

NEWS

of the LEPIDOPTERISTS' SOCIETY

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ASSOCIATE EDITOR

NEWS
FROM
EUROPE
W. O. De Prins



ZONE COORDINATORS

- | | | |
|-----------------|------------------|------------------------|
| 1. Ken Philip | 6. Ed Knudson | 10. Dave Winter |
| 2. Jon Shepard | 7. Ross Layberry | 11. Donald Preston |
| 3. Bob Langston | 8. Les Ferge | 12. Eduardo Welling M. |
| 4. Ray Stanford | 9. Andy Beck | 13. Boyce Drummond |
| 5. Ron Royer | | |

Investigation Conducted

At the June 1992 Lepidopterists' Society Meeting held in East Lansing, Michigan a general announcement was made during the sessions that a Lepidopterists' Society member had been visited at home by U.S. Fish and Wildlife personnel and that specimens had been removed from the premises for further examination. Since that time other lepidopterists have also been visited and have been questioned or have had specimens removed for further examination. Though details of the investigation are not known, the specimens may have been obtained or transported in manners considered illegal under laws such as The Endangered Species Act, CITES, and The Lacey Act.

Presidential Profile



Ray E. Stanford has been a Society member since 1955, by which time his interest in Lepidoptera and natural history was well-established. He was born in San Diego, California, on 4 December 1939, in the same city where both of his parents were born. They were accomplished amateur musicians, so Ray started picking out tunes on the family piano at age 2, began piano lessons at age 4, and participated in his first (scary!) recital at age 6. This interest has continued to the present, he having played numerous recitals and served as student organist while an undergraduate at Stanford University. His interest in butterflies began at age 8, and a checklist of species in his neighborhood at age 10 grew and grew, eventuating in the current *Atlas of Western USA Butterflies, Including Adjacent Portions of Canada and Mexico*, co-authored by his friend from high school days Paul Opler.

His parents, Maxine and Dwight Stanford, recognized his embryonic but enthusiastic interest in nature early on, so enrolled him in a summer course at the San Diego Natural History Museum in 1948. The round trip streetcar fare was 5¢. Important teachers this and the next two summers included Tom Pagenhart, Paul Spade, Fred Thorne, John Adams Comstock, Francis X. Williams, and Charles F. ("Harbie") Harbison (not to mention a few school teachers too). With a little growth and maturity by age 15, Ray was ready for his first Lepidopterists' Society meeting, the Pacific Slope Section, in San Diego, at the beloved Museum in June 1955, where he joined the Society. The next year, with a still-wet learner's driving permit, he and his sister, Gail, took several short day-trips out of Miami, Florida, and saw nearly unbelievable butterflies and moths, with guidance from Mrs. Florence Grimshawe, a respected local lepidopterist. The next year, while a high school senior in San Diego, Ray and three friends happened upon another collector high in the Laguna Mountains of San Diego County: it was Paul Opler! This warm friendship and collaborative research have continued for 35 years. The years as a student at Stanford solidified Ray's interest and ability in study of Lepidoptera, aided by Bill Tilden, Bob Langston, Don MacNeill and John Burns (do you see the germ of his interest in skippers?). From 1961 to 1966 Ray moved back south, to attend and receive the M.D. degree from UCLA School of Medicine, during which time he found precious little time for Lepidoptera or music but met and married Katharine Ann ("Kit") Doyle, a friendship and love that have endured and grown for 30 years, and have included mutual interests in music, nature, history, and even Lepidoptera.

After both graduated from UCLA (she with a degree in anatomy), they

moved to Denver, Colorado, which has been their home ever since, except for two years in military service in New Jersey. Ray completed a residency in Pathology at the University of Colorado Health Sciences Center in 1970, and has been a member of the Pathology faculty there ever since, with major interest in chronic obstructive and interstitial lung diseases and over 30 publications in this area including portions of 3 books. He recently had the pleasure of teaching a section in the medical school pathology course to the daughter of one of his first students 25 years earlier (scary!). Kit's and Ray's two children, Linda and Scott, were born in Denver, and currently live and work in the California Bay Area having graduated from Stanford and beyond.

His involvement in the Society has included a position on the Executive Council as Member-at-Large, Vice President, and Zone 4 Season Summary Coordinator (1979-present). He has also served on numerous committees including the nominating committee in 1989, and has been de facto co-chairman of the Pacific Slope Section planning committee with Jerry Powell for decades. He and Jerry established the John Adams Comstock Award at the Pacific Slope Section meeting in 1979, which continues to this day, honoring both students who present papers at the meetings and pioneer lepidopterists in the West. Ray has written the biographical sketches of F. Martin Brown and Fred T. Thorne as honorees, and helped judge the student papers nearly every year.

Current interests of relevance include the biology and distribution of Lepidoptera in Western North America, taxonomy of North American skippers (Hesperioidea), and conservation issues in general. He is a Research Associate at the Denver Museum of Natural History and the San Diego Natural History Museum. Ray and Kit are active birders, and members of the Denver and National Audubon Societies, as well as supporters of several local and regional organizations related to their interest in classical music. Publications include over a dozen scientific papers on Lepidoptera, notably the skipper section and range maps in *Butterflies of the Rocky Mountain States*, edited by C.D. Ferris and F. Martin Brown. His collection of nearly 100,000 insect specimens is available for study to any qualified individual (essentially anyone), and will one day be moved to a public institution for permanent safekeeping. Ray has also been a long-time member of the Xerces Society, having served as meeting chairman and member of the Board of Directors, as well as Zone III editor of the Fourth of July Butterfly Counts.

Ray and Kit have attended either the national or Pacific Slope Section Lepidopterists' Society meetings, or both, nearly every year since 1966. He is honored to have the opportunity to serve the Society as President this year, and she supportive. They wish especially to be able to encourage the interests of young and avocational Society members, while drawing on the expertise of professionals in this endeavor.

A Message from Our President

I was very honored to be elected president of the Society, and will try to carry on the fine work of Floyd Preston and his predecessors. I had only a few moments at the podium at the Michigan meeting, but wish to reiterate my thanks to Floyd and Dave Winter for making the transition so smooth. Kit and I will serve all of you as well as we can in this year, and those of you who know me will know it will be done with a smile but conscientiousness. I will address you at next year's meeting in Ft. Collins, Colorado, on the subject of the comparative distribution and importance of Lepidoptera and Lepidopterists, which I hope will be of interest to all members and families.

Among the issues I must address in the coming months are the Society position on endangered populations of Lepidoptera, whether listed or not, importation of specimens from other countries and the role of our government in restricting such importation, and whether

our or other nation's collecting restrictions can be retroactive in the United States (I believe that they cannot be). Personally, and as spokesman for the Society, I believe that all of us should be aware of all laws and rules regulating the collection/study of Lepidoptera, should abide by them while perhaps going on record where we believe they are too restrictive or too vague, and we must become more aware of and active in issues of conservation. Over 2000 years ago, Aristotle wrote "Where we are free to act, we are also free to refrain from acting, and where we are able to say no, we are also able to say Yes".

Ray E. Stanford
President
Denver, Colorado

Have You Paid Your Dues?

If you have not paid your dues, this may be your last issue.

Continued Habitat Destruction in Rondonia

As a recent visitor to the rain forest in Rondonia, Brazil, I was appalled that the deforestation in this area has progressed at an alarming rate in the area around the Fazenda Rancho Grande. We are all aware of the tremendous species diversity of invertebrates present at this location by reports in the NEWS by Emmel (1989) and Emmel and Austin (1990) and Emmel (1991). To date, over 1400 species of butterflies have been identified from this locale. In addition, many new species have been identified in other invertebrate groups. I witnessed a bulldozer clearing the charred remains of a portion of rain forest just across the road from the Fazenda Rancho Grande where I had collected butterflies just 16 months earlier. On highway B-80 intensive logging efforts were initiated on the virgin timber during our two week stay this April. In addition, excellent collecting areas present during my 1990 visit are now cleared.

Conservation efforts to preserve the rain forest have been initiated with the formation of FAUTRON, a rain forest preservation project dedicated to preserve a sufficient quantity of land (estimated at 10,000 to 12,000 acres) to maintain the species diversity of invertebrates as well as most of the small mammals. At the present time, FAUTRON has approximately 1250 acres of land with funds raised by private donations for an additional 1250 acres. Sufficient forest is still available, but because destruction is proceeding at such an alarming rate, money is urgently needed to purchase additional land before our window of opportunity to salvage this tremendous species diversity is closed forever. I would like to make a personal appeal to all members of The Lepidopterists' Society to contribute money to this most worthwhile project.

Please send your tax deductible contribution to Dr. Thomas Emmel, 421 Carr Hall, University of Florida, Gainesville, Florida 32611-2019. Please make your check payable to The Association for Tropical Lepidoptera Incorporated, Research Fund (Rondonia Rain Forest Fund).

This new US Fund for tax deductible contributions will be administering the Rondonia Rain Forest Fund with no overhead charges and will ensure the fastest possible transfer of funds to FAUTRON when land-purchase negotiations reach culmination. Dr. Tom Emmel will be personally checking each land parcel that is slated

for purchase. I encourage all members of The Lepidopterists' Society to join me in supporting this important project.

J.D. Turner
Huntsville, AL

Collecting in National Forests

Lepidopterists are continuing to report instances where Forest Service officers have attempted to restrict their activities, usually specimen collecting in Wilderness areas. Hopefully, the following information will reduce the potential for future conflict.

Generally, butterfly and moth collecting is unrestricted on all National Forest lands, including wilderness areas. There are exceptions. The Forest Service has the authority to issue orders which close or restrict the use of specific areas for reasons such as fire prevention, public safety or for the "protection of threatened, endangered, rare, unique, or vanishing species of plants, animals, birds or fish, or special biological communities". In these cases, the orders are available in local Forest Service offices and are to be displayed "in such locations and manner as to reasonably bring the prohibition to the attention of the public". Additionally, commercial collecting and formal research requires special permits.

Wilderness areas are a special part of the National Forests. They may have prohibitions or restrictions in addition to those for the general forest. For example, access may require a special permit. Visitors should remember that wilderness areas were established to remain "untrammelled by man".

Collecting trips to the National Forests should be preceded by a letter, call or visit to the nearest Forest office to determine if any specific Forest orders are in effect. If there are none, National Forests remain exceptional places to visit and to pursue a wide range of recreational activities, including butterfly and moth collecting.

The Forest Service manages almost 200 million acres of public land and many of their activities (pesticide use, timber harvesting, wilderness plans, forest closures) may interest or affect lepidopterists. The Forest Service encourages public involvement during the planning of these activities but is not well connected to the lepidopterist community. Although the most effective level of communication is at the local Forest or Ranger district, the formation of a Lepidopterists' Society - Forest Service "partnership" may be worthy of consideration.

Laurence Crabtree
Supervisory Forester,
Lassen National Forest
Chester, California

Reviewed by: Bernie Weingardt, National Recreation Strategy and Partnerships Leader, Forest Service, Washington, D.C.

Familiarize Yourself With Wildlife Laws The Lacey Act, CITES permits, & Collecting in Mexico

THE LACEY ACT

The Lacey Act, as originally passed in 1900, established regulations that prohibited the importation of wildlife into the United States considered to be injurious to human beings, to the interests of agriculture, horticulture, forestry, or to wildlife or wildlife resources of the United States.

In 1981, the Lacey Act (Act) was amended to strengthen Federal laws and improve Federal assistance to States and foreign governments in the enforcement of fish and wildlife laws. Today, the Act has become a vital tool used in efforts to control smuggling and trade in illegally taken or possessed wildlife. The Lacey Act also regulates the transportation of live wildlife, requiring that animals be transported into the United States under humane and healthful conditions.

For the purposes of the Lacey Act, the term "fish and wildlife" is defined as: any wild animal, whether alive or dead, including without limitation any wild mammal, bird, reptile, amphibian, fish, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, whether or not bred, hatched, or born in captivity, and includes any part, product, egg, or offspring thereof.

Individuals convicted of violating the Lacey Act may be fined up to \$100,000 and sentenced to one year in jail for a misdemeanor offense, and up to \$250,000 and five years imprisonment for felony convictions. Organizations or corporations in violation of the Lacey Act can be fined up to \$250,000 for a misdemeanor, and as much as \$500,000 for a felony offense.

There are approximately 11 wildlife protection laws in the United States and many species are protected by more than one law. For example, lepidoptera that are protected under the Endangered Species Act are also afforded international protection under the Convention On International Trade In Endangered Species Of Wild Fauna And Flora (CITES). Additionally, if you are in possession of an illegally obtained species, whether obtained by you or by someone else, you are in violation of the Lacey Act. Therefore, as a lepidopterist, you must satisfy the requirements of all laws under which a particular species is protected.

Both the Endangered Species Act and the Lacey Act authorize Federal agents to seize any wildlife which they have reasonable grounds to believe was taken, possessed, transported, or imported in violation of any provisions of these laws. An agent must act within the scope of the laws of search and seizure to seize specimens in question.

CITES PERMITS FOR COLLECTING IN FOREIGN COUNTRIES

Under the Convention On International Trade In Endangered Species Of Wild Fauna And Flora (CITES) every party nation has specific requirements that regulate the import and export of imperiled species. Each country has a management authority that sets their own domestic measures to govern wildlife collection procedures and import/export permit requirements. Because foreign laws vary among nations, as a lepidopterist you must accept personal responsibility for determining the legality of collecting and possessing species taken from foreign countries. Always contact the appropriate management authority within the country of origin to obtain required documents *before* collecting and exporting protected species.

Specific questions regarding permit requirements for importing and exporting CITES protected species in the United States should be addressed to the: U.S. Fish and Wildlife, Office of Management Authority, 4401 N. Fairfax Drive, Room 432, Arlington, Virginia 22203. You may also phone 1-800-358-2104 or (703) 358-2104 or (703)358-1949. This office accepts permit applications, coordinates their review and determines whether or not a permit or certificate should be issued.

CITES protected species are:

Species:	Common name	Appendix
<i>Bhutanitis</i> spp.	Bhutan glory swallowtails	II
<i>Ornithoptera</i> spp.	Birdwing butterflies	II
(all species except those in App.I or with earlier date in App. II)		

<i>O. alexandrae</i>	Queen Alexandra's birdwing	I
<i>O. allotei</i>	Birdwing butterfly	II
<i>O. chimaera</i>	Birdwing butterfly	II
<i>O. goliath</i>	Birdwing butterfly	II
<i>O. meridionalis</i>	Birdwing butterfly	II
<i>O. paradisea</i>	Paradise birdwing butterfly	II
<i>O. victoriae</i>	Queen Victoria's birdwing	II
<i>Papilio chikae</i>	Luzon peacock swallowtail	I
<i>P. homerus</i>	Homerus swallowtail	I
<i>P. hospiton</i>	Corsican swallowtail	I
<i>Parnassius apollo</i>	Mountain apollo butterfly	II
<i>P. apollo</i>	Mountain apollo butterfly	II
<i>Teinopalpus</i> spp.	Kaiser-I-Hind butterflies	II
<i>Trogonoptera</i> spp.	Birdwing butterflies	II
<i>Troides</i> spp.	Birdwing butterflies	II

COLLECTING IN MEXICO

Recognizing that a significant number of rare lepidoptera are indigenous to Mexico, it must be understood that Mexican law strictly controls wildlife imports and exports. On September 20, 1982, the Secretaria de Agricultura y Recursos Hidraulicos issued an order that prohibits the import and export of endangered species except for purposes of scientific exchange or when an export involves products from registered captive breeding facilities. It also prohibits the commercial export of live wildlife and products and the export of dead animals and animal products. This order, entitled "Bases de Control y Regulacion de Exportaciones y Importaciones de Fauna Silvestre y Sus Productos Derivados" remains in effect today.

In general terms, it is a violation to collect and export lepidoptera from Mexico. In the United States, if you are in possession of a Mexican species which was illegally taken, then you have violated the Lacey Act.

For additional information regarding wildlife laws in Mexico, contact the Mexican wildlife management authority:

Secretaria de Desarrollo Urbano y Ecologia
 Subsecretaria de Ecologia
 Direccion General de Conservacion Ecologica de los Recursos Naturales
 Rio Elba No. 20, 10 piso
 Delegacion Cuauhtemoc
 Mexico, 06500, D.F.
 Phone (525) 2869276; 2869278 Fax (525) 2866625; 5539073

BE RESPONSIBLE

The Lepidopterists' Society members should develop a "country file", with the names and addresses of management and scientific authorities in foreign countries that regulate trade and issue export permits. You should always contact the wildlife management authorities before collecting and exporting from any country. Be sure to allow at least 60 days to acquire the required documentation. Failure to allow sufficient time to obtain the proper documentation and permits could result in violations of CITES, the Endangered Species Act, and the Lacey Act. Prior planning and preparation will alleviate the possibilities of violating the laws that regulate trade and afford domestic and international protection to endangered species.

Specific questions related to lepidoptera and the Lacey Act should be referred to the local U.S. Fish and Wildlife Service, Division of Law Enforcement office listed in the Federal Government section of your phone book. Or call (703) 358-1949.

Submitted by, Anne-Berry Wade, Writer/Editor, U.S. Fish and Wildlife Service, Division of Law Enforcement, Arlington, VA.

An Update on Insect Collecting on Florida Parks, with Special Emphasis for Southern Florida

For years entomologists have freely visited many places in southern Florida seeking species with subtropical affinities. Most of these activities have been focused on the largely undeveloped and uninhabited portions of north Key Largo and on portions of Big Pine Key. Because of development and limited access, most of the other Keys islands have been largely ignored by collectors for the most part, and due also to the fact that those seeking to visit the region have historically tended to visit the same places others have gone before them. However, things are not the same as they used to be for many reasons.

During the past few years a very aggressive land acquisition program has been in progress in the Florida Keys, an effort aimed at buying up undeveloped tracts to preserve and protect habitat for the many unique plants and animals found here and nowhere else in the United States. Unfortunately, many of the very same spots visited so freely in the past now are rather suddenly under either state or federal management and control, and stringent rules and regulations applicable to these public lands are now being rigidly enforced. It is also very unfortunate that virtually no previous attempt has been made to inform the collecting community of the changes in access and policies which affect those wishing to visit and collect in the region.

A fact also unknown to most entomologists, professional and amateur alike, is that the entire Florida Keys region is regarded as a State Wildlife Refuge by the Florida Game and Fresh Water Fish Commission (G&FWFC), and attested to by the presence of a large sign as one approaches Key Largo from the mainland along US Highway 1. While the original intent of this sign was to warn against hunting, the interpretation now has also been extended to include collecting insects.

What this means to entomologists is that on all Florida State Parks and State Refuge Areas - all lands directly under the control of the Florida Department of Natural Resources (DNR) - you must have a permit to legally collect insects. In addition, you must have a permit to collect on public land under the jurisdiction of the U.S. Department of the Interior, which includes the Crocodile Lakes National Wildlife Refuge (NWR) on Key Largo and most of Big Pine Key and surrounding land areas. The majority of territory familiar to most of us on Key Largo is now part of DNR holdings given the name of North Key Largo State Botanical Site.

Access to all areas directly under the control of either state or federal agencies is carefully regulated and controlled to prevent abuses mandated by laws and regulations. And since the entire Keys region is regarded as a State Wildlife Refuge, you could find yourself in trouble simply by walking down a road right-of-way with an insect net in hand. Monroe County police and Florida Highway Patrol both will stop you and ask for a permit if they see you collecting insects. These folks are only doing what they are supposed to do - enforce the law. The problem here is that most entomologists are not fully aware of the current laws, not to mention access, simply because in the past the laws were not enforced like they are today. Because of local publicity, you will also find that Keys residents are pretty familiar with many of the unique plants and animals - including insects - found in the keys. The Florida Keys Audubon group apparently has taken a very negative view of general collecting, and has been very instrumental in applying pressure on both state and federal land managers; apparently they have not yet realized that the true biological diversity and uniqueness of the Florida Keys lies primarily in the insect fauna, and that we still know very little about most of them. Regardless, it is unwise to collect anywhere in the Keys region right now unless you have obtained the necessary permits.

The recent land acquisition process, coupled with the fact that there are a number of state and federally-recognized restricted plants, animals, and insects, has created problems for both entomologists and land managers. Perhaps the biggest portion of the current problem lies with the fact that very little has been done to communicate changes in public land access and differences in interpretation of the laws and regulations now in effect and being enforced. Apparently many collectors have been finding out the hard way, and at the same time those in land management positions have been given a generally unfavorable impression of entomologists.

Park personnel in the Keys region face many problems, and are very fearful of collectors who may be interested in restricted species. Indeed, EVERY collector is looked upon as a potential threat, simply because they do not know everyone, and they realize the foolhardiness in allowing unknown individuals access to areas where restricted species occur, while at the same time realize the entomologists know far more about both the activity and the prey than they do. There is little doubt here that they are also fearful of possible lawsuits by powerful environmental lobbies should anything happen to any of the restricted plant and animal species on lands under their jurisdiction and control. We should all be very much aware of the circumstances, as well as the rules and restrictions which apply.

Park personnel operate under the special set of rules and restrictions which apply, and also are fully obligated and expected to uphold laws of the state - most especially those which apply to restricted species. Butterfly collecting apparently is a big problem, at least according to DNR personnel contacted in the preparation of this statement. (Bear in mind that anyone with an insect net in the daytime MUST be collecting butterflies!) These folks have continued to experience problems with insect collectors ever since the land acquisition process and the stricter policies and enforcement attitude have been implemented; apparently they have not seen the benefit of simply informing the collecting community about all of the changes, even though they have been encouraged and asked to do so. The only excuse I can think of is that it must be a lot more fun to catch and harass transgressors than it is to simply take time to inform the collecting community!

The matter is serious, and by no means are entomologists the only collectors the park personnel are having trouble with. Problems with snail collectors, shell collectors, plant collectors, and artifact hunters also are rampant, and it becomes understandable that all "collectors" from a land management perspective must be carefully scrutinized and evaluated, and those who have caused problems only add to the resentment of collectors in general. Illegal trespassing and trash dumping are also serious problems. Just how to best manage both these unique tracts of biologically sensitive and important lands for both the ecosystems and for people is a real issue for resolve for those in land management; just how to best go about the continued exploration of the unique Keys insect fauna without causing undue stress on park personnel and restricted species is another perplexing issue.

Perhaps one of the most pressing things is to try to inform some of the out-of-state visitors or new arrivals about all of the problem areas being faced by both the park personnel and entomologists with serious, legitimate research interests in the Keys. Apparently in the past, permits have been rather freely issued with restrictions and with the request for a written report of the activity after a trip. According to DNR, far too few of those receiving permits were submitting reports and lists, and these individuals have only made it that much harder for others to obtain permits. Remember here that your activities and actions reflect on all other entomologists.

Regardless, for some time now it has been mandatory for anyone wishing to collect on any Florida State Park to obtain a permit well in advance of any intended visit. Permits are not issued simply by

walking into a park office. In addition, if you intend to collect butterflies, a special research permit must be obtained. Similarly, activities on U.S. Department of the Interior lands - places like Everglades National Park, the Merritt Island NWR, or Key Deer Refuge - also require that you obtain a permit and permission well in advance.

Collecting insects on park property is serious business, and it must be approached in this way, not just for purposes of simple general collecting. From the legal mandate which park personnel must adhere to, some net benefit from collecting activity must be realized, and it is up to the collector to state what he/she intends to do and how this will be of benefit. If you don't want to subject your time and effort towards the development of a proposal, nor be bothered with a report of your activities, then simply don't collect on the parks or preserve areas. By all means steer clear of the Florida Keys. Don't create unnecessary problems for either park personnel or for serious entomologists who do follow the laws, rules, and restrictions imposed, and who are willing to work within the framework allowed.

As mentioned earlier, the principal controllers of public lands in the Florida Keys region are the Florida DNR and the U.S. Department of the Interior. If you want to conduct collecting activities of any kind in the Keys region, you should be prepared to contact the agency or agencies well in advance of any intended visit. Permission must be obtained before the trip since proposals usually require review by regional staff biologists to weigh the merit and need of the request. This process usually will take up to six weeks. A short but complete research proposal must accompany all requests for permits in the Keys Region; at present it is virtually impossible to obtain permits for butterfly collecting, although you can submit a proposal oriented around research aspects. If you obtain a permit, you will also get a list of rules and restrictions, and more than likely you will get a limit as to numbers. You may also be asked to deposit a voucher for each species taken in the Florida State Collection of Arthropods, or other public museum.

In this particularly sensitive region, you should contact the Keys District Biologist at John Pennecamp State Park for permits and permission to collect on all DNR-controlled areas; the address is P.O. Box 2628, Key Largo, FL 33037. You may want to inquire about locally-determined rules and restrictions and ask for a research proposal form before submitting an actual request. You should anticipate some rather excessive limitations - especially if this is your first visit, and they don't know you from a poacher.

Similarly, if you want to visit Big Pine Key or the Crocodile Lakes NWR, you should write to the Refuge Manager, National Key Deer Preserve, P.O. Box 510, Big Pine Key, FL 33043. For Everglades or Merritt Island, you should similarly contact the respective refuge manager. No permits or permission are required to collect in either the National Forests or State Forests in Florida.

Should you wish to visit other state parks outside of the Keys region, contact in writing Dana Bryan, Bureau of Cultural and Natural Resources, Division of Recreation and Parks, Florida DNR, M.S. 530, 3900 Commonwealth Blvd., Tallahassee, FL 32399-3000. Dana can provide you with information regarding access, rules and restrictions, and who to contact regarding permits and permission for other parks within the DNR's 10-District system. Each has its own system and philosophy as dictated by the respective District Biologist staff with consideration for the restricted aspects.

There is very little reason for any entomologist not knowing which species are federally protected, since Dr. Paul Opler of the US Fish & Wildlife Service (USFWS) has done a commendable job of keeping the collecting community updated regarding status changes and species listings of insects. However, state laws and listings often exceed federal ones, and Florida has extremely tough laws with regard to

state or federally-listed species. During 1991, Florida State Bill 642 was amended to extend full protection to all plants and animals down to special concern categories: "...prohibiting the killing or wounding of any species designated as endangered, threatened, or of special concern..."; ironically, the Florida Black Bear, regarded as a threatened species by the state, was the subject of a hotly debated controlled hunt last year, and the alligator, still regarded as a species of special concern despite an estimated 1.5 million population, was also given a controlled hunt. We know a great deal more about these two animals than we do about most butterflies, let alone most other insects save cockroaches and honeybees, and it is equally ironic that most of what we learn about insects and their relative abundance and distribution is by collecting = "hunting" them!

Just to be on the safe side, for a complete listing of all plant and animal species considered to be "restricted" by the Florida G&FWFC, you should request a copy of the Florida G&FWFC *Official Lists of Endangered or Potentially Endangered Fauna and Flora* from Don Wood, Endangered Species Coordinator, Florida G&FWFC, Farris Bryant Building, 620 South Meridian Street, Tallahassee, FL 32301. Also of importance to the collecting community is that a revised edition of the invertebrate volume in the *Rare and Endangered Biota of Florida* series is currently in preparation under the editorship of Dr. Mark Deyrup of the Archbold Biological Station in Lake Placid. Florida listings will no doubt be greatly expanded in the future, and collectors will be wise to watch for updates as they become available.

There is certainly good reason to argue that proper habitat protection and maintenance are the most crucial factors involving all species of insects, and that sensible controlled collecting should not harm any population. Reproductive strategies and potential are very different from vertebrates, and even the USFWS generally acknowledges that insect collecting activity will not cause harm to virtually all populations. However, land managers operate under laws and restrictions aimed at protecting the resources under their jurisdiction, and they also should be very much aware of the potential for abuse by collectors. As entomologists, we must also be keenly aware of the powerful environmental lobbies who generally equate us as hunters; it is also very difficult for laymen to understand the need to kill any animal unnecessarily, most especially if it happens to be something so aesthetically pleasing as a butterfly, even if there still are taxonomic questions waiting for answers, and a great deal of life history work and basic ecology which cannot be gleaned for a Field Guide or with a pair of binoculars.

Increased environmental awareness and education regarding ethical collecting practices which will not harm insect populations are essential roles of the entomological community; those in land management positions should learn to utilize collectors and their knowledge in constructive ways such as that demonstrated in Ohio, a state which currently is taking the lead with regard to Lepidoptera surveys and development of a current database to assist in making evaluations - something which would not be possible without the strong cooperative effort forged between the local collectors and the Ohio DNR. Sadly, Florida still seems to be mired in the Dark Ages; the benefits of working constructively together always outweigh all other alternatives, but as long as abuses continue on state lands in the Keys the road will be a long and rough one. The bottom line here is that neither side really wants to contribute to the extirpation of any species, and that both sides need regular monitoring information, even in sensitive areas like the Florida Keys, and even for butterflies. The Florida Keys are simply too important and too dynamic to be placed off-limits from a biological standpoint.

Dave Baggett
Palatka, FL



How to Prepare Publishable Reports of Lepidopteran Life Histories

INTRODUCTION

Development is intrinsic to all living things, and, among insects, Lepidoptera undergo perhaps the most remarkable transformations of all. Their larvae (caterpillars) are often large and colorful and, even if small and dull, they exhibit countless interesting behaviors. Lepidopteran pupae may display striking structural or behavioral features as well. Within minutes following its escape from the pupa, the crumpled adult expands its wings to their full size and prepares for its first flight. The splendor of adult Lepidoptera, especially butterflies, has been extolled in art and poetry from earliest recorded times.

In spite of the fascination of metamorphosis, however, the immature stages of Lepidoptera are remarkably less studied than are the adults. In fact, for the majority of species, especially tropical moths, the life histories have not yet been described. That is lamentable, because immature stages and larval food plants offer a wide array of characters of great value to the systematist attempting to understand evolutionary relationships.

Because habitat destruction is eliminating many species before their immatures can be discovered, one cannot overemphasize the importance of gathering and sharing as much life history information as possible in whatever time remains. A new item of information on immatures, no matter how seemingly trivial, may be useful to a person studying that particular species, or may provide the stepping stone for another person to discover more complete details.

The aim of this paper is, 1) to encourage the amateur to contribute to our knowledge of lepidopteran life histories, and, 2) to provide guidelines for writing useful, publishable reports on the immature stages of butterflies and moths. To make a useful contribution, one need not resort to technical language or highly detailed descriptions. What is important is that the information presented be accurate and that it be communicated in a clear and concise way. It is also important to preserve the adult and, if possible, any discarded immature structures (i.e., larval head capsules, pupal skin, cocoon).

For each life stage there is a paragraph listing the possible components of a description. That is followed by more detailed comments on those components of the description that may require them. You may wish to expand or abridge these lists, depending upon the characteristics of the species you are describing.

Two readily available works that will provide the beginner with an elementary knowledge of butterfly form, structure, biology, and behavior, are Pyle (1984) and Douglas (1986). The Pyle book includes a chapter on moths. Examples of helpful, yet simple and non-technical descriptions of butterfly immatures can be found in DeVries (1987). If you are so inclined, simple line drawings or photographs can be made of the various stages. Those wishing to develop their artistic skills further will find detailed information on scientific illustration in Hodges (1989). Use of the terms, stadium, stage, and instar, follow the definitions given by Entomological Society of America (ESA) Publications Council (1985). An older, but excellent introduction to insect natural history is Frost (1959). The most widely used glossary of entomology is Nichols (1980). Other helpful publications are mentioned under the sections on each stage.

REARING METHODS

It is important to report your methods of maintaining and rearing the life stage(s) of your butterfly or moth. For example, was it reared in a petri dish, or a cage of some sort, or did it remain on the original larval food plant with a mesh bag over it? If it was reared indoors, you might wish to describe something of the conditions, including

temperature, and light regime.



EGGS



A description of an egg might include collection data; oviposition data; egg size, shape, sculpturing, and color; whether the egg was laid singly or was part of a cluster or string; whether it had any sort of covering; observations on development; egg parasitoids obtained; and what method you used to preserve the egg.

COLLECTION DATA

Collection data would state where and when the egg was collected, including whether it was obtained in the wild or in captivity.

OVIPOSITION DATA AND LARVAL FOOD PLANT

If oviposition was observed, note the time, give a brief description of weather conditions, and report any distinctive behaviors.

If the substrate was not a plant, state what the eggs were laid on, for example: petri dish, or cage screening.

If the substrate was a plant, try to obtain its scientific name, including the author, and if possible give the local common name. It is important to make a voucher specimen of the larval food plant and to cite that specimen and state where the specimen has been deposited. Labels for plant specimens differ in an important way from insect labels. Plant specimen labels include a collection number. Each plant collector keeps a notebook listing those numbers, together with collection data and identifications. When citing a plant specimen, the collector and number are given in italics, with no punctuation between the name and number; examples are: *Bailey 258*, *Howard & Proctor 13762*. If the specimen is not numbered, give the collector's name in italics, followed by "in" plus the year in regular type, for example: *Purdie in 1843*.

Explain what part of the plant the egg was laid on. For example, if the egg was laid on a leaf, note whether it was placed on the leaf upper surface or lower surface; near its base, middle or apex; on young or mature foliage.

A warning about leaf terminology: when discussing leaves, it is best to avoid use of the terms "dorsal" and "ventral". The first applications of those terms to leaves were made by plant embryologists, and for reasons related to the orientation of embryonic leaves, dorsal and ventral mean just the opposite of what one might instinctively assume. Even if the writer knows the correct meaning, the reader may not, and vice versa.

EGG SIZE

Egg size (height and width) is given in mm. An acceptable estimate of size can be made using a ruler. If a dissecting microscope is available, more accurate measurements can be made, especially if the scope is equipped with an ocular grid.

EGG SHAPE

To determine the shape of an egg, view it from the side. Most eggs can be described by one of the following terms: spindle-shaped (fusiform), barrel-shaped, turban-shaped (turbinate), conical, spherical, dome-shaped, or flat. If you prefer a more graphic description, that is fine. For example, the spindle-shaped egg of a pierid butterfly could be described as a slender, upright egg, about three times longer than wide, broadest toward the middle and tapering toward the ends.



EGG SURFACE SCULPTURE

If a dissecting microscope or a good hand lens is available, you may be able to include observations concerning the surface texture or sculpturing of the egg. Surface texture and sculpturing can be quite variable. The egg can be shiny or dull, and it can be smooth, pebbled, pitted, ribbed, or grooved. If the egg is pitted, note whether the pits are round or hexagonal. If there are ribs or grooves, note how many. If there are cross-ribs, try to estimate how many there are. If there are hairs, note their location. Surface sculpturing can present an optical illusion; pits can appear as bumps. If you are able to examine a broken egg, or the partially eaten edge of an egg shell, the nature of the sculpturing will be much easier to interpret.

EGG COVERING

Eggs, especially when laid in clusters, are sometimes covered by foam or by setae (hairs) from the female.

EGG DEVELOPMENT

Observations on development would include changes in color and pattern; and time (usually given in days) from oviposition (or collection) to emergence of the larva.

EGG PARASITIDS

If, instead of a lepidopteran larva, one or more parasitoid wasps emerge from an egg, that fact should be noted. It may be possible to obtain identifications of such wasps, at least to family, from a specialist at a large museum. Most specialists are eager to exchange identifications for host information and specimens. The wasps may be pointed (glued to the tip of a small cardboard triangle, which is then pinned and labelled as if it were a lepidopteran specimen) if you wish, but usually such tiny wasps are preserved in 80% ethyl alcohol (or 70% isopropyl alcohol if ethyl alcohol isn't available).

EGG PRESERVATION

Intact eggs may be preserved in 80% ethyl alcohol. Egg shells are best pointed; when placed in alcohol, they usually float because they tend to retain a bubble of air inside. It works well to cut the bit of leaf that the shell is attached to and mount that.

EGG REFERENCES

Two papers by McFarland (1972a, 1972b) provide an excellent introduction to the diversity, description, and photography of lepidopteran eggs. Supplementary information can be found in Downey (1980).

LARVAE



There are many points worth considering in an account of larvae. At bare minimum, one should report collection data, including the larval food plant, and should provide a general description of the final instar. Beyond that, the description can be as complex as you decide to make it.

A fairly complete account would include behavior at emergence of the egg; duration (with dates) of each stadium, including whether the larva entered into diapause at any point; a brief description of each instar (including head width); feeding habits for each instar; distinctive behaviors (including shelter construction, defenses, and resting postures); the larval food plant; and whether parasitoids were obtained.



LARVAL BEHAVIOR UPON EMERGENCE FROM EGG

The larva may escape from the egg by chewing an exit in the top or the side of the egg; the hole may be clean and circular, or irregular, or the larva may chew a long slit (like a latitude line on a globe) to produce a flap; after exiting the egg, the larva may eat the shell partially or completely, or it may not eat it at all.

DURATION OF LARVAL STADIA

Record the number of days that the larva remains in each stadium. It is easy to detect that a larva is nearing a molt by watching for the following two events. 1) The larva will stop eating prior to each molt. If you remove the fecula from the container each day, it will be obvious when feeding has ceased. 2) As the new head develops it will expand and pull out of the old head capsule, gradually filling the prothorax and swelling it to several times its normal size. As well, on light colored larvae, the stemmata (larval eyes) of the new head may show through the sides of the prothorax. During molting, the old head capsule will separate from the body. In most cases, the larva eats its old skin, but usually ignores the old head capsule, which can be pointed for study.

LARVAL DESCRIPTION



Larval descriptions need not be elaborate. For example, to describe an *Ammalo* (Arctiidae) larva as having a smooth red head and a body covered with stiff black setae (hairs), gives the reader a clear idea of its general appearance. The more detail the better, however.

A description of a larva might include, HEAD: width (in mm), color, pattern, texture, presence of setae (singular: seta); BODY (thorax and abdomen): color, pattern, presence of setae, length and color of setae, abundance of setae (i.e., dense, sparse), presence of other body projections (for example the curved horn of sphinx larvae). Be sure to distinguish between stripes (which run parallel to the body), bands (which go around the body), and oblique lines (such as are found on many sphinx larvae).

When reporting larval size, use head width. Body length increases as the larva feeds, and decreases temporarily following each molt. However, if you wish to report it, body length of a freshly emerged first instar, or of a fully fed final instar can help give the reader a clearer general impression of a larva, especially if it is an extremely large species.

Undoubtedly, the final instar will invite a more complex description than will the earlier instars, because the final instar tends to have a more complex pattern and more setae than do earlier instars.

As mentioned above, examples of helpful, yet simple and non-technical descriptions of butterfly immatures can be found in DeVries (1987). Eventually, you may wish to advance to more technical larval characters, such as setal arrangement and proleg type. If and when you do, you'll find Peterson (1962) to be especially helpful, not only because it is well illustrated by line drawings, but because it gives comparative information on several different systems of naming setae.

If sufficient numbers of larvae can be collected to allow preservation of a few in addition to those reared, then more detailed descriptions can be made later by a specialist in the group, or by you once you have gained experience. A quick method of preserving larvae is to drop them in tap water, bring the water to a boil, turn off the heat, blot the larvae on a piece of paper towel, and then place them in 80% ethyl alcohol.

LARVAL FEEDING HABITS

Because larval feeding habits often are characteristic of a particular

taxonomic group, they can provide information valuable to the specialist. Larvae may be root or stem borers; they may eat leaves, flowers, fruits, seeds, or rotting wood; or they may be scavengers or even predators.

If the larva eats leaves, make note of the type of feeding damage. Larger larvae tend to eat whole leaf, usually beginning at the margin and proceeding in a pattern characteristic of the species. Less commonly, they eat holes in the leaf, away from the margin, a type of feeding much more frequent in beetles than in Lepidoptera. Smaller species, and early instars of larger species, tend to scrape the leaf surface rather than eating whole leaf. Their damage can take several forms. Some species scrape the surface and part of the leaf tissue, leaving pit-like marks (pit-makers). Others eat all the way to the other side of the leaf, but leave the window-like epidermis of the far surface intact (window-feeders). Still others eat all the way through the leaf but leave all the veins intact (skeletonizers).

Report whether the larvae are solitary or feed and molt in an aggregation. If they are aggregated, note whether they remain so throughout larval development, or become solitary in later stadia.

LARVAL BEHAVIOR

The countless variations in shelter construction, camouflage, and methods of defense, employed by larvae, make larval behavior the most fascinating part of the rearing process.

Shelters and perches

Larval shelters include mines, tunnels, cases, silk retreats, and leaf shelters. Some larvae make special resting perches.



Leaf mines are made by tiny larvae that eat the inside of the leaf, without damaging either upper or lower epidermis. Leaf mines are of two main types, blotch mines (covering a broad area) and linear mines (long narrow mines that may meander all over the leaf). Upon completion of feeding, the larvae of some species pupate inside the mine, others drop to the ground to pupate, and still others sever a round or elliptical section of leaf from the mine, and drop to the ground within it to pupate. The damage made by pit-makers and window-feeders (see paragraph on larval feeding habits) may be mistaken for leaf mines until examined more closely. See Hering (1951) for information and further references on leaf miners.

Some larvae make tunnels of fecula and/or frass, held together by silk, on the leaf surface or on bark, and reach out one end to feed. Usually the tunnel diameter increases with larval age.

It is important to distinguish between fecula and frass. According to Frost (1959), the accepted term for insect excrement is "fecula". "Frass" refers to non-excrement waste particles, such as the wood chips discarded by wood borers.

A number of unrelated larvae make moveable cases from silk, or from leaf material or soil particles held together with silk. Some case makers are case-bearing leaf miners; they remain in their cases on the outside of the leaf, but make a hole in the surface and reach inside to feed.

Many larvae construct silk retreats on the leaf surface. Such retreats may be such flimsy affairs that the larva is clearly visible within, or they may be more elaborate.

A large number of larvae roll, fold, or cut and fold leaves to make shelters. Others merely attach two leaves together, one above the other with silk. Many larvae that make leaf shelters, retain their fecula inside the shelter. Why they do that is not known, but it may serve

as a barrier against predatory wasps and parasitoids. Early instars of certain nymphalids rest on special perches made by attaching fecal pellets end to end with silk to produce a delicate, thread-like support. Note whether the larva also accumulates fecula or leaf pieces at the base of its resting perch.

Resting positions and postures

A variety of resting postures are found among larvae that remain exposed (i.e., not in a rolled leaf or other shelter) during some part of their life. The larva may remain on the upper surface of the leaf, or hidden beneath the leaf or on some other part of the plant; it may align its body with leaf veins or other plant parts; it may grasp its support with both ends, or it may hold on with one end and extend the other (usually the head end) out at an angle (typical of many geometrids and some noctuids), or it may hold on with the mid section only and let both ends of the body hang down.

Defense

Observations on larval defense are worth reporting. The larva's pattern and/or color may blend with its background, or may stand out in sharp contrast to it; the larva may mimic a twig, a dry leaf, or other inedible or perhaps dangerous object (appropriate movements may enhance the effect); the larva may have false eyes on the thorax or in some other position; it may have eversible odor glands (e.g., dorsal, prothoracic osmeteria, typical of papilionids; ventral, prothoracic glands of some nymphalid and notodontid larvae); or the larva may have urticating (stinging) setae (typical of certain families including Limacodidae, Megalopygidae, some Saturniidae). The larvae of some species engage in twitching or thrashing movements when approached by a parasitoid or predator. These movements may be synchronized among the individuals of an aggregation.

LARVAL FOOD PLANT

If you collected the lepidopteran as a larva rather than as eggs, report the larval food plant in your discussion of the larva. For information, see the paragraph on larval food plants under EGGS.

PARASITOIDS OF LARVAE

The larva may be parasitized by wasps (Hymenoptera) or flies (Diptera). Record how many parasitoids were obtained; whether parasitoid pupation took place within the host remains, on the outside of the host remains, or entirely away from it.

If the parasitoid(s) pupated on the outside of, or away from, the host, note whether they pupated separately or in an aggregation, and what sort of cocoon(s) were made. Parasitoid flies don't make cocoons, they pupate within their own final larval skin, which becomes brown or black. Adult flies should be pointed; the wasps may be pointed or placed in 80% ethyl alcohol. As mentioned under EGGS, it may be possible to obtain an identification from a specialist at a large museum.

It is worth noting that some species of flies lay white eggs, visible to the unaided eye, directly on their larval host. Often the eggs don't hatch until the lepidopteran larva is about to pupate, and it may be possible to remove the eggs in time to save the larva.



PUPAE



Although the majority of moth pupae are brown and difficult to describe without resorting to technical details, there are many simple but useful points worth reporting. Among them are length; color; pattern if any; striking morphological features, if any; presence of a silk girdle; location and orientation; presence and nature of a cocoon; whether solitary or in aggregation; duration of pupation, and whether diapause occurred.

While most moth pupae are brown, there are species with colored and/or patterned pupae. The pupae of butterflies often are strikingly colored, as examples, the shimmering silver pupae of many ithomines, the snail-mimicking pupae of certain *Anaea* species, and the snake-mimicking pupa of *Dynastor darius*.

Many pupae bear projections, for example, the spined pupae of many species of *Heliconius* and pierids, the various head horns of many nymphalid pupae, and dorsal row of stalked star-shaped spines found on pupae of *Historis odius*.

The pupae of papilionids, pierids, hedyliids, lycaenids, riodinids, and certain geometrids have silk girdles that encircle the pupae and help hold them in place against the substrate. Many hesperiids pupate supported by a silk sling.

The pupae of most moths are enveloped by a cocoon, made of silk, although some pupae are found naked among leaf litter. The color of the silk varies, as do the other materials (leaves, larval setae, fecula, frass) that may be incorporated into it. The cocoon may be a communal one constructed by an aggregation of larvae.

Report the location of the pupa and its cocoon (if any), especially if it was collected in the wild. Was it in the ground, in the leaf litter, between leaves, or was the pupae on or suspended from some substrate and without a cocoon?

If eventually you would like information on the technical terminology pertaining to pupae, consult Mosher (1916).

PARASITOIDS OF PUPAE

The same set of considerations outlined in the paragraph on parasitoids of larvae apply here.

IN CLOSING

To be able to report information accurately, it is not enough to be a good observer; one must write those observations down and not entrust details to memory. Take this test. After a good look at your subject, whether it be egg, larva, or pupa, look away and write a description of it. Then look again. Very likely you will find it necessary to adjust your description to conform to reality.

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49th Annual Meeting: Pacific Slope Section



The 49th annual meeting of the Pacific Slope Section of The Lepidopterists' Society was held in San Diego, California, 24-26 July 1992. The meeting was sponsored by the San Diego Natural History Museum and organized by John and Poody Brown and David Faulkner. Friday evening was an informal open house at the museum, with the museum's outstanding insect collection available for study (I spent five days there!). Saturday saw scientific sessions (see program), business meeting, and finally a nice dinner at the world-famous Café del Rey Moro in Balboa Park with Paul Opler speaking on Western Butterflies with beautiful color slides. The Sunday field trip was unusually successful for that dry time of year in southern California. About 25 people attended, mostly from southern California. It was decided to hold the 1993 meeting conjointly with the Ft. Collins, Colorado meeting in July. William Hovanitz was the Comstock honoree (see tribute).

Program

Morning Session - David K. Faulkner, presiding.

Habitat Management and Conservation: Southern California Style.
Phil Behrends, Dudek & Associates, Encinitas, California.

Sensitive Invertebrates in San Diego County.
John Brown, Research Associate, San Diego Natural History Museum, San Diego, California.

Early San Diego County Lepidoptera Collectors contributing to the San Diego Natural History Museum's Entomology Department.
David K. Faulkner, San Diego Natural History Museum, San Diego, California.

Larval Host Plant Polyphagy and Intraspecific/Intragenetic Mimetic Relations: Possible Examples in Charaxiinae and Saturniidae.
Benjamin Landing, U.S.C., Los Angeles, California.

San Bruno Mountains: Early/Late Flight Seasons.
Robert Langston, Kensington, California.

At Last - The Opler/Stanford Western North America Butterfly Atlas!
Ray Stanford, University of Colorado, Denver, Colorado.

Afternoon Session - John Brown, presiding

Moths of Southern California - New species and Re-Discoveries.
Ron Leuschner, Los Angeles County Museum of Natural History, Los Angeles, California.

The Not So Distasteful Monarch Butterfly, Its Avian Predators and Its Mimics.
Walter Sakai, Santa Monica College, Santa Monica, California.

Some Unusual Broods of *Phyciodes* and *Chlosyne*.
David L. Bauer, Miller Health and Education Foundation, South Lake Tahoe, California.

Annual business Meeting - Ray Stanford, presiding

John Adams Comstock Award - 1992 The Man We Honor - William Hovanitz

The man we honor today with the John Adams Comstock Award for 1992 was a truly remarkable individual. Founder and editor of a major journal, a prominent geneticist, outstanding ecologist and zoogeographer, student of foodplant preferences in Lepidoptera, William Hovanitz was truly a renaissance man in Lepidoptera research -- one whose many talents and great intellect led him enthusiastically forward to lay the foundations for future generations of lepidopterists to follow. For all these reasons, we honor him today with the Comstock Award for 1992.

William Hovanitz was born on November 6, 1915, in Chicago, Illinois. His family soon moved in 1918 to the San Francisco Bay area of California, where he began collecting butterflies. In 1934, he started his undergraduate work at the University of California, Berkeley, and graduated with a B.S. degree in Entomology in 1938. He then started in the doctoral graduate program at the California Institute of Technology, under Thomas Hunt Morgan, Nobel Prize winner for pioneering discoveries in genetics. When Morgan died in the midst of Hovanitz's graduate career, Bill finished his Ph.D. in Genetics (in 1943) under A.H. Sturtevant. During 1942 through 1945, Hovanitz worked for the National Research Council in South America, Michigan, and Florida. He followed this with post-doctoral work under Lee Dice, mammalogist at the Laboratory of Vertebrate Zoology at the University of Michigan, where his interest in the possible linkages of color variation and environmental conditions was fostered. Following a short teaching appointment at Wayne University (Detroit), he moved to the University of San Francisco where he served as Associate Editor of the *Wasmann Journal of Biology* and continued to study perid butterflies and ecogenotypical color variation in butterflies. During a summer session that he was teaching at the University of California, Santa Barbara in 1949, he met and married his lifetime partner, Barbara. He taught briefly at Cal Tech and UCLA in 1955, and finally settled in as professor of biology at California State University at Los Angeles from 1956 through 1975. In early 1977, the Hovanitz's moved from their long-time home in Pasadena on Orange Avenue to Santa Barbara where a very active retirement was planned. Unfortunately, Bill Hovanitz died suddenly of a heart attack on September 14 1977, before he had finished much of his planned analysis of the tremendous quantity of data that he had accumulated over the years on Holarctic *Colias* and on color pattern variation in numerous butterfly species throughout California.

Perhaps Bill Hovanitz's greatest contribution to the study of western Lepidoptera was his analysis of parallel ecogenotypical color variation in butterflies. His papers in this area were among the first attempts to demonstrate how the complex selective forces of the environment may produce or be associated with particular color patterns. He analyzed a variety of taxa in this context, particularly two species of *Euphydryas* (*chalcedona* and *editha*), three species of *Chlosyne* (*leanira*, *palla*, and *hoffmanni*), *Speyeria zerene* and *egleis*, and many satyrid and lycaenid species. His conclusion that butterfly color variation is closely correlated to variation in environmental conditions was tempered by

his cautionary note that many of the color variations did not seem to be protective or adaptive in themselves but were probably the secondary products of some physiological changes in developmental pathways which were of primary adaptive value.

Hovanitz's second greatest contribution to the study of western North American Lepidoptera was probably his series of papers on the genus *Colias* and other pierid groups. Hovanitz was the first to show how hybridization between two species of butterflies could become stable in areas of habitat that were intermediate between those occupied by two parental species. He also demonstrated the first linkage of field behavioral traits, such as time of maximum activity, with specific color genes (e.g., the *alba* allele in *Colias*). He analyzed comparative dispersal rates of the different female color types of *Colias*, studied interspecific matings between *Colias eurytheme* and *C. philodice*, the distribution of the North American *Colias* species, parallel geographic variation of dimorphic color phases in the North American species, and variation of adult flight in the arctic and subarctic *Colias* butterflies.

Hovanitz also contributed the first general analysis of the zoogeography of all New World butterflies (excepting only the Hesperidae) in his seminal paper on distribution of butterflies in the New World. Published by the American Association for the Advancement of Science in its important *Zoogeography* (1958) volume, this lengthy but carefully crafted paper mapped the relative biodiversity in families and genera across all latitudes, anticipating by some 30 years the present flurry of interest in tropical and temperate biodiversity.

One of Hovanitz's most lasting and influential contributions to the field of Lepidoptera research in general, however, was his founding of the *Journal of Research on the Lepidoptera* in 1962. As he explained in an editorial in the first issue, he saw the need for a publication that could handle lengthy papers with full data sets and ample illustrative material, especially color photographs that would not be charged to authors. He also encouraged papers on controversial topics. While he was a careful editor and gently suggested necessary changes to aspiring authors, he also minimized the extensive editorial changes and deletions of lengthy tabular material common to many Journals today. With its emphasis on biological topics rather than taxonomy, the *Journal of Research on the Lepidoptera* soon became a major journal in the field worldwide, and the reputation of the *Journal* and its editor grew. In 1964, Hovanitz brought about the incorporation of the Lepidoptera Research Foundation as a non-profit organization to publish the journal and promote research on the Lepidoptera. Today, the *Journal of Research on the Lepidoptera* stands with the *Journal of the Lepidopterists' Society* and the newest journal, *Tropical Lepidoptera*, as one of the three major American-published journals on research on the order Lepidoptera.

On a personal note, I remember first meeting Bill at a Pacific Slope Section meeting of the Lepidopterists' Society. Though I was only a high school student, he showed great interest in my field experiences in southern Mexico with an isolated *Colias* population. In subsequent years, my brother and I would go to his home on West Orange Grove Avenue in Pasadena, and he would graciously share his time with us to answer our many questions. As we both entered college and then graduate and professional school, we began contributing papers to the *Journal of Research on the Lepidoptera*. Always encouraging, Bill tirelessly helped us revise our manuscripts and produce top-quality illustrations for the *Journal*. He and his family were gracious hosts to us on a number of visits, during which we had the opportunity to see how the whole family worked together in producing and mailing the *Journal of Research on the Lepidoptera* out of their home. The William Hovanitz collection of some 46,000 specimens was later donated by Barbara Hovanitz to the University of Florida and the California Academy of Sciences, where the specimens collected and studied by Bill continue today to be an invaluable resource for studies of changes in the California butterfly fauna as well as other areas of western North

America.

Truly, William Hovanitz richly deserves the recognition of the John Adams Comstock Award for 1992. His pioneering efforts and endeavors in so many facets of biology using Lepidoptera as his research tools, and his founding of the *Journal of Research on the Lepidoptera*, firmly enshrine him in the pantheon of western North American lepidopterists.

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Gainesville, Florida 32611

3rd Annual Meeting: High Country Lepidopterists



The third annual meeting of the High Country Lepidopterists was held in Denver Colorado, 11-12 September 1992, sponsored by the Denver Museum of Natural History and organized by Richard Peigler. Friday evening was an informal open house at the home of Kit and Ray Stanford, and activity was centered in his "bug room" with the collection available for study. Saturday morning was in the museum's zoology department, with their collection as a focal point, and the afternoon consisted of scientific papers (see program) with Boyce Drummond presiding. F. Martin Brown was unable to attend, but we enjoyed a video tape of him and many reminiscences at a recent interview with Boyce at Brownie's and Grace's home in Colorado Springs. The evening banquet at the museum was attended by 31 people, and Deane Bowers spoke on caterpillar defense mechanisms. A few reconvened at the Stanfords' afterward for critique and plans for next season.

Ray E. Stanford
Denver, Colorado

Program

Moderator: Boyce A. Drummond, Research Associate, Denver Museum of Natural History.

Habitats, Endangered Butterflies, and Extinctions.
Clifford D. Ferris, University of Wyoming, Laramie.

Defenses of Adult Tiger Moths.
James K. Adams, Dalton College, Dalton, Georgia.

Western North American Butterfly Range Maps.
Ray Stanford, Research Associate, Denver Museum of Natural History.

Painting Moths.
John Cody, Hays, Kansas.

In Search of the Dracula Caterpillar.
James A. Scott, Lakewood, Colorado.

Lepidoptera of Rocky Mountain National Park.
Paul A. Opler, U.S. Fish & Wildlife Service, Fort Collins, Colorado.

A Video Visit with F. Martin Brown.
Boyce Drummond, Woodland Park, Colorado.

Idalia Society Presents "Day of the Butterfly"



On November 21, 1992, the Idalia Society of Mid-American Lepidopterists presented "The Day of The Butterfly" at the Loose Park

Garden Center in Kansas City, Missouri. On that cold grey day over 100 people of all ages arrived to learn about butterflies. Suzette Slocomb, Idalia Society Secretary, started the Day off with a one-hour interview about butterflies and the Idalia Society on a local radio station. Topics of interest included butterfly gardening, the lepidopteran life cycle, survival strategies of lepidoptera and butterfly enemies. An art contest with cash prizes and a craft table for children to make items such as butterfly rings were featured at the "Day". Also featured were a VCR tape from Calloway Gardens and talks by Floyd and June Preston, and Lee Burgess. A large exhibit of display cases containing mounted butterflies were very popular with those in attendance.

Suzette Slocomb
Kansas City, MO

Pieris virginiensis and Dentaria laciniata

In the July/August 1984 issue of the Lepidopterists' Society NEWS, Ross Layberry pondered the possible feeding segregation of *Pieris virginiensis* on *Dentaria diphylla* vs. *Dentaria laciniata*. He suggested that "*D. diphylla* seems to be the preferred food plant" in his Ontario locations. In northwestern Virginia, *P. virginiensis* is a common spring species. *Dentaria diphylla*, however, occurs only in the western counties of Virginia north to Rockingham County and has never been found in any of the seven counties where I have studied *P. virginiensis*. Instead, *D. laciniata* grows in almost every type of transition and carolinian zone woodland and its associate butterfly always seems to follow. In Butterflies East of the Great Plains, Opler and Krizek (1984) state that "most often maple and beech are elements of these (*P. virginiensis* habitat) forests. Indeed, this was the habitat I was familiar with from the Great Lakes region. In northwestern Virginia there is very little rich, beech-maple forest. Instead, I find the butterflies to be common in oak-hickory, tulip tree-basswood forest and somewhat less commonly in floodplain forests dominated with box elder. In two colonies of tulip tree-basswood forests (Warren and Faquier Counties) I suspect that *Dentaria heterophylla* might be a food plant also, as this species is very common where many of the *P. virginiensis* occur.

There appear to be some nice problems to solve. Does *Pieris virginiensis* discriminate between the two species of *Dentaria* in the north? If it does discriminate in the north, does it do so in southern Virginia where *D. laciniata* and *D. diphylla* grow sympatrically? Wagner (Great Lakes Entomologist, 11:53-57) has indicated the morphological differences between the Great Lakes and southern Appalachians *P. virginiensis* populations. Possibly, they also exhibit distinctive feeding differences.

Robert C. Simpson
Middletown, Virginia

Opinion Conservation versus Collecting and the Role of Our Society

J. Benjamin Ziegler's recent opinion concerning the apparent conflict between insect collecting and conservation deserves comment and contemplation by the membership of the Lepidopterists Society. Mr. Ziegler raises several concerns, but most apparent is that he feels that his inherent right to collect any and every species he desires could be, will be or is being infringed upon by conservation practices. He further elaborates that he fears that many people adhere to the "mystical belief that 'conservation' of Lepidoptera in the broadest sense is of paramount importance in and of itself and superior to all other considerations". Ultimately he fears that such conservation mongers will implement a strict ban on collecting activities, resulting in the near elimination of Lepidoptera collectors. In short, supporting

conservation efforts can only result in increased policing of collectors by federal and state agencies, resulting in infringements on our rights as collectors.

I argue the opposite. The recent events concerning US-FWS enforcement actions against selected collectors stems not from the conservation ethics observed by lepidopterists, but rather, these actions were provoked by the belief of some individuals that they indeed have some god given right to collect anything on earth. Lepidoptera are animals, *not stamps*, and as such, Lepidoptera are subject to the same ecological principals that apply to other protected species. The prevailing notion that collectors have to complete a "life list" by filling unit trays for every species and sub-species occurring in a region is crazy. The data generated by the repeated collection of critically rare species is redundant: How many pinned Karner Blues from Albany does the world need to document the existence of this population? More importantly, how many premature deaths of adult butterflies can local Karner Blue populations withstand before they are sent over the brink. Society does not benefit from the collection of critically rare animals from well known localities.

It is the false belief by many collectors that they have the right to collect any species, no matter how imperilled that species might be, that is leading to the negative reaction directed towards collectors. Just as those who would kill bald eagles deserve to have their cars impounded and serve time in prison, those who would kill a Schaus' swallowtail deserve equal punishment. Until "lepidopteran-stamp" collectors can curb their appetite for protected pretties, we can all expect to be slandered by negative publicity. In the meantime, collectors with a real appetite for insect biology and natural history will have to endure the negative publicity generated by "lepidopteran-stamp" collectors.

As lepidopterists, we all sympathize to one degree or another with those who are affected by policies which limit collecting activities. I too collect, and many of the highlights of my summer involve collecting. However, our sympathy is often interpreted by enforcement personnel as an endorsement of illegal activities. If our organization is to survive well into the future, the Society cannot allow itself to be perceived as sympathetic to individuals who knowingly break laws. We can no longer, as individuals or as an organization, stand by when collectors demonstrate unethical behavior. We must speak up, and let those individuals who taint our organization know how we feel. To passively stand by (as I have in the past) without attempting to correct this ethics and image problem, results in all lepidopterists being generalized with the worst possible stereotype. If not corrected, this stereotype may doom almost all field collecting.

It is time for us to acknowledge that the Endangered Species Act was not written specifically to anger butterfly collectors, but rather as a far reaching concept designed to preserve the natural heritage of our country for future generations. The 'mystical belief' Mr. Ziegler can't comprehend is simple: I'd like my children and grandchildren to experience the same simple pleasures of nature that I experience, including all of those species which are still extant. The Endangered Species Act and similar state statutes are the only tools available for ensuring the continued survival of many species that require active habitat preservation and management. It is a shame that a few bad apples who cannot abide by legislated ethics, and who all too often have none of their own, may spoil the simple pleasures that I associate with field collecting. It is time for our organization to recognize that the future lies in conservation of natural resources, not in uncontrolled consumption. Only by taking an active and proactive role on conservation issues can our Society hope to guide the development of future federal and state biodiversity policies towards routes that blend our interests with future conservation practices.

John A. Shuey
Traverse City, MI

Metamorphosis

The Society has recently been informed of the following members' deaths:

E. Homer Edgecomb....

of Redding, California on April 27, 1992. Homer became a member of the Lepidopterists' Society in 1965. Homer and Gwen, his wife, and inseparable companion for over 56 years, were mostly well known to members of the Pacific Slope section of the Society. They were ever present at the meetings. His love of nature, especially butterflies is reflected in the fact that Homer was one of the founders of the Carter House Natural Science Museum at Redding, California. His butterfly collection was contributed to the University of California at Davis, California, but a representation of Shasta County Butterflies is retained at Carter House Museum.

Sharon Ellen (Kelly) Belicek...

of Edmonton, Alberta, on June 28 1992. Sharon loved butterflies for their beauty as well as grace. She was a director of Public Affairs Bureau of the government of Alberta, and wife of Lepidopterists' Society member Joseph Belicek.

John M. Prescott...

of Erie, Pennsylvania, on 30 July 1992. John was a bookstore owner and an avocational lepidopterist. He had accompanied Professor Manley (Yale) on collecting trips to the western US. Portions of his collection were donated to the Carnegie Museum of Natural History and the Peabody Museum at Yale. At the time of his death he was working on a book about Pennsylvania butterflies. He had been a Lepidopterists' Society member since 1965.

H. G. Stevenson...

of Annapolis, Maryland, on 9 November 1992. Stevenson had been a member since 1985.

Announcements and Notices



New Zone 11 Coordinator: Hawaii/Pacific Islands

Father J.C.E. Riote has retired from his retirement activity of active work on Lepidoptera. At his request a replacement has been found to take over his duties as Zone 11 Coordinator. David Preston, a staff member at the Bishop Museum, has volunteered for the task of Hawaii/Pacific Islands Coordinator. David has been involved with the curation of the collection at the Bishop Museum and is active in fieldwork throughout the Hawaiian Islands. His address is The State Museum of Natural and Cultural History, 1525 Bernice Street, P.O. Box 19000A, Honolulu, Hawai'i 96817-0916.

Attention Students: GRANTS AVAILABLE

The John A. Comstock Award Fund offers a limited number of grants in the \$50.-\$200. range to students in the Pacific Slope Section to help defray travel or accommodation costs at the annual meeting of the Lepidopterists' Society.

To request a grant for the National Meeting in Ft. Collins, Colorado, in July, 1993, write a one page proposal of your expense needs, indicating why you want to attend the meeting, and stating your year and school that you attend. Preference by the Comstock Awards Committee will be given to students who might not be able to attend

without the assistance, to younger students, or to those who plan to participate on the program.

Student participants on the program will have their registration fee waived. A separate prize, the Clench Award, is given to the student paper voted most outstanding at the National Meeting.

Any member who would like to help support student activity in the annual meetings is invited to give to the Comstock Fund. Donations are tax-deductible; send a check written to "Lepidopterists Society, Pacific Slope Section Memorial Fund" and mail to the address below.

Request for a student grant should be mailed before May 1, 1993, to:

J. A. Powell
Department of Entomological Sciences
University of California
Berkeley, CA 94720.

Lep Soc Member in Who's Who

Oakley Shields will be included in the first edition of *Who's Who in Science and Engineering*. He attended San Diego State University (B.S., M.S., Biology) and the University of California at Davis (Ph.D., Entomology) and has published 80 scientific papers in 23 journals on butterflies and global tectonics.

Volunteer Needed in Michigan

The Michigan Nature Association, based in Avoca, Michigan needs someone interested in butterflies, moths and other insects to work with volunteers. The Association has been in existence since 1952 and is comprised of 135 nature sanctuaries in varied habitats. In an effort to determine biological diversity in these sanctuaries, they would like assistance in conducting a census and identifying specimens. Weekends in southern Michigan. Travel expenses will be paid. Please contact Bill Bishop, 3172 Lake Drive, Lake Wilson, Hillsdale, MI 49249. phone (517) 437-4813.

ICZN Update

Case 2811 *Catocala connubialis* Guenée, 1852 (Insecta, Lepidoptera): proposed conservation of the specific name

Lawrence F. Gall, Entomology Division, Peabody Museum of Natural History, Yale University, New Haven, Connecticut 06511, USA.

Abstract. The purpose of this application is to conserve the specific name of the Connubial Underwing moth *Catocala connubialis* Guenée, 1852. This name is threatened by its unused senior synonym *Phalaena amasia* Smith, 1797 which was long thought to be invalid as a junior secondary homonym of *Catocala amasia* (Esper). However, it is now known that Esper's name was not published until 1804. Smith's name *amasias* is therefore available and it is now proposed that it be suppressed.

1992 Annual Meeting T-shirts Available

We still have some T-shirts from the 1992 annual meeting in East Lansing, MI, featuring *N. mitchellii* logo. T-shirts are available in the following sizes and quantities: S (5), M (10), L (10), XL (1) at \$13 each; also, polo shirts (with brown logo on pocket and full logo on back), L (1), XL (8) at \$17. Please include \$1 for postage. Send check to Michigan Entomological Society, c/o Dept. of Entomology, Michigan State University, East Lansing, MI 48824.

A Russian Lepidopterist Group

A group of three amateur lepidopterists, who collect and rear butterflies in Voronezh, Russia, have written to express interest in correspondence with amateur lepidopterists in the west, from whom they have long been isolated. They have nearly 200 addresses of other Russian amateurs who collect, make regional lists, map the location of rare taxa, and make annual excursions to study mountain, taiga, and polar taxa. They have "organized a network for the exchange of eggs, pupae, collection materials and information in Russia".

Correspondence is in very good English, and the contact address is: Yuri Iv. Berezhnoi, Post office, 29, 394029, Voronezh, RUSSIA.

European Society of Entomologists; New directions for entomologists in the new Europe

The European Society of entomologists is a new society for entomologists across the new Europe.

Entomologists everywhere realize the importance of establishing and improving contacts with each other, across nations and across disciplines. Better communication means more meaningful, more effective research. This is especially true in addressing the very many questions relevant to the whole of Europe and those best answered from a whole-continent perspective. The European Society of Entomologists aims to satisfy this need in an innovative way. It will be launched in 1993.

It will aim to promote and enhance communication and collaboration among European entomologists and to improve and disseminate entomological science among the people of Europe. It will offer comment on a wide variety of issues relevant to entomologists in the new Europe; news of current all-Europe research; requests and offers of help; latest news of networks, societies and special interest groups; European funding information; a European diary of meetings, workshops and courses; support for entomological meetings of European character; and, ultimately, a directory of European entomologists.

We hope that language will not be a barrier to communication across the new Europe - English, French, German and Russian are to be used for published Society correspondence and newsletters. It is intended that the subscriptions of members will be payable in local currency wherever possible.

All with an interest in the study of insects are invited to participate, irrespective of their entomological disciplines and whether or not they are members of other entomological societies. If you would like to know more, please contact Dr. László Papp, Zoological Department, Hungarian National Museum, Baross u. 13, Budapest, H-1088 Hungary, or Dr. Duncan Reavey, Department of Biology, University of York, York YO1 5DD, United Kingdom.

Research Notices



NORTH AMERICAN LEPIDOPTERA INVENTORIES - REQUEST FOR INFORMATION: I recently compiled information on the status of insect biodiversity inventory in America north of Mexico for a symposium at the annual meeting of the Entomological Society of America. Not surprisingly, I found that some of the smaller Orders (100's of species in N.A., e.g. Odonata, Trichoptera, fleas) are fairly well surveyed, with few undescribed

species and many State and local lists. However, faunal treatments of the major Orders (1000's of species) are restricted primarily to Coleoptera and Lepidoptera.

Coleopterists believe that their descriptive inventory for America north of Mexico is 85-90% completed, whereas I estimate that Lepidoptera may be about 70% described, because there are large numbers of undescribed species in collections in Gelechioidea and Tineoidea. Nonetheless, lepidopterists have shown considerably greater tendency in convergence towards botanists in their development of local floras than is true for other major Orders. For Lepidoptera there are species lists published or in progress for at least 20 states, and there are more than 30 active or recently published local lists of all or major portions (macros, micros) of the Order. There is nothing comparable to this in Diptera and Hymenoptera, where specialists estimate that fewer than half the species are even named!

I plan to develop this summary in more detail for publication and therefore would like to learn of any local, State or regional effort to develop a list of Lepidoptera, or of a large proportion of them, such as all moths or all macros. I am not trying to cope with local lists of lesser taxa such as Sphingidae or butterflies, which make up 5% or fewer of the species. I would include any list of names, such as the described species recorded in a State, as well as in depth censuses of local faunas, such as a county or natural reserve, even a backyard study.

If you are conducting such an inventory or know of one that has been recently published or is in progress, and you did not receive or respond to a questionnaire that I distributed last fall, please contact me. I will send a one-page questionnaire and/or call to obtain details.

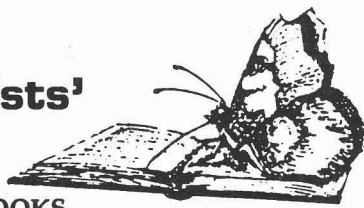
Thanks very much for your cooperation. J. A. Powell, Department of Entomological Sciences, University of California, Berkeley, CA 94720. phone:(510) 642-3207; FAX (510) 642 7428.

Samia cynthia RESEARCH: I should like to hear from members throughout the world, who can supply information, papered specimens and/or livestock of local forms of *Samia cynthia*. In particular, I need information of known natural habitats, foodplants, regional variation (must be supported with examples) and local history/names and information. Small numbers of pupae would also be of interest for rearing notes if these are available. I am researching the variation that exists within this species and require examples and evidence of forms and types (in any condition) for my study. Postage to the UK, can be refunded. Please contact Neil Naish, 105 Warminster Road, Chitterne, Nr. Warminster, Wiltshire, BA12 0LH, England., Phone: 0985 50536. FAX: 0985 50042.

BUCKMOTH RESEARCH: I am interested in the Sagebrush Buckmoth complex (*Hemileuca hera hera*, *H. hera marcata*, *H. magnifica*) in the western half of North America. I would like to receive any locality data that any lepidopterists have with a general description of the form at each locality. I would also be interested in the type of Big Sagebrush (*Artemisia tridentata*) found at the locality (large, lush form or small, scrubby form) if known. For any lepidopterists living near a university, college, or museum collection, I would also be very interested in receiving the locality data of any Sagebrush buckmoths in that collection. All inputs will be gratefully acknowledged. Send data to Mike Smith, 7428 Holworthy Way, Sacramento, CA 95842. phone: (916) 332-3039.

Sphingid RESEARCH: I need live pupae of *Hyles lineata*, *Sphinx perelegans* and/or *Sphinx vasti*. I am a PhD student studying hawkmoth pollination in California and need to perform flight tunnel bioassays with freshly eclosed, living moths. Members with available stocks or information should contact Robert A. Raguso, Department of Biology, University of Michigan, Ann Arbor, MI 48109-1048.

The Lepidopterists' Bookshelf



RECENTLY PUBLISHED BOOKS

Coupar, Pat & Mike. 1992. **FLYING COLOURS. COMMON CATERPILLARS, BUTTERFLIES AND MOTHS OF SOUTH-EASTERN AUSTRALIA.** New South Wales University Press, P. O. Box 1, Kensington, NSW 2033. Available in North America from: International Specialized Book Services, 5804 N.E. Hassalo St., Portland, OR 97213-3644. Hardcover, 19.5 x 26 cm, 119 pp.; text figures, line drawings, and numerous color plates. ISBN 0-86840-021-1. \$19.95 U.S.

[See review by Boyce Drummond in this issue of the NEWS.]

de Maria y Campos, Teresa & Teresa Castello Yturvide. 1990. **HISTORIA Y ARTE DE LA SEDA EN MEXICO, siglos XVI-XX.** Fomento Cultural Banamex, Mexico, Madero No. 17, Mexico 1, D.F., Mexico. Hardcover, 179 pp., many color photographs. \$79.19 U.S. (price includes \$10 for airmail and \$5 for foreign check charge). This beautiful book is filled with copious color photographs of decorative fabrics, processing of mulberry silk by Mexican women, and photographs of *Eucheira socialis* (Pieridae) and *Gloveria psidii* (Lasiocampidae) --- communal nests, larvae, and adults --- the two wild silkworms used by the Aztecs.

Feltwell, John. 1992. **BUTTERFLIES OF NORTH AMERICA.** Illustrated by Brian Hargreaves. American Nature Guides Series. Smithmark Publishers, Inc., 16 East 32nd St. New York, NY 10016. Softcover, spiral binding, 13 x 19 cm, 192 pp., over 550 life-size color illustrations. ISBN 0-8317-6963-7. \$9.98. Over 350 species of butterflies found in North America are included in this nature guide, illustrated by Brian Hargreaves, well-known to lepidopterists for his illustrations in *Butterflies of the West Indies* and *Butterflies of Britain and Europe* (Houghton Mifflin). Almost all the color illustrations are life size and provide details of key identification features, including color and pattern of both upper and lower wing surfaces, and sexual differences. The text in the species accounts is brief and telescopic, providing minimal detail about identification marks, habitat, flight period, and distribution. No information is provided on foodplants, life histories, or behavior. There is a very brief introduction of eight pages, five of which are devoted to line drawings (which are excellent) and only three to text. The brevity of the text is lamentable, as the author is well known for his books *The Large White Butterfly*, *The Natural History of Butterflies*, and *Butterflies and Other Insects of Britain*. The spiral binding is sturdy and easy to use.

Fernandez Rubio, F. 1991. **GUIA DE MARIPOSAS DIURNAS DE LA PENINSULA IBERICA, BALEARES, CANARIAS, AZORES Y MADEIRA. PART 1: PAPILIONIDAE, PIERIDAE, DANAIDAE, SATYRIDAE Y HESPERIIDAE. PART 2: LIBETHEIIDAE, NYMPHALIDAE, RIODINIDAE Y LYCAENIDAE.** Ediciones Piramide, S. A. Madrid, Spain. Softcover, 12 x 20 cm, 418 pp. (Part 1) and 406 pp. (Part 2). ISBN 84-368-0601-8 and 84-368-0602-6. In Spanish. Prices unknown. These two volumes are a popular summary of the author's years of work on the butterflies of the Iberian peninsula and its attendant islands. Both volumes contain identical prefaces, introductions, and bibliographies, and both close with unnumbered blank pages for the readers field notes. The heart of each book is the species accounts, arranged in chapters by families. The books are profusely illustrated in color and the photographs are of good to excellent quality. Each species account includes photographs of the upper- and undersides of both males and females, various morphological details, natural habits, and dot distribution maps. In all, 232 species are treated.

Heterocera Sumatrana Society. 1992. **HETEROCERA SUMATRANA, VOL. 7.** Edited by Wolfgang A. Nassig. Available from L. W. R. Kobes (Series Editor), Heterocera Sumatrana Society, Kreuzburger Strasse 6, D-(W-)3400 Göttingen, Federal Republic of Germany. Softcover, 17 x 25 cm, 107 pp. ISSN 0724-1348. 48.00 D.M. (about \$31.00 U.S.). This is the first fascicle in Volume 7 of Heterocera Sumatrana, the second volume of the "Red Journal Series" of HS. These Red Journal Volumes of HS serve as a platform for publication of taxonomic work (including generic revisions) separate from the full treatment of higher taxonomic units in the Green Series. In addition, addenda and corrigenda to already published volumes, the results of studies on preimaginal and general morphology, and ecological and biological observations are included in these fascicles. The "Green Book Volumes" of HS contain faunistic treatments on the level of complete families, subfamilies, and tribes of the Lepidoptera Heterocera fauna of the Indonesian island of Sumatra. This fascicle (7:1) contains taxonomic papers on Ennomiinae (Geometridae), Chalcosiinae (Zygaenidae), Thyatiridae, and Noctuidae, as well as notes on collecting localities.

Mudd, Maria M. 1992. **THE BUTTERFLY.** (Illustrated by Wendy Smith-Griswold). Dimensional Nature Portfolio Series. Stewart Tabori & Chang, 575 Broadway, New York, NY 10012. Hardcover, 23.5 x 31.5 cm, 14 half pages, 7 color pop-ups, and numerous color drawings. ISBN 1-55670-219-1. \$12.95. The Dimensional Nature Portfolio Series is a new line of pop-up books for children. The four published to date are *The Butterfly*, *The Bee*, *The Beetle*, and *The Spider*. Each book consists of an enormous center pop-up and two 7-page mini-books, one bound into each cover, which include smaller pop-ups, anatomical cutaways, and photographs taken through an electron microscope.

[See review by Jane Ruffin in this issue of the NEWS.]

Potter-Springer, Wendy. 1990. **GROW A BUTTERFLY GARDEN.** Bulletin A-114. Storey Communications/Garden Way Publishing, Schoolhouse Road, R. R. #1, Box 105, Pownal, Vermont 05261. Softcover, 14 x 21.5 cm, 32 pp. No ISBN. \$1.95. The price may make this booklet sound like a bargain, but I assure you it is not. Although well intentioned, the author is a newspaper columnist who appears to know little about plants and nothing about butterflies. Sent to me by alert reader Jane Ruffin, with firm instructions NOT to return it, this book has more inaccuracies than a campaign speech. For example, the book claims that the Chryxus Arctic's larval foodplant is *Abutilon* and that its genus name is *Satyre*; that the genus name for the Small Blue is *Blue* (I swear I am not making this up); that the Monarch (genus *Danainae*) feeds as a caterpillar on *Verbena*; that the "Mountain Mahogany" butterfly is in the genus *Elfin*; and so on, with many more misnomers equally ludicrous. The gardening advice is not much better and is notable primarily for its striking lack of useful information. Consider this enlightening entry for *Viburnum*: "The Spring Azure butterfly is attracted to *Viburnum* of all kinds, and indeed there are many. Growing in most any soil, the flowers of this shrub bloom at different times of the year, depending on where you live." Ready to plant?

Quintero, Diomedes & Annette Aiello. 1992. **INSECTS OF PANAMA AND MESOAMERICA: SELECTED STUDIES.** Oxford University Press, 200 Madison Ave., New York, NY 10016. Hardcover, 720 pp., 1268 illustrations. ISBN 0-19-854-018-3. \$195.00. Written for students and interested general readers as well as entomologists, this book has 42 chapters that cover 20 insect orders. The contributors offer a wide variety of viewpoints, writing on behavioral ecology, morphology, systematics, taxonomy, ecological diversity, and biology. The book introduces the majority of the smaller insect orders as well as diverse groups within larger orders; it is illustrated with hundreds of line drawings, distribution maps, and B&W photographs. A set of abstracts in English and Spanish is provided at the end of the book. This is the first work to focus on the incredibly rich insect fauna of Mesoamerica and Panama since *Biologia Centrali-Americana*, an

exclusively systematic work published nearly 100 years ago.
[To be reviewed in the Journal.]

Rings, Roy W., Eric H. Metzler, Fred J. Arnold, & David H. Harris. 1992. **THE OWLET MOTHS OF OHIO. ORDER LEPIDOPTERA, FAMILY NOCTUIDAE.** Bulletin of the Ohio Biological Survey, New Series, Volume 9, Number 2. The Ohio Lepidopterists Research Report No. 4. College of Biological Sciences, The Ohio State University, Columbus, Ohio 43210. Softcover, 21.5 x 28 cm, iv + 219 pp., 8 black & white plates, 8 color plates. Bulletin New Series: ISSN 0078-3994; Bulletin New Series, Volume 9, Number 2: ISBN 0-86726-110-8. \$20 (plus \$3 p & h; Ohio residents add 5.75% sales tax). Order from Ohio Biological Survey, 1315 Kinnear Road, Columbus, OH 43212-1192. This book lists Ohio's 708 recorded species of noctuids twice, first in a Systematic Checklist that provides nomenclature updated through 1991, and, second, in an Annotated Checklist that comprises the bulk of the text. Annotations refer to previously published illustrations, identify larval food plants, provide identification tips, display distribution ("dot") maps, and present graphs of seasonal flight phenology. Introductory chapters cover collection and preservation techniques, developmental biology, and conservation. There is a glossary, a bibliography, and a list of references useful to the study of Noctuidae. Black and white plates illustrate the eggs of 18 species and the larvae of 30 species. Color plates illustrate 324 adult specimens of 238 species, including many never before illustrated in color.

[Currently being reviewed for the Journal.]

Rothschild, Miriam. 1991. **BUTTERFLY COOING LIKE A DOVE.** Doubleday, New York. Hardcover, 19 x 26.5 cm, 215 pp., 104 plates, many in color. ISBN 0-385-26376-7. \$35.00. English zoologist Miriam Rothschild describes her latest book as a "compilation of spontaneous pleasures" and as "a rambling anthology" that constitutes a visual and verbal ode to "aire and angels" --- to the dove, symbol of the spirit, and to the butterfly, symbol of the soul. "Literature and butterflies are the two sweetest passions known to man," Vladimir Nabokov once said. And here, in a charmingly informal, delightfully informative synthesis of art and science, the two are uniquely wed.

[Currently being reviewed for the Journal.]

Stokes, Donald & Lillian, and Ernest Williams. 1992. **THE BUTTERFLY BOOK: AN EASY GUIDE TO BUTTERFLY GARDENING, IDENTIFICATION, AND BEHAVIOR.** Little, Brown & Co., Boston. Softcover, 21.5 x 28 cm, 96 pp., 140 color photographs, numerous text figures and range maps. ISBN 0-316-81780-5. \$10.95. A fascinating introduction to butterflies that covers 63 common North American species, with range maps, life history information, and behavioral notes for each. Also includes photographs of 36 caterpillars, 6 pages of life-size illustrations of adults, two plans for butterfly gardens, and lists of adult and larval foodplants.

[To be reviewed in the Journal.]

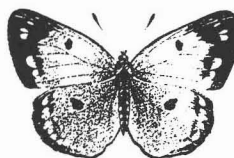
Velez, J. & J. Salzar. 1991. **MARIPOSAS DE COLOMBIA.** Villegas Editores, Carretera 13, No. 33-74, Oficina 303, Apartado Aereo 7427, Bogota, Colombia. Hardcover, 23.5 x 31 cm, 167 pp. ISBN 958-9138-67-5. In Spanish. 30,000 pesos [about \$50.00 U.S.]. After an Introduction and Prologue, this book is divided into five parts: (1) Origin of Colombian Lepidoptera, (2) Biology, (3) Life Histories, (4) Habitats, and (5) Family and Subfamily Treatments (Hesperiidae, Papilionidae, Pieridae, Lycaenidae, Riodininae, Nymphalidae, Heliconiinae, Ithomiinae, Danaidae, Acraeinae, Libytheinae, Morphinae, Brassoliniinae, and Satyrinae). The book ends with an Epilogue and a Bibliography.

[Currently being reviewed for the Journal.]



Vives Moreno, A. 1992. **CATALOGO SISTEMATICO Y SINONIMICO DE LOS LEPIDOPTEROS DE LA PENINSULA IBERICA Y BALEARES (INSECTO: LEPIDOPTERA).** Direccion General de Sanidad de la Produccion Agraria, Ministerio de Agricultura, Pesca y Alimentacion, Madrid. Softcover, 17 x 24 cm, 378 pp. ISBN 84-7479-904-X. In Spanish. Available for 3000 pesetas [about \$28.00 U.S.] from SHILAP, Apartado de correos, 331, E-2808 Madrid, Spain.

Anyone with knowledge of publication of new titles of books, videotapes, or audiotapes of interest to lepidopterists, and especially of books published outside the United States, are requested to send full particulars to the Book Review Editor of the Journal, both for inclusion in this column and to allow for timely review in the Journal. Publishers are invited to send review copies directly to the Book Review Editor for consideration for review in the Journal. Members interested in reviewing books for the Journal should send their requests or interests to:



Boyce A. Drummond
Book Review Editor
Journal of the Lepidopterists' Society
Natural Perspectives
P.O. Box 9061
Woodland Park, CO 80866-9061

BOOK REVIEWS

Mudd, Maria M. 1992. **THE BUTTERFLY.** (Illustrated by Wendy Smith-Griswold). Dimensional Nature Portfolio Series. Stewart Tabori & Chang, 575 Broadway, New York, NY 10012. Hardcover, 23.5 x 31.5 cm, 14 half pages, 7 color pop-ups, and numerous color drawings. ISBN 1-55670-219-1. \$12.95.

THE BUTTERFLY is a pop-up book with a difference. On opening it, one sees a magnificent Monarch Butterfly on the flower of Common Milkweed. With a wingspan of 12 inches the butterfly gently "flaps" when the book is moved. The cover when opened is cleverly designed to lie flat and give support to the central pop-up butterfly. The pages of the book are bound to the outside edges of the front and back covers by an ingenious arrangement. The pages run the height of the cover and half the width so that the book may be read without disturbing the pop-up Monarch in the middle. The pages on the left side start with the names of butterflies in different languages, and the differences between butterflies and moths are explained. There is a photograph of a 35-million-year-old fossil butterfly (*Prodryas persephone*) found at Florissant, Colorado. On each page there are paintings and small pop-ups to illustrate behavior and the complete life cycle. The text gives basic information on these subjects as well as on anatomy and physiology. The right side of the book begins with history and legends. There is a photograph of Sioux Chief Sitting Bull with a Monarch on his hat, symbolizing the transformation of power and warding off harm. Environmental issues are discussed and are followed by colorful illustrations of exotic butterflies. The next page covers enemies and survival tactics with two more delightful pop-ups. The last page concerns hibernation and migration. Although there are only 13 pages of text and illustrations, these contain considerable information. The back cover describes the book as "A fun and interactive family learning experience." Family interaction is indeed important, as an astute eleven-year-old had trouble understanding some of the words in the text. Although the vocabulary could be a problem for young children, they would certainly enjoy the central Monarch "flapping" while an adult read to them. (While reading out loud, gently move the book and the Monarch will "fly.") The book is sturdily constructed and can survive rough handling --- when I pulled on the pop-ups they remained intact!

THE BUTTERFLY is a delightful educational gift for children of all

ages. It is a perfect way to make a child aware of butterflies and is a good introduction for an adult.

Jane Ruffin
1013 Great Springs Road
Rosemont, PA 19010

Coupar, Pat & Mike. 1992. **FLYING COLOURS. COMMON CATERPILLARS, BUTTERFLIES AND MOTHS OF SOUTH-EASTERN AUSTRALIA.** New South Wales University Press, P. O. Box 1, Kensington, NSW 2033. Available in North America from: International Specialized Book Services, 5804 N.E. Hassalo St., Portland, OR 97213-3644. Hardcover, 19.5 x 26 cm, 119 pp.; text figures, line drawings, and numerous color plates. \$19.95 U.S. plus postage.

The content of this colorful book is summed up nicely by its title, but don't be put off by its focus on southeastern Australia. Realizing that butterflies and moths are commonly observed and enjoyed by many people, but that immature stages usually go unnoticed, the authors attempt in this book to create an awareness and understanding of caterpillars and of their dramatic transformation into adult butterflies and moths. **FLYING COLOURS** is not intended as a comprehensive guide to identification, but provides instead an introduction to common resident butterflies and larger moths of southeastern Australia by illustrating both caterpillar and adult of about 90 species.

Part One gives a brief (20 pages) overview of butterfly and moth life cycles and natural history, including discussions of camouflage and defense, and of predators, parasites, and diseases. Also included are tips on finding, collecting, and rearing caterpillars, and on attracting butterflies and moths to gardens. This section concludes with an explanation of Lepidoptera classification, a comparison of the differences between butterflies and moths, and --- my favorite --- a page of caterpillar silhouettes to help readers develop a gestalt for larval shapes as an aid to identifying caterpillars to family.

There are twenty moth families and seven butterfly families represented in this comparison figure, which reminded me of the silhouette identification guides to combat aircraft that my father used in the Navy during WW II. Part Two (91 pages) treats moths and butterflies in separate subsections, presenting, for each included species, brief descriptions of "Occurrence," "Foodplant," "Caterpillar," and "Pupa." Superb color photographs of the larva and adult of each species accompany the brief text, with one page devoted to each species. The quality of the photographs is excellent and the color printing is crisp and accurate. Many of the pictures are spectacular. Sixteen moth families and 5 butterfly families (including skippers) are covered, most with 2 or 3 species as examples. Family Geometridae receives the most coverage with 18 species. The book concludes with a table of foodplants, cross-referenced to the butterflies and moths in this book that feed on them; suggestions for further reading; and an index to scientific and common names. Although designed for residents or visitors to southeastern Australia, this book's appeal is much greater. All those interested in lepidopteran life histories, butterfly (and moth) gardening, and insect photography will find this attractive book a great stimulus to their activities.

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VIDEO & AUDIO REVIEWS

A VIDEO GUIDE TO CLASSIC WISCONSIN BUTTERFLIES. 1992.
By Jim Ebner. E/D Productions, P.O. Box 556, Okauchee, WI 53069.

VHS, 58 minutes, color. \$34.95 (price includes shipping, handling, and state tax).

Given the ubiquity of VCRs these days, I'm surprised that it has taken until 1992 for the first video guide to butterflies of a state or region to appear. As usual, the birders are ahead of us on this latest innovation in animal identification, but no doubt we lepidopterists will soon catch up. Recently, camcorder prices have fallen at the same time that picture quality and ease of use have gone up, offering the potential for lepidopteran home movies of high quality. Video footage of butterflies and moths may soon be as popular among lepidopterists as color slides have been for the past few decades. Meanwhile, budding cinematographers/lepidopterists have **CLASSIC WISCONSIN BUTTERFLIES** to which they can compare their work. Written and videotaped (over three summers) by Jim Ebner, life-long science educator and author of the Milwaukee Public Museum's 1970 *Butterflies of Wisconsin*, **CLASSIC WISCONSIN BUTTERFLIES** was produced with the assistance of Susan Borkin and Allen Young of the Invertebrate Section of Zoology of the Milwaukee Public Museum and Les Ferge of the Wisconsin Entomological Society. Accompanied by a complete checklist of the state's fauna (154 species, listed by common name), the videotape treats 49 species in detail, grouped in three categories: *Butterflies of Open Sunny Places* (19 species), *Butterflies of Wetlands* (11 species), and *Butterflies of the Forest* (19 species).

The Video is organized into four segments. A Prologue (2 minutes) introduces Butterfly Families, followed by Part I (6 minutes), which discusses How to Know and Identify Butterflies by understanding differences in coloration, size, shape, feeding habits, life history, and habitats. The species accounts comprise Part II, which, at 48 minutes, average nearly one minute per species.

An Epilogue on Butterfly Conservation (2 minutes) finishes the tape. The Prologue shows pinned butterflies grouped by families and family traits are explained but aren't always visible (e.g., the four walking legs of Nymphalidae are mentioned but aren't shown). Heavy shadows below the pinned specimens, caused by unidirectional lighting, was distracting and lent an unprofessional tone to this section.

Part I shows the first live butterflies, a hint of the video feast to come. Most video footage in the tape is of good to high quality, but there are a few flaws: some closeups are out-of-focus, an oviposition sequence is so windy that the movement of plant and butterfly makes it hard to tell that the butterfly is laying eggs, and in some shots in full sun the contrast of light and dark obscures details. But these problems are few and minor. Frankly, for 58 minutes of field recorded videotape, the overall quality is very good. In Part II the species accounts begin with a pinned specimen, above which is the common name (conforming to Publ. #1 of the Wisconsin Entomological Society by Les Ferge), below is the scientific name (conforming to the Miller-Brown Checklist), to the right is the number of the butterfly in the video sequence, and to the left is the wingspan in inches (unfortunately, as measured on pinned specimens). I found these opening titles to stay on too short a time to absorb the information, especially given the struggle to master the unfamiliar Miller-Brown generic names. The species treatments mixed active sequences with still shots; on the latter, key field marks were highlighted by red arrows or circles as the narration explained them. Comparison between look alike species was sometimes made easier with side-by-side figures (as in the Canadian and Southern Tigers) but not for others (as for many of the checkerspots). In addition to field marks, these species accounts show the butterflies in their natural habitats and the narration mentions flight period, distribution in the state, adult food sources, larval foodplants (common names only, and with little detail; e.g. "grasses" or "pines"), and interesting behaviors. There is very little footage of immature stages; for most species a still shot of a larva on the foodplant is shown. I think a real opportunity

was missed here. For example, how I longed to see a larva of the Harvester feasting on aphids. Instead, an alder tree was shown over which was the statement that the larvae eat aphids found on alders.

The Epilogue --- a call to conservation of butterflies and their habitats --- was perfunctory and uninspiring. Another wasted opportunity. If I were Roger Ebert, I'd give the video three stars (***) based on the strength of Parts I and II. What needs improvement are the Prologue and Epilogue. Jim Ebner's narration was clear and crisp and the varied script kept the voice-overs from sounding monotonous. The information content for each species was interesting; the overall effect was like walking through Wisconsin with a butterfly expert at your side to point out field marks, behaviors, and foodplants. I wish we had such a videotape for Colorado butterflies.

The quality of the review copy of the video was very good and came attractively packaged in a full-color box sleeve with a photograph of a Tiger Swallowtail on the outside. It was clearly labeled "Premier Edition" --- a double entendre, as it is a first for Wisconsin and the nation. Let's hope that many more editions follow.

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"**GRANDPA ART: INSECT SONGS**". 1992. By Arthur Custer, The Sun Group, NY. Audiocassette, 40 min., \$8.95; available from 1-800-227-2712.

This work is not entirely lepidopteral, nor is it a book. It is a fascinating tape of songs about insects, including one on butterflies, written and sung by Arthur Custer, who has a twenty-one year history of writing award-winning music and songs for children's programs. The current piece consists of eight songs, about various arthropods, designed to be sung by children aged 4 to 8. The lyrics and rhymes are catchy and educational, appealing to kids, parents and grandparents; my copy had a rapt audience, of all ages, at a family reunion. The performers - Grandpa Art (Custer) and a group of young kids - are obviously enjoying themselves. The dialogue breaks, to explain some of the stickier concepts, are highly instructive. The rhythms and instrumentation are skillfully tailored to the subject of each song and, most important, are so well done that they do not grate on the nerves after repetitive hearing. They are real foot-tapping sing-alongs. I detected only two statements of marginal accuracy.

Not recommended for taxonomic determinations, but a lot of fun!

Dave Winter,
Dedham Mass.



Forthcoming Meetings

The 58th North American Wildlife and Natural Resources Conference sponsored by The Wildlife Management Institute will be held 19-24 March 1993 at the Omni Shoreham Hotel, Washington, D.C. The theme of the conference is "Our Conservation Legacy: Gift or Gaff?" For registration information contact The Wildlife Management Institute, 1101 14th Street, N.W., Suite 725, Washington, D.C. 20005

The Association of Systematics Collections (ASC) will hold its annual meeting 7-9 May 1993 at the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania. The theme is "Public Relations for Systematic Collections and Research". For information contact:

ASC, 730 11th Street NW, Second Floor; Washington, D.C. 20001. or phone (202) 347-2850.

39th Annual Meeting of the Michigan Entomological Society will be held Friday 21 May 1993 at the University of Michigan Biological Station, Pellston, Michigan (on Douglas Lake). Contact Dr. Cathy Bach, Program Chair, Department of Biology, Eastern Michigan University, Ypsilanti, MI 48197.

The 44th Annual Meeting of The Lepidopterists' Society will be held at Colorado State University, Fort Collins, Colorado from Thursday, 8 July thru Sunday 11 July 1993, hosted by the Department of Entomology. The Pacific Slope Section of the Society, the High Country Lepidopterists, and possibly the European Lepidopterists' Society will hold their meetings in conjunction. The Idalia Society is sponsoring the meeting, and the Xerces Society will hold its annual meeting concurrently. The officers and the council of the Societas Europaeae Lepidopterologica have been invited to participate in the program. Special features being planned include:

- Access to C.P. Gillette Entomological Museum for early arrivals, on Thursday, and on Sunday afternoon. The Lepidoptera collection consists of more than 250 Cornell drawers and is richest in moths.
- Field course on butterflies and moths taught by Tom Emmel and Boyce Drummond prior to the meeting at The Nature Place near Florissant, Colorado. This will be the best opportunity for fieldwork.
- Welcome reception on Thursday evening sponsored by BioQuip at Paul Opler's residence.
- There will be a symposium on Lepidoptera/plant interactions. In addition, we are soliciting contributed papers on arctic and alpine Lepidoptera and Lepidoptera conservation.
- Friday evening cookout at Colorado State University, followed by informal slide fest (bring up to 6 of your best slides to share).
- Saturday evening banquet at University Park Holiday Inn, with presentation by Society President Ray Stanford, "Comparative Distribution of Lepidoptera versus Lepidopterists" to be followed by annual door prize gala MC'ed by Charlie Covell.
- A collector's guide to collecting areas along the Colorado Front Range will be prepared by Andy Warren. Collecting will be on your own as there will be no Society-sponsored field trips during the meeting.
- The nineteenth annual Gilpin County butterfly count will be held Monday, July 12. Further details will be provided in the registration packet.
- There are many vacation and sight-seeing opportunities in Colorado and adjoining Wyoming. Please contact Paul Opler if you have any questions.

For convenience and economy, lodging space has been reserved in a Colorado State University residence hall. A three night lodging package for the nights of July 8-10 will be available for \$46.65 per person double occupancy, \$72.90 single occupancy, or \$136.05 for a family suite (including tax). Additional lodging nights will be available on a limited basis July 7th and 11th. The residence hall features adjoining bedrooms - each with twin beds, vanity with sink, wardrobes, drawers, study desk, and telephone. The bathroom and shower are shared between two rooms. All linen, towels, and maid service are provided. One child under ten years of age may sleep in parents' room with cot, sleeping bag or crib (furnished by participant) at no extra charge. Family suites consist of both rooms and bath and are suitable for families of up to six persons (two under age 10). Air conditioning is not available, but is usually unnecessary due to cool evenings.

A block of 20 rooms has also been reserved at the University Park Holiday Inn (303/482-2626) where the banquet will be held. single rooms are \$55.50, double rooms are \$60.50, and up to two additional persons may occupy a room at \$5.00 additional per person. Information on other lodging arrangements will be included in the

registration packet.

An optional meal package will be available for \$27.69 per person. The package includes breakfast and lunch Friday, July 9 through Sunday July 11. Dinners are excluded because they are scheduled as part of the program.

Two meeting rooms (one for exhibits, poster displays, and sales tables) have been reserved in the Lory Student Center on the Colorado State University campus. Colorado State University visitor parking permits will be distributed with pre-registration confirmations or at registration check-in. Permits allow participants to park in the areas adjacent to the residence halls and in the lots north and south of the Lory Student Center.

More specific information on lodging, campgrounds, restaurants, and local attractions will be included in the pre-registration packet.

For further information and to assist us with planning, please fill out the questionnaire below and return it IMMEDIATELY. You will be sent a pre-registration packet containing registration forms, call for papers, deadlines, and more. We expect to mail the packets in February.

IMPORTANT: There will not be a general mailing of registration forms or call for papers. To obtain these, complete and return the form.

Name: _____

Address: _____ City: _____

State/Province: _____ Country: _____ ZipCode: _____

Number of persons in your party who will register: _____

Attend the welcome open house: ___cookout: ___banquet: ___

Number of persons in your party who will need accommodations: _____

Where will you stay? Residence hall ___motel/hotel ___

campground ___other _____

How will you travel to the meeting? Your vehicle ___by plane ___

other _____

At the meeting will you present a paper? ___poster? _____

If you have any suggestions, questions, or special needs (such as child care), please indicate: _____

Mail to Boris Kondratieff and Paul Opler, Department of Entomology, Colorado State University, Fort Collins, CO 80523. Phone: (303) 491-7314 (Kondratieff) or (303)226-9401 ext. 234 (Opler).

The 4th National Pesticide Conference is scheduled for 1-3 November 1993 in Richmond Virginia. For more information contact Diana L. Weigmann, Conference Director, Virginia Water Resources Research Center, Virginia Polytechnic Institute & State University, 617 N. Main Street, Blacksburg, VA 24060-3397. (703) 231-6673.

1994 - The 9th European Congress of Lepidopterology is scheduled for 5 - 9 September 1994. The Congress will be held at "Lednice na Morave", Czechoslovakia.



New Members

BABCOCK, SARAH J.: 3441 19th Avenue SW, Naples, FL 33964.
BARRY NATHAN: 14259 Oak Orchard on the Lake, Waterport, NY 14571.

BAUDE, FREDERIC J. (Dr.): 3708 Chatham Court, Arden Hills, MN 55112.

BRENNAN, HEATHER ANNE: 467 Coombs Avenue, London, Ontario N6G 1J8, CANADA

BURKHOLDER, PAT: P.O. Box 425, San Juan Capistrano, CA 92693.

DAVENPORT, MICHAEL A.: 527 North Lafayette, Lowell, MI 49331.

DEVINE, RICHARD: Live Oak Plantation, 9275 SW 9th Street road, Ocala, FL 34481.

FIELD, KAITLYN A.M. P.O. Box 298, Sointula, British Columbia, V0N 3E0, CANADA

GARZA SALAZAR, FLORENTINO: Cesar Gandara 571, Hermosillo, Sonora 83129, MEXICO.

GRIMBLE, DAVID: USDA Forest Service, Pacific Northwest Research Lab, 3200 SW Jefferson Way, Corvallis, OR 97331.

HALABOURDA, ROBERT G.: 121 Oakland Street, New Westminster, British Columbia V3L 1P5, CANADA.

HORTON, RALPH E. (D.D.S.): 3000 41st Street, Moline, IL 61265.

HOSKIN, MICHAEL J.: 176 Robinson Drive, Newmarket, Ontario L3Y 5M5, CANADA.

JENSON, CHRIS: 39 Brookside Drive, #D, Lansdale, PA 19446.

JOHNSON, CLARK H.: 4008 South Hocker, Independence, MO 64055.

JONES, RUSSELL: P.O. Box 4070, Oakland CA 94614.

LINDAMAN, DOUGLAS: 2120 Walnut Street, Vestal, NY 13850.

MERY, BENOIT: 2 Rue de la Paroisse, 78000 Versailles, FRANCE.

MUELLER, THOMAS: Rural Route 05, Box 342, Waterville, ME 04901.

NATALE, JOHN: 1639 North River Road, Coventry, CT 06238.

NELSON, JAMES P.: 2390 East Floyd Avenue, Englewood, CO 80110.

PUCHER, MICHAEL: 19608 Lull Street, Reseda, CA 91335.

ROCKWELL, RONALD F.: 2700 Washington Avenue, #1004, Cleveland, OH 44113.

TAYLOR, MICHAEL J.(Dr.): 2028 Carol Avenue, Mountain View, CA 94040.

TOMIK, SCOTT: Box 212 Hibernia road, Salt Point, NY 12578.

TROPHIA, SAMUEL: Wings of Imagination, 1108 Duval Street, #C, Key West, FL 33040.

The Society also welcomes the following new members who joined since the last list of new members was published in 1992 NEWS #5, but in time to be included in the 1992 Membership Directory, where their addresses will be found:

BARNETTE, NICOLE K.

CLARKE, CHARLES F.

CONSTANTINO, LUIS M.

CROHN, STEVEN S. (M.D.)

CURRY, BOB

DREW, JONATHAN

EKIN, ROBERT J.

EVANS, SCOTT

EVANS, TOM

GRIFFITTS, BOB

HARPEL, WILLIAM

HARVEY, ANTHONY

JENKINS, MALCOLM D.

KENNEY, ROBERT P.

KOFFELL, KEVIN K.

LACKIE, GARY L.
 LEMIEUX, JACQUES
 LORING, EUGENE C.
 MULLINS, JANET
 NUTSCH, DARIA C.
 PASSELECQ, J.P.
 PATEL, SANJAY
 PORTER, ADAM H.
 SCHMITT, PETER C., III
 WALKER, MARVIN
 WATKINS, TARA L.A.
 WATKINS, WILLIAM E.
 WOLSKI, JILLIAN C.,
 WORTHY, ROBERT J.



Address Changes

ANWEILER, GARY G.: 7212 103 Avenue, Edmonton, Alberta T6A 0V1, CANADA.
 BENYAMINI, DUBI: 6565 Esteban Dell'orto, Apt. 111, Santiago CHILE.
 BOGLER, PHIL: 701 Hibiscus Trail, Melbourne, FL. 32951-2119.
 CASSEL, WILLIAM S.: 703 Pendleton Street, Radford, VA 24141.
 GILLMORE, RICHARD M.: 2255 College Drive, Lake Havasu City, AZ 86403-2517.
 HUMPHREYS, CLIVE W.: 207 Arcturus Road, Greendale, Highlands P.O., Harare, ZIMBABWE.
 JORDISON, JOHN: Rural Route, 01, Box 38J, Eagle, NE 68347.
 KOENIG, PHILLIP E.: 823 Lauralee Drive, O'Fallon, MO 63366-2152.
 LESLIE, GEORGE C., Jr.: Papillon Distributors, Inc., P.O. Box 1541, 120 Tyngsboro Road, Westford, MA 01886.
 LEVY, JACK N. (Dr.): Developmental Biology Center, 4205 Biological Sciences II, University of California, Irvine, CA 92717.
 McCORMICK, MICHAEL: 1162 Ravenscourt Drive, Sugarland, TX 77478.
 McHUGH, KEVIN: 17321 East Wagontrail Parkway, Aurora, CO 80015.
 McINNIS, MICHAEL L.: 12388 Henderson road, Clifton, VA 22024-2035.
 NADBORNE, IRA: c/o Castro, 2961 West Principia, Tucson, AZ 85741-4801.
 PAWLAK, MARK: 44 Thingvalla Avenue, Cambridge, MA 02138.
 PHILLIPSON, DONALD E.: 14325 Braun Road, Golden, CO 80401-1431.
 RICE, RILEY W.: 907 Snow Drive, Martinez, CA 94553-4715.
 RICE, VIRGINIA RUTH: 907 Snow Drive, Martinez, CA 94553-4715.
 STOUT, TODD L.: 1808 West 700 North, #10, Salt Lake City, UT 84116.
 THURMAN, AL: 16 Tina Place, Key Largo, FL 33037.
 WACHOWIAK, KEVIN: Rural Route 01, Box 112W, Winona, MN 55987.
 WIEDORN, WILLIAM S. (M.D.): 1133 Louisiana Avenue, New Orleans, LA 70115.
 YOUNG, MICHAEL E.: PSC 78 Box 1213 #1213, APO AP 96326-0100

The following members, listed by name only, have reported new addresses since the last list was published in 1992 NEWS #5; their new addresses appear in the 1992 Membership Directory:

ANDERSON, ERLE
 BALLENGER, C.E.
 CASSELL, WILLIAM S.
 COUGHLIN, CAROLYN
 CRABO, LARS G.
 ELLIS, SCOTT L.
 FIEDLER, KONRAD
 GRAY, RICHARD E.
 HARDBARGER, ROBERT J.
 HESTERBERG, RICHARD

HIRZEL, RONALD F., JR.
 HOSAKA, MITSURU
 INOUE, TAKESHI
 KLEIN, THOMAS W.
 LEWIS, KIM S.
 LOGAN, HARRIETT R.
 MARUYAMA, KIYOSHI
 MAYO, ROB
 McGIFFEN, KATHRYN C.
 NADBORNE, IRA
 NEELY, JOHN
 PARIS, THOMSON
 PARTLOW, JANET
 PETERSON, STEPHEN E., JR.
 RYDER, RICHARD D.
 SEABOLT, TOM
 STEINHAUSER, STEPHEN R.
 STEPHENS, RAY
 ULLRICH, RICHARD D.
 WEST, FRANKLIN M.



The Market Place Buy • Sell • Exchange • Wants

At the Executive Council meeting in Fairbanks in June 1979 it was decided that the policy regarding placement of members' notices in the NEWS should be determined by the Editor, in keeping with the purposes of the Society as outlined in the Constitution, i.e.: "...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, ..." (Article II). Commerce in lepidoptera is not a stated objective.

Therefore, it will be our policy to print notices which seem to meet the above criteria, just as in the past, without quoting prices (except for those of publications or lists). Notices which seem by their listing of offerta/desiderata, or by an organizational title, to be commercial in nature, will be entered in a separate section as "commercial notices", listing only name, address, and a brief indication as to material offered/desired. No mention may be made in these notices of any species on any threatened or endangered species list. This will include all Ornithopterans now and for the foreseeable future.

Only members in good standing may place ads. Ads will be printed only once unless entry in two (maximum) successive issues is requested. A maximum of 100 words is allowed. SASE in an ad stands for self-addressed stamped envelope. Ads may request bids by mail on a time-limited "best-offer" basis. OBO in an ad stands for "or best offer". For example: "*Watching Washington Butterflies*, by Pyle, 1974. \$10 OBO received by 1 Dec 1993".

The Society, as always, expects all notices to be offered in good faith and takes no responsibility for the integrity of any advertiser. Any disputes arising from such notices must be resolved by the parties involved, outside the structure of the Society. However, aggrieved members may request information from the Secretary regarding steps which he/she may take in the event of alleged unsatisfactory business transactions. Furthermore, given adequate indication of dishonest activity by a member, that member can be expelled from the Society under the provisions of Article III, Section 9, of the Constitution.

Note: US Department of Agriculture (USDA) may require permits for transport of live lepidoptera in any stage. Please inquire.

WANTED: Information on butterfly gardening specific for my area. Is there anyone out there who is knowledgeable about landscaping (design and preparation) who would be interested in sharing their expertise with me as I try to establish my own lepidoptera (or is it lepidopterist?) habitat. I am knowledgeable about the critters and foodplants, and want to establish several beds and small shrubby versions of silkmoth food trees, but really don't know where to start. I've great oak and walnut trees, but the nearest leaves are 10-feet up! Contact Monica Miller, 5680 Clark Avenue, Bethel Park, PA 15102.

FOR EXCHANGE: Slides of living butterflies in their natural environments, in Spain, for others of butterflies in different parts of the world. I can provide a list of the species I have photographed to those who are interested. Write to: Manuel Ortiz Garcia, Virgen de la Soledad, 20-A, 4^a D, 19003-Guadalajara, Spain

WANTED: African Cetonidae beetles, willing to exchange or purchase. A1 quality essential as well as full collecting data. Contact I.R. Willem, P.O. Box 1625, Margate 4275, South Africa.

FOR SALE OR EXCHANGE: Exotic butterflies and beetles of Tibet, China and Korea. WANTED: Exotic butterflies from other parts of the world. Contact: Shin-ichi Oshima, Shimohideya 707-99, Okegawa, Saitama (363), Japan.

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. For a free brochure and price list contact: Leroy C. Koehn, 6058 Campbell Rd., Mentor on the Lake, OH 44060.

WANTED: Apatura, Charaxes, Polyura, Agrias, Prepona. Live ova/pupae: any species, any time. Also good papered materials with data. Will exchange or pay reasonable costs. Also contact with other enthusiasts for any members of this group. Write to: John McFeely, 90, Stonechat Avenue, Abbeydale, Gloucester GL4 9XF England. Phone: Gloucester (0452) 415130.

FOR SALE: A1 Coleoptera specimens, Coptolabrus lafossei buchi, C. principalis, C. principalis pustulifer, Plusiotis limbata, P. aurigans, P. aurigans red form, Ischnocelis (Neocelis) dohrni male, Heterosternus oberthuri males, Pelidnota burmeisteri, Mantichora latipennis livingstonia, Anoplophora zonatrix (Thailand), A. zonatrix (Malaysia), Pyrodes longiceps, Proculus mniszewski, Inca clathrata (Lg. - 5+ cm), Gymnetis chevrolati (flavomarginata?). Reasonable prices. Contact: Bob Natalini, 118 Old Spies Church Rd., Reading, PA 19606 USA. Phone (215) 370-0817

FOR SALE: Cocoons of A. luna and probably A. io. SASE for prices. Larry J. Kopp, R.D. 1 - Box 30, Klingersstown, PA 17941-9718.

FOR SALE: Typed and edited copies of the 1977 manuscript, *Distribution of Butterflies in New Mexico (Lepidoptera: Hesperioidea and Papilionoidea)*, 232 pp. Over 10,000 records covering two hundred sixty-nine species are reported, listing locality, date, number, collector and specimen disposition for each record. Softcover with plastic comb binding (or unbound). Available for \$12. from Richard Holland, 1625 Roma NE, Albuquerque, NM 87106. Also available on floppy disk.

FOR SALE: Living cocoons of H. gloveri, North Dakota material. Also a few polyphemus and io. SASE to Jim Oberfoell, P.O. Box 206, Sentinel Butte, ND 58654. USA.

WANTED: Contact with collectors/dealers world wide who can supply large and small quantities of all butterfly species. Send list and prices in US dollars to Bob Muller, 17 Sailors Lane, Devon, CT 06460 USA.

FOR SALE: Long custom-made pearl head pins for use in pinning large specimens to spreading boards. Fingers will not contact or break wing tips, they also afford easy removal once specimen is spread. Pins available in three lengths: 3 inches, 4 inches and 5 inches. for prices send SASE to Bob Muller, 17 Sailors Lane, Devon, CT 06460 USA.

WANTED TO BUY or EXCHANGE: unusual Saturniidae, both papered or livestock, from all over the world. Esp. Coloradia sp., Saturnia albofasciata, Salassa sp., Bathyphebia sp., Citheronia sp., and Copaxa sp. from Central America, African species etc. Exchange

possible for papered Saturniidae (A. selene from Thailand, Aut. zephyria, Salassa lola from Nepal) and perhaps ova of Hyalophora euryalus kasloensis from Canada in April/May. All offers are welcome! Stefan Naumann, Brandenburgische Str. 10, 1000 Berlin 31, Germany.

FOR EXCHANGE OR SALE: living pupae or ova: Saturniidae: E. pavonia, S. pyri, A. tau, A. pernyi, A. harti, G. tyrreha, A. selene, A. pamina, A. mylitta, C. trifenestrata. Sphingidae: S. ligustri, M. tiliae, S. ocellatus, L. populi, D. elpenor, D. euphorbiae, P. proserpina, S. pinastri. Lasiocampidae: D. pini, O. pruni, G. quercifolia, C. potatoria, L. quercus. Also E. versicolora, Z. polyxena. overwintering ova immediately: Saturniidae: C. boisduvali, A. yamamai, R. fugax, Catocala: fraxini, nupta, sponsa, promissa. Exchange for pupae - ova of Rothchildia, Hemileuca, Modest sphinx, Manduca, Smerinthus, Paonias, Hyalophora gl., c., e. Contact Božk RINN, Studnice u Náchoda 25, 549 48, Č S F R, Czecho-slovakia.

FOR SALE: Lucanus augusticornis males 6.5 cm+, 6.0 cm+, 5.0 cm+, female. Lucanus planeti pairs. Odontolabis gracilis (Nias Is) telodont male. Odontolabis lacordairei L,M,S male set. Odontolabis ludebingi montiveola (Sumatra) L,M,S, male set. Odontolabis platynotus (Vietnam) lg male, sm male. Prosopocoilus gracilis (Vietnam) lg male sm male. Prosopocoilus frustortferi lg male, sm male, female. Hexarthrus vitalisi (Vietnam) male. Ranzania bertolonii (Kenya) male. Contact Chris Adamson, 5010 Solano Ave., Richmond, CA 94805.

WANTED: Livestock of North American butterflies, particularly the families Papilionidae, Pieridae (esp. Colias) and Nymphalidae. Also deadstock of Colias. Will buy or exchange for livestock of European butterflies. Please write with list of species and prices, and any European livestock required to Bob Worthy, 10 The Hill, Church Hill, Caterham, Surrey CR3 6SD, England.

FOR EXCHANGE OR SALE: Reared papered Papilio b. brevicauda, P. b. gaspeensis, P. zelicaon nitra, Celastrina ebinina, Incisalia i. irus, Mitoura barryi, Mitoura thomei, a few Erora laeta pairs, Speyeria diana, A. polyphemus ocula, H. columbia, C. securifera, E. caletta, A. zephyria, and many others. Also pupae of H. columbia, P. t. troilus, P. g. glaucus, Catocala ova - relicta, ultronia, ilia, neogama. WANTED: most any lepidoptera esp. Lycaenids, Papilio sp., Saturniids, Catocala sp., and livestock. Send me your offers and list. I am interested only in N. American material. Frank Bodnar, 1201 Ridge Rd, Apollo, PA 15613

FOR SALE: cocoons of A. luna and A. polyphemus. also, literature on how to rear the Saturniidae moths. Ova available of H. cecropia, A. polyphemus, A. luna, H. columbia and C. promethea in June. Also papered specimens. Send SASE for price list to Gardiner E. Gregory, Star Route 79, Box 259, Orland, Maine 04472.

FOR SALE: Large, unusual Coleoptera. Goliathus, Macrodonia, Dynastes etc. Twenty-five year collection must be sold. any reasonable offer accepted. Send SASE for price list to: K. Deitcher, Box 5162, Albany, New York 12205-0162

WANTED: Living pupae of Saturniids and butterflies, large silk moths, colorful leps. Argemina, Attacus, Thysania, Cecropia, Automeris, Papilio, etc. K. Deitcher, Box 5162, Albany, N.Y. 12205-0162

WANTED: Slides of common representatives of butterfly families, including skippers (also a tibial spur, if possible) and host plant or nectar source, for those butterflies found in the northern California (San Francisco Bay) area. Needed to do slide shows for butterfly walks in Mt. Diablo State Park. Offered through the Mt. Diablo Interpretive Association, a non-profit cooperating association for the Park. Please list what you have and a suggested price. Write or contact: Sharyn Fernandez, 31 David Drive, Concord, CA 94518 (510) 798-4723.

WANTED: World-wide livestock and papered material of Spingidae, Saturniidae and Papilionidae. Buy, sell & exchange. J.P. Kazenbroot, Beethovengarde 77, 5344 CD OSS, Holland. Phone: 4120-31235

FOR SALE OR EXCHANGE: Pupae/ cocoons: *E. versicolora*, *E. lanestrus*, *Act. selene*, *A. mylitta*, *Cric. agria*, *H. euphorbiae*, *C. galliim*, *S. ligustri*, *A. levana*, *Zer. polyxena*. Ova: *Cat. fraxini*, *ant. yamamai*, and so on. Papered butterflies: *P. machaon e.l.* and many more. Contact: J.P. Kazenbroot, Beethovengarde 77, 5344 CD OSS, Netherlands. Phone: 4120-31235.

WANTED: Contact with someone who can supply me with ova from Mexico. *Parides*, *Rothchilda*, especially. Also need mantidfly livestock., Write to: Bob Wilson, 18 Wilson Ave., Wakefield, MA 01880

FOR SALE: Butterflies from California and Arizona - 108 species. SASE please. Robert Wuttken, 9506 National Bl., Palms, CA 90034 2820.

FOR SALE/EXCHANGE: Ova of the following *Catocala* species: *C. residua*, *relecta*, *palaeogama*, *cerogama*, *unijuga*, *relecta*, *grynea*, *praeclara*, *ilia*, *ultronia*, and *andromedae*. Send SASE to Darryl Willis, 145 Westfield Drive, Holliston, MA 01746 for price list. phone (508) 429-5378, FAX (508) 429-0374. Ova will not be available after 10 May 1993.

FOR TRADE OR SALE: Pupae of *A. pernyi*. Please contact Mike Matheson, 69 Detroit Ave., Wheatley, Ontario, CANADA N0P 2P0. Phone (519) 825-4482.

FOR SALE: *Morpho anaxibia* 2 ♀ ex pupa, *Agrias claudia claudianus* 2 ♂, 4 ♀, *Morpho hecuba* 2 ♂, 1 ♀, *Morpho cisseis* 2 ♂. In A1 quality spread. Send SASE with your offer. Henry Hensel, 145 Bellevue Str., Edmundston, N.B. CANADA E3V 2E2.

FOR SALE: Custom-made light traps. 15-3,000 watts, new and used available, serious inquiries only. Vernon Brou, 74320 Jack Loyd Rd., Abita Springs, Louisiana 70420. Phone: (504) 892-8732 after 7 pm (Central Standard Time).

FOR SALE OR TRADE: Cocoons of *H. cecropia* (from wild Rochester adults). SASE to Nathan Barry, 14259 Oak Orchard on the Lake, Waterport, NY 14571. or phone (716) 682-4285 for "Nathan" or Bob".

WANTED: Howe's *Butterflies of North America*, Riley's *A Field Guide to the Butterflies of the West Indies* and Walker's *The Odonata of Canada and Alaska Vol.I-III*. Write or phone collect: Kirk Zufelt, 6 Nightingale St., Hamilton, Ontario, Canada, L8L 1R6. (416) 528-3035.

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. For a free brochure and price list contact; Leroy C. Koehn, 6058 Campbell Rd., Mentor on the Lake, OH 44060. Telephone: (216) 257-0796.

FOR SALE: 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 photo-cells and/or timers. Includes plans for enclosures with rain drains and sorting trays. For more information, contact: Leroy C. Koehn, 6058 Campbell Rd., Mentor on the Lake, OH 44060. Telephone: (216) 257-0796.

FOR EXCHANGE: Many papered moths and butterflies from all parts of the world. Please send SASE to Elmer L. Griepentrog, Elsie Rt., Box 740, Seaside, Oregon 97138.

WANTED: Seeds/Acorns of any type of EVERGREEN OAK species. Especially *Quercus myrtifolia* - Myrtle Oak, *Quercus laurifolia* - Laurel

Oak, and *Quercus ilex* - Holom Oak. ALSO WANTED: Larval foodplant seeds of the following species: *Hemileuca burnsi*, *H. electra*, *H. eglanterina*, *H. magnifica*, *H. neumoegeni*, *H. oliviae*, *H. griffini*. ALSO WANTED: seeds of *Argemone albiflora* (prickly poppy), *Gymnocladus canadensis*, *Acacia rigidula*, *Prosopis juliflora*, *Acacia flexicaulis*. Or any other species world wide. Write to Randy Robinette - 4528 Hatfield St., Ashland, KY 41102-9154 USA.

WANTED: Contact with Saturniid enthusiasts throughout the world. If you breed, collect or deal in live Saturniids, then please send me your lists of ova or pupae, stating species, availability and price. I can offer for Trade, Sale, of Exchange, livestock of numerous species from all over the world, and would be pleased to send lists to anyone interested, free on request. All Saturniids from your local area are of interest, so please contact: Neil Naish, 105 Warminster Road, Chitternham, Nr Warminster, Wiltshire, BA12 OLH, England, Phone: 098550536 or FAX: 0985 50042.

FOR SALE: Saturniid ova for 1993 including *H. cecropia*, *C. regalis*, *C. angulifera*, *A. luna*, *A. polyphemus*, *Saturnia pyri*, *E. imperialis*, and more. SASE Jeff Frey 364 Oaklyn Road, Lebanon PA 17042 or (717) 272-6597.

FOR SALE: Coleoptera collection including some real specialities like *Titanus giganteus* at 15.2 cm. Jeff Frey, 364 Oaklyn Rd., Lebanon, PA 17042 or (717) 272-6597.

AVAILABLE FROM THE AUTHORS: *The Ontario Butterfly Atlas*, by Holmes, Hess, Tasker and Hanks, 1992. Data for 138 species includes; distribution map and notes; life history timetable; habitat and foodplant notes. Several colour plates. Soft cover only \$25 inclu. shipping/handling. colour brochure also available. Write to: Alan Hanks, 34 Seaton Dr., Aurora, Ontario, Canada L4G 2K1.

FOR SALE OR TRADE: *Eurytides marcellus*, *Actias luna*, *Papilio troilus*, *Papilio glaucus*, *Paonias myops*. Please send requests to Mr. William Houtz, RD #4, Box 477, Pine Grove, PA. 17963.

MEMBER'S COMMERCIAL NOTICES



DALTON BRUCE: CALCUTTA RD #2 P.O., FREEPORT, TRINIDAD, WEST INDIES. PHONE #: 809-629-3991. Now available - *Megasoma janus*, Damselflies, Dragonflies, Cicadas, Scorpions, Centipedes, Unidentified Insects, Wasps. Butterflies: *Morpho rhetenor*, *M. hecuba*, *M. adonis*, *M. deidamia*, *M. menalaus* ♂. Contact Dalton Bruce for details.

TRANSWORLD BUTTERFLY COMPANY, Apartado 6951, 100L San Jose, Costa Rica, Central America. LATEST 12-PAGE WORLDWIDE ILLUSTRATED LEPIDOPTERA CATALOG: Includes Neotropical, African, Palearctic and Indo-australian region butterflies. Many ex-pupae species available. Specialists in Morphidae, Brassolidae and Papilionidae. ENTOMOLOGICAL & NATURALIST TOUR PROGRAMS AVAILABLE. Transworld Butterfly Company celebrates 16 years serving Leidopterists in December 1992. Latest catalog \$1 or one year's monthly lists via airmail \$6.

THE BONE ROOM, 5495 C CLAREMONT, OAKLAND, CA 94618, (510) 652-4286. Please let me invite you to my exciting little store. We are packed full of insects (mounted and unmounted), bones, fossils, fossil casts, jewelry and animal remnants. Call or write for a free price list or better yet, drop in when you're in the Bay Area. Ron Cauble, Owner.

I.R. WILLEM, P.O. Box 1625, Margate 4275, SOUTH AFRICA. For sale: large selection of South African beetles including *Eudicella*, *Amaurodes new ssp.*, *Anthia*, *Mantichora*, *Julodis*, Cerambycidae. Also multi-colored rainbow grasshopper *Maphyetus leprosus*. Butterflies: assortments, *Papilio dardanus cenea* ≠ female forms, *Charaxes ethalion*, *xiphares*, *pondoensis*. All material guaranteed A1, papered with full

collecting data. Discount for quantities.

THOMAS GREAGER, R.D. #6, Box 56-B, Greensburg, PA 15601, USA. FOR SALE: WORLDWIDE BUTTERFLIES in all families. Also some moths, beetles, and other insects. Finest quality specimens, with complete data. Satisfaction guaranteed. Good prices. ALSO FOR SALE: INSECT PINS- Imperial, Elephant, and Stainless Steel in all sizes. United States residents send SASE to begin free price list subscription. Foreign residents send US \$5.00 for a one year price list subscription. WANTED: Contacts with wholesale suppliers of insect specimens from any part of the world.

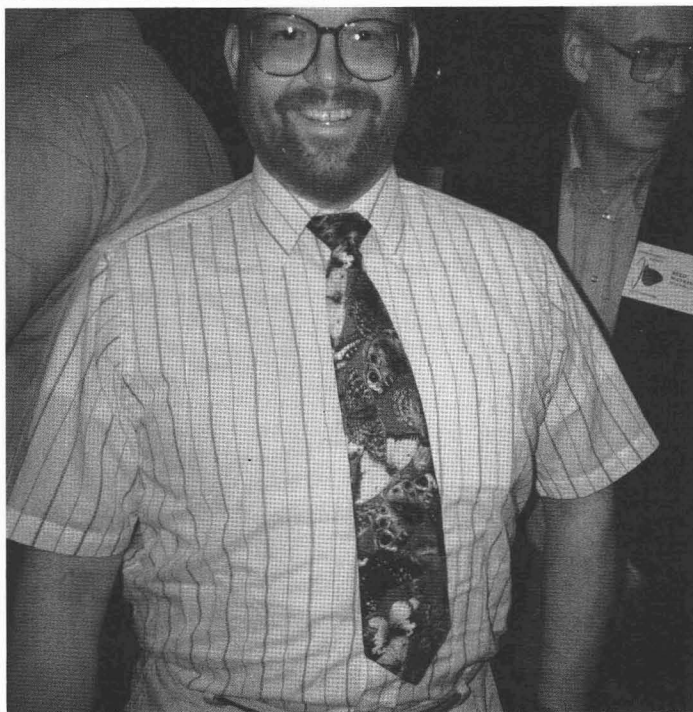
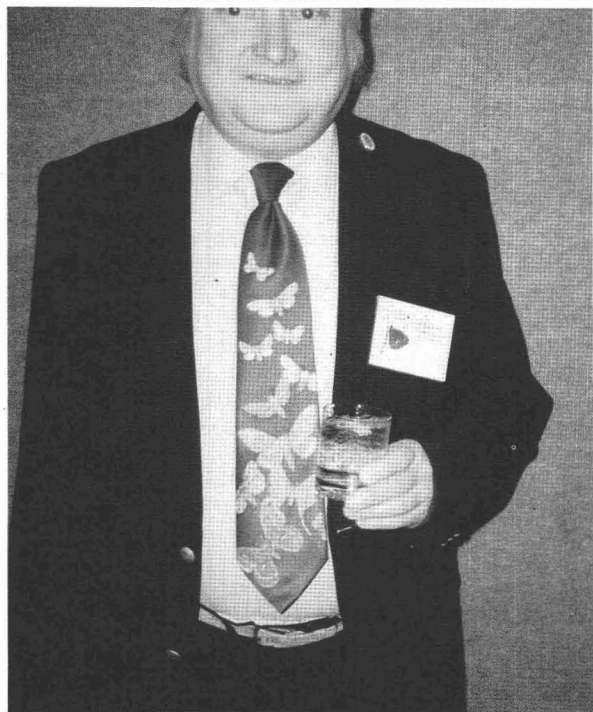
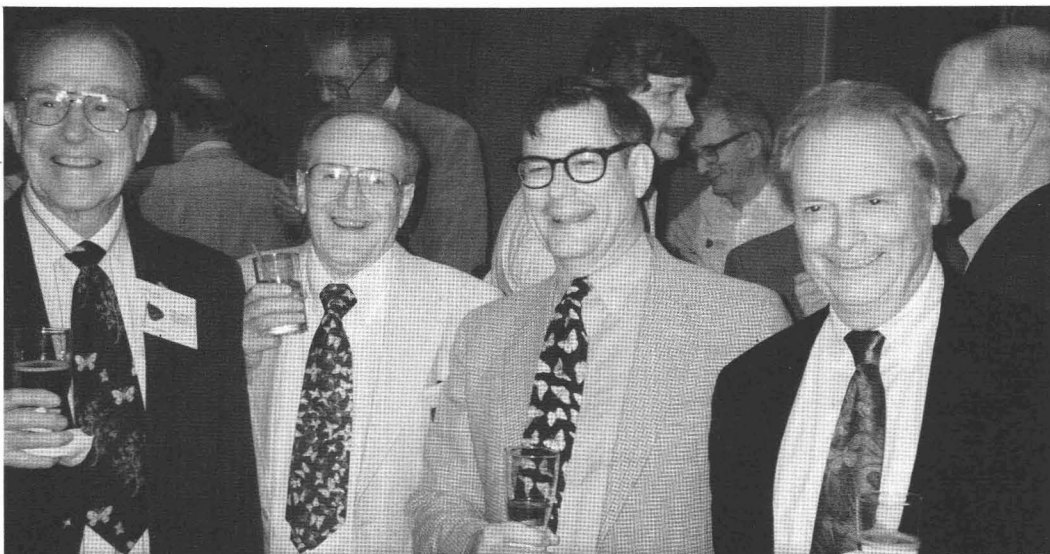
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More from 1992 Annual Meeting - East Lansing, MI

...As promised, a bevy of beautiful butterfly ties! Top photo: Stan Nicolay, Doug Ferguson, Charlie Covell and Ben Ziegler. Bottom Left: Karõlis Bagdonas. Bottom right: Dave Iftner. Photos by Leroy Koehn.



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DEADLINES: Material for the Jan/Feb issue should reach the NEWS EDITOR by 1 Dec of the previous year, and that for the Mar/Apr Issue by 15 Feb, for the May/June issue by 15 Apr and for the July/Aug issue by 1 June, the Sept/Oct issue by 15 Aug and the Nov/Dec issue by 15 Oct. Reports for the Season Summary must reach the Zone Coordinators listed on the front cover no later than 5 January. The NEWS Editor accepts articles in any format, but appreciates double-spaced typewritten copy accompanied by a computer disc in any DOS format. NEWS EDITOR is **Stephanie McKown**, 650 Cotterell Drive, Boise, Idaho 83709, USA. Phone (208) 323-9547. NEWS FROM EUROPE EDITOR is **W.O. De Prins**, Diksmuidelaan 176, B-2600 Antwerpen, Belgium. Phone 03/322.02.35 (from USA use 011/32.3.322.02.35). BOOK REVIEW EDITOR is **Dr. Boyce A. Drummond**, Natural Perspectives, P.O. Box 9061, Woodland Park, Colorado 80866, USA. Phone (719) 687-6596.

INFORMATION ABOUT THE SOCIETY.....

Membership in the Lepidopterists' Society is open to all persons interested in any aspect of Lepidopterology. Prospective members should send the TREASURER, **Robert J. Borth**, 6926 N. Belmont Lane, Fox Point, WI 53217, USA, phone (414) 351-3816, the full dues for the current year, \$25.00 US, together with mailing address and a note about areas of interest in Lepidoptera; student membership (must be certified) \$15; sustaining membership \$35; life membership \$500. Remittances must be in US dollars, payable to the Lepidopterists' Society. All members will receive the JOURNAL (published quarterly) and the NEWS (published bimonthly). A biennial membership directory will comprise the last issue of the NEWS in even-numbered years.

Changes of address (permanent ones only), **Additions or Changes in Telephone Numbers or Areas of Interest** and **Information about Mailing List Rental:** Contact the ASSISTANT SECRETARY, **Julian P. Donahue**, Natural History Museum of Los Angeles County, 900 Exposition Blvd, Los Angeles, California 90007-4057, USA.

Information on Membership and other aspects of the Society must be obtained from the SECRETARY, **Dr. William D. Winter, Jr.**, 257 Common Street, Dedham, Massachusetts 02026-4020, USA. Home phone (617) 326-2634.

Requests for Missed Issues (i.e. those not delivered although dues have been paid on time) should be sent to the TREASURER, **Robert J. Borth**, address above, or the PUBLICATIONS MANAGER, **Ron Leuschner**, address below. Defective issues will also be replaced by the TREASURER. Do not request these of the NEWS or JOURNAL editors.

Manuscripts submitted for publication in the JOURNAL are to be sent to **Dr. John W. Brown**, EDITOR, JOURNAL of the Lepidopterists' Society, San Diego Natural History Museum, P.O. Box 1390, San Diego, California 92112, USA. Work phone (619) 942-5147, home phone (619) 422-1846. See the inside back cover of a recent issue of the JOURNAL for editorial policies. Book reviews for the JOURNAL should be sent to **Dr. Boyce A. Drummond**, Book Review Editor (address above).

AVAILABLE PUBLICATIONS OF THE SOCIETY.... Order from the PUBLICATIONS MANAGER, **Ron Leuschner**, 1900 John St., Manhattan Beach, CA 90266-2608, USA. Add \$2.00 postage/handling for first book (\$3.00 outside the USA), plus \$1.00 for each additional one.

CATALOGUE/CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO (Memoir #2), **Lee D. Miller & F. Martin Brown**; includes references to original descriptions and location of type specimens. Members and subscribers: \$12 cloth, \$7 paper; non-members, \$19 cloth, \$10.50 paper.

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

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

COMMEMORATIVE VOLUME, 1947-1972: A 25-year review of the Society's organization, personnel, and activities; biographical sketches; JOURNAL 25-year cumulative index by author, subject, and taxon; clothbound. Members and subscribers, \$8; non-members, \$12.

1992 MEMBERSHIP DIRECTORY (current to October 1992). Biennial directory of members and their addresses, with geographic and interest indices. Not available for commercial use. (NEWS #6 for 1992). \$5.00.

BACK ISSUES of the JOURNAL and of the NEWS of the Lepidopterists' Society. For a list of the available issues and their cost, postpaid, send a SASE to the PUBLICATIONS MANAGER.



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