

Odd Couplings: tails of moth rearing

Update on the Publications of B.P. Clark

887 1981

Lepidoptera of Kulja and Surrounding Mountains, Part I

...and more!

est 1941



The Lepidopterists' Society is a nonprofit 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.)

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Cover: One of the oldest citations of Saturniid larvae using Sweetgum (Liquidambar styraciflua) also depicts the life history of Actias luna. From: J. E.

Smith, 1797. The natural history of the rarer lepidopterous insects of Georgia, collected from the observations of John Abbot, with the plants on which they feed. See the article by Valerie A. Passoa on pp. 42 of this issue.



Mailbag...

Dear Editor,

I have a suggestion for a new column in the **News**. It is very hard to keep abreast of the constant revisions and changes in taxonomy. My suggestion is to create a column in the **News** that will keep members advised and up to date about these changes in order to alleviate confusion about proper nomenclature.

There have been numerous changes since Hodges (1983), not to mention the addition of new species. Rather than wait for an update every 10 years or so, this column could make the changes available on a regular and timely basis. I think that a column such as this would be quite worthwhile to most of us and most "newsworthy".

Now, can we find a volunteer capable, and willing, to undertake this task?

Name Withheld by Request

(Well? Any volunteers? This sounds like a worthwhile idea to me - Ed.)

Dear Editor,

Just a short note to let you know that I have changed my address. Please let your members know that, unfortunately, the "Buckeye Trio" painting (see **News** 40(1), pp. 29) has been sold but if they would like to contact me about my work or future paintings, they should write to me at RHJOHN@HOTMAIL.COM or the address below.

Rosemary John

947 Louray Drive, Baton Rouge, LA 70808

(Ed. note: Artist Rosemary John has generously donated images of her works for recent issues of the **News**. She has closed her PO Box and resigned her position at Louisiana State University to devote more time to her paintings. And, regarding the Buckeye painting – you snooze, you lose!)



Dear Editor,

Charles Bordelon's recent letter to the Editor (**News** 39(4), pp. 69) criticized News editing by your predecessors as lacking in a "conscientious and responsible" approach, thus contributing to "division and dissension these last few years" in the Lepidopterists' Society. He further suggests that this might lead us to "lose valuable members because of political rhetoric" characterized by "hatred".

Regrettably, Mr. Bordelon has apparently mistaken indignation for hatred, and his distaste for politics and political rhetoric may perhaps reflect a failure to comprehend that the broad scope and strict enforcement of wildlife law (and bureaucratic over-regulation) has irreversibly politicized the study of lepidopterology. Stated plainly, amateur and professional entomologists alike are confronted by the continuing erosion of their freedom to conduct the activities that are necessary for the formation and study of insect collections. Regulatory obstacles are effectively preventing the possession of, or routine traffic in, dead insect specimens of little or no commercial or conservation significance, and public and private entities increasingly sequester prime insect habitat which are then declared off-limits for collecting. This situation was addressed by Professor Stehr in his excellent, timely, and welcome open letter to the Chief of the U.S. Forest Service (see News 39(5), pp. 95).

I would suggest that the open-minded, courageous (and long-overdue) publica-

tion of the recent collecting debate in the **News** represented principled editorial leadership and conscientious and responsible judgment of a high order.

J. Benjamin Ziegler

64 Canoe Brook Parkway, Summit, NJ 07901-1434



Dear Editor,

Thanks for publishing my "racy" note! Here is the picture that goes with it (or maybe it doesn't)...



It was taken at Rattlesnake Springs Picnic Area, Carlsbad Caverns N. P., ca. 1987, of my son, Eric Caprisecca.

> Richard Holland 1625 Roma NE, Albuquerque, NM 87106

Presidential Profile: Jim Tuttle

Jim Tuttle

P.O. Box 66033, Tucson, AZ 85728, JTUTTLE@FIA.NET

As a child I was always interested in nature and spent many hours watching birds or turning over rocks to see what "critters" were hiding under them. It wasn't until an insect collection was required for an eighth grade science class that my interest was focused on Lepidoptera. Since that time my consciousness has gone through an evolutionary process that continues to this day. In my late teens I took the first step toward formalizing a casual hobby into a full fledged avocation...I joined The Lepidopterists' Society.

I was overwhelmed, and admittedly intimidated, by the application of scientific method. However, I was challenged by the process and excited about the prospect of learning things that no one else had ever reported. Since that time I have published several articles and coauthored a book with two of my friends. Yet even now, I find my interest in Lepidoptera coming full circle, and thankfully I have never lost the thrill brought about by the simple act of being in the field.

I was born in Toledo, Ohio, and went through my first five instars in Monroe, Michigan. I joined The Lepidopterists' Society in 1968, and was immediately struck by the fellowship within the society. Upon graduating from Monroe High School in 1968 I embarked upon the long process (at least for me) of getting a college degree. I attended Eastern Michigan University, University of Louisville, and Eastern Michigan University once again before I took a leave of absence to get a job and raise a family. While that initial volley of college classes was not a major success, it did allow me to work with Charlie Covell, Jr. and refine my understanding of scientific method and bring organization to my field methods. During this time I began attending annual meetings whenever possible and my ap-



Peg & Jim Tuttle at Point Pelee National Park (Ontario, Canada) for the Monarch migration in September, 1997.

petite for participation was forever changed. I decided to complete my college degree, and I graduated from Wayne State University in Detroit with a B.Sc. in Criminal Justice in 1991. Undeterred by the fact that it took me 23 years to get an undergraduate degree, I set out to get an advanced degree. In 1995 I received an M.A. in Public Administration from Central Michigan University in Mt. Pleasant. During all of this time my three children from a previous marriage, Keli, Ryan, and Adam, were growing into responsible adults. My wife, Margaret (most of you know her as Peg), and I were married in 1984 and began a partnership in exploring life.

On a professional level I joined the Michigan State Police in 1972 and served as a trooper; you know, the bad guy that stops you when you weren't really speeding and the good guy that speeds to your house when it has been burglarized. In 1978 I was promoted to Detective/Sergeant and spent most of the next three years investigating homicides and other major cases. It was during this time, while on an undercover assignment, that I met Margaret. In 1981 I was promoted to Lieutenant and spent most of the rest of my career in undercover drug enforcement. I lectured nationally on major case investigation, served as a consultant to the International Association of Chiefs of Police on training issues, and in 1994 was selected as the Executive Fellow to the FBI. During the six month assignment at FBI Headquarters in Washington, DC, I traveled around the country evaluating FBI task force operations. Never missing an entomological opportunity, my spare time was well used in rummaging through the Smith-sonian collection and rare entomological works at the Library of Congress.

Perhaps the single biggest entomological event for me was presenting my first paper at the Annual Meeting in Champaign-Urbana, Illinois in the mid-1980s. Since that time I have attended every annual meeting, accompanied to most of them by my wife. My primary interests are the biology and ecology of moths. In 1996, Cornell University Press published The Wild Silk Moths of North America. The book was a 13-year effort on the part of Paul Tuskes, Michael Collins, and myself (luckily we did not charge by the hour!). I am proud to say that my wife drew the line drawings for the book. At the present time I am working on a companion book on the Sphingidae of the U.S. and Canada. I served as Treasurer from 1987-1990 and Editor of the Season Summary beginning in 1994. Since that time we have computerized the data and should have the database on-line for searches through the Lepidopterists' Society internet homepage by the summer of 1998.

I want to thank the society membership for the opportunity to further repay my debt of gratitude for all of the pleasure that the society has brought to me over the years. I will do my best to follow in the fine tradition set forth by previous Presidents.

California County Moth List

Kelly Richers

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I am assembling a list of the occurrence of moths by county for the state of California. The goal is to identify at least one legitimately identified specimen from each county where the location of that specimen can be tracked down by researchers. As one might imagine, this is a long-term project that will need the input of dozens if not hundreds of people to succeed.

This project was started in January of 1997, and the first 3000 entries were in place for the Pacific Slope meeting in the summer of 1997 in Plumas County, California. At that time a paper was presented and many useful suggestions as to format and categories of desired information were made and incorporated into the list. Several Lepidopterists' Society members have sent significant lists of their records that have been added since that time, and the MONA fascicles and articles in both the Lepidopterists' Society publications as well as other publications have been added. The hard copy list now has 6000 entries. Hopefully the list will be at 9000 entries by the Pacific Slope meeting near the end of June 1998.

I anticipate publishing hard copies of the computerized list every 3000 additional entries, until some sort of plateau is reached. I invite responsible collectors to submit California records of moths to add to the list. The entry of the material in the list takes the following annotated form (columns from left to right):

MONA Number, if possible or designation to the nearest MONA number to which species has been identified; **Genus**; **Species** and subspecies if designated; **Sex** if known in description of specimen; **Location** of where the specimen was caught to the clearest description possible using common terms if possible; **Elevation** in feet (hey, I'm old fashioned); **County** of capture; **State** (all will be CA); **Date** of capture as specific as known for the individual specimen entered (please put month in 3 letter abbreviation if possible, with day and year); Collector which will be first initials at least and last name of collector or collectors; Notes such as larva collected. emergence date, at u.v. or m.v. light, diurnal, in literature, at house light, etc.; Location of Specimen such as the museum or collection where the specimen can be found; Describer of species, needed if described after MONA list was published; and Specimen Identified by which is the person who identified the specimen.

Any submissions should include as much of the above as possible. The list at the next produced hard copy level will be sent free to anyone contributing a significant number of entries. Copies of the list are available at the 6000 entry level for \$6.00 to cover cost of copying and postage. Portions of the list for specific areas of interest are available also. It is currently divided into MONA ascending number order divided into micro moths before Pyralidae: micro moths including and after Pyralidae; Geometridae to the green geometrids; geometrids including and above the green geometrids; Bombycoidea and Sphingidae moths; Noctuoidea to and including the Annaphila and noctuids from Cuculliinae above. The list is also available sorted by any word in any category. The most useful, of course, is a county list for a specific county. These will be produced on an "as requested" basis. The list is currently maintained on Microsoft Works. Please send \$3.00 for any county list to cover costs of copying and mailing.

Please join this effort to improve our knowledge of the distribution and occurrence of California moths.

Announcement

20 Years of Butterfly Revelations

Henry Swanson has written his second book about the Red Admiral, titled, 20 Years of Butterfly Revelations (his first book was Butterfly Revelations). There are no nectar or host plants to attract butterflies, yet he has recorded 4,406 daily visits by these butterflies in over 5,000 days at his Winter Park, Florida, backvard. A retired Extension Service Director for the Orange County Agriculture Center, holding appointments with the USDA, University of Florida and Board of County Commissions, Henry thinks of his hobby as a spiritual experience. In his own words: "Some people see Burning Bushes, I have my butterflies". It all started when a butterfly landed on the head of Henry's grandson, while they were in his backyard in 1976. Henry has been a member of the Lepidopterists' Society since 1993.

All proceeds from the book sales are earmarked for the First Presbyterian Church of Orlando's "Ministerial Scholarship Fund". For \$7.00 per copy, you may pick up your copy in the church courtyard or have one mailed by sending \$10.00 payable to the First Presbyterian Church, Attention: Butterfly Book, 106 East Church Street, Orlando, FL 32801

Moved? New E-mail Address? New Phone or Fax? Is Your List of Interests Current? Revise your Membership Directory Listing NOW!

The deadline for receipt of revisions for the 1998 Membership Directory is Friday, 16 October 1998. Mail them to Julian P. Donahue, Assistant Secretary, Natural History Museum, 900 Exposition Blvd., Los Angeles, CA 90007-4057; FAX to (213) 746-2999; e-mail to DONAHUE@CAROLI.USC.EDU; telephone to (home) (213) 227-1285.

The Value of Sweetgum (*Liquidambar styraciflua*) as a Larval Foodplant for Saturniidae

Valerie A. Passoa

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Sweetgum is a member of the witch-hazel family (Hamamelidaceae). Of the four or five species known, only Liquidambar styraciflua L. is found in North and Central America (Elias 1989). This large forest tree ranges northward into southern Ohio and southern Indiana, westward into eastern Oklahoma and eastern Texas and south to the mountains of Mexico and Central America (Braun 1989). It is also a commonly planted ornamental on the western coast of the United States (Collins pers. comm.). Sweetgum is characterized by a starshaped, finely-toothed leaf usually composed of five to seven lobes. Leaves are strongly aromatic due to the presence of essential oils (Wylie & Brophy 1989). Corky ridges on the twigs are another characteristic feature of this tree. The brown and spiny fruit is round, approximately 3 - 4 cm in diameter.

Sweetgum is an important foodplant for some saturniids in captivity and under natural conditions. The author has observed *Callosamia promethea* (Drury), *Citheronia regalis* (F.), and *Eacles imperialis* (Drury) eating sweetgum in the field in Texas. *Actias luna* (L.), *C. promethea*, and *C. regalis* are reported on sweetgum in Ohio as well. These field observations were independently confirmed by Tuskes et al. (1996) for *A. luna*, *C. regalis*, and *E. imperialis*.

Conlan (pers. comm.) reports that the larvae of many genera accept sweetgum under laboratory conditions. Examples include: Argema, Automeris, Caligula, Copaxa, Eupackardia, Hyalophora, Periphoba, Rothschildia, and Saturnia. Conlan (pers. comm.) further proposes that Dirphia, Hylesia, and Pseudautomeris may accept sweetgum in captivity as well. Larvae of the genera Antheraea (Soukup pers. comm.) and Graëllsia (Nässig 1991) have also consumed sweetgum in captivity.

Some authors do not distinguish between field and laboratory records in their publications. This is especially true of the compilations by Stone (1991) and Tietz (1972). Nonetheless, inclusion of their data supports the hypothesis that sweetgum is readily accepted by a vast array of saturniid taxa. They list the following taxa: Actias (Stone 1991, Tietz 1972), Antherina (Stone 1991), Argema (Stone 1991), Callosamia (Stone 1991, Tietz 1972), Citheronia (Stone 1991, Tietz 1972), Eacles (Stone 1991, Tietz Hyalophora (Stone 1991), 1972), Lemaireia (Stone 1991), Opodiphthera (Stone 1991), Polythysana (Stone 1991), and Samia (Stone 1991, Tietz 1972).

The above examples illustrate the generic diversity of saturniids that will accept sweetgum. It should be noted that some genera (*Callosamia*, *Citheronia*, and *Hyalophora*) contain monophagous species that would not survive on this foodplant. In addition, other species demonstrate regional foodplant preferences and may not accept sweetgum throughout their range. To evaluate the saturniid-sweetgum interaction on the species level, consult the references cited above.

In spite of the extensive literature on saturniids utilizing sweetgum, most rearers are not aware of the many advantages this plant has to offer their livestock. Sweetgum produces leaves that are four to seven inches wide and almost as long. This large leaf provides ample food for mature larvae. The glabrous leaves allow neonate larvae to easily reach the surface of the leaf where mandibles can initiate feeding. Lack of hair increases larval mobility (Young 1997) and allows access to suitable resting sites. Cut sweetgum is long-lasting in water, unlike black walnut (Juglans nigra) for instance, which desiccates rapidly in water. For this reason, A. luna larvae require sleeving on all their foodplants except sweetgum (Tuskes et al. 1996:184). Sweetgum leaves will retain their viability for up to a week at room temperature. When refrigerated, leaf-life may be extended several more weeks. This feature is a tremendous boon to the rearer. Wilting sweetgum foliage provides a visual cue to the rearer that fresh leaves are required. This process is not evident in two common saturniid foodplants, namely oak (Quercus spp.) and cherry (Prunus spp.), neither of which display visual signs of wilting. Instead, the foliage slowly dries-out, rendering them unfit for larval consumption.

Throughout its range, it is not difficult to collect sweetgum leaves in good condition. In the southern and western parts of the United States, foliage is available approximately eight months of the year. Although various diseases including leaf spot, several species of scale, and iron chlorosis are reported, sweetgum is a favored lawn, park, or street tree due to its brilliant yellow-purple-red tones in the autumn (Dirr 1990).

The value of a lepidopteran foodplant to a breeder depends on practical considerations (how fast does the plant wilt, etc.), the availability of proper resting sites for the caterpillar (morphological defenses), and the host's nutritional content (water and secondary plant chemistry). Sweetgum has a water content of 60% and a nitrogen dry weight of 1.39%. This is intermediate between extremes of 51-68% water content and 1-3.6% nitrogen dry weight in ten common northeastern United States trees (Scriber & Feeny 1979). Laboratory studies with two families of moths (Lymantriidae and Saturniidae) suggest that sweetgum is nutritionally comparable to most other trees. Except for last instar larvae near pupation, gypsy moth (Lymantria dispar) larvae prefer sweetgum to loblolly pine (Pinus taeda) (Strom & Hain 1996). Gypsy moth larvae reared solely on sweetgum had higher pupal weights, higher fecundity, and shorter developmental times compared to those larvae reared on oaks (Quercus spp.), pines (Pinus spp.), red maple (Acer rubrum), or synthetic diet (Barbosa et al. 1983).

In Saturniidae, Nässig and Peigler (1984) reported that *Actias maenas* Doubleday preferred sweetgum and sumac to other plants. Early and late instar sweetgumreared *C. regalis* showed an intermediate growth rate between persimmon (best) and sumac (worst) (Worth, et al. 1979, 1982). Last instar *C. regalis* and *A. luna* reared on sweetgum and black walnut had approximately equal relative growth rates and developmental times, even though nitrogen was accumulated faster in black walnut (Scriber & Feeny 1979).

According to Peigler (1986), sweetgum belongs to a group of trees characterized by copious resin production, which has been independently colonized by saturniids, sphingids, and euteliine noctuids. The phytochemical basis for acceptance of sweetgum in captivity by a wide array of saturniids has not been investigated. Nevertheless, sweetgum is an especially desirable addition to saturniid rearing programs, and has often been neglected.

Acknowledgements

Many thanks to May R. Berenbaum, Robert J. Marquis, Richard S. Peigler, and Frank Slansky for providing helpful reference material. Christopher A. Conlan generously provided foodplant records. Michael E. Soukup provided the *Antheraea* record. I am indebted to Michael M. Collins, Christopher A. Conlan, Wolfgang A. Nässig, Richard S. Peigler, Frank Slansky, and Robert E. Weast for reviewing the manuscript. Special thanks to Steven C. Passoa for his encouragement and guidance.

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Announcement

The Butterflies of Canada

by Ross A. Layberry, Peter W. Hall and J. Donald Lafontaine. Specimen plates by John T. Fowler. $354 \text{ pp}, 8^{1/2} \times 11, 32 \text{ pp}$. of color plates, 294 maps. 1998. University of Toronto Press, 5201 DufferinStreet, North York, Ontario, M3H 5T8, Canada. Send US orders to: University of Toronto Press, 250 Sonwil Drive, Buffalo, NY 14225, USA.Cloth: ISBN 0-8020-0898-4, \$100 + \$4 S&H;Paper: ISBN 0-8020-7881-8, \$29.95 + \$4 S&H.(Note: Outside Canada prices are in US dollars drawn through a US bank. Overseas S&H is \$5. Canadian Customers pay GST and New York State customers pay sales tax).



The Butterflies of Canada is the first comprehensive guide available for Canada and contains descriptions of close to three hundred butterfly species, including their early stages, subspecies, list of key features, and an individual distribution map for each species.

More than a field guide, it includes chapters on butterfly gardening, photography, conservation, collecting, and the history of butterfly study in Canada. It makes available new and unpublished information on butterflies, their ranges, larval food plants, abundance, flight seasons, and noteworthy habits. There is also an extensive bibliography to provide a starting point for further study.

This book is indispensable for anyone interested in or working with butterflies.

It's never too late...

Collecting Lepidoptera in Sonora and Sinaloa, Mexico, 26-31 December, 1954.

My father, Dwight E. Stanford (DES), my late uncle, J. Van Fleet Stanford, and I drove from San Diego, CA to Guadalajara, Mexico, and back between the 25th of December 1954 and the 1st of January 1955. The Mexican west coast highway had just been completed, from Guaymas to Mazatlan, so it was perhaps less of an adventure than it would have been in earlier years! Being only 15 years of age at the time, I did very little of the driving! I wrote up our experience as an English class term paper the next semester, and the scientific findings for a biology class and for the Lepidopterists' Society season summary. Unfortunately, I do not have copies of either the biology class report or my contribution to the 1954 season summary, but the following itinerary and list is re-created from notes on my photographs, material now in the collection of the SDNHM and my English

class paper. It is difficult for me to accept the fact that these events occurred over 43 years ago!

The following dates, except for the first and last, are approximate.

25 Dec 1954: San Diego to Arizona, where we camped out under the stars near the town of Casa Grande.

26 Dec 1954: Arizona to Guaymas, Sonora, Mexico via Nogales and Hermosillo. Localities: A = Hermosillo, B = Guaymas.

27 Dec 1954: Guaymas to Los Mochis, Sinaloa, Mexico via Esperanza, Ciudad Obregon, Navojoa, El Carrizo. Stayed with relative (the Jordans) near Mochicahui.

28 Dec 1954: In Los Mochis area. Stayed again with the Jordans. Locality C.

29 Dec 1954: Los Mochis to Mazatlan.

Ray E. Stanford 720 Fairfax St., Denver, CO 80220-5151

Stayed in motel. Locality D = Mazatlan. **30 Dec 1954:** Mazatlan to Guadalajara. Stayed in a motel Locality E =

Stayed in a motel. Locality $\tilde{E} =$ Guadalajara.

31 Dec 1954: Guadalajara back to Los Mochis. Locality F = Los Mochis area.

1 Jan 1955: Los Mochis back to San Diego (or nearly so, I don't remember this)

List of Lepidoptera (all were collected except sight records as marked):

Choides albofasciatus: one collected at C; seen also at D.

Urbanus sp/spp: 2 or 3 collected at D, specimens lost; notes: "green long-tails." *Astraptes* sp/spp: 1 blue-reflective species seen at D (*A. fulgerator* or *A. alector*).

All smaller skippers ignored or unappreciated, regrettably.

Battus philenor: A, C, D.

Papilio cresphontes (probably): 1 seen at E. (several unidentified swallowtails seen in several places)

Anteos maerula: 1 fresh males taken by DES at C (I still have this specimen!). Phoebis agarithe: seen at C, D.

Phoebis sennae (probably several species): C, D (sight, no specimens remain). Eurema nicippe, E. lisa, E. proterpia, E. boisduvaliana, E. daira: all taken at C or D. E. "lisa" could be 2 or 3 species. E. daira was abundant at C, and I reported on communal roosting in small bushes. SDNHM may have specimens.

Glutophrissa drusilla and *Ascia monuste*: both at C, D (I confused them then).

Dryas julia: 1 taken at D.

Dione vanillae: common in all towns, I ignored them (common in San Diego). Heliconius charithonia: 1 taken at D (also taken by me in SLP in 1952) Anartia amathea colima/venusta/fatima: abundant at A, seen at B, C, D. Anartia jatrophe: common at D. Siproeta stelenes: 1 seen at D.

Myscelia sp: 1 taken at D (specimen is

lost) Biblis hyperia: 1 chased for ½ hour at C but never netted! A great disappointment.

Danaus gilippus: common nearly everywhere, including A, B, C, D.

No satyrids or lycaenids were recorded except the next item:

"marine blue" common at C, D (probably several *Leptotes/Hemiargus* sp?)

Moths: several hundred specimens were taken at motel/city lights at D, and are now currently in the SDNHM collection. I suspect that some really interesting material is awaiting study. The only two species I identified were the noctuids *Erebus odora (Ascalapha odorata)* and *Euglypha hieroglyphica (Diphthera festiva)*, the latter taken at lights in numbers. There are several specimens of Geometridae also, all still undetermined to my knowledge.

Apparently, no season summary was published by the Lepidopterists' Society in 1954 or 1955. I joined the Society the next year, and have been active ever since, serving as President from 1992 to 1993. It is likely, therefore, that these observations have never been published. I now want to make them available to my colleagues in Mexico and the USA, with whom it is my great pleasure to be collaborating on regional studies and publications on the Lepidoptera inhabiting western Mexico.

In a sense, I now feel a part of the scientific revolution that I anticipated in my 1955 school term paper! There remains much to be accomplished, but I now believe it can and will be done.

Life History of *Eurytides protesilaus* dariensis (Rothchild & Jordan 1906)

Miguel E. Chumpitasi Apartado 1106 – 2150 Moravia, San Jose, Costa Rica

Dec. 16, **1995**: found 3 larvae in leaves of adult *Nectandra antillana* (Aguacatillo) in La Guacima de Alajuela, Costa Rica, and immediately transferred them to closed cages. Larvae were 4 mm long, body all dark brown except creamy ring at the beginning of the last third. Multiple protuberances all over body with very short spikes.

Dec. 19: 8 mm in length, same characteristics as above except the creamy ring is now more apparent.

Dec. 21: l cm long, light green with very fine dark line running along body on dorsum.

Dec. 26: Larvae now 2.3 cm long. Light green colored with flattened tail, very slight protuberance on pro-thorax with cross-shaped dark brown spot on dorsum, head of same color separated from the thorax by a very fine line. Only eat young leaves.

Dec. 30: 2.9 cm with same characteristics as above except brown spot has disappeared. Two larvae which were dormant for 4 days are clearly showing 9 white elongated conical pupae (2.5 mm length) between the body and leaf. Quite clearly the larvae were parasitized, probably by tiny wasps. The dead body of the larvae were now dark greenish-yellow.

Jan. 4, **1996**: 4.2 cm, dorsum brown spot shape (which has reappeared) changes from day to day. After eating, larva likes to rest on central leaf nerve with its head pointing upwards. A pulsatile wave (56 per minute) is clearly visible for several days - at this stage - running along dorsum from tail to head.

Jan. 6: larva starts to change color to yellowish green with small brown spots on dorsum (see drawing), releases some



Life Cycle of Eurytides protesilaus dariensis. The adult is a very fast flyer, normally at canopy level and in bright sunshine. Drawings by Miguel E. Chumpitasi.

liquid and starts pre-pupation.

Jan. 7: abandons the hostplant and settles on solid branch of neighbor plant, starting to affix its girdle, facing upward. Color changes to orange but still with the brown spots in a tiger-like pattern.

Jan. 8: final pupa formation. Color changes to light brown, develops a horn.

Jan. 10: pupa fully formed, dead leaf color. Consistency becomes very hard especially the horn. Curiously two small openings are developed in a position which might suggest false eyes.

Feb. 7, **1997**: adult ecloses after ending a diapause of almost 13 months! Unfortunately the adult emerged with all 4 wings deformed (found hanging without any chance to permit flowing of liquids within venation). At least identification was permitted without any doubt.

Come to the

49th Annual Meeting of the Lepidopterists' Society...

Experience life in small-town America! Attend symposia on Prairie Lepidoptera and Microlepidoptera! To be held July 31st to August 2nd, 1998, on the campus of Eureka College (alma mater of President Ronald Reagan), a small liberal arts college with an enrollment of 500 students. Air-conditioned dorm lodging is available, as are athletic facilities (swimming pool, weight room, basketball, etc.) and a nice lake in town. Contact Mike Toliver, Department of Biology, Eureka College, Eureka, IL 61530, phone 309 467-6446 (W) or 309 467-6075 (H), email: MIKETOL@EUREKA.EDU or MIKETOL@ MTCO.COM. Do it now!

Odd Couplings: tales of moth rearing

Robert Weast

5324 MW 78 Ct., Johnston, Iowa, 50131

Rearers of silk moths frequently become frustrated when their males refuse to mate with calling females. It is ironic that even in the finest of cages some pairs simply refuse to cooperate; yet, under the most bizarre of circumstances you can't keep them apart. Consider the following:

On a bus trip I had a satchel of assorted cocoons stashed away in the luggage rack. At 4:00 pm I unzipped the carry-on bag to discover a pair of *Callosamia promethea* moths mating in the total darkness. Male flights are always diurnal and the species mates in the late afternoon. On another occasion I received a parcel in the mail containing *Samia cynthia* cocoons. I opened the small box and discovered a pair mating in the space above the cocoons.

Daria Nutsch, of Jerome, Idaho, related to me that she had a pair of *Hyalophora* gloveri mate in her 42°F refrigerator. It was in the afternoon that she placed the two *H. gloveri* into this dark, cold confinement. That evening, Daria opened the refrigerator and found them pairing. *Hyalophora gloveri* typically mates with the breaking of dawn. Recently I carried out some flight experiments by releasing marked Samia cynthia males to variously distanced, tethered S. cynthia females. At two of the sites I found wild Hyalophora cecropia males mating with the S. cynthia females.

In my emergence/mating cage I had *Eupackardia calleta* males and *S. cynthia* females present at the same time. On three separate nights, before daybreak, *E. calleta* males were found in copula with *S. cynthia* females. No female *E. calleta* had yet emerged, but obviously the *S. cynthia* pheromone was potent to the *E. calleta* males and activated them to mate during the night. *Eupackardia calleta* always flies and mates in full daylight.

A wild *Actias luna* male entered my large breeding cage through a funnel opening to reach a confined female *A. luna*. Instead of trying to gain access to her, he flew to the top of the six foot high cage and mated with a *Antheraea polyphemus* female. The ova proved to be infertile. At another time, in the same walk-in cage, I had a female *Attacus atlas* "calling" just before dawn. A lone *H. euryalus* male rose to the occasion and mated with her, producing fertile ova and healthy larvae. No other *Hyalophora* females were present in the cage. While driving through a park in Madison, Wisconsin, I noticed a male *C. promethea* flying alongside my very slowly moving car. I stopped and opened the rear door, he flew in, located the calling female and mated with her. Hanky panky in the park...

The cool, crisp energy saving weather on the northern peninsula of Wisconsin at Egg Harbor may have helped a virile male C. promethea qualify for a record of sorts. While many moths batter themselves to an early death trying to escape from their cage, this potent male mated with five different females on five successive afternoons. Lazily waiting for a female to eclose, he would respond to her pheromone and fly the few inches to mate with her. They would break up at nightfall and he would rest until the following afternoon and then repeat this ritual. At twilight, just after the fifth mating, I though he deserved his freedom, so I opened the cage and helped him out. His freedom flight was short indeed. He soared into the air, right in front of a hungry swallow perched on a telephone line. End of story.



Interspecific mating of Danaus gilippus (North America; left) and Danaus chrysippus (Africa; right). The photograph of this "odd couple" was taken at Butterfly World, Coconut Creek, FL, on Dec. 27, 1990. © Phil Schappert.

Review:

The Lepidoptera Journal

It's not everyday that a new serial publication devoted to our favorite pastime gets started but just such an event came to pass in early 1997 with the publication of the first issue of The Lepidoptera Journal. Started by Patrick Marceau and Mike Soukup, and based out of Québec, Canada, the Journal has published six issues to date. The relatively recent addition of Valeria A. Passoa as an editor has helped to improve the overall readability of the articles, especially those that have been translated into English.

Each issue has included original articles, with small color photographs to illustrate at least one article in each issue (with steady improvement being made in the quality of the reproduction) as well as a few small reprinted articles (mostly from the Young Entomologists' Society), members advertisements for

Journal...continued from pp. 46

specimens, equipment and livestock, and some commercial advertising. Individual subscription rates are quite reasonable (\$20 USD per year in the US; \$28 CDN per year in Canada; and \$25 USD per year elsewhere).

The partial contents of the first three issues provide valuable insight into the focus of this new publication:

Vol. 1(1), 48 pp., Jan/Mar 1997: Status of the Eastern U.S. Butterfly Atlas (Harry Pavulaan); Rearing *Hyalophora colombia* in Eastern Canada (Patrick Marceau); Maltese Islands Sphingidae (Paul Sammut)

Vol. 1(2), 48 pp., Apr/Jun 1997: Book Review: The Wild Silk Moths of North America, by Tuskes, et al., 1996 (Mike Soukup); *Hyalophora cecropia:* indoor rearing and general notes (Bill Oelhke); How to Collect Insects (Legally) in Alaska (Ken Philip); Sound Production in Lepidoptera (Sergiu Mihut)

Vol. 1(3), 40 pp., Jul/Sep 1997: Livestock Shipments: ova, larvae and cocoons/pupae (Patrick Marceau); Unusual Aspects of the Life Cycle of Saturniid Moths (Gary Lovell, reprinted from Y. E. S.); Collecting *Catocala* (Noctuidae: Catocalinae) in Wisconsin (James Kruse).

As you can see there is a focus on silk and other larger moths that encompasses both rearing and collecting so if you're one of the many Lepidopterists' Society members who are interested in this particular aspect of the hobby, "this pub's for you". Even if you're not into the larger moths, there's still plenty of interest to most lepidopterists so (assuming that the quality continues to improve) I'd recommend that you look into The Lepidoptera Journal. For further information contact Patrick Marceau at 1470, St-Olivier, Ancienne-Lorette, Québec, G2E 2N9, Canada or via email at LEPSJOURNAL @SYMPATICO.CA.

Enough said?

Phil Schappert

Department of Zoology, University of Texas, Austin, TX 78712-1064

Benjamin Preston Clark: an update

Russell A. Rahn

3205 W. Rochelle Rd., Irving, Texas, 75062-4127

In a previous issue of the Society's newsletter (News 39(4), pp. 73ff), I published a note concerning the life and works of Benjamin Preston Clark. Since then, a number of society members have corresponded with me, and offered additional information on that topic, which I summarize and present here. I had always suspected that the list of publications was not complete, since the number of taxa described in my collection of papers fell a few short of those claimed by Clark's biographer (see citation in News 39(4), pp. 73).

In correspondence received from Eric Metzler of Columbus, Ohio, and Dr. Hiroshi Inoue of Iruma City, Japan, it appears that there are four papers that have been omitted from the original list of the Publications of Benjamin Preston Clark. These titles and their citations are as follows:

A Review of Some Sphingidae Described by Dr. S. Matsumura; Proceedings of the New England Zoological Club: XIII: 43-46 (1932).

Descriptions of Twenty New Sphingidae and Notes on Three Others; Proceedings of the New England Zoological Club: XV: 19-39 (1935).

- Twelve New Sphingidae and Notes on Seven Others; Proceedings of the New England Zoological Club: XVI: 27-39 (1937).
- Eight New Sphingidae and Notes of Two Others; Proceedings of the New England Zoological Club: XVII: 37-44 (1938).

In addition to the titles listed above, an obituary of Clark by James A.G. Rehn appeared in **Entomological News** for the year 1939.

Finally, Clark's interests in the Sphingidae were not limited to his own interests or collecting activities. Dr. Ulf Eitschberger of the Entomologisches Museum in Marktleuthen, has pointed out that Clark financed the research and publication by R. Mell in his revisionary work of the South Chinese Sphingidae in 1922. Most of those specimens have found their way into the Carnegie Museum collections as well.

I would like to express my appreciation to Eric Metzler, Dr Eitschberger, and Dr. Inoue for their kind assistance in calling my attention to these additional items.

4500th Member Added to Database

Julian Donahue

On 21 May 1998, Bruce Walsh of Tucson, Arizona, U.S.A., became the 4,500th entry in the Society's membership database. Ever since the database was created in late 1984 it has been used to preserve membership data, create mailing labels for Society publications and list rentals, generate mailing labels for dues (and past due) notices, and automatically generate the biennial Membership Directory. The 3,000th record was created on 2 April 1990; the 3,500th record on 29 July 1992 (196 weeks later), the 4,000th record on 5 May 1995 (232 weeks later), and the 4,500th record on 21 May 1998 (266 weeks later). These data demonstrate a definite slowing in our rate of new member acquisition over the past nine years: from 2.6 new members per week in the period 1990-1992, to 2.2 new members per week (1992-1995), to 1.9 new members per week for the latest period (1995-1998). Despite the decline in the rate of signing up new members, the drop-out rate has also declined slightly, resulting in a fairly stable number of members during this period. In other words, we're not getting any bigger, but we're not getting any smaller, either.



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

Dr. James R ("Jim") Merritt

I am sorry to announce the death on May 20 of Dr. James R. ("Jim") Merritt, at the age of 80. Jim had been in declining health for the past two years after a series of hip replacements and strokes. He joined the Society in 1951, and served for several years as Editor of a feature in the original "NEWS" of a column known as "Especially for Field Collectors." He was the dean of the University of Louisville School of Law for several years, and the dean of Kentucky lepidopterists from the time of his joining the Society. He was also a charter member of the Society of Kentucky Lepidopterists. His widow,

Mary Lou of Louisville, and two daughters survive him. All of us who knew him enjoyed his dry humor and great wit, and were inspired by his great enthusiasm for butterflies. Most of his collection is now part of the University of Louisville Insect Collection.

C. V. Covell Jr.

Dr. Carl W. Gottschalk

of Chapel Hill, North Carolina, on 15 October 1997. Dr. Gottschalk was a Charter Member of the Society, having joined in 1947 when the Society was founded.



The purpose of this new column is to provide advance notice of upcoming events and meetings of interest to members of The Lepidopterists' Society. If you know of events that might be of interest to your fellow lepidopterists, then please send a short note to the editor (address on inside back cover) at least 4 months prior to the scheduled date of the event.

1998 Northwest Lepidopterists' Association Fall Workshop

The Annual Fall Workshop of the NLA will once again be hosted by OSU's Entomology Department on Saturday, October 24, 1998. For more information, please contact Jeff Miller (MILLERJ@AVA. BCC.ORST.EDU), Paul Hammond or David McCorkle.

49th Meeting of the Lepidopterists Society

Eureka, Illinois, July 31st to August 2nd, 1998. **Be there!**

The Net...continued from pp. 53

Butterflies" covers 16 addresses; "Just Moths" another 12. There are sites classified by region, listings of organizations, general biology sites, and many more. An awesome list...

Lastly, clicking "Statement on Collecting" brings up the Society's position and guidelines on collecting. The Society declares collecting legitimate. I agree. How else can the little monsters' secrets be discovered?

The purposes for collecting are enumerated, and the following is taken – unmolested – from the site:

1.1 To create a reference collection for study and appreciation.

1.2 To document regional diversity, frequency, and variability of species, and as voucher material for published records.

1.3 To document faunal representation in environments undergoing or threatened with alteration by humans or natural forces.

1.4 To participate in development of regional checklists and institutional reference collections.

1.5 To complement a planned research endeavor.

1.6 To aid in dissemination of educational information.

1.7 To augment understanding of taxonomic and ecologic relationships for medical and economic purposes.

Under collection methods is an admonition for restraint when the extent of the population is unknown. In other words, take only what you can eat! Other sections cover data sharing, live material (and its possible release), preservation of collected material, maintenance of good records, exchange of material, and legal considerations. I urge all of you who have not read the Society's position to do so. This is the most informative and reflective section of the site.

Back to "bread crumbs" in the next column. Promise.

Lepidoptera of Kulja and Surrounding Mountains

Serge Alpheraky

Translated From Horae Societatis Entomologicae Rossicae Xvii, St. Petersburg, 1881 Translation and Foreword by Andrei Sourakov*, Dept. of Entomology, University of Florida, Gainesville, Fl 32611

Foreword

Unlike the character in Nabokov's novel Gift, who was introduced to butterfly collecting by his German tutor ("..what has happened to those originals who used to teach natural history to Russian children – green net, tin box on a sling, hat stuck with pinned butterflies, long learned nose, candid eves behind spectacles - where are they all, where are their frail skeletons - or was this a special breed of Germans, for export to Russia, or am I not looking properly?"), my tutor, Mr. Andrei Nekrasov, was a hereditary Russian noble, at the time chief designer of military helicopters in the USSR. His magnificent collection of Lepidoptera had me completely preoccupied with butterfly collecting when I was just 10 years old. As many of my age and area of interest, I regretted being born at that time, when most species had already been described. With longing I searched for literature on early Lepidoptera collecting, but quickly exhausted all that was available in Russian. Of course, literature is rich with descriptions of expeditions, ranging from Stanley's meticulous "Travel to Africa" to Durrell's marvelous, practically fictional books. But almost never, is the author an entomologist. So, I read stories of butterfly hunting by authors like Le Moult or Aksakov with great fascination, despite their naiveness.

Once I came across a typewritten copy of a report by a Russian traveler, geographer and lepidopterist, whose name is reflected many times in the names of

First of Two Parts

*current address: Department of Entomology, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118 Asian Lepidoptera, as either part of a species name (e.g. *Parnassius apollo alpherakyi*) or, more often, as the name of the author (e.g. *Colias staudingeri* Alpheraky). Being chary of words, it contained information on geography, animal life and, most importantly, elaborate descriptions of habitat, ecology and morphology of 112 species of butterflies from Asia. So, it had precisely the material capable of exciting the imagination of a young collector...

Who were these explorers of Russia and the neighbouring south countries (Avinoff, Shoumatoff, Nabokov, Chnéour, Sheljuzhko, Nordman, Kolenati, Lederer, Staudinger, Christoph, Radde, Bramson, Erschoff, Ménétrié, and others)? The classical portrait of the Russian lepidopterist of the end of the 19th century can be found in Nabokov's Gift and has something in common with the personality of Alpheraky: a wealthy Russian noble, who "...occupied one of the first places in the study of the Russo-Asiatic fauna, side by side with the names of its pioneers, Fischer von Waldheim, Menetriés, Eversmann." He collaborated with Charles Oberthür, Grand Duke Nikolai Mihailovich, Leech and Seitz. He was vice-president of the Russian Entomological Society, Full member of the Moscow Society of Investigators of Nature, Member of the Imperial Russian Geographical Society, and honorary member of a multitude of learned societies abroad. Between 1885 and 1918 he covered an incredible amount of territory, making surveys of his route on a threemile scale for a distance of many thousands of miles and forming astonishing collections. During these years he completed eight major expeditions which in all lasted eighteen years. Tackling Asia in earnest he investigated Eastern Siberia, Altai, Fergana, the Pamir, Western

China...and described his travels in precise, weighty words.

The Russian Revolution of 1917 scattered these people all over the world. Many of them continued their research on Lepidoptera abroad. For example, Avinoff was a curator at the Carnegie Museum, Nabokov curated the MCZ collection and often visited the AMNH, Shoumatoff was a president of the New York Entom. Soc. Chnéour published extensively on Tunisian Lepidoptera. Their remarkable private collections ("...His home museum, in which stood rows of oak cabinets with glassed drawers, full of crucified butterflies (the rest - the plants, beetles birds, rodents and reptiles — he gave to his colleagues to study), where it smelled as it probably smells in Paradise, and where the laboratory assistants worked at tables along the one-peace windows, was a kind of mysterious central hearth, illuminating from inside the whole of our St. Petersburg house..") were often less fortunate. Most of them were probably lost in, as bolsheviks used to say, "the fire of the revolution". Some of them were saved and are still almost intact as, for example the collections of Avinoff and Ménétrié at the Zoological Institute in St. Petersburg or the collection of Sheljuzhko in Kiev. The works of these people, published in Russia, suffered badly through the upheavals of the present century and are now hard to obtain, but when available still serve as invaluable references.

Sergey Nikolaevich Alpheraky (1850-1918) was a student at Moscow University, however he did not complete his degree. He did not find support for his interest in Lepidoptera among the faculty, who thought (and still think; my personal experience) of lepidopterology as a childish avocation. In 1871 Alpheraky moved to Dresden and became a pupil of Staudinger, one of the most influential lepidopterists at the time. His travels to Asia yielded the discovery of many new species and biogeographic records. His report to the Russian Entomological Society on one of this trips, is provided here in a translation from Russian.

I include in the translation only the foreword and brief information on localities and dates of collecting, omitting detailed descriptions of each taxon as the views on their systematics have obviously changed in the last 100 years. Data on the contemporary taxonomic position and overall distribution, as well as color drawings of butterflies and habitat shots can be found, for example, in the magnificent work by Vladimir and Alexander Lukhtanov "Butterflies of North-West Asia" ("Die Tagfalter Nordwestasiensis", Published: Herausgeber: Dr. Ulf Eitschberger, Marktleuthen: 1994). (NB! All dates in the report are according to the old style Russian calender, which is 13 days behind the modern style.)

The Lepidoptera of Kulja and the Surrounding Mountains

The main objective of my 1879 Asian expedition was the study of Lepidoptera. The very possibility of the Kulja region being given to the Chinese made me consider this region as of primary interest. Besides, the region was very promising for different scientific discoveries.

This choice was rather fortunate: today it has been firmly decided that Kulja will become part of China. That will result in the closing of this territory for any scientific research.

In this report, which I am going soon to file with the Russian Imperial Geographic Society, I am going to include: 1) An elaborate description of my journey; 2) all notes on vertebrates and the collections made. Therefore I will limit myself here to a very brief description of my travels and characteristics of the localities at which Lepidoptera were collected. First, however, I find it my obligation to express my gratitude to my companion and friend Evstrat Skaramanga, who shared with me the expenses and difficulties of travel.

We started from St. Petersburg on the 4th January 1879 and arrived at Kulja on the 5th February. Mr. Skaramanga and myself were accompanied by two more people: technician Peter Mishenko, who had already hunted butterflies with and for me in the Ural and Caucasus mountains, and who became quite a skillful taxidermist, and a trooper Nickolay Kurdiuk from Malorussia.

In the delta of the Ili river the spring had already started. However, it was still freezing, so we had to limit ourselves to preparation for the trip to the sand desert west of Kulja. The few unoccupied moments we spent on ornithological observations.

Here I would like to express my gratitude to General Wartmann, military commander of Kulja, whose hospitality will always be the most pleasant memory for me about the stay there.

Soon after we arrived the ice movement on the Ili river had begun: only one who had seen such movement on the Neva river can imagine the speed with which the huge ice blocks were floating by, considering that the speed of the Ili's current is three times that of the Neva.

The only species of Lepidoptera we saw at the time was *Tinea colonella* Ersch. (Tineidae), which appeared in the houses and was new to my collection. Meanwhile the spring gained its power, the snow started melting on the mountains, and the time came for us to leave Kulja.

On the 4th of March we started west. We were accompanied by three of the local people (two of whom were Torgouts and one Kalmyk). We were well equipped, armed and had everything necessary for collecting insects and other animals.

Sandy desert begins 20 kilometers from Kulja and extends along the Ili river. It becomes gradually wider and continues into the sandy desert surrounding lake Balkhash. Its hilly surface is covered with characteristic vegetation.

Numerous tributaries of the Ili cross the sandy desert, coming down from the

Altin-Imel' mountain chain, which borders the delta of the river in the north. Each of these small rivers has its own small delta. All these deltas join together at the low and boggy banks of the Ili, which are covered with the thick growth of creeping scirpus, or with occasional trees in drier areas. The scirpus is rich with different animals: tigers, wild cats, foxes, and wolves. Snow leopard are more rare, although, wild pigs, hares and goats are abundant. Sometimes one can find maral (Caspian deer) - the most noble animal of this place. In the sandy desert there are numerous herds of gazelles, and funny little red gerbils, whose whistling voices break the monotonous silence of the desert. The holes made by these animals are so numerous that movement through the area becomes quite difficult.

If we had moved further to the west we would have met Asiatic wild ass (*Equus hemionus* Pallas). But, as long as the goal of ours was the collecting of Lepidoptera, we tried not to be distracted by the rest of the fauna. However, some of the birds we encountered are worth mentioning: pheasants, black-bellied sand-grouse, numerous wheat-ears, bustards, snipes, thickfoots, eagles, ospreys, eagle owls, barn owls, harriers, and others.

One can easily see that as my goal was the study of vertebrates, besides studying Lepidoptera I could pay almost no attention to the other groups of insects.

The first Lepidoptera were collected in our camp on the first days of our expedition to the sandy desert. These were: Biston cinerarius, two geometrids from two new genera (I described one of them under the name *imitator*, to stress the mimicry by males of *Leucanitis*, where females with their underdeveloped wings imitate a spine of one of the very characteristic species of plants in the area). We also collected new Tineidae resembling the genus Ateliotum. Every day would give us a new species: the beautiful Lycaena anthracias (known from one specimen obtained by Mr. Kristoff at the Caspian sea), the rare Anthocharis pyrothoe, Lycaena prosecusa, whose fe-

continued on pp. 59...



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The Lepidopterists' Bookshelf

M. Alma Solis, Editor

Recently Published Books...

Atlas des espèces françaises du genre *Zygaena* Fabricius

by Eric Drouet and Louis Faillie. 1997. Association GIRAZ. 73 pp. Available from Louis Faille, 8, rue Polonaise, F-72200 La Fleche, FRANCE. Price: 90 French Francs [payable to GIRAZ-ZYGAENA].

This atlas consists of distribution maps for all the species of the genus Zygaena known from France. Luxembourg, Andorra, and north-western part of the Spanish Pyrenees. The maps are based on the U.T.M system (10x10 km squares). Each map is preceded by a short commentary with general distribution and the localities where the species has not been recorded. Some additional data about the flight period and larval food plants are also given. The atlas is the result of more than 10 years work by members of the Association GIRAZ and collaboration with 100 French and foreign contributors.

Butterflies of New Jersey: A guide to their status, distribution, conservation, and appreciation

by Michael Gochfeld and Joanna Burger. 1997. Rutgers University Press. 330 pp., 17 black & white and 16 color illustrations, 13 figures, 18 tables. Available from Rutgers University Press, Livingston Campus, P. O. Box 5062, New Brunswick, NJ, 08903-5062 (1-800-446-9323). Price: Paper US\$20.00, ISBN 0-8135-2355; Hardcover, US\$55.00, ISBN 0-8135-2354-0.

This book discusses the behavior, status, distribution, taxonomy, ecology, and conservation of butterflies in New Jersey. It is a companion and complement to any butterfly identification guide of the Northeast. It focuses on the place of butterflies in the ecosystem of New Jersey and neigh-boring regions and their relationships to other butterflies around the world. Its detailed species accounts of more than 140 kinds of butterflies found in the state and neighboring regions (out of the 700 North American species) alert butterfly wathchers to changes in populations over time. For species that are neither widespread nor threatened, the authors provide suggestions on where and when to find them. For butterflies that are declining or in trouble, they provide information on the conservation status. A glossary of terms is provided, as well as a listing of other butterfly books, clubs, and tips on purchasing appropriate butterflywatching equipment. There is a checklist to track your butterfly watching and a form for recording your own observations.

Living Butterflies of Southern Africa: Biology, Ecology, Conservation, Vol. I. Hesperiidae, Papilionidae and Pieridae of South Africa

by Graham A. Henning, Stephen F. Henning, John G. Joannou, and Stephen E. Woodhall. 1997. Umdaus Press. 397 pp. Available from Umdaus Press, P.O. Box 11059, Brooklyn, 0011, South Africa (phone: 27-11-884-5588; fax: 27-11-884-5685; e-mail: kambroo @cis.co.za). Price: Hardcover US\$ 129.00, ISBN 1-919766-03-0.

This is the first of a five volume series which will eventually include all the butterflies of Southern Africa. Volume 1 deals with Hesperiidae (skippers), Papilionidae (swallowtails and swordtails) and Pieridae (yellows, whites, vagrants, tips, and borders), 156 species in total. Two subspecies and a subgenus are newly described in this book. Each species and subspecies is illustrated with color photographs or paintings of all the stages eggs, several larval stages, the pupa, and the upper- and underside of living males and females. The description of each includes taxonomic information, identification of adults and early stages, habitat and ecology, larval food plants, distribution (including a

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map) and conservation. Many of the life histories are recorded for the first time.

Revista de Theclinae Colombianos [Review of Colombian Theclinae].

Museo de Historia Natural de la Universidad de Caldas, Manizales/Museo de la Universidad Pedagógica Nacional, Santefé de

Bogotá/ Museo De La Salle de Ciencias Naturales, Santefé de Bogotá. Volumes 1 & 2. 1997.

The objectives of this journal are the study of the Lepidoptera of Colombia, ecological studies of some groups, general biological studies of poorly known genera, and the exchange of scientific information with national and international organizations. This journal will be published irregularly, when volumes are complete. Overall, an attempt wil be made to produce one volume per calender year. Authors wishing information on how to participate in the project should write, in Spanish, to Dr. Julián A. Salazar E., Museo de Historia Natural de la Universidad de Caldas, Apartado Aereo 275, Manizales, Colombia or, in English, to Dr. Kurt Johnson, Environmental Department, The Ethical Culture Society, 53 Prospect Park West, Brooklyn, New York, 11215, USA.

Book Reviews:

The Butterflies of West Virginia and Their Caterpillars

by Thomas J.Allen. 1997. University of Pittsburgh Press, Pittsburgh, PA 15261. xii plus 388 pp. and 50 color plates. Softcover(ISBN 0-8229-5657-8), \$22.95; Cloth cover(3973-8), \$37.50.

At first glance, it seemed like just another regional butterfly book, this time for West Virginia. But from the moment I opened the colorful front cover, it became obvious that this one was better than most, perhaps the best State butterfly book to date. Since West Virginia has a variety of habitats and elevations, the 128 species covered include all those found in mid-America, from the Atlantic to the Mid-West. The plates are true color, quite sharp, and show undersides when needed for identification. A feature unique to this book is that the caterpillars of

almost all species, and the chrysalides of many, are shown in color. It was difficult to find a flaw in this book, but somewhere between pp. 115 and pp. 119, the

The book begins with introductory sections on structures, study and collecting techniques, butterfly gardening, and a key to major groups. Then each of the 128 species is described, distribution discussed with a map for all W.Virginia county records. Habitat details, life history, habits, nectar sources, and larval food plants are listed. It seems like everything you might want to know about a species is given in easy readable text.

It was difficult to find a flaw in this book, but somewhere between pp. 115 and pp. 119, the Fritillaries (Euptoieta, Speyeria, Boloria) were moved from the Nymphalinae to the Heliconiinae (Long Wings). This is quite different from previous classifications, but on-going studies will soon verify this as a proper association. In any case, this minor detail will not spoil anyone's complete satisfaction with this book.

Ron Leuschner

1900 John St., Manhattan Beach, CA 90266



Butterflies of the World

by Valerio Sbordoni and Saverio Forestiero. Re-issued 1998. Firefly Books. Available in discount book stores now at about \$40.00 (list price, \$45). 312 pp. including 125 pages in full color. Printed in Spain.

This book, originally issued in Italian in 1984, was translated into English in 1985. Despite the title, more space is devoted to moths than to butterflies. Excellent color drawings representing all lepidopteran families show examples of adults and their larvae. However, the survey of the families occupies only about onequarter of the book

The main emphasis of the remaining three-quarters of the book are those topics important to the study and understanding of Lepidoptera. Chapter headings include: Structure, Life Cycle, Evolution, Origin of Species, Systematics, Behaviour, Populations, Migrations, Ecological Relationships and Distribution, Geographic Distribution and Dispersion, Butterflies and Man, Classification, Collecting and Preserving, and Conservation. Each topic is explained in simple language, aided by charts and diagrams

continued on pp. 58



Out of the Net...

by Jim Taylor, 1 IRON@.MSN.COM

the last issue of the News, he observed. rather pointedly, that our own beloved Society's web page had not been mentioned in this column - ever. And that's true. I started this column with the idea of tracking down the outre, figuring you guys could easily find the conventional and serious, so I would drop bread crumbs to the outrageous. I was also wary that I might not like our site, and an unfavorable review might result in my being blackballed from the Society! However...

The Lepidopterists' Society WWW.FURMAN.EDU/~SNYDER/SNYDER/LEP/

You can find The Lepidopterists' Society's home page at this address (note that the address given in the Editorial Note at the end of the column in the last issue was incorrect, but the ever-vigilant John Snyder, webmaster for the Society website, caught my error and set up a "dummy" page to lead to the proper URL - Ed). This first page contains a short paragraph about us and a button list of seven topics that can be accessed with a click. The first of these, a brief history of the Society, relates that the Society was founded by Charles L. Remington and Harry K. Clench when they were both students in Cambridge, Massachusetts. In early 1947 they circulated a letter proposing an association to "promote the scientifically sound and progressive study of Lepidoptera by: (1) distributing a periodical on Lepidoptera; (2) facilitating the exchange of specimens and ideas by both the professional worker and the interested amateur in the field." Within a month the first issue of the periodical was printed at Harvard and the Lepidopterists' Society was born. Membership was 220.

After I sent Editor Phil the column for I marvel at this figure. Before the formation of the Society and its roster of names, how many of us could have compiled a list of that many people with an interest in moths and butterflies? To me, ready access to a roster of people of like curiosity is one of the chief benefits of membership.

> The first annual meeting was not until December, 1950. From the beginning we have been an international organization; the first 25 presidents came from seven countries. Our membership now stands at about 1600 in 60 countries (but see the membership note by Julian Donahue on pp. 47 of this issue - Ed).

> If you tack PUBS.HTML on the address of the Society's home page (or click "Publications of the Society") you can review our News and Journal, both of which are distributed free to members. This page states that the News of the Lepidopterists' Society is published six times a year. For those of you who can count only four, you're right; but I think that the "Season Summary" is counted each year, as is the every-otheryear "Membership Directory". If this is so, I think the page should claim that the News publishes four times each year, a Season Summary once a year, and a **Membership Directory** every other year. From this page you can click to review the contents of recent issues or link to the new News website at www.esb.utexas.edu/philjs/News/ NEWS.HTML.

> The Journal of the Lepidopterists' Society is published quarterly. It contains "scholarly papers" (which is why I'm only allowed to write for the News!) on "the biology of butterflies, general notes, book reviews, and other information." Notice that moths are not men

tioned. You can also click here to see the contents of the latest issue.

Back at the home page, click on "Executive Council Members", or append COUNCIL.HTML to the Lep. Soc. address, to see a listing of the folks currently guiding the Society. Given is the office, the name and address of the incumbent, and usually the e-mail address. The Executive Council Members-at-Large, some nine people, are merely listed by name; it would be helpful to have street and e-mail addresses.

Click "Annual Meetings" (or add MEETING.HTML to the address) to see the announcement of the next meeting of the Society. As you know, our next meeting will be July 30 through August 2 at Eureka College in Illinois. The details (sketchy so far) are here, as are a registration form, a call for papers, and an e-mail address for more info. I think we should have a starting TIME here, not just a date. Those of us who plan on driving in need to know when we should be there.

Add JOIN.HTML or click "Want to Become a Member?" to bring up membership information - the costs and the benefits. Prospects are urged to use the available application form in order that all essential information is included. Membership categories are listed, ranging from "student" at \$15 to "life member" at a one-time \$1400. Most of us, I suppose, fall in the \$35 category.

Clicking "Internet Resources" or appending INTERNET.HTML gives an extensive listing of web addresses devoted to the Lepidoptera. Here are listed Newsgroups, lists of Entomology-related list servers and how to subscribe, and a wealth of addresses by category. "Just

continued on pp. 49...

Membership Update...

Julian Donahue

This update includes all changes received by 12 June 1998.

"Lost" Members

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

Bob Curry of Ancaster, Ontario, Canada;

Eric Olson of Miami, Florida.

Corrections and Minor Revisions to the '96 Membership Directory

(make appropriate changes in Alphabetical List of Members)

McKoy, Joe A.: new address is "634 Ranch Road" (all else unchanged) Sochor, W.P.: new ZIP Code is "92844-2634"

New & Reinstated Members

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

Artz, Derek: 537 West Brompton Avenue, Chicago, IL 60657.

Avital, Eytan: P.O. Box 31161, Jerusalem 91311, Israel.

Bell, Elizabeth A.: 125 Myrtle Street #B, Santa Cruz, CA 95060-4938.

Berenbaum, May: 1505 North Raintree Woods, Urbana, IL 61802.

Brosseau, Shelley: 518 Central, Menlo Park, CA 94025.

Burnell, Martin P.: P.O. Box 76113, Manukau City, New Zealand.

Clark, Dorothy B.: 5823 Peaceful Pass, Groveland, FL 34736-9074.

de Jong, Rienk: Spoorlaan 6, 2471 PA Zwammerdam, Netherlands.

de Moura Correa, Renato: Rua Medianeira No. 82, Rivabem I, Campo Largo, Parana 83605-550, Brazil.

Dicus, John W.: 5205 East Cortland Boulevard #171, Flagstaff, AZ 86004. **Dippold. Sue:** PO. Box 796, Hender-

sonville, TN 37077-0796.

Durkin, Pat: 23 Logan Circle NW, Washington, DC 20005.

Fisher-Dahn, Deborah: 107 North 1st Street, Box 127, Clarksville, MO 63336. Fox-Todd, Mary: 2258 North Schoenherr Road, Custer, MI 49405.

Gerard, Walter: 328 East 29th Place, Tulsa, OK 74114-5205.

Hansen, Laura: 1216-1/2 Euclid Avenue, Des Moines, IA 50313.

Hirzel, Ronald F., Jr.: 2176 Shelby Street, Columbus, GA 31903-3323.

Hoag, Beverly Larsen: Butterfly Breezes, 2100 East Sherwood Road, Williamston, MI 48895.

Johnson, G.M.: 12 Birch Road, South Portland, ME 04106.

Johnson, Peter M.T.: 25592 Spinnaker Drive, San Juan Capistrano, CA 92675-4018.

Kilumile, William L.: Box 306, Njombe, Tanzania.

Mayura, Isa: 10945 SW 74th Avenue, Tigard, OR 97223.

Mayura, Nirmalan: 10945 SW 74th Avenue, Tigard, OR 97223.

Mikus, Stefan: Fried.-Otto-Schott-Weg 20, D-31319 Sehnde, Germany.

Morneau, Louis: 406 VH Michener Park, Edmonton, Alberta T6H 4N1, Canada.

Nanau, Patrick: P.O. Box 850, Honiara, Solomon Islands.

Ogura, Yasuo: 5 Lylewood Drive, Tenafly, NJ 07670.

Ohkuma, Kunio "Kevin": 11614 Fieldbrook, Houston, TX 77077.

Ohshima, Shin-Ichi: Shimohideya 707-99, Okegawa, Saitama 363-0025, Japan.

Parks, Robert B., Jr.: 4823 68th Street #7, San Diego, CA 92115.

Parshall, Stephen J.: 734 Monroe Street #2, Evanston, IL 60202.

Peng Z-L, M.D.: 361# Erqi North Road, Nanchang, Jiangxi 33006, Peoples Republic of China.

Pistilli, Annie: 7111 Heath Markham Road, Lima, NY 14485.

Prill, Jeffrey D.: 1410 South Lammers Street, Peoria, IL 61605.

Roque Albelo, Lazaro: Charles Darwin Research Station, Casilla 17-01-3891, Ave. 6 de Diciembre 4757 y Pasaje California, Quito, Ecuador.

Schurr, Jerry: 100 Greenwood Avenue, Suite D, Wyncote, PA 19095.

Seguna, A. (Mr.): 6 Redeemer, Triq l'Emigranti, Naxxar NXRO5, Malta.

Serrano, Miguel: 6823 Rosemary Drive, Tampa, FL 33625-3980.

Taylor, Valle: Butterfly Breezes, 2100 East Sherwood Road, Williamston, MI 48895.

Tchirikov, Nickolay: Golubinskaya 25 kop1kb403, A/R, Moscow 117463, Russia. Temples, Marybeth (Dr.): 8 Commodore Drive C351, Emeryville, CA 94608. Temples, Rodney: 8 Commodore Drive C351, Emeryville, CA 94608.

Teraguchi, Sonja E. (Ph.D.): 2517 Norfolk Road, Cleveland Heights, OH 44106.

Thomas, Richard B.: 4804 Laurel Canyon Boulevard #225, Valley Village, CA 91607.

Twardus, Chris: 16960 Helene Lane, Morgan Hill, CA 95037.

Van Campen, Stephen S. (M.D.): 10469 Moselle Street, San Diego, CA 92131-1419.

Varn, Nancy K.: Project Soar, Belvedere Elementary, 201 Rhomboid Place, Belvedere, SC 29841.

Vawter, A. Thomas (Ph.D.): Biology Department, Wells College, Aurora, NY 13026.

Viossat, Alexandre: 125 Chemin des Crotons, La Bretagne, F-97490 Sainte Clotilde, Reunion Island (via France).

Walsh, Bruce: 2365 East Seneca, Tucson, AZ 85719.

Yang, Yaw-Long: No. 1 Ming-Shen E. Road, Chi-Chi, Nan-Ton, Taiwan, Republic of China.

Address Changes

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

Bryson, Charles T.: 124 Cotton Drive, Leland, MS 38756.

Cassell, William S. (M.D.): 513 South Buckingham, Yorktown, IN 47396.

Conway, Patrick J.: 17053 North 290th Avenue, Galva, IL 61434.

Cunningham, Kevin: 9224 Rome Court, Houma, LA 70363.

Davis, R. Laurence (Ph.D.): Camp Pemigewassett, Route 25A, Wentworth, NH 03282.

Deering, Mark D.: 115 Cedar Point Place #5, Lake St. Louis, MO 63367.

Fagua, Giovanny: Departamento de Biología y Ecología, Universidad Javeriana, Apartado 59194, Santafé de Bogotá, D.C., Cundinimarca, Colombia. Glaeske, Daniel M. (M.D.): Box 63, St. Victor, Saskatchewan SOH 3TO, Canada. Koehn, Leroy C.: 6085 Wedgewood Village Circle, Lake Worth, FL 33463.

Mckown, Stephanie: P.O. Box 190685, Boise, ID 83709.

Meekel, Hendrik: P.O. Box 83, Albion, British Columbia VOM 1B0, Canada.

Nagano, Christopher D.: U.S. Fish and Wildlife Service, 2105 Osuna Road NE, Albuquerque, NM 87113.

Pautsch, Richard: c/o Overseas Planning & Administration, PO. Box 4704, Houston, TX 77210-4704 (living in The Netherlands)

Pawlowski, Patricia: 10088 Silver Creek Lane, El Cajon, CA 92021.

Shields, Oakley (Dr.): 555 Matmor Road #108, Woodland, CA 95776. Tilden, David: 19 Calder Crescent, Yellowknife, NT X1A 3A9, Canada. Warren, Andrew D.: 310 Thorn Apple Way, Castle Rock, CO 80104.

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I told you so!

No sooner had the last issue left my overworked and underpaid little hands then *errors* started replicating themselves at a frantic rate. I think Dawkins was right – memes rule! Only one of the mistakes, thankfully, was "life-threatening": in the editorial note following Jim Taylor's "Out of the Net" column I gave the wrong URL for the Society Homepage! Our webmeister extraordinaire, John Snyder, came to my aid and hurriedly setup a "dummy" URL which matched my error and shunted people over to the correct address. Once again someone has saved my electronic bacon!

One of the other *errors* was just plain embarassing. Ken Philip pointed out that my editorial was really a "self-fulfilling prophecy" since an error had managed to creep right into my "Royal Order of Butterfly Folks that Edit Newsletters in their *Non-existent* Spare Time"! Honest, I just had to bow my head and cry after that one! Anyways, enough of the self-recrimination and on to other things...

On a somewhat painful note, I received an email from Charlie Covell who told me that he had been informed by Barry Estabrook, Publisher, Houghton Mifflin Co., that his **Field Guide to the Moths of Eastern North America** will not be reprinted. This means that since it is out of stock, it is also, effectively, out of print. This is a real blow...

More bad news arrived at my inbox when Mike Toliver, organizer of this year's meeting of The Lepidopterists' Society at Eureka College in Illinois, informed the Executive Council listserver that the Dean of the College had been murdered by his son. Maybe you can imagine the turmoil this would set up in a small college town, not to mention that he was one of Mike's long time friends and was the person that had encouraged Mike to bring the meeting to Eureka. We feel for you, Mike.

Another concern Mike had was that, as of June 1st, there were only a little over 35 registrants, and a small number of papers, for the meeting. He was counting on about 100. The scuttlebutt around the EC listserver was "hey, the small meetings are often the best meetings" and that registrations usually pick-up in the month before the meeting. If you're the sort of member who's always wanted to get to a Lep. Soc. meeting but haven't because you were worried about getting "lost in the suffle", then this looks like the perfect meeting for you to get to!

Please note that the submission deadline for the next issue of the News has been extended from July 31 (which turns out to be during this years meeting!) to August 28. This will allow you some time to get your meeting photos/stories/ articles in for the next issue. Of special note is that most of you Marketplace advertisers are not reading the very prominent notes on the first page of the Marketplace (see pp. 56 in this issue). It is imperative that you renew or resubmit your ads, every two issues, before the deadline of the next issue. (Hint: this is why there are small numbers in the ads!) And do not send your ads to Ron Leuschner or Julian Donahue, send them to me.

Finally, see the membership update note on pp. 41 of this issue. Do it now...

Have a safe and enjoyable summer/field season. See you in Eureka?

The Marketplace

IMPORTANT NOTICE TO ADVERTISERS: If the number following your advertisement is "395" then you must renew your advertisement before the next issue! Remember that all revisions are required in writing.

Books For Sale

American moths of the subfamily Phycitinae (1966), USNM, \$25; Moths of America North of Mexico (hardbound), Fascicle 6.2 (Gelechioidea), \$55; Fascicles 13.1a-c (Pyraloidea), \$80; Fascicle 20.1 (Mimallonoidea and Bombycoidea), \$30; Fascicles 20.2a & b (Saturniidae), \$75; Fascicle 21 (Sphingoidea), \$50; Fascicle 22.2 (Noctuoidea-Lymantriidae), \$45 (plus shipping). Glenn A. Gorelick (Dept. of Biological Sciences), Citrus College, 1000 w. Foothill Blvd., Glendora, CA 91741, GGORELICK@CITRUS. CC.CA.US 403

For sale: John A. Comstock's **Butter-flies of California**. Price: \$300.00. Please contact Brian Harris or Dr. Brian Brown at the Natural History Museum of L.A. County Entomology Section, 900 Exposition Blvd., L.A. CA 90007. Fax 213-746-2999 or call 213-763-3364. 403

The aim of the Marketplace in the **News of the Lepidopterists' Society** is to be consistent with the goals of the Society: "to promote the science of lepidopterology...to facilitate the exchange of specimens and ideas by both the professional worker and the amateur in the field,..." Therefore, the Editor will print notices which are deemed to meet the above criteria, *without quoting prices*, except for those of publications or lists.

No mention may be made in any 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. **Bayers must beware and be aware**. Advertisements for credit, debit, or charge cards or similar financial instruments or accounts, insurance policies and those for travel or travel arrangements cannot be accepted be-

Updated List of the Butterflies and Skippers of Florida (Lepidoptera: Papilionoidea and Hesperioidea), recently published in Holarctic Lepidoptera 4(2): 39-50. Treats 193 species. English common names are provided. Type localities are given for species and subspecies described from Florida material. Also included are synonymous and infrasubspecific taxa that possess Florida type localities. The status (resident, naturalized resident, immigrant, accidental introduction, stray or status unknown) and general geographic range of each species and subspecies in Florida are indicated. Endemic, as well as rare and imperiled taxa are recognized. Erroneous records are noted in an Appendix. Copies can be obtained by sending \$.78 postage to John V. Calhoun, 977 Wicks Dr., Palm Harbor, FL 34684-4656. 401

New & Forthcoming Lepidoptera Books: **The Butterflies of Greece** by L. N.

cause they jeopardize our nonprofit status.

Only members in good standing may place ads. All advertisements are accepted, in writing, for two (2) issues unless a single issue is specifically requested and must be renewed before the deadline of the following issue to remain in place. All ads contain a code in the lower right corner (eg. 386, 391) which denote the volume and number of the **News** in which the ad. first appeared.

Advertisements <u>must</u> 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. <u>Send all advertisements to the</u> <u>Editor of the News</u>.

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 rePamperis. 574 pages. 1,174 colour photos. \$120.00. The Butterflies of Papua **New Guinea: Their Systematics &** Biology by M. Parsons. \$285.00. The Butterflies of Ceylon by Bernard DAbrera. \$160.00. Guide to the Butterflies of Russia & Adjacent Territories by V. Tuzov & L. V. Kabak. Vol.1: Hesperiidae, Papili-onidae, Pieridae, Satyridae. \$154.00. The Life Histories of Asian Butterflies Vol. 1. (Papilionidae, Pieridae, Danaidae, Satyridae, Amathusiidae, Nymphalidae, Lycaenidae and Hes-peridae). \$344.00. A new butterfly video: Wonders of the East by John Banks. Price include mailing. For full details of these and over 500 more Lepidoptera books contact: BUGBOOKS@CLASSEY. DEMON.CO.UK, +44 1367 244700, Fax: +44 1367 244800, E.W.Classey Ltd. Oxford House. Marlborough Street, Faringdon, Oxfordshire SN7 7JP. England. 401

solved by the parties involved, outside of the structure of The Lepidopterists' Society. Aggrieved members may request information from the Secretary regarding steps which they may take in the event of alleged unsatisfactory business transactions. A member may be expelled from The Lepidopterists' Society, given adequate indication of dishonest activity.

Buyers, sellers, and traders are advised to contact your state department of agriculture and/ or PPQAPHIS, Hyatsville, 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 resticting 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.

News of the Lepidopterists' Society

Journal of the Lepidopterists' Society, Volume 14 through 31, with supplements to volumes 24 & 25, with all but three of the Newsletters. All in good condition. Offers to: R. T. Shannon, 1/24 Lauderdale Road, Birkdale, Auckland 1310, New Zealand. 401

Now available: Monograph to the North American Heliothentinae by D.F. Hardwick. A comprehensive treatise on species of Schinia, Heliothis and related genera. Adults and over half of the larvae of the 147 species are illustrated in color. Species discussions include descriptions of immatures, food plants, distributions and periods of flight. The 7"x10" book has 279 pages including 25 full-page colored plates. A check list to species and a food-plant list is included. Eight new species are described, 23 lectotypes are designated, and 40 nominal species reduced to synonymy. Price Canadian: perfect binding, \$70+\$10 S&H; hard covered, cloth-bound, \$95+\$10. Price U.S. \$ soft covered, \$50 + \$10; hard covered, \$70+\$10. Available from Ms. Julia Hardwick, 535 Highland Avenue, Ottawa, Canada, K2A 2J5. Cheques payable to D.F. Hardwick. 395

New issues of Papilio (New Series) for sale: No. 8, Speyeria hesperus and S. atlantis are distinct species, J. A. Scott, N. G. Kondla and S. M. Spomer, 26 pp., \$3.00; No. 9, A New Celastrina for the eastern slope of Colorado, J. A. Scott & D. M. Wright, 18 pp., \$2.00; No. 10, *Phyciodes (Phyciodes):* new discoveries, new subspecies and convergence, J. A. Scott, 44 pp. \$4.00; No. 11, New western North American butterflies, J. A. Scott, 10 pp., \$1.00; Nos. 8-11, \$9.00; Nos. 1-11, \$29.00. All postpaid U.S. to: James A. Scott, 60 Estes St., Lakewood, CO 80226-1254.395

Livestock

For sale or exchange: Large selection of Iranian butterflies, perfect quality, with data. All Louristana sp., Hypbushirica, A. apollinaria, Colias sagartia, C. cholorocoma, C. aurorina, C. thisoa ssp. shahkuhensis, Euchloe, Papilionidae, Agrodiaetus and more. Many species from other families at fair prices; local or rare species that are allowed for exchange. Exchange or buy other kinds or pupae for breeding. I need any breeding information you can provide. Also, local beetles and dragonflies, books. Please send me your collection list or write for extensive price list to A. Karbalaye, PO. Box 11495-175, Tehran, Iran.

Cocoons & papered specimens of *Actias luna* for sale. Send a self-addressed stamped envelope to Ronald A. Royer, RD 4 Box 2295, Lebanon, PA 17042-9433, (717) 867-1021. 401

For sale or trade: ova of Catocala obscura, C. cara, C. vidua, C. judith, C. residua, C. cerogama, C. meskei, C. retecta, C. amica, C. ilia, C. mira, C. blandula, C. minuta, C. ultronia, C. piatrix, and C. robinsoni. Also, cocoons of A. luna. SASE please to James Mouw, 245 Sarah Avenue, Iowa Falls, Ia. 50126 401

Livestock: Saturniidae, Sphingidae, and Papilionidae of north eastern North America available in summer and fall of 1998. For a complete listing visit www3.PEI.SYMPATICO.CA/OEHLKEW (all lower case) or in Canada send SASE, in U.S.A. send SAE (no stamp) and 50 cents to Bill Oehlke, Box 476, Montague, P.E.I., Canada, COA 1R0, OEHLKEW@MONTAGUE-INT.EDU.PE.CA, 902-838-3455, Fax: 902-838-0866. 401

Wanted to buy: ovae and or pupae of Battus philenor, Heraclides cres-phontes, H. anchisiades, Papilio indra, Papilio palamedes, Agraulis vanillae, Heliconius erato and H. charitonius. I would also like to buy plants or seeds of Passiflora lutea and/or P. suberosa and Aristolochia tagala or similar species. Please contact David E. Stewart, P.O. Box 1206, Laytonville CA 95454, 707-984-8368, Fax: 707-984-7330, TROIDES@ SABER.NET 401

For sale or trade: A. polyphemus, C. promethia and Actias luna. Bill Kenney, 671 RR #1, Dixmont ME 04932, 207-257-2047. 401

I have cocoons of the following Saturnidae moths for sale: *A. polyphemus*, *A. luna* and *C. promethea*. My address is Gardiner E. Gregory, HCR 79 Box 259, Castine ME 04421-9706, 207-326-4639. 401 Wanted: Eggs of second generation of Antherea polyphmus and Callosamia promethea. I will purchase subject to price and availability. Contact: T. Ritchie Peery, 1304 Ware Road, Richmond, VA 23229-5941. 401

Wanted: Suppliers of Saturniidae livestock. Ova and/or cocoons are urgently sought especially from South Africa, South and Central America and Asia. Good prices paid. Please contact Mark Pickup, 2 Westburg Court, Westbury Street, Derby, England DE22 3PQ, 0044-1332-297928. 401

Specimens

For sale: Butterflies, moths and other insects from the tropical regions of the world. Many bred pairs of unusual butterflies from El Salvador as well as collectors' items with data for private collections, museums and schools. Request a catalog with color illustrations for \$5 refundable with first order. Please mention the Lepidopterists News when replying. Miguel Serrano 6823 Rosemary Drive,, Tampa FL 33625 403

Serving Lepidopterists since 1976. Many unusual specimens from Neotropics, Africa and Indo-Australia regions. Many bred or ranched specimens! Just mail US\$1 (cash or stamps) for our new 12page catalog to: Simon Ellis, Transworld Butterfly Co., Apartado 6951, 1000L San Jose, Costa Rica 403

For sale: Papered specimens and framed collections of Solomon Islands butterflies, beetles and seashells available for sale. Collections are available as orders, families and species in specially constucted display cases and insect drawers. Ideal for private collections and museums. For more information and Price List, write to: Patrick Nanau, Nature Science and Hobbies, c/o PO. Box 850, Honiara, Solomon Islands. 403

Searching for contacts (to buy or exchange butterflies and beetles) particularly from Mexico, Central America, Colombia, Brazil, Australia, South Africa, Indonesia, Tanzania and India. Please write to: Shin-ichi Ohshima, Shimohideya 707-99, Okegawa, Saitama (363-0025), Japan. Fax: (81) 48 787 0290 403

For sale/exchange: China Acoptolabrus, Coptolabrus (rare), Lucanidae (rare), Mecynorhina oberthuri, Argyrophegges kolbei, Cheirotonos szetshuanus 71mm, C. jambar, Xixuthrus heros 130mm, etc. Color pictures/list ¥1000 (Japanese yen) or \$8 US cash. Send me your list for exchange. Yoshiaki Furumi, 97-71 Komizo, Iwatsuki-Shi, Saitama-Ken, 339-0003, Japan.

Equipment

For Sale: Light traps, 12 volt DC or 110 volt AC with 15 watt or 8 watt black lights. The traps are portable and easy to use. Rain drains and beetle screens protect specimens from damage. Free brochure and price list available. Also: Battery charging system for 12 volt batteries (car, yard tractor, marine & deep cycle) for use in cars, RV and pick-up trucks while traveling. System plugs into cigarette lighter and will safely charge up to four 12 volt batteries in three hours. Great for the traveling lepidopterists with light traps. Also: Custom made light fixtures for permanent and/or stationary light traps. Stainless steel design; Mercury Vapor, Sun Lamp, Black Light and Black Light Dark; together or any combination. Electrical control with photocells and/or timers. Includes plans for enclosures with rain drains and sorting trays. For more information, contact: Leroy C. Koehn, 6085 Wedgewood Village Circle, Lake Worth, FL 33463, 561-966-1655.403

Wanted: Interior steel 21 drawer insect cabinet, Model P500; for Cornell drawers (23"W x 19"D x 72"H); color: beige. Contact: John W. Peacock, 185 Benzler Lust Road, Marion, OH 43302-8369, 740-389-4886.

Art

Beautiful butterflies laminated between beveled glass. Felt bodies, thread antennae, soldered and antiqued. Suncatchers, diamond shaped (4" x 7") \$25.00 includes postage. Mary Jane Zissoff, Trilogy of Art, Box 143, Parry Sound, Ontario, Canada. P2A 2X3. 705-746-4147, www. ZEUTER.COM/PARRYSD/SPECIALTY STORES 403

Wanted: As part of a research project into insects in poetry, I would like to hear from anyone who knows of poems by any poet, classical or contemporary, published or unpublished, in which an insect or insects of and Order are featured, specifically or generally. All correspondence acknowledged. John Tennent, 1 Middlewood Close, Fylingthorpe, Whitby, N. Yorkshire YO22 4UD, England. 401

Information Wanted

Correspondence wanted: with individuals who have collected butterflies and skippers from New Jersey or have specimens in their collections from New Jersey. I am particularly interested in specimen data, larval host plant records, nectar resources, observations, etc. for an ongoing study of New Jersey's butterflies and skippers. Contact Dr. David C. Iftner, 8 Alpine Trail, Sparta NJ 07871. 395

Audio/Visual

A 3.5" personalized diskette of website www3.pei.sympatico.ca/oehlkew is available for PC's. The diskette can be run without logging onto the internet, but a browser is needed. The diskette offers the opportunity to enter your own collecting, rearing, etc., notes on attractively pictured web pages in html format. The files may also be copied to your hard drive to help you build a virtually unlimited library resource. Free technical support is available. \$8.00 U.S. includes postage and handling. Bill Oehlke, Box 476, Montague, P.E.I., Canada, COA 1R0 email: OEHLKEW@ MONTAGUEINT.EDU.PE.CA (all lower case), 902-838-3455, Fax: 902-838-0866. 401

New Video, Spring 1998: **Common Butterflies of the Southeast**. Spectacular digital video footage of the region's 55 common species. Field identification, butterfly habitats, and basic resources provide an excellent introduction to butterflying. 30 min. VHS. Also available: **Common Butterflies of the Northeast**. 30 min. VHS, **Skippers of the Northeast**. 48 min. VHS, **Common Dragonflies of the Northeast**. 30 min. VHS. Orders: 1-800-343-5540. Each video is \$24.95. S&H is \$5 for the first and \$2 for each additional unit. Credit cards accepted or mail check to

Natural History Services, 22-D Hollywood Ave., Ho-Ho-Kus, NJ 07423. Details: www.concord.org/~DICK/ 401

Help Needed

Wanted: Seeds of the following plants: Wall Pellitory – Parietaria officinalis, Stinging Nettle – Urtica dioica, Water Soldier or Crab Claws – Stratiotes aloides. Also would like 6 to 8 small cuttings of Gray Sallow – Salix atrocinerea. Contact: Randy Robinette, 7302 Midland Trail Rd, Ashland KY 41102-9294. 401

The Philatelic Lepidopterists' Association was founded in 1992 to provide a means of communication among those interested in butterfly and moth stamp collecting. Dues of \$10 per year (\$12 if outside the USA) pay for first class mailing of the 4 quarterly newsletters. New issues of worldwide butterfly and moth stamps are the main feature of the Philatelic Aurelian, edited by Alan Hanks. For information or membership, contact Charles V. Covell Jr., Dept. of Biology, University of Louisville, Louisville, KY 40292-0001 U.S.A., CVCOVE01@HOMER.LOUISVILLE.EDU 401

Members...continued from pp. 55

Wu, Pei-Heng: #14-2, Chu-Moon, Shishanli, Meinung, Kaohsiung, Taiwan, Republic of China.

Zufelt, Kirk W. (M.D.): 1001 Third Line East, RR#5, Sault Ste. Marie, Ontario P6A 6J9, Canada.

Books...continued from pp. 55

when needed. Specific species are used as examples with full color illustrations. For instance, the chapter on Courtship uses the Grayling Satyr, the Queen, and the phycitine pyralid *Ephestia* [now *Cadra*] *cautella* to show the flight techniques by each species.

It seems that wherever one opens this book, there is something interesting to look at, and something informative to read. It is not just another book about pretty butterflies, but an excellent reference on Lepidoptera study as a whole.

> Ron Leuschner 1900 John St., Manhattan Beach, CA 90266

Announcement

Journal of Insect Conservation



Kulja....continued from pp. 50

male was unknown until this point. Many Heterocera, such as species of *Leucanitis* as well as Pyralidae and Psychidae, were extremely interesting.

However the regular collecting began only when we stopped for one month in the delta of the Korgoss river. Here we split our tasks: my companions collected birds, mammals, and so forth, leaving to me and my technician the responsibility of hunting for Lepidoptera, which we did during the day in the desert and at night at lights at our camp. The light collecting was the most interesting. Here, as it was mentioned by Wallace when talking about his collecting in the Malay archipelago, and as was noticed by other naturalists, myself included, during collecting in Russia, light collecting was the most productive during cloudy and rainy nights. Here we collected, for example, species of great interest such as Harpyia przevalskii, Mamestra khorgossi, Timandra sympathica, Myelois euclastella, and many others.

This is a new, international, peer-reviewed journal, now being published by Chapman & Hall, that serves the growing community of scientists and conservation practitioners concerned with the conservation of insects and their habitats. The journal publishes papers on all aspects of conservation relating to the insects and closely related taxa such as Arachnids and Myriapods, including ecological work which has conservation implications.

Papers may address the subject at the community, species or population level; may cover aspects of behavior, taxonomy or genetics; be theoretical or practical, and be local or global in nature. A particular aim of the journal is to bridge the gap between scientific research and practical conservation management. To this end short communications which address the problems of practical conservation management and/or suggests practical conservation strategies are encouraged. In addition, rapid publication is a priority in order to ensure that you receive the most current and up-to-date information available. The Journal of Insect Conservation also publishes Reviews, Guest Editorials and Book Reviews.

For further information or guidelines for authors please contact:

Dr. Andrew Pullin, Editor, Journal of Insect Conservation, School of Biological Sciences, The University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK email: A.S.PULLIN@BHAM.AC.UK

Instructions for authors and on-line copies of the journal are also available via the internet at: www.thomsonscience.com

The presence of tigers in the area did not at first interfere with our collecting, however soon we had to be constantly alert: not being satisfied by killing our two horses, and being encouraged by the success, tigers started wandering around the camp, approaching closer and closer every day. One night a tiger made an ambush next to the trail by which we usually returned to the camp and almost attacked us. Fortunately our dog smelled the tiger and warned us about its presence.

The plan of the journey made in advance did not allow us to stay in the sandy desert any longer: we had to return to Kulja to prepare for the expedition to the Tian-Shan mountains. This preparation required a lot of time and work. Regretfully we left our Korgoss camp in the desert; a place a lepidopterist would never want to leave, and on the morning of the 18th April returned to Kulja. Our first worry was to put in order all the collection and notes made up till that date. Then we had to buy camels, horses and food supplies and to renew some of

our equipment.

Despite the fact that this preparation took all of our time, on the 22nd of April we still made an excursion to the Siram-Nor lake, which, according to our calculations, was at 6200-6400 feet in the mountains of Altin-Imel' to the north of Kulja. On the 23rd of April we reached the ravine of the Talka, where we met a unit of Kazaks, who had orders to prevent the exportation of bread from the Ili river valley into China. We were slowly moving along the river, which was running in the picturesque ravine gradually ascending to the 7000 feet. Here we caught several wonderful species of Lepidoptera, which we had not seen in any other place, such as *Leucanitis rada*, Pieris leucodice, Psecadia pyrausta, P. nigripedella, and others.

To be concluded in the next issue of the **News of the Lepidopterists' Society**.

Ed. note: How do you feel about longer articles, such as this one, being serialized in the **News**? Let me know what you think...

Review:

The Butterflies of North America on CD-ROM

by James A. Scott. © 1986-1997 Stanford University Press and James A. Scott. CD contents © Hopkins Technology, LLC. List Price \$49.95 + \$5.00 shipping and handling. Available from Hopkins Technology, 421 Hazel Lane, Hopkins, MN 5543-7116, 1-800-397-9211, WWW.HOPTECHNO.COM

Most of you have, by now, seen the announcement/advertisements for the CD-ROM of James Scott's monumental work, **The Butterflies of North America: a natural history and field guide** (Stanford University Press, 1986). But, if you're like me and bought a copy of the book (either in its original hard cover or the more recent paperback) is it worth shelling out another \$50 for the CD-ROM? Sadly, no. However; if you never bought the book and have been thinking about buying it (and have a Windows PC) then you might want to consider the CD-ROM.

The CD-ROM is almost a verbatim reissue (albeit with many new, though not altogether useful, photos) of the book with a few very minor additions. Therein lie both its strengths and its weaknesses – it is very much like the book and it is too much like the book!

The CD needs a PC running Windows 3.1 or higher, a VGA or better display and a CD-ROM drive. A sound card is recommended (but see below). This means that if you have a Mac (and if it doesn't have a PC hardware card or it's not powerful enough to run one of the PC emulator programs) then you're out of luck. The CD installation was quick and simple on my Win95 system: it ran on insertion, recognized that the CD had not been installed, asked if it was ok to install (note that there is no uninstall feature), then proceeded to install a few files (mostly dynamic link libraries) into my Windows\System folder and put a shortcut to the CD on my Start menu. Thereafter, insertion of the CD brings up a window with two choices: "play" or "exit".

Playing the CD brings up a full screen window with a hypertext image map that anyone who's used a web browser

will be instantly familiar with. The Window Menu options include the usual File, Edit and Help and a Bookmark menu. Through these menus, you can print individual topics to your printer (including photographs, note however, that there is no way to save photos or figures to your disk, except using a screen capture program - one is recommended in the CD liner notes), copy text (only) to the clipboard for use in other programs, annotate particular entries (annotations are stored on your hard drive and show up as a "paper clip" icon whenever you subsequently access that entry on that computer),



and set multiple bookmarks to facilitate easy location of commonly browsed entries. The program's submenu offers options that will also be familiar to anyone who's used Window's help system or a web browser: *Contents* (brings you back to the opening image map from anywhere else), *Go Back* for backtracking one step, *History* brings up a window showing your complete navigation path and allows you to go back to any particular step in your hyperlink trail, *Search* (the search engine is similar to any others that you might be familiar with), << (back) and >> (forward) navigation buttons, and *Music* (more on this later).

The hypertext image map includes a total of 11 links: clicking on the CD title takes you directly to the "meat" of the book/CD, the butterfly treatments (there is also a The Butterflies link for this) while clicking on the author's name take's you to a credits screen. The nine specified hyperlinks take you to (clockwise from the upper right corner) Identification of Eggs, Larvae, Pupae and Adults, Tables, Identification Collections, Reference Matter, Video, Appendices, Figures, The Butterflies and Biology and Ecology. If these sound familiar its probably because they all correspond to various parts of the published book, for example, Identification... takes you to the CD equivalent of Part II (pp. 121-153) of the book.

Each of these main links takes you to a simple list of links - no pictures, no icons, just a list of links. For example, the Biology and Ecology link takes you to a page containing hyperlink titles (identical to those in Part I, pp. 9-118 of the text, except for the addition of a short essay on butterfly gardening which begins with how useless most butterfly gardening guides are!) which, in turn, take you to individual topics. The Figures and Tables links lead to lists of Figure numbers (that lack even the simple descriptions found on pp. xi and xii of the book) and to all of the Tables (both of them!).

Where the CD succeeds is in the use of extensive hyperlinks: words underlined with a dashed line indicate a "glossary" entry link (there are many of these and are one of the highlights of using the CD), those with a solid line lead to other entries (similar to web pages), or image

thumbnails that lead to enlarged images Feature Photo... (it was disappointing that the range maps, unreadable at the resolution and size they've been reproduced, didn't get the same treatment).

Where it falls down, however, is the lack of what CD-ROM's do best: multimedia. Oh sure, there's music (pleasant enough, if you specifically choose it from the program's submenu) but it cuts off every time you click on another hyperlink! There are even some videos (16 butterfly videos, 6 by the author and the remaining 10 by Mark D. Schmidt, heavy emphasis on swallowtails, although at least a few of them are just longer videos that were split into two) – including an additional 9 moth videos (the best on the CD!) and 18 moth photos (all again by Mark Schmidt) - but the poor video quality, and their scarcity, make them almost useless. Many of the newly added photos are uncropped (the black border is unsightly at the least) but even worse, many of them have not been sharpened (ALL scanned images need sharpening to some extent or another). Similarly, the Figures have been optimized for on-screen viewing so lack enough resolution to print decently.

Of course, the worst part of having to "read" a CD is not a problem specific to this title (although the amount of reading here is huge) but is that you have to sit at your computer to do it. It's not like relaxing back with the book (and guys, you'll not be taking this version to the bathroom!). I don't know about you, but my computer is set up to facilitate work, not relaxation (although a good game or multimedia title can be enjoyed with my setup - Pat and I worked ourselves through Myst in two solid weeks of "work-avoidance" a couple of years ago!). In the end, the transfer of Scott's book to a CD-ROM is a monumental task that (almost) equals the writing of the book itself. It's just such a pity that they stopped there when they could have done so much more with it.

Phil Schappert

897 1949

Department of Zoology, University of Texas, Austin, TX 78712-1064

Up Close and Personal

Andrei Sourakov

Department of Entomology, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118



Head of the last instar of Achlyodes mitridates (Hesperiidae), Jarabacoa, Dominican Republic, feeding on a citrus tree. This photo shows off the texture of the head structures on a live specimen (as opposed to an SEM where all of the structure appear "hard"). Photo taken, "for no particular reason", by Dr. Andrei Sourakov.

".what has happened to those originals... green net, tin box on a sling, hat stuck with pinned butterflies, long learned nose, candid eyes behind spectacles - where are they all ...?"

Nabakov (see pp. 49 for the rest of the story...)

882 198⁰

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:

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

Dues Rate

Active (regular)	\$ 35.00
Affiliate	5.00
Student	15.00
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Contributor	100.00
Life	1400.00
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. DONAHUE@CAROLI.USC.EDU

Our Mailing List?

Contact Dr. Donahue for information on mailing list rental.

Missed or Defective Issue?

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

Journal of the Lepidopterists' Society

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

Dr. M. Deane Bowers, Editor Journal of the Lepidopterists' Society Entomology Section, University of Colorado Museum, Campus Box 218, University of Colorado, Boulder, CO 80309-0334

Phone (303)492-5530, FAX: (303)492-8699 E-mail: BOWERS@SPOT.COLORADO.EDU

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

Book Reviews

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

M. Alma Solis Systematic Entomology Lab., USDA, c/o National Museum of Natural History, MRC 127, Washington, D.C. 20560. (202) 382-1785 (office) (202) 786-9422 (fax) ASOLIS@SEL.BARC.USDA.GOV



Submission Guidelines for the News

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

1. 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* email.

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 (see right). Material for Volume 40 must reach the Editor by the following dates:

Issue	Date Due
1 Spring	too late
2 Season Summary	you missed it
3 Summer	gone by
4 Autumn	August 28
5 Winter	October 31

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 Zone 6, South-Central: Zone coverage details.

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