NEWS OF THE LEPIDOPTERISTS' SOCIETY

Volume 44, Number 1 Spring 2002

Inside:

NEWS OF THE LEPIDOPTERISTS' SOCIETY

Volume 44, No. 1 Spring 2002

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

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

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

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

Contents

Issue Date: April 15, 2002 ISSN 0091-1348

Cover: Best in Show/Grand Prize (First, Larvae), 2001 Photo Contest: Pine Emperor Moth larva, *Imbrasia cytherea*, by Leroy Simon.

Karner Blue Re-introduction at Ivanhoe Nature Preserve

A Step Towards Recovery in Northwestern Indiana.

Paul Labus, Mike Norris and John Shuey

Indiana Office of The Nature Conservancy, Southern Lake Michigan Rim Project Office, 1400 New York Ave, Room 269, Calumet College, Whiting, IN 46394

After a 5-year absence, Karner blue butterflies, *Lycaeides melissa samuelis* Nabokov (Lycaenidae), fly again at Ivanhoe Nature Preserve in Gary, Indiana. In mid-July 2001, the first of approximately 250 reared pupae were brought to the site. Over the next few weeks, adult butterflies emerged at a success rate of over 95%. The release was part of a multi-year effort to restore this federally endangered species to the preserve.

Ivanhoe Nature Preserve is one of the few remaining tracts of native landscape left in the urban industrial complex that covers northern Lake County, Indiana. A series of 13 linear sandy beach ridges alternate with long narrow wetlands in parallel bands to form the unique *dune and swale* topography that characterizes the preserve. Xeric black oak savanna, prairie, sedge meadow and open marsh form a mosaic of natural community types at this small (130 acres) but incredibly rich site. Ivanhoe supports over 270 species of native plants and over 50 resident species of butterflies, including many habitat restricted species (Shuey, 1997a). It is the only known extant site for columbine duskywings (*Erynnis lucilius*) in the state.

The history of Karner blue in this area is poorly documented. However, it was probably once a common species that functioned as a metapopulation composed of several demes shifting across the dune and swale landscape in response to the wildfires that created and sustained open savanna and prairie habitats. Over time, the widespread destruction of habitat throughout the region reduced the native landscape to a series of small isolated natural areas. Karner blue was subsequently divided into discrete populations restricted in range to the remnant natural areas. As development increased, the natural areas became smaller and more isolated, virtually eliminating ecological interaction between sites. Faced with less and less available habitat, the populations diminished. Eventually local extinctions occurred with no hope of recolonization.

In the early 1990s, a small population of Karner blues still occupied Ivanhoe Nature Preserve. However, past fire suppression had allowed woody vegetation to encroach on the open savanna and prairie habitat patches that the butterfly needs to survive; as a result their available habitat had been reduced to less than 15 acres. The Nature Conservancy, purchased to conserve the critical dune and swale community assemblage, used the plight of Karner blue to focus restoration efforts at the site. The butterfly's endangered species status brought the necessary attention and funding, while its ecology supplied a conceptual model to use in restoring pre-fire suppression dynamics to the dune and swale (Shuey, 1997b). In January of 1996, the Conservancy, in cooperation with the U. S. Fish and Wildlife Service and the U.S. Environmental Protection Agency, began aggressive efforts to thin canopy cover and restore fire to the system.

Unfortunately, in the spring of 1996 two separate wildfires at Ivanhoe consumed the majority of habitat occupied by Karner blues. A prolonged period of cold damp weather during late spring caused a drop in Karner blue populations throughout northwest Indiana. The combination of fire and bad weather drastically reduced the butterfly's numbers, and within one year it disappeared from the preserve. This event was a sobering lesson, confirming that prairie and savanna habitats had degraded to the point that specialized species such as the Karner blue were indeed vulnerable to local extinction. It also underscored the importance of the work that had begun at the site. We continued the restoration with re-introduction of Karner blue as the goal.

Most of the work involved chainsaw crews and herbicide application, with "restoration artists" re-sculpting a pre-fire suppression landscape. The first step was to reduce the coverage of shrubs and saplings in the under story. Next, larger trees were cut to create gaps in the canopy. Several ridges were reduced from 100% canopy cover to around 45% cover, which means that about 75% of the trees and shrubs were cut and removed. This left primarily the larger, open grown black oaks, some younger regeneration, and ground cover that was predominantly poison ivy and bracken fern.

At the time, we had no idea how resilient the system would be. The plan was to assess the restored areas over the following two growing seasons and determine how to best supplement the herbaceous community. At the same time, we began an aggressive prescribed fire program to reduce regeneration of woody species and stimulate the growth of prairie and savanna plants on the restored ridges. The addition of fire and light brought rapid change to the system. The soil supported many suppressed rootstocks of open grown

continued on pp. 6


A
B
C
D
E
F
G
H
I
J

A Palaearctic Noctuid Strays to Alaska

James J. Kruse

Curator of Entomology, University of Alaska Museum, 907 Yukon Drive, Fairbanks, AK, USA 99775-6960, fnjjk1@uaf.edu

On 23 June, 2001, a large catocaline noctuid moth was found by USFWS personnel on Buldir Island in the Western Aleutians (Fig. 1). Heather Moore, Wildlife Biologist for the Alaska Maritime National Wildlife Refuge found, photographed, and released what has been identified as *Adris* (*Eudocima*) *tyrannus* (Guenée, 1852) (Fig. 2).

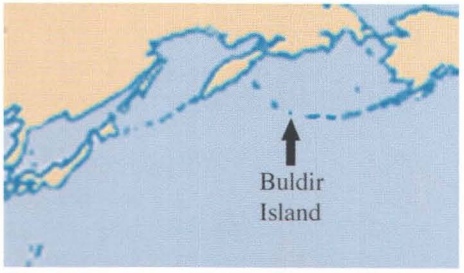


Fig. 1. Location of Buldir Island, Alaska.

This moth is primarily a tropical species, found as far north as Japan and Korea where it is regarded as a pest. The adults pierce fruit with their proboscis (including plum, peach, apple and grape) to feed on the juice they contain, but in doing so, the fruit is damaged and can then be infected by fungi and rot. It is a very strong flier, and strays regularly into the Russian Far East and Siberia. This appears to be the first time this species has been detected in the Nearctic.

Fig. 2. Photograph of Adris (Eudocima) tyrannus.

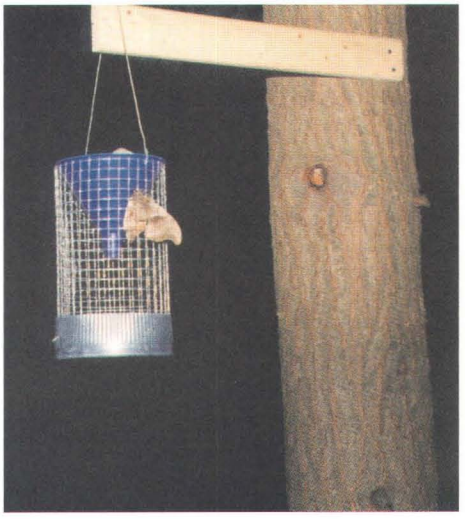
Thanks to James Adams, Martin Honey, and Roger Kendrick for helpful information and assisting in the identification of this moth. This work was supported by NSF under Grant 9981915.

An Inexpensive Mating Cage for Saturniidae

Karl W. Ploran

110 Route 20, Chester, MA 01011

For several years I have experimented with various methods for mating Saturniidae in the hopes of finding a device that could be fabricated from materials available at any hardware store. I came up with this design (see photo) after seeing illustrations of fish traps and small animal cages in an assortment of sportsmen's magazines and catalogs.



The materials cost about $7.00 for a 6" diameter x 10" high (15cm x 25cm) cage. The bottom is made from a 6" (15cm) stove pipe end cap and the screen is ½" (13mm) hardware cloth, which is gen-

continued on pp. 6

← Karner Blue Re-Introduction: Figure Captions.

***A:** Paul in the rearing facility. Simple "tupperware" was used to maintain humidity during rearing. **B:** Stacks of larvae, reared individually in petri dishes. Fresh hostplant was provided daily. This rearing procedure virtually eliminated larval mortality, and over 90% of the eggs that hatched were released onto the preserve as adult butterflies. **C:** Close-up of a larva on lupine leaves. Note the high quality of the day old leaf with feeding damage. One of our biggest concerns was the potential to rear reproductively stressed adults - hence fresh food was provided every day. **D:** Detail of pupae, just before eclosion. Pupae were maintained in the petri dishes until the last possible moment, usually the morning of their emergence as adults. Once developing wing patterns became apparent, pupae were transported into the field and usually eclosed later the same day. **E:** Pupae emergence platform - in reality an upside-down mosquito head-net. Pupae were place in the bottom and allowed to "emerge naturally" at the re-introduction site, completely eliminating the need handle the adults. This photo also provides a feel for the restored black oak savanna habitat. **F:** Detail of the "head-net" showing rain guard and black oak savanna. The head-net provided protection from predators and weather, while allowing emerging adults to emerge freely into the release habitat. **G, H** and **I:** Wing expansion of an emerging male and its first resting place on the preserve. **J:** A female surveys her brave new world from the safety of the emergence platform.*

All Photos by the authors. See the article beginning on pp. 3.

Karner...*continued from pp. 3*

plants, and to our surprise, several prairie and savanna grasses and forbs appeared the following spring. Within two growing seasons, the plants where setting seed and species such as lupine quickly began an ecological expansion that continues today. All told, about 80 acres at Ivanhoe now support high-quality dune and swale, with oak savanna scattered throughout the restored habitats. Equally important, three discrete habitat patches were created to shelter vulnerable species from an all-consuming wildfire event in the future.

In June of 2001 we embarked on re-introducing Karner Blues to the preserve - a seemingly simple but intensive effort. Seventeen females were captured from the Indiana Dunes National Lakeshore, where the Karner blue still thrives, and carefully cared for as they laid their eggs. As the eggs hatched, each caterpillar was individually reared and provided with fresh lupine leaves every day. Then in July, the first of nearly 250 pupae were transferred to two release sites at the preserve, a process that continued over several days. The adults emerged and appeared to adapt to their surroundings. For a period of about two weeks, the butterflies could be found concentrated around the release points. They were observed mating and laying eggs. While all of this looks promising, real success will be measured this spring: will the butterflies successfully reproduce and survive at their new home? And more importantly, will populations build to a sustainable level?

Obviously, our work is not done. Next spring we will conduct a series of line transects to estimate survival from the initial release. We will also repeat the rearing exercise to release additional adults to the summer brood. We are especially interested in determining how the butterflies disperse outward from the two release points, so all suitable habitats in the preserve will be monitored for Karner blue activity.

Success at Ivanhoe will be one milestone in the long process of re-establishing a true metapopulation in the dune and swale system. Most of the nearby natural area remnants are also fire-suppressed, and will require intensive canopy thinning to create suitable habitat for Karner blue. Management at some of these sites is already under way. In addition, it may be necessary to create stepping stone habitat patches to facilitate dispersal between preserves. Over the next 10 years, we hope five to seven new demes of the species can be re-established on about 500 acres of additional dune and swale habitat in the system, creating a self-sustaining metapopulation.

Re-establishing Karner blue has become a focal point for restoration and management activities at Ivanhoe Nature Preserve. While the butterfly's status as an endangered species was the motivation to restore critical habitat, the benefits of the restoration extend beyond this single species. In many ways, the plight of Karner blue reflects the problems faced by a wide array of prairie and savanna species that are now restricted in range to the remnant natural areas. By addressing the needs of Karner blue, we can improve the situation for many other less known but equally important species. As Karner blue restoration work continues throughout the region, it will contribute greatly to the ultimate goal of preserving the entire range of biological diversity in the dune and swale system.

Literature Cited

Shuey, J. A. 1997a. Definitive destination: Northwest Indiana's Lakeshore communities. American Butterflies, 5: 4-13.

Shuey, J. A.1997b. Dancing with fire: ecosystem dynamics, management, and the Karner Blue (*Lycaeides melissa samuelis* Nabokov) (Lycaenidae). J. Lepid. Soc. 52: 263-269.

The authors may also be reached at **plabus@tnc.org**, **Mnorris@tnc.org**, *and* **jshuey@tnc.org** *respectively.*

Cage...*continued from pp. 5*

erally sold by the roll so is already formed into a cylindrical shape that can be easily fitted into the stove pipe cap once it has been cut to size. Drill pairs of small holes at 45° intervals along the perimeter of the cap before securing the assembly with twists of wire. Lastly, drill a few holes in the cage bottom for drainage. The top of the cage is a 6" (15cm) plastic funnel.

This cage is ideal for mating *Antheraea polyphemus*, *Actius luna* or *Callosamia promethea*. I use a similarly constructed 8" diameter (20cm) cage for mating *Hyalophora cecropia*. I also recommend putting about 1" (25mm) of wadded paper towels on the bottom to cushion the female against injury should shed fall and placing a small stone inside the funnel to prevent it from being displaced by breezes.

SS, Pt. 2...*continued from pp. 22*

22, Kilian Roever 22, Charles A. Sekerman 22, Stephen M. Spomer 22, William L. Swisher 22, Ralph E. Wells 22, W. David Winter Jr 22, Terhune S. Dickel 21, James E. Ebner 21, George E. Ehle 21, Quimby F. Hess 21, Robert L. May 21, Dale F. Schweitzer 21, Michael J. Smith 21, Steven J. Cary 20, William E. Sieker 20.

A total of 175 people have contributed for 10 or more years. A second category of contributor Leaders is much shorter, consisting of the two individuals who have contributed over a span of 49 or more years. They are the late Ray Albright, who sent data in 1948, several years in between, and in 1996, an inclusive span of 49 years; and Owen A. Perkins, who sent data in 1950, several years in between, and most recently in 2000, an inclusive span of 51 years! I suspect that he may have contributed again in 2001, but we must await the forthcoming 2001 Season Summary to find out.

The next chapter of this paper awaits conception, gestation, and delivery. Please send your ideas or statistics to Phil, and he will pass them along to me or Jim Tuttle for response.

The Stamnodini (Geometridae: Larentiinae) of Texas

Ed Knudson and Charles Bordelon

8517 Burkhart Rd., Houston TX 77055

The Stamnodini are accorded tribal status in the large geometrid subfamily Larentiinae. Representatives of three North American genera occur in Texas, excluding *Marmopteryx* Pack., which is more northern in distribution. Of the eight known species in Texas, three were only found in the past few decades and it is possible that several others may yet be discovered in this state. Most of the species in Texas are colorful and probably mimic distasteful species (at least in the diurnal species). The moths typically rest with the wings closed vertically, displaying a cryptically marked underside pattern. In species that occur to the north of our area, this pattern somewhat resembles the markings of butterflies in the genus *Oeneis* Hn. No life history information is available for Texas species. The distribution of Texas species is mainly in the western third of the state, although one occurs in extreme south Texas.

The Illustrations (see pp. 8) show upper-surface (left) undersurface (right).

1: *Heterusia atalantata* (Gn.). This is an exclusively diurnal species that is known from Cameron, Hidalgo, and Starr Co's. of extreme south Texas. The adults typically fly in shaded areas, especially along wooded canals. Most records are from Oct.-Dec., but it probably flies most of the year. The pattern appears to mimic a tropical American assemblage that includes Riodinids, Nymphalids, Arctiids, and other Geometrids.

2: *Stamnoctenis morrisata* (Hulst). This is the most common and widely distributed species in Texas, occurring throughout the western third of the state, to Bexar & Travis Co's in the east. Many specimens tend to be uniformly gray in color. Adults fly from March-October.

3: *Stamnodes franckata* (Pears.). In Texas, this species occurs in the Chisos Mts. in Big Bend National Park, and in the Davis Mts. It also occurs in the Chiricahua Mts. in Arizona. Adults fly in Aug.-Sept.

4: *Stamnodes splendorata* Pears. This intense orange species is occurs in the Davis Mts. of west Texas, usually above 7000 ft., where it can be quite abundant. It was originally described from SE Arizona, and is apparently quite rare in collections. The adults fly in August.

5: *Stamnodes formosata* (Stkr.). This pale species is known in Texas from the Guadalupe Mts. National Park in Culberson Co., where it is quite common above 6000 ft . It also occurs in NM and AZ. Texas specimens have been captured from May-Sept., but most flights occur in August.

6: *Stamnodes seiferti* (Neum.). The largest species in Texas, this one differs from the others in having a plain hind-wing underside, often with a pinkish suffusion. This species occurs in the Chisos Mts., the Guadalupe Mts., and the Franklin Mts. It has not been found in the Davis Mts. so far. Adults fly from Aug.-Oct. Specimens from the Guadalupe Mts. tend to have a reduced pattern on the forewing.

7: *Stamnodes fervefactaria* (Grt.). This species is partially diurnal, but will come to lights. In Texas, it occurs in the Guadalupe Mts. in Aug.-Sept. It is also known from AZ.

8: *Stamnodes* sp. (undescribed). This is one of the most beautiful Texas moths, and has a fairly wide range, but was only recently discovered. Very likely, it has recently colonized the state from Mexico. The species is known from El Paso, Culberson, Val Verde, Kinney, and Uvalde Co's. of southwestern Texas. Adults fly mainly in Sept.-Oct., but several worn specimens were taken in the Guadalupe Mts., by Roy Kendall, in March. These probably represent over-wintering adults. It has been found in abundance in the western outskirts of Del Rio, Texas on one occasion, and its range has recently been extended to Concan, Texas (Uvalde Co.), where a single male was collected at light on 20-X-00. It was found to abundant at Concan, Oct. 2001, by Greg Muise, and this may indicate that its range is increasing. This species is being described by D.C. Ferguson. It is superficially similar to *S. deceptiva* B&McD., from AZ.

The authors may also be contacted at **eknudson@earthlink.net** *and* **legitintell exit@earthlink.net** *respectively.*

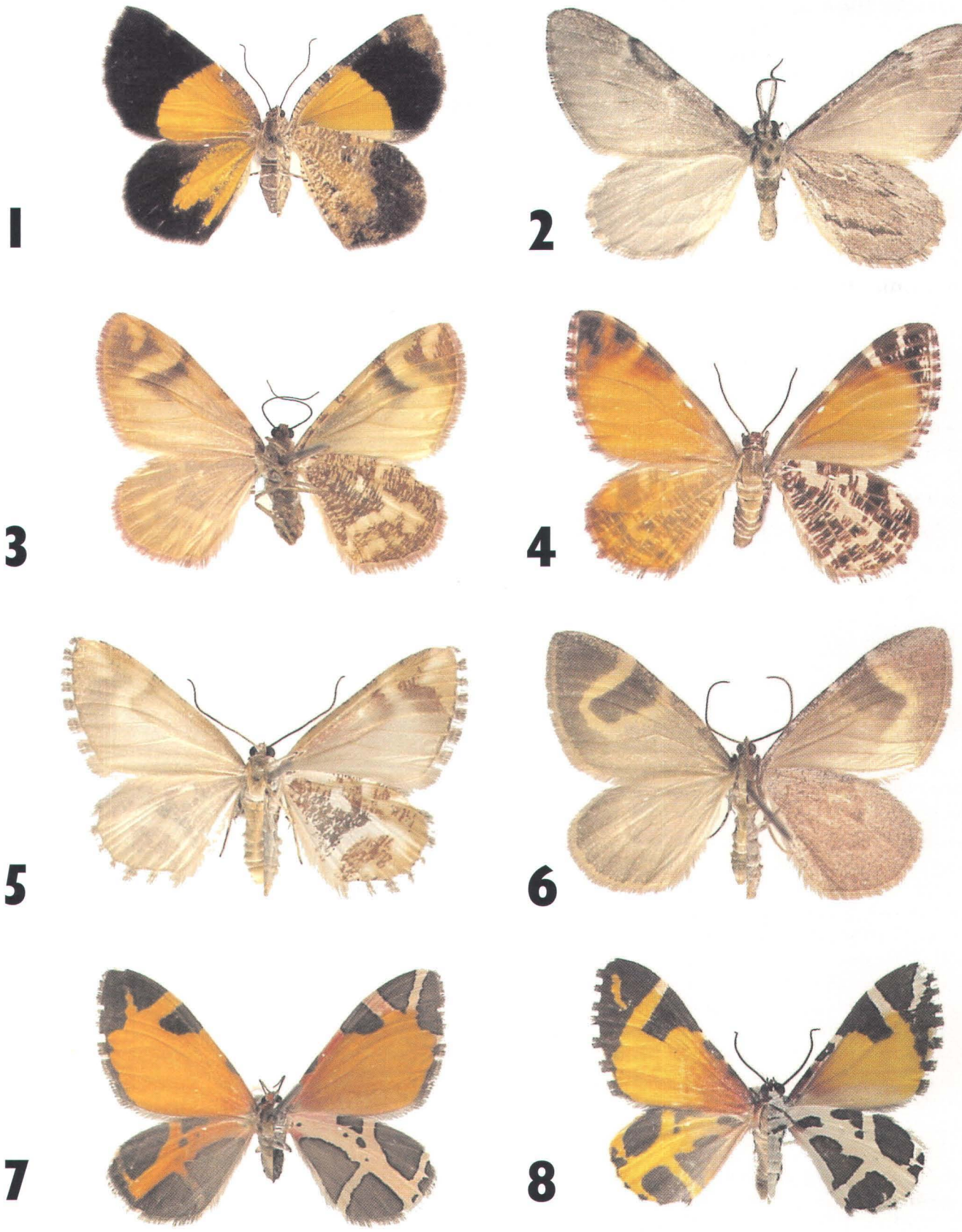
Close-Out Sale on Journal Back Issues

Ron Leuschner

1900 John Street, Manhattan Beach, CA 90266, USA.

The few remaining nearly-complete sets of the **Journal** are being offered at a special price of $300.00 USD for volumes 1-33 (as is). Postage is not included so please contact me for an estimate for your location.

These sets include 22 volumes complete including all issues of the first five years of the Society (1947-51). Four volumes are completely out and the remaining 7 volumes are 56% complete. If the basic set of Vol. 1-33 is purchased then additional volumes, all complete, from Vol. 34 through 45 may be added at $20.00 USD per volume.



The Stamnodini (Geometridae) of Texas. See the article on pp.7 for explanation of figure. Photos by Ed Knudson.

Collecting in Labrador with Paul Grey

William Neill
2325 SW 21 Ave., Portland, OR 97201

Paul Grey asked me along on his second trip to Newfoundland. It was 1981 and Paul Grey was already a legendary amateur lepidopterist and maybe the world's greatest expert on fritillaries. I knew him mostly through letters from his home in Lincoln, Maine but had never been with him in the field. Here was my chance to get to the Labrador tundra, and in very good company, too.

On July 2, Paul picked me up from the Stephensville airport at the south end of the island of Newfoundland. To reach Labrador, we had to drive up the west coast to the ferry at St. Barbe. The next day, from the dock, I could just make out the low coastline of Labrador across 15 miles of blue, wavy ocean—the Straits of Belle Isle. Labrador had always seemed a remote and mysterious place but as we set off on the ferry I realized that in a short while I'd be walking across its tundra amid fabulous arctic butterflies. My eyes fixed on the coastline ahead, anxiously watching its features grow and come into focus.

The ferry nudged against the pier at Blanc Sablon, Labrador, which was on a hard-surfaced coast, rocky and windswept-looking even when the air was still (see photos on pp. 32). A gravel road led up a sharp hillside and continued north parallel to the shore to connect a string of isolated fishing villages. On our right, granite headlands faced the Atlantic Ocean. Along the road was rolling tundra, dotted here and there with pockets of krummholtz growing in the swales. Krummholts, a knee-high tangle of stunted spruce and fir, is sometimes referred to as "elfin wood" because of its small scale. The "real" spruce forest hangs back some miles from the coast where it can get a foothold against the wind blowing in off the Atlantic.

Paul guided us through Forteau and L'Anse au Claire, tiny fishing villages of one story, mostly white houses tucked into coves where open fishing boats lay at anchor. There were no motels, gas stations or restaurants, at least not in 1981. Thirty miles further on we reached the village of L'Anse au Loup where one of the white houses was to be our temporary home in Labrador (see photos on pp. 32).

Barney's Hospitality House was a compact, scrubbed home. Paul and I occupied the bedroom of the family's teenaged son who temporarily doubled up at a neighbor's. Meals were served at a small table in the kitchen where the resident hosts, Mary and her fisherman husband, ate first. Next, the lepidopterists-on-expedition dined while the hosts washed the dishes while the four of us chatted. Paul was a lively talker.

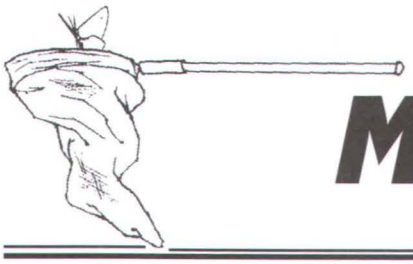
July nights are brief in Labrador. The sun rose early into a clear sky and we set out promptly. There was a low, wet field just outside the village and when we stepped into it around 8 am, *Oeneis polixenes* flew up from the matted vegetation. They were dark, richly marked individuals and were easy to catch. I lay flat on my stomach and photographed them resting in the sun, which was still low in the sky and illuminated their undersides well (see photo on pp. 32). The same site yielded a few *Boloria freija*. I crossed the road and walked towards the headland rocks where I could better feel the thrill of the ocean, scan its blue expanse, and listen to the waves rolling up the gravelly beach. There I caught as many *Pieris napi* as I wanted, very striking ones with bold, dark brown lines on the underside. A lynx startled me, breaking its cover when I stepped too close, bounding off to a higher jumble of granite blocks and watching me from there, its pointed ears silhouetted against the sky.

On our second day we found a few male *Colias pelidne*: small in size, hind wings with dark undersides, fine specimens. Paul disappeared for an hour and returned from a krummholtz with several *Oeneis jutta*. These were very small, unusual individuals. He generously pressed some on me. I have them still. In the late afternoon, on our way down the hill to the ferry at Blanc Sablon, we saw *Boloria eunomia* basking on the rocks and taking nectar from yellow composite blossoms.

Back on Newfoundland a day later, I was walking along, wishfully thinking "*brevicauda*," when in front of me one miraculously materialized up against the trees along the side of the road. It was headed toward me but was flying fast and full of purpose. I expected to watch it sail past well out of my reach, then, against all odds, the butterfly abruptly descended and lit on the dirt road practically at my feet. Too surprised to consider alternative, cleverer maneuvers, I simply dropped the net over the grounded butterfly. Astonished, I had my *brevicauda*.

It was a tattered female, not much of a specimen, but her abdomen was plump enough to suggest that she might still have some eggs. While I scrubbed the mosquito repellent from my hands, Paul scouted around and came back with a fistful of plausible wild parsley. I enclosed the swallowtail together with the vegetation in my butterfly net and positioned the assemblage carefully in the back seat. My companion scrutin-

continued on pp. 11



Mailbag...

Long, Lost Artist...

After a 5 year absence due to circumstances beyond my control; I would like to invite members to view my web site ***www.geocities.com/tciavolacarb/art.html*** devoted to my Lepidopetera art. Your kindness to me in the July 97 issue of the **News**, to publish my blue butterflies, inspired me to continue my studies and art drawings of Butterflies, Bees, and Flowers.

Thank you, and I hope to take advantage of your offer to rejoin the Lepidopterist's Society again. I really enjoyed the years of being a member and have missed it. I see Jane Ruffin now and then when she is showing her slides and talks about butterflies. I don't think she or anyone else remembers me or my art after all these years...

Teddie Ciavola Carboni

tccarb@hotmail.com

2002 Pacific Slope Meeting: July 5-7, 2002

The 2002 meeting of the Pacific Slope section of the Lepidopterists' Society will meet beginning Friday, July 5 and ending Sunday July 7, 2002. Sessions will be held at the Kern County Superintendent of Schools Camp KEEP Sierra in the southern Sierra Nevada Mountains.

Camp KEEP is located at 4700' elevation on the western slope of the Sierras in Tulare County just north of the Kern County line north of Glenville. Camp KEEP offers dining and meeting facilities as well as 11 cabins with sleeping facilities for up to 10 people in each. Separate shower and restroom facilities are conveniently located near the cabins.

The program will include Sierra Lepidoptera, as well as topics specific to the Pacific Slope section of the Lepidopterists' Society. It is anticipated that several newly described species will be presented at this meeting. Papers on related topics and record sharing among western lepidopterists are encouraged, including presentations of student papers and those dealing with conservation.

The meeting is within 5 to 3 nights of the new moon, so moth collecting on the 158 acres of the camp as well as the thousands of square miles of adjacent national forest should be excellent. The *Speyeria* and *Parnassius* species of the area should be flying in excellent numbers also within 30 miles of the camp. Camp KEEP includes riparian habitat and a variety of differently forested habitats. Mountains in the nearby area have collecting locations of over 8000 feet elevation and the Central Valley is as low as 300 feet.

Camp KEEP is 2 hours southeast of Fresno and 1 hour 15 minutes northeast of Bakersfield. Enjoy a July meeting at a field site with old and new friends. For further information and a registration package, write to Kelly Richers, 9417 Carvalho Court, Bakersfield, CA 93311 or telephone at (661) 758-7143 daytime or (661) 665-1993 before 9:00 p.m. at home

Details and a registration package will be mailed to all members of the Pacific Slope section in late February or March.

Kelly Richers

Winners of the 2001 Photo Competition

Larvae

1. Pine Emperor Moth, *Imbrasia cytherea* (Grand Prize Winner), Leroy Simon
2. *Copaxa multifenestrata,* Leroy Simon
3. *Automeris egeus,* Leroy Simon

Moths

1. *Automeris egeus,* Leroy Simon
2. Pine Emperor Moth, *Imbrasia cytherea,* Leroy Simon
3. *Rosema epigena,* Leroy Simon

Butterflies

1. *Luedorfia japonica,* Eiichi Sato
2. Red-banded hairstreak, *Calycopis cecrops,* Leroy Simon
3. American Painted Lady, *Vanessa virginensis,* Akito Kawahara

2002 Annual Photo Contest

The Education Committee invites you to enter the Annual Photo contest.

Prizes will be awarded in three categories: life history (individual or sequence), moths, and butterflies. A cash award or $50 for the first place in each category will be given. The Best in Show will receive a special trophy award. All award photographs will be published as covers in future issues of the *News*.

Rules and other conditions for entry can be obtained by contacting:

Dr. Jackie Miller, Allyn Museum of Entomology/FLMNH, 3621 Bay Shore Road, Sarasota, FL 34234 ***jmiller@virtu.sar.usf.edu***.

The deadline for all entries is 1 May 2002. We will look forward to seeing some excellent entries for display at the annual meeting in Charleston, SC!

Metamorphosis...

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

Hugh Avery Freeman

a charter member of the Society. The following is from the *Dallas Morning News, published February 25, 2002... "Butterfly expert, retired teacher " by LaKisha Ladson, Staff Writer.*

Hugh Avery Freeman, a noted expert on butterflies and a retired Dallas science teacher, died Tuesday, February 19, 2002 at his Garland home. Services for Mr. Freeman, 89, were Friday in Garland. People from various countries would consult Mr. Freeman about butterflies, said his daughter, Linda Stafford of Houston. "He loved nature; it was not only butterflies, he knew a great deal about botany," she said.

Mr. Freeman, whose excursions took him through the Southwest and Mexico, identified more than 100 species of butterflies, his family said. His collections are on display in museums.

Mr. Freeman, who was born in 1912 in Conway, Ark., earned a bachelor's degree in biology from Hendrix College in 1935. He earned a master's degree in zoology from Southern Methodist University (SMU) in 1938. Mr. Freeman taught at (Dallas) area high schools. From 1954 until his retirement in 1981, he taught at Hillcrest High School. He was the school's "Teacher of the Year" in 1963. "He really did take something that was dry for a lot of people and made it interesting because he had a passion for it himself," Ms. Stafford said.

He taught biology at SMU from 1948 to 1951, his family said. Mr. Freeman is also survived by his wife, Louise Freeman of Garland; another daughter, Julia Matthews of Austin; a son, Gilbert Freeman of Garland; 11 grandchildren; and three great-grandchildren.

Memorials may be made to the Hillcrest High School Scholarship Fund, 9924 Hillcrest Road, Dallas, TX 75230.

Ernest M. Shull

a member of the Lepidopterists' Society since 1952, died Monday, March 18, 2002. He had a long career as an amateur lepidopterist, both in India and in Indiana.

He donated tens of thousands of specimens to the museum collection of the Bombay Natural History Society and to the American Museum of Natural History in New York. I collected extensively with him in Indiana, especially during the years when he was doing research for his book, **The Butterflies of Indiana**, published in 1987 by the Indiana Academy of Science and Indiana University Press.

Every year for many years he submitted records for Indiana for the Season Summary in the **News**.

David L. Eiler,

North Manchester, Indiana

Julian Donahue adds:

Although I never met Ernie, we shared a mutual interest in Indian butterflies, for we both lived and collected in India at the same time (he was based in the Surat Dangs of Gujarat while I was in New Delhi). I am very sorry to hear of his passing.

Labrador...*continued from pp. 9*

ized my procedure without comment, but now he spoke. "Was I not worried," he wondered, "that the butterfly might get her feet tangled in the netting and become preoccupied with escape or even be injured?" He suggested that an ordinary paper bag, an example of which was on the floor, might provide a preferable enclosure but good advice is not necessarily heeded. At our next stop I checked the back seat to see if there was any progress with egg production but the butterfly was struggling to here her remaining three legs from the netting. Her other three had already been amputated in the course of her exertions. Of course, there were no eggs, nor would there be later, after she was transferred, wounded, to the paper bag.

In the years that followed, Paul would remind me foolish he thought I looked flat on my stomach to get pictures of the *polixenes*, but he was kind enough to never refer to my misadventure with the *brevicauda*. Paul Grey died in August 1994. While still skilled at curating specimens, he transferred his monumental collections of *Speyeria* and *Boloria* to the American Museum of Natural History in New York.

Membership...*cont'd from pp. 32*

1Y6, **Canada.**

Rogers, David A.: 4741 South 54th Road, Firth, NE 68358-7551.

Schroud, Paul M.: 2851 Wisconsin Avenue, Apt. 4, Plover, WI 54467-3454.

Shepard, Jon H.: 6420 Barabanoff Road, Nelson, British Columbia V1L 6V1, **Canada.**

Shields, James E. (Dr.): 17808 Grassy Branch Road, Westfield, IN 46074-8119.

Simonson, Sara E.: P.O. Box 2453, Fort Collins, CO 80522-2453.

Smith, David S.: 397 Vine Road, San Antonio, TX 78264-3829.

Stanton, Edward J.: 29726 Avenida de Cortez, Sun City, CA 92586-3514.

Yanek, John (The Venerable): P.O. Box 105, Avila Beach, CA 93424-0105.

Young, Michael E. (Major): 101 Arizona Avenue, Jacksonville, AR 72076-1006.

Announcement

Vermont Launches Butterfly Atlas Project

Bryan Pfeiffer

113 Bartlett Road, Plainfield, VT 05667

Here's another reason to take your next vacation in Vermont: Lepidopterists are invited to join Vermont's first butterfly atlas project. Beginning this spring, with the early flights of Mourning Cloaks or Milbert's Tortoiseshells, the Vermont Butterfly Survey will rely largely on volunteers for a five-year, comprehensive assessment of butterfly abundance and distribution.

"This is an opportunity for anyone to make a huge contribution to our knowledge of the lepidoptera fauna of Vermont," said Kent McFarland, conservation biologist at the Vermont Institute of Natural Science (VINS), which is sponsoring the survey. "Whether you've got the drive to search for Bog Elfin or are content to count Common Ringlets, we need your help."

Project participants will wander fields and fens, meadows and marshes, to observe and document the presence of butterflies. VINS will compile and map the results and make them available on the Internet to researchers, schools, land-use planners, community groups or anyone who wants to know the whereabouts and habits of the state's roughly 100 butterfly species. VINS will provide an instructional manual to participants and offer "training sessions" and slide shows throughout the state this spring. With relatively few butterfliers in Vermont, experts from anywhere are in particular demand.

The atlas project will also accept historic records from Lepidopterists' Society members and from others. Data can be submitted in written form or electronically. Atlas project staff are also available to visit larger collections to enter data on the spot in a laptop computer. The atlas project will establish a baseline for butterfly abundance and distribution for comparison in the future, and it will complement similar surveys elsewhere in New England. There is now no statewide data bank on butterflies in Vermont, no atlas of their distribution, no scientific assessment of the threats they face, and no conservation concept for indigenous butterfly species on a statewide scale.

"Butterflies can tell us a lot about the state of Vermont's environment under the forces of changing land use practices, global climate change and other human-induced pressures," said McFarland.

Funding for the Project comes from the Vermont Fish and Wildlife Department,

continued on pp. 30

Backyard butterflies

Life history of *Siproeta epaphus epaphus* (Latreille)

Miguel E. Chumpitasi

Apartado 1106 - 2150 Moravia , San Jose, Costa Rica, echumpi@sol.racsa.co.cr

Los Angeles, Santo Domingo de Heredia, Costa Rica, 1999. **See color life history drawing on pp. 33.**

Jan. 3: Female seen placing eggs—around 10 AM in sunny day—in leaves of *Blechum* (Acanthaceae) at ground level. Hostplant local name: *sornia*.

Egg: round, green with creamish ribs. Eggs placed individually in shoots or young leaves.

Jan. 9: 1st larva hatches and eats egg shell. Others eggs get darker.

Jan.10 : other larvae hatch.

Jan. 12: Approx. 7mm larvae with semi-transparent body and black head. Showing curved fine hairs. No horns.

Jan.14: 9 mm, larvae develop 2 horns. Body becomes darker. Always rest under leaves.

Jan. 18: 1st instar. 14 mm larvae entirely dark maroon showing spines finely branched (including horns).

Jan. 21: 2nd instar. 22 mm larvae now have spines turned to creamish color. Body remains dark. Very similar herb placed the day before—by mistake—was not eaten.

Jan. 23: 28 mm larvae develop 5 longitudinal lines of creamish branched spines plus 2 longitudinal dorsal lines of knobbed spines (cream color base). Horns remain dark.

Jan. 26: 3rd instar. 40 mm larvae now switch dorsal spines to yellowish color (with dark tips). Discarded skin is totally eaten (except head).

Jan.29: 50 mm larvae now show orange horns as well as 2 lateral longitudinal spines.

Head remains dark.

Jan. 31: 4th instar.

Feb. 8: first two pre-pupae. Silk produced with the mouth. Other larvae 55-60 mm

Feb. 9: Pupa fully formed. Light green, egg-shaped. 4 dark-tip yellow based short spikes on ventrum plus 2 dark short horns. Tiny darks spots on all body, except wings, of which 2 on abdomen dorsum are more visible.

Feb. 23: 1st. adult ecloses. Forewing length: 45 - 50 cm

Summary:

Egg: 6 - 7 days
Larva: 24 - 27 days
Pupa: 16 - 19 days

Reared during dry season with temperatures slightly below average. Similar rearing in Sep/Oct (rainy season) produced no major differences.

Classic Collecting Campaigns

Pena Blanca

Kelly Richers

9417 Carvalho Court, Bakersfield, CA 93311

A normal (non-Lepidoptera-collecting-type) person driving south from Tucson on Interstate 19 toward Nogales and the Mexico border would never suspect that on the east side would lie Madera, Box and Florida Canyons, and on the west side another twenty miles south would lie Pena Blanca, one of the most interesting areas to collect in all Arizona. However, unlike Madera, which is well known to beetle, hummingbird and butterfly collectors, Pena Blanca is moth collector heaven and appears primarily reserved for that peculiar breed of individual, and the last week of July or the first week of August is the time to be there.

Pena Blanca, where collectors go, is difficult to find on maps. It usually can only be found by locating Pena Blanca Lake, about four miles north of the Mexico border and about 12 road miles west of Interstate 19. Virtually any lepidopterist going to the area must approach from the east (or from Interstate 19). If one were to tell me, as a novice collector, that the collecting possible in Pena Blanca was just twelve miles west of where I was on Interstate 19 the first time I made the trip, I would have been skeptical. Heck, I was skeptical.

The turn must be made onto SR 289, west from Interstate 19, as it is the only road that goes to Pena Blanca. It is also known as the Ruby-Nogales Road, Ruby Road, and Old Ruby Road. There are actually six (count them, six) exits that will get one to SR 289 within the space of three miles from Interstate 19, so the key is to end up on SR 289 as it begins to straighten out in a southwestward direction. The road goes on a straight and relatively level plane for about eight miles, after which it suddenly drops off into a series of tight "S" turns as it drops down. This is where one discovers that Pena Blanca is actually in a series of canyons or valleys that cut through a couple of small mountain ranges that gradually rise as one goes west.

Pena Blanca Lake lies near the east end of these mountains, Sycamore Canyon in the middle of these and Ruby Peak toward the west end. The mountains are called the Pajarito Mountains at the southern end, the Atascoosa Mountains west of Pena Blanca and the Cobre Ridge west of Ruby Peak. Toward the western end of the range gold was found and there are historic remnants of cabins and workings in Sycamore Canyon and Ruby. However, that is not the main focus, because crazed moth collectors would not usually get that far west, having located Pena Blanca Lake.

Looking north from a campsite in Pena Blanca Canyon. Photo by Kelly Richers.

Coming down the hill that turns to the south end of Pena Blanca Lake one finds a nondescript road to the left or south that goes into Pena Blanca Canyon. Pena Blanca Canyon is not a particularly impressive looking canyon at the entrance, but as one drives in the cliffs close in on either side and small canyons appear on the sides. The main canyon is on your right and the scenery turns into low grasses with beautiful spaced oak trees. Shrubbery hugs the canyon sides, and the area, though attractive, does not appear particularly special. However, it is very special.

Pena Blanca Canyon opens to the deserts of northern Mexico on the south side, and Lepidoptera fly up the canyons and have found excellent water and food plants in the area, apparently rather consistently. Pena Blanca is best known for the large and local Saturniid moths that fly there. *Hyalophora columbia gloveri*, *Antheraea oculea, Rothschildia cincta, Eacles oslri, Citheronia splendens, Sphingicampa hubbardi,* and *Automeris cecrops panima* are all found in Pena Blanca within the time of the July-August rains. These are not found in such concentrations anywhere else in the continental United States, and the sight and sound of them flying in to a sheet is quite an experience. It is one of the few places in the United States where *Roschildia* can be found.

Collecting sheets can be set up at any of the small campsites in the area. I f you have more than one, set them up at least 50 yards apart and you will be amazed at how they draw different species even that close together. Different moths fly at different times of the night, also, and this might be the occasion to stay up to at least three a.m. If not, set up a trap to get the late flying moths because they can be spectacular and quite different from the ones just after dark.

Pena Blanca is not just for the so-called advanced collector. Since many of the moths for which it is famous are those that the beginning moth collector could identify and spread, it is an excellent place for a couple of new moth collectors to go. On the other hand, advanced collectors can find new species there on

continued on pp. 18

The Lepidopterists' Bookshelf

P. J. DeVries, Editor

Anyone knowing of the publication of new titles of books, video, or audio tapes of interest to lepidopterists, and especially of books published outside the United States, are requested to send full particulars to the Book Review Editor, The Lepidopterists' Society, both for announcement in this column and to allow for timely review in the **Journal** or **News** of The Lepidopterists' Society.

Publishers are invited to send review copies directly to the Book Review Editor for consideration for review in the **News** or **Journal**. Members interested in reviewing books for the **News** or the **Journal** should send their requests or interests to:

Dr. P. J. DeVries, Director, Center for Biodiversity Studies, Milwaukee Public Museum, 800 West Wells St., Milwaukee, WI 53233, U.S.A.
Tel: (414) 278-6939
Fax: (414) 278-6100

E-mail:
pjd@mpm.edu

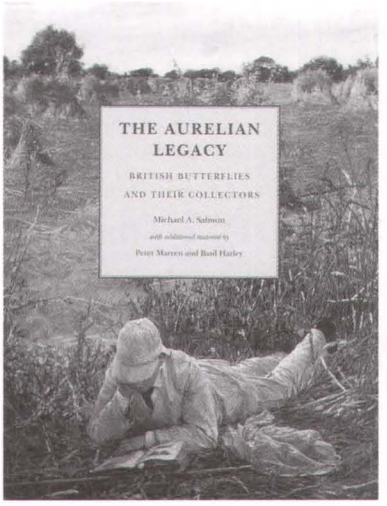
The Aurelian Legacy: British Butterflies and their Collectors

by Michael A. Salmon. Univ. of California Press, 2001. 432 pages, 42 color and 162 b/w illustrations. Hardcover, $35.00. ISBN 0-520-22963-0. To order, call toll-free 1-(800)-777-4726 or visit **www.ucpress.edu**.

Can you imagine what it would be like to study butterflies and moths if there were no books on the subject, no Entomological Societies, and no one to discuss findings with. Also no nets for collecting (as we know them), killing jars, or insect pins (specimens were pressed in books or between mica sheets). There was no formal classification system, so you could choose any name you liked for your prize.

Despite obstacles like these, observations were made, specimens collected, larvae were reared, and notes jotted down in informal journals or logs. This book gives a good account of the start of Lepidoptera knowledge in England in the seventeenth century. A surprising amount of information was known, compiled by amateurs working in isolation.

By the early 1700's the situation improved, as naturalists became aware of each other and started to communicate. The Aurelian Society (from the Latin for gold, as found on a chrysalis) was founded in 1720, and entomologists could meet to compare observations over a cup of coffee at the Swan tavern. The Society had a library and a group collection that came to naught when the tavern burned down. But the Aurelians regrouped, twice more, and continued with their efforts. By 1800, there were many scientific societies, nomenclature rules were established, and handbooks were published, often with elaborate painted illustrations.



The understanding of British Lepidopterology is presented in this book with a history of butterfly collecting and collecting methods, followed by biographies of 101 English Lepidopterists from the 1600's to the present. Many of these people (some were women!) will not be familiar to American readers, but their detailed stories are still quite interesting. But some are quite well known to us through their studies and publications: Westwood, the Doubleday brothers, Kirby, Tutt, Meyrick, E.B.Ford to name a few. The chronological arrangement of the biographies allows the story to unfold in sequence.

Another major section is devoted to species of particular "historical interest." England has a harsh climate in winter, and a number of the 83 butterflies on their list are not year-round residents. Some show up only once in decades when winds are favorable. I always thought the Camberwell Beauty—our Mourning Cloak—was a typical English butterfly, but it is only a sporadic visitor. Some of the species of early lists had to be deleted after scrutiny: products of careless labeling or dealers trying to sell common European species as English rarities. Each of the special interest species is pictured to view as you read their history in England.

One of the special charms of this book is the lavish use of illustrations, many in color. There is a portrait or picture of each of the biographees, and the special interest species are shown with

continued on pp. 31

Comments on "Wood Eating" by Juno Silverspot, *Dione juno huascama*

Gary Noel Ross

6095 Stratford Avenue, Baton Rouge, LA 70808

I read with great interest "Behavior of Juno Silverspot, *Dione juno huascama*, larvae: wood eating?" by Gerald E. Einem (**News** 43(4): 114-115, Winter, 2001). Having spent more than 50 years researching life history's of butterflies, I think I can offer a reasonable hypothesis to explain the peculiar "feeding behavior" reported by Mr. Einem.

Most insect scientists will agree that the behaviors of the vast majority of insects (including butterflies and their caterpillars) are governed by chemosensory perception, that is, the detection of minute forms of chemicals within the environment. (Yes, I am aware that many butterflies possess remarkable color vision and that, in particular, the heliconians (longwings) have incredible eye-brain coordination—see my "Brainy Butterflies," **News** 43(2): 43, 47, Summer, 2001).

For example, food gathering, courtship/mating, host selection, and oviposition are for the most part initiated as a response to specific chemical stimuli such as pheromones (chemicals released by the insects themselves) and phytochemicals (secondary compounds produced by plants to attract, repel or kill other life forms). In fact, for many years commercial enterprises have capitalized on this close connection between specific chemicals and specific insect behaviors.

Consider, for example, painted lady butterflies (*Vanessa* sp.) and many moth larvae identified as agriculture pests that are routinely reared on artificial media. These laboratory produced diets contain not only the ingredients required for metabolism and maturation of the immature insects but also trace amounts of specific chemicals that are either derived from actual host plants or synthesized in the laboratory, and that are added to induce feeding. Additionally, some agriculture pests such as the gypsy moth, for example, are lured to specific targets by artificial "baits" that mimic the specific sex pheromone of the species. The amorous insect flies to what it considers a possible mate, only to be zapped by an insecticide or some other killing agent.

Even in nature, an insect's orientation to chemical stimuli can be foiled or misguided. For instance, I have witnessed a great number of female butterflies engage in oviposition behavior. Most observations involve heliconians and their hosts, members of the Family Passifloraceae (passionflowers)—a family notorious for possessing potent and specific phytochemicals. Within my butterfly garden, I have on many occasions noticed that female Gulf fritillaries (*Agraulis vanillae*) and zebra longwings (*Heliconius charitonius*), two species closely related to the Juno silverspot, will not only deposit eggs on the leaves and tendrils of my native passionflower (*Passiflora incarnata*) but also on any miscellaneous objects that happen to be within the vicinity of the passionflower.

These include wooden stakes, flowerpots, and construction materials used as flowerbed liners. In fact, in two instances, I have had a female Gulf fritillary deposit an egg or two on my arm and leg as I stood near her passionflower host! Such intriguing but seemingly abnormal behavior has prompted me to theorize the following: There is usually a natural diffusion of telltale phytochemicals from the host plant into the surrounding air. This so-called "air pollution" confuses a female butterfly searching for an appropriate site to deposit her eggs. Because the butterfly's chemosensory indicators become overwhelmed, she cannot orient to a specific site. As a result, the butterfly mistakenly deposits her eggs on anything stationary within the vicinity.

Because the caterpillars of lepidopterans lack all vision except the ability to distinguish light from dark, these immature stages are even more chemosensitive than their adult counterparts. I have observed that when larvae (particularly older stages) become distanced from their host they often "nibble" on any substrate that they encounter—particularly if it is plant based. This behavior is more evident when the host plant is adjacent to the vagrant larva.

To demonstrate this, simply take a leaf of a host and rub it on an inanimate object. Then place an appropriate mature larva on that same object. Generally, the larva will attempt to chew the surface of the new substrate, presumably in an attempt to feed, and not simply laying down a silken trail on which to crawl. And for an even more dramatic experiment, first gently handle the host of a particular butterfly species for a few seconds. Second, manipulate for another few seconds an inanimate or stationary object. Finally, place an appropriate larva on the object. Usually, the larva will sample the object by attempting to chew it.

In fact, on occasion, I have observed that if I hold a larva after first handling its host plant, the larva will actually try to chew the skin of my fingers! Once again, I conclude that the minute con-

continued on pp. 18

Membership Update...

Julian Donahue

This update includes all changes received by 27 January 2002.

"Lost" Members

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

Richard L. Hesterberg (Cypress Gardens, FL); **Stephen Ife** (North Vancouver, BC, Canada); **Douglas W. Ross** (Banner Elk, NC); **Benjamin Sands** (Dayton, OH); **Bill Smith** (Silverdale, WA); **John W. Wall** (Scarsdale, NY)

Minor changes/corrections to 2000 Membership Directory:

Robb, Jeffrey B. (Lt.): correct ZIP+4 is 76209-2240.
Seguna, A.: correct street number is "68 Redeemer"

New and Reinstated Members

members who have joined/renewed/or rescinded their request to be omitted since publication of the 2000 Membership Directory (not included in the 2000 Membership Directory; all in U.S.A. unless noted otherwise)

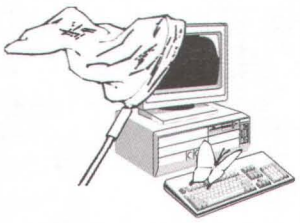
Abadjiev, Stanislav P. (Ph.D.): Institute of Zoology, Bulgarian Academy of Sciences, 1 Tsar Osvoboditel Blvd., BG-1000 Sofia, **Bulgaria.**
Belth, Jeffrey E.: 4795 South Woodbine Avenue, Bloomington, IN 47403-9286.
Clayton, Dale L.: 11259 Green Arbor Drive, Riverside, CA 92505-2536.
Curtis, Matt: 2562 Country Park Drive, Prescott, AZ 86305-4017.
Ferguson, Linda N.: 2495 Wexford Run Road, Wexford, PA 15090-7825.
Ford, Peter M.: 2033 Hughes Road, Kingston, Ontario K7L 4V3, **Canada.**
Frey, Thomas B.: 364 Oaklyn Road, Lebanon, PA 17042-5858.
Gollop, Mike: 51 Welker Crescent, Saskatoon, Saskatchewan S7H 3M3, **Canada.**
Heddle, Mandy: 201 Wellman Hall #3112, Div. of Insect Biology, Dept. of ESPM, University of California, Berkeley, CA 94720-3112.
Lybarger, William A.: 3121 Adams Avenue, Odessa, TX 79762-7637.
Malangis, Joseph L.: P.O. Box 01, Gasan, Marinduque 4905, **Philippines.**
Nasu, Yoshitsugu (Ph.D.): 153-2 Nakado, Hashimoto, Wakayama 648-0023, **Japan.**
Nelson, Michael W.: 131 Westboro Road, Apt. 6, North Grafton, MA 01536-1848.
Olhausen, Don: Wildlife Biologist, 19415 Haude Road, Spring, TX 77388-5256.
Simmons, Gale M. (Mr.): 709 Sesnon Street, Bakersfield, CA 93309-1453.
Smythe, Richard V. (Dr.): 7910 Oak Hollow Lane, Fairfax Station, VA 22039-2633.
Stephenson, Timothy A.: 7825 Vinings Oak Lane, Apt. 924, Matthews, NC 28105-5141.
Szyszkiewicz, Mark L.: P.O. Box 743, Warren, MA 01083-0743.
Tramp, Michael T.: 226 East 15th Street, South Sioux City, NE 68776-2434.
Westphal, Robert: Calle Llimoner 6 (Trangle Blau), Urb. Pino Alto, E-43892 Miami Playa, Tarragona, **Spain.**

Address Changes

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

Becker, James W.: 6380 Holly Hill Lane, West Chester, OH 45069-6460.
Bordelon, Charles W., Jr.: 8517 Burkhart Road, Houston, TX 77055-7517.
Borth, Robert J.: 500 West Bradley Rd, #A333, Milwaukee, WI 53217-2638.
Bray, Richard O.: 5613 McLean Drive, Bethesda, MD 20814-1021.
Brower, Lincoln P. (Prof.): 2850 Club Creek Road, Roseland, VA 22967.
Cochran, Neil: 12407 Pintail Street, Anchorage, AK 99516-2802.
Cordero Macedo, Carlos Rafael: Departamento de Ecología Evolutiva, Instituto de Ecología, Universidad Nacional Autónoma de México, Apartado Postal 70-275, Ciudad Universitaria, 04510 DF, **Mexico.**
De Swarte, David H. 4846 Austin Road, Aberdeen Proving Ground, MD 21010-1603.
Everett, Gail: P.O. Box 560, Norway, ME 04268-0560.
Falk, Baldhard G. (Dr.): 19 Tanfield Road, Tiburon, CA 94920-1115.
Faulkner, David K.: 3520 Curlew Street, San Diego, CA 92103-3932.
Hark, William T. (M.D.): 2514 Grove Avenue, Richmond, VA 23220-4418.
Heinz, Cheryl Ann: Dept. of Ecology & Evolutionary Biology, Biological Sciences West 310, University of Arizona, Tucson, AZ 85721-0001.
Johnson, M. Virginia (Ms.): 46 Evergreen Terrace, Uniontown, PA 15401-5518.
Kawahara, Akito: 308 University Avenue, Apt. 2, Ithaca, NY 14850-3873.
Kenney, Bill: 1276 Moosehead Trail, Dixmont, ME 04932-3114.
King, Ron: 1047 Redwing Court, Columbus, IN 47203-1910.
Kruer, Elaine S.: 2704 SE Ranch Acres Circle, Jupiter, FL 33478-1914.
Kuji, Ichiei: 3-1-3 Suzumidai, Kanazawa, Ishikawa 920-1161, **Japan.**
Laskowski, John D.: 349-94 Carsonville Road, Halifax, PA 17032-9633.

continued on pp. 32



Out of the Net...

by Jim Taylor, ***drivingiron@earthlink.net***

This is earlier than I usually do a column for the quarter, but a friend of my wife gave her a cold of monstrous proportions, and she, being a generous soul, has shared it with me. Therefore, instead of being outside playing golf in the 80 degree weather, I am in here with a carton of tissues, a glass of salt water to gargle, and lozenges to suck on, coughing up what I seriously think are internal organs. Mucous is not that color or that firm. I urge each of you to spray this column with Listerine before reading further.

If you will, please go to ***www.dalton state.edu/galeps/***, a site which is becoming more entertaining and helpful by the minute. It is a checklist of the Lepidoptera of Georgia combined with plain English explanations, helpful hints, and gobs of simply great pictures. Dr. James K. Adams, father of the site, had help from the Dalton State College Foundation in getting the project off the ground and enjoys the continuing support of Dalton State College which houses the website on its server.

The home page is a complete verbal map of the site, and includes a discussion of how the site came to be, references to other sites of interest, and the like. From the home page you can click to the *List Page*. Here are the guts of the site and the master list of Lepidoptera found in Georgia. There you will find a discussion of the groupings, and you can click your way to the group of your interest. Go to Noctuidae, for example. There is the list of all of the Owlets found in Georgia, complete with MONA number, scientific name, range, whether a Georgia specimen has been taken, whether a larval picture is available, and the common name. Any name underscored for clicking yields a picture.

The *Helpful Hints* page may not be of much interest to this audience. It is written for the casual non-bugger or beginning student who stumbles across the site. But you might want to take a look just in case you have forgotten a fundamental or two—or want to send a helpful critique to the site. The *References* page is just that; where the list came from. There is a *Useful Websites* page; also self-explanatory.

There is also an *Unknowns Page*. Here, the bugs are separated by Family and identified to the extent James could do so. He is soliciting help in the area. However, James is the best I know at ID, so don't expect his unknowns to be found in some popular reference.

There is much more; I urge you to browse. Don't forget, if a bug is clocked in for Georgia, it is probably in adjoining states as well. James is also soliciting pictures for additions to the site, a scan by experts in the various families to catch any mistakes, and so on. The astonishing thing about the site is the enormous number of pictures of great quality. It truly is becoming a Georgia pictorial checklist. Look it over. If you can add something, please do so.

While we are bragging about moths, try ***digilander.iol.it/leps/***, "Moths and Butterflies of Europe." The site is easy to use, it is uncluttered, and the pictures are of fine quality. The index down the left-hand side is by Family, Sub-family, etc, but you can have it presented by Latin name or even common name—look at the tabs across the bottom of the home page. A European Lep tree is also available.

When you have found your bug of choice, you are presented with a picture of the adult—sometimes several—as well as (usually) one of the larva. Note the absence of pins in the moths—the pictures appear to be of live specimens in their natural state. Food plants are also listed.

The Links page is extensive, and a section on "Rings and Groups" makes it simple to sign on to other groups catering to similar interests, such as UK Moths, gardening, and the like. The guest book indicates about 50,000 hits since July, 1999. You won't be disappointed.

And speaking of groups, I am currently subscribed to only two on Lepidoptera. I am interested in moths I am likely to encounter here at home, and so I am not a member of UK Moths, for example. Since I am not particularly into butterflies, you might wonder why I am a subscriber to the first list I'll mention: the TX-BUTTERFLY mailing list. (If you are interested, you may subscribe by sending to ***listserv@ listserv.uh.edu*** an email message with "Subscribe TX-BUTTERFLY First name Lastname" in the body—sans quotation marks, of course.)

First of all, from a geographic point of view some parts of where the Texas butterfliers live and watch (I'm sure a lot of them don't collect) enjoy a climate similar to south Georgia—we have a lot of the same bugs. Secondly, there are frequent mentions of moths—in which I am interested. But best of all, they are a friendly and lively group. The exuberantly post every thing they see, they unabashedly ask for help when they need it, and no one makes nasty remarks about the level of knowledge of a poster. No question is deemed stupid. Also, I can't recall seeing a long,

continued on pp. 18

The Net...*continued from pp. 17*

complicated, pedantic thread. These folks seem to me to be far more interested in information than theory.

The other list to which I subscribe, of course, is LEPS-L, an international group with interests in all Lepidoptera. You may subscribe by including in the body of an email to ***listproc@lists.yale.edu*** the words "Subscribe LEPS-L yourname." *(Ed. Note: The LEPS-L list is ported to the sci.bio.entomology.lepidoptera newsgroup so it's not necessary to subscribe to the list to follow the "discussions" (sic) or post to the list. Phil)*

This group believes in arguing, and sometimes the arguing becomes bickering, and sometimes the bickering becomes personal verbal attack, and in one recent instance personal verbal attack became an offer to be physical with another poster. I feel the List should suspend the rights of some of the more raucous on occasion. There is one frequent contributor to the list—and I am in his camp on this—who does not believe the Monarch is under a severe threat from man, and he has taken some unbelievably vitriolic hits over this when he dares question specious reportings. *(More Ed. Notes: The LEPS-L list is unmoderated: be warned that "anything goes." Note that because the list is ported to the newsgroup (and vice versa) it would be difficult to "suspend" anyone. Phil)*

The threads here also tend to be overlong on occasion, and frequently take on an almost surreal quality. Any mention of Darwin is sure to sound like the Scopes trial in a few weeks. An innocent question on subspecies recently ran for weeks with postings including reams of dry text from long-dead experts. A working definition was never achieved. I feel sometimes like my old buddy, Omar:

> *Myself when young did eagerly frequent*
> *Dr. and St., and heard great Argument*
> *About it and about: but evermore*
> *Came out by the same door as in I went.*

In any event, if you are not a subscriber, sign up for both. If you aren't enjoying one or both of them after a time, you can always quit. Also, if anyone knows of another site which might pique my interest, I would be interested in hearing from you. (While typing that, it occurred to me that "interested" is, save for the first two letters, typed exclusively with the fingers of the left hand. The longest word I know of which is typed with the fingers of only one hand is "stewardesses." Anyone know of a longer one?)

I have just had another hack attack and feel that another is not far behind; I had better quit for this issue. For some reason these coughing bouts remind me of a former ice skating star who was green and had the slimy name of Peggy Phlegm.

Wood?...*continued from pp. 15*

centrations of these telltale chemicals—regardless of substrate—triggers the feeding behavior. In other words, the larvae are so chemically programmed that if the specific chemical is sensed, the genetically programmed feeding response is automatic. However, without positive reinforcement, a misguided and hungry larva will quickly abandon its attempt to feed and begin to wander in search of an appropriate food source.

In conclusion, I offer the following explanation for the so-called "wood eating" behavior reported recently by Mr. Einem: The larvae that had wandered a short distance from their host were simply influenced by the phytochemicals diffusing from that host. Because of the confusion, and in an attempt to secure nourishment, the larvae simply began to sample the twig with their mandibles. But because the feeding response was unproductive, within a relatively short time the larvae relocated to standard feeding stations (as Mr. Einem reported). Therefore, I suggest that we should ***not*** add "wood eating" as part of the behavioral repertoire of the Juno silverspot or any other butterfly species.

Pena Blanca...*cont'd from pp. 13*

virtually every trip. Having visited the same spot on the same day of the year three different years, I can say that fully a third of the moths each of the second two times were different than the first or the other two visits. This is a truly amazing phenomenon. One year I collected a new United States record of a small geometrid and it took four years to discover what it was!

Pena Blanca does not exist in a total vacuum, of course, and one does not want to leave out the daytime bird watcher or butterfly collector. A quick trip to Sycamore Canyon, about 30 minutes to the west on winding roads with a spectacular view most of the way will get you to butterfly territory known around the world. Sycamore Canyon opens onto the deserts of Mexico and has a trickle of water from the summer rains, so it keeps a steady stream of potentially unusual butterflies and birds for the observant soul who wanders down the canyon.

Looking south from a campsite and collecting location in Pena Blanca Canyon. Photo by Kelly Richers.

Pena Blanca has no sophisticated facilities, so it is a place to camp and spread a tent. Several persons warned me during my last visit there (in 1999) that there were difficulties with illegal aliens coming across the border in the area, and to not camp alone. Needless to say, as I was alone, I had little choice by that time, but it is advice well taken, especially after stories given me by border patrol agents later in my trip. Bring in your food, water and supplies, and firewood as well if you build a fire. Take out what you use, so the area stays as beautiful as it has been.

53rd Annual Meeting of the Lepidopterists' Society

13-16 June 2002, College of Charleston, Charleston, SC, USA

Local Arrangements

Travel by plane:

Most attendees arriving by plane will fly into Charleston International Airport. From here, make arrangements with one of the airport cabs to take you to the College of Charleston campus or the Holiday Inn in Mt. Pleasant.

Travel by car:

To the College from the airport:

The College of Charleston campus is in downtown Charleston. I-26 leads directly into the downtown area. Take the interstate to the end and get off at the King St. exit. This exit first empties onto Hwy 17 south across the peninsula and then almost immediately exits to the right. This puts you on a side street that ends at King St. one block later. *Take a right onto King St. and follow this until you get to Calhoun St. The Lightsey Conference Center is one block to the right on Calhoun St. The entrance to the Conference Center is down a sidewalk to the left of the bookstore. All meetings will take place in the Conference Center.

To the Holiday Inn:

The Holiday Inn is located on Highway 17 just across the Cooper River in Mt. Pleasant. Coming from Columbia, take I-26 to its end on the peninsula. Take the exit onto Highway 17N into Mt. Pleasant. This will take you onto a large (2 mi. long) bridge over the Cooper River. At the end of the second span stay in the left lane and go to the first stop light. Take a left at this light and the Holiday Inn is on the left.

To the College from the Hotel or from the north:

Turn right onto Highway 17S by the hotel. This will take you across the older of the two large bridges across the Cooper River (narrow, but still safe). As you descend the second span get in the left lane. The first exit to the left will be to King St. Take this exit, which raps around and ends at King St. Take a right on King St. and then follow the instructions as from the airport starting at the asterisk.

To the College from the south:

Follow Highway 17N into Charleston and over the bridge onto the peninsula. Stay in the far right lane of the bridge. This leads to a street that bears right along the harbor. As soon as you get onto this street move into the left lane. Take a left at the first light. This will take you to Calhoun St. running across the peninsula. Follow Calhoun to the College, between Coming and King Sts. The Conference Center is on the north side of Calhoun St. between St. Phillip and King St. The entrance to the Conference Center is down a sidewalk to the left of the bookstore.

Parking:

Parking in downtown Charleston can be a challenge. There are two or three parking structures within walking distance of the conference center. You will also be able to purchase a parking pass for the College of Charleston upon arrival. These will be available at the registration desk in the conference center. You will need the pass for any weekday (cost about $6 - exact price still to be determined). On the weekend several lots are free and we can direct you to those after your arrival.

Housing:

For attendees staying at the Holiday Inn, please make arrangements directly with the hotel (1-800-290-4004). Tell the hotel staff that you are with the Lepidopterists' Society to receive the conference rate of $89.00 + tax per night for up to 4 people per room. You must make arrangements with the hotel before May 11 to guarantee rooms and the conference rate. After May 11, reserved rooms go back into the general booking pool for the hotel and are first come, first serve. For attendees staying in the dorm, please indicate the desired nights on the registration form and send in payment with your registration. Remember to bring sheets, pillow, blanket, and towels for your stay in the dorm. Room assignments and keys will be given upon arrival. If you have any questions or problems please contact Brian Scholtens (843-953-5451 work; 843-856-0186 home). You are welcome to make arrangements with other hotels or motels in the area on your own. If you do this, make reservations early because June is a busy tourist season in Charleston. The closest camping with easy access to downtown is at the KOA campground in Mt. Pleasant (843-849-5177). It is approximately 10 mi. north on Highway 17.

Meals:

Sign up for the Friday night barbecue and Saturday night banquet on the registration form. Don't forget to bring door prizes for the banquet. There will be a reception on Thursday night in the Conference Center with light hors d'oeuvres. Breakfasts, lunches and other dinners will be on your own. There are many excellent places to eat within easy walking distance of the Conference Center. A list will be mailed to you in your registration packet. For those staying at the Holiday Inn there is also a restaurant in the hotel.

Field Trips:

Field trips are planned Wednesday and Thursday for both collectors and watchers (separate trips). The cost of the trip covers a bag lunch. The trips will meet at the Conference Center. Transportation will be by car pool. Please sign the liability release included with this announcement.

Local Attractions:

The Charleston area has many great attractions. There are many historic plantations, gardens, homes and forts (Ft. Sumter and Ft. Moultrie). There are also several good walking or horse drawn carriage tours of downtown Charleston. Just over the bridges into Mt. Pleasant is the Patriots' Point Museum with the world war II aircraft carrier Yorktown. Within about a 1/2 mi. walk of the Conference Center are the Charleston Natural History Museum and the new South Carolina Aquarium. There are also wonderful natural areas just outside Charleston (e.g. Francis Marion National Forest, Cape Romain National Wildlife Refuge, Francis Beidler Forest, Cypress Gardens). Slightly farther away to the south is the ACE Basin, considered one of the best natural areas in the country. There will be a special exhibit of insect art and literature at the downtown branch of the County Library to accompany the meeting. I encourage you to take some time to see the attractions in the area that interest you most.

Questions:

Please contact Brian Scholtens (843-953-5451; scholtensb@cofc.edu) about any problems or questions.

Registration Form

53rd Annual Meeting of the Lepidopterists' Society
College of Charleston, Charleston, South Carolina USA

June 13-16, 2002

Last Name: _____, First and Initial _____
Street address or P.O. Box: _____
City or Town: _____
State/Province and Postal Code: _____
Country: _____, E-mail: _____
Registration fee includes reception, breaks, program, postage, registration materials and $15 for the Jordan Medal and other awards.

Regular Registration Rate _____
Number of persons X $100 (by 1 May 2002; $115 after 1 May 2002)
Student Registration Rate _____
Number of students X $75 (by 1 May 2002; $90 after 1 May 2002)
Companion/family Registration Rate (includes reception; no meeting sessions or breaks)
Numbers of persons X $50 (by 1 May 2002; $65 after 1 May 2002) _____

Friday Evening Barbecue, Cypress Gardens, $16 per person _____
Indicate number of vegetarian meals desired _____

Annual Banquet, Saturday Evening, $25 per person _____
Indicate menu choice and number of meals for each
Chicken (# persons) _____ Salmon (# persons) _____ Vegetarian (# persons) _____

Field Trips, $7.50 per participant per trip, includes lunch and beverages _____
Wednesday collecting trip (# persons) – ham _____ turkey _____ vegetarian _____
Wednesday watching trip (# persons) – ham _____ turkey _____ vegetarian _____
Thursday collecting trip (# persons) – ham _____ turkey _____ vegetarian _____
Thursday watching trip (# persons) – ham _____ turkey _____ vegetarian _____

Official LepSoc 2002 T-shirt $15 each _____
Indicate desired size(s) _____

Vendor Table for sale of books, equipment, or other materials, $15 per table
Available Friday morning through Saturday evening _____

College of Charleston Dormitory Housing _____
All rooms within about 2 blocks of conference center (pillows and linens not provided)
persons for Tues. 11 June ____; Wed. 12 June ____; Thurs. 13 June ____;
Fri. 14 June ____; Sat. 15 June ____
single room $34.50 per night _____
double room $18.75 per person per night _____
Names of people sharing room _____

Total Enclosed: _____

Method of Payment and Cancellation Policies

❑ Check (in US dollars, payable to **College of Charleston**)

❑ Credit Card (no American Express)
Visa # _____ Mastercard # _____ Exp. Date _____
Name on Card (please print) _
Signature _____

Cancellations: A $25 processing fee will be retained for all cancellations through May 1, 2002.
There will be NO REFUNDS for cancellations after May 1.

Send completed registration forms and payment to:

LepSoc 2002
The Lightsey Center
College of Charleston
66 George St.
Charleston, SC 29424 USA

FAX: (843) 953-1454

Questions? Phone 843-953-5451 or e-mail scholtensb@cofc.edu

Note: Field trip, barbecue, and banquet tickets must be reserved in advance. Walk-in registration during the meeting will be for sessions only.

++

Field Trip Liability Release Form

I release the Lepidopterists' Society, its officers, and field trip leaders from any liability that may result from my participation in field trips connected with the 2002 annual meeting in Charleston, SC. I understand that I may be driven in a private vehicle and that there are potential hazards on any field trip. I assume all responsibility, personal and financial, for any accidents or other injury or loss on any field trip in which I participate.

Name (printed) _____

Signature _____

Date _____

CALL FOR CONTRIBUTED PAPERS

53rd Annual Meeting of the Lepidopterists' Society
13-16 June 2002, College of Charleston, Charleston, SC, USA

Name: _____
Address: _____
_____
_____
_____
Phone: _____ Fax: _____ email _____

Check appropriate category: paper _____ poster _____
Check if student paper _____

Type both title and abstract below **and mail to address at the bottom of the form, or submit by email with all the above information to** scholtensb@cofc.edu

Title:

Abstract (please limit to 125 words or less):

- Submissions must be **postmarked by 30 April 2002** to guarantee inclusion in the printed meeting program.
- Each Contributed Paper will be limited to 15 min, including time for questions. Papers will be scheduled for sessions on Friday, 14 June 2002, Saturday, 15 June 2002, and possible Sunday, 16 June 2002.
- Available AV equipment will include a 35 mm slide projector and overhead projector. Powerpoint capabilities may be available (contact Brian Scholtens ahead to double check), but we recommend that presenters have slides as a backup.
- If you need to ship a poster or anticipate other equipment needs contact Brian Scholtens by 30 April 2002 (843-953-5451; scholtensb@cofc.edu)

Return form to:

Brian Scholtens
Biology Department
College of Charleston
Charleston, SC 29424 USA

The Lives of Butterflies: Tails & Tales

Bob Robbins

Curtailing Clothes Moths

Behind the TV image of Andre Agassi smashing an innocent tennis ball, an announcer blares "*Image is everything,*" followed by a pitch for a camera named Rebel. Presumably Agassi's status as a young rebel was intended to "rub off" on the camera, but the vapid "*Image is everything*" moniker has instead apparently "rubbed off" on Agassi's public personality. Folks tell me that his TV image evokes thoughts like "deep as aluminum foil" and "complex as bubble gum flavor." How incredibly unfair because Agassi appears to have matured into quite a respectable fellow, but after all, image is everything. Just ask the poll-taking politicians in Washington.

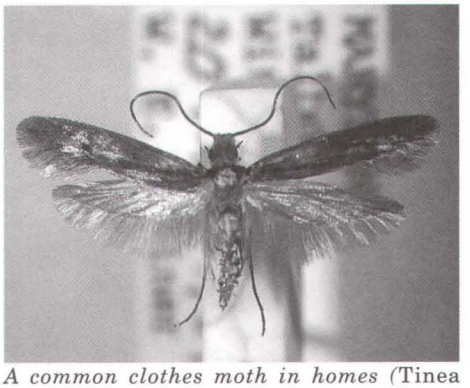
What about the image of butterflies and moths? Well, for the most part, it has been pretty good through history. The ancient Greek word for butterfly was *psyche*, which was also the word for soul. Presumably the Greeks felt that butterfly flight captured the essence of the ethereal soul, which is pretty darn good. Boyce Drummond reported many years ago in this publication that a group of Amazonian Indians believe that peaceful folks have a butterfly living in their necks, the idea being that vegetarian butterflies are more peace-loving than carnivores. Dr. Doolittle rode a Luna Moth to the moon. If it weren't for Hans Christian Andersen, butterflies would have a monopoly on the "ugly immature worm metamorphosing into a beautiful adult butterfly" idea that we now know as the "ugly duckling" analogy. And even though I cringe a bit when I hear it, the popular notion that butterflies are "flying flowers" is a lot better than the fear of insects that buzz, sting, or bite. And it is infinitely better than the image of any insect that looks remotely like a cockroach.

The butterfly and moth image is unfortunately not all positive. David Quammen, who is perhaps the finest natural history writer around, referred to gaudy, beautiful butterflies as the bimbos of the natural world. The Spanish word for butterfly, *mariposa*, is derogatory slang for homosexual in most of Latin America and refers in Portuguese-speaking Brazil to those who come out at night like moths, in this case to those who ply the sex trade. Although many caterpillars are pests on agricultural crops, they do not seem to have badly tarnished the butterfly/moth image, maybe because folks who emote with disgust, "Yuck! there is a worm on the corn" do not associate the "worm" with a moth.

The most damaging, pernicious aspect of the butterfly and moth image, by far, is the primitive, lowly, little clothes moth. Not only does it eat clothes in our homes, which makes it a personal attack, but moth balls and flakes are odoriferous and may have adverse health effects (see Dave Winter's Memoir #5, pages 300-308, for more detailed information). Indeed, in Washington, DC, one now needs to be a registered pesticide applicator to put moth flakes in an insect drawer (and I'm not kidding folks). The Smithsonian solved its fumigant problem by obtaining a huge blast-freezer and air-tight cabinets.

A mother called more than a decade ago to ask a question for her young daughter. Unlike the usual "What is the largest butterfly?" and "What is the difference between moths and butterflies?," this youngster wanted to know why clothes moths do not attack wool when it is on the sheep. I did not know, but asked Don Davis, an expert on Tineidae, which is the family that includes the clothes moth. To my surprise, he did not know either, but educated me a bit about clothes moths and made an educated guess. "Clothes moth" actually refers to more than a dozen species in three genera, all of whom have evolved the ability to digest keratin, the protein in mammalian hair, such as wool. In fact, most tineid moth caterpillars eat dead organic matter in cool habitats, and their adults fly **away** from light, for which reason most tineids occur naturally in dark, cool habitats such as caves and closets. They do not attack wool on sheep, Don theorized, because sheep live in the open where it is light and hot. I relayed this

continued on pp. 23



*A common clothes moth in homes (*Tinea pellionella *complex) is politely plain and much smaller than your thumbnail.*

This article continues a new series of light-hearted columns about the lives of butterflies (and butterfliers). Once again, the author of this installment, Bob Robbins, hopes that other members will also contribute tales. Contact him at the Department of Entomology, NHB 127, NMNH, Smithsonian Institution, Washington, DC 20560-0127, (202) 357-2353, **robbins.robert@nmnh.si.edu**

The Marketplace

IMPORTANT NOTICE TO ADVERTISERS: **If the number following your advertisement is "433" then *you must renew your advertisement* before the next issue! Remember that all revisions are required in writing.**

Books/Videos

Books for sale. The first 3 color-illustrated volumes of "Mariposas del Ecuador," edited by Dr. Giovanni Onore, (1) Generos; (2) Arctiidae (part); and (3) Papilionidae are available at $27 per volume, postpaid in the U.S. (outside will be at rate of postage). Checks should be made out to Charlie Covell, Dept. of Biology, Univ. of Louisville, Louisville, KY 40292-0001. Funds all go directly to Dr. Onore to enable future publication, of which a Sphingidae fascicle is expected soon. 434

New! Stewart, Brodkin and Brodkin, Butterflies of Arizona: A Photographic Guide, 2001, West Coast Lady Press, Arcata, CA. Includes 557 full, 1/2 and 1/4 page color photographs of 331 species. Opposite each photograph is essential information including key field marks, time of year adults can be observed, Larval foodplant, range within Arizona and pertinent biological and behavioral notes. Includes a special foodplant appendix prepared by botanist Richard Felger and botanist/lepidopterist Michael Wilson of Drylands Institute, Tucson. Order at ***www.naba.org/chapters/nabasa/book.html*** or contact Hank Brodkin, 3050 E Carr Canyon RD, Hereford, AZ 85615, 520 803-9700, ***hankb@theriver.com*** 433

Wanted: Journal of the Lepidopterists' Society, Volume 14, and Volume 18 through 25. Please state condition and price. ***Russell.Rahn@Verizon.net*** 433

For Sale: Butterflies of the World by D'Abrera, including Australian, Neotropical and Oriental Regions. Send SASE for particulars and prices. Doug Ross, P.O. Box 351, Banner Elk, NC 28604, 828-733-4034 433

Livestock

For sale or trade: Diapause cocoons of *Callosamia angulifera*, *Callosamia promethea* and *Samia cynthia*. Please call before 10 pm EST. Thomas Frey, 364 Oaklyn Rd., Lebanon, PA 17042, (717) 272-6597. 441

For Sale: Live pupae of Nymphalidae, Pieridae, Papilionida, *T. maggelanus*, *T. rhadamantus* and other species of Philippine butterflies. Send order to: Leodegario Layron, P.O. Box 4, Boac, Marinduque, Philippines. Tel. 042-332-1558; Fax 0063-423-321-558. 441

For Sale: Eggs and cocoons of many northeastern North American Saturniidae. *Actias luna*, *Antheraea polyphemus*, *Automeris io*, *Callosamia promethea*, *Hyalophora cecropia*, *Hyalophora columbia*, *Samia cynthia*. Bill Oehlke, Box 476, Peardon Road, Montague, Prince Edward Island, Canada

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.** Advertisements for credit, debit, charge cards or similar financial instruments or accounts, insurance policies and those for travel or travel arrangements cannot be accepted because they jeopardize our nonprofit status.

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 and must be renewed before the deadline of the following issue to remain in place. All ads contain a code in the lower right corner (eg. 386, 391) which denote the volume and number of the **News** in which the ad. first appeared.

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

Send all advertisements to the Editor of the News.

The Lepidopterists' Society and the Editor take no responsibility whatsoever for the integrity and legality of any advertiser or advertisement. Disputes arising from such notices must be resolved by the parties involved, outside of the structure of The Lepidopterists' Society. Aggrieved members may request information from the Secretary regarding steps which they may take in the event of alleged unsatisfactory business transactions. A member may be expelled from The Lepidopterists' 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.

C0A 1R0, 902-838-3455, ***oehlkew@islandtelecom.com***, ***www3.islandtelecom.com/~oehlkew*** 441

Wanted to Buy: Eggs or pupae of *Rothschildia forbesi*, *Eacles imperialis* and *Citheronia regalis*. Page Don Olhausen at (713) 501-6353 or call (281) 446-8588. 19415 Haude Rd. Spring, TX 77388. 441

Help wanted: Livestock and advice for rearing + breeding Saturniidae, Papilionidae, *D. plexippus*. Just a beginner but lots of interest. Chris Davis, 267 N. Lakes Dr., Eastman, GA 31023, 478-374-6264 evenings. 434

For sale: Cocoons for spring 2002: *Actias luna*, *Hyalophora cecropia* & *Antherea polyphemus*. Framed set specimens also available. Send SASE to Alan Vosefski, 3320 Old Kirkwood Dr., Virginia Beach, VA 23452, 757-498-3168, ***alanv@peoplepc.com*** 434

Livestock wanted: Wanted to buy, ova and/or pupa of *Citheronia regalis* and *C. sepulcralis* for Spring/Summer 2002. Ron Roscioli, 101 Rose Ct., Easton, PA 18042-9546, 610-253-8458. 434

For Sale: cocoons/pupae of *Hemileuca eglanterina* (coastal race), *Automeris cecrops pamina*, *Saturnia walterorum*. Send SASE to Frank Sala, 3493 Greenfield Place, Carmel, CA 93923. 433

Wanted: Buyer of live butterfly pupae and dried moth and butterfly specimens from the Philippines. All families of butterflies and Saturniidae and Sphingidae. Nelson Layron, Cawit, Boac Marinduque 4900 Philippines, (042) 332-1991. 433

Specimens

For exchange: Eastern North American *Catocala* in exchange for other *Catocala* species worldwide, in particular, those from the Central and Western United States. All inquiries will be answered. Dr. Ken Neil, P. O. Box 410, Canning, Nova Scotia, Canada. B0P 1H0, ***irene.neil@ns.sympatico.ca*** 441

For Exchange: Many species of A1 mounted Noctuidae (Cuculliinae, Hadeninae, Amphipyrinae, Plusiinae, *Catocala*, etc) and Arctiidae of Japan. Also, large numbers of A1 papered butterflies (Papilionidae, Pieridae, Nymphalidae, Satyridae and Lycaenidae) of Japan. I am interested in A1 mounted Noctuidae (as above with *Perigrapha*) and Arctiidae (*Pararctica*, *Arctia* and various *Grammia*) of North America. Shin-ichi Ohshima, Shimohideya 707-99, Okegawa, Saitama (363-0025) Japan. Fax (81) 48-787-0290, ***o_shima@nifty.com*** 441

For sale or exchange: Space constraints force me to thin my collection of duplicate African, N. & S. American Papilionidae acquired over 27 yrs. Many are rare and difficult to obtain. Send SASE for list or send your want list and I will advise on availability. Rick Rozycki, 5830 S. McVicker Ave., Chicago, IL 60638. 434

Wanted to exchange/purchase: bright, colorful small/medium, night/day flying moths from all exotic places. Have collected in small #s because they are of little commercial value and dealers do not bother with them. Have many beautiful individual photos to share from 40 yrs of collecting. Robert Aronheim, ***agriasman@aol.com*** 434

Equipment

For Sale: Traps for Collecting Lepidoptera. **Light traps:** 12 Volt DC or 110 Volt AC with 15 watt or 20 watt black lights. These traps are portable and easy to use. Rain drains and sorting screens protect specimens from damage. Straight tube design provides 360 degree light visibility. Stainless steel or plexiglass vanes. **Bait Traps:** Three types available, Tropical, Inverted Funnel and Flat Bottom. 25" W x 36" height, nylon coated fiberglass screen with a heavy cloth top, plastic zipper in the side for access, and a plywood platform. Optional shroud/hood provides a dark area for moths to hide. For a free color brochure and price list, contact: Leroy C. Koehn, 202 Redding Road, Georgetown, KY 40324-2622, Tele. 502-570-9123; ***Leptraps@aol.com*** 441

Wanted to buy: Portable, good size mercury vapor light trap. Rain drain and/or sorting screen would be nice. I'm also looking for a good commercial relaxing fluid that will not promote mold. Joshua Kehrberg, 150-21st Ave. S., Wisconsin Rapids, WI 54495, 715-423-0709 (evenings). 433

Help Needed

Wanted: Seeds of the following plants, Pellitory-of-the-wall or Wall Pellitory (*Parietaria officinalis*), *Aristolochia rotunda*, *Aristolochia pistolochia*, and Crotons or Goatweed (*Croton capitatus* and *C. monanthogynus*). Randy Robinette, 7302 Midland Trail Rd., Ashland, KY 41102-9294. 433

Help Offered

Wish to collect legally in Costa Rica? We can help you obtain your Official Collecting Permit for the time of your stay. You would be allowed to collect in all the country (except National Parks). Costa Rica rain forests are unique in what you can get: species originally coming from the north (Mexico) and the south (South America). Moth collectors: we can rent you a portable generator. Miguel E. Chumpitasi P.O.Box 1106-2150 Moravia, San Jose, Costa Rica or phone (506) 241-0204. ***echumpi@sol.racsa.co.cr*** 433

Miscellaneous

For Sale: 1987 Monarch medal, 5 ounces of pure silver, proof quality, serially numbered, with one-ounce ANA medal and certificate of authenticity in leatherette case. Only 2000 minted for Atlanta convention of American Numismatic Association. $750. Info and image by e-mail to ***Julian@Donahue.net***. Julian Donahue, 735 Rome Dr., Los Angeles, CA 90065-4040. 434

Wanted: Companions to collect the Dalton Highway (Pipeline Road) in Alaska in July 2002. This is a cost-sharing trip for which I have worked out logistics and obtained promotional airfares for a group of 4 people to minimize costs. John Masters, 26503 Hillsfall Court, Newhall, CA 91321, ***jhmasters5@aol.com*** 433

continued on pp. 23

The Season Summary:

55 Years, Going Strong.
Part 2: Dramatis Personae, Continued

Ray E. Stanford
720 Fairfax St., Denver, CO 80220

The article published in the **News** (see 43(3):75, Autumn 2001) correctly portrayed the principal message of my presentation at the Corvallis meeting in July 2001, *i.e.* that recording all the years' data into an electronic data base available to any Society member or other scientists or students of Lepidoptera, should be a major objective for the Society over the next 5 to 10 years. Jim Tuttle has made an excellent and broad beginning of this project. The number of entries in the data base has increased by nearly 2 orders of magnitude in the past year. However, the Dramatis Personae section was incomplete, as I said in my presentation, being based only on a review of the *western* Zones 1, 2, 3, and 4 [with Grey and Winter included because I had earlier been asked to provide data for their obituaries in the **News**]. Even in the West, I listed Don Eff and Ken Philip as coordinators but failed to list them as contributors!

This second installment is necessary to recognize these and dozens of other people who have served as Zone Coordinators, or who have contributed more than a few times to the Summaries over the years from 1947 to the present. The important coordinators and contributors *not* mentioned before were *not ignored or skipped*! I just didn't get to them by the time of my talk in Oregon. Each "leader board", that of coordinators and that of contributors, when the entire continent is included, *is somewhat different from what was published before*, which included—almost exclusively—people from the western US and western Canada. I share the responsibility for this publication gaffe with Phil Schappert. We both acted in good faith, but failed to communicate at a critical time in the evolution of this article, which attempts to pay tribute to the many folks who have served the Society and the scientific community as Zone Coordinators or contributors over the past 54 years.

The following two lists are excerpts from various "sorts" of my list of ALL Zone Coordinators and most contributors from 1947 through 2000, except the period 1953-1958 when no Summaries were published. The year 2001 is *not* included here.

Zone Coordinators.

There have been 38 official Zone Coordinators since the first Summary in 1947, plus a few other members who have kindly substituted for, or helped, absent or ill Coordinators when necessary. Number of Zones and their boundaries have changed several times, so in the following list of Coordinators who served or have served *10 years or longer* [those still serving are marked by *], their zone[s] are not indicated. Here is the *Leader Board*, in decreasing order by number of years served:

*Edward (Eduardo) C. Welling 35, Hugh Avery Freeman 32, *Kenelm W. Philip 32, J. Donald Eff 31, Robert L. Langston 31, *Jon H. Shepard 27, Bryant Mather 25, *Ray E. Stanford 23, L. Paul Grey 21, W. David Winter Jr. 17, *Leslie A. Ferge 15, Mogens C. Nielsen 15, J. C. Hopfinger 14, Ross A. Layberry 14, Lloyd M. Martin 13, *Ronald A. Royer 12, Edward C. Knudson 11, E. J. Newcomer 11, Andrew F. Beck 10.*

The *average* number of years served by a Coordinator is 13.1, and the average total years of contribution by persons who served as Coordinators is 21.1, compared with 7.7 for all of the 589 whom I have tallied to date. The obvious conclusion from these numbers is that our Coordinators have been a very dedicated, hard-working, and efficient bunch of Lepidopterists!

Contributors.

My list to this point contains nearly 600 names, including [I hope!] nearly all who have contributed in 10 or more years' Summaries. The total is higher, probably approaching 1000 names. The *Leader Board*, which follows, is a list of those who have contributed in *20 or more years*, excluding the period 1953-1958 when no Summaries were published, and for which I have only fragmentary information. Among that information are Mo Nielsen's contributions for these 6 years, which he sent me recently. He leads the parade already, so until I obtain records from Freeman and Langston, both still active, from those years, and perhaps from several other people, I continue to leave these years out of the statistics. Here are the Leaders, again in decreasing order by number of years in which contributions were or have been published:

Mogens C. Nielsen 44, Hugh Avery Freeman 43, Robert L. Langston 42, Ray E. Stanford 39, Charles V. Covell Jr 38, James A. Scott 38, A. Oakley Shields 38, Edward C. Welling 37, Bryant Mather 36, R.W./W.F. Boscoe 35, Ronald H. Leuschner 35, Kenelm W. Philip 35, Arthur M. Shapiro 34, Auburn E. Brower 33, J. Donald Eff 33, Clifford D. Ferris 33, Leslie A. Ferge 32, L. Paul Grey 32, Jon H. Shepard 32, Steven J. Kohler 31, Ernest M. Shull 31, George J. Balogh 30, John F. Emmel 28, Michael S. Fisher 28, Paul A. Opler 28, Jim P. Brock 27, Scott L. Ellis 26, Edward C. Knudson 25, Robert M. Pyle 25, Ken E. Davenport 24, William H. Howe 24, J. C. Parkinson 24, Fred T. Thorne 24, Richard H. Smith 23, J. H. Fales 22, Richard W. Holland 22, Ross A. Layberry

continued on pp. 6

Tales...*continued from pp. 19*

answer to the woman and her brilliant daughter.

When my wife and I bought a house with a large closet containing a socket for a light bulb, we decided to try an informal "enlightened" experiment. We put a long-lasting fluorescent light bulb that fits an incandescent bulb socket in the closet with our wool clothing and left the light on all the time. With this small investment in the bulb, which can be purchased at hardware stores everywhere for about $15 (US), we have been "clothes moth free" for more than six years. Further, one wool sweater that was accidentally stowed in a dark clothes drawer, was attacked by clothes moths. This result is promising, but not very scientific. We need a more "refined" protocol and larger numbers.

As for protocol, I am getting a swatch of wool cloth about 1' square at a local fabric store. I will cut it into four equal-sized squares and put them in our home freezer for a week to kill any possible pests. I will then put two squares in the closet with the light always on and two in drawers that we open once a month, when I will check the squares for clothes moth damage. As for large numbers, **those of you who have closets that can be lighted and are willing to follow the above protocol (no guarantees that it will work, of course) are invited to participate by sending an email to *butterfly tales@hotmail.com*.** If enough of you sign up, we should know within a year if we have come up with an all-natural, pesticide-free method for curtailing clothes moths. And if we have, then the image of the Lepidopterists' Society will shimmer as brightly as the sun that the clothes moths avoid.

Notes and Remarks:

1. The column on the bimbos of the natural world appeared in Quammen's Natural Acts: A Sidelong View of Science and Nature. Copies are widely available online.
2. Scholarly articles on clothes moths include G.S. Robinson 1979 Bull. Br. Mus. Nat. Hist. Ent. 38:57-128 and G.H. Griswald 1944 Mem. Cornell Univ. Agric. Exp. Station, 59 pp.
3. In response to the last column on "Building a Better Butterfly Trap", Norris Bloomfield (California) and Leroy Koehn (Kentucky) are designing traps to further the pursuit of the holy grail.

From the Editor's Desk

Phil Schappert

A real short diatribe this issue, folks (aren't you lucky?), 'cause there just ain't no room!

I'm extremely happy with your responses to my plea for articles with color illustrations. In fact, I've got more than a few that just wouldn't fit into this issue, so if your submission is nowhere to be found, please rest assured that it'll appear in the next issue. I'll keep every submission in a FIFO queue (see below) based on the date of receipt.

A couple of quick notes...

First my most abject apologies for the lateness of this issue. My only excuse is that I have yet to learn to say "No" to every request that comes my way, especially at this oh-so-busy time of year. So, if you're calling to request a favor the answer is "No!" (just practicing).

Second, a couple of suggestions have come my way for columns on 1) Current Taxonomy updates to keep members advised of nomenclatural changes and 2) annotated reviews of important Current Literature. I have to say that both are excellent suggestions. Any volunteers to undertake either of these? (Yes, I'm asking you for a favor...)

Finally, the submission closing date for the next issue has, of necessity, slipped a bit. My advice is to just get me any submissions you have as soon as you can. By the way, FIFO stands for "first in, first out."

Til' next time, my friends...

Marketplace...*cont'd from pp. 21*

For sale: Three Super 8 Movie cameras: Belex 5120 Sound/Macrozoom; Belex 625XL silent; and Bell & Howell MS30 sound. All are in mint to -9 condition. SASE for prices and specifications to Randy Robinette, 7302 Midland Trail Rd., Ashland, KY 41102-9294. 433

Research Requests

I am writing a field guide to the butterflies of Nova Scotia. I require any relevant data regarding dates, location, collector, sexes, and numbers of any butterflies collected in this province. Full acknowledgements given to all contributors. All responses would be greatly appreciated. Submit data to Dr. Ken Neil, P.O. Box 410, Canning, Nova Scotia, Canada B0P 1H0. ***irene.neil@ns.sympatico.ca*** 441

I am conducting a phylogenetic analysis of the Snout Butterflies (Nymphalidae: Libytheinae), using both morphological and molecular characters for my undergraduate honors thesis at Cornell University (under the supervision of Dr. John Franclemont and Dr. Quentin Wheeler). To successfully resolve the relationships, I need collaborators to send me specimens of any of the 12 species, dried (in envelope), spread, in alcohol, in Kahle's solution, larvae, etc. It would be best if the alcohol samples are preserved in 95-100% ethanol, and that specimens are placed in Kahle's solution immediately after collected. I will send vials containing alcohol or Kahle's solution to those who are willing to help. In return for your generous help in providing specimens, I can offer an exchange for butterfly or moth specimens from Japan. Akito Kawahara, Department of Entomology, Cornell University, 3131 Comstock Hall, Ithaca, NY 14853 USA, (607) 255-8050, ***ayk6@cornell.edu*** 431

Field Notes on Geographic Distribution and Records of Comstock's Blue in the Southern Sierra

...and a look at taxonomic implications.

Ken Davenport

6601 Eucalyptus Dr. #325, Bakersfield, California 93306

Comstock's Blue (*Euphilotes battoides comstocki* Shields) has long been viewed as one of the rarest butterflies in North America. Emmel & Emmel (1973) treated this as an unnamed subspecies "known only from a series of specimens in the Natural History Museum of Los Angeles County in the Tehachapi Mountains (July 22, 1918) by Comstock. Its present status and possible extent of distribution are unknown." Twelve years later when Oakley Shields described *E. b. comstocki* it was still known only from the type locality...with one questionable record from Park City, Summit Co., Utah.

In 1974, Jim Brock discovered a population of Comstock's Blue at Piute Mountain Summit (the old lookout, 8326'') in the Piute Mountains (a subrange of the Sierra Nevada) and this was noted by Davenport (1983). In 1982, I was fortunate to find another population on Bald Mountain at 9382' in Tulare County on the Kern Plateau and other populations and range extensions have been discovered since then. Scott (1986) correctly listed this butterfly from the "middle-altitude s Sierra."...and reportedly has found localities for *E. b. comstocki* himself on the Kern Plateau.

At present (2001), Comstock's Blue is known to occur in the mountain ranges surrounding the Kern River Valley and Lake Isabella including the Kern Plateau and eastern slope of the Sierra Nevada, the Greenhorn Mountains west of the Kern River and in the Piute Mountains south of Lake Isabella. It appears likely that it still occurs in the Tehachapi Mountains based on observations made by Jack Levy, John F. Emmel & Gordon Pratt.

This butterfly tends to be very common where found (not at the Tiger Flat locality) in close association with the hostplant *Eriogonum umbellatum* Torrey. These sites are often exposed rocky ridges (sedimetamorphic rock above 8000') or on dry rocky soils along roads. Near Black Mountain, *E. b. comstocki* was common in a boggy ravine near *Lotus oblongifolius* (Bentham) and males were visiting wet mud near the more usual dry slopes with the yellow flowered hostplant.

I observed sixty or more adults in one hour at the Old State Road colony site which stretched a half mile along the road! The other Greenhorn Mountains colonies exist in areas obliterated by a major 1990 forest fire and may fly later than other colonies occurring at higher elevations in the Sierra and Piutes.

Comstock's Blue is sympatric with the Bernardino Blue (*E. bernardino* Barnes & McDunnough) at milepost 6 along the Piute Mountain Road where *Eriogonum fasciculatum* Bentham and *E. umbellatum* meet. Both were seen on their respective hosts on 17 VII 2000. Both butterflies should also occur together at the Old State Road site since I have taken both there...just not on the same day. The two are easily differentiated in the field (see color specimens photo on pp. 33): *E. b. comstocki* has very small black dots and broken orange spots on the HW below (Greenhorn populations tend towards obsolescence) while *E. bernardino* tends to be very small, much more boldly marked with black dots and with a strong orange aurora on the HW below. Future observations at these two sites should help resolve whether these are one or two species or just "host plant" races (Mattoni 1988 (1989).

In summary, Comstock's Blue is a much commoner butterfly of wider range than previously believed, though still of limited distribution. It is not endangered and is probably overlooked by collectors and observers looking for more well defined "flying jewels."

Specific Records

Kern Plateau in Tulare County: *Bald Mountain; 24 VII and 5 VIII 1982; 21 VI and 5 VII 1985; 2 miles W. of Bald Mtn. (off Sherman Pass Rd.) 6 VII 1992 and 24 VI 2000. All records Ken Davenport. There is one record for east slope of Sierra from Indian Wells Canyon (28 VII 1997) by Gordon Pratt and John F. Emmel.*
For Piute Mountains: *Piute Mountain Summit or Vista (6 VII 1974 (Jim Brock) with records from late June into August by many other collectors); Piute Mountain Rd., milepost 6-7 from Bodfish-Havilah Rd.; 17 VII 2000 (K. Davenport).*
For Greenhorn Mountains: *1 mile S. of Tiger Flat and vicinity; 22 VII to 4 VIII 2000; Old State Road near meeting of "Upper Sonoran and Transition zones", 8 VII 2001; 1 mile E. of Black Mtn. Saddle, 23 VII 2001 (all K. Davenport).*

Literature Cited:

Davenport, K. 1983. Geographic distribution and checklist of the butterflies of Kern County, California. Journal of the Lepidopterist's Society, No. 4. p. 61.

Emmel, T.C & J. F. 1973. The butterflies of southern California. Nat. Hist. Mus. of Los Angeles County, Sci. Series 26: 70-71.

Mattoni, R.H.T. 1988 (1989) The Euphilotes battoides complex: recognition of a species and description of a new subspecies. Journal of Research on the Lepidoptera. No. 304. pp. 173-185.

Scott, J. A. 1986. Butterflies of North America. Stanford University Press. Stanford, CA. p.. 402.

Shields, O. 1975. Studies on North American Philotes (Lycaenidae). Bull. Allyn Mus. No. 28. p. 12.

The Mimic: *Hypolimnas misippus* (L.) in Texas

Charles Bordelon & Ed Knudson
8517 Burkhart Rd., Houston TX 77055

The Mimic (*Hypolimnas missipus* (L.)), was recently collected in the Audubon Sabal Palm Sanctuary in Southmost TX, Cameron Co., on 10 August, 2001, by Bordelon. This is a new State Record. See photos on pp. 33.

On a typical Rio Grande excursion, there was not a lot to be expected as far as new butterflies were concerned. We were working the sanctuary on what was a hot, sunny day. Conditions were rather dry in the valley, but the exceptional butterfly garden there is well maintained, and most species seen there, were in the garden...

While Knudson worked the Resaca Loop area, Bordelon strolled through the garden, noticing males of *Junonia "nigrosuffusa"* perching along the back trail; about 20 to 30 feet apart, waiting for females, or chasing off any "intruders" into their territory. What was to follow was truly amazing. Bordelon gives the following account for what transpired between 13:00 hrs. and 15:00 hrs:

> "As I observed the male *Junonia*, one suddenly flew up and chased about the oddest thing I have ever seen, yet I knew exactly what it was when I saw it...*H. misippus* is a very rapid flier, and it flew past me so quickly (with the *Junonia* in hot pursuit), that I was momentarily paralyzed by my own adrenalin. A quick swing was not enough...it was gone in an instant, but suddenly reappeared, still in hot pursuit by the *Junonia*. Again, it was so fast—I never had a chance...
>
> The butterfly (a male) disappeared into the "lead-tree forest," and I figured it was halfway to Monterrey by the time I had missed my second chance. I contacted Ed via Cobra FM walkie-talkie, only to hear the reply, "You saw what???" We were both in disbelief...
>
> Distraught, and thoroughly disgusted, I returned to the parking lot for a cold drink. Ed returned a few minutes later, and after I explained what had transpired, he replied, "Maybe it will come back..."
>
> Doubtful about this, I took consolation in the possibility of this happening. An hour and a half later, I strolled back through the garden, and there it was... nectaring on Texas Ebony, but still "flighty." One swing, and there it was in my net...I was screaming so loud, all of the personnel were out on the scene in a matter of minutes. Jimmy Paz, (the superintendent,) was a half-a-mile away and though working on heavy machinery, heard me, thinking there might be trouble...About another half-hour ensued before I was able to stop shaking!
>
> I've seen a handful of wonders in the valley, including *Philaethria dido*, but this the most amazing butterfly I've ever taken."

Hypolimnas misippus is a familiar butterfly in the old world tropics, where it occurs from Africa to Australia. It is thought to have colonized northern South America and parts of the West Indies in historic times, theorized by some, to have arrived from Africa on slaver's ships. Linnaeus originally described the species in 1764 and he attributed it to "America," so it was likely present before that time, although this does not exclude the "slave ship" hypothesis. Presently this butterfly is a resident in northern South America, especially Venezuela, the Guianas, and Trinidad.

Smith, Miller & Miller, 1994, summarize its occurrence in the West Indies, where it is generally rare, but widely distributed, and probably at least temporarily resident on some of the islands. These authors also suggest that this butterfly may have arrived in the new world "naturally," perhaps aided by tropical storms.

DeVries, 1987, lists one record (a female) from Costa Rica and states that it also occurs in Panama. Kimball, 1965, gives a series of Florida records from 1888 to 1960 and includes a record of a larva found on what is believed to have been "pulsey" (*Portulaca* sp.), rather than "Parsley" as originally reported. Heppner (pers. comm.) indicated that he knew of no Florida records more recent than 1960. Various authors attribute US records of this species from the east coast, as far north as New York. The most recent record is that of Kergosian, from Bay St. Louis, MS, which was a sight record of a male specimen. Various publications on Mexican butterflies do not include this species.

Hypolimnas misippus is known to utilize a wide variety of host plants, including *Portulaca* sp., *Ipomoea* sp., and various Malvaceae. Acceptable hosts certainly occur in Texas and, in many other localities where this species has been found in the US. Aside from limitations imposed by this butterfly's requirements for a tropical or at least, sub-tropical climate, it is thought by various authors that the main reason for its limited success in the new world

continued on pp. 30

Observations of Immigrant Butterflies in Wisconsin, 1987-2001

Ann B. Swengel

909 Birch St., Baraboo, WI 53913

Opler and Krizek (1984) noted that some southern and western butterfly species, labeled colonists, expand their ranges northward and eastward during the summer, only to contract again during the cold of winter. Other butterfly species, categorized as strays, may wander into an area outside their range, but not reproduce there. Other authors classify these widely dispersing species as "migrants" or "immigrants" (Pyle 1981, Scott 1986), while other butterfly species are considered "sedentary" or "localized," because they do not appear to disperse often or far from locations supporting resident breeding populations.

Here, I use "migrant" to refer to the monarch (for scientific names, please see Table 1 and 3), which has highly predictable annual movements in spring and fall between wintering and breeding areas (Opler and Krizek 1984, Scott 1986). The remainder of species that do not appear to survive reliably year-round in Wisconsin I call "immigrants", because of their seemingly less predictable patterns of appearance here. Species that seem to survive here year-round I call "residents".

The great variation in observation of immigrant species among years makes each year's field season different and exciting. Who knows what might turn up just around the next bend? Here I summarize the observations my husband, Scott Swengel, and I have made of immigrant species in Wisconsin during 1987-2001. These statistics may prove useful in providing information about the nature of these butterflies' movements. Is it random or directional, and if the latter, is the migration one-way (toward breeding grounds) or two-way (back and forth between breeding and wintering grounds)?

Scott and I have jointly kept field notes on our butterfly observations since July 1986. While we did not write down every single butterfly individual, we wrote down most of them, with a special interest in recording all individuals of species categorized as immigrants here. Until early September 2001, Scott or I or both of us worked in a job that required much time outdoors, which allowed us to obtain many butterfly observations opportunistically. In 1988, we started conducting formal surveys for butterfly field research, as reported for example in Swengel (1996) and Swengel and Swengel (1997, 2001). The first few years were pilot projects, but since 1991, we have conducted several hundred hours of transect butterfly surveys per year, in which we recorded numbers of all species of butterflies identified along our survey routes at a variety of sites in Wisconsin from April through September.

Table 1. Immigrant species recorded during 1987-2001 in Wisconsin, by species: number of records (date x site); number of individuals (as two values: the sum of records originally recorded as an exact numerical value, and including records converted from verbal descriptions to quantifications); mean, median, earliest, and latest dates; and number of years recorded.

Species	No. of Records	No. of Individuals	Recorded Dates Mean	Median	Earliest	Latest	No. of Years
Checkered white *Pontia protodice*	70	114/124	6 Aug	31 July	18 May	6 Oct	8
Southern dogface *Colias cesonia*	13	13/14	6 Aug	30 July	15 May	16 Oct	7
Little yellow *Eurema lisa*	51	61/63	2 Aug	3 Aug	28 May	3 Oct	10
Dainty sulphur *Nathalis iole*	41	69/75	23 Aug	17 Aug	24 July	16 Oct	6
Gray hairstreak *Strymon melinus*	20	18/20	28 June	25 June	13 May	1 Sep	8
Reakirt's blue *Hemiargus isola*	20	23/23	27 July	27 July	3 July	1 Sep	6
American snout *Libytheana carinenta*	7	13/13	10 Aug	26 July	7 July	10 Oct	3
Gulf fritillary *Agraulis vanillae*	1	1/1	-	16 July	16 July	-	1
Variegated fritillary *Euptoieta claudia*	111	282/283	19 July	20 July	18 May	7 Oct	12
Painted lady *Vanessa cardui*	180	534/535	11 July	15 July	2 May	4 Oct	10
Red admiral *Vanessa atalanta*	618	3537/3608	8 July	10 July	22 Apr	22 Oct	15
Common buckeye *Junonia coenia*	103	208/210	26 July	26 July	2 May	30 Sep	13
Com. checkered-skipper *Pyrgus communis*	8	4/8	18 Aug	26 Aug	1 June	28 Sep	4
Common sootywing *Pholisora catullus*	141	171/191	13 July	20 July	6 May	12 Sep	11
Fiery skipper *Hylephila phyleus*	12	12/12	2 Sep	11 Sep	20 July	26 Sep	4
Sachem *Atalopedes campestris*	4	4/4	19 Sep	27 Sep	22 Aug	30 Sep	2

I databased all our records in Wisconsin of immigrant species (both opportunistic and formal survey records). A record consists of a species recorded at a site on a particular visit. Thus, multiple records (one for each species) could occur on a single site visit, while no records of immigrant species occurred on many site visits. Most records (1336) included the number of individuals seen (a total of 5104 individuals). A few records (98 instances) were noted as presence/absence (converted to an abundance of 1) or as a verbal description ("a couple" or "a few," which I converted to 2) or a range (such as 15-20, which I converted to 15, the low end of the estimate), for a total of 123 individuals in the database. All of our immigrant observations occurred from April to October.

For categorizing species, Opler and Krizek (1984) was the defining reference book for me during the study period. Thus, I'm not treating the American lady here as an immigrant, because it wasn't treated as such in that reference book (or in Scott 1986). However, we have observed it in migrational movements with the painted lady, and subsequent books (including Opler 1998) have treated it as an immigrant in Wisconsin.

For 1987-2001 (all full years of observation), I determined the number of records and total individuals for each immigrant species, the mean and median date of these records, the earliest and latest dates, and number of years these occurred in (Table 1). Some species seem to take quite a while to work their way to Wisconsin, such as dainty sulphur, Reakirt's blue, and fiery skipper. Others, such as gray hairstreak, painted lady, red admiral, and common buckeye, arrive here promptly, with earliest dates in April or May. Such dates may occur before, even much before, last killing frost in spring for that site and year. Such frosts typically occur between May 1 and June 1 (April 15 and May 1 for extreme southeastern and southwestern Wisconsin), depending on location and year (Bush-Brown and Bush-Brown 1958).

We observed one gulf fritillary individual in a prairie far from population centers, so we assumed it occurred naturally there (Table 1). Another individual seen in Baraboo was disqualified because of uncertainty that its presence might be human-aided.

The number of records and individuals (Table 1) is not strictly comparable among species. Some species are easier to identify from a distance while they're flying, such as dainty sulphur and red admiral. Others require a very close look, such as the painted lady, and don't necessarily make such close looks easy. So a low number of records may result from inability to identify individuals to species, and not just low presence of that species. For example, we probably saw thousands of painted ladies in 1992, but only identified a fraction of these individuals.

Checkered white, Pontia protodice, *Sauk Co., WI, 10 Sep 1988, the largest outbreak year for this species during this study. Photo by Ann Swengel.*

For each year, I calculated the number of immigrant records; the mean, median, earliest, and latest dates of the records; and number of species recorded (Table 2). Both the earliest date and latest date varied among the years by over one month, from April 24 to June 2 for the earliest date, and the remarkably long span from July 16 to October 22 for latest date.

Years also varied greatly in number of species and individuals recorded (Table 2). 1996 was very poor for immigrants (single individuals of 4 species), while 1999 and 2001 were outstanding for their combination of high numbers of individuals and species. Although we can't make a rigorous accounting of our observer effort in each year, this annual variation in immigrants was certainly not just a reflection of our effort, since our habits of work, research, and recreation did not vary as much as the immigrant records did.

I still wanted to make some accounting for our availability to observe butterflies

Table 2. Immigrant species recorded during 1987-2001 in Wisconsin, by year: number of records (date x site); mean, median, earliest, and latest dates; span of days between earliest and latest dates; and number of species recorded.

Year	N records	Mean date	Median	Earliest	Latest	Span	N species
1987	57	1 Aug	28 July	4 May	28 Sep	147	12
1988	78	31 July	27 July	6 May	6 Oct	153	7
1989	80	22 July	25 July	22 May	24 Sep	125	11
1990	126	2 July	12 July	27 Apr	30 Sep	156	7
1991	77	20 July	19 July	7 May	7 Oct	153	9
1992	149	4 July	14 July	29 Apr	22 Oct	176	5
1993	17	12 July	12 July	31 May	17 Sep	109	6
1994	44	20 July	19 July	22 Apr	19 Sep	150	8
1995	59	14 July	19 July	22 Apr	2 Oct	163	7
1996	4	29 June	4 July	30 May	16 July	47	4
1997	38	15 Aug	5 Aug	2 June	17 Oct	137	4
1998	52	17 July	9 July	11 May	26 Sep	138	7
1999	135	3 Aug	3 Aug	9 May	16 Oct	160	13
2000	85	4 July	6 July	25 Apr	29 Sep	157	9
2001	400	12 July	16 July	24 Apr	2 Oct	161	11
1987-2001 mean	93.4	18 July	19 July	8 May	27 Sep	142.1	8.0

Table 3. Immigrant species, a migrant species (monarch), and selected resident species recorded during 1987-2001 in Wisconsin: mean and standard deviation (SD) of the first date and number of years used in this calculation, and the same for last date. Excluded here are first dates 1-3 days after a 3+ day trip out of state and last dates 1-3 days before a trip.

Species	No. of years	Mean first date	SD	No. of years	Mean last date	SD
Checkered white	7	21 July	38.31	6	31 Aug	26.03
Southern dogface	6	21 July	39.28	7	20 Aug	31.90
Little yellow	10	10 July	30.94	9	9 Sep	17.84
Dainty sulphur	5	6 Aug	15.79	6	10 Sep	28.43
Gray hairstreak	8	12 June	27.96	7	16 July	37.72
Reakirt's blue	6	16 July	9.64	6	5 Aug	16.44
American snout	3	18 July	9.85	3	12 Aug	51.29
Gulf fritillary	1	16 July	-	1	16 July	-
Variegated fritillary	11	23 June	20.59	12	20 Aug	22.46
Painted lady	10	30 June	48.67	10	28 Aug	28.20
Red admiral	14	17 May	26.19	15	15 Sep	28.54
Common buckeye	12	3 July	45.59	12	2 Sep	21.72
Common checkered-skipper	4	1 Aug	48.97	4	21 Aug	55.50
Common sootywing	11	29 May	21.27	10	6 Aug	36.26
Fiery skipper	3	30 Jul	9.07	4	18 Aug	28.79
Sachem	2	7 Sep	22.63	2	30 Sep	0
Monarch *Danaus plexippus*	15	24 May	6.01	14	11 Oct	9.26
E. tiger swallowtail *Papilio glaucus*	15	5 May	9.42	12	1 Sep	11.83
Cabbage white *Pieris rapae*	14	24 Apr	10.11	13	9 Oct	11.01
Olympia marble *Euchloe olympia*	14	26 Apr	7.88	15	29 May	8.15
Clouded sulphur *Colias philodice*	14	8 May	9.38	14	21 Oct	14.15
Orange sulphur *Colias eurytheme*	14	25 May	18.23	12	12 Oct	17.46
Frosted elfin *Callophrys irus*	10	9 May	7.36	9	4 Jun	7.71
Spring azure *Celastrina ladon*	15	2 May	5.78	15	20 Aug	22.88
E. tailed-blue *Everes comyntas*	15	10 May	9.53	13	24 Sep	9.58
Great spangled fritillary *Speyeria cybele*	13	24 Jun	7.21	14	29 Aug	7.76
Aphrodite fritillary *Speyeria aphrodite*	12	24 Jun	6.72	14	28 Aug	14.21
American lady *Vanessa virginiensis*	14	5 May	9.36	14	20 Aug	20.26
Red-spotted admiral *Limenitis arthemis*	14	2 Jun	10.93	13	31 Aug	5.92
Com. wood-nymph *Cercyonis pegala*	8	28 Jun	4.26	14	4 Sep	6.96

in Wisconsin. For April to October 1987-2001, I determined all dates that we were out of state for three or more consecutive days. My records were not sufficient to determine easily those dates we were out of state for shorter periods. I also do not have a record of days on which weather precluded butterfly observation. Thus, I am able only to produce a crude measure of our "observer effort" (i.e., whether we could have recorded butterflies in Wisconsin on that date or not). But it was rare for us to be out of state the entire day and overnight but not for three days.

For each immigrant species, I identified the earliest date and latest date of observation in each year (Table 3). I excluded earliest dates 1-3 days after a trip of three or more days out of state and latest dates 1-3 days before such trips, because of the possibility we'd have observed species in Wisconsin during the dates of that trip. It turned out, though, that results were very similar with or without these exclusions. I calculated the mean first and last date, as well as the standard deviation (SD) as a measure of variability in first and last dates among years. For comparison, I also analyzed the Monarch as well as a few resident species selected because we judged we had reliable earliest and latest dates in most years. These were either widespread residents (well observed in our yard and jobs as well as our research and recreation) or localized species for which we consistently surveyed intensively from start to end of their flight periods.

All immigrant species seen in any numbers were more variable in earliest and latest dates (i.e., had higher SDs) than the Monarch (Table 3). The only exception is the latest date for sachem, which was observed in only two years, and the last date happened to fall on the same date in both years. Even the immigrant species seen in all years, the red admiral (Table 1), was more variable than the monarch. In one of those years (1996), the red admiral was only barely recorded (a single individual on July 2). While the SDs for immigrants and residents overlapped, the immigrants as a group had significantly higher SDs than the residents ($P=0.0000$ for both first and last dates, Mann-Whitney U test). The monarch's first and last dates were as consistent as the residents' (i.e., monarch SDs were in the middle of the range of resident SDs).

For each date, I summed the number of immigrant individuals and species recorded during 1987-2001. To account for our absences from the state for three or more days, I divided the sums of species and individuals by the number of years we were not out of state on such a trip on that day. This produced cumulative rates of observation of immigrant species and individuals for

1. Fiery skipper, *Hylephila phyleus*, Sauk Co., 10 Sep 1989. Six of 12 individuals found during this study were in our yard. **2.** Painted lady, *Vanessa cardui*, Dodge Co., 23 Aug 1988. **3.** Gray hairstreak, *Strymon melinus*, Jackson Co., 8 Jun 1999. One of 9 individuals recorded in May or early June in 5 years of the study. **4.** Common sootywing, *Pholisora catullus*, Sauk Co., 31 May 1997. We recorded this sp. each year from 1987 through 1995 but have only three records in two years since. **5.** Painted lady, *Vanessa cardui*, Sauk Co., 2 Jun 1992, larvae in nest on wild lupine, *Lupinus perennis*, during the biggest outbreak year for this sp. **6.** Sachem, *Atalopedes campestris*, Sauk Co., 22 Aug 1991. Only found in 1991 and 1999 with 3 of 4 records in our yard. **7.** Dainty sulphur, *Nathalis iole*, Douglas Co., 3 Aug 1999. Photos by Ann Swengel.

a date, with some accounting for the number of years of observation comprising that date's sum of individuals and species. This improves the comparability of the sums among dates, even though the number of years we were available for observation varied among dates. In other words, these are observation rates of individuals seen per year for each date, as well as accumulation rates of species per year. My goal was to address variation during the course of the butterfly season in observation of immigrant species and individuals.

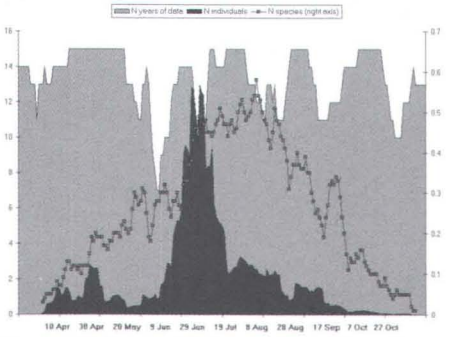


Figure 1. Rates of observation of immigrant individuals (solid black, plotted against the left axis) and species (squares, plotted against the right axis) per year for each date in Wisconsin, during 1987-2001. To even out the variability, the values for each date are 7-day running averages (i.e., the value for the date is averaged with the values for the three dates before and after). A year is excluded from the calculation if we were on 3+ day trip out of state on that date. The gray area (plotted against the left axis) shows how many years were included in calculating the rate for each date.

Observation rates of individuals peaked in early July (Fig. 1). Observation rates of species had a broader peak from early July through mid-August, with the highest spike in early August. There was no bias in the number of years of observation among dates in different parts of the season, except for a lower number of years of observation in mid-June. This did not seem to bias the shape of the plots.

The start of the drop-off in observation rates of species and individuals occurs before significant cold weather usually occurs in Wisconsin. The first killing frost typically occurs from September 15 to October 15, depending on location and year (Bush-Brown and Bush-Brown 1958). This suggests a withdrawal of individuals before killing cold weather, rather than an accumulation of species and individuals in the state until die-off from cold weather. Besides the passing of the hottest summer weather, a cue for this withdrawal might be coarseness or senescence of caterpillar food plants. Most plants are not putting up significant amounts of fresh growth late in the summer.

References

Bush-Brown, James and Louise Bush-Brown. 1958. *America's Garden Book*. Charles Scribner's Sons, New York.

Opler, Paul A. 1998. *A Field Guide to Eastern Butterflies*. Houghton Mifflin Company, Boston.

Opler, Paul A. and George O. Krizek. 1984. *Butterflies East of the Great Plains: an illustrated natural history*. The Johns Hopkins University Press, Baltimore.

Pyle, Robert Michael. 1981. *The Audubon Society Field Guide to North American Butterflies*. Alfred A. Knopf, New York.

Scott, James A. 1986. *The Butterflies of North America: a natural history and field guide*. Stanford University Press, Stanford.

Swengel, Ann B. 1996. *Effects of fire and hay management on abundance of prairie butterflies*. Biological Conservation 76: 73-85.

Swengel, Ann B. and Scott R. Swengel. 1997. Co-occurrence of prairie and barrens butterflies: applications to ecosystem conservation. *Journal of Insect Conservation* 1: 131-144.

Swengel, Ann B. and Scott R. Swengel. 2001. Effects of prairie and barrens management on butterfly faunal composition. *Biodiversity and Conservation* 10: 1757-1785.

Vermont...*continued from pp. 12*

the William P. Wharton Trust, and the members and trustees of the Vermont Institute of Natural Science. Co-operating with VINS on the initiative are: Antioch New England Graduate School, Audubon Vermont, Green Mountain National Forest, The Nature Conservancy of Vermont, Vermont Bird Tours, the Vermont Nongame and Natural Heritage Program, and the Vermont Entomological Society.

Mimic...*continued from pp. 25*

is the lack of an acceptable mimetic model. In the old world the model is mainly *Danaus chrysippus*. The female of *H. misippus* is well known to mimic the various forms of this distasteful species, which occur in different localities. It is thought that the male is not so protected, Migdoll, 1988 (and other authors), but there do exist species of Danaidae and Acraeidae, in the old world, that do possess a pattern similar to the male of *H. misippus*. In his book, Migdoll also gives the interesting comment that the male and female have different common names (in South Africa, at least); the male being called "the diadem," and the female "the mimic." Barcant, 1970; uses another common name, "the six continent."

Many authors have commented on the habits of *H. misippus*, especially noting the very rapid and powerful flight and wariness of this butterfly. No doubt, these abilities have aided its dispersal.

In summary, the capture of this species in Texas is interesting, but not too unusual, given its dispersal abilities. For now, it should be considered a once-in-a-lifetime stray and even temporary residence is quite unlikely in this state.

Literature Cited

Barcant, M., 1970. Butterflies of Trinidad and Tobago, Collins, London

DeVries, P., 1987. The Butterflies of Costa Rica, Princeton Univ. Press, Princeton, NJ

Kimball, C.,1965. Lepidoptera of Florida, Fla.Dept. of Agriculture, D.P.I.,Gainesville, FL

Migdoll, I., 1988. Field Guide to the Butterflies of Southern Africa, New Holland Pub. London

Smith, Miller & Miller, 1994. The Butterflies of the West Indies and South Florida, Oxford Univ. Press, Oxford.

For more information contact:

Kent P. McFarland, Vermont Butterfly Survey, c/o Vermont Institute of Natural Science, 27023 Church Hill Road, Woodstock, VT 05091

Phone: (802) 457-2779 Ext.124 or email ***vbs@vinsweb.org***

Members may also contact the author at (802) 454-4640 or ***bryanp@ sover.net***

Butterflies and Boots

George O. Krizek

2111 Bancroft Pl. NW, Washington, CD 20008

Are some butterflies attracted to our boots? The answer is yes (as long as they're alive—see the recent Mailbag debate in the last few issues of the **News**), especially the brush-footed butterflies, Nymphalidae.

There appear to be two reasons for them approaching humans. One seems to be an orientation behavior, or exploration instinct, which we humans might call "curiosity." Such behavior is typical for butterflies like the hackberry butterfly, *Asterocampa celtis*. Alexander Klots once suggested that a beginning entomologist who suddenly cannot locate this species, despite having been following it a few seconds ago, most probably has it sitting on his head or shoulders! In one such experience a female Diana fritillary, *Speyeria diana*, deserted the sweet nectar of common milkweed, *Asclepias syriaca*, in order to explore and sit on my right shirt sleeve despite that the cotton shirt was clean and dry. But she also tried to land on several parts of my car (white door, black tires and windshield). Contrary to the expected and often described behavior of this species, males ignored strongly-smelling horse manure that I offered them and continued to nectar on the common milkweed (see **News**, 1991, No. 6, pp. 83).

The second reason why butterflies are attracted to humans (and animals) are the chemical signals that most mammals, especially in the tropics, are emitting. I wonder if butterflies surround gorillas in their natural habitats (because the odor they emit is very strong and most probably unpleasant to the majority of humans)? One almost gets the impression that some Nymphalids are "anthropophiliac" or "domesticated" butterflies (see **Trop. Lep.** 1991, No. 2, pp. 85).

Attracted by the chemical stimuli produced by the decomposition of organic waste products of human and other animal metabolism (salt, urea, amines, amino acids, fatty acids, etc.) they aggregate in the immediate vicinity of human settlements. And because different types of human sweat glands also produce urea, salt, fatty and aromatic acids, and human pheromones, etc., butterflies often accompany the entomologist photographer in the jungle. In such situations the parts of our equipment—the bags, net handles, extension reings and lens, etc.—that are stained by sweat from our hands, attract butterflies (see color photos on pp. 32). Sometimes it even becomes necessary to chase butterflies from our neck, shoulders or hands in order to photograph them (see the photo of a *Morpho* exploring my left index finger with its proboscis).

It is obvious that the ability of *Homo sapiens* to be present and even be able to offer butterflies some source of food (such as alcohol) was not as common 10,000 years ago. There were no accumulations of cultivated fruit trees in the vicinity of human habitations such as we now see in the backyards of Europe, for example. Here, in the late fall, we find red admirals, *Vanessa atalanta*, sucking in such quantities of fermenting plums that they are intoxicated and unable to fly away when disturbed.

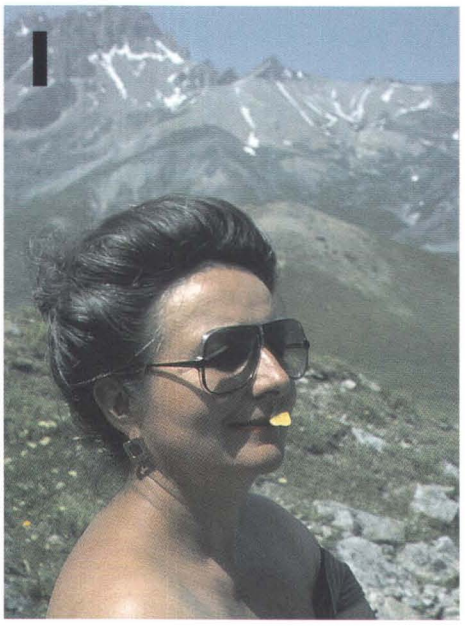
Are live butterflies attracted to our boots? Seemingly so, if this example (see photo on pp. 32) of *Erebia montana* exploring my hushpuppie in the French Alps, and our editor's comment to one of the recent letters (see **News** 43(3): 67) that the writer see the photo of Juvenal's duskywing, *Erynnis juvenalis*, visiting the toe of his sandal at the Stengl "Lost Pines" Biology Station, are only two such examples from as many experienced entomologists. Of course the shoes, besides having the original aroma of the animal they were made from, could have small amounts of any or all of the above mentioned organic substances, including, most likely, salt. Anyhow, the *Erebia* spent some 10 or more minutes on or around my shoes and it is an experience that I will always treasure.

Books...*continued from pp. 14*

related species. The rare books and publications are shown with their title pages and sometimes-significant portions. The pictorial display really enhances the written words of explanation.

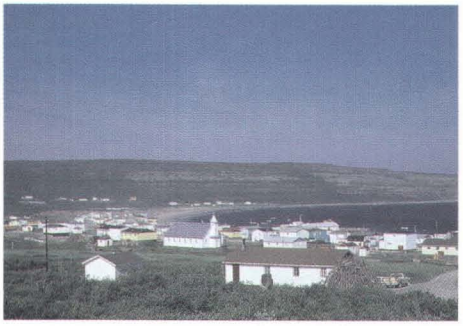
A short section at the end addresses conservation and collecting. It was sadly true that the English collector of the 1800's might counter the sportsman's boast of how many grouse shot in a day with his own record of Purple Emperors captured (some used nets with 15-30 foot handles!). Fortunately those days are now past but some species that occurred in England are no longer there: the author attempts to assess what happened, and concludes that overcollecting was not a major factor except for a few isolated populations. It is the same story as here: loss of habitat and food plants is the primary cause of species decline or extirpation. Bogs and fens are drained, the suburbs expand ever outward and insects are no longer found. Since butterflies in England are so well known, future studies may concentrate on behavior and on photography. Still, the author holds out the hope that future young entomologists may still enjoy the "innocent pleasure" of making a butterfly collection.

Ron Leuschner



Strange Attractors.

1. *Colias palaeno* sitting on the upper lif of Blanka Krizek, July 23, 1983, Col du Lautaret, French Alps, Europe. **2 and 5.** *Morpho* (from the *helenor/achilles* group) exploring my left index finger with its proboscis (2) and sitting on my straw cap (5). Nov. 10, 1989, Rondonia, Brazil. **3.** *Adelpha iphicleola*, *A. pollina*, and *A. mesentina* sitting on my butterfly net. March 20, 1991, Rondonia, Brazil. **4.** *Adelpha thesprotia*, *Siproeta stelenes*, and *A. iphicleola* (?) sitting on my bag. March 21, 1991, Rondonia Brazil. **6.** *Erebia montana* exploring my shoe and its surroundings. August 11, 2001, French Alps, Argentiere, Europe. Photos by George O. Krizek. See article on pp. 31.



Labrador with Paul Grey

Left: Granite headlands, Labrador Coast near L'Anse au Loup. **Below:** *Oeneis polixenes* on wet tundra near L'Anse au Loup. **Below left:** L'Anse au Loup, Labrador, 1981. All photos by William Neill. See article on pp. 9.

Membership...*cont'd from pp. 16*

Lawrie, David D.: 406 West Washington Street, Apt. 22, Champaign, IL 61820-3493.

Lewis, Jon A.: 2221 Community Drive, Waldorf, MD 20601-3964.

Morneau, Louis: 7325 rue du Bélier, Charlesbourg, Québec G1G 6S3, **Canada.**

Nonaka, Masaru: Shimoshakujii 6-9-6, Nerima-ku, Tokyo 177-0042, **Japan.**

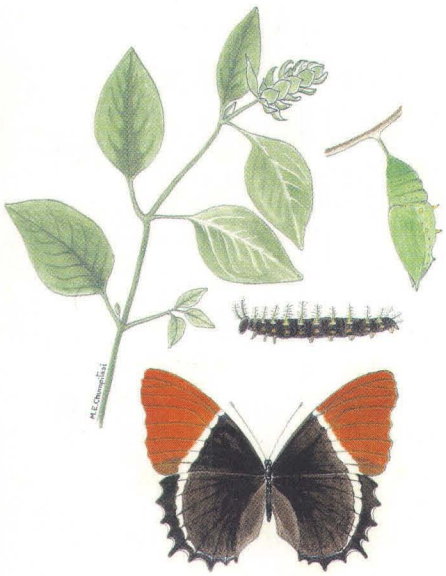
Overton, Max: 103 Garan Ju Manor, Collinsville, IL 62234-4822.

Patterson, David C.: 22493 Orchid Avenue, Rogers, MN 55374-8850.

Pautsch, Richard: 10913 Stony Point, Bakersfield, CA 93311-3548.

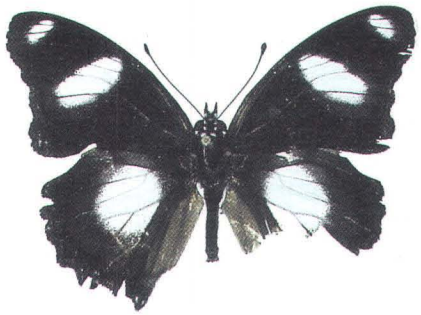
Robertson, Duncan (Prof.): 52 Florence Street, Kingston, Ontario, K7M

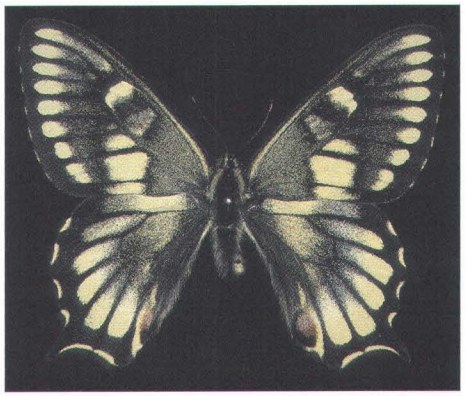
continued on pp. 11

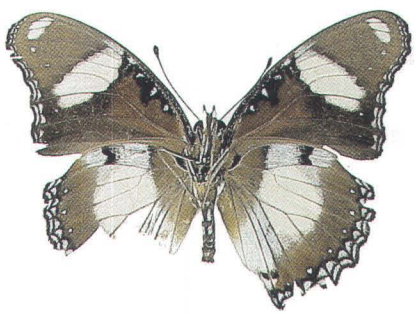


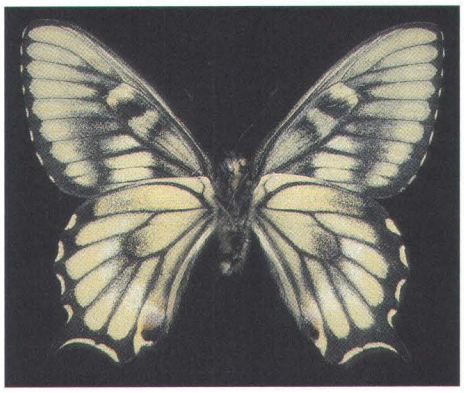
Above left: Drawings of the life history of the Rusty-tipped Page, *Siproeta epaphus epaphus*. See life history description on pp. 12. Drawing by Miguel E. Chumpitasi. **Above right:** Another page out of the field notebook of Liam O'Brien resulting from his field trip south of Corvallis, OR after last year's Annual Meeting.

Below left: A comparison of Comstock's Blue, *Euphilotes battoides comstocki*, with Bernardino Blue, *E. bernardino*. Photo by Ken Davenport. See article on pp. 24. **Below center:** Upperside (top) and underside (bottom) of Mimic, *Hypolimnas misippus*, taken in Texas in 2001. Photos by Ed Knudson. See article on pp. 25. **Below right:** A strikingly beautiful aberrant (upperside, top and underside, bottom) of *Papilio machaon* (Papilionidae) taken by Kenelm Philip.









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 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,
Assistant 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
Institutional Subscription	60.00
Air Mail Postage for **News**	15.00

Students must send proof of enrollment. Please add $ 5.00 to your Student or Active dues if you live outside of 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,
Natural History Museum of Los Angeles County, 900 Exposition Blvd.,
Los Angeles, CA 90007-4057.
donahue@caroli.usc.edu

Our Mailing List?

Contact Dr. Donahue for information on mailing list rental.

Missed or Defective Issue?

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

Journal of the Lepidopterists' Society

Inquiries regarding **Journal** policy and manuscripts submitted for publication in the **Journal** are to be sent to:

Carla M. Penz

(see address opposite)

flea@mpm.edu

Editorial policy is outlined on the inside back cover of any issue of the **Journal**.

Book Reviews

Send book reviews or new book releases for review, for either the **Journal** or the **News**, to:

Dr. P. J. DeVries, Director,

Center for Biodiversity Studies,
Milwaukee Public Museum,
800 West Wells St.,
Milwaukee, WI 53233
Tel: (414) 278-6939
Fax: (414) 278-6100

pjd@mpm.edu

WebMaster

John A. Snyder

Dept. of Biology, Furman University, Greenville, SC 29613-0001, (864) 294-3248, ***john.snyder@furman.edu***

Submission Guidelines for the News

Submissions are always welcome! When space becomes limiting, preference is given to articles written for a non-technical but knowledgable audience, illustrated, written succinctly, and under 1,000 words. Please submit your article or item in one of the following formats (in order of preference):

1. Electronically transmitted file in ASCII or other acceptable form *via* e-mail.

2. Article on high-density floppy diskette or Zip disk in any of the popular formats. You may include graphics on disk, too. Indicate what format(s) your article is in, and call if in doubt. Include a printed hardcopy and a backup in ASCII or RTF (just in case). All disks will be returned upon request.

3. Typewritten copy, double-spaced suitable for scanning and optical character recognition. Artwork should be line drawings in pen and ink or good, clean photocopies suitable for scanning. Originals are preferred.

4. Handwritten or printed (very legible, short pieces only please, <500 words).

Submission Deadlines

Material for Volume 44 must reach the Editor by the following dates:

Issue	Date Due
1 Spring	you missed it!
2 Summer	**May 25, 2002**
3 Autumn	Aug. 17, 2002
4 Winter	Oct. 25, 2002

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

Executive Council

President

J. Donald Lafontaine
Agriculture Canada, Neatby Building, C.E.F., Ottawa, Ontario K1A 0C6, Canada.
(613) 759-1791
lafontained@EM.AGR.CA

Past President

Robert K. Robbins
Dept. Entomol., NHB 127, NMNH, Smithsonian Inst., Washington, DC 20560-0127
(202) 357-2353
robbins.robert@nmnh.si.edu

Vice Presidents

Bernard Landry
18, rue Washington, Aylmer, Quebec, J9H 4B9, Canada.
(819) 682-8331

Jorge B. Llorente-Bousquets
Museo de Zoologia, UNAM, Apartado Postal 70-399, Mexico, D.F. 04510, Mexico.
(525) 548-8186 (FAX)

David L. Wagner
EEB, 75 North Eaglesville Rd., Rm. 312, U-43, Univ. of Connecticut, Storrs, CT 06269-3043; (203) 486-2139
wagner@uconnvm.uconn.edu

Secretary

Ernest H. Williams
Department of Biology, Hamilton College, Clinton, NY 13323
(315) 859-4387
ewilliam@hamilton.edu

Asst. Secretary/Librarian

Julian P. Donahue
Natural History Museum
900 Exposition Boulevard
Los Angeles, CA 90007-4057
(213) 763-3363 (office)
(213) 746-2999 (fax)
donahue@caroli.usc.edu

Treasurer

David C. Iftner
8 Alpine Trail, Sparta, New Jersey 07871, (973) 729-1350
iftner@worldnet.att.net

Asst. Treasurer

Kelly M. Richers
9417 Carvalho Court
Bakersfield CA 93311
(805) 665-1993 (home)
kerichers@lightspeed.net

Publications Manager

Ken Bliss
P. O. Box 1366,
Edison, NJ 08817
KBliss0568@aol.com

Editor, News of the Lepidopterists' Society

Phil Schappert
Integrative Biology, C0930, University of Texas at Austin, Austin, TX 78712-1064, (512) 471-8240 (office), (512) 475-6285 (lab), (512) 471-3878 (fax), (512) 237-3864 (home),
philjs@mail.utexas.edu

Editor, Journal of the Lepidopterists' Society

Carla M. Penz
Curator of Invertebrates, Dept. of Invertebrate Zoology, Milwaukee Public Museum, 800 West Wells St., Milwaukee, WI 53233, Phone: (414) 278-6936, FAX:(414)278-6100,
flea@mpm.edu

Editor, Memoirs of the Lepidopterists' Society

William E. Miller
Department of Entomology, University of Minnesota, St. Paul, MN 55108,
(612) 624-7493 (office)
mille014@maroon.tc.umn.edu

Book Review Editor

Phil J. DeVries
(see address opposite)

Members-At-Large

Marc E. Epstein, Elizabeth A. Munger, Orley R. Taylor, Jr., James K. Adams, Jeffrey R. Slotten, Wayne F. Wehling, David Ahrenholz, Philip J. DeVries, J. Bolling Sullivan.

Season Summary Zone Coordinators

Refer to Season Summary for Zone coverage details.

Chief Season Summary Coordinator And Editor

Jim Tuttle
4285 N. Homestead Avenue
Tucson, Arizona 85749-9437
(520) 749-1806 (home)
jtuttle@theriver.com

Zone I, The Far North:

Dr. Kenelm W. Philip
Institute of Arctic Biology
University of Alaska
P.O. Box 75700
Fairbanks, Alaska 99775-7000
(907) 479-2689
fnkwp@aurora.alaska.edu

Zone 2, The Pacific Northwest:

Jon H. Shepard
R.R. #2, S.22, C.44
Nelson, British Columbia
V1L 5P5 Canada
(250) 352-3028
shep.lep@netidea.com

Zone 3, The Southwest:

Ken Davenport
6601 Eucalyptus Dr., #325
Bakersfield, CA 93306-6856
(805) 366-3074 (home)
flutterflies@juno.com

Zone 4, The Rocky Mountains:

Dr. Ray E. Stanford
720 Fairfax Street
Denver CO 80220-5151
(303)377-1332 (home)
raystanford@stanfordalumni.org

Zone 5, The Plains:

Dr. Ronald Alan Royer
Division of Science
Minot State University
Minot, North Dakota 58707-0001
Office: (701)858-3209
FAX: (701)839-6933
royer@warp6.cs.misu.nodak.edu

Zone 6, South-Central:

Charles Bordelon, Jr.,
8517 Burkhart Road
Houston, TX 77055
(713) 822-8731 (cell)
legitintellexit@earthlink.net

Zone 7, Ontario And Quebec:

Alan J. Hanks
34 Seaton Drive, Aurora, Ontario L4G 2K1 Canada
(905) 727-6993 (home)
A.Hanks@aci.on.ca

Zone 8, The Midwest:

Leslie A. Ferge
7119 Hubbard Avenue
Middleton, Wisconsin 53562-3231
(608) 836-9438
ferge@chorus.net

Zone 9, The Southeast:

Brian G. Scholtens
Biology Department
College of Charleston
Charleston SC 29424-0001
(803) 856-0186
scholtensb@cofc.edu

Zone 10, The Northeast:

Mark J. Mello
c/o Lloyd Center,
430 Potomska Rd
Dartsmouth, MA 02748
mothman@mediaone.net

Zone 12, Mexico & the Caribbean:

Isabel Vargas Fernandez
Museo de Zoologia,
Facultad de Ciencias,
Univ. Nacional Autonoma, Mexico,
Apartado Postal 70-399,
Mexico 04510 D.F., Mexico
ivf@hp.fciencias.unam.mx

The Lepidopterists' Society
c/o Allen Press
P.O. Box 368
Lawrence KS, 66044

Nonprofit
Organization
U.S. Postage
PAID
Permit No. 116
Lawrence, Kansas

2001 Photo Contest: Butterflies, 2nd place. Red-banded hairstreak, *Calycopis cecrops,* Leroy Simon.

2001 Photo Contest: Moths, 3rd place. *Rosema epigena,* Leroy Simon.

Announcement...

Basic Techniques for Observing and Studying Moths & Butterflies

by William D. Winter.

Lep. Soc. Memoir #5 is a 350-page book (with 82 pages of Appendices) packed with information for study of Lepidoptera. Both beginners and experienced students of Lepidoptera will find this book to be a valuable reference.

To get your copy, send check or Money Order for $29.00 (Members), $44.00 (Non-members), postpaid (Canada add $6.00; other countries add $10.00), made payable to "The Lepidopterists' Society," to:

Ken Bliss, Publications Mgr.
P. O. Box 1366, Edison, NJ 08817