then—that exact moment—did I realize how that adventuresome road trip in 1953 to the West Coast had set into motion the course for the rest of my life. When my tender brain was still developing, the exciting experiences proved decidedly formative. As a result, Nature became my lifelong mentor. Now with my mother's simple photos and my handwritten story, I can relive that defining childhood vacation as often as I wish. Thanks mom and pop!

(Adapted from "How a National Park Influenced My Life" published in *Wake-Robin*, newsletter of the John Burroughs Association, Inc., NY, Vol. 42, Number 2, Winter 2010. Published with permission of the editor.)

Ticket building, Carlsbad Caverns, 1953. Gary Noel Ross, brother Grant and father Cecil. (photo by Shirley Ross)

Carlsbad Caverns, with walkway, 1953.
(Photo by Shirley/Cecil Ross).

No place like (the road) home

Continued from p. 69

lizard who had been hiding under an adjacent rock came out of nowhere and beat me to it. Within a millisecond the butterfly was gone, and when I glanced about to see where it went, I caught a glimpse of the lizard's smiling face with the tips of the butterfly's wings protruding out of its mouth. I think it winked just to tick me off, and then after we exchanged glances, it quickly gulped the rest down its throat and waddled back under a rock, chuckling. I was dumbfounded, but at least this time I didn't fall. This butterfly collecting thing is certainly not the cake walk it is so often assumed to be.

By the time I finally chose to return to my parked car, I had successfully vouchered six individuals – each hard fought for – and all were very fresh. I was amazed that such butterflying could be done under such unfavorable conditions, but so very thankful that my long pursuit for this gem was finally complete. From there I drove on to Tucson, where I met up with Brian Banker and Doug Mullins, and rested before making the long drive west to Oceanside.

Apodemia mormo – Top: Costilla County, CO 02 Aug 2013;
Middle: Taos County, NM 03 Aug 2013;
Bottom: Cochise County, AZ 04 Aug 2013

Once home I embraced my family and pondered the amazing adventure I'd just completed, all centered around the 2012 Annual Meeting of the Lepidopterist's Society. I was thankful that it proved to be everything I had hoped it to be. Now I'm looking forward to another road trip – and a barrage of new discoveries - this time driving the full breadth of the nation and ending up in Gainesville, Florida. See you there!

The Marketplace

IMPORTANT NOTICE TO ADVERTISERS: If the number following your advertisement is "551" then you must renew your ad before the next issue! Remember that all revisions are required in writing.

Books/Electronic Images

THE MONARCH: *Danaus plexippus* (Linnaeus), by J. B. Heppner; $7.95 paperback. 6x9 in., 42pp. (plus $3.50 shipping in USA). Full color nature guide to the monarch butterfly in North America. Reviews the life history and migration details of the monarch, including many color photographs of the monarch, its forms, and wintering in Mexico, by nature photographer Dr. Ed S. Ross, lepidopterist Prof. Gary N. Ross, and others. Includes bibliography and list of societies. Scientific Publishers, P. O. Box 15718, Gainesville, FL 32604 scipub@aol.com (352) 373-5630 www.scipub.com (in revision)

552

For Sale: Entomological books from personal library, mostly in excellent condition. Includes such titles as "Butterflies of Costa Rica -- 2 vols." by DeVries; "Pennington's Butterflies -- Africa" by Dickson and "Butterflies of Rhodesia" by Pinhey. Prices are negotiable. Write or e-mail for list. Alan J. Hanks, 34 Seaton Drive, Aurora, Ontario L4G 2K1, Canada or e-mail alan.hanks@sympatico.ca. 552

For Sale: back issues of the News and Journal of the Lep Soc, as follows:

News: **1987** No 1 Mar-Apr, No 2 May-Jun, No 3 Jul-Aug. **1988** No 1 Jan-Feb, No 3 May-Jun. **1990** No 2 Mar-Apr, No 3 May-Jun, No 4 Jul-Aug, No 5 Sep-Oct, No 6 Nov-Dec (Membership Directory). **1991** No 2 Mar-Apr, No 3 May-Jun, No 4 Jul-Aug, No 5 Sep-Oct, No 6 Nov-Dec. **1992** No 1 Jan-Feb, No 2 Mar-Apr, No 3 May-Jun, No 4 Sep-Oct. **1993** No 4 Jul-Aug. **1994** No 2 Mar-Apr, No 3 May-Jun, No 4 Jul-Aug, No 5 Sep-Oct. **1995** No 4 Oct. **1996** Apr, Oct-Dec. **1997** Spring

Journals: **1987** Vol 41 No 1,2,3 & 4. **1989** Vol 43 No 1,2 & 4. **1990** Vol 44 No 1 & 2. **1991** Vol 45 No 1,3 & 4. **1992** Vol 46 No 2 & 3. **1993** Vol 47 No 3 & 4 **1994** Vol 48 No 2 & 4. **1995** Vol 49 No 1,2,3 & 4. **1996** Vol 50 No 1,2,3 & 4.

All in excellent condition. For information and prices contact Mike Elliston at **michaelelliston4@gmail.com.** 551

FOR SALE: Private collection of more than 500 books on BUTTERFLIES AND MOTHS, including many rare volumes. Several of the books are over 100 years old, and some have hand-colored lithograph illustrations. For a list of books, or if you have other questions, contact Frank Manning at frankmanning@gmail.com , 505-867-9088, or 505-270-7651(cell) or (home). 552

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. 551, 552) 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.** Some leeway may be allowed at the editor's discretion. 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!

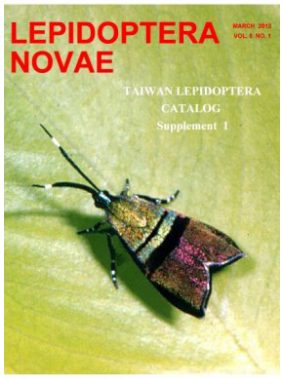
The Lepidopterists' Society and the Editor take no responsibility whatsoever for the integrity and legality of any advertiser or advertisement.

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 ppqaphis, 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.

The Marketplace

TAIWAN LEPIDOPTERA CATALOG, Supplement 1: Corrections and Additions. 84pp. 8-1/2x11 inches. $47.50 postpaid (in USA). New updated and revised catalog additions since 1992, by J. B. Heppner. Includes new references and species described since the 1992 Taiwan Lepidoptera catalog. Double issue from Vol. 5, *Lepidoptera Novae*. Orders to: Lepidoptera Novae, P. O. Box 15718, Gainesville, FL 32604. Checks to: Lepidoptera Novae. lepnovae@aol.com Tel: (352) 373-5630. 552



Butterflies of Colorado, Part 5, The Pieridae and Papilionidae (Gillette Publications, Colorado State University Issue 7.5 in a series of 6); 192 pages, 270 color images. Includes comprehensive overview of Colorado Anthocharis including the description of one new subspecies by Todd Stout, Anthocharis julia prestonorum; discussion of W.H. Edwards name "Colias hagenii" and overview of the Colorado swallowtails in the Papilio machaon complex including aspects of their behavior and rearing. Also included is a revision to the status of Papilio multicaudata subspecies pusillus Austin & J. Emmel and the description of a new form, minimulticaudata. Order directly from the author, Lep Soc member price of $40.00 plus $5. for mailing in a protective box. Mike Fisher, 6521 South Logan Street, Centennial, Colorado 80121-2329. 551

For Sale: Butterflies of Central America Vol 3: Hesperidae, The Skippers. 266 color plates, spiral bound, covers Oaxaca to Panama. $72 plus shipping of $10 for US and $27.50 for international orders. www.neotropicalbutterflies.com, click on Books for Sale. 552

Equipment

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 **www.leptraps.com**, or contact Leroy C. Koehn, Leptraps LLC, 3000 Fairway Court, Georgetown, KY 40324-9454: Tel: 502-542-7091 552

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. For more information visit **www.leptraps.com**, or contact Leroy C. Koehn, Leptraps LLC, 3000 Fairway Court, Georgetown, KY 40324-9454: Tel: 502-542-7091 552

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. 250 & 500 Watt self ballast mercury vapor with mogul base mounts. Light weight and ideal for trips out of the country. For more information, visit **www.leptraps.com**, or contact Leroy C. Koehn, Leptraps LLC, 3000 Fairway Court, Georgetown, KY 40324-9454: Tel: 502-542-7091 552

Research Requests

WANTED: Observations, photos, specimens needed of the spotted tussock moth, *Lophocampa maculata*, from all areas of North America. I am trying to define the present range of this species in the far north of Canada and the desert southwest in particular. I especially need data from Pacific coastal populations: San Francisco, CA to Southern Oregon and Vancouver, BC to Juneau, AK and the Southeast: GA to PA. Contact Ken Strothkamp, Lewis & Clark College, (**kgs@lclark.edu**) for more information. 551

Specimens/Collections

FOR SALE: Important collection of European and Exotic butterflies gathered between 1950 - 1970 by a Belgian collector. More than 15,000 specimens including many rare ones, all of them labeled (family group or specimen) and presented in wooden boxes (large or small format) with special glass. Full list of specimens on request. Price: $12,000. Contact: Magali Maus, **mickgo533@msn.com** 552

Gary Noel Ross, with brother Grant (and car), near Carlsbad Caverns, 1953. (Photo by Shirley/Cecil Ross; see article page 71).

Digital Collecting:

Colombia 2012 -- part 2

Kim Garwood

721 N Bentsen Palm Dr #40, Mission, TX 78572 **kimgrwd@sbcglobal.net**

I flew back to Medellin from Cali, where I met up with 2 friends and headed to Urrao to visit ProAves' Dusky Starfrontlet reserve at 2900m in the western cordillera. It's a 5 hour drive to Urrao, which is almost straight west from Medellin. We had to drive south towards Jardin, down the Cauca Valley, then back up to the north through Concordia. We left our laptops at the nice hotel Las Araucarias, outside Urrao, and headed up into the hills where we met Luiz, the ranger who takes care of the reserve.

We rode in on horseback, climbing about 500m to 2900m. When I scheduled this part of the trip with Pablo, he said it was an easy 2 hour walk in, along a stream, and would be good for butterflies. Fortunately he took some other clients there a few weeks before we showed up, and realized he had misled us a bit. The walk is mostly through open pasture and through boggy wet meadows, and has a couple of steep climbs. It's probably 7-8 km, and we would never have made it in a couple of hours. So they had horses for us out of shape, older gringos. Even on horseback it was a bit scary, as the trail was often a narrow animal track along the edge. You just had to hold on and hope the horse knew what it was doing.

We made it in one piece, and loved the lodge. Very simple, 3 large rooms with three or four beds around the dining area, and the porch is full of fuchsias and hummingbird feeders where the birds are right in your face. They are very used to visitors, so you can take fabulous photos of some spectacular species. For those of you who don't know Andean hummingbirds, there are many special species at high elevation, and this place was stuffed with them. Unfortunately the namesake bird, the Dusky Starfrontlet, wasn't at the feeders, but one of my friends rode the horse up to 3500m the next day (being a glutton for punishment) and saw many of them at the higher elevation in the paramo.

We were there for 3 nights, so we had 2 full days. Fortunately we had some nice sunny weather, which is unusual at this elevation, and got some good butterflies. The gorgeous *Morpho sulkowski* patrols up and down the streambed over the bamboo, but never stops. *Hypanartia lindigii* kept landing on me by the bridge (see also back cover). Probably the most exciting was a very friendly *Proboscis propylea*, which also kept landing on me. It was difficult to photograph him on my legs or arms. The pictures show specimens on my boot and on my hand.

We rode the horses back down, even scarier, and got back to our hotel for 2 nights. The next day we drove in the jeep up another road to about 2900m, an hour plus bouncing

Nymphalidae: *Hypanartia lindigii*

Nymphalidae: *Proboscis propylea*

around each way, and worked the road and a great bridge. Why are bridges on dirt roads always so good? We see many of the same species, but some different ones as well. One of my favorites is the gorgeous *Fountainea centaurus,* which is found at a higher range than *F.nessus*. This is the first time I've gotten close to this species, though I've seen it a few times previously. It is very difficult to get a good photo that shows the color of the dorsal, even in the hand, though we took many shots with different settings. The ventrals look very similar to the other species in this genus, except *F. centaurus* has the 2 small pale spots that look like holes in the forewing (see back cover).

Nymphalidae: *Fountainea centaurus*

There are lots of *Adelpha corcyra collina*, which we saw at the reserve but couldn't get good photos. Here on the bridge they posed nicely on wet sand and poop.

Nymphalidae: *Adelpha corcyra collina*

We headed back to Medellin the next day, but stopped near Concordia for a butterfly break. Gustavo, the local guide who is with us for the day, knows a gated reserve that protects the watershed for the town, and he talked the guard into letting us in. We worked our way around the lake above the dam and found some great species back in the cool, dark part where the stream comes down from the woods, at about 2200m. Two new ones for me were *Megoleria susiana*, which I thought was an *Elzunia* until Keith Willmott corrected me, and a great lycaenid, *Balintus tityrus*.

Nymphalidae: *Megoleria susiana*

Lycaenidae: *Balintus tityrus*

Two nights back in Medellin, where we had to eat at my favorite restaurant Crepes y Wafles, two short blocks from our hotel. They have both savory (chicken, meat, cheese) crepes and wonderful dessert crepes. My favorite is arequipe, like a smooth rich carmel on coffee ice cream. Save room for dessert!

Then we spent a day at La Romera, a road above Medellin at 1800-1900m. I've worked this place several times, and always find something good. You can take a trail down to the small stream. We met my Colombian friends Juan Guillermo and Martin Moreno there. Juan always has shrimp bait, which he has developed to a fine art. He

sprays it from a mister, covers broad leaves with it and really pulls in the butterflies, perfect for photos. It looks much nicer than a big ugly white spitwad. This particular day we scored with a very fresh and cooperative *Ocaria calesia* and a lovely riodinid *Baeotis macularia*, plus the stunning *Epiphile epimenes*.

Lycaenidae: *Ocaria calesia*

Riodinidae: *Baeotis macularia*

Nymphalidae: *Epiphile epimenes*

The next morning we drove to Jardin, about 3 hours south back down the Cauca Valley. Jardin is a beautiful little coffee town about 1800m, a lovely place to spend some time. We usually stay at the posh country hotel outside of town, Hotel Balandu, but this time we checked out a new reserve run by Gustavo, the Reserva Mesenia. It's huge, over 3,000 hectares, lots to explore. But you had better be good at hiking up and down hills, as much of it is steep. That's why it has never been cleared, it couldn't be planted. It covers three surrounding ridges and down to three different rivers on the sides, on the ridge of the western cordillera. So it has a great mix of Cauca Valley species with Choco or western slope species. You could spend a lot of time here.

We got rained on walking in, a slog of about two hours. Gustavo stayed back with the luggage to arrange mules to haul in our stuff. He told us "siempre izquierda" or always left, so we took several left turns on the trail as we worked our way up the valley from where the jeep let us out. We only climbed about 400m, but in the rain there is a certain amount of grumbling. We did find a beautiful *Mimardaris porus porus*, one of the big skippers, on some horse poop in the middle of the trail in the rain. We even held an umbrella over it as we photographed it, getting soaked on the back. The bug didn't want to leave the poop. We saw more of them the next day in the meadow.

Hesperiidae: *Mimardaris porus porus*

The next day we crossed the stream (rubber boots would be a good idea; we left ours in Jardin) and spent most of the day working the first 500m through the pastures that Gustavo is re-vegatating. There were cows, so there was fresh cow poop, and it was covered in *Hypanartia, Dalla*, a variety of crescents and other goodies. We went through a gate at the top of the clearing and into forest, which just gets better as you climb further.

We spent one night at the Hotel Balendu, after walking out the third morning. Next time I would spend three or four nights at Gustavo's, then three nights at Jardin. There is a fabulous road up from Jardin to another ProAves reserve, from 1800m to almost 3,000m. You could spend several days working this dirt road (you would need a 4x4) at different elevations, plus there are some good places below the town as well. Just never enough time.

Our next stop was a new reserve, also by ProAves, called Las Tangaras. This is into the Choco on the road to Quibdo, on the west slope of the western cordillera, and can be 'savagely wet', as a friend says. It's about two to three hours from Jardin, up and over more dirt roads and mountain ridges. The lodge is very nice, 8 simple clean rooms, nice hummingbird feeders and delicious food. I really like staying at the ProAves reserves. They know what international nature tourists want, good habitat, good food and a shower. They cost about $60 to $80/night, which is a great price as it includes three meals. The only problem is getting there. ProAves is a Colombian NGO that is creating great reserves throughout Colombia for rare and endangered bird species. They have put lodges on several of the reserves, which is great because you can stay right in, or near, the good habitat.

However at Las Tangaras you do need to drive to get up over a ridge to good habitat, about 45 minutes. We passed through a couple of military checkpoints, but they are used to eco-tourists and wave us through. At the pass there was a group of soldiers camped out, and a short steep trail up behind their shelter to a clearing where the ProAves ranger maintains a bunch of hummingbird feeders. Another fabulous photography spot, and they even have plastic over the small benches so you can spend an hour or two here on a wet afternoon, of which there are many.

We spent several mornings walking the road from about 2,000 down to 1,700 meters, and saw lots of goodies. We birded for the first hour or two, then it warmed up by 9 or 9:30 and butterflies started flying. We find another fabulous *Fountainea*, *F. nobilis pacifica*. With that subspecies name, I'm assuming it's a Choco, west slope specialty. Juan and Martin came out from Medellin (about three hours) and bring more shrimp bait, so we had a great time. There were lots of satyrs, including some that the Colombian lepidopterists tell me are an undescribed *Magneuptychia*.

We had lots of different looking *Heliconius clysonymus*, some with very thin red lines and some all black, without

Nymphalidae: *Fountainea nobilis pacifica*

Nymphalidae: *Heliconius clysonymus "fischeri"*

Nymphalidae: *Eresia datis manto*

any red at all. Andy Brower helps with id's on these later, he tells me they are form fischeri, one he's never seen. Probably another Choco specialty. It's interesting, as there were also lots of *Eresia datis manto*, and they also appear to show this same variability in the amount of the red stripe across their dorsal hindwings. Some are all black, some have a thin red line, and some show the more 'normal' wider red line.

Some of the more exciting species we found at Tangaras are the beautiful *Anteros cruentatus* and a *Prepona laertes* that came to my hand, after spending time on the leaves covered with shrimp bait.

Riodinidae: *Anteros cruentatus*

Nymphalidae: *Prepona laertes* (per Andrew Neild)

Hesperiidae: *Yaguna spatiosa*

Hesperiidae: *Ridens hapagus*

Hesperiidae: *Dalla,* likely *dimidiatus*

After several days we headed back to Otun-Quimbaya, one of the places we spent time at in August a month previously. I'd wanted to see if there is much difference between the times. We got some different skippers. *Yanguna spatiosa* was common, and a first for me. There was also a new *Ridens*, *R. hapagus*, with a long tail, and some nice *Dalla*, probably *D. dimidiatus*.

Then we headed to some new places, to stay in the pretty little town of Salento, in the Cauca Valley about two to three hours away. We stayed in a big old house that has been divided up into rooms, each one very different. Some of my friends got the honeymoon suite, with a huge bathroom and a giant spa for a tub, while I had a small room with almost no lights, and others didn't even have any hot water. You just never know. We ate dinner up at the square, with people watching. The restaurant served delicious food -- we had trout with garlic or chicken and pork on a skewer, a kebab.

One day while there we headed towards Armenia to the small town of Circasia, and Pablo talked his way into a private coffee finca that has a steep canyon with a stream at the bottom. It is full of native plants and lots of *Ithomiinae.* We hadn't seen many clearwings on this trip, so this was a treat. We slithered up and down the steep sides, trying to get close for photos. Some vines were blooming and the flowers were full of *Ithomiinae.* One of the most common was *Ithomia iphianassa alienassa* and I got a picture of a female *Oleria makrena caucana* on a flowering vine.

Nymphalidae (Ithomiinae): *Ithomia iphianassa alienassa*

Nymphalidae (Ithomiinae): *Oleria makrena caucana*

It's always difficult to shoot *Ithomiinae* in the forest, especially the clear ones. Here's a comparision of flash versus no flash on *Greta polissena*, a new subspecies (thank you Keith Willmott for these *Ithomiinae* id's). Often you can see the veins better without the flash, which is of course critical to id'ing this group. Flash can sometimes reflect back off these clearwings and make it very tough to see the vein patterns. But you usually get a sharper focus with flash, especially in the dark forest, so I always try and shoot the same individual both with and without flash. If they are sitting still on a flower you can usually shoot several photos, so vary the setting and try it with different F stops, different exposures, etc. You never know until you get the photos on the computer which one is best for that particular circumstance.

Nymphalidae (Ithomiinae): *Greta polissena,* n. ssp., without flash

Nymphalidae (Ithomiinae): *Greta polissena,* n. ssp., with flash

One afternoon we visited the botanical garden in Armenia, which has a large butterfly house. Colombia has over 150 species of palms, and this garden specialized in them, so it was very interesting. Plus they have the standard assortment of owls, morphos and *Heliconius* in the butterfly house, plus some very fresh *Siproeta.*

Our last place on this part of the trip was the town of Filandia, where we visited Bosque Bremen. Every place we went, we saw some different species, even though we were bouncing around the Cauca Valley about the same elevation. Sometimes even though you see the same species, they may decide to pose nicely for photographs. We got some nice shots of *Adelpha leucophthalma* and *A.justinia*. We had some left over shrimp that had gone bad, so we just put some out on the rocks and butterflies would come to them. We also had a nice fresh *Dion carmenta*.

We flew from Pereira on the afternoon flight, from where some people headed to Bogota and back to the US, while some of us headed back to Medellin for the third section of our trip.

Nymphalidae: *Adelpha leucophthalma*

Nymphalidae: *Adelpha justinia,* on shrimp with *Castilia castilla*

Nymphalidae: *Adelpha justinia*

Hesperiidae: *Dion carmenta*

Membership Updates...

Julian Donahue

Includes ALL CHANGES received by 11 May 2013

Additions/corrections to entries in 2012 Directory:

Horton, Tom: correct e-mail address is: aztttttommy@cox.net ("@" symbol omitted in Directory)

New and Reinstated Members: members who have joined/renewed/been found/or rescinded their request to be omitted since publication of the 2012 Membership Directory (not included in the 2008 Membership Directory; all in U.S.A. unless noted otherwise)

Aardema, Matthew: 106A Guyot Hall, Princeton, NJ 08544-2016.
Allen, Robert T. (Ph.D.): 8731 21st Avenue South, Minneapolis, MN 55425-2105.
Allmond, Rebecca: [address omitted by request]
Balcazar-Lara, Manuel A. (Ph.D.): Autopista Colima-Manzanillo, Km 40, Tecoman, Colima 28930, Mexico.
Berger, Mark: 3000 Dale Avenue, Columbus, OH 43209-2008.
Borchelt, Rick: 4602 Drexel Road, College Park, MD 20740-3604.
Boyd, Bruce M.: 476 McBride Way, Henderson, NV 89015-7863.
Carpenter, Roger W.: 2703 Maple Avenue, Terre Haute, IN 47804-3733.
Cech, Richard B.: 315 West 23rd Street, Apt. MA, New York, NY 10011-2248.
Danenhauer, Aster: c/o Mark Danenhauer, 4072 Emigration Canyon Road, Salt Lake City, UT 84108-1763.
Danenhauer, Bodhi: c/o Mark Danenhauer, 4072 Emigration Canyon Road, Salt Lake City, UT 84108-1763.
Davis, Samantha L. (Ms.): Dept. of Biologial Sciences, 3640 Colonel Glenn Highway, Dayton, OH 45435-0001.
Davis, Zoe: 40455 Skunk Bay Road NE, Hansville, WA 98340-7723.
Furlong, Jeannie (Ph.D.): 13640 Rolling Hills Lane, Dallas, TX 75240-3721.
Gawrychowksi, Carol A.: 4721 North Warner Terrace, Tucson, AZ 85705-4842.
Hammer, Tobin (Mr.): 1845 Redwood Avenue, Boulder, CO 80304-1120.
Kekkonen, Mari: Finnish Museum of Natural History, P.O. Box 17, University of Helsinki, FI-00014 Helsinki, Helsinki, Finland.
Kelton, Janet (Ms.): 22602 North 20th Place, Phoenix, AZ 85024-7506.
LeFevers, Victoria A. (Ph.D.): 227 Wilder Place, Shreveport, LA 71104-4525.
Maus, Magali (Mrs.): 3019 Weatherton Drive, Mountain Brook, AL 35223-2723.
McCowan, Sherry (Ms.): 2619 South 11th Street, Saint Louis, MO 63118-1811.
Ratcliff, Harlan: 32228 210th Street, Dallas Center, IA 50063-8130.
Rovnyak, Angela M. (Ms.): 1351 Detroit Avenue, Youngstown, OH 44502-2813.
Silveira Prestes, Andersonn (Mr.): 3050 Maile Way, #310, Honolulu, HI 96822-2231.
Smith, Edith (Mrs.): 12876 SW County Road 231, Brooker, FL 32622-3524.

Address Changes (all U.S.A. unless noted otherwise)

Cummins, Heather (Ms.): 2800 Colfax Avenue South, Apt. 203, Minneapolis, MN 55408-2133.
Dreiling, Mark J. (Ph.D.): 9206 Birchcrest Boulevard, Santee, CA 92071-1087.
Fothergill, Kent: 1345 North Old Troy Road, Union City, TN 38261-8061.
Hampton, N.L.: 3550 South 58th West, Idaho Falls, ID 83402-5735.
Hyatt, John A. (Ph.D.): 233 Park Ridge Court, Kingsport, TN 37664-5159.
Jaeger, Christi (Ms.): P.O. Box 488, Mississippi State University, Mississippi State, MS 39762-0488.
Kmentt, Waldemar E.: W9420 State Road 59, Whitewater, WI 53190-3707.
Leffler, Sanford (Dr.): Canterbury Manor, 703 Callahan Drive, Apt. 312, Bremerton, WA 98310-3364.
Pelham, Jonathan P.: 3733 138th Street SW, Lynnwood, WA 98087-5237.
Pratt, Gordon F. (Ph.D.): 45795 Terwilliger Road, Anza, CA 92539-9392.
Redfield, Brande (Ms): 1486 Stonebridge Circle, Apt. A2, Wheaton, IL 60189-7162.

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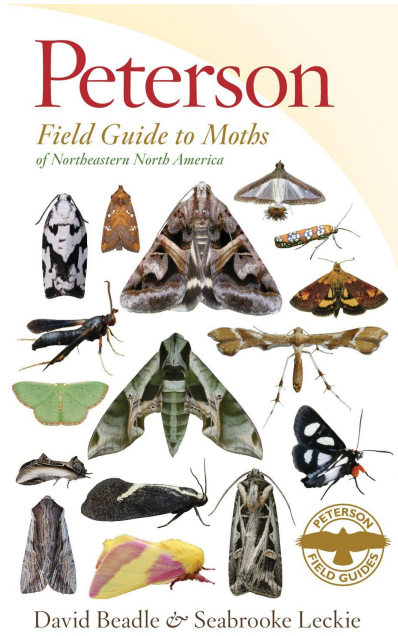
Book Review

PETERSON FIELD GUIDE TO MOTHS OF NORTHEASTERN NORTH AMERICA, by David Beadle and Seabrooke Leckie. 611 pages, 11.5 cm × 18.5 cm, soft laminate cover; ISBN 13: 978-0-547-23848-7; $29.00; Houghton Mifflin Harcourt, Boston; Publication date: April 2012.



This book is not just another field guide; it is a very important contribution to the literature on North American moths, and should be owned by anyone with a serious interest in moths of any zoogeographical region. All of the moths are shown in their living poses, which is how we see them in the field, whether resting on a sheet behind a blacklight, on a tree trunk or flower in broad daylight, or under a porch light on our houses. Not surprisingly, this presentation makes field identification a snap, which is exactly what a good field guide is supposed to do. If you want to know what the pinned and spread specimens look like, you can look them up in other books or on the internet, or collect and prepare them yourself.

The book will serve the beginning lepidopterist with the fastest possible way to become familiar with the "Microlepidoptera." The book includes representatives of 35 "micro" families, with better than decent representation of the Gracillariidae, Gelechiidae, Tortricidae and the pyraloid families. The book will provide the experienced lepidopterist with tools to improve recognition of families and to effectively learn the re-configured taxonomy of the owlets that have all been placed into Noctuidae for over a century. Those working with noctuid systematics have known the molecular phylogeny and new classification for several years, and it is trickling down to popular-level resources like this field guide. Along the same lines, many of the moths we all learned as belonging to the Pyralidae are now classified as Crambidae.

The nomenclature used, including the recent shifts in the Noctuoidea, is remarkably up to date for most families. We agree with treating the saturniids *bicolor* and *bisecta* under the generic name *Syssphinx* instead of *Sphingicampa*, and are glad to see *Samia cynthia* omitted entirely, which we believe to be extinct in North America. There is a single misidentification that we found: the Promiscuous Angle (*Macaria promiscuata*) is misidentified as *Macaria notata* (top of p. 212). There is one recent generic reassignment that was indicated in the common names -- Curve-lined and Straight-lined Argyria -- but was missed in the scientific names – *Vaxi* (instead of *Argyria*) *auratella* and *critica* (pp. 152-155). There are a few misspellings: Depranidae and *Deprana* instead of Drepanidae and *Drepana* (pp. 176-179), *Ilecta* instead of *Ilexia* (*intractata,* p. 224), and *Lithophane petefacta* instead of *patefacta* (p. 464). All of these misspellings are repeated in the index. But these few mistakes do not detract from the fine job the authors have done in producing an extremely useful book.

The authors tiptoe around the issue of collecting, constantly referring to observing, seeing, and photographing moths, but never collecting them. That may be all very politically correct, but the comments on page 9 about refrigerating moths reveal what we already knew: virtually all of the photographs were made using moths that had been *collected*, and hopefully most of those were then killed and added to collections. Doing that would be highly desirable, since it is always (unless dealing with an endangered species) a good idea to preserve and specifically label the *exact* voucher specimens that were used to illustrate a faunal or taxonomic work.

The silhouettes that are intended to show the real or exact size of the moth follow those seen in the Kaufman field guides to insects and butterflies. It is a nice idea in principle, but it is not working, so should be abandoned, because many silhouettes in this book and the Kaufman guides ended up being way too small for larger moths and other insects. The failure probably kicks in at the stage when the book designer or printer reduces everything, because it is doubtful that authors are approving such undersized silhouettes when they review page proofs. Consider the Black Witch (and many other noctuoids), many saturniids, and many sphingids. It would be better to have no silhouette than one that is considerably smaller than the real insect, i.e., missing information is to be preferred over inaccurate information. Another point regarding figures and descriptions is that reniform means kidney-shaped, so it does not make sense to refer to angular markings on the wings of *Callosamia angulifera* as reniform spots. Certainly most such spots on the Noctuoidea, presumably homologous to those on the *Callosamia*, are indeed reniform.

The most troublesome aspect of the book is in the presentation of the range maps. The authors took a novel approach, by documenting presence of each moth in 15 or so ecoregions and including the entire ecoregion in the range if the moth is present anywhere in the ecoregion. We understand the reasoning, but sincerely doubt that hostplant ranges and therefore moth ranges ever precisely follow ecoregion boundaries. As a result, many of the range maps are remarkably similar in terms of where

species are found and where they are not. For instance, at least 37 species of geometrids all appear to be missing from the exact same part of southwestern Minnesota (we'd hate to live in southwestern Minnesota!). In addition, many range maps are noticeably incorrect in the extent of the ranges. We counted no fewer than 35 species, such as *Hydrelia albifera, Scopula cacuminaria, Sphinx lucitiosa, Smerinthus cerisyi, Notodonta scitipennis, Lophocampa caryae*, and *Polia purpurissata*, whose indicated ranges are overrepresentative, extending significantly south-/southwestward from known populations. There were almost as many species (at least 30), such as *Epirrita autumnata, Eilema bicolor, Zale duplicata, Syngrapha rectangula, Apamea sordens*, and *Sutyna privata*, whose ranges were significantly underrepresentative, with the actual ranges extending significantly south-/southwestward.

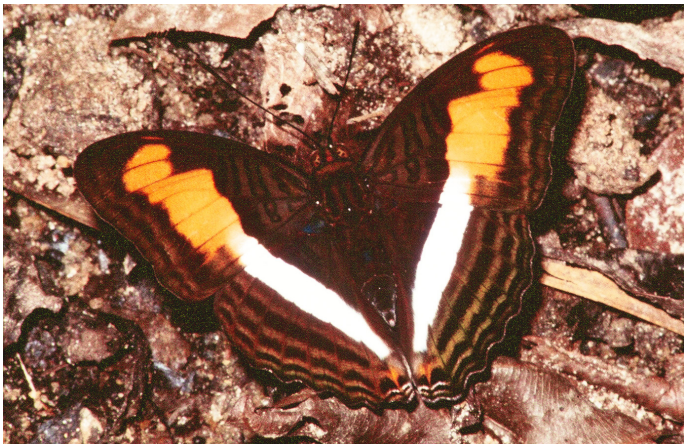
While no single volume can provide a species-level identification for every moth in northeastern North America, this book will enable anyone to assign a "ball-park" generic name to most moths he or she collects (or should we say "most moths he or she observes"?), including the "micro" moths. This comprehensive field guide would be ideal to have on hand in nature centers, state parks, entomology research labs, and the like. We highly recommend this marvelous book because of its many positive aspects and very reasonable price.

JAMES K. ADAMS, *Dept. of Natural Sciences, Dalton State College, 650 College Drive, Dalton, Georgia 30720; jadams@daltonstate.edu* and RICHARD S. PEIGLER, *Dept. of Biology, University of the Incarnate Word, 4301 Broadway, San Antonio, Texas 78209-6397; peigler@uiwtx.edu*

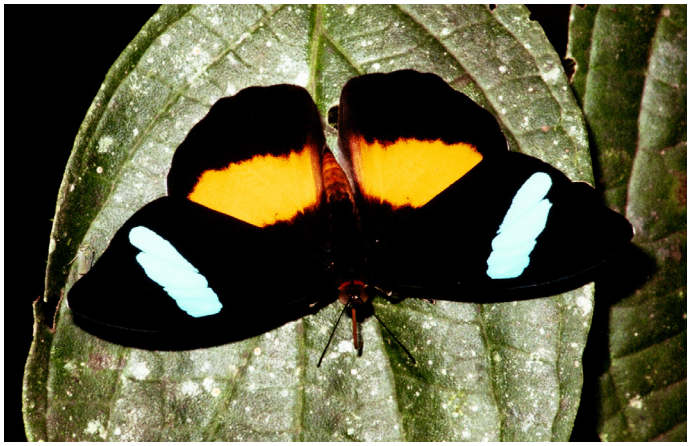
Deja Vu??

No, this really IS the second time you have seen these photos. They first appeared on page 12 of an article by George Krizek in the 2013 Spring Issue of the News (Volume 55, Number 1, pages 10-15). George indicated to me that the other pictures were great but that these particular species appeared too yellow, and that the blue on the Nessaea was washed out. Per his request, I have made a point to emphasize as much as reasonable the orange from the originals, and attempted to preserve the blue in the *Nessaea*. Hopefully these are more "life-like". I certainly enjoyed looking at them again!

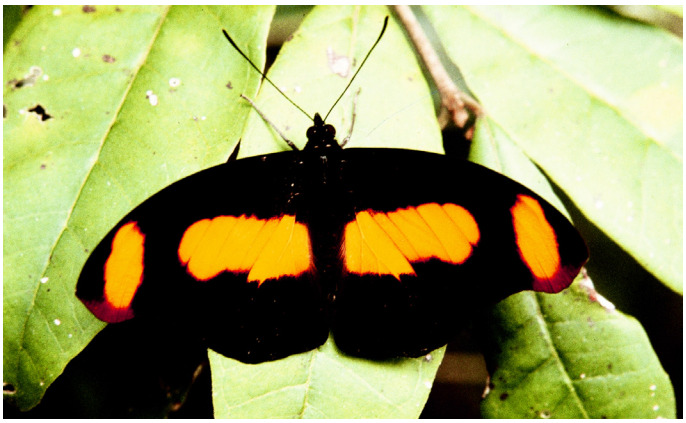
James K. Adams, Editor



Nymphalidae: *Adelpha plesaure*
November 5, 1989, Rondonia, Brazil



Nymphalidae: *Nessaea obrinus*
March 22, 1991, Rondonia, Brazil



Nymphalidae: *Catonephele sabrina*
March 16, 1984, Curitiba, Brazil

Nymphalidae: *Catonephele salacia,* on shrimp
March 21, 1991, Rondonia, Brazil

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Memoirs

Requests for Memoirs of the Society should be sent to Publications Manager, Ken Bliss (address opposite).

Submissions of potential new Memoirs should be sent to:

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Journal of The Lepidopterists' Society

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Send book reviews or new book releases for the **Journal** to:

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Submission Guidelines for the News

Submissions are always welcome! Preference is given to articles written for a non-technical but knowledgable audience, illustrated and succinct (under 1,000 words, but will take larger). Please submit in one of the following formats (in order of preference):

1. Electronically transmitted file and graphics—in some acceptable format—via e-mail.

2. Article (and graphics) on diskette, CD or thumb drive in any of the popular formats/platforms. Indicate what format(s) your disk/article/graphics are in, and call or email if in doubt. Include printed hardcopies of both articles and graphics. The new InDesign software can handle most common wordprocessing software and numerous photo/graphics software. Media will be returned on request.

3. Color and B+W graphics should be good quality photos suitable for scanning or—preferably—electronic files in TIFF or JPEG format at least 1200 x 1500 pixels for interior use, 1800 x 2100 for covers.

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.

Submission Deadlines

Material for Volume 55 must reach the Editor by the following dates:

	Issue	Date Due
55	3 Fall	Aug. 15, 2013
	4 Winter	Nov. 15, 2013
26	1 Spring	Feb. 15, 2014
	2 Summer	May 20, 2014

Reports for Supplement S1, the Season Summary, must reach the respective Zone Coordinator (see most recent Season Summary for your Zone) by Dec. 31. See inside back cover (facing page) for Zone Coordinator information.

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"You see, chewing on the bromeliad in Denver was an early sign of a much more serious problem... Agathymus envy?" President Andy Warren and a large Agave, Marineland, Florida, Thanksgiving 2012. (Photo by Sally J. Warren; see "Chasing butterflies in the land of Oz" by Mark Walker, Lep Soc News Vol. 55, Number 1, page 22)

Epiphile epimenes *Fountainea centaurus* *Hypanartia lindigii*

See the associated article on Colombia on page 76; the locality information for these three butterflies is given in the text, and the uppersides of these species are illustrated in the article. (Photos by Kim Garwood).