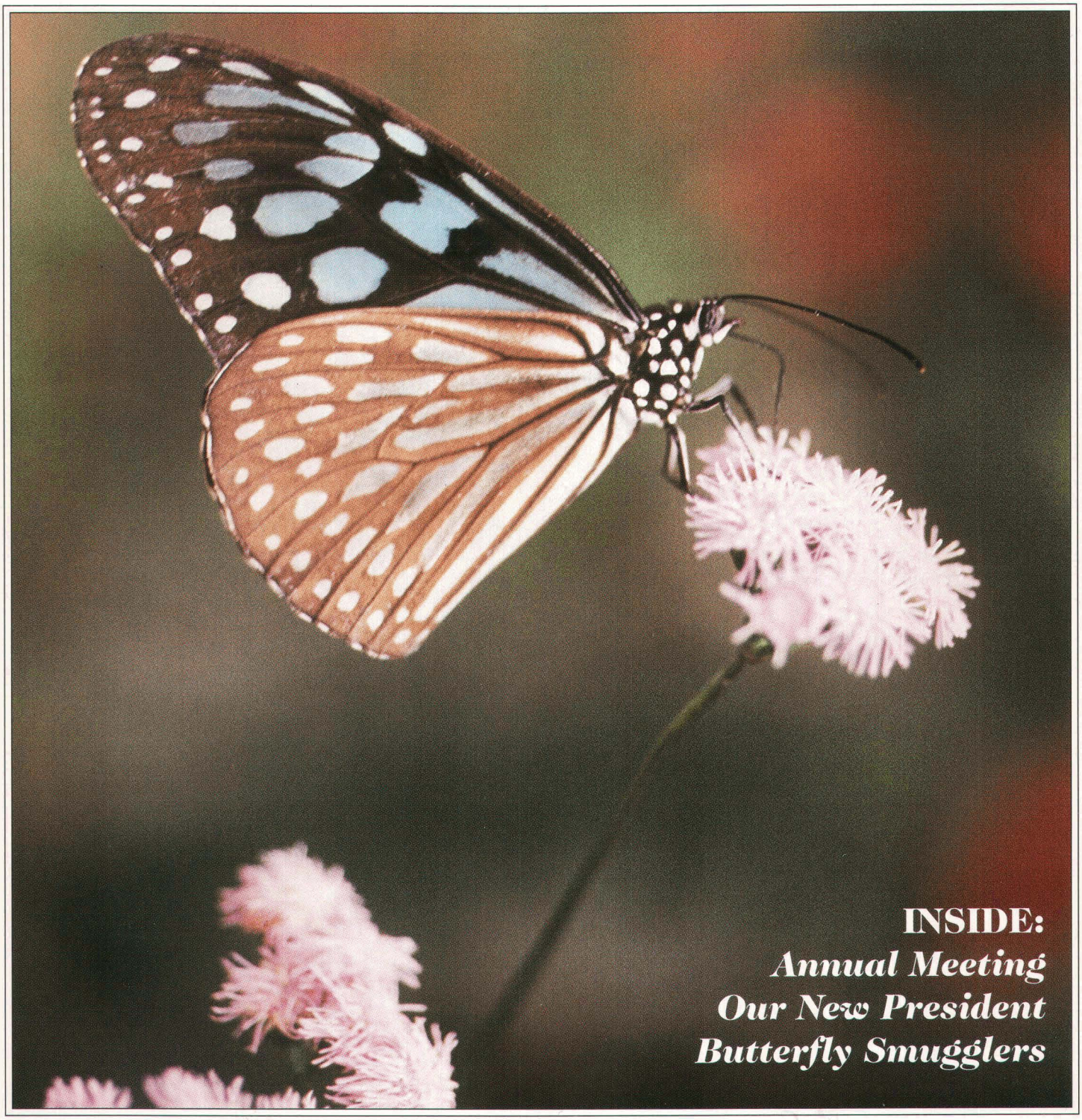
News of the Lepidopterists' Society

Number 1

March 1995



INSIDE:

Annual Meeting

Our New President

Butterfly Smugglers

News of the Lepidopterists' Society

Number 1 **March 1995**

Edited by Marc C. Minno and Maria F. Minno

Contents

Editors' Note

We hope you like the new format and all the colors in this issue of the *News of the Lepidopterists' Society*. Putting the newsletter together is a lot of work! Stephanie McKown did such an excellent job; we hope you will bear with us as we attempt to fill her shoes. Please continue to send in your photos, notes, observations, opinions, cartoons, etc. to us, as described on the inside back page. This is your newsletter, and we want it to be accessible. We are fortunate to have a great diversity of viewpoints, and much common ground. Please drop us a line and let us know how we are doing. We take your comments to heart.

Marc Minno

Maria Minno

The Lepidopterists' Society

The object of the Lepidopterists' Society, which was formed in May 1947 and formally constituted in December 1950, is "to promote the science of lepidopterology in all its branches,... to issue a periodical 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 secure cooperation in all measures" directed towards these aims.

See inside back cover for additional Society information.

Front cover: Photo taken at Butterfly World, Coconut Creek, Florida by Milt and Patti Putnam, 3646 NW 54th Lane, Gainesville, Florida 32653 (904)372-1092.

Presidential Profile: Frederick W. Stehr

Frederick W. Stehr, of the Department of Entomology, Michigan State University, East Lansing, Michigan, is the current President of the Lepidopterists' Society.

Fred was born in Athens, Ohio, in the hill country of the southeastern part of the state. He grew up at the edge of town on four acres of fields, woods, a small creek, and a large garden, flower bed and orchard that was excellent habitat for a great diversity of insects. His father was a professor of Zoology at Ohio University, with a long-standing interest in Entomology, especially the Coccinellidae and Carabidae. His father collected everything in building the Ohio University insect collection, and because of his father's severe ragweed hayfever, they made summer trips to the West and collected everywhere they went (except in National Parks), since they didn't need permits in those days, and people were happy to have them collect all the "bugs" they wanted.

He received a BS in Zoology, with a minor in Botany from Ohio University, and immediately spent two years in the U. S. Army as a lieutenant in the Corps of Engineers, building roads and related facilities at the Army's Trois Fontaine ammunition depot in northeastern France, where he finished his tour as CO of the 525th Engineer Company (Dump Truck). That was good experience from the personnel standpoint, but didn't add much to his biological background. He did collect many insects while there, but not many Lepidoptera, since wielding a net was not exactly what fellow officers and other acquaintances were into or willing to tolerate when on leave.

Upon discharge from the Army, he entered graduate school in entomology at the University of Minnesota with an avowed interest in Lepidoptera. His major professor, Ed Cook, was a dipterist, but Cook was supportive of student interests no matter what taxon, so an M.S. thesis project on tent caterpillars involving egg mass oviposition sites (twigs or the base of stems) and the systematics of the genus *Malacosoma* was initiated.

During this research it became evident that there were many unsolved systematics problems with *Malacosoma* west of the Great Plains that needed investigation in the field. As a result, an NSF grant was applied for and awarded for 3 years in 1959. In 1959 he married Mary Ann Dietrich, a Minnesota student whom he had met in 1957 at a mixer in Comstock Hall, the on-campus housing facility that you will be staying in if you select campus housing for the 1995 annual meeting.

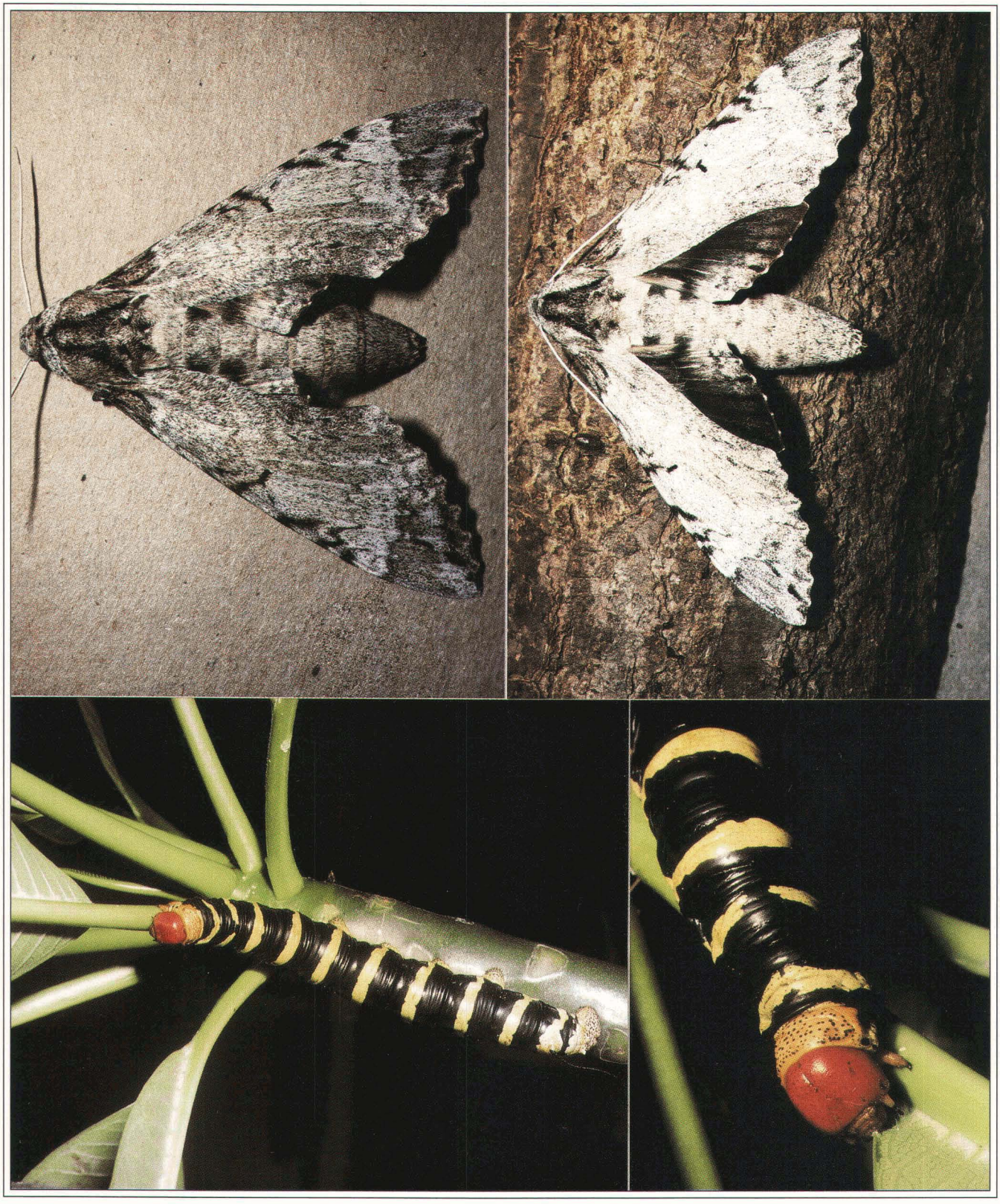
Mary Ann was thereby appointed as Chief Assistant for the upcoming field expeditions, and was the chauffeur for nearly all of the highway searching. About 8 months were spent in the field in both 1960 and 1961, and a couple of months in 1962. Nearly 100,000 miles were covered, made possible by the fact that the larvae of the tent caterpillars in question could be easily collected and reared by spotting the tents while driving the highways at the speed limit (no need to stop and search for larvae). Travel and housing were greatly facilitated by the use of a pickup truck with attached camper (a fairly new idea in 1959), and by temporarily locating the 25-foot rearing trailer at various campuses and field stations throughout the season (the biocontrol lab at the University of California at Berkeley, the Hat Creek, California, Field Station of the U.S. Forest Service, and the Alberta Kananaskis Field Station of Canada Forestry in 1960; the University of Arizona field station, the Snow College, Utah field station, and private property in Bozeman, Montana in 1961).

This resulted in the completion of a dissertation on the systematics of *Malacosoma* in America North of Mexico, published as a bulletin by the USNM in 1968, and awarded the Karl Jordan Medal by the Society in 1974 at the Los Angeles meeting.

After completing the Ph.D., Fred was employed as a research fellow by the Department of Entomology at Minnesota, where he was the "collection manager." Then, in 1965

(Continued on page 20)

Sad but true: **The late Lloyd Martin of the Los Angeles County Museum once caught dozens of the Atossa fritillary *(Speyeria [Argynnis] adiaste atossa)* on thistles in late June in the Piute Mountains in Kern County, California. He relates that *S. atossa* was common at this time. Yet they abruptly disappeared in 1933. Lloyd believes that *S. atossa* perished that year because of a very hot, dry summer. He claims that the heat killed all males (which precede females by 2 weeks or more), and when females emerged in late August and September, when monsoon rains fell, all males were gone. (See my report of *S. atossa* on page 236 in Butterflies of North America, and Emmel and Emmel in Butterflies of Southern California, page 29]. While there are several theories on the disappearance of *S. atossa*, I have come to a sort of tentative conclusion that Lloyd Martin's assumption seems the most plausible. Lloyd was there, and I wasn't, and neither were the Emmel's. So, take your pick; sad either way! --Bill Howe**
Painting by William H. Howe, 822 East 11th Street, Ottawa, KS 66067 (913) 242-4148.



The frangipani sphinx, P*seudosphinx tetrio*, from Key West, Florida. LOWER LEFT: Last instar larva. LOWER RIGHT: The anterior segments of a last instar larva. UPPER LEFT: Adult male reared from a larva found on *Plumeria rubra*. UPPER RIGHT: Adult female reared from a larva. Photos by Harry Darrow.

Pseudosphinx tetrio (L.) (Lepidoptera: Sphingidae) in the Florida Keys

by Marc C. Minno (600 NW 35th Terrace, Gainesville, FL 32607)
and Harry N. Darrow (1470 Midland Avenue, Bronxville, New York 10708)

One of Florida's larger sphingids, the frangipani or giant gray sphinx, *Pseudosphinx tetrio* (Linnaeus), occurs in the southern tropical portion of Florida (Kimball 1965). This moth has a broad neotropical distribution, ranging from Florida, the Caribbean region, Mexico, and Central America, into much of South America (Schreiber 1978). In the Florida Keys, the frangipani sphinx has been recorded from Key Largo, Duck Key, Big Pine Key, and Key West.

Adults of the frangipani sphinx from Florida are drably colored and plainly marked (see photo on page 5). Females are larger (forewing length to 68 mm) than males (forewing length to 58 mm). Males have a grayer ground color and slightly more pe tinate antennae than females.

In contrast to the adults, larvae of the Frangipani Sphinx are strikingly colored (see photo on page 5). The last instar larva is black with yellow bands, and has a yellow thoracic shield, red head, and a thread-like horn. Cockerell (1894) related that the frangipani sphinx caterpillar played a role in the development of the theory of warning coloration. Cockerell writes:

> *In Darwin's "Descent of Man," vol. 1, pp. 416-417, we read:*
>
> "Mr. Bates informs me that the most conspicuous caterpillar which he ever beheld (that of a sphinx) lived on the large green leaves of a tree on the open llanos of South America; it was about four inches in length, transversely banded with black and yellow, and with its head, legs, and tail of a bright red. Hence it caught the eye of any man who passed by at the distance of many yards, and no doubt of every passing bird."
>
> *Darwin was at a loss to explain why these larva should be thus coloured, and he continues:-*
>
> "I then applied to Mr. Wallace, who has an innate genius for solving difficulties. After some consideration he replied "most caterpillars require protection, as may be inferred from some kinds being furnished with spines or irritating hairs, and from many being coloured green like the leaves on which they feed, or curiously like the twigs on which they live."
>
> *.....From such considerations Mr. Wallace thought it probable that conspicuously coloured caterpillars were protected by having a nauseous taste; but as their skin is extremely tender, and their intestines readily protrude from a wound, a slight peck from the beak of a bird would be as fatal to them as if they had been devoured. Hence, as Mr. Wallace remarks,*
>
> "distastefulness alone would be insufficient to protect a caterpillar unless some outward sign indicated to its would-be destroyer that its prey would be a disgusting morsel" *Under these circumstances it would be highly advantageous to a caterpillar to be instantaneously and certainly recognized as unpalatable by all birds and other animals. Thus the most gaudy colours would be serviceable, and might have been gained by variation and the survival of the most easily recognized individuals."*

The food plant in Florida is frangipani, *Plumeria rubra* (Apocynaceae), an exotic neotropical tree planted in urban areas for its spectacular displays of pink or red flowers (Kimball 1965). The flowers are white and yellow in variety *acuminata*. Hodges (1971) listed jasmine (*Jasminum* species) as a host, but this is probably an error. *P. rubra* is sometimes called jasmine (Morton and Ledin 1952). In Brazil, the plant is known as *jasmin manga (da Costa Lima* 1936). The native host in Florida is unknown, but may be rubber vine, *Rhabdadenia biflora* (Jacq.), or devil's potato, *Echites umbellata* Jacq., apocynaceous vines that grow in salt marshes and at the edges of mangrove forests in southern Florida.

Frangipani sphinx adults are usually uncommon in the Keys, but may be attracted to lights and flowers at night. This moth is often more easily found during the larval stages since the large colorful caterpillars draw the attention of gardeners and passersby as well as lepidopterists. Occasional local outbreaks of the larvae resulting in the temporary defoliation of frangipani trees have been known to occur in the Keys.

Literature Cited

Cockerell, T. D. A. 1894. Notes on the transformation of some Jamaica Lepidoptera. J. Inst. Jamaica, 1:27-31.

da Costa Lima, A. M. 1936. Terceiro catalogo dos insectos que vivem nas plantas do Brasil. Ministerio do Agricultura, Depart. Nac. da Produccao Vegetal, Rio de Janeiro, 460 + iv pp.

(Continued on page 13)

Open-wing Postures in Three Swallowtails, *Papilio aristodemus ponceanus*, *Papilio andraemon bonhotei*, and *Papilio cresphontes*, From the Florida Keys (Lepidoptera: Papilionidae)

by Marc C. Minno (600 NW 35th Terrace, Gainesville, FL 32607), Peter J. Eliazar, Jaret C. Daniels, and Thomas C. Emmel (Department of Zoology, University of Florida, Gainesville, FL 32611)

The Schaus' swallowtail (*Papilio aristodemus ponceanus* Schaus) is a Federally-listed endangered species endemic to the Upper Florida Keys. Since 1984, we have conducted studies of the population biology of the Schaus' swallowtail and the Bahama swallowtail (*Papilio andraemon bonhotei* Sharpe) in Biscayne National Park, Dade County, Florida. Both of these species are associated with West Indian hardwood forests or hammocks, have similar ecological requirements, and often exhibit similar behaviors. Another butterfly of similar coloration, the giant swallowtail (*Papilio cresphontes* Cramer), occurs in natural and urban habitats throughout Florida. These dark brown and yellow butterflies all belong to the subgenus *Heraclides*. In this note we report on two unusual wing postures exhibited by these butterflies.

After emerging from the chrysalis, the wings of Schaus, Bahama, and giant swallowtails are expanded in typical butterfly fashion, but are soon spread to an open position. Throughout the life of the adult, the wings are always held open, with the dorsal surfaces exposed to the viewer while at rest during the day or while asleep at night. Garton & Rothschild (1978) noted the open-wing posture of sleeping giant swallowtails at the Archbold Biological Station, Highlands County, Florida. Tyler, et al. (1994) listed open-wing posture as a derived characteristic of all swallowtails in the subgenus *Heraclides*. Individuals of all three species flutter the wings while feeding at flowers.

During late May of 1992, two copulating pairs of Schaus' swallowtails, and a single pair of the Bahama swallowtail were closely observed on Elliott Key, Biscayne National Park. All three couples were perched on the foliage of shrubs when first discovered. The male and female of each pair had the wings open, as described above (see photo on page 8). At our approach, the female of each pair took flight, carrying the male which remained passive. However, instead of adopting the typical butterfly posture with the wings folded vertically over the thorax, each male held the wings together ventrally (see page 8), with the bold dorsal pattern fully exposed. Both sexes quickly assumed the open-wing resting position after alighting on foliage.

Unlike most butterflies, Schaus, Bahama, and giant swallowtails are incapable of folding the wings vertically over the thorax while at rest. What purpose does open-wing posture serve? One possible reason may be that this specialized adaptation confers an increased advantage in escaping detection by predators. Since the dorsal surfaces of the wings of all three species are dark brown with conspicuous yellow stripes, the open wing position would seem to invite predation. However, in the dappled light of forest habitats, the disruptive brown and yellow patterns may be difficult for predators to detect (Garton & Rothschild 1978, Tyler et al. 1994). Counter to this argument, the ventral surfaces of wings also have disruptive patterns (see plates in Minno and Emmel 1993).

Another possibility may involve thermoregulation. Under cool or cloudy conditions, butterflies often prepare for flight by basking with the wings held open (Scott 1986). In shaded habitats, open-wing posture may allow for an increased state of readiness for flight. Garton & Rothschild noted that roosting individuals of *P. cresphontes* positioned themselves toward the setting sun. However, open-wing resting posture would seem to allow less flexibility in thermoregulation, since an individual that becomes too warm would have to move location rather than simply close the wings. Garton & Rothschild observed that roosting *Papilio palamedes* held the wings open at dusk, but closed the wings vertically over the thorax at night.

The adults of all three swallowtails are relatively rare insects on a local scale, and are relatively short-lived. Our mark-recapture studies have indicated that these butterflies do not live longer than 21 days as adults in the Keys, and most survive only about one week in the wild. Open-wing posture may help in finding and recognizing mates, since females perching with the wings open may be more conspicuous to patrolling males.

(Continued on page 9)

A Note on *Oeneis taygete* and *Oeneis norna* (Satyridae)

by Takao Itoh, Science Laboratory, Kanto Junior College, 625 Oya-cho, Tatebayashi, Gumna 374, Japan

According to Higgins and Riley, there are only four species belonging to the genus *Oeneis* in Europe. These are *Oeneis norna, O. jutta, O. glacialis* and *O. bore*. In North America there are at least eleven *Oeneis* species, *O. ivallda, O. nevadensis, O. macounii, O. chryxus, O. uhleri, O. alberta, O. taygete, O. bore, O. jutta, O. melissa,* and *O. polixenes*, according to Howe (and so in a list by Miller and Brown), so that the apparently common species both in North America and Europe are only *O. bore* and *O. jutta*. In the description of *Oeneis norna* by Higgins and Riley, however, the distribution ranges are Lapland, Altai and Tarbagatai Mountains, boreal W. Asia, and N. America, probably circumpolar. In the description of *Oeneis taygete* by Howe, on the other hand, the distribution ranges are Colorado north to Alaska and east to Labrador and Gaspe Peninsula, Scandinavia in Europe, Kamchagka in Asia and in Greenland. *Oeneis glacialis* is a local species in the Europe Alps. It follows from the present comparison that, so far as the distribution range is concerned, *O. norna* is the same species as *O. taygete*. Is this true? It is of importance to reconfirm the taxonomy of Genus *Oeneis* in relation to the local variation of *Oeneis norna* in Japan, since the outlook of one of the subspecies of *Oeneis norna*, *O. n. subgitanii*, in Japan is similar to that of *Oeneis taygete* in North America, while the other subspecies, *O. n. asamana*, in Japan resembles *O. n. norna* in Europe.

References

Higgins, L.G. and N. D. Riley. 1970. A Field Guide to the Butterflies of Britain and Europe. Collins, London. 150-151 pp.

Howe, W.H. 1975. The Butterflies of North America. Doubleday and Col, New York. 80-87 pp.

Miller, L.D. and F.M. Brown. 1981. A Catalogue/ Checklist of the Butterflies of America North of Mexico. The Lepidopterists' Society. 200-203 pp.

Itoh, T. 1975. The variation of *Oeneis norna* at the Hida mountains in Japan (The 2nd Report). The Nature and Insects. 10:6-10. (In Japanese).

Itoh, T. 1979. The variation of *Oeneis norna* at the Hida mountains in Japan (The 3rd Report). The Nature and Insects. 14:20-22. (In Japanese).

Gross, F.G. 1968. Zur Systematik und Verbreitung der Arten der Gatrong Oeneis Hubner. Mitt. Munch Ent. Gesell. 58:1-26. (In German).

Shirozu, T. 1952. New or little known butterflies from the north-eastern Asia, with some synonymic notes I Sieboldia 1:11-37.

Open-Wing Postures in Swallowtails (continued from page 7)

Among other families of butterflies, open-wing resting posture also occurs in the Hesperiidae (*Staphylus* spp. and other members of the Pyrginae), many species of Riodinidae (e.g. *Calephelis* spp.), and some nymphalids (*Hamadryas* spp., Nymphalinae).

Literature Cited

Garton, K. and M. Rothschild. 1978. How swallowtail butterflies pass the night. Proceedings of the British Entomological Natural History Society, (1978):102-107.

Minno, M. C. and T. C. Emmel. 1993. Butterflies of the Florida Keys. Scientific Publishers, Gainesville, Florida. 168 pp., 29 pls.

Scott, J. A. 1986. The Butterflies of North America: A Natural History and Field Guide. Stanford University Press, Stanford, California. xii + 583 pp., 64 pls.

Tyler, H., K. S. Brown, Jr., and K. Wilson. 1994. Swallowtail Butterflies of the Americas. A study in Biological Dynamics, Ecological Diversity, Biosystematics, and Conservation. Scientific Publishers, Inc., Gainesville, FL 376 pp.

Page 8, ABOVE: A mating pair of Schaus Swallowtails (*Papilio aristodemus ponceanus* Schaus) photographed on Elliott Key, Biscayne National Park on 24 May 1992. The female is located toward the top of each photo. At rest, the pair displays the open-wing posture.

BELOW: After being carried a short distance in copula with the female, the male is moving the wings from ventral to horizontal position.

position.

March 1995 News of the Lepidopterists' Society Page 9

Notes on Monarch Butterfly Numbers

Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers
Notes on Monarch Butterfly Numbers

he didn't know just when that would be. Well, unfortunately, when I arrived the next day shortly before noon, the field had been sprayed, and the plants were already wilting and turning brown. I walked the field (probably foolish to do), and saw no butterflies feeding, and just a couple of Whites flying around, but staying their distance from the ground. My hopes for tagging 100-200 Monarchs that day were destroyed. I checked the field the next two days, and no butterflies were seen around it.

Upon inquiring to find out what had been used to kill the clover, I learned, as I had suspected, that it was Round-Up. The farmer told me it would probably take a week or more to kill the clover, and he didn't think it would affect the butterflies, but obviously he was wrong!! Their gourmet dinner had been spoiled, and they had gone.

With no-till farming, we gain something in saving the topsoil, but we have to sacrifice something else, the all-important insects, if we have to rely more on herbicides to make it work.

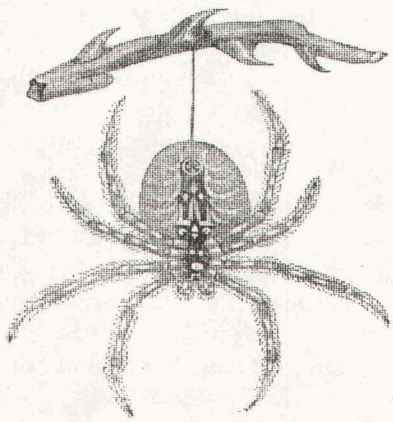
Mass Flight of the Hackberry Empress, *Asterocampa celtis*, Apaturidae, In Kansas

by William H. Howe, Ottowa, Kansas, USA

On June 11, 1994, a tremendous swarm of the Hackberry butterfly, *Asterocampa celtis*, was observed in a rural area two miles due east of Waverly, in Coffey County, Kansas. I did not see the swarm myself. It was phoned in to me by a woman who lived in Waverly. The butterflies were readily identified by specimens brought in to me from persons who had seen similar swarms on approximately the same date. Swarms were witnessed by Charlene Lister of Ottawa. This swarm took place at Melvern Lake in Osage County. Another swarm was witnessed by Robert H. Hagen of the University of Kansas Entomology Department in Lawrence. The swarm seen by Hagen took place at Lone Star Lake, also on June 11th. The Waverly swarm appears to have been the most impressive. The butterflies were so numerous that they completely obscured the highway east of Waverly so that automobiles were forced to park on the side of the road 'till the swarm passed. The Waverly swarm occurred at 11:00 a.m. It took nearly twenty minutes to pass. Most of the swarming butterflies were flying at heights of six to ten feet, though many individuals were seen flying "much higher, but at an unspecified altitude." No directional flights were indicated by any of the cited witnesses, so we can conclude that all sighted flights were merely local outbreaks. Apparently the swarms were very isolated and localized. There were no unusual populations of *A. celtis* here in Ottawa or its immediate environs.

Web of Lies

by Robert Dirig (1995), P.O. Box 891, Ithaca, NY 14851-0891 USA



Somehow I have a horror
of the lurking predator
that sits upon a flower in disguise.
But a scrap of pretty wing
dangling in a sticky sling
proves the spider gratified as well as wise.

Travel: *Finca la Suiza* in Panama

by Dr. Norman J. Smith, Staff Entomologist, Fresno County Department of Agriculture, Fresno, California

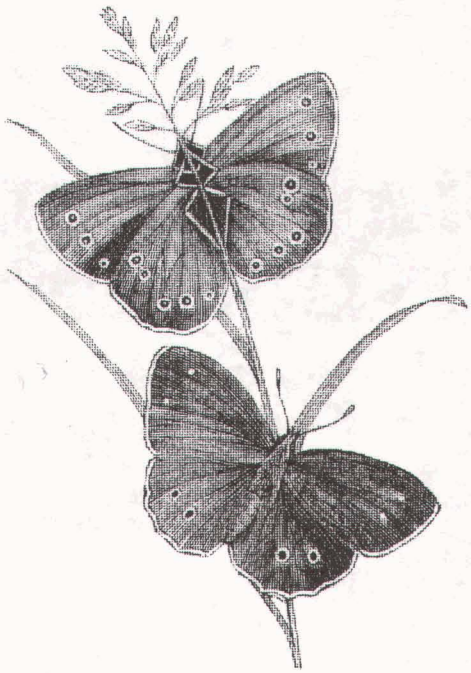
Now that the *Lepidopterists' News* has run *Finca La Suiza's* first advertisement, I should like to comment on my collecting trip to Panama, which included a week's stay there (May 29-June 4, 1994). The hotel, resembling a Swiss chalet, is owned and run by two Swiss nationals, Herbert Brullman and Monika Kohler. It is nestled at the edge of Fortuna Park in the Chiriqui Highlands, in Northern Panama. It is about a two-hour drive east of David, at approximately 3,500 meters. Much of the area surrounding them is primary rainforest.

General collecting in the area and blacklighting at the hotel was excellent. Electricity is available, and you can blacklight from the front porch or set up several yards away. There are also other outstanding collecting spots within a short drive from the hotel.

To get from the highway to the hotel requires a four-wheel-drive vehicle. (When collecting in Panama, it is always best to have four-wheel-drive; we rented our vehicles at the airport in Panama City.) It takes approximately a day to drive the Pan American Highway from Panama City to *Finca La Suiza.*

Permits are required in the National Parks, and we were approached numerous times by government officials asking for them. It is best to have permits on your person at all times. We obtained ours through the Smithsonian Tropical Research Institute in Panama City. The cost is very reasonable.

Herbert and Monika are excellent hosts. They provide breakfast and dinner (lunch is on your own), and the food is excellent. They have hot and cold running water, showers and flush toilets. I would recommend a stay at *Finca La Suiza*, even for the first time tropical collector. It is really an ideal situation, and I should not hesitate to go back.



Range Mapper 2.2 A New Program for the Macintosh

by Kenelm Philip

RangeMapper 2.2 is a Macintosh program for generating species distribution maps of publishable quality, that can be dropped into your own documents. It plots maps in seven projections, and includes mapping data files for the world (low resolution) and for North America (higher-resolution). Higher-resolution files are also available for Australia and New Zealand, and are under development for Europe and South America. Higher-resolution files with more hydrologic detail, major highways, and administrative borders (National Forests, etc.) are available for Alaska north of 64 degrees, Washington, Idaho, Oregon, and California. More states will follow later. There is considerable flexibility as to what is shown in a given map--even to the point of adding hydrologic features individually by name. Species data are plotted by reading ASCII files of latitude and longitude (lat/long) data, which can be exported from data bases or spreadsheets. Data may be plotted as dots (squares/circles, open/filled), lines, or 3-dimensional bars whose heights are controlled by a third variable (thus displaying the geographic variation of quantitative information). A user-designed lat/long grid may be overlaid on any map, and lat/long coordinates may be read off the screen. For a detailed brochure with many sample maps, write to: Tundra Vole Software, 1590 North Becker Ridge Road, Fairbanks, AK 99709-2705 (907)479-2689.

1995 Pacific Slope Meeting

by Kelly Richers, 9417 Carvalho Court, Bakersfield CA 93311, telephone (805)758-7143 daytime, (805)665-1993 home

The 1995 meeting of the Pacific Slope section of the Lepidopterists' Society will convene beginning Friday, June 23, and ending June 25, 1995. Sessions will be held at the Kern County Superintendent's Camp KEEP Sierra, in the southern Sierra Nevada mountains.

Camp KEEP Sierra is located at 4,700 foot elevation in the western Sierras in Tulare County just north of the Kern County line north of Glennville. Camp KEEP offers dining and meeting facilities as well as 11 cabins with sleeping facilities for up to 10 in each, in a barracks arrangement. Separate shower and restroom facilities are conveniently located. The program will include Sierra lepidoptera, as well as topics dealing with the surrounding lowland and foothill areas. Papers on related topics and record sharing among western lepidopterists are encouraged, including conservation, protection and student papers.

The meeting will coincide with 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 camp includes riparian habitat and a variety of differently forested habitats.

Camp KEEP is 2 hours southeast of Fresno, and 1 hour 15 minutes north of Bakersfield. Enjoy a June meeting at a field site with old and new friends. Details will be sent to all Pacific Slope members.

For further information and a registration package, write to me (Kelly Richers, address and telephone above) or call (before 8:00 p.m. at home).

Threatened Butterflies of Spain

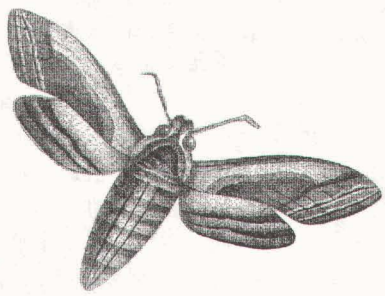
by Oscar Aguado Martin, C/Postigo No. 31, 47250 Mojados, Valladolid, Spain

In the province of Valladolid, Spain, we are attempting to create the first breeding and conservation place for Spanish butterflies threatened with extinction. The species to be bred include the following:

Parnassius apollo
Eurodrias aurinia
Maculinea nausithous
Graellsia isabellae
Apatura iris
Nymphalis polychloros
Nymphalis antiopa
Anthocharis belia euphenoides
Zerynthia rumia
Papilo machaon

During the course of butterfly breeding, the life cycles will be documented, and the resulting butterflies will be distributed as follows: One quarter will go up for sale to interested institutions or individuals; one quarter will be used to breed succeeding generations, and half will be released into the habitat from which they originated.

Specimens for sale will be accompanied with documents authorizing their trade. Institutions and individuals desiring to obtain specimens should contact us as soon as possible at the above address. This conservation plan will only be successful with the support of people such as yourself.



Frangipani Sphinx
(continued from page 6)

Kimball, C. P. 1965. The Lepidoptera of Florida. Florida Department of Agriculture, Division of Plant Industry, Gainesville, Florida. v + 363 pp., 26 pls.

Hodges, R. W. 1971. Sphingoidea: Hawkmoths. The Moths of America North of Mexico, Fascicle 21, E. W. Classey Limited, Middlesex, England and R. B. D. Publications, Inc., Washington, D. C. 158 pp., 14 pls., and v-xii pp.

Morton, J. F. and R. B. Ledin. 1952. 400 plants of South Florida. Text House, Inc., Coral Gables, Florida, 134 pp.

Schreiber, H. 1978. Dispersal centres of Sphingidae (Lepidoptera) in the Neotropical Region. Biogeographica 10:vi + 1-195 pp.

News From Europe: The Russian Entomological Society

by Willy De Prins, Diksmuidelaan 176, B-2600 Antwerpen, Belgium

The Russian Entomological Society is one of the oldest entomological societies in the whole world. Due to the political changes in the former Soviet Union, this society has big financial problems. Therefore, Prof. Dr. C. M. Naumann (Germany) has been authorized to act as a representative of the society in countries other than Russia. During the past year, an information leaflet with application form was sent out to several entomologists in Europe. In case some American lepidopterists might also be interested in becoming members, I have included below the letter of Dr. Nemine on the Russian Entomological Society:

Application for membership in the Russian Entomological Society

Any person interested in becoming a member of the Russian Entomological Society is requested to send an application letter to Prof. Dr. C.M. Nemine, Museum Alexander Koenig, Adenauerallee 160, D-53113 Bonn, Germany (Tel. +49.228.9122.200, FAX +49.228.9122.202) giving following details: name and title, complete address, occupation, date and place of birth, taxa and fields of special interest.

Dear colleague,

The Russian Entomological Society *(Russkoje Entomologitsheskoje Obshestvo)* ranks among the foremost and oldest national entomological societies of the world. The society was founded in 1860 in St. Petersburg (Russia), and among the founding members were such famous scientists as K. E. van Baer, the father of modern embryology, E. Brandt, E. Ménétriés, A. T. von Middendorf, and the grand-duke N. M. Romanoff. Soon, many well-known foreign entomologists joined the new society as members, like J. P. A. Boisduval, C. H. Burmeister, A. Dohrn, C. von Felder, Ch. Oberthür, O. Staudinger, and J. O. Westwood.

From its beginnings the society published its own journal, the "*Horae Societatis Entomologicae Rossicae*", which soon became one of the classical entomological periodicals of that period. With the third volume, this journal was divided into two series, the "*Horae...*" meant for contributions in foreign languages, and a second series for papers in Russian, the "*Trudy Russkago Entomologitsheskij Obshestva*", which were issued separately. In 1882, both series were again combined for financial reasons into a single journal furthermore called "*Trudy...*", which now contained articles both in Russian and other European languages, mostly French and German. With short interruptions caused by the two wars, this series "*Trudy...*" is still continued today, and is devoted to larger monographs or collected papers on a specific subject which are published at irregular intervals. The latest volume (70) has been issued in 1988.

In 1901, the society started the publication of another classical journal, the "*Revue Russe d'Entomologie*" (Russkogo Entomologitsheskoje Obozhrenije), which has since appeared annually with few interruptions. An English translation of this important journal was started in 1959 as "*Entomological Review*" (Washington). The journal is open to papers from all areas of entomology, with an emphasis on contributions on comparative morphology and systematics, and is published in quarterly issues.

In recent times, the society persists largely through great personal efforts undertaken by members of the staff of the Zoological Institute of the Russian Academy of Sciences in St. Petersburg, the main zoological museum in the former USSR. The president in chair of the society is Dr. G. S. Medvedjev, head of the entomological department of that institute. Particular difficulties for the society arose with the general economic problems caused by the profound political developments during the last years.

News From Europe (continued)

Nevertheless, the recent political changes have also opened new chances for co-operation with our entomological colleagues in Russia and the other countries of the former USSR. After several decades of more or less complete isolation, the Russian Entomological Society now is open again for foreign entomologists as members. This started already in autumn 1992, when two German entomologists became the first foreign members from western countries in recent times. The membership fee for foreign members has been set to US$35- and includes the subscription of "*Entomologitsheskoje Obozhrenije*".

The present chances for co-operation with our Russian colleagues should be taken by all concerned entomologists. In the present economically most difficult situation, we can give not only financial but also psychological support in joining the society. Your membership will not only help in the struggle for survival of one of the oldest entomological societies and its periodical(s) through your annual fees, but it will also give substantial moral support to our Russian colleagues during these difficult times. This particularly will be well received, as I have realized myself during two short visits to St. Petersburg in 1992.

The president of the society, Dr. G.S. Medvedjev, has authorized me to act as coordinator for foreign colleagues and students interested in membership in the society. Applications for membership or inquiries about any matters concerning the society can be send to the address below. Postal and banking services in Russia are currently still unreliable, and any correspondence under these circumstances is best transmitted by personal courier. Regular personal contacts have been established between the Alexander Koenig Museum in Bonn and the Zoological Institute in St. Petersburg, and allow for fairly efficient communication with the society's office. For the same reason, foreign membership dues or any other payments for the society will be collected in Bonn until the general situation in Russia has become more stable. The journal is shipped directly from St. Petersburg by the end of each year.

I would be very grateful for anybody who would be motivated to join the R.E.S. by reading these lines. You would not only give substantial support to fellow Russian entomologists during these difficult times, but also become a member of one of the oldest societies in our field.

With kind regards, yours very sincerely,

Prof. Dr. Clas M. Nemine

Metamorphosis

JAMES DONALD EFF

Floyd Preston sent along a note on "the passing of this old friend and long time lepidopterist," Don Eff. The note is from Don's son, Jim Eff (77 Scarborough Avenue, Kalispell, MT 59901-2721), and, in sum, says:

James Donald Eff was born January 9th, 1914 in Richfield Township, Lucas County, Ohio. He died after several years of poor health, on December 6th, 1994, in Kalispell, Montana, and was buried in Mountain View Memorial Park in Boulder, Colorado.

He had a full and good life -- many wonderful friends, and the opportunity to pursue his many hobbies and interests. He truly valued his friends, and will be sadly missed.

J. Donald Eff was a Charter Member (1947) of the Society, and had served the Society as a member-at-large of the Executive Council, 1959-1961, and played an important role in local arrangements and field trips for the 1977 Annual Meeting in Boulder.

The Market Place

For Sale

Semi-wild *Hyalophora columbia* cocoons or ova for sale or exchange. For prices, send self-addressed, stamped envelope (SASE) to Bill Kenney, 671 RR #1, Dixmont, ME 04932. Or call (207)257-2047.

Cocoons of *Hyalophora cecropia* for sale. Also, papered specimens of *H. cecropia* and *Actias luna*. Send SASE to Ronald Aaron Royer, R.D. 4, Box 2295, Lebanon, PA 17042-9433. Or phone (717)867-1021.

Large selection of Iranian butterflies with perfect quality and data for sale. All *Louristana* spp., *Hypbushirica, A. apollinaria, Colias sagartia, C. cholorocoma, C. aurorina, C. thisoa* ssp. *shahkuhensis,* etc. Plus many interesting species from other families with fair prices. Many local rare species are allowed for exchange. Also for sale, local beetles and dragonflies with butterflies and books. Write for extensive price list: A. Karbaley, No. 365, Baharastan Avenue, Darvazeh, Shemiran, Tehran, IRAN

Several Cornell drawers with pinned Saturniidae; one 48-drawer antique insect cabinet with 46 original drawers, two BioQuip 12-drawer cabinets, papered saturniids, and a number of moth books by Bouvier, Packard, Griveaud, Pinhey, Rougeot, Barlow, Holloway, & Tietz, and bound volumes of *J. Res. Lep.* from 1962 to 1984, and bound volumes of J. Lep. Soc. from 1980 to 1991. Steve Stone, 18102 East Oxford Drive, Aurora, CO 80013 Phone (303)690-8649.

Light traps for sale, 12 volt DC or 110 volt AC with 15 watt or 8 watt black lights. The traps are portable and easy to use. Rain drains and beetle screens protect specimens from damage. For a free brochure and price list, contact Leroy C. Koehn, 2097 Quail Trail, Greenwood, MS 38930-7315 or telephone (601) 455-5498.

Custom made light fixtures for permanent and/or stationary light traps. Stainless steel design; mercury vapor, sunlamp, black light and black light dark; together or any combination; electrical control with photo-cells and/or timers. Includes plans for enclosures with rain drains and sorting trays. For more information, contact Leroy C. Koehn, 207 Quail Trail, Greenwood, MS 38930-7315 or telephone (601) 455-5498.

One wood entomology cabinet. The cabinet will hold 21 Cornell drawers. Constructed of 3/4 inch plywood with aluminum drawer tracks, rubber door seal, and a three point door latching mechanism. Neutral varnish finish. The cabinet is approximately three years old. For more information, contact Leroy C. Koehn, 2097 Quail Trail, Greenwood, MS 38930-7315 or telephone (601) 455-5498.

Two 2-sided custom-made pine entomology cabinets for sale. Dimensions 62 inches wide by 75 inches high by 22 1/2 inches deep, constructed to hold 176 Schmidt boxes. Will sell with or without boxes. For photo and more information, send SASE to Mrs. Victor McHenry, 62866 Montara Drive, Bend, OR 97701, telephone (503) 388-6988.

Beautiful custom-made mitered-shouldered pine Schmidt boxes with see-through (and/or solid) tops. Cost is $15 plus postage or $150 per dozen plus postage. Contact Mrs. Victor McHenry, 62866 Montara Drive, Bend, OR 97701, telephone (503) 388-6988.

Cocoons of *Actias luna* and probably *Automeris io, Callosamia promethea,* and *Cressonia juglandis,* for sale. Send SASE for prices. Larry J. Kopp, R.D. 1, Box 80, Klingerstown, PA 17941-9718.

Mexican sunflower *(Tithonia rotundifolia)* seeds for spring 1995 for sale now. A superb annual butterfly nectar source and wild bird food, they are easy to grow up to 8 feet with full sun and good soil, but will do well in poor soil. Numerous bright orange, 3 inch blossoms on bushy plants appear in July until killing frost. Hardy to US northern states. Generous 100 plus seeds, $3.50 prepaid postage. Send SASE for price list of other nectar attractants to Roger Zebold, 675-B Sprague Road, Wilmington, Ohio 45177 USA.

Rare Colias species for sale, including *C. erschoffi, C. berylla, C. nina,* etc. Please write for list or send wants list. Bob Worthy, 10 The Hill, Church Hill, Caterham, Surrey CR3 6SD, ENGLAND.

Offered: Papilionidae, *Charaxes, Euphaedra, Cymothoe,* etc. from the Republic of Central Africa and Burundi. Giancarlo VERONESE, Viale Venezia n.138, I-33100 UDINE (Italy). Telephone 0432-232754.

The Market Place

Books and Journals

For sale: Lepidopterum catalogus, Noctuidae by R.W. Poole, 1988. Three volumes, clothbound. Price reduced from $195 to $80.

Florida Butterflies by E.J. Gerberg and R.H. Arnett, 1989. Soft cover, $11.95.

Butterflies of South America by B. D'Abrera, 1984. $19.50.

Send check with order (no shipping and handling charge for US orders) to Dr. Eugene J. Gerberg, 5819 NW 57th Way, Gainesville, FL 32653.

D'Abrera large-format lepidoptera books for sale, mint condition:

*Butterflies of the Afrotropical Region
*Butterflies of the Neotropical Region, Parts I, II, III, IV, and V
*Butterflies of the Oriental Region, Parts I, II, and III
*Butterflies of the Australian Region, published in 1977
*Butterflies of the Australian Region, published in 1990
*Butterflies of the Holarctic Region, Parts I and II
*Birdwing Butterflies of the World (boxed)

Will sell for 80% of the new prices, or best offer. Contact Dave Hyatt, 6145 East San Bernardino, Tucson, AZ 85715, telephone (602) 885-1195.

A number of moth books by Bouvier, Packard, Griveaud, Pinhey, Rougeot, Barlow, Holloway, & Tietz, and bound volumes of *J. Res. Lep.* from 1962 to 1984, and bound volumes of the Journal of the Lepidopterists' Society from 1980 to 1991. Steve Stone, 18102 East Oxford Drive, Aurora, CO 80013 Phone (303)690-8649.

Atlas of Oregon Butterflies by John Hinchliff, 1994.

This new book has 160 distribution maps of all known species and subspecies, including apendices on the physiographic and geological description of the state, species food plants, habitats, flight periods and checklist. Available now from the publisher, Oregon State University Book Stores, Inc., P.O. Box 489, 2301 SW Jefferson Avenue, Corvallis, OR 97339. Cost is $15 plus shipping and handling.

For More on Butterfly Gardening

The Butterfly Gardeners' Quarterly provides a wealth of information for those interested in attracting butterflies to their home gardens. The 4-page newspaper-sized quarterly has articles on seed catalogs, garden layouts, problem plants, and butterfly habits in the latest issue. To subscribe, send $6 (check or money order) for one year (4 issues). Cost is $7 for Canadians, $8 for international; Washington state residents add 8.2% sales tax. Butterfly Gardeners' Quarterly, P.O. Box 30931, Seattle, WA 98103.

Trade

Will trade butterfly/moth collection for your Macintosh 180c or 540c computer and printer (or best offer). Collection includes 1,056 cataloged specimens (185 genera) in 17 California Academy drawers, a plywood case, and 321 papered duplicate specimens (trade stock). Send $8 postal money order for information pack (list and photos), refundable on return of pack. Write to W.S. Cornelius, P.O. Box 57, Albion CA 95410.

Wanted

Seeking original or legible copy of McGuffin, W.C., *Larvae of the Nearctic Larentinae (Lepidoptera:Geometridae),* Canadian Entomologist 1958;90(Supplement 8):104, which may also be referenced as MESC-8 or as Memoirs of the Entomologic Society of Canada 90(8). Also seeking McGuffin, W.C., Geometridae Canada 1, MESC-50, 1967 and McGuffin, W.C., *Larvae of the Larentiinae,* Dissertation Abstracts 1956;16(f12):2563-2564. Send information to James F. Burris, 4803 Davenport Street NW, Washington, DC 20016.

Specimens of Nearctic and Neotropical *Colias* species wanted. Also, livestock of North American and Canadian Papilionidae, Pieridae, and Nymphalidae. Will buy or exchange for European livestock, or *Colias erschoffi, C. berylla, C. nina,* etc. Please write with details to Bob Worthy, 10 The Hill, Church Hill, Caterham, Surrey CR3 6SD, ENGLAND.

Wanted: *Charaxes* from East Africa and the South African Republic, as well as *Charaxes* and *Polyura* from the Philippines and Indonesia (exchange or purchase). Giancarlo VERONESE, Viale Venezia n.138, I-33100 UDINE (Italy). Telephone 0432-232754.

The Market Place

Researcher Wanted

The Nature Conservancy's newly established Northern Tallgrass Prairie Stewardship Initiative is seeking a qualified and experienced contractor to conduct inventories to determine the composition of prairie butterfly populations on Conservancy managed preserves in Eastern South Dakota, Southwestern Minnesota and Northwestern Iowa. The inventory, to begin in the spring of 1995 and continue for two consecutive years will examine approximately 15,000 acres of mixed and tallgrass prairie community types on 23 sites across the three state area. The Conservancy is particularly interested in determining the presences and densities of the Dakota skipper *(Hesperia dacotae)*, Ottoe skipper *(Hesperia ottoe)*, regal fritillary *(Speyeria idalia)* and Powesheik skipper *(Oarisma powesheik)* on these sites, but all species encountered will need to be recorded.

A system of replicatable transects should be utilized to establish survey routes so that data collected may be used to monitor future population trends. Documentation of date, time, weather conditions, survey route maps and flower visitation related to transect work will need to be included in the final report as part of this project. This report should also include a description of the site vegetation on areas searched as well as species abundance and distribution information. The location and number of individuals seen should be mapped and recorded in relation to plant communities and management units on which they occurred. In addition, summaries of pervious survey results on the sam sites, details on previous management for invertebrate species at these site, and the potential for management of these species on The Nature Conservancy lands should be included in the final report.

The selected researcher will be expected to deliver three copies of a final report detailing this work to the South Dakota Field Office no later than 2 months after the completion of the field surveys in 1996.

Persons interested in conducting this research should submit a proposal by February 1st, 1995, which includes a time table for completion, fee schedule and proposed methodology along with a personal resume to:

Mr. David Breyfogle
The Nature Conservancy's
Northern Tallgrass Prairie
Stewardship Initiative
405 South 3rd Avenue, Suite 103
Sioux Falls, South Dakota 57104

The preserves to be inventoried under this research contract include:

In South Dakota

1. The 7,800 acre Samuel Ordway Jr. Memorial Prairie in McPherson County

2&3. The 160 acre Clovis and the 800 acre Hansen Nature Preserve in Brown County.

4&5. The 62 acre Altamont Prairie and the 1920 acre Crystal Springs Prairie in Deuel County.

6. The 30 acre Aurora Prairie in Brookings County.

7. The 200 acre Sioux Prairie in Moody County

8. The 40 acre Makoce Washte Prairie in Minnehaha County.

The 160 acre Wilson Savanna Preserve in Lincoln County.

The 22 acre Vermillion Prairie in Clay County.

In Minnesota

1. The 800 acre Hole in the Mountain Prairie in Lincoln County.

2. The 983 acre Chippewa Prairie in Swift and Chippewa Counties.

3. The 654 acre Plover Prairie in Lac Qui Parle County.

4. The 80 acre Glynn Prairie in Lyon County.

5. The 80 acre Wahpeton Prairie in Redwood County.

6, 7 & 8. The 280 acre Heron Lake Preserves and the 6 acre Blue Gentian Prairie in Jackson County.

9. The 130 acre Red Rock Prairie in Cottonwood County.

10. The 80 acre Lunblad Prairie in Murray County.

In Iowa

1. The 110 acre Frieda Haffner Preserve in Dickenson County.

2. The 160 acre Sioux City Prairie in Woodbury County.

3. The 1,150 acre Broken Kettle Grasslands in Plymouth County.

Letters to the Editors

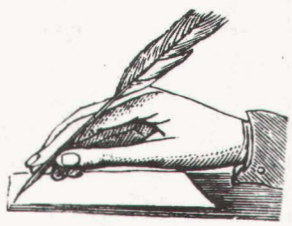
Dear Editors,

I notice that the *News* is coming out two editions at a time, and we only get it half as often. It is failing to serve me that way. By mid-November I can inventory my cocoons and write an ad to sell them in the NEWS, and my ad does not get out until spring, and my business fails. I then have to go on working at a job that I hate, in order to make a living, instead of building Lepidoptera farming as a business.

In addition, laws are passed against the activities that I have been practicing for years, make them illegal. At this time, I am having difficulty obtaining a permit for a breeding project, experiencing prejudice because I am not connected with any college, museum or Federal program. If things keep going this way, the Lepidopterists' Society will split right down the middle. One faction will be composed of academics and bureaucrats, and the other faction will be amateurs, farmers, and ranchers, or commercialists.

My dream is that there will be dozens of privately-owned flight cages in every major city. I would like to see butterfly cages be just as common in backyards as tropical fish aquariums are in living rooms. But it seems that just as interest in butterflies begins to bloom, a certain group appears that opposes it. That group seems to be comprised of academics and bureaucrats. They lobby for laws that act to destroy interest in butterflies and other insects, and harass people like me, who are only trying to turn this love of butterflies into a living profession, so that we can be something besides a slave of the dollar all of our lives. Just when I think that I can get enough money to build my own private flight cage, another financial disaster sets me back another year. If I survive, I will build my cage next March; nothing is more important to me than to bring my hobby home.

Ken Knight



Dear Editors,

I joined the Society because there is "strength in numbers;" most associations or organizations are based on the premise that collectively, the best interests of its members will be advocated by the leadership. In my opinion, the Society is failing in its mission.

Do I condone the individuals who violated laws regarding collection of endangered species? Absolutely not. Do I condemn the officers and leaders of the Society for not opposing onerous restrictions on collecting and rearing specimens for their own use (not for commercial purposes)? Absolutely!

I have seen no evidence that the Society has made any effort to lessen the burden placed upon members in acquiring permits or gaining access to collecting locales. Where are the letters to Congress seeking to set aside restrictions on wildlife refuges and perhaps national parks? Where are the letters to state fish and wildlife departments, endorsing collecting by *bona fide* society members?

If Schaus' Swallowtail is endangered, why not have a "professional" member of the Society rear adults, re-stock suitable habitat with half of the adults, and sell the other half to members and raise money to fund the stocking program and buy habitat. This would take pressure off the species and eliminate the motive for "poachers." The same with other endangered species.

The habitat loss is the critical factor, in my opinion, yet I have not witnessed the Society actively involved in stopping the loss of any habitat. Light pollution and high speed automobiles have resulted in more diminution of species than collectors. To my knowledge, government agents do not yet check the grills of vehicles leaving Rocky Mountain National Park, citation book in hand. But at the rate at which the Society is moving to address this problem, that day can't be far off.

Regretfully,
John Jovdison

Route 1, Box 38J,

Eagle, NE 68347

Fred Stehr (continued from page 3)

he took a position at Michigan State University as Assistant Professor of Entomology, with research in the areas of biological control and systematics. He was one of the cooperators with the USDA Beneficial Insects Laboratory (via the European Parasite Laboratory). This work resulted in the establishment of natural enemies of the cereal leaf beetle and reduction of the cereal leaf beetle to non-pest status. Very similar results were obtained with the introduction to Michigan of alfalfa weevil parasitoids from the eastern seaboard.

At Michigan State he and Lauren Anderson (of the University of California at Riverside) initiated work on the organization, coverage, and specifications for contributions, to the immature insects book(s) that were published in 1987 (Vol. 1, 754 pp.) and 1991 (Vol. 2, 975 pp.), with 43 contributors to each volume. These books received the Thomas Say Award for 1991 from the Entomological Society of America for the most outstanding publication on morphology, systematics and evolution. Professionally, Fred teaches courses on adult and immature insects (with a heavy emphasis on field work in immatures), is Assistant Chairperson, is Director of the Center for Insect Diversity Study (formerly the Entomology Museum), and is Director of the Michigan State University Butterfly House. For the Entomological Society of America he has been a member of Section A , systematics, morphology and evolution, since 1956 where he has served as Chair in 1974, been a member of the Standing Committee on Systematics Resources 1975-79, and a member of the Common Names of Insects Committee, 1990-1992, and Chair 1992. He has been a member of the Michigan Entomological Society since 1965, member of the Governing Board 1985-87, and President 1991 and 1992 (for Roland Fischer). He is also a member of several entomological and systematics societies, Sigma Xi, and several societies that promote the conservation and wise use of natural resources.

Fred has been a member of the Lepidopterists' Society since 1968, served as local arrangements co-chair with Julian Donahue for the 1969 meetings, and co-chair with Mo Nielsen for the 1992 meetings, attended 19 annual meetings, was a member of the nominating committee at the Pittsburgh meetings, was a member-at-large of the Executive Council 1985-1987, a member of the Publications Committee 1990 to date, a Vice President 1993, and President for the current 1994-95 year.

Fred and Mary Ann have two sons, Jeff, who is finishing a Ph.D in atmospheric physics at Minnesota, and Mark, B.S. in molecular biology, who has been teaching English in China and Japan for 3 years while deciding to go to graduate school in Economics (no 3rd generation bug-lovers). Fred's recreational activities are diverse, ranging from collecting to fishing, bowhunting, backpacking,

Is the Banded Purple Indeed Endangered?

by Dr. William D. Winter, Jr., 257 Common Street, Dedham, Massachusetts 02026-4020

If we are to believe the decisions published in "The Common Names of North American Butterflies" and in Opler's "Field Guide to Eastern Butterflies," the Banded Purple, *Basilarchia* (no comment) *arthemis*, is truly endangered and perhaps headed for the ever-increasing distinction of extinction.

At the close of the twentieth century, the entomologically correct common names practice seems to be to link *B. arthemis* (as the white admiral) to *B. lorquini* (Lorquini's admiral) and to *B. weidemeyeri* (Weidemeyer's admiral). This makes sense, since all are within the same genus. However, add the red admiral *(B. atalanta)* to the admiralty staff (he barely qualifies as a second cousin), and the bureaucracy becomes a bit muddied. In the meantime, the red-spotted purple *(B. arthemis astyanax)*, the most closely related of all, dangles in limbo, the common name giving not a hint of its consanguinity.

At the close of the nineteenth century, Samuel H. Scudder and the rest of the lepidopteral community called *B. arthemis* the banded purple and *B. astyanax* the red-spotted purple, not realizing that they were the same species. But on looking at the common names, a relationship was readily inferred.

With less information, our forebears did it right. In the midst of our glorious Age of Information, I think we have messed it up.

SAVE THE BANDED PURPLE!

(Bumper stickers *not* available upon request.)

On the Closing of Bonanza King Canyon to Butterfly Collecting

by Bruce Griffin, P.O. Box 41682, Tucson, AZ 85717

I noted with some interest the letter regarding the closure of Bonanza King Canyon in the Providence Mountains of Southern California to butterfly collecting, as well as the Federal Register notice relating to *Papilio indra martini,* in the NEWS No. 2, 1994. Since this closure seems to have been motivated by *Papilio indra martini*, I will discuss it from that perspective.

I have extensive field experience with *Papilio machaon* complex in western North America. I've observed and sampled the *P. i. martini* population occasionally since its description as a *P. indra* subspecies in 1966 in several areas of the Providence Mountains. From my experience, I do not regard the insect as rare or the total population in this mountain range as significantly impacted by all collecting activities that have occurred to the present day. In fact, the great percentage of the breeding area is seldom collected, and a number of canyons probably never have been, to date.

Adult emergence from diapausing *indra* pupae seems regulated by expression of annual weather patterns, and varies widely depending on how favorable the environmental cues are. Some populations are practically inactive in sufficiently poor years, only to appear in numbers in more favorable years. The controls on ova and larvae that I see as significant are parasitism and natural predation. Local food plant limitations are possible in years with large numbers of larvae.

Parasitism can be a major influence in some *indra* populations, but this has not been true with *P. martini* whenever I've checked. As compared to these regulating agents of population size, human collecting activities, in general, are local and inefficient.

The wording in the Federal Register notice seems well designed to sell people on the concept that this insect is on the edge of extinction. I think that the Bureau of Land Management and Fish and Wildlife Service have received poor and misleading data in this matter, deliberately or through ignorance, or both.

Breeding colonies do occur in canyons on the west side of the Providence Mountains; I looked at several west slope canyons in May, 1993, with another experienced lepidopterist, and saw *P. martini* immatures proceeding normally with their life cycle. We had fully expected its presence and could have undoubtedly located it in still other canyons.

As to the survival prospects of this subspecies and others of *P. indra,* I've always felt that the rugged, poorly accessible habitats favored by them and their food plants admirably favor long term survival, being unlikely candidates for habitat destruction.

I have not been into Bonanza King Canyon in the last several years, so cannot comment on possible damage to accessible *Lomatium parryi* food plants caused by a number of collectors working a limited area.

I believe that sufficiently thorough field work over several years would promote an optimistic view of the *P. i. martini* situation, as compared to that used as an excuse to invoke federal control.

---

downhill skiing, cycling, canoeing, most sports, and concluding with landscape and vegetable gardening.

Fred is currently working with outgoing Newsletter editor Stephanie McKown and incoming editors Marc and Maria Minno to get the more colorful newsletter back on line following Stephanie's "forced march" to the mouth of the Columbia last summer (with sympathy from Lewis and Clark) that disrupted the normal Newsletter schedule. He has written on behalf of the Society to the Director of the Fish & Wildlife Service concerning the problems of international shipment of specimens via the U. S. mail and the related problems, especially concerning the members who do not have institutional affiliation, to help them solve the puzzles. He is appointing a committee to be chaired by Eric Metzler to review the Society's statement on collecting. And last but by no means least, he has undertaken a major redesign and structural overhaul of the Presidential transferral antennae for which he hopes to obtain major grant support (but the deadlines may be too tight for that). He also plans for his presidential address to be on the lighter side, leaving the weighty matters for the Executive Council.

Butterfly Smuggling Case

Press release from:

U.S. Department of Justice, U.S. Attorney, San Jose, California

December 14, 1994

United States Attorney Michael J. Yamaguchi announced today a felony plea of guilty by the second of three men charged last year by a San Jose federal grand jury with conspiring to poach federally protected butterflies between 1983 and 1992 on federally protected lands (including national Parks, National Wildlife Refuges, and National Forests) and conspiring to trade and traffick in protected wildlife protected under the Endangered Species Act and various international treaties.

Richard J. Skalski, 39, of Redwood City, California, pled guilty this morning in United States District Court in San Jose to conspiracy to violate the wildlife laws of the United States, and faces a maximum penalty of five years in federal prison, an $250,000 fine, a term of supervised release, and a $50 mandatory penalty assessment. Skalski also agreed to forfeit to the United States 217 butterflies seized under search warrant by U.S. Fish and Wildlife Service investigators in June 1992, as well as give up for forfeiture other butterflies in his collection. Sentencing for Skalski is set for March 29, 1995 before United States District Judge James Ware in San Jose.

On December 7, 1994, co-defendant Marc L. Grinnell, 40, of Santa Rosa, California, pled guilty to the same charge, and Grinnell also agreed to forfeit his illegal collection of poached wildlife to the United States. Grinnell's sentencing is set for February 22, 1995 in the same court.

The third co-defendant, Thomas W. Kral, 30, of Tucson, Arizona, is similarly charged with felony conspiracy. Kral is set for a pretrial conference on January 4, 1995 and trial on January 12, 1995.

Yamaguchi said his office was pleased with the guilty pleas, and his prosecutors were committed to enforcing the environmental laws of the United States. Letters by these defendants specified in the Indictment were signed by the defendants "yours in crime" and "yours in poaching"; these are "egregious" matters which must be vigorously pursued, the United States Attorney said.

More than 2,200 butterflies protected by law in the U.S. and Mexico were taken and trafficked in during the nine years that the conspiracy operated, and more than 210 butterflies protected under the Endangered Species (ESA) were taken or traded for commercial gain. The ESA, enacted in 1973, protects species in danger of extinction from any harassment, capture or harm.

Extensive Seizures of Federally Protected Wildlife

The case came to light when the U.S. Fish and Wildlife Service learned from a university biologist that Richard J. Skalski was poaching a rare species of butterfly found in Grand Canyon National Park. After Skalski sold a pair of Kaibab Swallowtail butterflies for $400 to an undercover special agent, federal authorities obtained a search warrant for Skalski's home in Redwood City, California, which they served on June 9, 1992, and where they found an extensive collection of butterflies.

A. First Search Warrant: Richard J. Skalski (Redwood City, California)

Among the 229-plus specimens recovered on June 9, 1992, were approximately 87 Kaibab swallowtail butterflies (Yamaguchi noted that Skalski's collection of these butterflies is reputedly the world's largest known collection of this species and larger than the collection at the Grand Canyon National Park Visitor Center). Authorities also recovered eight other different butterfly species taken from the Grand Canyon National Park. Skalski possessed: 38 Oregon Silverspot butterflies protected under the ESA of 1973; 24 butterflies protected at Death Valley National Monument; 15 butterflies protected at Death Valley National Monument; 15 butterflies protected by the

Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES); 8 butterflies protected by Mexico, and 13 butterflies protected by the government of Germany.

Agents also found more than 400 letters to Skalski from other collectors both inside and outside the United States.

B. Second Search Warrant: Thomas W. Kral (Tucson, Arizona)

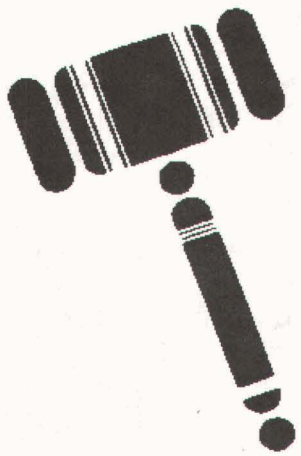
On June 25, 1992, agents executed a federal search warrant on Thomas W. Kral home in Tucson, Arizona, and found an even larger collection of wildlife protected by the Endangered Species Act, other U.S. law, CITES, and foreign law. Included were 188 butterflies protected by the ESA of 1973, 189 Butterflies from Santa Ana National Wildlife Refuge, 134 butterflies from Bentsen-Rio Grande State Park in Texas, and 513 butterflies from Mexico.

Agents also found more than 800 letters to Kral from other collectors, from both outside and inside the United States, including from Skalski and Marc L. Grinnell.

C. Third Search Warrant: Marc L. Grinnell (Santa Rosa, California)

On July 2, 1992, federal agents executed a search Warrant at the home of defendant Marc L. Grinnell, in Santa Rosa, California. They found 176 butterflies, some protected by the Endangered Species Act of 1973, by CITES, and butterflies taken from various National Parks, such as Yosemite National Park, Point Reyes National Seashore, and the Golden Gate National Recreational Area, the Kodiak National Wildlife, the Necedah National Wildlife Refuge, and multiple foreign countries.

Agents also found 41 letters to Grinnell from other collectors from both outside and inside the United States, including correspondence from Thomas W. Kral.



Extensive Identifying Information Found

Yamaguchi said that the three men kept detailed and extensive notes where, when, how and who collected each of the specimens. Most of the more than 2,200 butterflies seized had identifying data labels attached to each poached item, including the scientific name, the collector's name, the date the butterfly was collected, and the location where the butterfly was collected. The butterflies were pinned or mounted, and kept in special glass display drawers.

The Indictment

The one-count felony conspiracy indictment of Skalski, Kral and Grinnell details their taking and trafficking in endangered wildlife and in wildlife otherwise protected by federal, state or foreign law. The indictment includes quotations from letters between the defendants, and describes extensive poaching activities.

The case was investigated by the U.S. Attorney's Office, Northern District of California, and the U.S. Fish and Wildlife Service. For further information, contact Assistant United States Attorney Leland B. Altschuler (408) 291-7221.

[redacted]

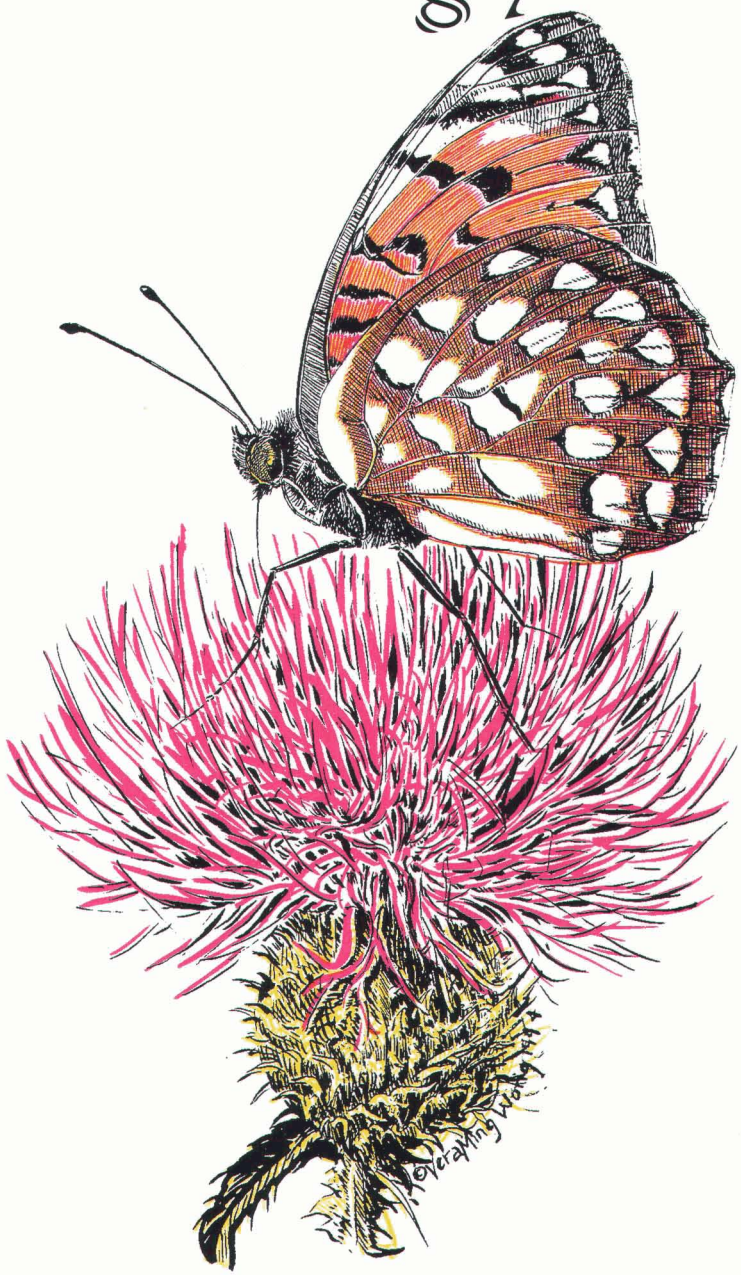
Beauty and Biology

Butterflies and Moths in Art and Science

Bell Museum of Natural History

June 17-September 17, 1995

The intricate beauty and amazing biology of butterflies have inspired artists and scientists throughout the ages. Mesmerizing to observe, butterflies provide some of the most intriguing examples of biological concepts and ecological interrelationships. They are also the inspiration for countless artistic metaphors and designs. This exhibition will explore these winged gems from both perspectives. Organized in conjunction with the annual meeting of the Lepidopterists' Society, the show will run from June 17 to September 17, 1995, with a possible extension through December 30.



[Regal Fritillary Butterfly, copyright 1994, Vera Ming Wong]

Call for Art

Artists, illustrators and photographers are invited to submit works for inclusion in the exhibition.

* Submit up to five 35 mm slides, with a self-addressed, stamped, return envelope.

* Include on each slide name, address, phone, title, medium, size, species, and date.

* Include $15 entry fee with submission. Make checks payable to the University of Minnesota.

* Deadline for submission is March 15, 1995.

*Accepted works must be framed and ready to display.

* Artists are responsible for packing and incoming shipping costs.

* The Bell Museum will pay return shipping and insurance.

For further information, contact
Byron G. Webster (612) 624-0225
Bell museum of Natural History
College of Biological Sciences
University of Minnesota
10 Church Street SE
Minneapolis, MN 55455.

Browning of Cattail by *Simyra henrici* (Lepidoptera: Noctuidae) in Created Wetlands in Florida

by Marc C. Minno, Palmer Kinser, Roxanne Conrow, and Bob Cooper
St. Johns River Water Management District, P.O. Box 1429, Palatka, FL 32178-1429

Lake Apopka, the state's fourth largest lake, is located in central Florida, northwest of Orlando. At the turn of the century, the clear water of this spring-fed lake teemed with game fish and attracted sportsmen and tourists. Gradually, the marshes at the northern end of the lake were diked off, and the organic soils drained for vegetable production. Since then, nutrient inputs from agricultural runoff, poorly treated sewage, orange processing waste, and other sources, have caused massive and continuing algal blooms. Lake Apopka's waters are now soupy brown, game fish have largely disappeared, and the alligator population suffers from reproductive problems caused by estrogen-mimicking pesticides.

In an attempt to clean up Lake Apopka, the St. Johns River Water Management District is turning some of the farms back into marshes (McSweeney 1991). These created wetlands will filter the nutrient-rich lake water and re-establish lost fish and wildlife habitat. A 550-acre pilot project has been in operation since November 1990, supplemented in 1994 by an additional 4,000 acres of farm land which was flooded. These areas were rapidly colonized by cattails, with *Typha latifolia* L. dominant, but *Typha domingensis* Pers. also present.

Damage to cattail leaves caused by the larvae of *Simyra henrici* (Grote) was found in Cell C (see map on page 27) on June 28. The view from the levee road dividing cells C and D showed a brown circle, about 60 ft in diameter, in an otherwise green field of healthy cattail. An on-site inspection of the area *via* airboat on July 20 revealed extensive leaf damage and browning of cattails. The airboat and persons on board were covered with live caterpillars of *S. henrici*. By August 3, Cell C was mostly brown, and Cell D was showing signs of damage. On August 15, Cell D was heavily affected, and even the marsh south of the demonstration project showed isolated browning.

By August 26, hatched cocoons were abundant on cattail leaves in the browned areas of Cell E. Cocoons were formed from silk and bits of leaves and detritus (see photos on page 28), often between overlapping or bent-over leaves, but also on exposed leaf surfaces. No adults, eggs, or live larvae were seen in Cell E on this date, but larvae had been abundant a few weeks earlier. In a patch of cattails not yet browned, between Apopka Marsh cells E and F, last-instar larvae, cocoons with live pupae, and a few egg masses were found.

Simyra henrici caterpillars infested a small patch of *Typha domingensis* growing along the margin of the Apopka-Beauclair Canal at the Lake Apopka Lock and Dam/ Apopka Marsh Field Station, in addition to the *Typha latifolia* damage in Apopka Marsh.

The life cycle of *S. henrici* has been described and illustrated on a number of occasions (Tietz 1972). The eggs are highly flattened, and peculiar for a noctuid (see photos on page 28). The female moth lays patches of eggs with the edges overlapping, like shingles. The larvae feed mostly on the edges of the leaves near the tips, but may also eat the surface layer, revealing the rectangular, pithy cells of the leaf's interior.

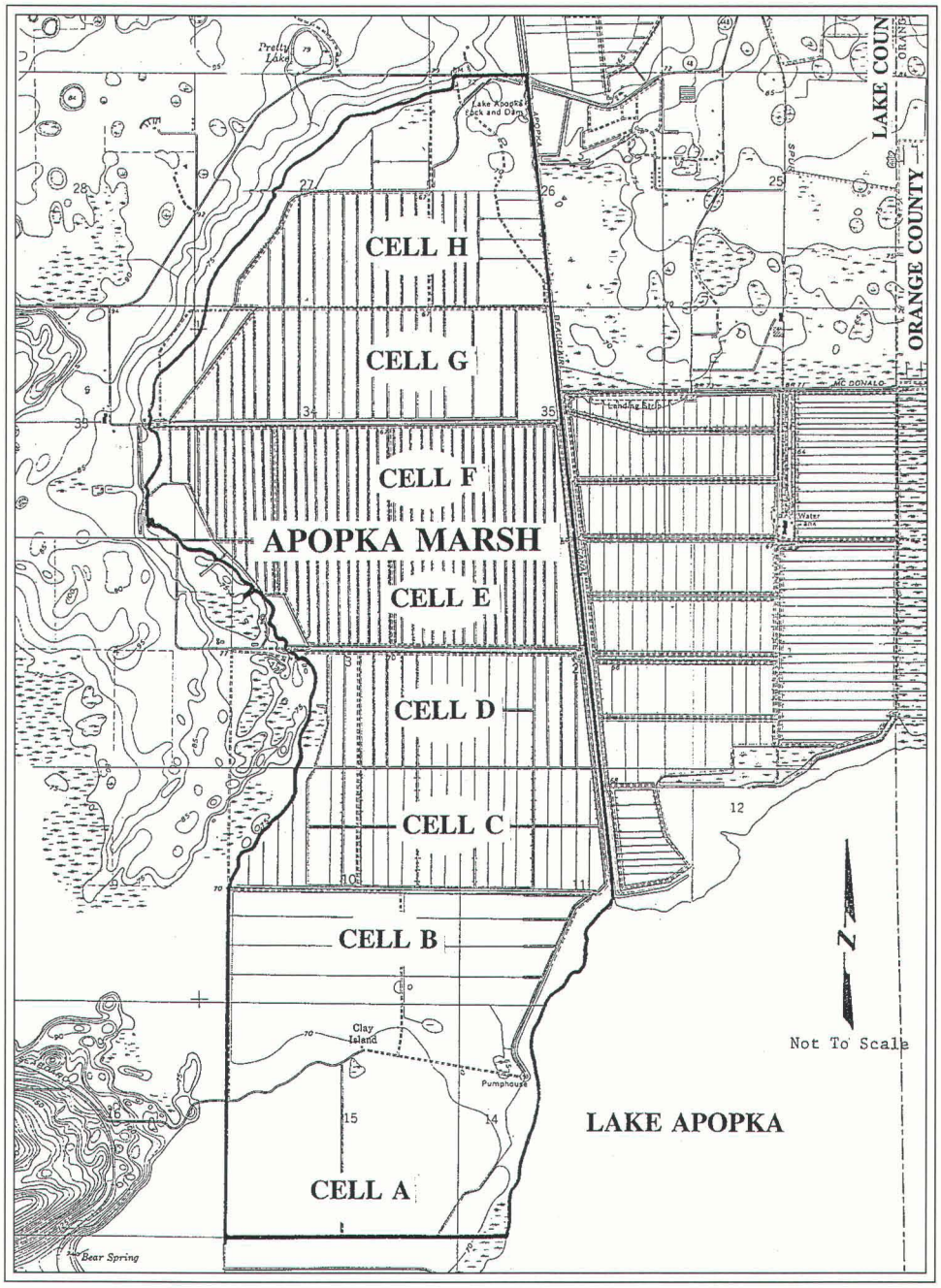
Mature larvae are variegated black and white, with stiff setae arising from orange tubercles (page 28). The caterpillars closely resemble those of tiger moths (Arctiidae). Tiger moth adults and immatures typically sport bright colors and contain distasteful chemicals that deter predators such as birds. *Simyra henrici* adults also resemble tiger moths, being white with faint brownish streaks on the forewings. If *S. henrici* adults and larvae are chemically defended (a fact yet unknown), this would help explain their ability to become superabundant in spite of the presence of large numbers of insectivorous birds such as red-winged blackbirds.

Perhaps *S. henrici* populations are controlled more by parasitoids and pathogens than by predators. Many dead larvae were found still attached to green cattail leaves (page 28), coated with a white or greenish fungus. Also on August 26, two large dead larvae found attached to green leaves at Cell E had 10 and 23 parasitoid exit holes, about 1 mm in diameter, distributed mostly along the dorsum. Samples of cocoons and larvae were collected at this time, and adult moths began to emerge from the cocoons on August 31. Numerous small metallic wasps emerged from a mature larva and a pupa.

We are aware of one other large outbreak of *Simyra henrici* in Florida during 1994. The larvae caused the browning of hundreds of acres of cattail in created wetlands in western Palm Beach County during May 1994

(Kathy Piathro, South Florida Water Management District, personal communication). By the end of July, the infestation was gone, and the cattails were recovering. Likewise, in the months subsequent to the outbreak of *S. henrici* at the Apopka Marsh, the cattails have grown new leaves and are once again green.

Simyra henrici is widely distributed in Florida (Kimball 1965), and larvae are commonly seen on cattail. Although cattails are often considered less desirable for wildlife than other wetland plants, their wind-disbursed seeds allow them to quickly colonize disturbed sites, forming monocultures in nutrient enriched wetlands. Extensive outbreaks of *S. henrici* might be useful to managers of created wetlands. Marshes may be burned in order to reduce detritus and increase water flow. If outbreaks were to occur on a regular basis, then managers might be able to track and use the population cycles of the moth to burn the naturally browned cattails.



ABOVE: Map of Apopka Marsh, Lake County, Florida.

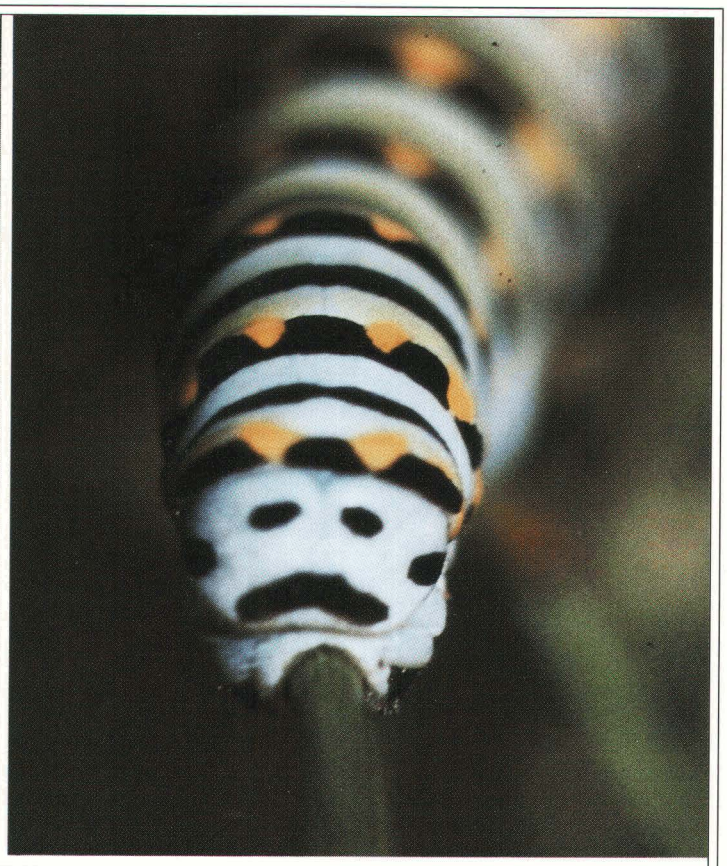
Literature Cited

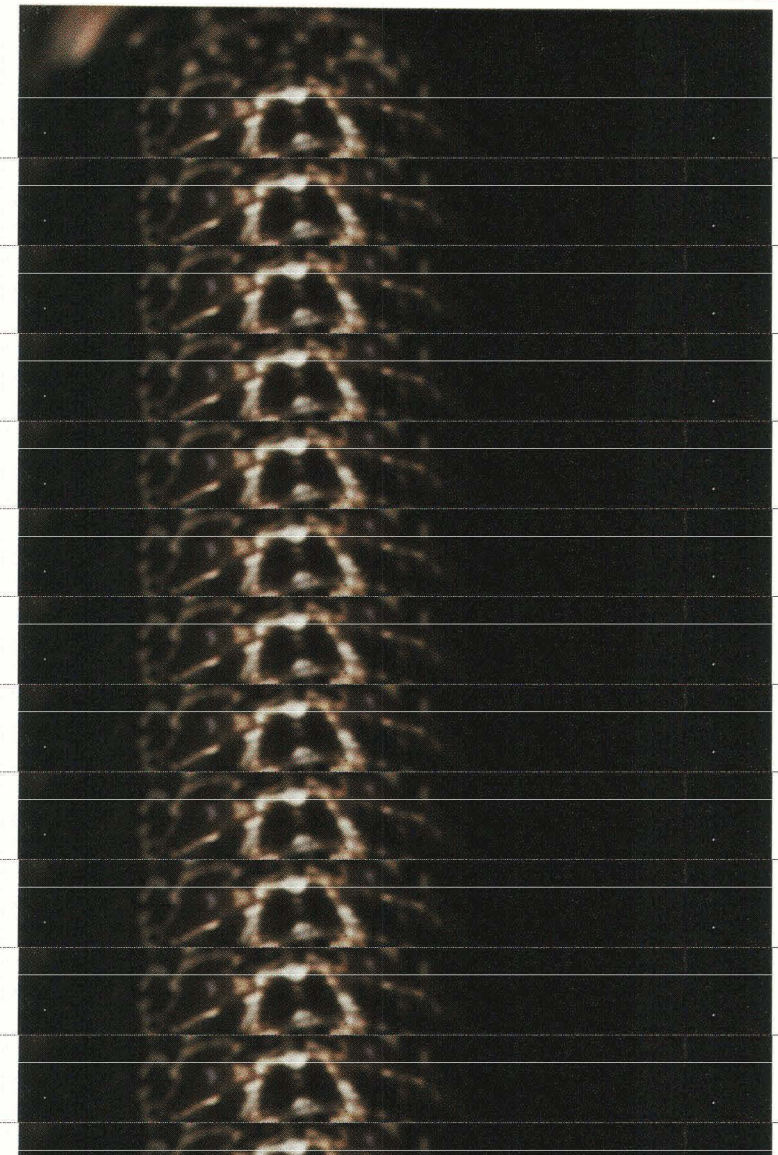
Kimball, C. P. 1965. The Lepidoptera of Florida. Florida Department of Agriculture, Division of Plant Industry, Gainesville, Florida. v + 363 pp., 26 pls.

McSweeney, P. 1991. Innovative flow-way begins cleanup of Lake Apopka waters. Streamlines 1:8-9.

Tietz, H. M. 1972. An index to life histories, early stages, and hosts of the Macrolepidoptera of the continental United States and Canada. Allyn Museum of Entomology, Sarasota, Florida. 1:1-536, 2:537-1041.

Page 28: Immature stages of *Simyra henrici*. Clockwise from page number: egg mass; last instar larva; larvae coated by fungus; browning cattails; cocoons. On south side of Apopka Marsh looking north with Lake Apopka on the lower right, and browning cattails in the center; on west side looking east, with Lake Apopka on the upper right, muck farms on upper left, and browning cattails in center. Aerial views of Apopka Marsh taken September 22, 1994 by Jim Peterson, SJRWMD.





LEPIDOPTERISTS' LEXICON:

Larva

A note from Dr. James F. Burris (4803 Davenport Street, NW, Washington, D.C. 20016-4314) draws our attention to the derivation of the word *larva* according to the American Heritage Dictionary.

> The word *larva* referring to the newly hatched form of insects before they undergo metamorphosis comes from the Latin word *larva*, meaning "evil spirit, demon, devil." To understand why this should be so, we need to know that the Latin word also was used for a terrifying mask, and it is this sense of the word that has come down to us. In Medieval Latin *larva* could mean "mask or visor." *Larva* is therefore an appropriate term for that stage of an insect's life during which its final form was still hidden or masked, and New Latin *Larva* was thus applied by Carolus Linnaeus, the Swedish botanist who originated our system of classifying plants and animals. The word *larva* is first recorded in English in its scientific sense in 1768, although it had been used in its "spirit" sense in 1651, and in a way that foreshadowed the usage by Linnaeus in 1691.

Page 29: The historical derivation of the word *larva* from a word meaning "mask" is given renewed relevance in these photos. Rear views of larvae (clockwise from upper left), *Asbolis capucinus*, *Papilio polyxenes* ssp. *asterias*, and *Papilio cresphontes* showing their best faces. Photos by Marc C. Minno.

Membership

Membership in the Lepidopterist's Society is open to all people interested in any aspect of Lepidopterology. To become a member, 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 Julian P. Donahue.

Regular	$25.00
Student	$15.00 (must be certified)
Sustaining:	$35.00
Life	$500.00

Remittances must be in US dollars, payable to the Lepidopterists' Society. Members receive the Journal (published quarterly) and the News (published quarterly, alternating with the Journal). Supplements to the News include a 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, Michael J. Smith.

Contributions

We welcome contributions to the News! Please send in your article or item to us in one of the following formats, in order of preference:

1. On diskette. We obtained PageMaker 5.0 in December 1994, and it will translate just about any graphics, text, or spreadsheet program made to that date, including WordPerfect up to 6.0, Microsoft Word for Windows or DOS, Lotus, Excel, and of course, ASCII and RTF, and more. You may include graphics on disk, too, as BMP, PIC, TIFF.... Please let us know what format it's in when you send it.
2. Electronically transmitted file in ASCII format to us via e-mail. Our address is afn10853@freenet.ufl.edu
3. Typewritten copy, double-spaced .
4. Handwritten, (very legible, or no guarantee what the outcome will be!).

Diskettes, hard copy, and photographs (prints are less expensive to reproduce, but slides are OK) should be mailed to the NEWS editors. Material for the following issues should reach the editors by the following dates:

Issue	Date Due
1 January-March	October 15
2 April-June	February 15
3 July-September	May 15
4 October-December	August 15

Reports for the Season Summary, which is to be mailed simultaneously with Issue #2, should reach the Zone Coordinators (see list on page 31) by January 31. The 1996 Membership Directory is to be mailed simultaneously with Issue #4.

Change of Address

Please send permanent changes of address, telephone numbers, areas of interest, or e-mail addresses to Julian P. Donahue, Assistant Secretary. Contact Dr. Donahue for information on mailing list rental.

Missed Issues?

Requests for missed issues should be directed toward Publications Manager, Ron Leuschner. Defective issues will also be replaced. Please don't ask the editors, because we don't have extra copies of the News. Be sure you've really missed an issue by waiting for the subsequent issue to arrive, as publication may only be delayed. General complaints about the News should be directed to the Editors.

The Journal

Manuscripts submitted for publication in the Journal are to be sent to Dr. John W. Brown. Editorial policy is outlined on the inside back cover of the Journal.

Send book reviews for the Journal or News to Book Review Editor, Dr. Boyce A. Drummond.

Publications

Order publications of the Lepidopterist's Society from Publications Manager Ron Leuschner. Add $2.00 for postage and handling for the first book, plus $1.00 for each additional book. The following publications are available.

CATALOGUE/ CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO (Memoir #2), Lee D. Miller & F. Martin Brown. 1981. Includes references to original descriptions and location of type specimens. Cloth-bound: members and subscribers, $12; non-members, $19.

SUPPLEMENT TO THE CATALOGUE/ CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO (Memoir #3). Clifford D. Ferris, editor, 1989. General notes, plus corrections and additions to the original Memoir #2. 1989. Members and subscribers: $6; non-members $10.

FOODPLANTS OF WORLD SATURNIIDAE (Memoir #4), Steve Stone. 1991. A listing of foodplants for more than 500 species of worldwide Saturniidae. Members and subscribers: $7.20; non-members: $12.

COMMEMORATIVE VOLUME, 1945-1973: A 25-year review of the Society's organization, personnel, and activities; biographical sketches; Journal 25-year

cumulative index by author, subject, and taxon; clothbound. Published in 1977. Members and subscribers, $8; non-members, $12.

WHERE ARE THE BUTTERFLY GARDENS?, Jane Ruffin, 1994. A 40 page booklet listing 135 locations in 40 states and provinces, noting what each location provides. $5.00, plus $0.75 postage if ordered alone.

1994 MEMBERSHIP DIRECTORY (current to November 1994). Biennial directory of members and their addresses, with geographic and interest indices. Not available for commercial use. (NEWS #6 for 1994). $5.00.

BACK ISSUES of the Journal, and of the News of the Lepidopterists' Society. For a list of the available issues and their cost, send a self-addressed, stamped envelope to the Publications Manager.

Executive Council

PRESIDENT

Dr. Frederick W. Stehr
Department of Entomology
Natural Science Building
Michigan State University
East Lansing, Michigan 48824-1115
USA (517)353-8739 work
e-mail: fstehr@ibm.cl.msu.edu

IMMEDIATE PAST PRESIDENT

Dr. Paul A. Opler
Office of Information Transfer
National Biological Survey
1201 Oak Ridge Drive, #200
Fort Collins, CO 80525-5589 USA
(303)223-9709 ext. 234

VICE PRESIDENTS

Dr. Thomas C. Emmel
Department of Zoology
University of Florida
Gainesville, FL 32611-2019 USA
(904)377-6300 home;
(904)392-1107 work

Dr. Kauri Mikkola
Zoological Museum
P.O. Box 17 FIN-00014
Un. Helsinki FINLAND
(0)191-7421 work; (0)653-212 home

Dr. Bernard Landry
Centre for Land and Biological
Resources Research
Biological Resources Division
Neatby Building
C.E.F., Agric. Canada
Ottawa, Ontario K1A0C6 CANADA
(613)996-1665 work

TREASURER

Robert J. Borth
6926 North Belmont Lane
Fox Point, Wisconsin 53217 USA
(414)351-3816 home; (414) 291-6802 work

ASSISTANT TREASURER and PUBLICATIONS MANAGER

Ron Leuschner
1900 John Street
Manhattan Beach, CA 90266-2608 USA
(310) 545-9415 home

SECRETARY

Michael J. Smith
7428 Holworthy Way
Sacramento, CA 95842 -4165 USA

ASSISTANT SECRETARY

Julian P. Donahue
Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, California 90007-4057 USA
(213)744-3364 work; FAX (213)746-2999

EDITOR, Journal of the Lepidopterists' Society

Dr. John W. Brown
San Diego Natural History Museum
P.O. Box 1390
San Diego, California 92112 USA
(619) 942-5147 work; (619) 422-1846 home

EDITORS, Lepidopterists' Society News

Marc C. Minno and Maria Minno
600 NW 35th Terrace
Gainesville, Florida 32607-2441 USA
(904) 375-3028 home; (800)451-7106 work
e-mail: afn10853@freenet.ufl.edu
FAX (904)329-4329

NEWS FROM EUROPE EDITOR

W.O. De Prins
Diksmuidelaan 176
B-2600 Antwerpen BELGIUM
Phone 03/322.02.35 (work)
(from the U.S. use 011/32.3.322.02.35)

BOOK REVIEW EDITOR

Dr. Boyce A. Drummond, III
Natural Perspectives
1762 Upper Twin Rock Road
Florissant, CO 80816-9256 USA
Phone (719)748-3663
e-mail: coec@usa.net or
70413.566@compuserv.com
FAX: (719)689-9273

ZONE COORDINATORS

ZONE 1: Dr. Kenelm W. Philip
Institute of Arctic Biology
University of Alaska
P.O. Box 75700
Fairbanks, Alaska 99775-7000 USA

ZONE 2: Jon H. Shepard
R.R. #2, S.22, C.44
Nelson, British Columbia V1L 5P5
CANADA (604)352-3028

ZONE 3: Robert L. Langston
31 Windsor Avenue
Kensington, CA 94708-1040 USA
(510)524-3001 home

ZONE 4: Dr. Ray E. Stanford
720 Fairfax Street
Denver CO 80220-5151 USA
(303)377-1332 home

ZONE 5: Dr. Ronald Alan Royer
Division of Science
Minot State University
Minot, North Dakota 58701 USA
FAX (701)839-6933
e-mail mno289@ndsuvm1.nodak.edu

ZONE 6: Dr. Edward C. Knudson
8517 Burkhart Road,
Houston, Texas 77055-7517 USA
(713)464-3529 home;
FAX (713)795-0713

ZONE 7: Ross A. Layberry
6124 Carp Road, Rural Route #2
Kinburn, Ontario KOA 2HO CANADA
(613)832-4467 home;
(613)787-6579 work

ZONE 8: Leslie H. Ferge
7119 Hubbard Avenue
Middleton, Wisconsin 53562-3231
USA

ZONE 9: Andrew F. Beck
Navy Disease Vector Ecology & Control
Box 43, Naval Air Station
Jacksonville, FL 32212 USA

ZONE 10: Mark J. Mello
P.O. Box 87037
South Dartmouth, Massachusetts
02748 USA

ZONE 11:
VACANT

ZONE 12:
VACANT

ZONE 13: Dr. Boyce A. Drummond, III
(Book Review Editor)

From:

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

Address Correction Requested

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

John A. Snyder 1725
Department of Biology
Furman University
Greenville, SC 29613-0001

This huge migratory flight of the cloudless sulfur *(Phoebis sennae eubule)*, was observed by Mickey McDonald of Fredonia, Kansas, crossing southeast Kansas in the summer of 1990. Painting by William H. Howe, 822 East 11th Street, Ottawa, KS 66067 (913) 242-4148. Background photo taken by Mr. Jim Brock of 4164 North Via Villas, Tucson, AZ.