

# NEWS

OF THE

# LEPIDOPTERISTS' SOCIETY



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***Erroneous types of *Polyommatus thoe****

***Membership Updates, Marketplace, Book Review, Metamorphosis, Announcements ...***

***... and more!***



# NEWS OF THE LEPIDOPTERISTS' SOCIETY

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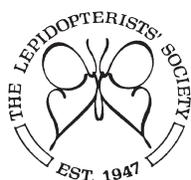
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## Front Cover:

*Hemileuca burnsi* (Saturniidae, Hemileucinae), from near Leeds, Washington Co., Utah, Sept. 1997. (Photo by James K. Adams)

# Trapping the Spanish Moon Moth and a visit to L'Harmas de Fabre

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Josep Ylla published in 1997 a comprehensive and definitive thesis on the natural history of *Graellsia isabellae*\*. Ylla, who lives in Gurb, near Vic north of Barcelona, works as a micro-biologist in the food processing industry, but maintains a culture of this exquisite saturniid and contributes to various research projects on ecological and conservation-related topics regarding the moth. I had long hoped to someday observe the species in the wild, and was grateful, following an introduction via mutual friend Ric Peigler, when my wife Pat and I received an invitation to visit his home. Josep promised to take me on a trip to the moth's habitat where we would use reared females as lures for wild males. This proved to be a very memorable adventure, but first some background on the life history of *isabellae*.



Figure 1. Josep Ylla in his study with a drawer of his thesis subject, *Graellsia isabellae*.

The range of the moth is restricted to montane pine forests in central Spain and the Pyrenees, with intrusions into France. This distribution places it within key habitats protected by the 'Natura 2000' program of the European Community. Its official status is "protected" but "insufficiently documented". Privately, lepidopterists who have worked with the moth admit that it is common and widespread in appropriate habitat. Because of its

iconic beauty *isabellae* has served as a logo and a funding magnet for ecological research in both Spain and France. It is not at this time truly threatened, given its widespread distribution, yet its beauty and popularity can be invoked whenever specific forests are under threat of development, and in this sense serves a similar conservation role to our North American Karner blue (*Lycaeides mellisa samuelis*) and Diana fritillary (*Speyeria diana*).

The distribution and habitat preference of the moth suggests that it survived the Ice Age in a refugium in boreal pine forests in southern Spain. Such a refugium is hypothesized (Hewitt 1996, 2000, 2001) for a species of alpine grasshopper (*Chorthippus*), which hybridizes in the high Pyrenees with a close relative, in turn thought to have expanded post-Pleistocene from a separate refugium in the eastern Mediterranean. The adult moth generally resembles *Actias luna*, but differs in many wing pattern traits. The two species are quite different ecologically, and in the saturniid phylogeny from the Regier and Mitter labs (Regier et al. 2002) the species comes out in a basal position relative to *Actias* and related genera. Another cladistic analysis, incorporating morphology and behavior, as well as molecules, confirmed these relationships (Ylla et al. 2005). *Graellsia* may in fact be evolutionarily old, and represent part of a once more diverse, pre-Pleistocene European saturniid fauna.

At lower elevations (700m – 800m) *isabellae* is found in mixed pine-deciduous forests; at its upper altitude limits (1700m – 1800m) it is found in conifer forests. Near Barcelona the climate is a modified Mediterranean climate of early and late summer rain, with the truly dry period confined to June. The larvae are specialists on *Pinus sylvestris*, but are found also on *P. nigra* and *P. laricio* in certain areas. Josep told me he has often reared them in the lab on the widespread *P. uncinata*, yet *isabellae* never uses this species as a host in nature. In captivity they only reluctantly accept other pine species, but apparently can be reared on sweetgum (Liquidambar) ([http://tpittaway.tripod.com/silk/g\\_isa.htm](http://tpittaway.tripod.com/silk/g_isa.htm)). Unlike *luna*, *isabellae* is entirely univoltine.

Both larvae and adults are impressively cryptic in pine foliage. At rest in a pine tree the wing pattern very effectively camouflages the moth, even as a mating pair (Fig. 2). The ground color matches that of pine needles, while the darkened wing veins break up the outline of the moth and create the impression of clusters of needles.

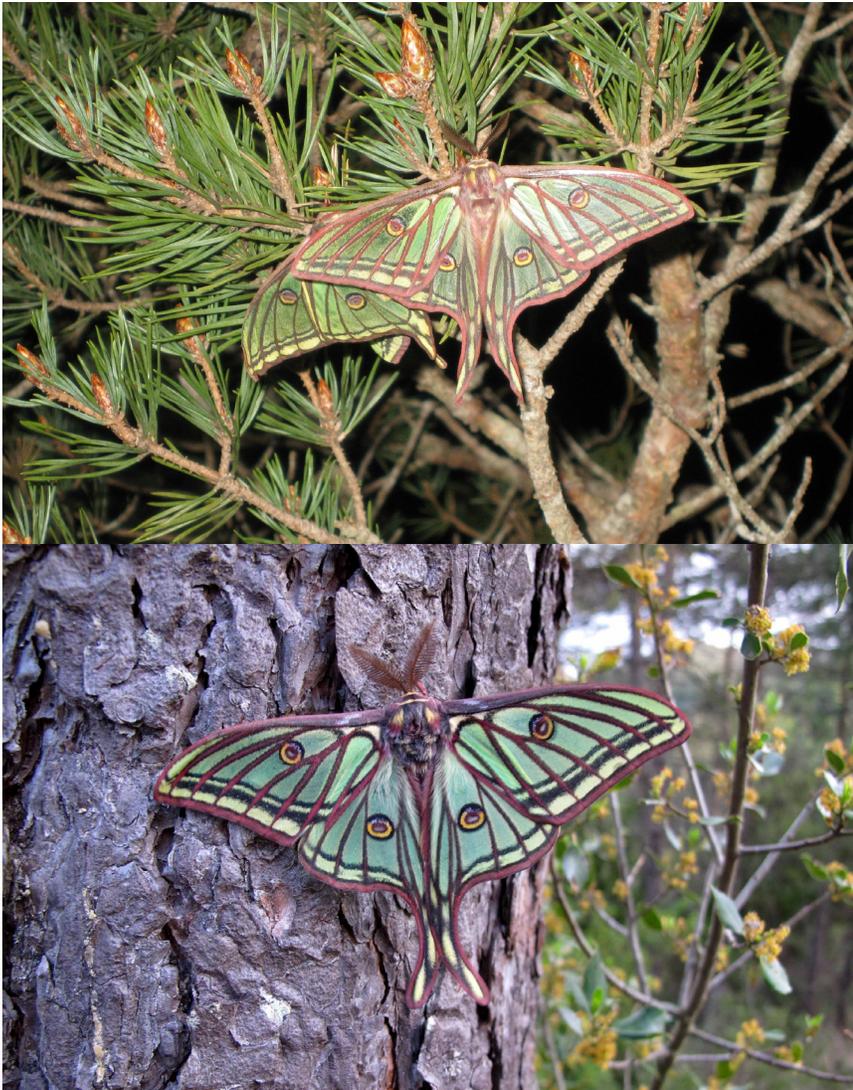


Figure 2. (Top) On its pine host *G. isabellae* is very cryptic; Figure 3. (Bottom) A newly emerged male, strikingly beautiful against a solid background.

Against a plain background *isabellae* is strikingly beautiful (Fig. 3), although the yellow trim is best appreciated in a newly eclosed moth.

After a little more than an hour's train trip from Barcelona, Josep picked us up in Vic, a prosperous Catalan town – even in these difficult times – with an industrial and commercial section surrounding a central area of ancient origin. Adjacent to a *Plaça Major* is a cathedral built in 1040 AD, whose patchwork architecture bears evidence of past eras from Romanesque to Gothic to Neoclassical, with extensive repair (in 1936) after damage suffered in the Spanish civil war. Renaissance era frescos decorate several buildings.

During the fifteen minute drive to his home we could see mountain tops and ridges in the distance. His family lives in a rural setting where the small community of Gurb has been developed at the expense of oak forest and

agricultural land. Josep tells me that *isabellae* used to fly very nearby, but no more thanks to forest fragmentation. After a quick tour of the house, dropping off bags, I was escorted to his small lab and rearing shed, complete with a weather station inside the appropriate white, slatted enclosure. We walked around behind the shed and there, inside plastic buckets, clinging to a mesh lining, were several newly emerged *isabellae*. It was May 12, normally the peak of the *isabellae* flight. Josep told me the season was early this spring, but he knew a deep glen in the forest where they should still come into the reared females now before us. Morgan and Jack may have had their “bucket list”, but I just checked one item off mine!

Just after sunset Josep's friend Ramon Marcià arrived with generator, mercury vapor light, and other moth-guy paraphernalia. These long-time associates have recently published a book on the arctiids of the Iberian peninsula (Ylla & Marcià 2010), an impressive guide with a color image of the adult and mature larva, an illustration of typical habitat, and range map for nearly all species. In a few days they planned to go on a long collecting trip to add to their documentation of the moths of Spain.

This evening the collecting site is only about a twenty minute drive. We drove off the paved road onto a dirt track that quickly led into a deep ravine in a hilly, mixed pine and deciduous forest, rich in species, many familiar: maple, oak, beech, boxwood (*Buxus*), crab apple, and wild cherry (the same cherry we see in cultivation in the US, and a host for the local *Saturnia pyri*). Scattered among them was the widespread legume “Scotch Broom” (*Cytisus scoparius*), blooming in bright yellow. This is a pest shrub in California but only in modest numbers here in its native habitat (Fig. 4).

After stopping we set up the MV light and tied the pheromone traps in low branches of pines. Ramon's slick MV set-up included an upright frame of metal poles with threaded fittings, and a ground sheet, more sophisticated (but not as compact and portable) than my rig back home of clothesline, clothespins, and tattered bed sheet.

Josep designed a trap similar to the modified Graham trap once used for Gypsy Moth research (Holbrook et al. 1960). The trap, suspended horizontally with funnels at each end, only protects a mating pair, and is not useful for collecting a sample by confining the calling female in a small cage. A few extra reared females, which had been



Figure 4. Habitat near Vic, Spain, 700 m, mixed deciduous and Scott's pine forest.

kept refrigerated for a few days, were placed un-tethered in the foliage of low pine branches. I noticed that the female has a larger body relative to wing size as compared to *luna*. We had to wait until about 1030PM before we could expect the first male to arrive. These moths differ from *luna* not only in the pre-midnight flight time, but also because the females typically end copulation and begin ovipositing that same night, in contrast to *luna* and most nocturnal saturniids.



Figure 5. Josep Ylla and Ramon Macià check on a calling female set out free in host pine.

Josep, Ramon, and I divided our time between collecting at the MV light and patrolling along the trap line (Fig. 5).

Early in the night the light catch wasn't impressive but a bright lemon-yellow arctiid with tightly folded wings got my attention (*Eilema sororcula*) as well as a drepanid called "the clown" (*pallaso* in Catalan) (*Thyatira batis*). A large speckled notodontid appeared at first to be a sphingid resembling *Ceratonia*. Josep told me *Saturnia pyri* is flying but we probably would be leaving before its late night flight period. About 1000PM a male *isabellae* arrived in a fast flutter and lands on the sheet. It was a reared moth that Josep numbered, and he returned it here in the region from which the lab stock originated. I was struck how much more vivid the colors are in a live, active moth; the yellow was much more prominent in this fellow compared to pinned specimens. Surprisingly, all four that we released at dusk eventually came to the light.

We returned to the trap line and Josep inspected his females. He showed me that a "calling" female *isabellae* holds its wings in an unusual (for a saturniid) 45 degree angle (Fig. 6). *Luna* usually holds its wing flat.



Figure 6. Calling female with typical posture. Relative to wing size, *G. isabellae* has a larger body (and ova) than does *A. luna*. Note protruding pheromone gland. Females have much abbreviated tails compared to males.

We could see that some of the older females weren't calling, so concentrated our attention on those with the characteristic posture. Despite our combined efforts in monitoring the sheet and the traps, through some diabolical law of nature the wild males timed their arrivals exactly during our short absence, although I photographed one just after it reached the female (Fig. 7). It was a couple of days old and not as vivid in color, and a bit ragged, but also slightly larger than most of the reared moths. Josep ascribed this to crowding in the sleeve and to either interference or competition for foliage among the larvae. By 1100 or so we had three mated females and carefully took down the traps, packed up the MV light and returned home.

At the end of the evening, after sharing the experience seeing *isabellae* flying in its natural surroundings, we grown men laughed at our boyish enthusiasm and marveled



Figure 7. Mating pair inside trap (funnels removed); male arrived about 10:45 PM.

at the large portion of our lives we have each devoted to a fascination with Lepidoptera, such as these lovely Spanish Moon Moths.

\* Note: The Spanish literature defends, on historical grounds, a priority for the spelling of the species name as *isabelae*. With apologies to those who differ, I employ what appears to be the accepted and most prevalent usage.

### A visit to L'Harmas, the Estate of Jean-Henri Fabre

Other than the time with Josep and his family, my wife Pat expertly planned the remainder of our vacation and acted as navigator while I drove. After a visit to Bilbao and a drive across the Pyrenees we eventually came to a place similar to California's Napa Valley. "This is very lovely, where are we?" I asked. "It's called 'France', dear, and this region is called 'Provence'." "Oh". I realized then that we were not too far from the home of Jean-Henri Fabre (1823-1915), having read Ric Peigler's article in the News (2009, 51:11-13) on his visit there. I offer the following remarks as a complement to Ric's fine piece.

Nearly every Lepidopterist has read books or essays by Jean-Henri Fabre (e.g. Teale 1949); for those exceptions there is still time. He was among the first modern natural historians, making the transition from Victorian Era romanticism, which often anthropomorphized nature, to accurate, detailed descriptions of form and behavior. Fabre also performed experiments in insect behavior, for example by removing or relocating small but important landmarks near a wasp's burrow and observing the limitations of the creature in learning new sign posts. His essay on The Great Peacock Moth has proven irresistible, as a source for

poignant quotes, to writers (including me) on the subject of moth pheromones:

"---- just as the household is going to bed, there is a great stir in the room next to mine." Little Paul, half-undressed, is rushing about, jumping and stamping, knocking the chairs over like a mad thing. - - - "Come quick!" he screams. "Come and see these Moths, big as birds! The room is full of them!"

From: Teale, 1949, p. 75ff.

Fabre endured an impoverished childhood, but nevertheless obtained an education and drew on his love of nature to support himself, first as a school teacher, and later also as an author of popular books on science. His teaching philosophy of open inquiry, questioning of authority, and the admission of girls into science class eventually cost him his job. At age 47, with a wife and five small children, he was in a desperate situation when his friend John Stuart Mill, the prominent English philosopher, gave him a loan which eventually made possible the purchase of land in Sérignan du Comtat, near Orange in Provence.



Figure 8. Fabre lived to age 93, a testament to the healthfulness of entomology and Provençal quisine.

Over the years Fabre supported himself through his popular science publications, but also began writing volumes of his *Souvenirs Entomologiques*, a life-long project based on his detailed and patient observations and experiments with local insects. A bit of a recluse, he depended on published works for taxonomic identification, yet didn't correspond or interact socially with professional entomologists.

Finally, at age 84, with the release of the 10<sup>th</sup> volume, his *Souvenirs* were recognized for their magisterial contribution to natural history and Fabre became famous as the "insect's Homer", receiving government support, recognition from academia, and even a statue in his honor in the town square. His estate in Provence, which he named *L' Harmas* (a local term for un-tillable land), is now protected and preserved as an historical site, with an expansive garden and central fountain and pool, and an adjacent modern museum with classrooms to teach new generations about entomology and natural history.

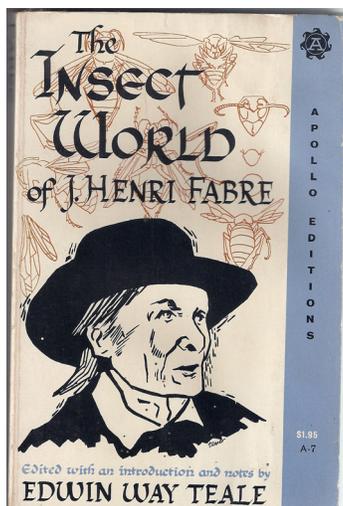


Figure 9. The popular Teale (1949) translation of Fabre's essays.



Figure 10. Poster sold in store on site.



Figure 11. The moth is *Saturnia pyri*, the Great Peacock Moth



Figure 12. This is the 'wire bell jar' Fabre mentions in his essay on *S. pyri*.



Figure 13. A skilled painter, with broad interests in biology, Fabre was fascinated by mushrooms. Note his original paint set.



Figure 14. Fabre in his upstairs lab, lost in contemplation at his favorite, crude little desk, now on display. The screen dome cage is the same as shown in Fig. 12.



Figure 15. A lugubrious Collins next to his boyhood hero.

*Continued on p. 89*

# An observation of *Polygonia interrogationis* (Nymphalidae) from the Dry Tortugas of Florida

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Question marks, *Polygonia interrogationis* (Fabricius) (Nymphalidae), are well-distributed throughout a large portion of the United States southward to Mexico. In Florida, the species is widespread in the northern and central parts of the state. However, the number of documented *P. interrogationis* occurrences from extreme southern Florida is limited. Kimball (1965) noted a 1924 observation from Ft. Lauderdale. There is one report from near Miami in 2000 by David Fine. More recently, Cech and Tudor (2005) referred to at least one occurrence of *P. interrogationis* from the northern Florida Keys. In addition, there are two reports from Big Pine Key in 2004 and 2008 by Paula Cannon. Smith et al. (1994) and Hernandez (2004) discussed old reports from Cuba.

On 23 April 2012 LM observed and photographed a *P. interrogationis* on Garden Key in the Dry Tortugas, Monroe County, Florida. To our knowledge this represents the first report of this species from the Dry Tortugas. *Polygonia interrogationis* uses a variety of larval hostplants throughout its range, none of which occur within the Dry Tortugas.

Although *P. interrogationis* is a highly migratory species, with strong seasonal flights along the east coast (Cech and Tudor 2005), the handful of southern Florida and Cuban reports appear to represent stray or boat-assisted individuals (Smith et al. 1994, Hernandez 2004). A number of strong wind events occurred throughout the Gulf of Mexico in the days prior to LM's observation, which may have aided this individual *P. interrogationis* in reaching Garden Key.

## Acknowledgement

The authors thank John Calhoun for helping us to locate and identify historical records for *P. interrogationis* in southern Florida and for reviewing this note.

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Figures 1 & 2. *Polygonia interrogationis*, Garden Key, Dry Tortugas, Florida, 23 April 2012 (Photo by L. Manfredi).



Figure 1.



Figure 2.

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# *Zale perculata* Franclemont (Erebidae) (the Okefenokee Zale Moth) in South Carolina

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In early May of 2011, while doing fieldwork in northern Charleston County, South Carolina, I happened upon a beautiful, brightly colored caterpillar crawling on the vines of climbing fetterbush [*Pieris phillyreifolia* (Hooker) deCandolle(Ericaceae)]. Having never seen this caterpillar, I collected several images (Figure 1). After returning to my office and reviewing my copy of "Caterpillars of Eastern North America" (Wagner, 2005), I saw Wagner's image on page 351 and tentatively concluded that I had found *Zale perculata* on its food plant. After sending the image out to Mr. Jeff Lepore (Lancaster, PA), Dr. David Wagner (University of Connecticut), and Dr. John Snyder (Furman University), my identification was confirmed, and the consensus was that my find was the first record for this species in South Carolina.

The caterpillar was found on climbing fetterbush in a stand of pond cypress (*Taxodium ascendens* Brongniart) and swamp tupelo (*Nyssa biflora* Walter) approximately 39 miles northeast of Charleston, South Carolina on lands that are part of the Francis Marion National Forest. This population of climbing fetterbush was discovered by R. K. Godfrey (Godfrey, 1969) and appears to be the northeastern limit of the species' range--the plant is known south to Florida and west to Mississippi [Tucker (2009, p. 498) in *Flora of North America*]. The only other South Carolina record for the climbing fetterbush is from Colleton County, approximately 90 miles southwest of the Charleston County record (Godfrey, 1969).

The U. S. Department of Interior, Fish and Wildlife Service, proposed the Okefenokee zale as a candidate species for listing in 1989, 1991, and again in 1994 (U. S. Department of the Interior, 1989; 1991; 1994). In 1994, after another review of known data, the Fish and Wildlife Service rated the species as a Category 2 candidate. At that time the Fish and Wildlife Service concluded "...to list [these species] as endangered or threatened is possibly appropriate, but...persuasive data on biological vulnerability and threat are not currently available...."

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Figure 1. Okefenokee zale moth, Charleston County, South Carolina.



# Erroneous types of *Polyommatus thoe* Guérin-Méneville (Lycaenidae) from the Boisduval Collection

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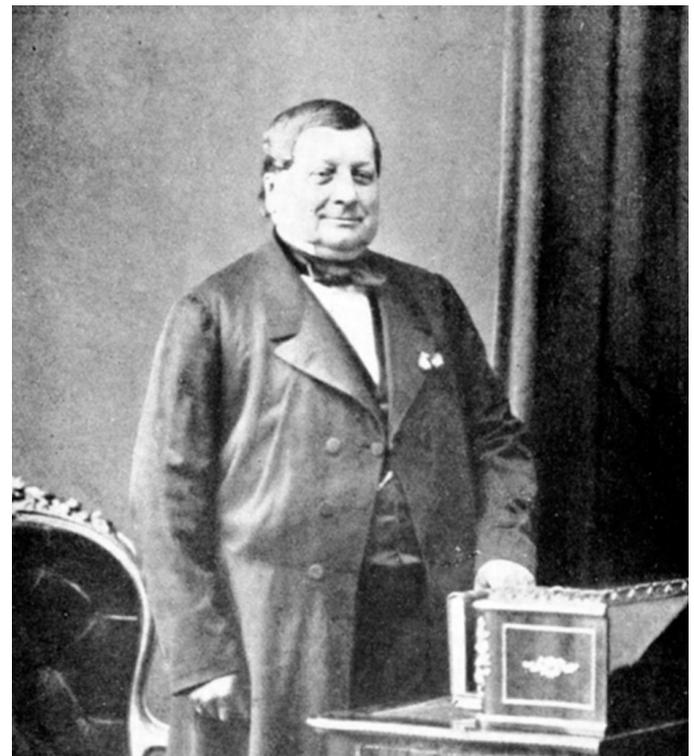
In 1832, the French entomologist Félix É. Guérin-Méneville (1799-1874) (then known as F. É. Guérin) (Fig. 1) introduced the nominal taxon *Polyommatus thoe* through the publication of dorsal and ventral figures of the female butterfly (as well as a magnified lateral view of the head and antenna). This species is now recognized as the bronze copper, *Lycaena hyllus* (Cramer) (Calhoun 2010). Although most surviving copies of Guérin-Méneville (1829-1844) contain uncolored (plain) plates, I was fortunate to obtain images of Plate 81 from a very rare colored copy. The figures of *P. thoe* (Fig. 3) were likely derived from a single holotype specimen, which may be lost or unrecognizable. Guérin-Méneville did not include accompanying text, thus his figures represent a description by indication; a named illustration with no written review of taxonomic characters. Shortly after Guérin-Méneville published his illustrations of *P. thoe*, Gray (1832) issued mirror images of the same figures (they were directly traced for a new engraving, resulting in



Figure 1. Felix E. Guérin-Méneville (from Evenhuis 2009).

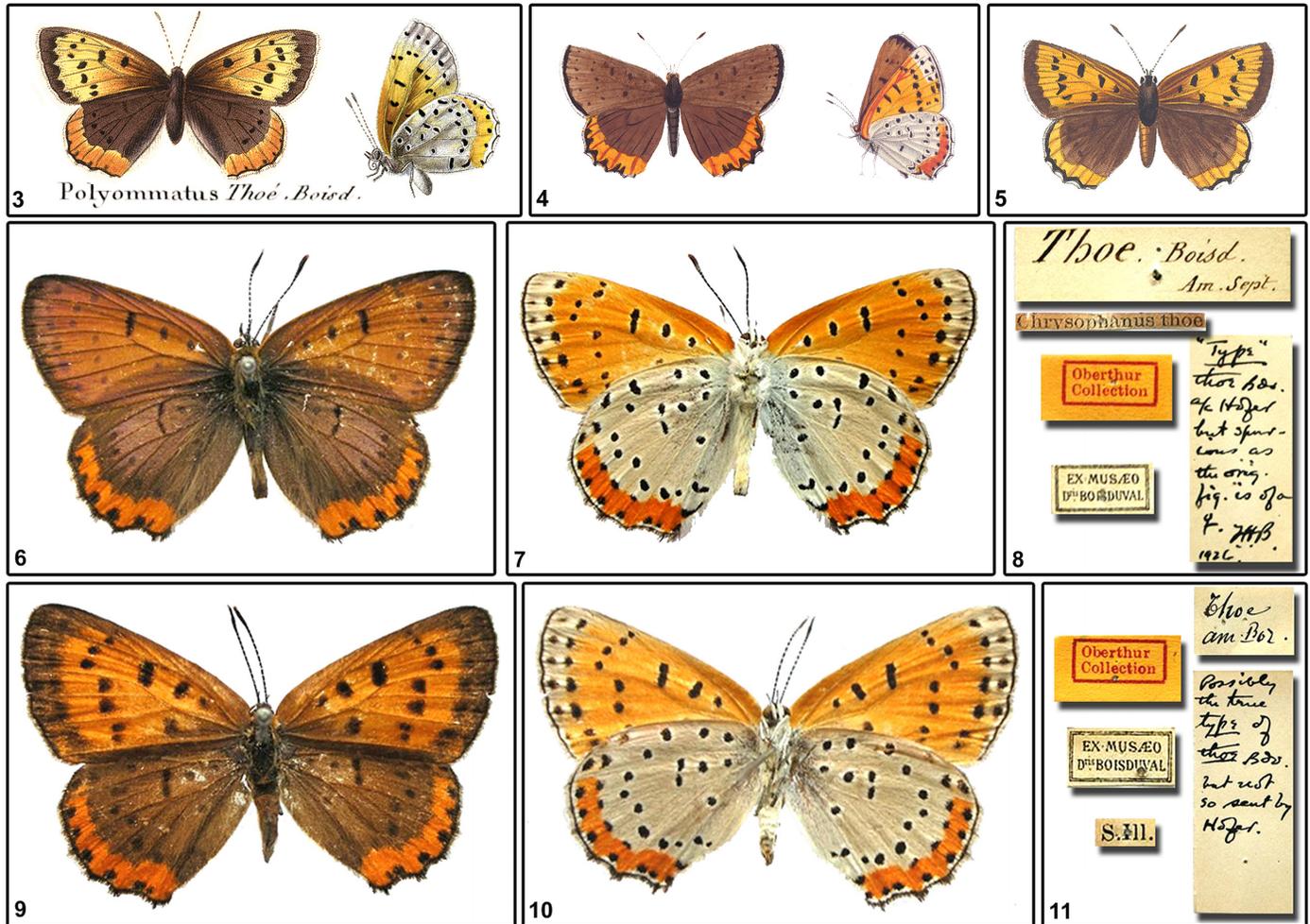
On Plate 81, Guérin-Méneville ([1832]) credited the name *P. thoe* to the French entomologist Jean B. A. D. de Boisduval (1799-1879) (Figs. 2, 3). Guérin-Méneville (1829-1844) illustrated several taxa of Lepidoptera using names that he copied from labels in Boisduval's collection (Cowan 1971). Three years after *P. thoe* was first figured, Boisduval & Le Conte ([1835]) illustrated the species and gave its range as "quelques parties centrales des Etats-Unis" [some central parts of the United States]. When Guérin-Méneville finally got around to publishing text for his plates in 1844, he credited the name *P. thoe* to Boisduval & Le Conte ([1835]). At the same time, he attributed the species to "l'Amérique du nord" [North America]. It is obvious that Guérin-Méneville did not consider himself to be the author of *P. thoe*, thus subsequent publications attributed

the name to Boisduval, Boisduval & Le Conte ([1835]), or even Gray (1832). However, modern rules of nomenclature dictate that Guérin-Méneville be recognized as the true author of *P. thoe* (Brown & Field 1970; ICZN 1999).



Jean B. A. D. de Boisduval (from Oberthür 1914).

Boisduval possessed a large number of North American butterflies which he obtained from many sources. The figures of *P. thoe* in Boisduval & Le Conte ([1835]) (Figs. 4, 5) were probably derived from specimens in Boisduval's collection. I previously suggested that the missing type of *P. thoe*, as figured by Guérin-Méneville ([1832]), also came from Boisduval (Calhoun 2010). Although direct comparisons are difficult, the illustrated females in these publications do not appear to portray the same specimen. This is supported by the original drawing for the figure in Boisduval & Le Conte ([1835]), rendered by Charles Émile Blanchard (see Maier & Scott 2010). It is certainly possible that the figured type of *P. thoe* originated from the personal collection of Guérin-Méneville, but it has not been found. It may be preserved in the Muséum National



3) Figures of *P. thoe* (= *L. hyllus*) from Guérin-Ménéville ([1832]), including the legend for the figures (bottom). 4) Male *P. thoe* from Boisduval & Le Conte ([1835]). 5) Female *P. thoe* from Boisduval & Le Conte ([1835]). 6) Male *L. hyllus* (dorsal) from Boisduval's collection (USNM). 7) Ventral aspect of the male specimen. 8) Labels from the male specimen. 9) Female (dorsal) *L. hyllus* from Boisduval's collection (USNM). 10) Ventral aspect of the female specimen. 11) Labels from the female specimen.

d'Histoire Naturelle in Paris, where some of his other Lepidoptera specimens are deposited. My search for this specimen continues.

I recently became aware of two specimens (male and female) of *L. hyllus*, from the collection of Boisduval, which are deposited in the National Museum of Natural History (Smithsonian Institution, USNM) (Figs. 6-11). Both specimens include labels that indicate their prior ownership by Boisduval, as well as other labels suggesting that one may be the "type" of *P. thoe*. Boisduval's collection was acquired by the French entomologist Charles Oberthür. In turn, most of Oberthür's North American butterflies (except the Hesperioidea) were purchased by the American lepidopterist William Barnes, who received the specimens in 1925. Upon Barnes' death in 1930, his collection was purchased by the United States government and deposited in USNM the following year (McClain et al. 2002; Calhoun 2004). Despite labels that imply type status, neither of Boisduval's specimens of *L. hyllus* in USNM are acceptable syntypes of *P. thoe*.

**The male "type" specimen.** The male *L. hyllus* from Boisduval's collection (Figs. 6-8) bears a large determination label, which Boisduval presumably used to identify his series of specimens (the associated female does not possess such a label). This is possibly that label on which Guérin-Ménéville based the name *P. thoe*, though it looks more recent and is not written in Boisduval's hand. Another large handwritten label reads, "Type" *thoe* Bdv. a/c Hofer but spurious as the orig. fig. is of a ♀. FHB. 1926 ["Type" of *thoe* Boisduval according to Carl Höfer, but spurious as the original figure is of a female. Foster H. Benjamin. 1926] (Fig. 8). Foster H. Benjamin was serving as the curator of Barnes' collection when these specimens were acquired from Oberthür. Carl Höfer arranged for the sale of Oberthür's collection after Oberthür's death in 1924 (Riley 1927). During this process, Höfer identified specimens as "types", probably based on the previous work of Oberthür and James H. McDunnough, who served as Barnes' curator before F. H. Benjamin. In 1913, Oberthür and McDunnough apparently selected specimens to serve as types of taxa that were described by Boisduval (Calhoun

2004). Boisduval did not identify them as such and virtually all lack evidence that they represent holotypes or syntypes. Many were likely collected long after those taxa were described. In some cases, the actual types probably were exchanged or discarded by Boisduval after he acquired better specimens (a common practice at that time). Höfer considered the male specimen to be the type of *P. thoe* because 1) he regarded Boisduval to be the author of this name and 2) male specimens, when available, were customarily recognized as primary types.

As indicated by the label prepared by F. H. Benjamin, the male specimen at USNM (Figs. 4, 5) is not consistent with the gender of the specimen figured by Guérin-Ménéville (Fig. 3). In addition, it bears a small printed identification label which reads, "Chrysophanus thoe" (Fig. 7). D'Urban (1860) was the first to apply the genus *Chrysophanus* to North American taxa, including *thoe*. Following the usage of *Chrysophanus* by Edwards (1871), and the designation by Scudder (1872) of *hyllus* (= *thoe*) as the type of this genus, *Chrysophanus* was generally associated with *thoe* until Barnes & McDunnough (1917) used the genus *Heodes* Dalman. The "Chrysophanus thoe" label was possibly affixed to the specimen when it came to Boisduval. If so, he most likely received this specimen between 1860 and his death in 1879.

**The female "type" specimen.** The female from Boisduval's collection bears a label from F. H. Benjamin which reads "*Possibly the true type of thoe* Bdv. but not so sent by Hofer." Based on the idea that Boisduval was the author of the taxon, Benjamin believed that this female was the more likely type of *P. thoe*. The figure of the female *P. thoe* in Guérin-Ménéville ([1835]) was rather poor. Nonetheless, its overall appearance (shape and size of markings, width of borders etc.) is inconsistent with the specimen in USNM (Figs. 3, 9, 10). Nor does the USNM female appear to be the same as that figured by Boisduval & Le Conte ([1835]) (Fig. 5). Available evidence can help to identify the source of this specimen. The most significant clue is a small printed label that reads, "S.III" [southern Illinois] (Fig. 11).

Boisduval (in Boisduval & Le Conte ([1835])) attributed *P. thoe* to "some central parts of the United States." This range surely included the specimen consulted by his fellow French entomologist, Guérin-Ménéville. Although Illinois is now situated in the east-central United States, in 1835 it was located at the far western edge of the country, which extended southward to Louisiana. It is possible that Boisduval considered the territorial lands of the Louisiana Purchase to be part of the United States, which would place Illinois in a more central position. However, Boisduval was probably referring to the mid-Atlantic coast, between New York and Virginia. *Lycaena hyllus* is now known to occur within much of this region.

As noted by Irwin (1972) and Irwin & Downey (1973), the earliest butterfly specimens definitely known to have been collected in Illinois were listed by Doubleday (1844, 1847).

The English entomologist Edward Doubleday visited Illinois in 1837 (Doubleday 1838), but this was two years after Guérin-Ménéville published his figures of *P. thoe*. Most of Doubleday's surviving specimens are preserved in The Natural History Museum, London (BMNH), where no *L. hyllus* from southern Illinois are currently deposited.

French (1878) was the first to list *L. hyllus* from Illinois. However, the first specimens from Illinois were possibly collected by George M. Dodge (1846-1912), who lived near the town of Ohio in Bureau County. He wrote in 1870, "I send you also *Chrysophanus Thoe*, which is said to be rare, I believe, but is not so here" (letter to T. L. Mead, 17 Dec. 1870, McGuire Center for Lepidoptera and Biodiversity; MGCL). I recently researched the entomological contributions of the Dodge family (Calhoun *in prep*). They arrived in Illinois in 1854 and George began to seriously collect butterflies in 1870. Although I found no evidence that he used printed locality labels, the lack of such a label does not preclude the possibility that a specimen was collected by Dodge. During the 19th century, entomologists freely exchanged specimens in order to obtain new species for their collections. Labels were often replaced during this process, making it very difficult to trace the origin of the specimens. George M. Dodge, and his younger brother, Edgar A. Dodge, exchanged countless Lepidoptera specimens with other entomologists. In addition, many people of that era considered all areas lying south of Chicago to be "southern Illinois". This would apply even to Bureau County where the Dodges resided.

Early collectors who actually lived in southern Illinois were Cyrus Thomas (1825-1910) and Jacob R. Muhleman (1825-?). Thomas lived in Jackson County and became interested in entomology in 1856. He specialized in the study of Orthoptera and served as the third State Entomologist of Illinois (Goding 1888). Muhleman arrived from Switzerland in 1848, first settling in Alton, Madison County. He later relocated to the vicinity of Bunker Hill, Macoupin County (Fitch 1864), where he studied insects as early as the 1860s (e.g. Muhleman 1868). Both Thomas and Muhleman often provided specimens to other entomologists. Another notable entomologist of southern Illinois was George H. French (1841-1934), who arrived in Irvington, Washington County, in 1868 and relocated to Carbondale, Jackson County in 1877 to work with Cyrus Thomas (Karlovic 1935). Although French (1878) was the first to list *L. hyllus* from Illinois, his period of entomological activity began during the late 1870s, making him a less likely candidate as the collector of the female *L. hyllus* at USNM.

Focusing exclusively on the "S.III" label, its format resembles labels thought to have been used by Benjamin D. Walsh (1808-1869) and Andreas (Andrew) Bolter (1820-1900), both of whom exchanged insects with their correspondents. Walsh was born in England and came to America in 1838. He operated a farm in Henry County, Illinois until 1851, when he moved to Rock Island, Illinois to work in the lumber business. He began his entomological

studies in 1860 and served as the first State Entomologist of Illinois from 1867-1869 (Mills 1958). A number of insect taxa, including butterflies, were named in Walsh's honor. The bulk of his insect collection, containing upwards of 30,000 specimens, was purchased by the Chicago Academy of Sciences, whose building was destroyed in the Chicago fire of 1871. Walsh's synoptic collection, which was kept at Springfield, survived and is now deposited in the Illinois Natural History Survey (Methven 1994, Sheppard 2004). Andreas Bolter was a German-born businessman who arrived in Chicago in 1848 and lived there for over fifty years (Anonymous 1900a; Hofmeister 1976). Less famous than Walsh, Bolter was a passionate collector of insects who traveled to many parts of the United States in search of specimens. As with Walsh, several insect taxa were named in Bolter's honor. At the time of Bolter's death, his collection was considered to be the largest private collection in existence, containing as many as 120,000 specimens (Anonymous 1900b; Anonymous 1900c; Blair 1915; Rapp 1945). His collection was donated to the University of Illinois and it is now preserved at the Illinois Natural History Survey (Ross 1958).

Regardless of their true origin, the male and female *L. hyllus* from Boisduval's collection were undoubtedly collected long after the description of *P. thoe* and possibly passed through several hands before reaching Boisduval. They should not be considered as syntypes of *P. thoe*, nor are they suitable for neotype designation should this become necessary.

## Acknowledgments

Thanks are extended to Nick Grishin, whose photographs of types in the USNM alerted me to the existence of these specimens. Robert K. Robbins and Brian Harris (Dept. of Entomology, USNM) kindly arranged for photography and provided information. Dmitry A. Dmitriev (Illinois Natural History Survey, Urbana, Illinois) compared labels and searched for specimens. Blanca Huertas (The Natural History Museum, London) searched for historical specimens from Illinois. Eileen Mathias (formerly of the Ewell Sale Stewart Library) provided images and granted permission for their reproduction. Jacqueline Y. Miller and Andrew D. Warren permitted access to the archives of MGCL. Wenxian Zhang (Archives and Special Collections, Rollins College, Winter Park, Florida) provided copies of numerous letters from the T. L. Mead correspondence. Finally, James R. Wiker offered literature and shared his thoughts about Illinois lepidopterists.

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*Continued on p. 89*

# Tidbits from the 2012 joint meeting of the Lepidopterists' Society and Societas Europaea Lepidopterologica, Denver, CO

## Awards

During the Executive Council meeting preceding the regular meeting, it was decided that, starting with the current meeting (in Denver), both first and second place awards could be awarded to students in both the poster (Alexander B. Klots award) and presentation (Harry K. Clench award) categories, and each second place award would receive a cash award that is half of that of the first place award (that would be \$350.00 first place and \$175.00 second place for the Klots award, and \$500.00 first place and \$250.00 second place for the Clench award). In addition, it was also decided that more than one first and/or second place award could be given in the case of a tie. Needless to say, this is good news for the student competitors.

At this year's meeting, the winners of the student awards were as follows. For the Clench awards, first place went to Heather Cummins for her presentation "A review of *Euchaetes* Harris (Erebidae: Arctiinae)" and to Christi Jaeger for her presentation "The *Phaneta tarandana* species complex (Lepidoptera: Tortricidae): testing a morphological perspective." Mari Kekkonen was awarded second place for her presentation "Six ways to delimit species -- results from three lepidopteran subfamilies." For the Klots awards, first place went to Amanda Accamando for her poster "The effect of soybean induced responses on soybean loopers (*Chrysodeix includens*)," and second place went to

Ga-Eun Lee for her poster "Larval feeding preference of the dancing moth *Dryadula terpsichorella* (Tineidae: Dryadaulinae)." Congratulations to all of the winners!

At the banquet on Saturday night of the meetings, Kilian Roever was awarded the Pacific Slope Section's John Adams Comstock Award for his decades of work on lepidopteran groups of the southwestern U.S. Congratulations Kilian! (see page 84 for pictures of the winners; Amanda Accamando was not present at the meetings) *James Adams*

## Field Trips -- Data compilation

60 Species were sighted before and following conference presentations with ten butterfly field trips exploring the region with zeal (Table 1). Locations were Roxborough State Park (Gordon Revey), Loveland Pass (Mike Fisher), Rock Mountain NP Fern Lake (Janet Chu), Berthoud Pass (Buckner-Opler 24 July & Steve Cary 29 July), Cottonwood Pass (Paul and Evi Buckner-Opler), Indian Creek/Decker Area in Pike National Forest (Dave Elwonger and Steve Spomer), Boulder Open Spaces (Janet Chu), and S. Texas Basin of Cottonwood Pass (Steve Fratello). Data for one Loveland Pass field trip was not reported. Thank you to all leaders for submissions.

Moth field trips were led by Chuck Harp. Species lists were not compiled. *Ranger Steve (Mueller)*

**Table 1.** Species sighted on butterfly field trips: localities indicated on the table include **A)** Roxborough State Park July 23; **B)** Loveland Pass July 23; **C)** Rock Mountain NP Fern Lake July 24; Berthoud Pass, **D)** July 24 & **H)** July 29; **E)** Indian Creek/Decker Area in Pike National Forest July 24; **F)** Boulder Open Spaces July 29; **G)** S. Texas Basin of Cottonwood Pass July 29; and **I)** Cottonwood Pass July 29.

Family/ Common Name	Species	Locality								
		A	B	C	D	E	F	G	H	I
<b>Papilionidae</b>										
Rocky Mountain Parnassian	<i>Parnassius smintheus</i>		X		X		X	X	X	X
Western Tiger Swallowtail	<i>Papilio rutulus</i>	X				X				
Two-tailed Swallowtail	<i>Papilio multicaudata</i>	X				X				
<b>Pieridae</b>										
Pine White	<i>Neophasia menapia</i>					X				
Checkered White	<i>Pontia protodice</i>					X				
Western White	<i>Pontia occidentalis</i>								X	
Margined White	<i>Pieris marginalis</i>									X
Cabbage White	<i>Pieris rapae</i>	X				X				
Clouded Sulphur	<i>Colias philodice</i>	X				X		X		
Orange Sulphur	<i>Colias eurytheme</i>	X	X			X	X	X	X	X
Queen Alexandra's Sulphur	<i>Colias alexandra</i>			X						
Mead's Sulphur	<i>Colias meadii</i>		X		X		X	X	X	X
Scudder's Sulphur	<i>Colias scudderi</i>		X		X			X	X	X
Dainty Sulphur	<i>Nathalis iole</i>	X	X		X	X				

Family/ Common Name	Species	Locality								
		A	B	C	D	E	F	G	H	I
<b>Lycaenidae</b>										
Tailed Copper	<i>Lycaena arota</i>					X				
Snow's Copper	<i>Lycaena cupreus snowi</i>		X					X		X
Ruddy Copper	<i>Lycaena rubidus</i>								X	
Purplish Copper	<i>Lycaena helloides</i>				X			X	?	X
Colorado Hairstreak	<i>Hypaurotis crysalus</i>	X								
Coral Hairstreak	<i>Satyrium titus</i>	X								
Behr's Hairstreak	<i>Satyrium behrii</i>					X				
Gray Hairstreak	<i>Strymon melinus</i>	X								
Reakirt's Blue	<i>Hemiargus isola</i>	X								
Greenish Blue	<i>Plebejus saepiolus</i>		X					?		X
Shasta Blue	<i>Plebejus shasta</i>		X		X			X		X
Northern Blue	<i>Plebijus idas sublivens</i>									X
Arctic Blue	<i>Plebejus glandon rustica</i>		X		X			X	X	X
<b>Nymphalidae</b>										
Variagataed Fritillary	<i>Euptoieta claudia</i>	X								
Aphrodite Fritillary	<i>Speyeria aphrodite</i>	X				X				
Edward's Fritillary	<i>Speyeria edwardsii</i>	X				X				
Northwestern Fritillary	<i>Speyeria hesperis</i>			X		X				
Mormon Fritillary	<i>Speyeria mormonia</i>		X		X		X	X	X	X
Arctic Fritillary	<i>Boloria chariclea</i>		X	X	X		X	X	X	X
Silvery Checkerspot	<i>Chlosyne nycteis</i>			X						
Rockslide Checkerspot	<i>Chlosyne damoetus</i>		X				X			
Field Crescent	<i>Phyciodes pulchella</i>	X								
Chalcedon Checkerspot	<i>Euphydryas chalcedona</i>				X					
Anicia Checkerspot	<i>Euphydryas anicia brucei</i>		X							X
Green Comma	<i>Polygonia faunus</i>					X				
Hoary Comma	<i>Polygonia gracilis zephyrus</i>			X				X		X
Mourning Cloak	<i>Nymphalis antiopa</i>	X		X						
Milbert's Tortoiseshell	<i>Aglaia milberti</i>		X					X		X
Painted Lady	<i>Vanessa cardui</i>		X			X	X			X
West Coast Lady	<i>Vanessa annabella</i>									X
Weidemeyer's Admiral	<i>Limnitis weidemeyerii</i>	X		X		X	X			X
Common Wood Nymph	<i>Cercyonis pegala</i>	X								
Mead's Wood Nymph	<i>Cercyonis meadii</i>					X				
Great Basin Wood Nymph	<i>Cercyonis sthenele</i>					X				
Small Wood Nymph	<i>Cercyonis oetus</i>	X		X		X				
Magdalena Alpine	<i>Erebia magdalena</i>		X					X		
Common Alpine	<i>Erebia epipsodea</i>		X					X		
Colorado Alpine	<i>Erebia callias</i>		X					X		X
Melissa Arctic	<i>Oeneis melissa</i>							X		
Monarch	<i>Danaus plexippus</i>					X				
<b>Hesperiidae</b>										
Common Checkered Skipper	<i>Pyrgus communis</i>	X								
Common Sootywing	<i>Pholisora catullus</i>	X								
Draco Skipper	<i>Polites draco</i>				X				X	
Delaware Skipper	<i>Anatrytone logan</i>	X								
Woodland Skipper	<i>Ochlodes sylvanoides</i>	X								
Dun Skipper	<i>Euphyes vestris</i>	X								
Unidentified Yellow Skipper						X				



**Award Winners at the 2012 Lepidopterists' Society meeting in Denver, July (see page 82 for accompanying text).**



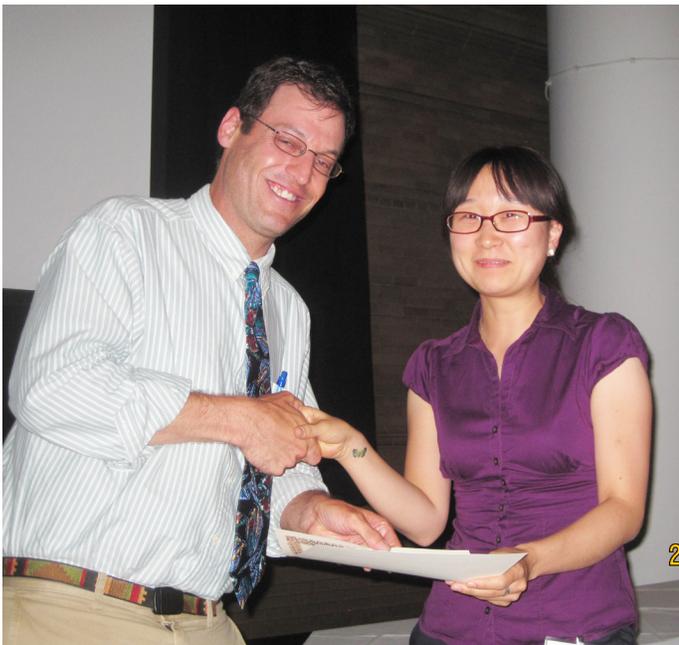
Heather Cummins, Harry K. Clench presentation award first place winner (co-winner with Christi Jaeger); pictured with President Andy Warren (Photo by Sally Warren)



Christi Jaeger, Harry K. Clench presentation award first place winner (co-winner with Heather Cummins); pictured with Don Wright (Photo by Ranger Steve Mueller)



Mari Kekkonen, Harry K. Clench presentation award second place winner; pictured with President Andy Warren (Photo by Sally Warren)



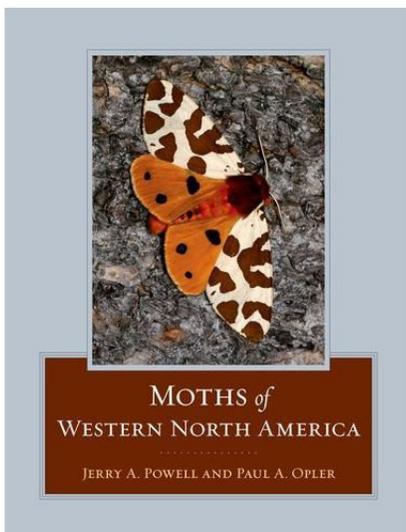
Ga-Eun Lee, Alexander B. Klots poster award second place winner; pictured with President Andy Warren (Photo by Ranger Steve Mueller)



Kilian Roever (right), winner of the John Adams Comstock award, pictured with Harry Zirlin (Photo by Andy Warren)

# Book Review

**MOTHS OF WESTERN NORTH AMERICA**, by Jerry A. Powell and Paul A. Opler, 369+ pages w/ 64 plates, 8 1/2 x 11 inches, hardcover; ISBN 978-0-520-25197-7, University of California Press, 2009.



This is a book that every student, collector and photographer of western moths will need, want and cherish. It is not only a beautiful book, a testament to the capabilities of University of California Press, it is a fitting monument to the careers of two fine lepidopteran scientists who bring to this work their combined 100 years of research and teaching experience.

This is not a field guide. It is a hefty hardcover book, 8-1/2 x 11 inches, with 64 beautifully printed full-color plates. About 370 pages are devoted to text, glossary and index, with another 130 pages for plates and facing caption pages. Fifty-eight of the plates display photographs of almost 2,350 specimens, and about 2,050 species. It is remarkable that 26 of the plates are given over to micromoths of about 1,075 species. This degree of attention to the micros, among which both authors have devoted much time, is by itself a tremendous contribution to the literature. Six plates depict mainly living larvae, but also adults and elements of life cycles such as leaf mines, tents and the like.

After the book was published Powell arranged to have large photos of all the micromoths entered into the CalPhotos database and smaller versions have also been posted to plates at the Moth Photographers Group website. Opler plans to have photos of the macromoths posted online also.

Sprinkled throughout the text are about 250 line drawings, mainly of genitalia of exemplar species, giving an overview of the families and subfamilies. Where appropriate the authors also draw attention to defining characters of genitalia in the text, but this is not so extensive as to make reading difficult or uninteresting to the layman. Quite the contrary, the text is relatively free of technical jargon and stilted language of field guides where words and space may be considered at a premium. The writing in this book approaches that of delightful prose. Whether you are reading beside the living room hearth, in front of a field site campfire, or in a tiny cubicle at the lab, you are in for an enjoyable read. Both authors have been involved in describing new spe-

cies for many years. I can find 144 instances where one or the other has authored or coauthored a new species description, or has had a species named in his honor. A very special case of honorific was William E. Miller's naming, in 1995, a new Tortricid genus *Jerapowellia*. Although the species *Jerapowellia burnorum* is known from Arizona and New Mexico, it was not selected for inclusion in this book. Of the 144 species just mentioned, 54 can be found in this volume including *Adela oplerella*, described by Powell in 1969; *Coptodisca powellella*, described by Opler in 1971; *Decodes opleri*, described by Powell in 1980. The earliest Powell honorific that I can find is *Gyros powelli* by Munroe in 1959, and the most recent is *Pelochrista powelli* by Wright in 2005. For Opler the earliest honorific is *Adela oplerella*, mentioned above, while the most recent is *Sympistis opleri* by Troubridge in 2008. More recently Powell and John W. Brown's 2012 treatment of Sparganothini and Atterini was published: *The Moths of North America*. Fascicle 8.1, Wedge Entomological Research Foundation, Washington, D.C., in which 21 new species were described.

*Sympistis* brings to attention a minor problem encountered in this book, indeed in almost all books and monographs dealing with species. Taxonomic changes are part of the lifeblood of science and are made without respect for book publishing schedules. Thus, while a book such as this one is in preparation or in press, name changes are occurring that simply cannot be reflected in the soon-to-appear volume. While this book was in press Jim Troubridge's revision of Onconemidinae was published in *ZooTaxa* in October, 2008. In that paper Troubridge described 50 new species including *Sympistis opleri*. He also moved from *Oncocnemis* into *Sympistis* four species covered in MWNA but which remain under the old name in this volume. There are a number of other cases of old names in this work, as well as some errors such as transposition of photographs. The authors have plans for publishing an Internet errata sheet.

I do have one criticism that is more than just a little quibble. On the caption pages facing the plates there are no page numbers to direct the reader to the text for a given species. This has been a standard feature of every MONA Fascicle (but annoyingly missing from Tuttle's recent volume on Sphingidae) and should have been included in this work. Due to this omission, readers must first go to the index to find a page number for the species of interest. Correcting this problem should be a priority in future printings.

It would be very nice if University of California Press could produce a slender volume/booklet containing just the plates and their caption pages. I know that I will quickly wear out my copy of the book through extensive daily use of the plates.

The authors and UCP are to be congratulated and applauded for a very fine and worthwhile book.

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Digital Collecting:

# Photoshop hints for specimen photography

Kim Garwood

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I have seen and processed well over 100,000 photos by many butterfly photographers taken with various types and levels of cameras. Photoshop is one of the more common, widespread software packages used today, though other photographers have other favorites, like Lightroom, both by Adobe Software. I use Photoshop, and will talk a bit about some simple steps to improve almost any picture.

My favorite website for identifying neotropical butterflies is Butterflies of America. Mike Stangeland and Kim Davis are 2 of the website authors and have photographed about 60,000 of the specimen images website which covers butterflies from Alaska through South America. He and Kim have devoted untold thousands of hours to this website over the last 6 years. Mike processes all the images and his specimen photos are stunning, vibrant and clear with very accurate colors. When I asked him how he gets such great images, Mike graciously sent me a couple of pages outlining the basic steps he uses on all of the photos using Photoshop. He has given me permission to pass on some of these hints to you, as a way to improve your photos and give snap to your shots. Mike and Kim use Macs, and I use a PC, so sometimes there are slight differences in terminology, but Photoshop works great on both types of computers.

Photoshop uses slider bars for almost everything, so you can adjust many different aspects of your photos. It is very subjective, and very easy to over-correct any part of the photo. Many photos online are too pixilated, sharpened too strongly or made too bright and the colors don't look real or accurate. Mike and Kim use Canon 20, 30 or 40D cameras, so their suggestions are based on those cameras. I use a much cheaper little Sony, and I have found their suggestions work equally well with my photos.

Step One – Rotating. It is a good idea to rotate each photo so the specimen is level. This looks more pleasing to the eye, especially if you're putting a series of shots on a page

An easy way to level a photo using Photoshop is by:

- 1) On the *Tools Menu* left click and hold the *Eyedropper Tool*, from the tool list that appears choose the *Measure Tool (ruler)*
- 2) Place the point on the uppermost top of the left wing apex, left click, hold, and draw a line to the same spot on the right wing. Release the mouse button and the line will remain.

- 3) On the *Menu Bar*, choose *Image>Rotate Canvas>Arbitrary*. The window gives you a choice of CW or CCW and the choice they suggest is usually correct.

Step Two – Setting Light Levels. For most specimens Mike and Kim prefer to shoot with onboard flash set to near maximum level; for very light specimens, they reduce flash to mid level. Mike says “the pictures appear a little over exposed but that was intentional, all the information you need to have an excellent photo is in the JPEG when it's bright enough. If it's even a little too dark some of the proper color reproduction is lost and the detail suffers. It's a compromise, a bright photo is always better than a dark one for specimens.”

“For specimen photos taken with the Canon 20, 30, or 40D we never use *Auto Levels*, *Curves*, *Contrast*, *Color Balance*, or any of the other Photoshop choices because, MUCH more often than not, they will cause serious color reproduction problems. For us, Canon sensors give excellent color reproduction for specimen photography and only need basic light level adjustments. Below is the most important series of steps of them all, follow them carefully!”

- 1) Choose *Image>Adjust>levels*. The histogram that appears will have three arrow marked sliders; left=dark levels, center=mid levels, right=bright levels.
- 2) The method I use on almost all of my photos of specimens is to start by bumping the right bright level slider to the left until the bright areas are well lit but nothing is blown out.
- 3) Next bump the mid level slider a little to the left, everything may look a little washed out but don't worry.
- 4) Now the magic. Choose the left dark level slider and start bringing it to the right until the colors resolve and get rich, the light level is balanced, and the photo becomes three dimensional. I always stay a little to the bright side but that's subjective, trust your eye. You may want to now play with the mid levels a little as needed.

This method is called ‘tightening the curve’, when you bring the light and dark sliders in the histogram toward each other it brings out the marks and the image looks it's best!”

As Kim, I've used this tightening the curve technique quite a bit and gotten excellent results.

Step Three – Sharpening. This is the last step. Almost every photo is improved by a bit of sharpening. Be careful here, as it is easy to overdo it. As you get more familiar with using this technique you will see your photos get much better with it than without it. Quoting Mike again, “The only sharpening tool we use in Photoshop is “UNSHARP MASK” which we understanding to mean “masking the unsharpness” in a photo. It’s a powerful tool when used correctly.

“Now that you’ve leveled the image and set the light levels choose Filter>Sharpen>Unsharp Mask.

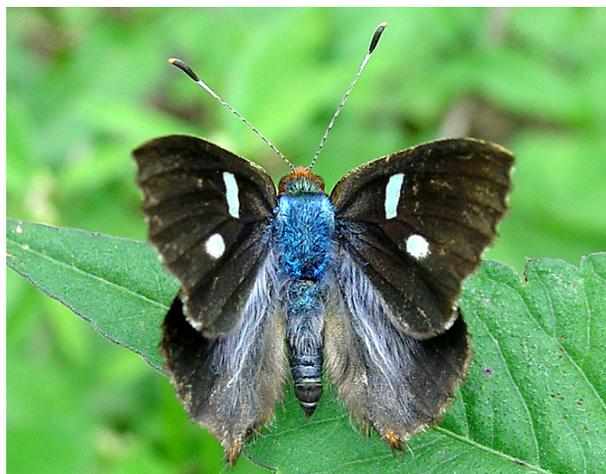
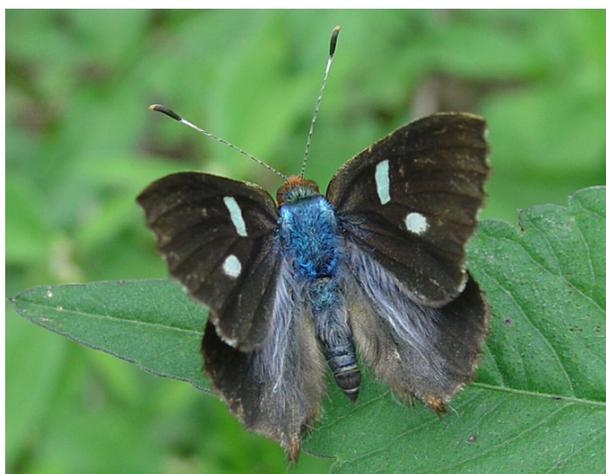
1. The window that appears will have 3 sliders at the bottom. For images taken with DSLR cameras set *Threshold* to 4, *Radius* to about 0.6, and set *Amount* to about 200. For most other non-SLR cameras set *Amount* to about 100.
2. You will immediately see your image change. Zoom in so you can properly see what’s happening. Move the *Amount* slider to the right and left to see what it does, then choose a balance with good detail. That’s the reason for UNSHARP MASK, making the detail of your image stand out but not overwhelm your photo. As

George Austin said, “Butterflies are soft, they should appear that way in photos.”

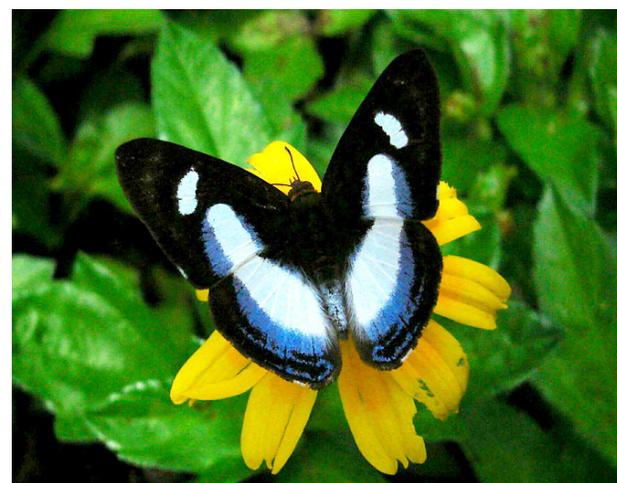
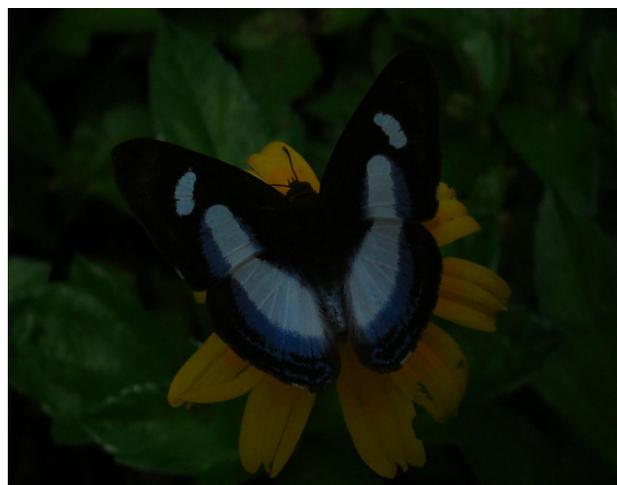
3. To avoid losing a good image, first save it as a PSD file and look at it *OUTSIDE* of Photoshop to be sure you like the result. Sometimes they will look a little different, best to have an objective look before saving as a jpeg.
4. We seen many thousands of butterfly photos marred badly and some even ruined by overuse of *Unsharp Mask* so be careful with it. Best to read your users guide PDF about this function if you plan to process a large number of photos.”

These basic techniques will work just as well for live adult butterfly photos and most every other type photography from micro to macro to landscape and general snapshot work.”

Here are two photos that have been corrected. The *Thisbe irenea* was so dark before that it was almost unusable, but by brightening it up considerably it looks ok. The *Anteros carausius* has been rotated and lightened and looks much better.



*Anteros carausius*, Catemaco, Veracruz, Mexico



*Thisbe irenea*, Trinidad

Announcements:**A Request for Help:****Contributions of Locality Data Needed for the Moth Photographers Group Website**

By early January there were at least some mapping data for just over 11,000 species of lepidoptera recorded from the U.S. on MPG. However, in many cases, the available data are too small to present a realistic picture of the range of a species. Members of this society can help to improve the picture by contributing data from their collections, whether the collection is of spread specimens or of photographs.

Your records contributed to this project will also benefit mapping programs at Butterflies and Moths of North America and Butterflies of America. Data files sent to MPG will be passed on to those groups and will also be made available to compilers of databases for individual states or provinces. Maps, or links to maps, will also be made available to organizations such as Encyclopedia of Life, Wikipedia and others that disseminate species information on the Internet.

Most of the known large databases, including the one for this Society's Season Summaries, are already part of this project. But there are many individuals who have, or could compile, collection data that would significantly enhance these maps. There are probably also a large number of researchers and museum workers who have extensive data for specialized groups of species. We need all of it, and we especially need everything available for the micromoths.

Please send your data to Bob Patterson at **BPatter789@aol.com** where you can also get more information if you need it. If you would like to volunteer to extract data from the literature (state publications, journal articles, monographs) I will appreciate hearing from you.

Bob Patterson, Moth Photographer's Group Guru

(For original announcement, with sample map and date chart, see the Spring issue of the NEWS (54:1, pg. 19))

***Lophocampa maculata* data needed**

Help Needed with Research Project: 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.

Ken Strothkamp, Chemistry Department, Lewis & Clark College, Portland, OR 97219

**Lepidoptera Research Foundation: Grants for Student Travel**

The Lepidoptera Research Foundation, which is dedicated to support scholastic research and public education, is providing travel grants to support students attending relevant scientific meetings. The idea of providing travel expenses to expand collegial associations and permit lecture or poster presentations by productive individuals seems logical. With the current state of our finances, the Foundation is offering four \$1000 grants for this purpose for the 2012 academic year. Please apply to Rudi Mattoni if you could benefit and further information will be forthcoming. The application process is quite simple.

**Communication:**

General: **[www.lepidopteraresearchfoundation.org/](http://www.lepidopteraresearchfoundation.org/)**

Editor: **[konrad.fiedler@univie.ac.at](mailto:konrad.fiedler@univie.ac.at)**

Request emailing JRL: Nancy Raquel Vannucci

**[jrl\\_lepidoptera@yahoo.com](mailto:jrl_lepidoptera@yahoo.com)**

Grants: **[rudi.mattoni@gmail.com](mailto:rudi.mattoni@gmail.com)**

**Nominations for Karl Jordan Medal 2013**

The Karl Jordan Medal is an award in recognition of published original research on the Lepidoptera that may be given biennially by the Lepidopterists' Society at the Annual Meeting. Nominations of publications must be of exceptional quality and focus on the morphology, taxonomy, systematics, biogeography and natural history of Lepidoptera. The criteria (*J. Lep. Soc.*, 26: 207-209) emphasize that the work may be based on a single piece of research or on a series of interrelated works and must be at least three but not more than 25 years old. The latter is to assure that the awarded work(s) have been used by lepidopterological community and stood the test of time. The Jordan Medal is not intended to be a career award for service rendered to the study of Lepidoptera inasmuch as the Society already has such an award, Honorary Life Member. In addition, the nominee does not have to be a member of the Society. A complete list of lepidopterists who have received the Karl Jordan Medal over the years is available on the Lepidopterists' Society website [http://www.lepsoc.org/society\\_news.php](http://www.lepsoc.org/society_news.php).

Formal nominations for the Karl Jordan Medal will be accepted from any member of the Lepidopterists' Society and should be sent to Dr. Jacqueline Y. Miller, McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, P.O. Box 112710, Gainesville, FL 32611-2710 or via email ([jmiller@flmnh.ufl.edu](mailto:jmiller@flmnh.ufl.edu)). Please include a list of the specific publications for which the candidate is nominated, a support letter outlining the significance of the work(s), and if possible, a copy of the nominee's curriculum vitae, no later than 15 February 2013.

**[www.lepsoc.org](http://www.lepsoc.org)**

More Announcements:  
**New Membership Directory:  
 Deadline October 13**

Every two years the Society publishes a directory of its members, with their contact information and interests, to facilitate communication and the sharing of information among members. The geographic and interest indexes make it easy to find others who share your interests, or who can assist in planning field trips, identify specimens or photographs, give programs, and so forth. **Please update your information now** if you have moved, have a new phone number or e-mail address, or your interests have changed. If you are unsure of the information we have on file, or have misplaced your 2010 Membership Directory, I will mail or e-mail a "screen shot" of your current record on request. **Submit all information by 13 October 2012** to Julian Donahue (Julian@Donahue.net), or mail to 735 Rome Drive, Los Angeles, CA 90065-4040, USA.

**Trapping the Spanish  
 Moon Moth**

*Continued from p. 75*

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Conservation Matters: Contributions from the Conservation Committee**How insects justified creating the highest diversity, large-scale grassland restoration in North America**

John Shuey

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Back in 1996, when The Nature Conservancy in Indiana first imagined the Efroymsen Restoration at Kankakee Sands as a strategy to heal a landscape, we were in rarified territory. While it has been all the rage to talk big about restoring ecosystems, until then it had typically been confined to talk. Prairie restorations were mostly limited to a few acres here and there, and restored prairies were primarily for show – not for conservation. When it came to actually purchasing disrupted lands for large-scale restoration, few organizations had the intestinal fortitude to move beyond talk. Buying agricultural land, lots of agricultural land, when critical native habitats remained to be purchased, was a bold step that few others were willing to contemplate.

But at the time, our analysis of prairie and oak barrens (typically referred to as “sand savanna”) conservation in Indiana indicated that isolation and fragmentation were the biggest threat to some of our best remaining habitats. The bulk of the prairie remnants and the best oak barrens themselves were already protected. Restoration and healing of the intervening landscape was necessary if we expected to have thriving grassland habitats for future generations. So, with a great deal of trepidation, we made a bold decision. In 1996 we purchased over 12-square miles of cropland that could reconnect three important prairie and barrens reserves, creating a contiguous block of conservation land covering 30 square miles! Once restored, Indiana would have a grassland/oak barrens system that could stand the test of time as a reservoir of biodiversity. That is, *if restoration really works*.

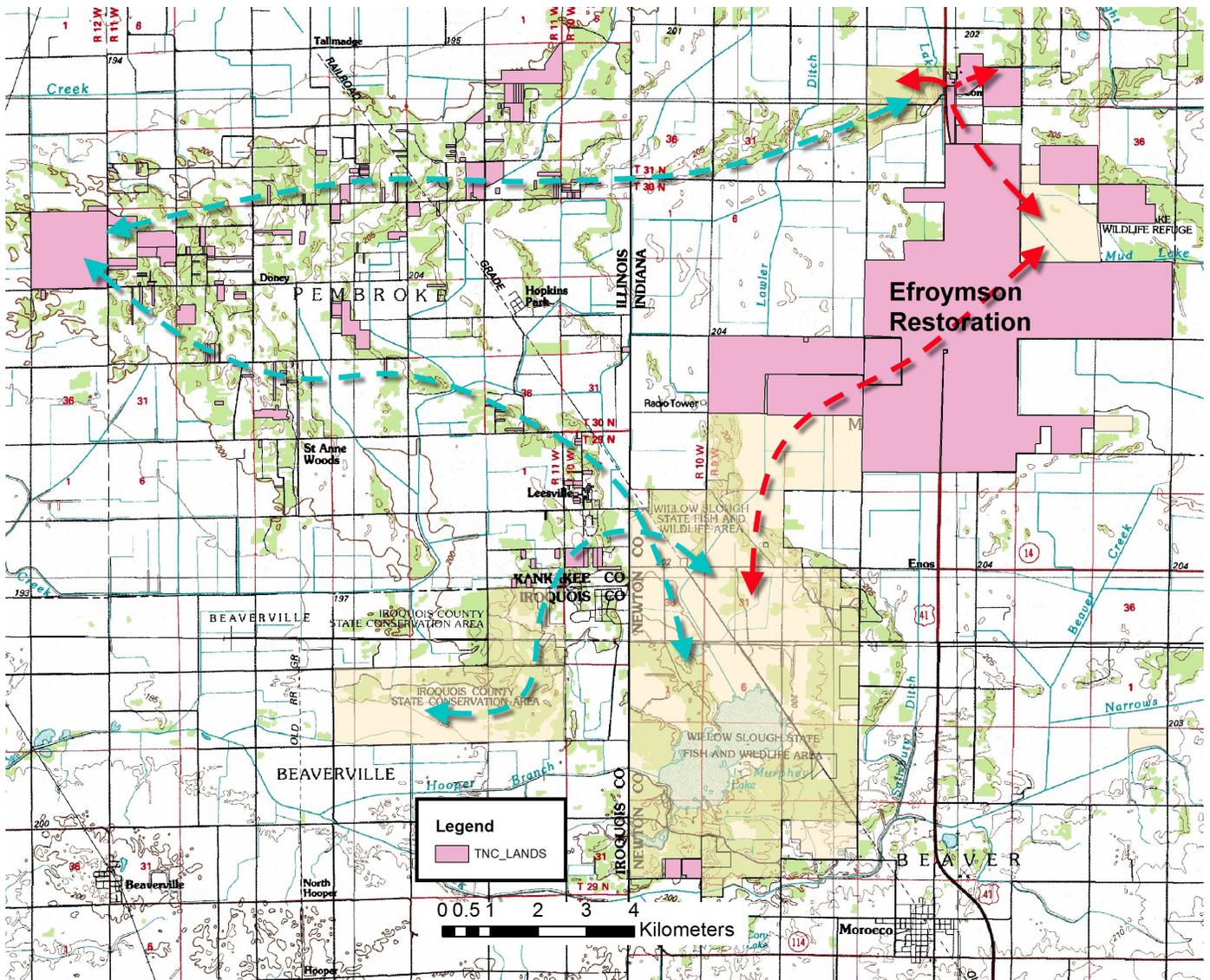
Our goal, to use the restoration as a strategy to alleviate the stressors that can cause species loss over time in isolated habitats, required serious planning. The realization that the bulk of habitat restricted species at the site were insects shaped the trajectory of the restoration. Because of my entomological background and experience (Shuey 2005) and previous on-site work from Ron Panzer’s research group (e.g., Panzer *et al.* 1995, 1997, 1998), we knew that the ecosystem remnants at the site supported a diverse assemblage of “remnant-dependent insects” – insects that depend on natural habitats for their survival and do not survive in the surrounding human-dominated agricultural/urban landscape. Most notably, Indiana’s only population of Regal Fritillary was limited to two small mesic prairie habitats on one remnant. Almost every other butterfly you would expect at the site was still clinging onto

some small scrap of suitable habitat and over 600 species of moths have been recorded from the site. Our guess was that there were likely a few hundred insects trapped on these “island nature preserves”, floating in a sea of soya and maize. For these butterflies, moths, leafhoppers, and other insects clinging onto survival across the site, the question was simply “how much longer can they hang on”?

We wanted the restoration to accomplish two things. First, it should create expanded habitat for species that were trapped on the ecosystem remnants. And second, we hoped to restore connectivity within artificially fragmented communities and metapopulations. Philosophically, we set out to accomplish this by restoring “landscape attributes” across the restoration to produce repeating patterns of recognizable habitats across ecological gradients. In this case, the gradient is the near surface water table that undulates over and under the sandy soils of the site. A secondary ecological gradient, point-return frequency of fire disturbance, is more of a post-restoration management tool used to maintain habitat structure. Kankakee Sands is at the eastern, rainy edge of the Central Tallgrass Prairie Ecoregion, and rapidly converts to woodland or dense forest in the absence of disturbance (Shuey *et al.*, 2012).

Of course there are many ways to achieve these objectives, depending on what groups you care about. For example, if you are only worried about wetland amphibians and reptiles at the site, all that is really required is to restore the water table itself – if you build it, they will come (e.g., Brodman *et al.* 2006). If declining grassland birds are your targets, they are most sensitive to habitat size and structure (Helzer & Jelinski 1999, Herkert 1994), as is probably true for almost every vertebrate at the site. They just want some herbaceous cover that they can call home. They don’t really care if that habitat is native to North America or not! It’s worth noting that vertebrate-oriented thought drives most conservation efforts across the globe.

We defined “community” to include the entire community (not just plants and vertebrates!). It’s a game-changer if you are interested in expanding habitat for remnant dependent insects, the bulk of which you know little about relative to hostplant requirements or habitat structure. We all know how choosy insects can be about host plants, not just the specific species but hostplant abundance and habitat structure as well. And don’t even ask me about the mycorrhizal fungi community – but trust me – we’ve



The Kankakee Sands conservation area is located in both Indiana and Illinois. The Efroymsen Restoration addresses connectivity at the site in Indiana (red arrows), and is part of an effort to conserve a dynamic grassland /barrens landscape across the larger site. The area supports the largest concentration of high-quality oak barrens and sand prairie/wetland habitats in the Central Tallgrass Prairie Ecoregion. Among the many threats to biodiversity at the site, is historic land conversion to agriculture and the resulting fragmentation and isolation of remaining habitats.

pondered pretty much everything (see Middleton *et.al.* 2010, Bever *et.al.* 2009). Realizing that habitat-restricted insects would be one of the hardest groups to address, we designed a unique approach for re-planting the restoration.

rare plants would be planted in trace amounts across the restoration, but hopefully they would establish at enough sites to eventually find their own ecological niches as the restoration heals over the decades (or centuries).

- In support of plant conservation, everything planted would be from local genotypes, and also because the resident insects coevolved with the resident plant populations. There are very likely some subtle coevolutionary adaptations and relationships that are worth preserving at the site.
- We would also restore the entire plant community in order to establish host plants for rare insects we know nothing about (over 600 species known from the project area). Some of the naturally
- Seed mixes that emulated natural plant communities were designed for the range of soil types and hydrologic conditions across the site, kick-starting the “landscape patterning” across the restoration. We wanted that repeating ecological pattern ranging from small open wetland, through sedge meadow, wet prairie, mesic prairie, dry sand prairie, to sand blowout across the entire site. In my mind, creating this ecologically complex mosaic is essential for restoring insect population

connectivity across the site and for providing a rich array of occupiable habitat patches for species that are locally impacted by fire management.

- Some plants that are difficult to establish and which are known to support guilds of insects or regionally imperiled insects would be raised as plugs and planted into the restoration. For example, late successional sedges do not seed well into restorations, and an entire guild of butterflies, skippers and leafhoppers use this habitat at the site. *Carex stricta* and *Carex lacustris* plantings were supplemented with plug installations to help kick-start sedge meadow formation at selected sites. Likewise, violet hostplants of *Speyeria idalia*, *Speyeria aphrodite* and *Boloria selene* were planted at strategic sites to increase habitat for these locally rare species. In the name of plant conservation, we used this method for a few plant species that were critically imperiled in the area as well.
- Finally, the bulk of the restorations would have very low seeding rates of the “highly aggressive” warm season grasses that dominate most restorations. Instead of planting the typical 4-5 pounds of big bluestem, Indian grass and switch grass per acre, we would limit the combined seeding rate of these three species to around ¼ - ½ pound per acre. This would allow everything else a chance to establish and set seed for a few years before intense root competition from bunch grasses started to control successional pathways. We really wanted to establish rich, patchy prairies within a few years, and to avoid the virtual monocultures of head-high grass that most restorations eventually become.

Believe it or not, this is a fairly radical and costly approach for restoration, especially at this scale. Semi-local genotype prairie seed mixes can typically be purchased for \$350 - \$450 per acre for an 80-species seed-mix (a very rich mix by most standards). By the time you factor in our costs to build and manage an onsite native seed nursery and seasonal green house, as well as paying for an annual wild seed collection crew that worked nearby railroad right-of-ways and other small scraps of prairie (the majority of plants don't thrive in a nursery setting), our costs soared to over \$1,000 per acre for the initial planting phase (hydrologic restoration and long-term habitat management not included!). To my

knowledge – and I'm pretty well connected in the grassland restoration world – no other restoration has attempted or accomplished a similarly diverse planting at this scale. While there are indeed few larger prairie restorations in North America, none of those attempted to restore the entire plant community. Interestingly, despite the very high costs, it was not difficult to convince our team that this was the right approach to take. We are serious about conservation, and the concept of doing conservation at the 50% level just doesn't fit with our commitment.

So, after a few dollars spent and sixteen years into this project, we are still wondering if the strategy is working! Operationally, we have planted 6,350 acres and we will continue to chip away at the remaining agricultural land we own for many years. By my math, over 11 billion seeds have been planted, representing over 600 species of plants, at a targeted rate of over 40 seeds per square foot. With a little work, you can find most of these species scattered across the restoration. Just as importantly, when you walk through the restoration, you can see that it is settling out into recognizable plant communities. To me it still obviously looks like a restoration, but it is not at all typical. The bunch grasses are shorter and patchier and short-statured warm season grasses such as little bluestem, sideoats grama, and prairie drop-seed give the restorations a “natural”, knee-high look. There are lots of native cool season grasses and sedges in the mesic and dry prairies, and of course these groups dominate some of the wetter habitats. Forbs bloom in discrete patches, not the even-spread you typically see across restorations. There are clumps of unusual species across the site, things like leadplant, twig-rush, prairie clovers, prickly-pear cactus, sensitive fern, as well as odd species of liatris and phlox. And in a subtle difference from typical older restorations, you don't see much bare soil between the taller plants. Small species and seedlings are starting to fill the gaps, which is important if you care about violets and fritillaries. At our recent BioBlitz on the site (July 2012), in a couple of hours work the botany teams found between 120 and 180 plant species in each restoration unit assessed. (I am assured that this is doubly impressive because all spring ephemerals had senesced and most of the grasses and sedges were un-identifiable to species this late in the season). The bottom line is that at the gestalt level, the plantings are looking good.

But does all this translate to success? The planting after all,

**Figure (next page):** The Restoration at Kankakee Sands. **A** - Heavy equipment restoring hydrology to eliminate surface drainage from the site; **B** - Small seed stripper working a nursery bed; **C** - Hand collecting *Carex stricta* seed from a nearby wet prairie remnant; **D** - Climate-controlled storage of seed lots prior to planting season; **E** - Mixing seeds in preparation for planting; **F** - Staff and volunteers preparing individual plugs for later planting in the restoration; **G** - Volunteers planting sedges and rushes in wetlands; **H, I and J** - typical views of the mesic and wetland restorations after a few growing seasons; **K** - *Erynnis martialis*, an oak barrens species that has not yet been found to use the restoration; **L** - *Eurema nicippe*, one of several southern immigrants that become common in the restoration each summer; **M** - *Speyeria idalia* has expanded from two known demes to occupy almost all seemingly suitable habitats in the restoration and beyond - a strong signal of restoration success; **N** - *Hesperia metea* was seen on a small oak barrens opening a few years prior to restoration. It has not been seen since, but hopefully hangs on in some small clearing waiting for its chance to expand into new habitats; **O** - *Poanes massasoit*, found only in Illinois at the moment, and which if found on the restoration would be strong evidence of “restored connectivity” across the landscape. Other sedge feeding skippers are using the restoration. (See C above for a look at the habitat in Illinois)



was *just a strategy* designed to increase occupied habitat and restore connectivity between sites. My botanically oriented friends get a little irritated when I take this position, and on my less confrontational days I can freely admit that there is a lot of outright botanical conservation value in the plantings. But the bottom line is this: the real goal of the restoration was to expand habitat and to create ecological connections between the old nature preserves. If you look at the more traditional conservation groups, also known as vertebrates, there is little doubt that it worked. Amphibian populations responded exponentially to the initial hydrologic restoration at the site (Brodman et al. 2006). Hundreds of pairs of otherwise declining grassland birds established territories across the restoration, and a few years ago over 300 Henslows Sparrow male territories were counted in a single day. Eastern glass lizards, almost never seen prior to the restoration, now abound across the drier restoration units. Pocket gopher burrows, once confined to roadsides and ditch spoils, have spread into the thousands of acres of restoration. Interestingly, there are even a handful of regionally rare fish that are limited to sandy, emergent wetlands at the site – but I have no idea how they are doing! With a few exceptions (such as ornate box turtles), the terrestrial vertebrates that were on the old nature preserves seem easy to please. And to be honest, if we had just restored the water table and let the site grow up in Eurasian weeds, they would probably be just as happy.

Insect response has been a little harder to gauge, in part because of high diversity and the difficulty they pose in identification for the average person. Early in the restoration, we had Ron Panzer take a look at some conservative species in the restoration, and things were encouraging. He found hostplant-limited, flightless leafhoppers well out into the restoration, a few habitat-conservative butterflies cruising through the plantings, host-specific weevils attacking our legumes, and so on. Perhaps most telling were the results from a BioBlitz last month and the butterfly transects. We found *Speyeria idalia* in every restoration unit and in native prairie – a total of 19, mostly females, flushed out of the grasslands. There were almost no nectar sources to speak of thanks to the record setting drought this year, and the butterfly literally had to be flushed out of resting places. To me, this indicates that they view the restoration as habitat.

Interestingly, *Cercyonis pegala*, not exactly a rare species, was found only in remnant oak barrens and remnant sand prairie during the BioBlitz. Two of the surveyed restoration units were directly adjacent to the sites where this butterfly was common – but the butterfly seemingly won't make the jump! Something about the restorations isn't right for this particular species, and I suspect that *C. pegala* is typical of a sub-set of insects that are going to be difficult. There is something besides the presence of suitable hostplants that factor into habitat suitability for these species and perhaps as the restorations heal and settle out into more natural grasslands, they will become

more acceptable. But perhaps not.

Of course, none of this entomological evidence would stand up to the scrutiny of a peer-reviewed journal, but I have a plan. In 2014 we hope to implement a multi-disciplinary approach to assessing our restoration strategy. If you have ever ventured into the philosophical arena of what constitutes “restoration success”, you will understand when I tell you that we are not too sure exactly what research questions we want to address at this time, especially relative to the plant communities themselves. But if you look at animals, especially insects, and focus on our explicit *a priori* goals of expanding occupied habitat for habitat restricted species and increasing ecological connectivity between the old preserves, the questions become a bit clearer and easier to answer. And while I'm convinced the strategy worked for at least some portion of the insect community, I am just as interested in knowing where and how it might have failed. High-diversity ecological restoration is probably the most expensive approach to conservation in the toolbox. If we expect others to follow our lead, we have to document evidence that it is worth the investment.

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# Membership Updates...

*Julian Donahue*

Includes ALL CHANGES received by 16 August 2012

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

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

**Perez, Leonel** (Loma Linda, California, U.S.A.)

*New and Reinstated Members: members who have joined/renewed/been found/or rescinded their request to be omitted since publication of the 2010 Membership Directory (all in U.S.A. unless noted otherwise):*

**Cummins, Heather** (Ms.): 2277 Carter Avenue, Saint Paul, MN 55108-1661.

**Dixon, Joseph W.:** 140 Raven Street, Iowa City, IA 52245-3918.

**Gades, Steven J.:** 1009 West 4<sup>th</sup> Street, Waterloo, IA 50702-2803.

**Garris, Joseph R., Sr.:** 1001 Mount Benevolence Road, Newton, NJ 07860-4114.

**Hino, Takashi** (Mr.): 3-4-4 Wada, Higashitokorozawa, Tokorozawa, Saitama 359-0023, **Japan.**

**Jaeger, Christi** (Ms.): 12403 Lansdowne Drive NW, Apt. 107, Edmonton, Alberta T6H 4L4, **Canada.**

**Jackson, Pamela:** 3617 Carlow Court, Raleigh, NC 27612-4343.

**Manderino, Rea** (Ms.): 3214 Fall Hill Avenue, Fredericksburg, VA 22401-3044.

**McGough, Kelly** (Ms.): 4935 Tradition Drive, Lakeland, FL 33812-3157.

**Morehouse, Nathan** (Ph.D.): Department of Biological Sciences, University of Pittsburgh, 223 Clapp Hall, 4249 Fifth Avenue, Pittsburgh, PA 15260-3513.

**Nowatzke, Jacob:** 7335 Grant Street, Apt. 6, Omaha, NE 68134-6942.

**Oppenheim, Sarah** (Ph.D.): P.O. Box 268, Yorklyn, DE 19736-0268.

**Richardson, Kimberly:** 172 Kimbrough Place, Apt. 602, Memphis, TN 38104-6724.

**Robinson, Becky:** 2085 K.L.O. Road, Kelowna, British Columbia V1W 2H9, **Canada.**

**Rojas, Julio Cesar** (Mr.): 10330 Evergreen Way, Suite D, Everett, WA 98204-3874.

**Sciarretta, Donald:** 1081 Palm Avenue, Apt. A223, North Fort Myers, FL 33903-4356.

**Snyder, Jacqueline** (Ms.): 425 East Saint Vrain Street, Colorado Springs, CO 80903-3020.

**Stalker, Clayton:** Box 1482, Assiniboia, Saskatchewan S0H 0B0, **Canada.**

**Wilson, Karen Kramer:** Chicago Academy of Sciences, 2430 North Cannon Drive, Chicago, IL 60614-2874.

**Zaman, Khuram:** 8444 Cayuga Drive, Stockton, CA 95210-2040.

**Bowe, John J.** (M.D.): 4827 Harvest Lane, Zionsville, PA 18092-2063.

**Gades, Steven J.:** P.O. Box 4107, Waterloo, IA 50704-4107.

**Janssen, Frances H.:** 2802 East Drachman Street, Tucson, AZ 85716-3541.

**Kunte, Krushnamegh** (Ph.D.): National Center for Biological Sciences, GKVK, Bellary Road, Bengaluru 560065, **India.**

**Matsumoto, Kazuma** (Ph.D.): Tohoku Research Center, Forestry & Forest Products Research Institute, 92-25 Nabeyashiki, Shimokuriyagawa, Morioka City, Iwate Prefecture 020-0123, **Japan.**

**McCaffrey, Joanna:** 424 NE 6th Street, Apt. G, Gainesville, FL 32601-5576.

**Nadborne, Ira:** 2802 East Drachman Street, Tucson, AZ 85716-3541.

**Nielsen, Gregory James:** Calle 18 Sur No. 9-54, Barrio Ficus, Villavicencio, Meta, **Colombia.**

**Proshok, Benjamin:** 4710 Black Road, Monclova, OH 43542-9702.

**Runquist, Erik B.** (Ph.D.): Minnesota Zoo, 13000 Zoo Boulevard, Apple Valley, MN 55124-4621

**Young, James D.** (Ph.D.): 11 West Orange Court, Parkville, MD 21234-8020.

**Zacharczenko, Brigitte:** 50 Crystal Lane, Apt. B, Storrs, CT 06268-1164.



A nice in flight action shot of *Erebia epipsodea* (note shadow), taken June 14, 2012 on Priest Pass, Montana (about 20 miles west of Helena). Photo by Nancy Silver, PO 1209, Helena MT 59624. [nanlingo@gmail.com](mailto:nanlingo@gmail.com)

[www.lepsoc.org](http://www.lepsoc.org)

# The Marketplace

IMPORTANT NOTICE TO ADVERTISERS: If the number following your advertisement is "542" then you must renew your ad before the next issue! Remember that all revisions are required in writing.

## Livestock

WANTED: Overwintering cocoons, pupae and eggs this fall. Please email offers, with quantity and price, to Robert Goodden at [robert@wwb.co.uk](mailto:robert@wwb.co.uk) (Worldwide Butterflies). 542

## Books/Electronic Images

**BOOKS WANTED:** I am wishing to purchase the following books in the editions specified: Butterflies by E.B Ford, 1945 (Macmillan); Moths by E.B Ford, 1951 (Macmillan); Insect Natural History by A.D Imms, 1951 (Blakiston); Life in Lakes and Rivers by T.T Macan and E.B Worthington, 1951 (Praeger); World of the Honeybee by C.G Butler (Macmillan, 1954 edition or Taplinger, 1974 edition); Herring Gull's World by N.Tinbergen, 1953 (Praeger); Lake District by W.H Pearsall and W.Pennington, 1974 (Taplinger); Mumps Measles and Mosaics by K.M Smith and R.Markham, 1954 (Praeger). I require clean bright copies in nice dust-jacket, not ex-library copies. If you have any of these, or any 'New Naturalist' series ephemera (flyers, brochures etc) or signed copies which you would be interested in selling, then please contact Jeremy Steeden at [jsteeden369@btinternet.com](mailto:jsteeden369@btinternet.com) 543

**For sale:** Two old monographs with exceptional color drawings/paintings of larval forms of lepidoptera. Best offer. Orrey P. Young, 9496 Good Lion Rd, Columbia, MD 21045 [ory2pam@verizon.net](mailto:ory2pam@verizon.net)

Packard, A. S. 1895. Monograph of the Bombycine Moths of North America (including their transformations and origin of the larval markings and armature). Part I. Notodontidae. National Academy of Sciences, Volume VII, First Memoir. Washington, D.C. 49 plates; # 1-6 b&w photos of adults, # 7 color of adults, # 8-37 color drawings of immature stages (with tissue covers), # 38-48 line drawings of wing veins and head capsules, # 49 missing. 9 full-page distribution maps at end of volume. 390pp, volume size 9" x 11 1/2". Covers, binding, title pages missing. Several groups of text pages missing: 1-6, 11-14, 17-32, 81-96. 542

Packard, A. S. 1914. Monograph of the Bombycine Moths of North America. Part III. Ceratocampidae (exclusive of Ceratocampinae), Saturniidae, Hemileucidae, and Brahmaeidae. Editor T. D. A. Cockerell. Nat. Acad. Sci., Vol. XII, First Memoir. Washington, D.C. 113 plates; 32 colored of immature stages, 20 of wing vein drawings, remainder photos mostly of adults and some immature stages. 516pp, volume size 9" x 11 1/2". Covers, binding, all text pages and plates intact. 542

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. 541, 542) 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

**For sale:** Newly published is Mike Fisher's part 7.5 of his Butterflies of Colorado series, 41 species treated, 270 color images, 192 pages, perfect-bound. *Anthocharis julia prestonorum* described is newly described. \$51.50 (limited quantities). Part 7.4. Lycaenidae and Riodinidae is also available. 381 images, 205 pages (\$65). Parts 1-3 are out-of-print. Also available: Butterflies of North America. 3. Butterflies of Kern and Tulare Counties, California by Ken Davenport (\$18.00) and 6. Butterflies of Oregon, 2 maps, images on cover by Andrew D. Warren (\$43.00).

Publications may be ordered from BioQuip ([www.BioQuip.com](http://www.BioQuip.com)) or from Gillette Publications, Department of Bioagricultural Sciences, Colorado State University, Ft. Collins, CO 80523-1177. If you order from the latter add \$10 handling charge for single book purchases. 543

**Catocala of the World** by Ishizuka, 2011. 108 p., 47 color plates with photos of all 226 species of world underwing moths. In Japanese, with scientific names, localities, and hostplants in Latin/English. Hardcover, \$179.95. Also Hardwick, 1996, **A Monograph to the Heliothentinae: hardcover** \$69.95, softcover \$49.95. Moths of North America, **MONA Check List**, and **Hawk Moths of North America** always in stock. Add 8.75% sales tax in California. Free U.S. shipping if prepaid with check, PayPal, MasterCard or Visa. Visit our Abebooks online storefront at [ERSBooks.com](http://ERSBooks.com). Entomological Reprint Specialists (Julian Donahue), 735 Rome Dr., Los Angeles, CA 90065-4040; [bugbooks@aol.com](mailto:bugbooks@aol.com) 543

## Only SEVEN Commemorative Volumes Left!

The Lepidopterists' Society has only seven copies of the Commemorative Volume (of the Memoir Series) left. If anyone still wants one, you will need to place your order very soon or they will be gone forever. To place your order, you need to contact our publications manager Kenneth R. Bliss at [krbliss@gmail.com](mailto:krbliss@gmail.com) or (732)968-1079.

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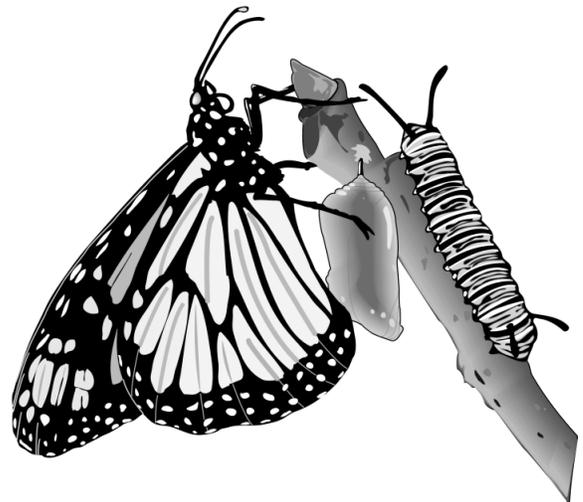
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# Metamorphosis

Julian Donahue

**Houtz, William Henry, Jr.**, of Pine Grove, Pennsylvania, on 11 June 2012, at the age of 65. Born in Pottsville, Pennsylvania, on 4 December 1946, he was a son of Edith Smith Houtz, of Schuylkill Haven, and the late William H. Houtz, Sr. He had a B.S. (Education) from Penn State and an M.S. (Education) from Kutztown College, and was a biology/advanced biology teacher at Pottsville Area High School for 35 years. Bill had been a member of the Society for 30 years, from 1968 through 1997, specializing in Papilionidae, Saturniidae, and Sphingidae, which he reared and sold worldwide. In addition to his mother, he is survived by his wife of 40 years, LaVerne Lengel Houtz, a daughter, two granddaughters, and four siblings. [Thanks to Fred Bower for initial information; details from an obituary published in the *Republican & Herald, Pottsville, Pennsylvania, 12 June 2012.*]

**Wienberg, Ronald D.**, of Westmont, Illinois, on 20 March 2012. Mr. Wienberg, a Sustaining Member, first joined the Society in 1989. According to the Social Security Death Index, he was born on 21 September 1943. [We only have indirect evidence of his death; Society publications were returned because his post office box was closed, and his e-mail account has been inactivated. No obituaries have been found, and the Social Security Death Index is the source of data for a person with the same name. If it is true, as Mark Twain is misquoted as saying, that "The reports of my death have been greatly exaggerated," then we owe Mr. Wienberg an apology. Julian



# Threads of tradition: the butterfly motif in Mexico's Zapotec tapestries

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The indigenous or Native American cultures of pre-Hispanic (pre-Columbian) Mexico and Central America have had a closer relationship with butterflies than virtually any other peoples throughout history. Consider: Artifacts from paleo-cultures particularly in Mexico feature rock carvings and mural frescoes of butterflies suggesting that butterflies were symbols indicating a reverence of the dead. Later, in an Age of Mythology, the legendary titans known as Nahua (Aztec) and Maya greatly expanded butterfly worship. Images, both distinct and highly abstract, can be found as carvings on extant stone monuments and building facades, templates on clay stamps, and colorful paintings on ceramics, murals, and in picture books called "codices" (most of these books were burned by the Spanish but several Nahua and Mixtec volumes survived). Accordingly, the Nahuas of central Mexico identified Xochiquétzal or Xochiquétzalpapálotl as the Goddess of love, companion of the fire God, Goddess of artists, and flower of the precious paradise butterfly in their codices. From these relicts, it is clear that both butterflies and fire were traditionally venerated as sacred symbols for transformation, transcendence, and renewal—ergo, spirits of the dead. And after 1519, that intense association continued to resonate within nascent New Spain. Actually, *mariposa*, the contemporary American Spanish word for butterfly, is generally considered to be etymologically derived from *la Santa Maria posa* ("the Virgin Mary alights").

Many artifacts featuring butterflies have been photographed and published, of course. However, I think that the most poignant representations are those featured in the contemporary textiles of the contemporary Zapotec culture located in Mexico's southern state of Oaxaca. Today's Zapotecs are direct descendents of a prominent civilization headquartered on the central part of the state's extensive mile-high, semi-arid plateau known as the "Valley of Oaxaca." Evidence: Monte Albán. Inscribed since 1987 as a UNESCO World Heritage Site, Monte Albán is a massive archeological citadel positioned on an artificially flattened hillock on the outskirts of Oaxaca City—a colonial city now distinguished as the state's capital. Partial reconstructions along with an abundance of artifacts indicate that Monte Albán was undeniably the major ceremonial center for the pre-Columbian Zapotec civilization—and later, the Mixtecs. In addition, surrounding smaller archeological centers known as Mitla, Yagul, and Zaachila all bear evidence that Oaxaca was the Mesoamerican homeland of the ancient Zapotecs (and Mixtecs). And today, modern Zapotecs still live in ancient villages scattered throughout the mild, picturesque plateau. Each population is characterized by a distinctive dialect, indicating eons of cultural evolution.

One such contemporary Zapotec community is Teotitlán del Valle ("Valley Home of the Gods") located a few miles southeast of Oaxaca City and situated just north of the Pan-American Highway. Teotitlán (for short) currently boasts about 6000 residents who trace their pure-blood ancestry back to their concept of the beginning of time. All are fluent in their unique dialect of Zapotec as well as Spanish (many villagers now speak English as well). Historic chronicles from the 16<sup>th</sup> century indicate that these Zapotecs were so skilled in textile production that the militaristic Aztecs, who dominated central Mexico, did not wage war on their Oaxacan neighbors. Instead, the storied Zapotec empire was retained as a tribute state so as to exact iconic textiles and dyes. These textiles were woven on a small backstrap or "stick" loom. Yarns were processed from cotton (white and brown) but also silk from the "madrone caterpillar," larva of the indigenous pierid butterfly, *Eucheira socialis*. The dyes were produced from vegetable, insect, and mineral matter, and were used to color feathers, bark paper, and processed yarns. Later, after Spanish missionaries introduced churro sheep and the upright four-poster foot loom, Zapotec textile production skyrocketed. Once a bucolic village, Teotitlán has burgeoned within the last two-and-a-half decades into a modern folk art and anthropological jewel. Indeed, Teotitlán supports a multi-million dollar industry and has acquired the reputation as the most prosperous indigenous community with the highest standard of living in all Latin America—perhaps even the entire world.

The villagers of Teotitlán del Valle specialize in textiles that are routinely used as ponchos, blankets, rugs, and tapestries. All are woven on the European style upright loom. Quality varies depending on a number of factors: yarns (hand-spun 100 virgin wool vs. machine-spun mixtures of wool/cotton), dyes (natural vs. commercial), and design (simple geometric vs. pictorial with borders). Whenever colors other than the natural wool hues are desired, skeins of thread are dyed with natural dyestuffs made from only a handful of native vegetable products—indigo ("añil"), lichens ("musgo"), dodder ("bejuco"), sweet acacia ("huisache") and pecan ("nues")—and the cochineal bug ("cochinea"), a scale insect (*Dactylopius coccus*: Homoptera: Coccidae). The dyes are "fixed" to the wool with natural mordants from plants and minerals. These ingredients are all hand-prepared with recipes that date back to pre-Hispanic times. After weaving, the textile is washed in a sudsy solution made from the root of "amole," a vine that grows in the forested mountains above the village. By manipulating the natural color of yarns and the dye baths, artisans can produce hues that span the entire spectrum; furthermore, the colors are remarkably stable through time.

Designs for these sumptuous weavings (commonly called "Oaxacan rugs" to distinguish them from "Navajo rugs") are usually not original. For example, designs may originate in artifacts dating to pre-Hispanic Mesoamerican cultures, traditional Navajo textiles and paintings from southwestern United States, international contemporary art—especially paintings of American and European Masters, and even traditional Zapotec utilitarian textiles. Nonetheless, even though the primary design is from an extraneous source, the final composition of the weaving is determined by the artisan. For example, size and color combinations are purely subjective; a central figure may be complimented with secondary figures from other sources; also, the weaving may be framed with one or more borders.

Over the years several families in Teotitlán have ascended as international luminaries. Two such families are those of Isaac Vásquez G. (1935) and Alberto Vásquez J. (1941). These family heads are first cousins and can trace their weaving ancestry into antiquity. The Vásquez masterweavers are credited with researching ancient motifs and dye techniques, and reintroducing these into their contemporary weavings. While both families routinely produce tapestries spanning the gamut of designs and complexity, both Isaac and Alberto are partial to pre-Hispanic images. In the articulations of Isaac: "We Indians don't know much about the lives and beliefs of our ancestors. Only artifacts remain. By creating stunning wall-hangings that feature figures and symbols from the past, I present an opportunity for my countrymen and the rest of the world to learn afresh about Mexico's rich heritage. And since butterflies were so important to the ancients, I particularly enjoy weaving butterfly designs." Authentic top-quality Vásquez tapestries are distinguished with the monograms of their proud weavers: IVG for Isaac and AVJ for Alberto.

Prices of Zapotec weavings in Teotitlán range widely. Small pieces of simple designs, for instance, usually sell for a few hundred dollars. But large pieces of aesthetic and technical excellence can fetch many thousands of dollars. Understandably, in foreign markets, prices are considerably higher. Examples of these superior weavings grace the floors and walls of museum galleries, exclusive boutiques, and individual homes throughout the world.

When the McGuire Center for Lepidoptera and Biodiversity (Florida Museum of Natural History) opened in late 2004, the "Hall of Culture and Science" featured a display of 13 original Zapotec tapestries featuring butterfly motifs from my personal collection acquired directly from the artists between the 1960s and 1980s. The exhibit ran for approximately two years. For those who missed the exhibit or who are interested in additional material, I am including this photo album. All photos are by the author. [Most pieces are in the author's personal collection and will be bequeathed to the McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida.]

## Acknowledgements

I would like to thank the following: My many Zapotec friends, especially the Isaac Vásquez G. and Alberto Vásquez J. families for graciously sharing their unique world with me over an extended time; numerous members of SIL International (formerly, Summer Institute of Linguistics, Inc.) and the Wycliffe Bible Translators for assisting me with accommodations and linguistic support during my many months of residency in Mexico between 1962 and 1983.

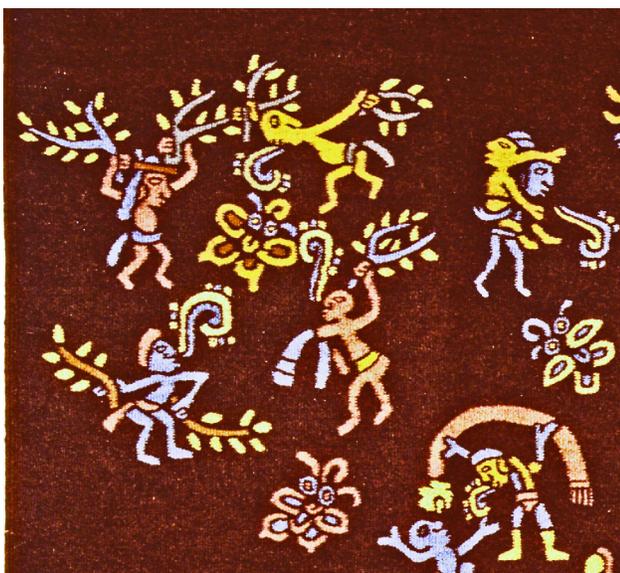
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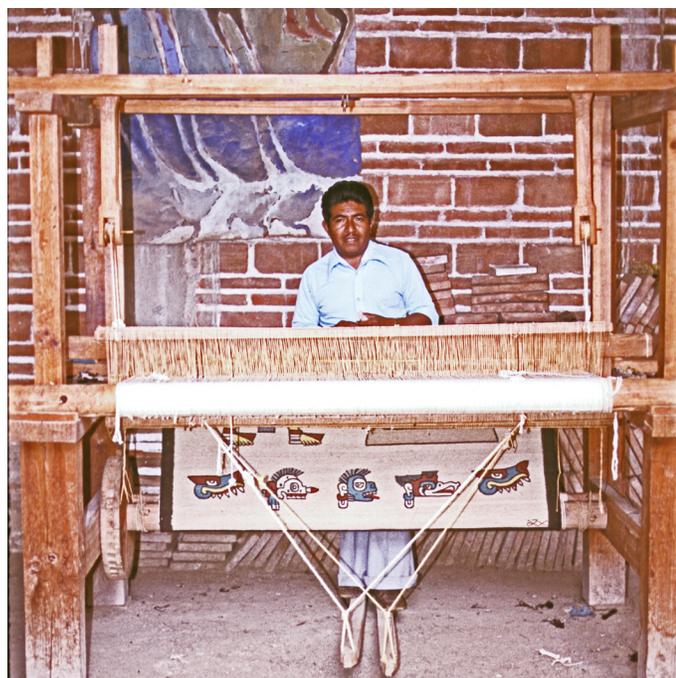
*(Literature continued on p. 102)*



Masterweaver Isaac Vásquez G. (IVG) (on left) and author display the complex “Paradise of Tlaloc” tapestry woven by Isaac in 1983; design is from a large painted mural in the Tepantitla complex of the Teotihuacán Archeological Zone northeast of Mexico City; anthropologists theorize that the scene is a mythological paradise or a paradisaical dream induced by a known hallucinogen; images depict water sports, chasing butterflies, picking flowers, physical therapy, “horseplay,” and singing (illustrated with elongated curlicue speech glyphs); site is pre-Nahua (Aztec), dating 100 BC-700 AD and attributed to the Teotihuacán culture; mural is considered to be the oldest record of a butterfly image in the Western Hemisphere



Left and above: detail from the “Paradise of Tlaloc” tapestry, showing butterflies incorporated into the design. The original design is from a large painted mural in the Tepantitla complex of the Teotihuacán Archeological Zone northeast of Mexico City



Isaac Vásquez G. (1978) working on a European four-poster loom



Butterfly visiting a flower, from a painting on bark paper: Codex Vindobonensis (Mixtec)



Design from an impression on a clay stamp (Nahua)



Work area on a loom; note numerous spools of colored yarn



Traditional simple butterfly designs on ponchos, blankets and rugs in Teotitlán del Valle (1965) using commercial dyes



Left to right: Cochineal scale insects (*Dactylopius coccus*) on their nopal cactus host, with white cottony secretions for protection; dead cochineal bugs before grinding; dye pot containing powdered cochineal bugs, used to create various hues of red in the dye bath

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Xochiquétzal, the deity associated with butterflies, from Nahuatl warrior's shield; butterfly identified as *Papilio multicaudata*, a swallowtail common in the Valley of Mexico



"Butterfly Goddess" from a ceramic painting in Palenque (Maya)



Butterfly visiting a flower, from a painting on bark paper: Codex Vindobonensis (Mixtec)



Geronimo Vásquez displays a tapestry (1982) with deity-butterfly design: from clay shard found in Monte Albán, Oaxaca (Zapotec/Mixtec); background color created with two-ply yarn of dyed orange and natural gray; composition by IVG



Fanciful butterfly from clay stamp found in Tula (Hidalgo), homeland of the Toltec Empire; design is executed in virgin, natural tan wool with indigo (blue) dye.



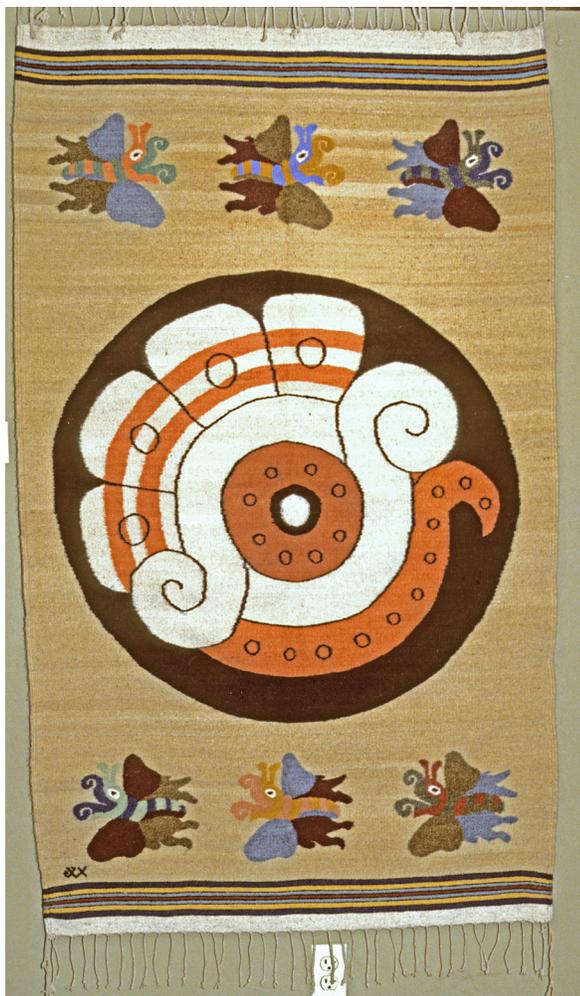
Combination of butterfly, spider, and stepped fret designs in natural wools; from Codex Magliabechiano (Nahua)



Stylized butterfly: *Papilio multicaudata*; natural wool colors; source unknown (1965)



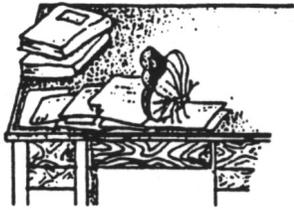
Composite of tree and butterflies; from bark-paper painting -- Codex Nuttall (Mixtec), painted mural (Teotihuacán), and clay stamps (Nahua)



Composite; center is a flower design from a clay spindle whorl (Nahua); border butterflies are from a mural painting in Tepantitla (Teotihuacán)



Design from a clay vessel (Nahua)



# From the Editor's Desk

James K. Adams

I hope you are enjoying this festive, photo-filled issue of the news. I have two reminders for the readers: 1) please remember that the DEADLINE for submitting items for each issue of the news is ALWAYS on the bottom of the third to last page of the news; and 2) although I can work with pictures inserted into your articles, and you may want to send a copy with pictures inserted to show me where and how you want them to be used, it will always be much easier for me if you send copies of the pictures separate from the text -- this gives me much more flexibility in terms of working with them. I will (and have) used Adobe Photoshop to lighten and crop pictures on my end; just know I have this capability and will use it!

The biggest collecting surprise this summer for me is the capture of a specimen of the erebid *Dinumma deponens* Walker, described in 1858, found "from India across E China to Japan and Korea and to Thailand" (Alberto Zilli, pers comm). The surprise is that it was taken in Morganton, Fannin Co., Georgia, June 15, 2012 (with Paul Dennehy) for a new U.S. record. Whether it is an isolated specimen or an established introduction is unknown at this time.



*Dinumma deponens* Walker, Morganton, Fannin Co., GA at lights, June 15, 2012, Paul Dennehy and James Adams

## Photos from the 2012 joint meeting of the Lepidopterists' Society and the Societas Europaea Lepidopterologica (SEL), Denver

Pages 104/105, photos by Andrew Warren, pages 106/107, photos by Ranger Steve Mueller, unless otherwise specified



Ric Peigler and Jerry Powell (photo by a friendly lepidopterist with Ric Peigler's camera)



Bob Pyle and Don Lafontaine



David and daughter Megan McCarty



Bob Patterson and Charlie Covell having a good time, and Eric Metzler having a GREAT time!



Kelly Richers, Chuck Harp, and Cindy Harp



Evi Buckner Opler and Paul Opler



Jeffrey Stephenson (Zoology Collections Manager), Frank Krell (Curator of Entomology), and Kizra Sullivan (Denver Museum of Nature and Science local organizer for the meetings)



Gerhard Tarmann, Jurate de Prins, and Willy de Prins, part of the SEL contingent at the meetings



Jan Chu, Amy Chu (in back), and Bob Pyle. Amy designed the logo for the meetings, part of which is visible in the background.



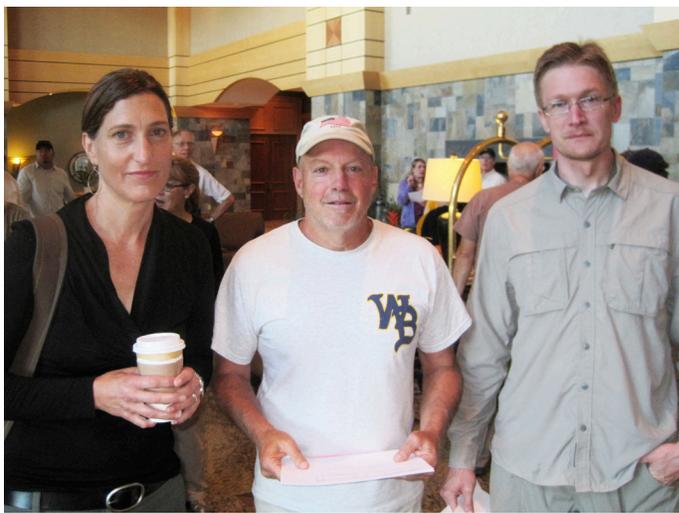
Bob Robbins and John Calhoun, clearly having an excellent time.



Louise Fall and Fred Stehr



Erik van Nieuwerkerken and Felix Sperling



Karen Kramer Wilson, Steve Fratello, Todd Gilligan



Rich Bray and Ken Bliss



Markku, holding daughter Tristan, Savela and Kara Anderson (photo by Andrew Warren)



Camdon Gerlach and Gordon Revey, getting ready for the watching field trip to Golden Gate State Park



Maria Heikkilä and Jonathan Pelham, surely working on something of significance to the lepidopterological world



Suzette Slocomb, Dave Elwonger and Steve Spomer (in background) on one of the collecting field trips



John Nielsen working with birdwings in the Denver Museum of Nature and Science collections



Marc Epstein and Mike Pogue

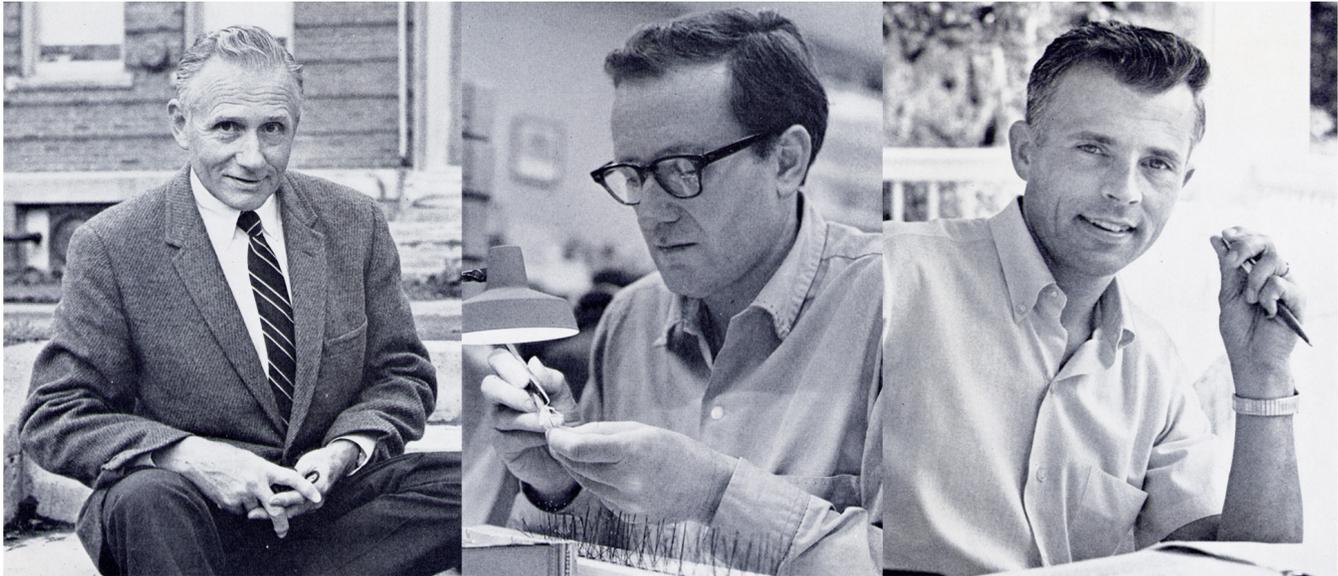


Joaquin Baixeras, Carlos Cordero, and David Xochipiltecatl (photo by Andrew Warren)

# On the future of Lepidopteran systematics and estate planning

David Wagner

Ecology and Evolutionary Biology, University of Connecticut, Storrs, Connecticut, 06268 david.wagner@uconn.edu



Charter Board Members of the Wedge Entomological Research Foundation and authors of volumes on of the Moths of North America: John Franclemont (Cornell University), Doug Ferguson (USDA), and Ronald Hodges (USDA).

Even a casual examination of the demographics of practicing systematists and the number of positions where collection-based research is encouraged should give pause to members of this Society. Three decades ago there were two dozen professional Lepidopterists (i.e., curators) in the continent's major museums engaged in alpha systematics, curation, and collection-based research on Lepidoptera. Now there are less than fifteen and many of these are nearing the end of their professional careers. For the whole of my life, the National Museum was the premier institution for the study of lepidopteran systematics in the New World. At its peak in the 1970s and 1980s, there were five (only four at one time) USDA scientists (Doug Ferguson, Ronald Hodges, Robert Poole, Edward Todd, Hans Capps, Don Weisman) and seven (again, only four at one time) Smithsonian positions (John Burns, John "Jack" Gates Clarke, Donald Duckworth, Don Davis, William Field, Robert Robbins, and Scott Miller) engaged in revisionary and related taxonomic studies in Washington DC. Support staff included technicians, preparators, illustrators, and a collection manager. Today there are just three USDA and three Smithsonian Lepidoptera positions and two of these bear considerable administrative responsibilities. Moreover, all six scientists are over 55, and no less than four are contemplating retirement. No doubt, some of these remaining positions will be lost over the course of the next decade. Likewise, support staff, operating budgets, and some in-

house grant opportunities at the Museum have dwindled.

A counter example to the general decline in support for systematic entomology across North American institutions is the McGuire Center. In the past seven years the Center and State of Florida have hired several lepidopterists: two new curators, a collection manager, and brought the lepidopterist funded by the Florida State Department of Agriculture to the McGuire. A new curator position may be advertised this year. Much of this growth was made possible through large gifts made by William McGuire with matching support from the State of Florida Alec Courtelis Facilities Enhancement Challenge Grant Program as well as important contributions from the University of Florida. (Two of the McGuire's current curatorial lines came with the Allyn Museum transfer to Gainesville.)

Much of the future of Lepidopteran systematics lies in molecular biology, computational biology, and bioinformatics. Specimen-based research itself is becoming an endangered "species." Before long it may be hard to find a curator or a professional lepidopterists who can train students to do genitalic dissections, describe species, author a taxonomic catalog, revise a genus, or curate a collection.

In the May issue of the News last year (News Lepid. Soc. 52(4): 134) a plea was made for members of our Society to

include The Wedge Entomological Research Foundation, the Lepidopterists' Society, Smithsonian Institution, Canadian National Collection, universities and natural history museums with systematic collections, and/or other like-minded entities in their charitable giving and estate planning. Without endowments dedicated to collections and specimen-based research one can't help but wonder who will be the stewards of our biological collections in the years ahead: Who will be committing the necessary hours to specimen curation and collection management? Who will be tackling the detailed work of revisionary systematics? Who will be harvesting the wealth of knowledge in our nation's biological collections? Who will be championing specimen-based research? Who will serve as role models for and interact with young lepidopterists and students? The role that museum scientists serve in the career decisions of young people should not be underestimated—one only need to review the biographical sketches of our Charter Members (News Lepid. Soc. 53(1): 8-14) to get a sense of how important even casual interaction with a curator or seasoned lepidopterist can be to a young person.

Collections are expansive and expensive. Without endowments it is difficult to imagine how Lepidoptera collections can avoid being “moth-balled” off-site—a fate none of us would have imagined for our specimens—many obtained and maintained with great expense, effort, and passion—in the days when Jack Clarke was at the helm in Washington, Rindge at the American Museum, Franclemont at Cornell, or Powell at Berkeley.

We encourage those who might be in a position to make a charitable gift or consider lepidopterology in their estate planning to carefully consider the wording in their wills. If monography and revisionary taxonomy, curation, and collection-based research are important to you, restrict your gift to such. Broadly defined positions, e.g., one

restricted to “Lepidoptera research,” at a University, may be given to a climate-change scientist, insect-plant ecologist, theorist, or any other of a dozen other worthy disciplines—but such would not appreciably bolster the state of lepidopteran systematics and collection-based research at target organizations and institutions. We urge those of you that can, to make a gift that will carry forward into the future; to do something to bolster the collections, resources, curatorships, education, and long-term welfare of our science. Discuss the nature, scope, and details of your gift with your target organizations and institutions, as well as your trusted colleagues and friends, and get your written wishes expressed in the language of your gift. As was done at the University of Florida, larger gifts can often be leveraged, although such invariably may come with the loss of some control as to how your contribution will be used.

Lepidoptera are among the most extraordinarily beautiful and ecologically important groups of animals to share our planet. They will always be worthy of our attention, and for many, a portal into natural history, conservation, and the world where many of us have lived so many memorable times. Thousands of species await description....even discovery. Unrecorded life histories number in the ten of thousands. Many species have been lost to science for a half-century or more. So much remains undone. In these uncertain times, estate gifts, which get passed along only after our other immediate needs have been met, are one of the best ways for all of us to invest in the future of lepidopterology, collections, and systematics. The Wedge Entomological Research Foundation which publishes the Moths of North America series is seeking to endow a position in Lepidopteran systematics—to be hosted at the Smithsonian Institution—if you think that you might be in a position to help please contact Dr. Ron Hodges ([rwhodges@rhodges.net](mailto:rwhodges@rhodges.net)).



An early day in the development of the Moths of North America Project: a planning session in the Moose Room at Richard Dominick's Wedge Plantation in McClellanville, South Carolina. From L to R: Richard Dominick, Eric Classey, Maria Nomikos, Doug Ferguson, and Ron Hodges.

## Membership

The Lepidopterists' Society is open to membership from anyone interested in any aspect of lepidopterology. The only criterion for membership is that you appreciate butterflies and/or moths! To become a member, please send full dues for the current year, together with your current mailing address and a note about your particular areas of interest in Lepidoptera, to:

Kelly Richers, Treasurer  
The Lepidopterists' Society  
9417 Carvalho Court  
Bakersfield, CA 93311

## Dues Rate

Active (regular)	\$ 45.00
Affiliate (same address)	10.00
Student	20.00
Sustaining	60.00
Contributor	100.00
Life	1800.00
Institutional Subscription	60.00
Air Mail Postage, <b>News</b>	15.00
	(\$30.00 outside North America)

Students must send proof of enrollment. Please add \$5.00 to your dues if you live in Canada/Mexico, \$10.00 for any other country outside the U.S. to cover additional mailing costs. Remittances must be in U.S. dollars, payable to "The Lepidopterists' Society". All members receive the **Journal** and the **News** (each published quarterly). Supplements included in the **News** are the Membership Directory, published in even-numbered years, and the Season Summary, published annually. Additional information on membership and other aspects of the Society can be obtained from the Secretary (see address inside back cover).

## Change of Address?

Please send permanent changes of address, telephone numbers, areas of interest, or e-mail addresses to:

Julian P. Donahue, Assistant Secretary, The Lepidopterists' Society  
735 Rome Drive, Los Angeles, CA 90065-4040. Phone (323) 227-1285, FAX (323) 227-0595,  
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## Our Mailing List?

Contact Julian Donahue for information on mailing list rental.

## Missed or Defective Issue?

Requests for missed or defective issues should be directed to: Ron Leuschner (1900 John Street, Manhattan Beach, CA 90266-2608, (310) 545-9415, *ronleusch@aol.com*). Please be certain that you've really missed an issue by waiting for a subsequent issue to arrive.

## 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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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 knowledgeable 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 54 must reach the Editor by the following dates:

	Issue	Date Due
54	4 Winter	Nov. 15, 2012
55	1 Spring	Feb. 15, 2013
	2 Summer	May 20, 2013

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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**Attendees at the joint meeting of the Lepidopterists' Society and the Societas Europaea Lepidopterologica, July 23- 29, 2012, Denver, CO**