
NEWS

OF THE

LEPIDOPTERISTS' SOCIETY



Volume 39, Number 1

Spring 1997



Inside:

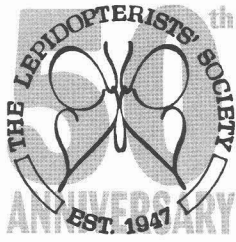
Puddling in *Tegosa anieta*

Lep. migrations in Belize

Larval stemmata have "facets"

Mothing in French Guyana

...and more!



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Special Note:

You may see this issue, Vol. 39(1), before you see Vol. 38(6). This is due to the change in editorship and you should be receiving 38(6) in due course. The Season Summary, Vol. 39(2) is done and is at the printers - it will follow this issue. The color issue will be the next regular issue of the News, Vol. 39(3). Please bear with us while we get the kinks worked out...

Cover Art: Tiger Swallowtail by Andrea Kingsley, © 1996, Used by Permission

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 4 times per year 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 issue number 2 of the News. In even numbered years a complete Membership Directory is published as issue number 6. Please see the inside back cover for instructions regarding submissions to, and deadline dates for, the News. Postage paid at Lawrence, KS.

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Results of the 1997 Election of Officers

The nominated slate of officers and other issues were all voted in or approved by the membership of the Society. The tabulated results are as follows (entries in bold denote elected members or passed resolutions or amendments):

Total votes cast: 344

President:

James P. Tuttle 328
Chris Conlan (write-in) 1
M.C. (Mo) Nielsen (write-in) 1

Vice-President:

(top 3 are elected, one per country)

Vitor Becker (Brazil) 303
Claude Lemaire (France) 301
M.C. (Mo) Nielsen (USA) 322
David Iftner (write-in) 1
David Wagner (write-in) 1

Treasurer:

David Iftner 277
J. Mark Scriber (write-in) 1

Member-at-Large:

(top 3 are elected to a 3 year term)

M. Deane Bowers 317
Ron Leuschner 328
Michael Toliver 319
David Iftner (write-in) 1
Andrew Warren (write-in) 1

Karl Jordan Medal Selection Committee:

Ebbe Schmidt Nielsen 321
Ron Leuschner (write-in) 1
Frederick H. Rindge (write-in) 1

Honorary Life Member:

Dr. Frederick H. Rindge

Yes 318
No 4

Constitutional Amendment:

Auditing Committee

Yes 298
No 4

Michael J. Smith,
Secretary

The Lepidopterists' Society...

Our 50-Year History Points the Society Toward the Future

We celebrate 50 years of The Lepidopterists' Society in 1997. Outstanding! Many changes occurred since 1947. The original publication, The Lepidopterists' News, took on a journal format in 1952, and after the **Journal of The Lepidopterists' Society** was established in 1959, the **News of The Lepidopterists' Society** was commissioned for ephemeral information. In 1995, Marc and Maria Minno brought color to the **News** and instituted a magazine-like format. In 1997, Phil Shappert takes over as editor of the **News** relying heavily on his experience with computers.

While change is inevitable, the Constitution of The Lepidopterists' Society provides a framework which defines our common purpose: "It shall be the purpose of the Society to promote internationally the science of lepidopterology in all its branches; to further the scientifically sound and progressive study of Lepidoptera; to publish 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 co-

operation in all measures tending to that end." The Lepidopterists' Society embraces legitimate activities consistent with its purpose.

Changes over the last few years — outside the control of The Lepidopterists' Society — have the potential to hinder the Society as it promotes its varied purposes. Airing of opinions is important, respect for different perspectives is vital, and restraint is required. We've reached a time for temperance. The members of the Society have, and will continue to encompass, a variety of views. The purpose specifically calls for cooperation in the pursuit of many aspects of lepidopterology. The success of the Society reflects the support of its members while living with change.

A 50th anniversary is a wonderful sign of success, and interest in the success of The Lepidopterists' Society is high. This anniversary is an occasion to celebrate our accomplishments over the last 50 years and to generate enthusiasm for the next 50 years of lepidopterology. We eagerly anticipate the 100th anniversary.

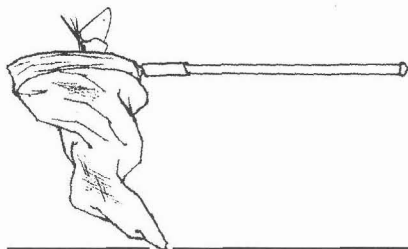
Eric H. Metzler, President
James P. Tuttle, President-Elect
Robert K. Robbins, Chair of the Editorial Board

Initial Karl Jordan Medal Challenge Goal Met

We are happy to announce that the initial challenge goal of \$2,000 offered by Dr. J. Benjamin Ziegler has been met through the generous donations of members and previous winners of the Karl Jordan Medal. Dr. Ziegler has kindly offered a further challenge to match any additional donations at the rate of \$1 for every \$2 donated to the Medal Endowment Fund.

The Karl Jordan Medal recognizes outstanding published research on Lepidoptera in systematics, morphological, biogeographic, and natural history studies. We urge you to continue to support these vital areas of research and this award by forwarding your tax deductible donation to the Treasurer, Dr. David Iftner, 8 Alpine Trail, Sparta, New Jersey 07871.

Jackie Miller



Mailbag...

Dear Editor,

I read with interest the recent article on the *Official List of Common Names of North American Butterflies* by Jeff Glassberg (*News of the Lepidopterists' Society* 38(4): 127-128). I would like to take this opportunity to clarify a few misleading statements.

For the record, **The Common Names of North American Butterflies** (Smithsonian Institution Press, 1992), even in its final stages, was a cooperative effort by members of both the Xerces Society and the Lepidopterists' Society. The Common Names Committee was initially formed in 1980 with Bob Pyle as Chairman. Pyle subsequently resigned as Chair in 1984 due to the press of other commitments, and I agreed to serve as Chairman. There was not a complete draft available at that point, and Committee members present at the Fairview, Alberta Meeting of the Lepidopterists' Society discussed various options. Members of the Committee felt that if governmental agencies and publishers were insistent on using common names in the literature, it would be in the best interest of science to provide a compendium of previously published names rather than inventing new names. Most members of the Committee, however, were adamant that we would not provide a list of official names inasmuch as common names do not have standing in the scientific nomenclature and that we should allow both professionals and amateurs to have the option to use their favorite names. The scope of the publication was restricted to North America and included Hawaii. The checklist of North American butterflies was subdivided according to the families with the following contributors: J. Hinchliff and R. M. Pyle (Papi-

lionidae), C. D. Ferris (Pieridae), O. Shields (Lycaenidae, Riodinidae, and Libytheidae), S. S. Borkin and J. Shepard (Heliconiidae, Nymphalidae, Apaturidae, Danaidae, Ithomiidae), D. M. Lott and L. D. Miller (Satyridae), and J. Y. Miller (Hesperioidea).

Due to other commitments and responsibilities of all of the members, the first draft was not completed for a period of two years. We produced a basic list of references to be consulted and annotated it as new publications became available. Members of the Committee revised and reviewed several drafts until a final draft was completed in 1989. This was not a project that we took lightly but had gradually refined over the years. Copies of the draft were forwarded to a number of reviewers including two lepidopterists who were exceedingly critical of the use of common names in any form. This calculated risk enabled us to better address the objections of these and other similar critics. Other reviews from leading authorities on conservation efforts were exceedingly complimentary of the project.

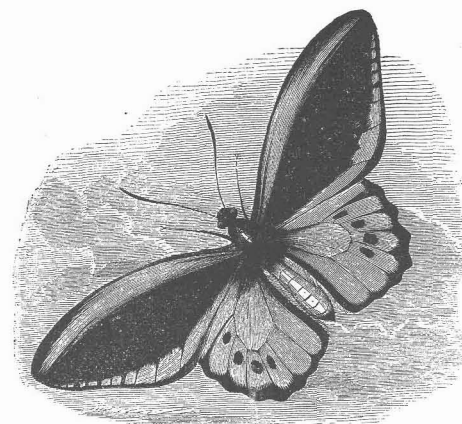
As for the preferred or favorite common names that are boldfaced in the list, these are indeed those most frequently encountered in the literature. Peter Cannell, editor of the Smithsonian Institution Press, and some of the final reviewers suggested that the Committee consider this option. There is a certain rationale for emphasizing common names already established in the literature, especially those used in major works. All of the names associated with a particular taxon were still included for possible consideration and use. This suggested change in the original format and other informa-

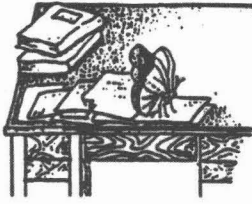
tion was once again forwarded to members of the Committee for their consideration in the fall of 1990. There were some differences of opinion concerning the preferred name in a few cases, but we did arrive at a compromise.

All business transactions concerning the publication of the book were efficiently handled by Melody Allen and Mary Troychak of the Xerces Society. They negotiated the contract with the Smithsonian Press. All proceeds derived from the publication were directed to the Xerces Society and designated for butterfly conservation and habitat preservation.

I believe that the Committee was successful in fulfilling its original goal of providing a compendium of common names used in the literature at that time, and through the publication of the **Common Names of North American Butterflies**, we were able to better inform authors and governmental officials and agencies of the availability of these common names and their associated scientific taxa.

Jackie Miller





From the Editor's Desk

Phil Schappert

Hi Everyone,

As you can see there have been a few changes! The **News** has a new editor, has been redesigned with clarity and consistency in mind and now has an ISSN registration number. I'd really like to have your comments on the changes, both good and bad, so please drop me a line.

Those of you who were expecting to see a color issue will have to wait a bit — due to the lateness of Vol. 38(6) and the change in editorship, the Executive Council decided to hold the color pages until the next issue in order to try to get back on track. The **News** is a newsletter and *news* must be timely! I promise to have the **News** back on schedule by the 50th Anniversary Meeting...

Speaking of the Anniversary Meeting, this is the 50th year of your Society! To quote Eric Metzler, *et al.*, "Outstanding!". Those of you who've been long time members undoubtedly have special memories, photographs, favorite stories, or even embarrassing reminiscences that you're just dying to relate to your fellow members. In this anniversary year, I'm especially interested in articles which deal with the history of The Lepidopterists' Society. This anniversary volume is the perfect time for you to set pen to paper (or finger to keyboard) and remind your fellow members of who we are and where we came from.

Of course you don't have to limit yourself to historical articles. The **News** needs anything which you think may be of general interest to other members. Perhaps you have an observation or photograph which intrigues you? If it's interesting to you, the chances are that it'll be interesting to other members too! Maybe a question that you just can't seem to

find an answer to in the books and literature that you have available? Are you an artist who draws/paints/photographs our favorite insects? Have you been to any new places or have favorite sites that others might like to know about? Do you know of an upcoming meeting or event that you think other members would be interested in? Take a moment to set it down and send it in — communication is the name of the game.

If you are going to submit an item for the **News** please keep the Submission Guidelines in mind (see page 26). I plan to meet the deadlines I've set down in these guidelines so you should plan on meeting them too. The publication schedule for the remainder of this volume will be: 39(2), the Season Summary, mid-April; 39(3), the color issue, mid-June; 39(4), mid September and 39(5), mid December.

And finally, a note from Julian Donahue: This issue of the **News** is being mailed as a courtesy to all paid 1996 members, even if you have not yet paid your 1997 dues. This will be your LAST issue if you have not paid dues for 1997. Dues payments received after 15 February 1997 must include a \$5 USD late fee if you wish to receive 1997 publications that were mailed before your dues payment was received. If you receive no more publications in 1997, it is because we have not received your dues payment.

Phil

PS. Many thanks to June Preston, Stephanie McKown and Marc & Maria Minno for Editing the News in previous incarnations. You guys are a tough act to follow... Thanks also to the unknown artist who penned the logo for Editor's desk columns, past and present.

1996 Winners of the Annual Photo Contest

Jackie Miller

Moths

- 1st - Mark Schmidt — *Brahamea hearseyi* (Brahameidae)
 2nd - Andre Sourakov — Geometridae (?)
 3rd - Leroy Simon — *Epimecis matronaria* (Geometridae)

Butterflies

- 1st - Jerry McWilliams — *Chlosyne harrisii* (Nymphalidae)
 2nd - Andre Sourakov — *Charaxes eupale* (Nymphalidae)
 3rd - Andre Sourakov — *Lopinga achine* (Satyridae)

Life History

- 1st — Carter Bays — *Eacles imperialis* (Saturniidae)
 2nd — Leroy Simon — *Datana* sp. (Notodontidae)
 3rd — Carter Bays — *Actias luna* (Saturniidae)

Best in Show

Jerry McWilliams — *Chlosyne harrisii* (Nymphalidae)

Our heartiest congratulations to the above winners! The photos will be published in the next issue of the **News of the Lepidopterists' Society**.



Liquid Excretion During Puddling in *Tegosa anieta* (Nymphalididae: Melitaeinae)

Angel L. Vilorio

Museo de Biología, Facultad Experimental de Ciencias, La Universidad del Zulia., Apdo. 526, Maracaibo 4011, Zulia, Venezuela. Current address: Biogeography & Conservation Laboratory, The Natural History Museum, Cromwell Road, London SW7 5BD, England.

Key words: fluid pumping, puddling behavior, physiological ion regulation, Western Venezuela.

Tegosa anieta (Hewitson) is the most common phyciodine in Northwestern Venezuelan rainforests. The systematics and general distribution of this species are presented by Higgins (1981), and DeVries (1987) describes general habits of the adult and cites two asteraceous species as hostplants for the larvae in Costa Rica. This note documents an interesting behavioral observation of *T. anieta*, which I made as I was collecting butterflies at La Gira (550 m elevation) in the Andean foothills of the Lake Maracaibo Basin, Trujillo State, Venezuela. *T. anieta* is locally abundant at this location.

On May 29, 1993, I observed many individuals of this species in small groups (5

to 7 individuals) flying over the shrubs at the edge of a dirt road. The site, crossed by a little stream, was extremely humid at midday, due to the strong and intermittent rain in the morning, followed by intense sunshine. High levels of atmospheric humidity remained ca. 1230h. When the sky became overcast the butterflies did not exhibit their habitual vigorous flight.

They seemed to be slower than normal, perching eventually on shrub leaves or on leaf litter. On the litter, a male individual was observed resting on the same leaf for more than ten minutes, opening and closing its wings softly, and walking forward slightly at intervals. Detailed observation of this animal showed that

its proboscis was extended down to the surface of the humid leaf and it was excreting little drops of liquid through the anus while at rest (Fig. 1).

A wide variety of butterflies from most families are known to aggregate at the edge of puddles or river banks to obtain water and mineral salts by taking up liquid from the moist soil (Norris 1936, Bauer 1953, Sevastopulo 1959, 1974, Downes 1973, Boggs & Jackson 1991, Launer et al. 1993, Tyler et al. 1994). Similar behavior is exhibited at night by many moth species (Adler, 1982), but the "puddling" phenomenon, in spite of being relatively common, is rather poorly documented in the literature.

Some puddling butterflies do excrete fluid simultaneously. This had been assumed, but not absolutely proven, to serve for sodium intake and internal regulation (Poulton 1917, Arms et al. 1974, Adler & Pearson 1982, Pivnick & McNeil 1987). It was recently demonstrated that sodium uptake by puddling and pumping liquid through the anus does indeed occur in the North American notodontid moth *Gluphisia septentrionalis* Walker (Smedley & Eisner 1995, 1996). This is the only documented case which could serve to generalize a physiological trait in the Lepidoptera.

Water pumping activity has been recorded for *Lamproptera curius* (Fabricius) in Borneo (Skertchly 1889), *Protographium epidaus* (Doubleday) in Mexico (Welling 1958), *Pterourus glaucus* (Linnaeus) in North America (Reinthal 1963), *Graphium macfarlanei* (Butler) in Papua New Guinea (Jobe 1977), and *Lamproptera meges* (Zinken) in Malaysia (Krizek & Opler [1989]). It



Figure 1: Male of *Tegosa anieta* (Hewitson) excreting liquid through the anus. La Gira (550 m), Trujillo State, Venezuela; 29 May 1993, ca. 1230 h. Arrows indicate liquid drops.

has also been successfully documented on film and video for the Neotropical *Heracles thoas* (Linnaeus) and *Protophormia agestis* (Guérin & Percheron) (Banks 1996). All of these species belong to the Papilionidae, but this behaviour has also been recorded for members of the Pieridae (Layard 1883), Lycaenidae (Tutt 1897), and Hesperidae (Poulton 1917, Roever 1964, Jobe 1977, Pivnick & McNeil 1987).

Other nymphalids are known to puddle (Boggs & Jackson 1991, Launer et al. 1993), but *Tegosa anieta*, which is not known for its puddling tendencies, is possibly the first observed case of anal pumping activity in a nymphalid. This isolated event might be considered unusual, since the species has not been observed excreting liquids under other conditions. Abundant rainfall on the day of the observation may have dissolved the available salts on the soil surface and leaf litter. To obtain the sodium ions and discard the excess water the butterfly may have used some regulatory pumping mechanism.

The viscous nature of the liquid discharged by *T. anieta* (and some of the extruded fluids recorded for other liquid-pumping butterflies) suggests that it is not exclusively water but a mixture with unknown solutes. This poses some interesting questions about the physiology of puddling behavior in the Lepidoptera.

The author expresses his gratitude to R. Acosta for allowing him to partake in the field trip to La Gira during May, 1993; to E. W. Cabezas for field assistance, and to J. Moody, J. Banks, R. Lederhouse, P. Schappert and an anonymous reviewer for introducing several useful amendments to the original manuscript.

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Peter Pellet to Break Diapause in Honor of 50th Anniversary

Jackie Miller

For months there have been rumors in lepidopterological circles that Peter Pellet, the renowned editor of **Frass**, that Occasional Journal of Paralepidopterology, might possibly break diapause in 1997. We are happy to announce that it is indeed true. Peter is anxious to begin work on a new issue of **Frass** to be distributed at the 50th Anniversary Meeting.

Peter also indicated that the archival issues of **Frass** published 1973-1976 will be available.

For those unindoctrinated lepidopterists, **Frass** is a small, hopefully humorous publication that satirizes various lepidopterists, present and past — no one is exempt. This bit of whimsy also contains cartoons and new publications. One of the highlights of **Frass** includes The Bryk Bat to recognize the worst contribution to the field. Ordinarily this award is given to the worst paper or book that has appeared within the last four or five years. However, it has been 20 years since the last issue of **Frass**, and therefore Peter is anticipating numerous nominations.

Peter Pellet would like to remind you that all contributions will be anonymous or pseudonymous and that he as editor reserves the right to edit or even reject (file 13) contributions.

Please forward your contributions to Peter Pellet, c/o Drs. Jackie or Lee Miller, Allyn Museum of Entomology, 3621 Bay Shore Road, Sarasota, FL 34234 or email: JMILLER@VIRTU.SAR.USF.EDU.



Urania fulgens and other Lepidoptera migrations in Belize, Central America.

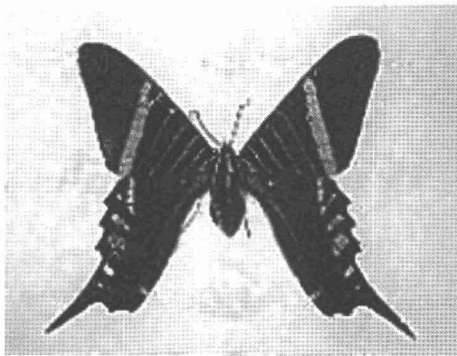
Jan C. Meerman & Tineke Boomsma

Belize Tropical Forest Studies, P.O.Box 208, Belmopan, Belize, E-mail: TFS@POBOX.COM

Urania fulgens

Urania fulgens (Uraniidae) is a day-flying moth. It is medium sized, black with metallic green bands and long tails on the hindwings. The moths are quite spectacular to see and could easily be mistaken for a swallowtail (Papilionid) butterfly. Since they are normally diurnal it is uncommon for this species to be attracted to light (Smith, 1992).

In its larval stage, this moth feeds on *Omphalea* spp. (Euphorbiaceae), none of which have been reported from Belize (Dwyer & Spellman, 1981). The moth has reproductive populations in Veracruz, Mexico, south on the Pacific side to Guatemala and El Salvador then there is a gap in distribution. Reproductive populations have again been reported from Costa Rica and Panama (Smith, 1992).



The first record we have of a *U. fulgens* from Belize originates from a single wing we picked up from the street in the center of Belize City. Our first living *U. fulgens* we saw on the early morning of August 10, 1995, at Monkey River Village in the Toledo district.

More than two weeks later, on August 26, again in Monkey River Village, 9 specimens (2m, 7f) appeared at UV lights be-

tween 2300 h and 2400 h. During the next two days 3 more moths were seen either early in the morning or late in the afternoon (Meerman, 1995). All individuals appeared to be moving in a northerly direction.

Back home at the Belize Tropical Forest Studies (BTFS) headquarters in the Cayo district, we started seeing the moths on August 28. Initially only between 1700 h. and 1800 h. On August 30, under overcast skies, the migration really picked up. There was activity all day long and all moths were flying exactly compass north.

We counted specimens over a 50 m wide transect and individual moths appeared at a rate of 1 per minute. There were no congregations. All moths flew low, hugging the ground when possible. Intensity dropped during sunny moments and increased again as soon as cloud cover returned. The moths were difficult to catch but we managed to catch 9 specimens (3m, 6f).

From August 31 to September 5 there appeared to be a strong countrywide migration. Numbers were relatively "low", and most individuals were keeping close to the ground. Their high speed and direct movement made them obvious only when crossing rivers and/or roads. We saw many specimens crossing all along the highway from San Ignacio to Belize City. We also received records from Caye Caulker (Ellen MacRae, pers. com.).

Dozens of dead specimens were found on the road. Movement was still deliberately north, only on September 1 we saw two soaring individuals. Based on our counts and on the fact that the migratory path appeared to be countrywide, it appears that anywhere between 1 and 2 million

moths a day may have passed through Belize during this period.

On September 6, the migration appeared to slow down. A few were now flying SE. Others seemed to move without any direction at all. One individual was seen puddling at the edge of a pond at BTFS. In the Cayo district, this pattern continued to September 13, but on September 10, in San Pedro, Ambergris Caye, there was a strong southward migration along the beach. Five moths passed by per minute. The direction was obvious but movements appeared less hurried than during the northward migration.

After this, observations became erratic: on September 20, two moths were seen in Belmopan flying north. On October 3, at Baccalar Chico National Park, northern Ambergris Caye, 4 individuals were seen displaying undirected, or even sedentary flight behavior. On October 18, 3 individuals were seen flying south across the Highway between Belize City and Belmopan.

From October 21 and 22 a few individuals were seen far out to sea on Light-house Reef and Turneffe Islands. One individual turned up at 2300 h on a light in a boat. The last individuals were 12 moths seen in and near Hopkins in the Stann Creek district on November 7 and 8.

All females collected on August 26 and 30 were dissected and checked for eggs. The abdomen of 6 females contained only fat and no eggs. The abdomen of the remaining 7 females contained between 5 and 80 eggs (mean = 41) varying in diameter from 0.86 mm to 1.17 mm. As far as we know this is the first record of a mass migration of this species through Belize.

We are not aware of the origin of the *U. fulgens* which passed through. Neither dare we speculate whether the southward traveling moths were the same as the ones that traveled northward earlier. For a more detailed discussion of this problem we refer readers to the paper by Smith (1992).

Papilionoidea

On August 1, 1995, a strong migration involving several butterfly species was noted all over the Stann Creek district. All butterflies were moving in a straight line in a south-southeasterly direction. In Monkey River Village, at the beach, the movement continued across the water. Fishermen reported large numbers of butterflies near the Barrier Reef, 35 km offshore. No doubt the butterflies were crossing the bay and heading for Guatemala/Honduras (100-180 km over water depending on landing site).

It is not clear how, and if the migration continued from there. According to Monkey River Village residents, this movement started in the last week of July. At the Baccalar Chico National Park, a mixed migration was noted from July 15 onwards (Auriol Samos, pers. com.). It is likely that this migration was part of the same movement.

Species involved in the migration included: *Anteos maerula* (large numbers), *Aphrissa boisduvalli* (large numbers), *Aphrissa statira* (moderate numbers), *Marpesia chiron* (low numbers), *Marpesia petreus* (low numbers), *Eunica alcmena* (low numbers), *Historis odius* (low numbers) and *Historis acheronta* (large numbers). The last four species are remarkable because they are not generally known to migrate. Williams (1930) did note that both *Historis* spp. sometimes migrate but that there was no evidence of them setting out across wide expanses of water. The current observation shows that crossing of wide expanses of water can occur after all.

Interestingly, the numbers of *H. acheronta* at BTFS had been building up to unusually high numbers just preceding this migration. After the migration, this species virtually disappeared from

my catches and numbers have remained undetectable low since. This migration continued unabated for several days but on August 11, numbers declined dramatically and on August 12 there was no longer any evidence of migration.

It is difficult to provide an estimate of the numbers of butterflies involved in this migration. Most butterflies appeared in small flocks. But, on average, on a random 50 m wide front, anywhere between 5 and 10 butterflies a minute could be seen passing. Over this same 50 m wide front, between 3,000 and 6,000 butterflies would pass daily. The migration lasted at least 11 days which suggests 33,000 - 66,000 butterflies in total. The total width of the migration path is unknown but must have been tens of kilometers wide. Anywhere between 10 and 50 million butterflies may have been on the move during this period.

Hesperidae

On July 17, 1996, we noted a regular movement of large Hesperidae along the Southern Highway between Hopkins and Dangriga in the Stann Creek district. On the beach near Hopkins, movements were erratic but clearly eastward directed and moving into the sea while the wind was coming from the NE. Since we did not have a net at hand we had difficulty obtaining specimens. Two specimens (that we peeled from the car grille), proved to be the Canna Skipper, *Calpodus ethlius*.

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Good Grief, Another Taxonomic Splinter Group!

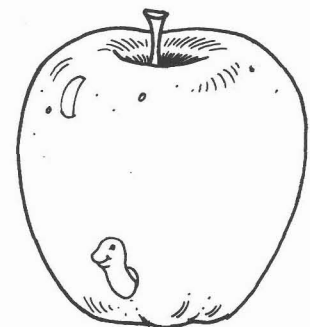
F. A. H. Sperling

This will announce the recent formation of TORTS (Troop of Reputed Tortricid Systematists), which has as primary goals the improvement of communication among persons with taxonomic expertise and interests in Tortricidae, coordination of our efforts in descriptive taxonomy, phylogenetic systematics, and biodiversity inventory. Initially, we are concerned with problems in the Nearctic and Neotropical faunas.

As a first product, we have a draft (in database form) of an updated 'Check List of Tortricidae of America North of Mexico', including published nomenclatural changes subsequent to the MONA list of 1983 (Powell in Hodges et al.) that is being circulated for comment and revisions. We expect to make this available on our Web Page when it is finalized, available for periodic updating [see PEET Project option at the Essig Museum of Entomology Web site, [HTTP://WWW.MIP.BERKELEY.EDU/ESSIG/](http://WWW.MIP.BERKELEY.EDU/ESSIG/)]

If you would like to participate in this effort, write or email for information:

J. A. Powell, Essig Museum of Entomology, 201 Wellman Hall, University of California, Berkeley, CA 94720 email: POWELLJ@NATURE.BERKELEY.EDU or F. A. H. Sperling, same address, email: SPERLING@NATURE.BERKELEY.EDU



Do "Facets" and Size Variation in Larval Stemmata of Satyrines Indicate Better Vision?

Andrei Sourakov

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Key words: evolution, larva, morphology, Satyrinae, stemmata, visual organs.

While examining larvae of several satyrine (Nymphalidae) species from West Africa, a type of facet structure was discovered on the surface of their stemmata (= simple eyes, butterfly larvae have six for each side of the head). Normally, the outer stemmatal layer is formed by lens-shaped transparent exocuticle covered by a thin layer of epicuticle. This lens serves to focus light on light-sensitive cells. It is known that caterpillars can differentiate shapes and orient towards boundaries between black and white areas (Chapman 1971).

In the case of larvae of the African genera *Ypthima* Hübner and *Bicyclus* Kirby, the stemmata appear to be larger than in most other Lepidoptera, and the transparent cuticular lens is divided into uneven parts by ridges of material homogeneous with the rest of the lens (Fig. 1). These facets are of different shapes and arrangements in different species and are not always consistent among different individuals or instars of the same species.

I offer three possible explanations for the existence of these facets: (1) the number of facets corresponds to a particular set of epidermal cells from which the cuticle of the stemmata has been secreted; (2) the ridges strengthen it mechanically (possibly a response to an increase in the size of the stemmata); and (3) the ridges break up the cuticular lens into smaller lenses that focus a mosaic image from different directional lines of sight onto the layer of sensitive cells at the bottom of the stemmata. Only the third explanation, should it prove correct, would indicate that larval visual organs in these advanced butterflies are more functional than previously thought.

The described structures might work analogously to the compound eye of an adult, which is better adapted for movement perception than for form perception. The system of small units (ommatidia) composing a compound eye pro-

vides changes in stimulation to arise when an object moves from one visual field to the next (Chapman 1971). These three explanations for the observed facet-type structure of larval stemmata, however, will remain speculation until addi-

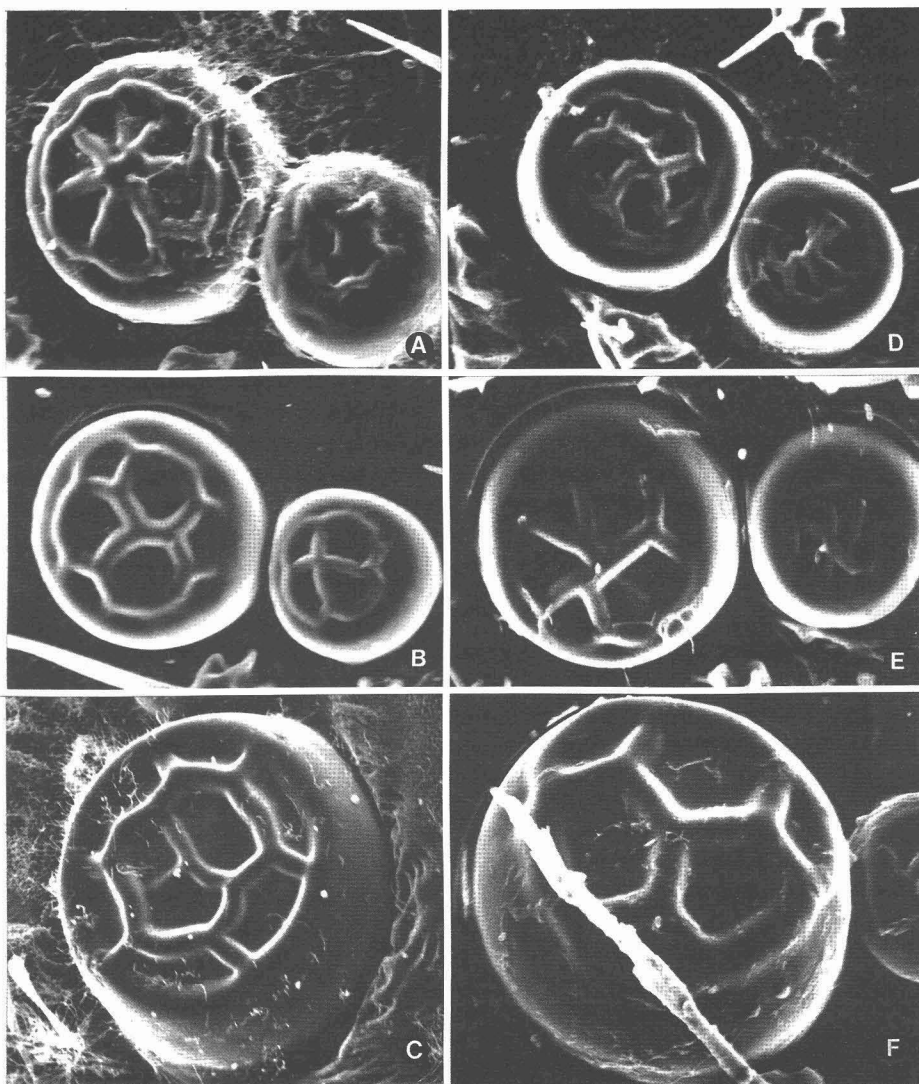


Figure 1: Faceted structure of stemmata, found in 2nd through 5th instar larvae of *Bicyclus*, *Hallelesis* and *Ypthima*: (A) *Bicyclus sanaos* (Hewitson); (B) *B. vulgaris* (Butler); (C) *B. safitza* (Westwood); (D) *Hallelesis hallyma* (Fabricius); (E) *B. sandace* (Hewitson), (F) *Ypthima doleta* Kirby; (A, B, D, E) 2nd instar, x750; (C) 5th instar, x380; (F) 4th instar, x750

tional evidence is obtained.

Indirect, secondary evidence that better vision may have evolved in larvae of the higher satyrines arises from comparison of stemmatal size in *Bicyclus* larvae with those of other satyrines including *Henotesia* Butler, *Strabena* Mabille, *Ypthima*, *Cercyonis* Scudder and *Melanitis leda* L. Satyrinae differ from other Lepidoptera by an enlarged third larval stemmata (Scott 1986; Scoble 1994).

However, stemmata of *Melanitis leda*, a species of the relatively "primitive" tribe Maelanitini, are small and equal in size, as is the condition in the Apaturinae, the subfamily of Nymphalidae most closely related to Satyrinae. In *Bicyclus*, as well as in *Hallelesis* Condamin and *Henotesia*, all of the more "advanced" tribe Mycalesini, stemmata 1, 2 and 3 show a progressive increase in size. The size increase is greatest in the most "advanced" tribe Ypthimini, characterized by *Ypthima* and *Strabena* species, and in *Cercyonis* of the tribe Maniolini. Progressive enlargement of the stemmata may be linked to general evolutionary advancement of the Satyrinae.

If further examination of this character in other Satyrinae corroborate my findings, and if the only comprehensive revision of the higher satyrine taxa (Miller 1968) remains robust, then the larger size of the third stemmata of satyrines may represent a selectively advantageous feature. The possible selective pressure for enlarged, faceted stemmata is to provide better vision for searching for food, detection of potential predators and parasitoids, and shelter from weather (for example, overwintering in a larval stage or for protected pupation sites).

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Pacific Slope Section Meeting

Pacific Slope Section, The Lepidopterists' Society, 44th Annual Meeting, June 6-8, 1997 — Meadow Valley Forest Camp, near Quincy, Plumas Co., California

Registration packets with details of the locale, costs, program, and call for participation in the program will be mailed to all members in the Pacific States and Canadian Provinces in March. If your address is outside the Pacific Slope area and you want to attend the meeting, write or email a request for information.

J. A. Powell, Essig Museum of Entomology, 201 Wellman Hall, University of California, Berkeley, CA 94720. email: POWELLJ@NATURE.BERKELEY.EDU phone: (510) 642 3207

1997 Annual Photo Contest

The Education Committee of the Lepidopterists' Society invites you to enter the Annual Photo Contest. Prizes will be awarded in three categories: (A) Butterflies, (B) Moths, and (C) Life History sequence or individual photos of larvae and pupae. The Best in Show will receive a separate award.

Entries will be judged at the Annual Meeting by a three to five member jury, and the awards will be selected on the basis of composition, balance, clarity, and compliance with the rules. The deadline for submission is 2 June 1997. For a copy of the conditions of entry, including an entry form, please contact the Education Committee, c/o Dr. J. Y. Miller, Allyn Museum of Entomology/FLMNH, 3621 Bay Shore Road, Sarasota, FL 34234.

On this 50th Anniversary of the Lepidopterists' Society, let's have a spectacular showing of photographs. Don't miss this opportunity.

New Research Facility in Belize

The Belizean research organization Belize Tropical Forest Studies has opened a new research facility in the foothills of the Maya Mountains of Belize. The facility consist of low cost lodging facilities and a rearing facility with a 1000 sq feet flight cage for manipulative experiments.

In the past Belize Tropical Forest Studies has been collecting biodiversity data on various groups of organisms but mostly Lepidoptera and Odonata. Most results have been published in specialized journals and in an internal report series. Several more papers, among which a catalogue of the Butterflies of Belize are in preparation.

Belize Tropical Forest Studies welcomes any student who wants to conduct long term field studies on Lepidoptera. Subjects can be identified by the student or be suggested by the scientific board. Research can be at any level but publication of the results should be a main objective.

For more information, write to:

Belize Tropical Forest Studies, PO. Box 208, Belmopan, Belize. e-mail: TFS@POBOX.COM

News from Europe

The 11th Congress of Societas Europaea Lepidopterologica (SEL) will be organized at Malle (close to Antwerpen-Belgium) from 22 to 26 March 1998. Details can be obtained from the Congress organizer: Dr. Ugo Dall'Asta, Royal Museum for Central Africa, B-3080 Tervuren (Belgium), Tel. +32 2 769 5373, Fax +32 2 769 5695, SELCON98@AFRICAMUSEUM.BE

SEL-members will receive a registration form in the next SEL-News issue which will be sent in the beginning of April.

Willy De Prins
WDPRINS@INNET.BE

French Guyana - without tears

Mathew J. C. Barnes

French Guyana is a country the size of Ireland with a population of less than 150,000. Politically it is a part of France, so its inhabitants enjoy the same rights and obligations as any other French citizen. It is a rarity, in consequence (so they tell me): a South American country where you can drink the water, walk the streets at night and where most things work most of the time. Living costs are relatively expensive, however; the supermarkets have every kind of imported food and drink from the 'Metropole' (mainland France). This provides for collecting in comfort, generally with minimal risk from tropical disease or banditry.



And what collecting! Commercial logging has yet to start in earnest and some 1600 species of butterflies have been recorded so far. There are 10 to 20 thousand moths species with an estimated 700 species of Arctiidae, 150 species of Saturniids and 120 species of Sphingids. A nine kilometer stretch of road on the Piste de Kaw has so far yielded 800 species of Cerambycids (Longhorn beetles), the greatest species concentration for the group anywhere. The total number of Cerambycid beetles (the only group being worked on professionally here) exceeds 1500, including the magnificent *Titanus giganteus* whose females can be up to 17 cm in length.

Now we come to the best bit. Apart from a few nature reserves there is (at present)

no requirement of any kind for insect collecting or export permits (although collection of all other wildlife is strictly regulated). It is refreshing to find a country where investigating its insect biodiversity is not hampered by red tape.

Getting around is relatively easy. The coastal strip has a paved road running west to east, with lesser roads (of varying quality) running into the edges of the 'interior' through various types of rainforest. At present it is necessary to fly to the true 'interior', however; the French Foreign Legion is driving a road through to the Brazilian border, due to be completed in 1997, which will open up more prospects for roadside collecting. The interior can also be investigated more slowly and expensively by pirogue — small, fast motorized dug-out canoes which are for hire, with 'driver', at negotiable rates.

Away from the relatively healthy coastal strip the usual tropical health precautions apply. The arachnophobe will, however, learn with horror that the Guyanas are the home of *Therophosia leblondei*, the world's largest 'Tarantula' with a leg expanse of up to 20 cm. However, judging by the heaps of their desiccated corpses being sold on the sidewalks as 'souvenirs' there won't be too many left soon...

On the advice of our local contacts, who claimed that most of the country's species could be found there, almost all of our collecting was done on the Piste de Kaw — a ridge running some 60 km east out of the capital, Cayenne. A good road running through primary rainforest makes for extremely easy collecting and is a popular site with French entomologists. A friend claims to have counted 17 mercury vapor lights in one night alone — this is real 'bug-hunter' country!

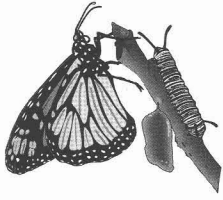
Although it is within easy driving distance of Cayenne, there are several Auberges (Inns) on the Piste itself which

make convenient bases for nighttime collecting in the heart of the rainforest. One such, Camp Patawa, was our 'home' during most of our stay. Its proprietors, Janneau Cerda and Odette Baloup are both keen amateurs, working on Arctiids and beetles respectively. As well as local advice and help with identifications (it helps to be able to speak French here) Camp Patawa also has generators, extension cables, ballasts, mercury vapor bulbs and sheets available for hire.

Basic rooms with beds are available or, cheaper and cooler still, hammocks may be slung. The food, as you would expect, is excellent. Facilities are basic (cold water communal showers situated some distance below the huts, for example) but the low prices reflect this. Electricity (from a 16 KW generator) and a radiotelephone are available. Rates are highest in the wet months of January to March, contact Camp Patawa at BP 98, 97351 Matoury, French Guyana (telephone: 594-28-03-95).

I am interested in hearing from anyone who has penetrated, or is thinking of penetrating, into this relatively easy part of South America. The best months for collecting are, of course, the wet season. Unfortunately our own visit this December/January was a little early and the full rains had not broken: we had no nights when the collecting sheet was black with moths (as I've seen in several photographs from the country). However, there were several nights when the dark bits outnumbered the clear bits! Being used to the limited Caribbean fauna, French Guyana was certainly no disappointment. My exaltation at taking 60 species of tiger moths on my first night was only slightly dampened when Janneau cast an experienced eye over my sheet and muttered "c'est rien, ça" ("that's nothing")!

continued on page 14...



Metamorphosis...

James R. Neidhoefer (1917 - 1995)

Natural history museums depend upon private sector support both in terms of dollars, and (carefully screened) donations of collections. On July 29, 1995, the Milwaukee Public Museum lost one of its most outstanding such benefactors, the internationally-recognized amateur lepidopterist, James (Jim) R. Neidhoefer. Jim died of natural causes in Phoenix, Arizona, his wife of 55 years, Elaine, and other family members at his hospital bedside.

A Milwaukee native, trained in zoology with an undergraduate degree from Marquette University, Jim had been accepted to Harvard University to pursue a Ph.D. when the death of his father called upon him to take steersage of the family's business. But his childhood ex-

periences of collecting wild silkmoth cocoons and raising these moths and area butterflies never left Jim. Throughout his successful business years in Milwaukee, and while raising eleven children (10 daughters!), Jim, with Elaine's support and encouragement, amassed over several decades a Lepidoptera collection numbering more than 95,000 specimens. In his many worldwide travels, Jim acquired through purchase, collecting, and trading, his collection of chiefly Neotropical taxa, and a fine collection of rare birdwing butterflies from the Indo-Australian archipelago. It suffices to point out that various lepidopterists who have visited the Museum to explore the collection have been impressed with some of the Neotropical taxa found in it.

Active nationally and locally in the Boy Scouts and many civic organizations, Jim became one of the founding directors of the Friends of the Milwaukee Public Museum in the early 1960s. The Friends is a nonprofit support group that raises funds for special projects and general support of the Museum's operations. Years before, Jim funded a collecting expedition for the Museum to Brazil, accompanied by the then head curator of invertebrate zoology, Kenneth MacArthur. Over the many years of his association with the Museum, it became very apparent that Jim was one of the rare individuals in society who understands the significance of natural history museums as exciting centers for scientific research, field exploration, and exhibit-based education, and gave all his passionate support to this end.

In the late 1970s, Jim donated his entire Lepidoptera collection to the Museum, along with the cabinetry to temporarily house the collection, and his extensive collection of notable, rare and historic library volumes on Lepidoptera. An especially scientifically-valuable component of the Lepidoptera collection is a portion of the Paulo Gagarin material from South America. The Gagarin portion of the donation consists of about 30,000 specimens, with strong representation of Brazilian Riodinidae, Lycaenidae, Hesperidae, and Arctiidae, collected in the 1930s - 1950s in coastal rain forest now largely extirpated. The Neidhoefer Collection also contains several hundred unusual specimens of genetic/somatic aberrations, including bilateral gynandromorphs. Jim also



James R. Neidhoefer working on his collection at the Milwaukee Public Museum in 1979.

continued on next page...

funded renovation of an expansive mezzanine area in the Museum to provide storage and work areas for the Lepidoptera program and set the stage for other major donations of Lepidoptera including the William E. Sieker sphingid collection, the Albert Schwartz collection of West Indies butterflies, etc. These donations have established the Museum as a regional center for Lepidoptera study. Prior to his donation, the Museum's Lepidoptera collection consisted of about 52,000 specimens. Today, the collection has swelled to over 250,000 specimens, with an estimated 50 percent being Neotropical Region material, and approximately 80 percent being pan-tropical in scope.

When he retired and moved to Florida in the early 1980s, Jim was appointed honorary curator of Lepidoptera by the Museum. But his move from Milwaukee in no way diminished Jim's dedication to the Museum or Lepidoptera. For many ensuing years, papered specimens from his collection were sent to Jim in the Miami area, where he and Elaine had relocated. Jim mounted the specimens in his spare time, and Allen Young, en route from fieldwork in Costa Rica, would periodically rendezvous with Jim in the Miami International Airport to bring boxes of pinned material back to the Museum.

This wonderful post-retirement rapport with Jim Neidhoefer lasted a decade, until poor health necessitated his move to Phoenix where he and Elaine remained until his death at age 78 in 1995.

Allen Young had the honor and pleasure of having Jim and Elaine's company on a field trip to Costa Rica, sponsored by Jim on behalf of the Museum, in the mid 1980s. Some of that trip's most memorable moments happened in the Sarapiquí District, northeast of the Central Valley region, and exemplify Jim's charm and exuberance for life. The trip was filled with days of baiting butterflies with rotten fruit, and nights searching around electric lights for moths and scarab beetles. One drizzly night in Puerto Viejo, we spotted a couple of the giant *Megacephala* beetles high up on a

light pole. With townspeople gathering around us, a couple of crazy gringos, Jim used his pants belt to attach a long stick to the handle of a butterfly net. He then climbed on my shoulders, his pants falling down, to make several swings at the giant beetles, everyone watching this spectacle in utter disbelief!

While the Museum and the field of Lepidoptera study has lost a great friend, supporter, and ally, Jim's legacy and spirit are alive and well with the heritage of the collection he donated to the Milwaukee Public Museum. We miss our good friend, but we celebrate his wonderful, full life, that brimmed with love of family, friends, scouts, and Lepidoptera. His contribution will live with a stamp of immortality in the form of the foundation his collection has provided for further Lepidoptera studies.

Allen M. Young and Susan S. Borkin

*Zoology Section, Milwaukee Public
Museum, 800 W. Wells Street,
Milwaukee, WI 53233 U.S.A.*

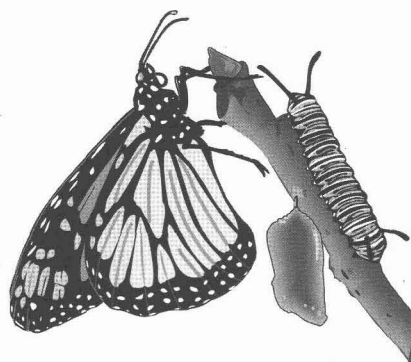
The Society has learned of the deaths of the following members. Our condolences to their families.

John Johnstone

Mr. Johnstone, of Mount Albert, Ontario, Canada, was a member of the Society from 1971 to 1982, and again from 1993 to 1996.

Clark D. Schultz

Of Oshkosh, Wisconsin, in May, 1996. Mr. Schultz had been a member of the Society since 1986.



Guyana...continued from page 12

Anyone contemplating a beginners trip to South America would probably be similarly delighted with a country where you can frequently collect 500+ species of moths before slipping off to a delightful four-course French meal with wine. The lack of bureaucracy also makes for a particularly relaxing trip where you can concentrate on the pleasures that we bug-hunters enjoy best.

I field-pinned a couple of thousand specimens of micros (especially Pyralids) and many more papered specimens are awaiting relaxation and mounting. As I work through each group looking for provisional identifications (starting with the relatively well-documented Arctiids, Saturniids, Sphingids and Pyralids) I shall be looking for help from other members more familiar with this fauna. I would be very happy to correspond with collectors interest in exchanging specimens from French Guyana and the Caribbean (legislation permitting) for identification, or for other specimens, especially from Caribbean islands that I have not yet visited.

New Journal

A new journal, "Journal of Insect Conservation" (ISSN 1366-138X, Vol. 1, 4 issues in 1997), is on its way. It will be published by Chapman and Hall. This is a peer-reviewed journal published in association with the British Butterfly Conservation Society.

Send for a free sample now.

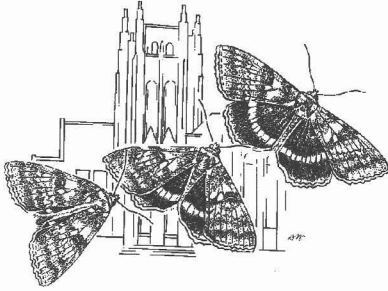
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50th Anniversary Meeting of The Lepidopterists' Society

A World Congress of Lepidopterists

9-13 July 1997, Yale University, New Haven, Connecticut, USA



The 50th Anniversary Meeting of The Lepidopterists' Society will be held 9-13 July 1997 (Wednesday through Sunday) at Yale University, in New Haven, Connecticut USA. Local hosts for the meeting include the Entomology Division of the Peabody Museum of Natural History, and the Connecticut Butterfly Association. Most of the meeting events will be held at Osborn Memorial Laboratory, which is located one block west of the Peabody Museum. Accompanying this announcement is a Registration Form and a Call for Contributed Papers, as well as notes on local travel arrangements and housing & food. Included in the registration fee is the opening reception on Wednesday evening, box lunch(es) on the day(s) you are attending, the daily paper/symposium sessions, and meeting programs & mailings. Breakfasts,

dinners, and housing are not included in the registration fee, so please be sure to sign up on the Registration Form for the Thursday evening Barbeque, Saturday evening Banquet, and housing, as desired. Forthcoming issues of both the *News* and *Journal* of The Lepidopterists' Society will continue to carry this information, as will the LEPS-L internet listserver and the Society's web site at <http://www.furman.edu/~snyder/lep>. The present meeting schedule is as follows (*NB: subject to change!!*):

Wednesday, 9 July 1997

Executive Council Meeting
Opening Reception (evening)

Thursday, 10 July 1997

Societal History/Reminiscences (Part 1)
Symposium: Systematics, The Modern Marriage of Morphology & Molecular Studies
Contributed Paper Sessions
Barbeque & Slide Festival (evening)

Friday, 11 July 1997

Symposium: Evolution of Mating Systems in the Lepidoptera
Group Photograph
Contributed Paper Sessions
Exhibits/Memorabilia, Workshops & Posters (evening)

Saturday, 12 July 1997

Symposium: Ecological Vistas from Rainforest to Tundra
Symposium: Conservation & Enjoyment of Lepidoptera
Contributed Paper Sessions
Social Hour & Banquet (evening)
Presidential Awards & Address (evening)
Door Prize Extravaganza (evening)

Sunday, 13 July 1997

Societal History/Reminiscences (Part 2)
Contributed Paper Sessions
Annual Business Meeting
NABA/Xerces Butterfly Counts & Collecting Trips

QUESTIONS: on symposium participation contact Susan Weller (Dept. Entomology, Univ. Minnesota, St. Paul, MN 55108; 612-625-6253; FAX: 612-625-5299; email: welle008@maroon.tc.umn.edu); on exhibit & workshop participation contact Charlie Covell (Dept. Biology, Univ. Louisville, Louisville, KY 40292; 502-852-6771; FAX: 502-852-0725; email: cvcove01@ulkyvm.louisville.edu); on local arrangements and registration details not answered by the accompanying pages, contact Roberta Hudson (Yale Conference Services; 203-432-0465; FAX 203-432-7345; email: roberta.hudson@yale.edu) or Larry Gall (Entomology, Peabody Museum, Yale Univ., New Haven, CT 06511; 203-432-9892; FAX 203-432-9816; email: lawrence.gall@yale.edu).

Deadline for Receipt of Submissions: 15 May 1997

CALL FOR CONTRIBUTED PAPERS

50th Anniversary Meeting of The Lepidopterists' Society

A World Congress of Lepidopterists

9-13 July 1997, Yale University, New Haven, Connecticut, USA

Name: _____ Address: _____

Phone: _____

Fax: _____

Email: _____ check if a Poster check if a Student Paper

Title:

Abstract:

Please type both title and abstract, and limit abstract to 125 words or less

Submission Guidelines (please read carefully):

- Due to anticipated heavy attendance at the meetings, only **one** Contributed Paper may be submitted per person.
- Each Contributed Paper is a **total of 15 minutes maximum**; allow 12 minutes for the talk itself, and 3 minutes for questions.
- The **deadline is 15 May 1997** for Contributed Papers; this completed form, including title and abstract, must be received by the deadline in order to guarantee inclusion in the printed meeting program.
- To expedite production of the printed meeting program, when you send back this form please also consider e-mailing an ASCII version of your title/abstract to Roberta Hudson (roberta.hudson@yale.edu) and/or Larry Gall (lawrence.gall@yale.edu).
- Contributed Papers are presently scheduled for 10-13 July 1997, with most time slots being on Thursday 10 July 1997 and Friday 11 July 1997. After 15 May 1997 we will begin confirming actual time slots for Contributed Papers with speakers.
- Both 35 mm slide and overhead transparency projectors are available for speakers. Posters will be accommodated in space adjacent to the lecture rooms. Please contact us by 15 May 1997 if you are planning to ship a Poster or have other equipment needs.
- Paper and poster sessions will be held in Osborn Laboratory, which is located one block west of the Peabody Museum.

Return Completed Forms To:

***Yale University Conference Services
246 Church Street, Suite 101
New Haven, Connecticut 06510 USA
Phone: 203-432-0465, Fax: 203-432-7345***

Deadline for Advance Registration: 1 May 1997

REGISTRATION FORM

50th Anniversary Meeting of The Lepidopterists' Society

A World Congress of Lepidopterists

9-13 July 1997, Yale University, New Haven, Connecticut, USA

Name: _____ Arriving on: _____
Phone: _____ Departing on: _____
Fax: _____ Address: _____
Email: _____
Sex: _____ Social Security #: _____

ADVANCE REGISTRATION

until 1 May 1997

LATE REGISTRATION

1 May 1997 - 16 June 1997

Regular Registration Rates

Five-Day Package: _____ persons, @ \$100/person _____ persons, @ \$140/person = \$ _____

By-The-Day Rate: _____ persons, @ \$45/person/day _____ persons, @ \$60/person/day = \$ _____

Student Registration Rates

Five-Day Package: _____ persons, @ \$75/person _____ persons, @ \$90/person = \$ _____

By-The-Day Rate: _____ persons, @ \$35/person/day _____ persons, @ \$40/person/day = \$ _____

Yale University Dorm Housing:

Persons for: _____ Wed., 9 July _____ Thu., 10 July _____ Fri., 11 July _____ Sat., 12 July

Cost for first night of housing (multiply #persons by \$30/night) = \$ _____

Cost for subsequent nights' housing (multiply #persons by \$24/night by #nights) = \$ _____

Thursday Night Barbeque _____ persons, @ \$20/person (____check if vegetarian entree desired) = \$ _____

Saturday Night Banquet _____ persons, @ \$35/person (____check if vegetarian entree desired) = \$ _____

Please make checks payable to "Yale University"

TOTAL ENCLOSED = \$ _____

- **Advance Registration lasts until 1 May 1997, and Late Registration lasts until 16 June 1997. Registration forms must be received by Yale Conference Services before 1 May 1997 in order to secure Advance Registration rates.**
- Please provide full registration information for *each* person who is planning to attend the meetings.
- Most of the meeting events will be held at or near Osborn Laboratory, which is located one block west of the Peabody Museum.
- Social Security numbers are required in order to issue pass-key cards that allow access to Yale University dormitory housing.
- Dormitory suites are sparsely furnished with a single-person bed, bureau, desk, chair and lamp, and are not air-conditioned. Individuals are assigned to single bedrooms within suites, with shared bathrooms on each floor. Floors are single sex; accommodation for married couples is limited. Linens and towels are provided at check-in. Garage parking is available locally.
- A box lunch is included as part of each day's registration fee, as is the opening reception on Wednesday evening. Breakfasts and dinners are not covered by the registration fees, so please be certain to sign up on this form if you wish to attend the Thursday barbeque and/or the Saturday banquet. Many restaurants and delis between the dorms and Osborn/Peabody offer breakfast.
- Your cancelled check is your registration confirmation. After 1 May 1997, more detailed information packets will be mailed to each paid registrant. Please contact Roberta Hudson at Conference Services (email: roberta.hudson@yale.edu) if you have questions.

Please tell us about any special needs: _____

Return Completed Forms With Payment To:

Yale University Conference Services
246 Church Street, Suite 101
New Haven, Connecticut 06510 USA
Phone: 203-432-0465, Fax: 203-432-7345

LOCAL ARRANGEMENTS

50th Anniversary Meeting of The Lepidopterists' Society

A World Congress of Lepidopterists

9-13 July 1997, Yale University, New Haven, Connecticut, USA

TRAVEL:

New Haven is located on the shoreline in south-central Connecticut, approximately 70 miles to the northeast of New York City and 30 miles southwest of Hartford, Connecticut. Direct airline service is available into Tweed New Haven airport (115 Burr Street, 203-946-8283). Often, less expensive flights can be booked into Kennedy, LaGuardia and/or Newark airports in the New York City area, and Connecticut Limousine (10 Brewery Street, 1-800-472-5466) runs regular shuttles to New Haven from all three airports. Rail service to New Haven is available via AmTrak (1-800-872-7245; from Pennsylvania Station in New York City, and elsewhere) as well as the Metro-North commuter railroad (1-800-638-7646; from Grand Central Station in New York City). All trains to/from New Haven stop at Union Station (50 Union Avenue). Yellow Cab (203-777-5555) and Metro Taxi (203-777-7777) offer taxi service, and Greyhound Bus Lines operates from Union Station (1-800-231-2222).

Directions to Peabody Museum & Osborn Laboratory: from either northbound or southbound Interstate 91, take Exit 3 (Trumbull Street), go straight (west) through the first stop light (Orange Street) and turn right (north) at the second stop light onto Whitney Avenue. The Peabody Museum is located two blocks further north at the next stop light, at 170 Whitney Avenue (203-432-5050), on the northwest corner of the intersection of Whitney Avenue and Sachem Street. The Entomology Division's phone number is 203-432-5001. Most of the meetings will take place in Osborn Laboratory, which is located one block west of the Peabody Museum, on the northeast corner of Sachem and Prospect Streets.

Directions to Phelps Gate, Yale University Dorm Check-In: from either northbound or southbound Interstate 91, take Exit 3 (Trumbull Street), go straight (west) through the first stop light (Orange Street) and turn left (south) at the fourth stop light onto Prospect Street. Continue on Prospect through two traffic lights (Prospect becomes College Street after the first traffic light); after the second traffic light, which is the intersection of College and Elm Street, you will see the New Haven Green on your left, and Phelps Gate to Old Campus is on your right about halfway along the block.

HOUSING & FOOD:

Dormitory housing is available to meeting participants on Yale's campus. The rate for the first night is \$30/person, and subsequent nights are \$24/person. The dorms are the closest housing option to both the Peabody Museum and Osborn Laboratory. Dormitory suites are sparsely furnished with a single-person bed, bureau, desk, chair and lamp, and are not air-conditioned. Individuals are assigned to single bedrooms within suites, with shared bathrooms on each floor. Floors are single sex; accommodation for married couples is limited. Linens and towels are provided at check-in time. If you are staying in the dorms, reduced-rate garage parking is available locally (ProPark, 150 York Street, 203-781-8030, presently \$6.00 per 24 hour period). Metered parking in the vicinity of Peabody and Osborn is available but can be difficult to secure. You can walk to the Peabody and Osborn in approximately 12-15 minutes from the campus dorms.

A block of rooms has also been reserved at the Holiday Inn in New Haven for meeting participants (30 Whalley Avenue, 203-777-6221). Compared to the dorms, the hotel is an additional 10 minute walk to the meeting sites. When making reservations, indicate that you are with The Lepidopterists' Society and that you wish to receive the group's rate (\$69.00/person, single or double). To reach the Holiday Inn, from I-91 take Exit 1 (from I-95 take Exit 47) onto the Route 34 connector (heading west), and exit at N. Frontage Road. Turn right (north) at the third traffic light onto Howe Street, and take it to the end. Turn left (west) onto Whalley Avenue, and the hotel will be on your left.

The Wednesday evening opening reception and box lunch(es) on the day(s) you are attending are included in the registration fee. Breakfasts and dinners are not included in the registration fee, so you should sign up on the Registration Form for the Thursday evening barbeque and Saturday night banquet, as desired. Friday is "free dinner time" to explore local eateries. Many restaurants and delis between the dorms and Osborn/Peabody offer breakfast.

Please contact Roberta Hudson at Yale Conference Services (203-432-0465, FAX 203-432-7345, email roberta.hudson@yale.edu) or Larry Gall at the Peabody Museum (203-432-9892, FAX 203-432-9816, email lawrence.gall@yale.edu) if you have other questions about local arrangements. After 1 May 1997, paid registrants will receive an additional mailing with further information on local arrangements.



The Lepidopterists' Bookshelf

Boyce A. Drummond, Editor

The Palaearctic "Elfin" Butterflies (Lycaenidae, Theclinae)

by Kurt Johnson. 1992. *Neue Entomologische Nachrichten Band 29*. 141 pp., 99 text figs., 7 maps. Softcover, ISSN 0722-3773, DM 65 (about \$42 US).

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:

Boyce Drummond,
Book Review Editor,
The Lepidopterists' Society, c/o
Natural Perspectives,
1762 Upper Twin Rock Road,
Florissant, Colorado 80816-9256

E-mail: 70413.566@COMPUSERVE.COM

Kurt Johnson has done a fine job of cataloging the diversity of the Old World Callophryine elfins. It is logical that Eumaeini originated in the New World owing to its absence from Gondwana-land-derived Africa, Australia, and Southeast Asia, and to its abundance and diversity in similar climate zones in South America. Therefore the representatives of this tribe in Eurasia must have been derived from secondary invasions from the Old World during relatively recent time. Given this fact, one would not expect to see a group of higher taxonomic level within Eumaeini to be more diverse in the Old World than in the New World. However, Johnson shows this to be the case at least in the Callophryine of this tribe. He records 34 Old World species in contrast to just 11 New World species; of the 34 Old World species, 23 are described as new, a really stunning number! There is, in Johnson's view, no doubt that the evolution of Callophryine took place in North Asia rather than North America.

The Introduction briefly reviews the historical development of research on Old World Eumaeini. The Methods section describes the morphological characters and computer software (PAUP) employed to derive the phylogeny of the group. This is followed by a

list of institutions where material is deposited, and a discussion on the format and terminology used in the species accounts.

The Taxonomic section begins with a brief overview of the taxa to be discussed, followed by generic keys based on genitalic characters. The species accounts are fairly detailed, with the following sections: diagnosis, description, biology (if applicable), types, distribution, remarks, and etymology (if applicable). After the lengthy taxonomic accounts are three additional sections. The first emphasizes the surprising diversity of Callophryine elfins in the Old World and encourages further investigations. The second introduces the regions of high endemism: Korea/trans-Baikal and "Nuclear" China (I assume this means Central and West China according to his map, whereas what Chinese consider as nuclear is generally northward and eastward to this area). The third discusses briefly "Holarctic imprint" and how this phenomenon influences systematics of elfin lycaenids.

There are two appendices. Appendix 1 includes a list of taxonomic characters useful for worldwide Callophryine elfins, a section on historical nomenclature, and a list of character polar-

ity in delineation form. A total of eight multiple state characters are utilized. It is not surprising that most of them are genitalic structures, because Callophryine elfins, as other lycaenid groups, are fairly uniform in external features. Appendix 2 includes a checklist of known Callophryine elfins of the World in table format and descriptions of two new genera of the New World. (I expect many readers will be surprised to find that most of the familiar North American elfins fall into these two genera!)

Illustrations include generalized diagrams of wings including venation and pattern, male and female genitalia with terminology of structures labeled, and drawings of genitalia for each treated species. A series of distribution maps showing ranges of each species is provided, with the last map illustrating areas of endemism. The final page of this section is a diagram illustrating the morphology of the Central American genus *Cisincisalia*, suggesting that it is the sister group of two Old World genera *Cissatsuma* and *Novosatsuma*. The genitalic drawings are fairly clear and precise, and the photographs are of good quality, especially when one considers that they were taken from very old material. The only unsatisfactory feature is the lack of a

cladogram illustrating systematic decisions in this work.

Readers who are interested in lycaenids will find Johnson's monograph useful and may become enthused to spend their energy looking at Old World ma-

terial, which has many undescribed taxa to be uncovered! The distribution and endemism maps in this work tell us where to look at first.

Yu-Feng Hsu

Division of Entomology and Plant and Soil Microbiology, Department of Environmental Science, Policy and Management, 201 Wellman Hall, University of California, Berkeley, California 94720.

R:Suomen Paivaperhoset

by Olli Marttila, Tari Haahtela, Hannu Aarnio, and Pekka Ojalainen. 1990. Kirjayhtyma, Helsinki, Finland. In Finnish with English summaries. 371 pp., 365 text figs., numerous color photographs, 26 color plates. Hardcover, 22 x 28.5 cm, ISBN 951-26-3659-X. Price unknown (about \$70 US).

The overwhelming diversity and exotic beauty of tropical butterflies frequently attracts the attention of lepidopterists from temperate areas, and distract them from making an intensive study of the butterflies native to their home. Judging from the quality of this book, however, the authors not only gave Finnish butterflies all of their attention, but apparently made their study, and the production of this book, a high priority in their lives, for the book looks like a true labor of love.

The first time I picked up this book, I immediately noticed the excellent binding, and the fact that all 371 pages were of thick glossy paper. The huge number of color illustrations also attracted my attention, so I gave this book another look, despite the unfamiliar Finnish text. After spending several weeks with this book, however, I am convinced that it is one of the finest texts on Lepidoptera that I have ever seen. The fact that I kept the book out from the library continuously for nearly a year speaks well for its attractiveness.

This book begins with a Table of Contents, Introduction, Preface, and a chapter of instructions on how to use it. I was quite relieved to see a section titled "Advice in English," which explains the layout of the book in English. The

book then goes on to describe the various butterfly habitats in Finland, and lists the butterflies that may be found in each. As with most major butterfly books, a section on butterfly biology, including life cycle information, is included. Near the beginning of the book is a section on butterfly photography, and, after the species treatments, there is a thorough section on collecting techniques and equipment. The most attractive aspect of this book, however, is its species treatments.

The Finnish butterfly fauna comprises 95 resident species, 14 of which live in Lapland in northernmost Finland. Nineteen species are occasional migrants or vagrants, giving a total of 114 butterfly species known from Finland. Each species is thoroughly discussed in terms of its biology, ecology, behavior, populations, and taxonomy. Wing span is given, usually being the mean of a sample of at least 20 males and 20 females, and bibliographical references are frequently provided. A discussion of the universal distribution of each species is coupled with a detailed map showing its distribution in Finland. Three types of shading are used on the maps (cross hatching, oblique hatching, and dots) to describe the relative abundance of each species throughout Finland.

Habitat descriptions are frequently augmented by beautiful color photographs. The annual flight period, larval hostplants, and overwintering stage are given for each species. A short but useful summary in English is provided for each species.

The exceptional photographs are the real value of this book, especially to those who don't read Finnish. Most species are illustrated by more than one color photograph of living individuals in the wild, and four separate individuals of *Limenitis populi* are pictured. These photographs are, without question, some of the finest photos of living butterflies I have seen. Some of the more impressive photos show butterflies in flight: *Pieris napi*, *Gonepteryx rhamni*, and *Limenitis populi*. Other highlights include: eight male *Plebejus argus* cramped onto one flower cluster, an *Aglais urticae* perched in a windowsill, beautiful shots of living aberrant *Brenthis ino* and *Boloria aquilonaris* and a *Colias nastes* perched on a lichen-covered rock, overlooking a massive Arctic lake, surrounded by snow-capped mountains. Many photographs include more than just a clear shot of the adult, incorporating the habitat in a way that really shows the butterfly as being conjoined to it, not just present there.



As if the beautiful photographs of live butterflies of each species in the text were not enough, 22 excellent quality color plates displaying perfect pinned specimens of each sex, dorsal and ventral (including gynandromorphs of *Gonepteryx rhamni* and *Argynnis paphia*), of each Finnish butterfly species are included at the end of the book; and, believe it or not, 4 color plates depicting excellently preserved freeze-dried larvae of almost every species are also in-

cluded! An impressive bibliography and comprehensive index complete the book. The overall layout of the book is superb.

I enthusiastically recommend this book to anybody. Not only will it be treasured by lepidopterists interested in holarctic butterflies, but also by anyone interested in butterflies in general. Because of the impressive color photographs, this book should appeal to those interested in pho-

tography, natural history, or book collecting. Although the Finnish text is a bit of an obstacle for English readers, the book can certainly be enjoyed without fully understanding what it says.

Andrew D. Warren

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0999. (Comments on this review
by Robert Dirig are gratefully
acknowledged.)*

Marvellous Moths Of Nepal

by Michael Allen (edited by Trilok Chandra Majupuria; photographs by Colin Smith). 1993. Know Nepal Series No. 6. Published by Rohit Kumar, Lashkar (Gwalior), Madhya Pradesh, India. 72 pp., 52 color plates. Softcover, 14 x 21 cm, ISBN-974-7315-46-7. \$10.00 US. (Available postpaid from Craftsman Press Company Limited, 487/42 Soi Wattanasilp, Rajprarob Road, Pratunam, Thailand.)

Here is a small regional guide to the Sphingidae, Saturniidae, and Brahmaeidae of Nepal and adjacent regions. The two-page Introduction gives the background of the author's work in Nepal and a bit on collecting moths. A map of Nepal divides this small country into five artificial regions, from west to east: Far Western, Mid-Western, Western, Central, Eastern. Overlaid on these in color are physiographic regions, traversing the country from Northeast to Southwest: High Himalaya, High Mountain, Middle Mountain, Siwalik, and Terai. Aside from the map, there is a very brief discussion on biogeography of Nepal. Allen points out that more collecting needs to be done in the Far and Mid-Western zones.

Almost all of the 119 species of sphingids and 22 species of saturniids are shown in color and there are eight photographs showing larvae in color. The latter include the best illustration of the larva of *Salassa* to have been published, the only other one known to me being on a color plate by E.

C. Cotes (1891-1893, **Indian Museum Notes** 2: 69-89, pls. 2-15). *Salassa* is a unique relict genus sharing a mixture of subfamily characters, so it has been placed in its own subfamily, the Salassinae, although Allen puts it in a new category called "subfamily Sa-lassini" (the -ini ending is used for the category of tribe, not subfamily).

The Sphingidae follow nomenclature of B. D'Abbrera's **Sphingidae Mundi** (1986). The text gives wingspan, distribution, Nepal localities, and flight times for each species. Some rare species are recorded here, as are others which are more common elsewhere but collected for the first time in Nepal. Hostplants are cited for only a few species of moths. I found misspellings in one generic name and in four species epithets.

Among the Saturniidae, I was interested by Allen's comment that he has collected many females and only one male of *Saturnia grotei*. This suggests to me that the male is probably diurnal, as

in other species of this genus in Eurasia and California. The figure legends have been reversed for *Saturnia zuleika* and *S. thibeta*. I lamented at seeing the generic name *Archaeoattacus* misspelled — another emendation for us taxonomists to list in future generic synonymies.

The book is attractive and priced reasonably. It will serve well as a regional guide to residents and visitors to Nepal. Outside of the region, only serious students of these particular moth families should consider buying a copy.

Richard S. Peigler

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Recently Published Books

Boyce A. Drummond, Editor

Butterflies Of Bulgaria, Volume 3, Nymphalidae: Apaturinae & Nymphalinae

by Stanislav Abadjiev. 1995. Published by the author. 159 pp., 32 color plates, 80 B&W genitalia figures, 16 distribution maps. Hardcover, jacket, 14 x 20.5 cm, ISBN 954-90032-1-3. \$35.00 US postpaid, from Stanislav Abadjiev, Block 415, Entrance G, Flat 80, Druzha 2, Sofia 1582, Bulgaria.

This, the third of a projected six-volume series treating the butterflies of Bulgaria, completes treatment of the Nymphalidae begun in Volume 2. It includes simple identification keys based both on the external features and the structure of genitalia. This is followed by a complete list of the Apaturinae and Nymphalinae known for Bulgaria. Important characteristics such as taxonomic status, geographic distribution, flight period and number of broods, habitat preferences, foodplants, early stages known to date, ecological preferences, and conservation are provided for each species. The 32 color plates show habitats, mounted specimens, and types. An addition to the bibliography of Bulgarian butterflies given in the first two volumes is included. The book concludes with an index of scientific names used in this volume. Although the first two volumes were published by Veren Press, the author has undertaken to publish the last four volumes of the series himself. If this volume is indicative of the quality of the remaining works, the entire series will be excellent. Future volumes are projected thus: Volume 4 will finish the taxonomic treatment by covering the Lycaenidae and Hesperidae; Volumes 5 and 6 will treat the Zoogeography of Bulgarian Butterflies and the Ecology of Bulgarian Butterflies, respectively.

Currently being reviewed for the Journal

Bombici E Sfingi D'Italia (Lepidoptera Heterocera), Volume I

by Edgardo Bertaccini, Gabriele Fiumi, & Pietro Provera. 1994. *Natura - Giuliano Russo Editore, Monterenzio, Italy*. In Italian. 248 pp., 16 color plates. Softcover, 17 x 23.5 cm. DM 65 plus DM 4 postage (about \$48 US). Available from Antiquariat Goecke & Evers, Inh. Erich Bauer, Sportsplatzwegs, D-75210 Keltern-Weiler, Federal Republic of Germany.

This attractively produced volume features 16 excellent color plates that illustrate the "Bombyces and Sphingines of Italy" at life size. The species treatments take up the bulk of the book, but there is also a systematic list, general observations, a distribution map, brief glossary, bibliography, and index.

Moths And Butterflies Of Vermont (Lepidoptera): A Faunal Checklist

compiled by J. R. Grehan, B. L. Parker, G. R. Nielsen, D. H. Miller, J. D. Hedbor, M. Sabourin, & M. S. Griggs. 1995. *Agricultural Experiment Station, University of Vermont, Department of Forests Parks and Recreation, State of Vermont, Miscellaneous Publication 116. Vermont Monitoring Cooperative Bulletin No. 1*. xi + 95 pp., 4 color plates. Softcover, 21.5 x 28 cm, no ISBN. \$8.00 (plus \$4.00 p&h). Order from John Grehan, Entomology Research Laboratory, University of Vermont, P.O. Box 53400, Burlington, VT 05405-3400, with checks payable to University of Vermont.

This publication lists over 17,000 moths, including both micro and macrolepidopteran groups, and 100 butterflies. The checklist comprises a reference for the

voucher specimen repository, source of identification, and common name. An introductory section briefly reviews the current state of knowledge of the Vermont Lepidoptera fauna with notes on species of interest. The list is supplemented by a generic index, a map of primary collecting localities, and four full-page color plates of 56 moth species of local interest.

[To be reviewed in the "NEWS"]

Die Tagfalter Der Turkei! (Butterflies Of Turkey)

by G. Hesselbarth, H. Van Oorschot, & S. Wagener. 1995. Published by Dr. P. Sigbert Wagener, Hemdener Weg 19, D-46 399 Bocholt, Germany. In German. Three volumes, 2,200 pp., 234 color plates. Hardcover, jacket, 22.5 x 30 cm. Available from Apollo Books, Kerkeby Sand 19, DK-5771 Stenstrup, Denmark (FAX: 45 62 26 37 80). \$585.00 US, postpaid.

This beautifully produced three-volume set is touted to be one of the most important works ever published on Palaearctic butterflies. The color plates are of excellent quality and depict 11,180 butterfly specimens. Distribution dot maps accompany the species and subspecies accounts.

The Butterflies Of Ireland: A Field Guide

by Norman Hickin. 1992. (Edited and with an Introduction by Tim Lavery). Roberts Rinehart Publishers, 3 Bayview Terrace, Schull, West Cork, Ireland, and P.O. Box 666, 121 Second Avenue, Niwot, Colorado 80544 USA. 222 pp., 4 color plates, over 250 drawings. Softcover, 15 x 21 cm, ISBN 1-879373-01-7. £9.99, US \$15.95.

This comprehensive field guide to Irish butterflies contains general information about butterflies and detailed descrip-

tions of every species found in Ireland. Descriptions cover the entire life cycle of all Irish butterflies and are accompanied by finely detailed drawings by the author that show egg, larva, pupa, adult, and foodplant of each species. Color plates illustrate 57 specimens.

[To be reviewed in the "Journal"]

Heliconius And Related Genera

by *Helmuth & Ruth Holzinger*. 1994. *Sciences Nat, Boite Postale 1, F-60280 Venette, Compiègne, France*. 328 pp., 51 color plates, 41 color distribution maps. Hardcover, 25 x 33 cm. 1935 francs (about \$350 US).

The passion flower butterflies of the American tropics are covered in detail and beautifully illustrated in this important book. The oversized volume (it weighs over five pounds) gives ample space to the superb illustrations, which were painted by Ruth Holzinger, who also completed the work after her husband's death in 1992.

[To be reviewed in the "Journal"]

Insect Reproduction

edited by *Simon R. Leather & Jim Hardie*. 1995. CRC Press, 2000 Corporate Blvd., NW, Boca Raton, Florida 33431-9868. 255 pp. Hardcover, 18.5 x 26 cm, ISBN 0-8493-6695-X. \$189.95 (\$228.00 outside USA).

This book, consisting of ten review chapters, surveys an interesting, but far from comprehensive, set of topics about the reproductive biology of insects. Each chapter begins with a review of the basics of its subject, but focuses mainly on advances made within the last ten years and highlights those areas in which the authors see the greatest potential for further important advances. The chapters are: (1) Oogenesis and the Female Reproductive System, (2) Insect Male Mating Systems, (3) Sex Determination in Insects, (4) Hormones and Reproduction, (5) Fatal Attraction: The Disruption of Mating and Fertilization for Insect Control, (6) Parthenogenesis in Insects

with Particular Reference to the Ecological Aspects of Cyclical Parthenogenesis in Aphids, (7) Factors Affecting Fecundity, Fertility, Oviposition, and Larviposition in Insects, (8) Protandry and Mate Acquisition, (9) Swarm-Based Mating Systems, (10) Male Nuptial Gifts: Phenotypic Consequences and Evolutionary Implications. The two chapters with the most information on Lepidoptera are by Christer Wiklund (#8) and Carol Boggs (#10), both of whom have worked extensively with butterflies. The book suffers from a lack of cross-referencing of topics among chapters and from the abominable method of citing references (by number instead of by name and date in the text and with references at the end of each chapter arranged in numerical order instead of alphabetically by author). Although many chapters contain useful information and some have stimulating ideas, few potential readers will be willing to shell out nearly \$200 (over 75 cents per page) for a book with no color plates or half-tone figures (there are a very few line drawings and graphs).

Heterocera Sumatrana, Volume 7, Fascicle 2

edited by *Wolfgang A. Nassig*. Available from *L. W. R. Kobes (Series Editor), Heterocera Sumatrana Society, Kreuzburger Strasse 6, D-(W-)3400, Gottingen, Federal Republic of Germany*. pp. 109-274, 14 color plates, numerous B&W plates and line drawings. Softcover, 17 x 24.5 cm, ISSN 0724-1348. DM 98 (about \$68 US).

This is the second fascicle in Volume 7 of **Heterocera Sumatrana** (HS), the second volume of the **Red Journal Series** of HS. These Red Journal Volumes of HS serve as a platform for publication of taxonomic work (including generic revisions) separate from the full treatment of higher taxonomic units in the Green Series. In addition, addenda and corrigenda to already published volumes, the results of studies on preimaginal and general morphology, and ecological and biological observations are included in these fascicles. The **Green Book Volumes** of HS contain faunistic treatments

on the level of complete families, subfamilies, and tribes of the Lepidoptera Heterocera fauna of the Indonesian island of Sumatra. This fascicle (7:2) contains taxonomic papers and checklists on Lymantriidae; Arctiidae; Noctuidae: Euteliinae, Chloephorinae, & Ophiderinae; Notodontidae; and Geometridae, Sterrhinae.

Insect Hormones

by *H. Frederik Nijhout*. 1994. Princeton University Press, 41 William Street, Princeton, NJ 08540. 267 pp., numerous text figures. Hardcover, jacket, 16 x 24 cm, ISBN 0-691-03466-4. \$35.00.

Here is a complete, concise, and up-to-date source for students and nonspecialists who need an overview of the dynamic and wide-ranging science of insect endocrinology. The author offers a comprehensive survey of the many roles that hormones play in the biology of insects, including control of molting, metamorphosis, reproduction, caste determination in social insects, diapause, migration, carbohydrate and lipid metabolism, diuresis, and behavior. Those familiar with Nijhout's earlier book, **The Development and Evolution of Butterfly Wing Patterns** (1991), will appreciate that many examples in **Insect Hormones** come from the Lepidoptera.

The Pyraloid Moths (Pyraloidea) Of Central Europe

by *Frantisek Slamka*. 1995. Published by *Prunella, Jarmocna 1298/16, SK-058 01 Poprad, Dr. M. Janiga, Slovakia*. In German. 12 color plates, 53 B&W plates, with text annotation. Softcover, 14.5 x 20 cm. Available from the publisher for \$20 US plus postage.

This atlas comprises the description and photographs of practically all 380 species of Superfamily Pyraloidea known or recorded from Central Europe (Germany, Austria, Poland, Czech Republic, Slovakia, and Hungary). Notes on occurrence in Romania and the western Ukraine are also included. The entry for each species includes information on the

geographical distribution of the moths, the ecology of the immature stages, and other observations. The illustrations are excellent. The B&W plates show some 900 pen-and-ink drawings and the color plates depict 569 life-size specimens of moths.

Index Of Economically Important Lepidoptera

compiled by Bin-Cheng Zhang. 1994. CAB (Centre for Agriculture and Biosciences) International, North American Office, 8454 North Park Avenue, Tucson, AZ 85719. 599 pp. Hardcover, 17.5 x 25 cm, ISBN 0-85198-903-9. \$85.00. Also available on floppy disk (3.5" or 5.25"), MS-DOS only, with access software provided; ISBN 0-0000-254-02. Price for book and disk together: \$119.00.

This book has been derived from the Arthropod Name Index (ANI) database of CAB INTERNATIONAL. In its current form the ANI database provides a checklist of about 95,000 names and synonyms, plus details of the position of each species within the hierarchy of arthropod classification. [NOTE: The entire database is available on CD-ROM as "ANI-CD;" the archival disc costs \$899, with annual updates to be had for \$215 (PC requirements are: hard disk with at least 1.5 Mb free disk space, MS-DOS version 3 or later; 500 Kb base memory for largest executable file, CD-ROM drive).] To generate this volume, information for the major Lepidoptera on common names, geographical distribution, host range and status of the recorded pest or beneficial species, has been added.

It includes records of about 6,000 species (plus another 6,000 synonyms) of harmful and beneficial Lepidoptera that have been recorded in scientific publications over the past 80 years and abstracted for inclusion in Review of Agricultural Entomology and its predecessors. Most species listed are pests as a result of their larvae feeding on plants, but beneficial species such as the silk moths and species of current or potential use in biological control as predators of mealybugs,

scale insects, and other pests and weeds, are also included. The host plants listed and information on geographical distribution nevertheless emphasize the insects' importance in crop production.

Currently being reviewed for the Journal

The Ecology Of Insect Overwintering

by Simon R. Leather, K. F. A. Walters, & J. S. Bale. 1993. Cambridge University Press, 110 Midland Avenue, Port Chester, NY 10573. x + 255 pp., 61 text figures. Hardcover, 16 x 23.5 cm, ISBN 0-521-41758-9. \$89.95.

This book provides a comprehensive account of the various forms of insect overwintering and discusses in detail the physiological, epidemiological, biochemical, and behavioral changes that are involved. Important areas of economic interest are highlighted, but the most interesting parts of the book analyze the stimuli that control diapause, the mechanisms of cold-hardiness, and the costs and benefits of overwintering.

Annual Review Of Entomology

edited by Thomas E. Mittler, F. J. Radovsky, & V. H. Resh. Volume 40, 1995; Volume 41, 1996. Annual Reviews Inc., 4139 El Camino Way, P.O. Box 10139, Palo Alto, CA 94303-0139. Hardcover, 16 x 23 cm. Vol. 40: ix + 609 pp., ISBN 0-8243-0140-4; Vol. 41: ix + 516 pp., ISBN 0-8243-0141-2. Each \$47.00 (\$52.00 outside USA).

The **Annual Review of Entomology** is a veritable gold mine of information, long exploited by academic researchers and graduate students as an excellent introduction to the literature about topics of particular interest. Most university and college libraries carry this series (and related series, such as the

Annual Review of Ecology and Systematics) and I urge all interested readers who have access to such libraries to peruse these volumes once a year. They provide up-to-date summaries on a broad range of topics that are, for the most part,

well-written and accessible to most lepidopterists. Of interest to lepidopterists in these two most recent volumes are: For 1995: "Butterfly Conservation Management" by T. R. New, R. M. Pyle, J. A. Thomas, C. D. Thomas, & P. C. Hammond; "Ecological Characters and Phylogeny" (in which cladograms of "Heliconius" proposed by various authors are compared) by J. S. Miller and J. W. Wenzel; "Biological Control of the Winter Moth" by Jens Roland & Douglas G. Embree; and "Control of Moth Pests by Mating Disruption: Successes and Constraints" by Ring T. Carde and Albert K. Minks. For 1996: "Biological Control with "Trichogramma": Advances, Successes, and Potential of Their Use" by Sandy M. Smith; "The Role of Nourishment in Oogenesis" by Diana Wheeler; and "Sexual Receptivity in Insects" by John Ringo.

Insects & Birds Symposium

To be held 3rd-5th September 1997 at the University of Reading, United Kingdom, under the auspices of the Royal Entomological Society. This is believed to be the first time a conference has focused on the manifold interactions between insects and birds. These include:

The effects of either taxon on the population dynamics of the other, and the conservation implications.

Insects as food for birds.

Anting behaviour.

Birds as food for ectoparasitic insects.

Insect pest control and birds.

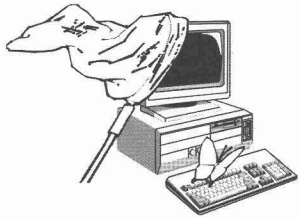
There will be papers, posters and social events. Reading is close to London and Heathrow Airport. The first circular about this conference is now available from:

Prof. H. F. van Emden, School of Plant Sciences, The University of Reading, Whiteknights, READING, Berkshire. RG6 6AS. United Kingdom.

Phone: (0)118 931 8071

Fax: (0)118 9750 630

E-mail: H.F.VANEMDEN@READING.AC.UK



Out of the Net...

by Jim Taylor

Since the last column I have discovered the **Mother of all Lep** web sites. Since I am a relative stranger to the web, I may be the only one who didn't know about it, but I'll give you the URL anyway:

[HTTP://WWW.CHEBUCO.NS.CA//ENVIRONMENT/NHR/LEPIDOPTERA.HTML](http://www.chebuc0.ns.ca/environment/nhr/lepidoptera.html)

Virtually everything on this site is clickable. From here you can go to articles on Lepidoptera and a variety of resources on entomology — University web sites, suppliers, and the like. Resources pertaining specifically to moths and butterflies are categorized into General, Various, and four geographic areas.

An article indexed here and written by Christopher Majka entitled, *Monarchs, Viceroy and Queens*, suggests the Viceroy might not be high on a bird's favored cuisine list because it is not overly palatable in its own right. In the General area, additions are being solicited to a Caterpillar Hostplant Database. Instructions are there not only on how to contribute, but also how to access the information already there.

In North America, there is a link to the University of Illinois Lepidoptera Drawings. Once there, as is the case with most of the resources, still more references are given - a dozen or so. Altogether, there are eighty-odd links to be found here, and this really means many thousands when all the sublinks and their sublinks are considered.

[HTTP://IRIS.BIOSCI.OHIO-STATE.EDU/](http://iris.biosci.ohio-state.edu/)

I found this one on my own before I ran into the Mother List discussed above. I like it principally because of the snazzy logo (a leafhopper, I think), but there are some great pictures here as well as species lists, etc. There is also a link from here to:

[HTTP://IRIS.BIOSCI.OHIO-STATE.EDU/PLUMBROOK/PLUMBROOK.HTML](http://iris.biosci.ohio-state.edu/plumbrook/plumbrook.html)

The following quote from the web site explains what is there and how it came to be:

"During the summer of 1994, Plum Brook NASA Station, located near Sandusky, Ohio, was surveyed for Lepidoptera by Todd and Mike Gilligan. A total of 52 acres were surveyed at random with three blacklight traps and a blacklight/sheet setup, at least once a week from May 7 to October 8. Over the course of the summer, 6643 specimens were collected and identified, resulting in approximately 385 different species.

These web pages illustrate the 58 different species of Olethreutinae (Tortricidae) moths identified at Plum Brook Station. Each adult is illustrated, along with the male genitalia if it is needed for identification (or if a genitalia slide was available). Information about each species is given, including distribution in the station, host plants, flight period, and taxonomic notes..."

There is an index of the 58 species illustrated, listed by MONA number. The pictures are crystal clear and beautiful. Dial them up and gawk.

[HTTP://DIALSPACE.DIAL.PIPEX.COM/MARK.DIXON/INDEX.HTM](http://dialspace.dial.pipex.com/mark.dixon/index.htm)

This is a homepage built and maintained by a Cheshire, England, gentleman whose name, I assume from the URL, is Mark Dixon. He invites you in to sign his guest book and read any or all of the several articles he has written about a variety of Lepidopteran subjects. He writes of what he has spotted in his garden, how to make a wild flower garden, his

thoughts on collecting, where breeding stock can be purchased, etc.

In his article on making a wild flower garden, he gives as his reason for having done so: "...I was tired of mowing my lawn, I had 1/2 acre - most of which was uphill..." He then follows with clear instructions for a successful garden.

Clicking on his Thoughts on Collecting article brought up "Random ramblings on this controversial subject coming soon". I thoroughly enjoyed this site and will check in on Mr. Dixon from time to time.

[HTTP://WWW.AA6G.ORG/BUTTERFLY/PNGLETTER.HTML](http://www.aa6g.org/butterfly/pngletter.html)

I suggest you go here and read just to assure yourself that there are at least as many sides to an argument as there are people in the argument. The place is Papua, New Guinea, and the controversy is the selling of tropical butterflies to collectors - in big quantities.

LEPS-L

One last one. There is a LISTSERVER devoted to Lepidoptera, and if you don't mind receiving scads of mail, I urge you to join. I caution you, however, this list is *active*; a dozen or more a day is not unusual, particularly when there is a controversy raging about something or other. You will discover that lep. folks hold strong opinions, and while they are sometimes in error, they are never in doubt. To sign up, simply address an email message to LISTSERV@YALEVM.CIS.YALE.EDU and make the body of the letter read "SUBSCRIBE LEPS-L your full name" (without the quotation marks). You will be asked for a confirmation which you must answer within 48 hours.

Happy surfing.

Jim

Membership Update...

Julian Donahue

"Lost" Member

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

Frederick C. Mosher (Chicago, IL)

Corrections And Minor Revisions To The 1996 Membership Directory

(make appropriate changes in *Alphabetical List of Members*)

Andersen, William A. (the one in Maryland): correct street name to "Melancthon"

Burns, John M.: after "Department of Entomology" add "NHB 127"

Burns, Sarah N.: after "Department of Entomology" add "NHB 127"

Carrasco Gonzalez, Manuel: change "Barraneda" to "Barrameda"

Covlin, Vernon: change street address to "43557 Cheryl Avenue"

Karime, Valerie A.: change last name to "Passoa"

Lemmon [not "Lemmont"!], **Carol R.:** correct city name to "Branford"

Lenberger, Stephen: new ZIP Code: "34108-1856"

Lent, Richard A.: correct e-mail address is: "rlent@fas.harvard.edu"

Miller, Scott E.: replace P.O. Box number with "1525 Bernice Street"

Mitchell, Andrew: change "1300 Symons Hall" to "4112 Plant Sciences Building"

Pavulaan, Harry: change ZIP Code to "20170"

Shaw, Lawrence H.: new ZIP Code: "92870"

Shepherd, Julian: change institutional name to "Binghamton University"

Showalter, Amos H.: change Rural Route No. to "5"

Simonson, Sara: change street address to "312-1/2 East Pitkin Street"

Ullrich, Richard D.: change ZIP Code

to "20120-4145"

Wagner, David L.: change ZIP Code to "06269-3043"

Zufelt, Kirk W.: change "Street" to "Avenue"; change postal code to "N6B 2V9"

New & Reinstated Members

Members who have joined/renewed/been found/or rescinded their request to be omitted since publication of the 1996 membership directory (NOT included in the 1996 Membership Directory; all in U.S.A. unless noted otherwise)

Alfonso, D.A.: 6045 Augusta National Drive #300, Orlando, FL 32822.

Allen, Melody: Executive Director, The Xerces Society, 4828 SE Hawthorne Blvd., Portland, OR 97215.

Baez, Ignacio: 39 Royal Pines Blvd., Lady's Island, Beaufort, SC 29902.

Bess, James: 13501 South 750 West, Wanatah, IN 46390.

Bills, Christy: 271 East 300 North, #3, Logan, UT 84321.

Brown, Robert: Butterfly Paradise Butterfly Farm, 19940 Adams Road, Fort Myers, FL 33908.

Bulla, Peggy S.: 713 South 4th Street, Rogers, AR 72756.

De Lafebre, Rosario (Sra.): P.O. Box 1717-384, Quito, Ecuador.

Dickinson, Daniel R.: 9922 Mercier, Kansas City, MO 64114.

Dow, Julia (Mrs.): 508 Autumn Meadows Lane, Collierville, TN 38017.

Dow, Robert: 508 Autumn Meadows Lane, Collierville, TN 38017.

Flynn, Carolyn E. (R.N.): 17 Emmet Avenue, Staten Island, NY 10306.

Fountain, T.J.: 3524 Balfour Lane, Modesto, CA 95357.

Frame, Larry C.: 7620 North 79 Plaza, Omaha, NE 68122.

Gill, Eve: P.O. Box 2406, Prescott, AZ 86302-2406.

Gill, Rob: P.O. Box 2406, Prescott, AZ 86302-2406.

Gundorov, Sergei: Plant Protection Department, Agricultural Institute, Teatralnaia Square, 410710 Saratov, Russia.

Haeger, J. Fernandez (Dr.): Division de Ecologia, Depto. de Biologia Vegetal y Ecologia, Universidad de Cordoba, Fac. Ciencias, 14004 Cordoba, Spain.

Hampton, Nancy L.: 545 East 13th Street, Idaho Falls, ID 83404.

Imai, Tetsuya: 387 Forest Avenue, Paramus, NJ 07652.

Isidorsson, Jan: Rackarbergsg. 40, 75232 Uppsala, Sweden.

Jablonski, Michael M.: 5683 Twp. 27, Jenera, OH 45841-8933.

Jones, Thaddeus Charles (Dr.): 20742 Prince Creek Drive, Katy, TX 77450.

Kopper, Brian: 203 North Juliette Avenue #1, Manhattan, KS 66502.

Kunakhovich, Kyrill M. (Mr.): 1806 Rugby Place, Charlottesville, VA 22903.

Leuschner, Jeanne: 1900 John Street, Manhattan Beach, CA 90266-2608.

Luis-Martinez, Armando: Museo de Zoologia, Facultad de Ciencias, Universidad Nacional Autonoma de Mexico, Apartado Postal 70-399, Mexico, DF 04510, Mexico.

Lutman, Richard: P.O. Box 135, Jamestown, RI 02835-0135.

Malkovsky, Robert: 872 Olentangy Road, Franklin Lakes, NJ 07417.

Marion, Jim: 3210 32nd Street, Lubbock, TX 79410.

Meyer, Gretchen: Dept. of Biology, Williams College, Williamstown, MA 01267.

Munoz Sariot, Miguel Gines: Cuesta San Antonio 29, 1-o, 18011 Granada, Spain.

Murillo Hiller, Luis Ricardo: 100 O, 600 N, 200 O, Estacion San Antonio,

Guadalupe Montelimar, Apartado 4377-1000, San Jose, Costa Rica.

Paratore, Joseph: 20643 Rose Dale Drive, Clinton Township, MI 48036.

Pautsch, Richard: 2509 Chinon, Bakersfield, CA 93311.

Pirone, Dominick J. (Ph.D.): 120 The Esplanade, Mount Vernon, NY 10553-1117.

Pultyniewicz, Alan: Lyndon State College, Box 7341, Lyndonville, VT 05851.

Quinn, Michael A.: 1708 Hunt Avenue, Donna, TX 78537-2924.

Read, Katherine: 94 Old Farms Road, Avon, CT 06001.

Rice, David: 204 Cotton Street, Itta Bena, MS 38941.

Rose, Harjinder Singh (Dr.): 4049 Phase-II, Urban Estate, Patiala, Punjab 147 002, India.

Schuetz, Robert: Poessnecker Strasse 2, D-28329 Bremen, Germany.

Shaw, David P.: 27535 SE 154th Place, Issaquah, WA 98027.

Sisk, Thomas D. (Ph.D.): Environmental Sciences, Northern Arizona University, P.O. Box 5694, Flagstaff, AZ 86011-5694.

Slayter, W.E.C.: 21 Koolbaai Villas, Cole Bay, St. Maarten, Dutch Antilles.

Smick, Jonathan B.: 2010 Lake Avenue, Scotch Plains, NJ 07076-3004.

South, Nigel: Butterfly Connections, "Caribana," Silver Street, Misterton, Somerset TA18 8NH, England.

Steffy, Gayle: 250 Stone Mill Road, #C-56, Lancaster, PA 17603.

Stoops, Craig: 2412 Ashwood Drive, Louisville, KY 40205.

Ueda, Kyoichiro (Dr.): Kitakyushu Museum & Institute of Natural History, 3-6-1 Nishihonmachi, Yahatahigashi-ku, Kitakyushu 805, Japan.

Vermillion, Kyle: The Westminster Schools, 1424 West Paces Ferry Road, N.W., Atlanta, GA 30327.

Vilorio, Angel L.: Biogeography & Conservation Laboratory, The Natural History Museum, Cromwell Road, London SW7 5BD, England.

Walker, James: 4450 Pinecrest Drive, Eugene, OR 97405.

Wallace, Jesse T.: 1636 6th Avenue SW #3, Rochester, MN 55902.

Warden, Robert Douglas: 438 Wellington, Mesquite, TX 75149.

Wilcox, Mark W.: 3 West 600 North, Kaysville, UT 84037.

Williams, Dwight: 3030 Cypress Gardens Road, Moncks Corner, SC 29461.

Winchester, William: 15723 East 136th Street North, Collinsville, OK 74021-5686.

Wood, John Walter: 1140 Ottawa Avenue, Aurora, IL 60506-3636.

Zebrowski, Michael E.: 1645 South Kilburn Road, Rochester Hills, MI 48306-3029.

Zilli, Alberto (Ph.D.): via Merulana 61/A, I-00185 Rome, ITALY.

Address Changes

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

Andersen, Marc W.: 4108 Balsam Drive, Raleigh, NC 27612.

Ballard, Edgar: 2307 Gillingham Circle, Thousand Oaks, CA 91362.

Beutelspacher, Carlos R. (Dr.): Apartado Postal No. 13, Berriozabal, Chiapas, C.P. 29130, MEXICO.

Bransky, Steven C.: 427 West Trail North, Grayslake, IL 60030.

Brinkman, Barton B.: 1741 West 104th Place, Northglenn, CO 80234-3605.

Brower, Lincoln P. (Dr.): P.O. Box BF, Sweet Briar, VA 24595.

Brown, John W. (Dr.): 4025 Goss Road, Fairfax, VA 22032.

Bruyca, Guy P.: 43146 Sampson Court, Hemet, CA 92544.

Caldas, Astrid (Dr.): 5402 Christy Drive, Bethesda, MD 20816.

Cary, Steven J.: 4 Encantado Court, Santa Fe, NM 87505.

Daniels, Jaret C.: 7953 SW 47th Court, Gainesville, FL 32608-4452.

Dohm, Michael R.: Dept. of Biology, University of California, Riverside, CA 92521.

Eberlie, W.J.D. (M.D.): 71 Pine Street North, Apt. 1, Port Hope, Ontario L1A 3G7, Canada.

Eda, Keitaro: 4-3-24-303, Kita-ando, Shizuoka 420, Japan.

Ettman, James K.: 106 Tanyard Springs Road, Morrilton, AR 72110.

Fleming, Charles G. (Dr.): P.O. Box 1455, Bellevue, WA 98009.

Grossmueller, David W.: 257 Ellis Road, Milford, NJ 08848-1566.

Hall, J.R.: 19624 68th Avenue West

#212, Lynnwood, WA 98036.

Hancock, David L.: P.O. Box 2464, Cairns, Queensland 4870, AUSTRALIA.

Harley, Robert Stephen: 323 Cove Road, Inman, SC 29349.

Heck, Mary L.: 156 Kelly Drive, Oxford, OH 45056.

Hoskin, Michael J.: 26 Colonel Wayling Blvd., Sharon, Ontario L0G 1V0, Canada.

Kamps, John: 6994 Nickerson Way, Greely, Ontario K4P 1A3, Canada.

Klopshinske, Richard L.: 101 Rainbow Drive #8395, Livingston, TX 77351.

Landry, Bernard (Ph.D.): 18, rue Washington, Aylmer, Quebec J9H 4B9, Canada.

Lequeux, Jean-Pierre: P.O. Box 7780, Kampala, Uganda.

Lyon, Stephen Maxwell: 251 West Dekalb Park #C110, King of Prussia, PA 19406.

Mate, Jason E.: c/Henares, 10, Velilla de San Antonio, 28891 Madrid, Spain.

Medina, Mirian: 2450 Ashdale Drive #215, Austin, TX 78757.

Nobles, Lori S.: Ozark Natural Science Center, Route 3, Box 183, Huntsville, AR 72740.

Okuyama, Tomio: Kita-9; 14, Pippu, Hokkaido 078-03, Japan.

Platt, Austin P. (Dr.): Dept. of Biological Sciences, UMBC, 1000 Hilltop Circle, Baltimore, MD 21250.

Rice, Riley W.: P.O. Box 99006, Emeryville, CA 94662-9006.

Riddlebarger, Joe E.: 21080 Thompson Road, Laurelville, OH 43135.

Robacker, David: 830 Moon Lake Drive North, Weslaco, TX 78596-9655.

Sage, Obie: 5500 Orr Springs Road, Ukiah, CA 95482.

Schiff, Nathan (Ph.D.): USDA Forest Service, P.O. Box 227, Stoneville, MS 38776.

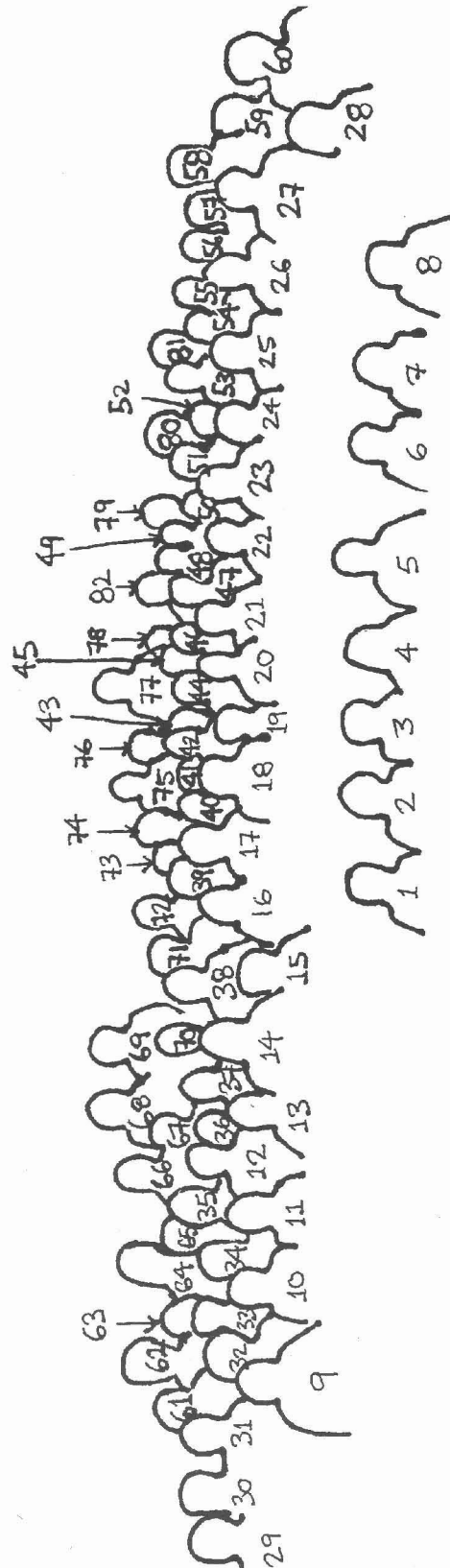
Skandar, Luis: Casilla 6639, Cochabamba, Bolivia.

Webster, Reginald P.: 24 Millstream Drive, Charters Settlement, New Brunswick E3C 1X1, Canada.

Weissmann, Michael J. (Ph.D.): Curator, Butterfly Pavilion & Insect Center, 6252 West 104th Avenue, Westminster, CO 80020.

Wickman, Per-Olof: Larsbodavagen 50, 8tr, S-12341 Farsta, Sweden.

47th Annual Meeting Group Photo Houston, Texas, June 1996



Key:

1. John Watts; 2. Sandy West; 3. David Cushing; 4. Helene Engler; 5. David Iftner; 6. Deane Bowers; 7. Nancy Greig; 8. Ron Weinberg; 9. Kathy Wildman; 10. Angela Minno; 11. Lauren Bone; 12. William Swisher; 13. Vinetta Swisher; 14. Peter Hubbell; 15. Josie Steinhauer; 16. Bob Langston; 17. Ruth Ann Peacock; 18. John Burns; 19. June Preston; 20. Elaine Hodges; 21. Ron Hodges; 22. Pat Metzler; 23. Eric Metzler; 24. Patty Leslie Pasztor; 25. Alma Solis; 26. Manuel Balcazar-Lara; 27. Charles Bordelon; 28. Virginia Rivers; 29. John Snyder; 30. Mark Minno; 31. Ivan Minno; 32. Maria Minno; 33. Sally Warren; 34. Betty Kosha; 35. Dick Holland; 36. John Peacock; 37. Joe Culin; 38. Steve Steinhauer; 39. John Peacock; 40. Sarah Burns; 41. Maria Plonczynski; 42. Floyd Preston; 43. Phil Schappert; 44. Susan Borkin; 45. Jackie Miller; 46. Charlie Covell; 47. Marcio Zikan Cardoso; 48. Ray Stanford; 49. Larry Gilbert; 50. Lee Miller; 51. Bob Spevak; 52. Beth Brinkman; 53. Bart Brinkman; 54. John Brown; 55. Fred Stehr; 56. Brian Scholtens; 57. Duncan Robertson; 58. Richard Cowan; 59. Waldemar Eikment; 60. Charlie Sassine; 61. Leroy Koehn; 62. Dan Petr; 63. Ken Bliss; 64. Andy Warren; 65. Jane Ruffin; 66. Ron Leuschner; 67. Bill Miller; 68. Carl Ek; 69. Larry Gall; 70. Denny Smith; 71. Jon Shepard; 72. Larry Sweeney; 73. Reed Watkins; 74. Bob Robbins; 75. Astrid Caldas; 76. Dale Habeck; 77. Jack Prentiss; 78. Paul Opler; 79. Mike Gilligan; 80. Jim Popelka; 81. Jim Taylor; 82. Mike Smith.

The Marketplace

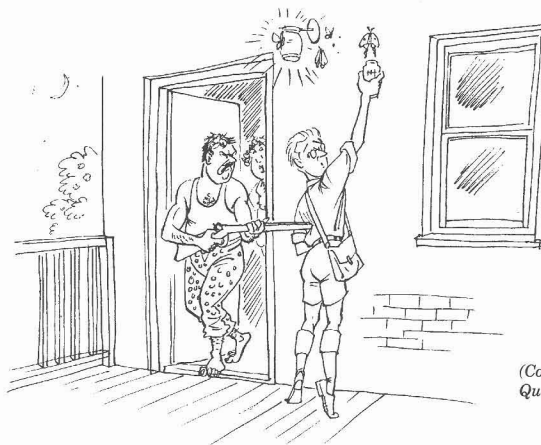
Offered: Papilionidae, *Charaxes*, *Euphaedra*, *Cymothoe*, etc. from the Republic of Central Africa and Burundi. **Wanted:** *Charaxes* from east Africa and the South African Republic, as well as *Charaxes* and *Polyura* from the Philippines and Indonesia (exchange or purchase). Giancarlo Veronese, Viale Venezia n. 138, I-33100 Udine (Italy). Tel. 0432-232754. 391

Cocoons of 1st generation *Actias luna*, *Antheraea polyphemus*, *Callosamia promethea*, *C. angulifera*, *Samia cynthia* and *S. ricini*. Additional species may also be available. Please send S.A.S.E. for price list, or call 908-439-2462 to reserve. Will buy or exchange in small quantities. Some wintered cocoons still available. Don Oehlke, c/o Post Office, Pottersville, NJ 07979. 391

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Your Ad Here
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Editorial Note:

Due to circumstances beyond our control, the marketplace is severely curtailed this issue. You may be sure, however, that the marketplace will be back in full force by the next issue. Please make note of changes in advertising policy (see the grey box below). Due to these changes ALL existing advertisements must be placed, in writing (by mail, fax or e-mail), with the new editor. Thereafter, ad. renewals may be made by telephone, fax, surface mail or e-mail, but the initial placement must be in writing. Changes in ad. copy will also require written authorization from the member.



(Courtesy of Quimby Hess)

The Hazards of Night Collecting: Many a fine specimen of moth has been collected at the common porch light. The experienced collector, however, wisely sticks to his own porch...

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 lepidoptology...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 notice in the **News** of any species on any federal threatened or endangered species list. For species listed under CITES, advertisers must provide a copy of the export permit from the country of origin to buyers. **Buyers must beware and be aware.**

Only members in good standing may place ads. All advertisements are accepted for two (2) is-

suues only 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. Ag-

grieved 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 PPQAPHUS, 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.

Membership

The Lepidopterist's Society is open to membership from anyone interested in any aspect of lepidopterology. The only criteria 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:

Ron Leuschner, Assistant Treasurer,
The Lepidopterists' Society,
1900 John Street,
Manhattan Beach, CA 90266-2608.

Dues Rate

| | |
|----------------------------|----------|
| Active (regular) | \$ 35.00 |
| Affiliate | 5.00 |
| Student | 15.00 |
| Sustaining | 50.00 |
| Contributor | 100.00 |
| Institutional Subscription | 50.00 |
| Air Mail Postage for News | 15.00 |

Students must send proof of enrollment. Remittances must be in U.S. dollars, payable to "The Lepidopterists' Society". All members receive the *Journal* (published quarterly) and the *News* (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:

Michael J. Smith, Secretary,
The Lepidopterists' Society,
1608 Presidio Way,
Roseville, CA 95661

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.

Our Mailing List?

Contact Dr. Donahue for information on mailing list rental.

Missed or Defective Issue?

Requests for missed issues should be directed toward Assistant Treasurer, Ron Leuschner. Defective issues will also be replaced. Please don't ask the editor, because I don't keep extra copies of the *News* and be certain that you've really missed an issue by waiting for a subsequent issue to arrive, as publication may only be delayed.

Journal of the Lepidopterists' Society

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

Dr. Lawrence Gall, Editor
Journal of the Lepidopterists' Society
Computer Systems Office,
Peabody Museum of Natural History,
Yale University,
New Haven, CT 06511-8161
phone (203)454-4612,
Systems Office voice: (203)432-9892,
FAX: (203)432-9816
E-mail: LAWRENCE.GALL@YALE.EDU

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

Book Reviews

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

Dr. Boyce A. Drummond,
Book Review Editor,
The Lepidopterists' Society
c/o Natural Perspectives
1762 Upper Twin Rock Road
Florissant, Colorado 80816-9256
E-mail: 70413.566@COMPUSERVE.COM



Submission Guidelines for the News

Submissions are always welcome! When space becomes limiting, preference is given to articles written for a non-technical but knowledgeable 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. Article on high-density, DOS- or MAC-formatted, floppy diskette 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).
2. Electronically transmitted file in ASCII or other acceptable form *via* e-mail.
3. Typewritten copy, double-spaced suitable for scanning and optical character recognition. Articles may also be faxed directly to my computer for OCR but you must call first so that I can set up for reception of your fax. Artwork should be line drawings in pen and ink or good, clean photocopies suitable for scanning.
4. Handwritten or printed (very legible, short pieces only please, <500 words).

Submission Deadlines

Mail disks and illustrations to the *News* Editor. Material for Volume 39 must reach the Editor by the following dates:

| Issue | Date Due |
|------------------|-------------|
| 1 Spring | too late... |
| 2 Season Summary | December 15 |
| 3 Summer | May 15 |
| 4 Autumn | August 15 |
| 5 Winter | November 15 |

Reports for the Season Summary must reach the Zone Coordinator by Dec. 15. See next page for more information.

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Refer to Season Summary for
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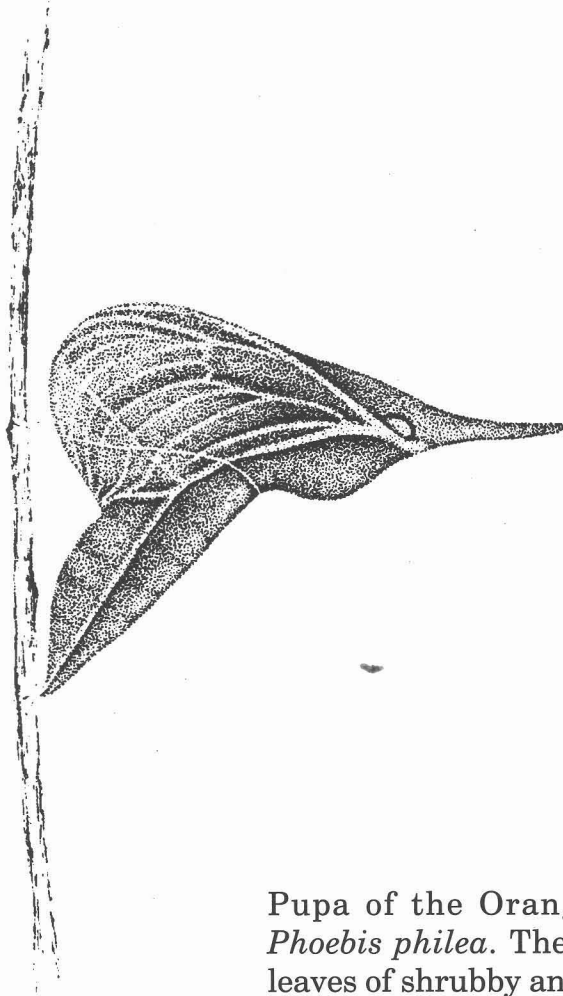
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Pupa of the Orange-barred Sulphur, *Phoebis philea*. The caterpillar eats the leaves of shrubby and arborescent *Cassia* species. Drawing by Jaret Daniels.
