



NEWS

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1988 SEASON SUMMARY CONTINUED

[Editor's Note: The original ZONE 12 report was lost in the mails.]

ZONE 12 THE NORTHERN NEOTROPICS: MEXICO, CENTRAL AMERICA, THE ANTILLES. Coordinator: Eduardo C. Welling M. Contributors: James P. Brock (JPB), Keith S. Brown, Brian Cassie, Lee Guidry (LG), Lawrence R. Hummer (LRH), Peter M. Jump (PMJ), Ronald Leuschner, Markus Lindberg (ML), James R. Mori, Douglas Mullins (DM), John D. Palting (JDP), Steven J. Prchal (SJP), David A. Purdum, David Robacker, Michael J. Smith (MJS), Ralph E. Wells, Michael F. Wilson (MFW). **WEATHER SUMMARY:** The general tendency everywhere in the northern hemisphere during 1988 was for drought. Local areas may have had sufficient rain for short periods of time, but these areas were the exception and not the rule. In February 1988, wells were drying up and freshwater lagoons were at their lowest level in 27 years in northern Belize. Forest fires were numerous, with some very notorious ones, like in El Petén, Guatemala, where even parts of the National Park at Tikal were affected, as drought conditions were severe in that country. In spite of widespread drought in the Peninsula of Yucatán, there usually was enough drizzle in many parts to assure at least a partial corn crop; something that would not materialize. Excessive heating of the Caribbean Sea and one of the worst hurricanes in memory was historic; this record low pressure hurricane ripped through Jamaica, the Cayman Islands, straight across the northern parts of Yucatán and Quintana Roo in the Yucatán peninsula, then across the sea to Tamaulipas, Nuevo León and Coahuila in México, to eventually travel northward into the USA as a severe tropical storm. We have had news that some forest areas were badly damaged in Jamaica just as they were in northern Quintana Roo and Yucatán. (Later on, in 1989, widespread forest fires raged across the hurricane damaged parts of Quintana Roo as severe drought conditions continued into that year, there being as many as 50 burning simultaneously.) The corn crops that would not materialize were blown away on September 14 by winds of 325 kph on the east coast between Cancún and Puerto Morelos, and which only lessened to 250 kph sustained, with gusts to 300 kph, by the time they hit Mérida before going out to sea. The damage to local ecological features was drastic, with about 35% of the flamingo colony along the north coast being lost when this coast was mercilessly disfigured. Some coral reefs at sea were destroyed and the sand washed away to nowhere along the east coast, leaving only bare bedrock where before there had been some of the most beautiful beaches in the Caribbean area. Seashells were found on the beaches north of Mérida that were not native to the area, these having been dragged by swollen currents from some part of the Caribbean Sea. Welling's house was severely damaged, especially the entomology laboratory and the storage and living rooms, however nothing was lost as the house was evacuated prior to Hurricane Gilberto's arrival, with things having been taken to safer quarters. After the tragedy, it ceased raining for about three weeks, after which it rained a bit about mid October and then abruptly stopped, continuing warm until New Year.

BRITISH VIRGIN ISLANDS. On Cooper Island, on June 21, JPB found Ephyriades zephodes, Strymon acis, Leptotes cassius, and Appias drusilla, which may be the first records for this small island. On Tortola, on June 29, he collected 14 species including the following unrecorded for this island: Chlorostyrymon maesites, Electrostrymon angelica, Eurema leuce, Agraulis vanillae, and Achylodes mithridates.

DOMINICAN REPUBLIC. K. S. Brown, at Constanza in the Cordillera Central, 18-20 July, found Battus zetides and Papilio pelaus common (mark-recapture indicated that some males could occupy different territories as much as 500 meters apart). Also common were Greta quisqueya, Danaus cleophile, Anetia briaria and pantherata; seen were three Calisto sps., Lucinia sida torrebia, Asterocampa idyia, Prepona amphitoë, Marpesia eleuchia, Adelpha gelenia, Atlantea cryptadea, Dynamine egea. At Polo in Baoruco, 19 July, B. zetides was common, including females; also seen, two Vanessa atalanta, Eueides isabella melphis, Dismorphio spio (with orange males and yellow females). Near Santo Domingo airport on July 20, Papilio aristodemus seen. Near Azua, 19 July, P. aristodemus and aristor.

PUERTO RICO. B. Cassie found Prepona amphitoë and E. isabella melphis at the Caribbean National Forest, Feb 27-28; Hamadryas februa at Isla Grande near San Juan, Feb 28; Papilio androgeus at a fish hatchery at Maricao, March 4. These four spp. are supposedly good records for the island.

JAMAICA. R. Leuschner at Ocho Rios on Feb 24 found Papilio andraemon bonhoteti, Eurema messalina blakei, Panoquina sylvicola, Lerodea arabus. One late afternoon, dockside by Montego Bay, poking in the grass resulted in 15 sleeping butterflies and 41 moths (24 Pyralids and 13 Noctuids included).

CAYMAN ISLANDS. R. Leuschner stopped at Georgetown on Feb 23 and saw Hemiarctus bethune-bakeri. The Junonia so common in 1984 were not observed.

MEXICO. BAJA CALIFORNIA NORTE. J. R. Mori and R. Wells found Philotes sonorensis and Strymon bazochii in a canyon 5 km south of Rosarito. The latter sp. may be a northern extension of range by about 300 km. No dates mentioned on these.

SONORA. JPB at Sierra Los Mojones, El Riito, 16 km NE of Nacori Chico, on July 15, found 40 spp. of butterflies including Amblyscirtes elissa, prenda, folia, exoteria, Noctuana stator, Apodemia hepburni, Anteros carausius and Baeotis hisbon zonata. 12 km NW of Yécora, 3 July, JDP, DM, ML, LG, and LRH found Adhemarius globifer, Antherea polyphemus oculea, Copaxa muellerana STATE RECORD, Automeris metzli STATE RECORD, A. boudinotiana STATE RECORD. 13 km NW of Yécora, 6 August, DM and ML found Antherea montezuma, Copaxa lavandera STATE RECORD, Automeris cecrops pamina, Othorene verana. 5 km S of La Trinidad, on Aug 8, DM collected A. montezuma, A. metzli, Paradirphia lasiocampina. At Río El Riito, 16 km NE of Nacori Chico, 925 m elevation, July 14, JPB, PMJ, SJP, MFW found Pachysphinx occidentalis imperator STATE RECORD, Rothschildia c. cincta, A. polyphemus oculea, Automeris randa and iris hesselorum, Adeloneivaia isara, Dysdaemonia boreas, Caio richardsoni. 3 km S of Tres Rios, 1525 m elev., on July 13, JPB, PMJ, SJP, MFW caught A. montezuma and polyphemus oculea, C. muellerana, A. boudinotiana. At the microwave station at Las Avispas, S of Hermosillo, Sept 17, DM collected Erinnyis crameri.

CHIHUAHUA. JPB at Sierra La Brena, 35 km W of Ciudad Juárez, July 11, took 14 spp. including Callophrys apama, Xamia xami, Apodemia nais, Cyllopsis henshawi, Amblyscirtes phylace. 22 km E of Ignacio Zaragoza at 2200 m elev., July 10, JPB, PMJ, SJP, and MFW found A. globifer and Hyalophora gloveri. 6 km S of the same town at 1900 m elev., on July 11, the same collectors encountered A. polyphemus oculea, C. muellerana STATE RECORD, H. gloveri, A. boudinotiana STATE RECORD.

SINALOA. Highway 40, Guaynera near Concordia, July 20, DM found A. polyphemus oculea, A. metzli, A. i. iris.

DURANGO. On the road to Piedras Cruz, just N of Highway 40, July 18, DM took A. polyphemus oculea.

NAYARIT. At La Laguna de Santa María del Oro, on Aug 25, DM collected Dolbogone igualana and Syssphinx montana; on Sept 14, Sphinx merops.

MICHOACAN. Highway 15, 75 km W of Ciudad Hidalgo, Aug 28, DM found Erinnyis oenotrus and Syssphinx raspa.

GUERRERO. On the river south of Juxtlahuaca, July 1, K. S. Brown observed Eurytides philolaus (black females mud-puddling singly), epidaus and Graphium belesis. Epidaus larvae on Annona reticulata and another Annona sp. included four very different phenotypes in fifth instar, sides yellow or green, dorsum nearly all black (as in DeVries), to lightly barred. Also recorded were Morpho polyphemus and Hamadryas guatemalena. Graphium thymbraeus larva found in nearby San Martín.

MORELOS/GUERRERO border area. Teocalco, July 2-3, K. S. Brown studied 185 males and 56 females of Baronia brevicornis, numbering and recapturing specimens, indicating a population size of 1,500 specimens. E. epidaus and Manataria maculata were common in the same vicinity.

NUEVO LEÓN. Cañón del Pilón, 25 km SW of Montemorelos, July 11, DM took A. polyphemus mexicana. D. Robacker at Cola de Caballo falls, 30 km S of Monterrey on Aug 21, took A. polyphemus mexicana, Othorene verana, Copaxa mannana, Rothschildia lebeau aroma and an Eacles, all of which were reared by D. A. Purdum on a Quercus except for R. l. aroma on Prunus serotina. DM also found A. p. mexicana at Cola de Caballo falls on July 10.

SAN LUIS POTOSÍ. D. Robacker took Rothschildia roxana at Xilitla, 615 m elev., on July 5, which was reared on P. serotina. Dr. Claude Lemaire believes this is the northernmost record for the species.

TAMAULIPAS. D. Robacker collected between Ocampo and Tula, on July 18, taking R. lebeau aroma and Syssphinx molina, both supposedly northernmost records.

QUINTANA ROO. R. Leuschner stopped at Cozumel Island on Feb. 22, and observed Morpho peleides, Siproeta steneles, Dynamine dyonis, Anaea pithyusa, Heliconius erato petiveranus, Grais stigmaticus, Monca tyrtaeus among others to total about 30 species.

YUCATÁN. Previous to the tremendous hurricane of Sept 14, butterflies were noticed to be at a normal level in spite of the drought. Thysania zenobia, Erebus odora, Opisphanes cassina, Siproeta steneles, Smyrna blomfieldia, and others taken in trap nets in Welling's back yard. During late June and early July, there was a migration of Pieridae with a few other odds and ends joining in, such as Danaus gilippus, Heliconius charitonius. Anteos maerula made up 95% of the migration, A. clorinde 4%, the other odds and ends and Phoebis spp. the remaining 1%. All were headed south, at a rate of 10-12 per 50 m of frontage per minute. This lasted about three weeks! What happened after the hurricane and well into 1989 was surprising however. The city of Mérida was literally alive with butterflies of many species common to the area. Once again in Welling's back yard 10-15 Papilio cressphontes could be seen with a single look, while at night they could be found roosting together in groups of 5-6 in the back yard gardens. Dynamine mylitta, Mestra amymone, Microtia elva, Phyciodes frisia, Hamadryas februa, guatemalena and honorina, Marpesia chiron, Anartia fatima, Heliconius charitonius, Drvas iulia, Danaus gilippus, Battus philenor acauda, polydamas, and some Lycaenidae and Calephelis, various Phoebis, Anteos, Eurema, Ascia, Appias, Zerene, Nathalis iole, abounded with various Hesperidae in what was a fabulous show of the local fauna that lasted over four months, and had never been seen to such an extent in the city in decades, if ever!!! It is quite certain that the hurricane had nothing to do with this very extraordinary phenomenon.



COLORS OF THE PIPE VINE SWALLOWTAIL, Battus philenor

For a butterfly abundant in North America, which has been studied for over 200 years, it is surprising that some recent books are vague about the iridescent colors and distinguishing marks of the sexes of B. philenor. I have compared 31 publications with my own observations over 30 years in southern PA, western MD and western NC, including 26 color photographs and 15 collected specimens. I would be

glad to receive comments and observations from other areas.

Although often called the Blue Swallowtail, brilliant blue iridescence on the upper hindwings is uncommon in males and rare in females. Only two authors have called the upper iridescence blue, 15 called it blue-green or equivalent, 8 called it green and others were noncommittal. Only three of these publications agree with my observations that the color can range from green to blue. Austin H. and Leila F. Clark in their book, The Butterflies of Virginia, in 1951 recorded that L. Walter Rothschild suggested that B. philenor in the western U.S. often showed more green upper iridescence than those in eastern states. Howe in 1975 stated that the colors could be green or blue, but his illustration showed an unnatural blue shade. Tyler in 1975 wrote that the upper iridescence is blue to green, but that the sexes were similar.

At two locations and times I have observed groups of philenor, most of which had brilliant blue upper iridescence:

at High Knob (Gambrill State Park) west of Frederick, MD on May 5, 1957 and at Cade's Cove, NC on August 1, 1962. For 30 years I have observed *philenor* on the Gettysburg Battlefield, where they are especially abundant chasing each other and other species on Big Roundtop. Seldom does a bright blue one appear. The upper colors of males range from faint green to prominent blue-green over black. Females have a prominent submarginal row of white spots on the upper forewings; iridescence may be lacking above or faint green. However, I have a color slide of a courting pair in Cade's Cove both of which show blue. Many females have a base color of brownish black in contrast to the jet black of males.

John Abbot, as recorded by Smith in 1797, already concluded that females in Georgia showed less greenish iridescence than males. I have been unable to relate the upper iridescent hues to age and wear of the butterflies, the season, or the weather. However, three females from the Dutchman's Pipe Vine in my garden, the pupae of which wintered indoors, emerged brownish black without colored upper iridescence. One remained as a pupa from August 1987 to March 1989. Perhaps changes of temperature are involved.

Published pictures and statements are in somewhat better agreement about the color of the iridescence of the underside of the hindwings. In accord are the 12 specimens in my collection, both male and female, with nearly identical, slightly greenish, metallic blue under iridescence. These include a tiny spring form and several collected 30 years ago.

C. E. Schildknecht
Gettysburg, PA

FOUR NEW SKIPPER RECORDS FOR MEXICO (HESPERIIDAE)

Among specimens brought to me for determination, collected by John Kemner in Mexico, were four species of HesperIIDae not previously recorded as occurring in that country. A brief note is given pertaining to each.

Hyalothyrus neleus pemphigaryra Mabille 1888. — One male, Mexico: Chiapas: Agua Azul, 2 August 1988. Leg. John Kemner. Previously recorded from Honduras, Nicaragua, Panama, Colombia, Venezuela, British Guiana, Surinam and Amazons.

Bolla saletas (Godman and Salvin) 1896. — Three males, Mexico: Oaxaca: 5 miles north of Oaxaca, 20–23 August 1988. Leg. John Kemner. Previously known by only the type in the British Museum, collected in Guatemala. The genitalia were examined for correct determination due to the similarity of species in this genus.

Mycteris caerulea Mabille 1877. — One male, Mexico: Chiapas: Palenque-Ocosingo highway, Km. 95, 17 November 1987. Leg. John Kemner. Previously recorded from Guatemala, Nicaragua, Panama, Colombia and Ecuador.

Paratrytone niveolimbus (Mabille) 1889. — One female, Mexico: Chiapas: San Cristobal road to Tenejapa, 28 July 1988. Leg. John Kemner. Previously known only from Guatemala.

The above mentioned specimens will be placed in the American Museum of Natural History, New York.

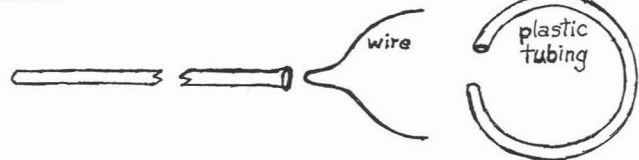
Hugh A. Freeman
Garland, Texas

JACK'S LIGHTWEIGHT AND EASY TO ASSEMBLE (AND DISASSEMBLE) COLLECTING NET

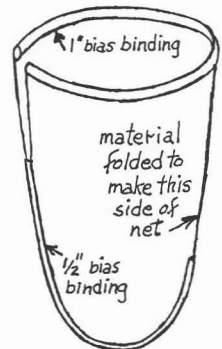
A. B. Klots in his *A Field Guide to the Butterflies* on page 9 gives the beginner some valuable tips on the construction of a net. The mention of a handle being made from an old golf club led me to use a 3 1/2 ft length of aluminum tubing, 1/2" I.D. and 5/8" O.D., approximately. Using a vise, I squeezed one end into a flat-sided oval shape.

For the hoop, I fashioned a slingshot shaped wire. A heavy wire coathanger will do, but steel wire with a little more "spring" is better. I found the wire from an old lampshade, about 1/8" diameter and 30" to 36" long to be ideal.

This I fitted into the handle. It takes a little coaxing to get them to fit exactly, but with a vise and a pair of vise grip pliers it can easily be done. To complete the loop, I used a four foot length of semi-rigid plastic tubing, 1/4" O.D. with an inside diameter of about 5/32" (large enough to permit entry of the wire). This gives a net diameter of approximately 15 inches.



The net itself is made from nylon netting or an old sheer nylon curtain. It should be 50" in circumference and 38" deep. A 1 inch folded bias binding is sewn around the net top to make a tunnel hem for the insertion of the plastic tubing. The shaped edges of the net are joined with 1/2" folded bias binding to within 11" of the top. The opening is necessary to allow the tubing, after insertion into the tunnel, to be slid down over the ends of the wire Y that protrude from the flattened end of the handle. A strip of Velcro can be sewn on the 11" opening to completely close the side of the net after it has been attached to the wire. I have found that this is not really required, however.



This net is easily taken apart. The tubing slides free of the wire easily, allowing the net bag to be folded. The wire pulls out of the handle. The net bag and wire fit nicely into the usual shoulder bag, and the handle makes a nice walking stick. To keep the wire in the handle, I insert a small twig which can easily be pulled out. If the 11" opening on the side of the net is not closed with Velcro, a few green burrs or stick-tights will serve nicely, but the edges of the opening do need to be hemmed to prevent them from fraying. One handle was even made out of a ski pole which is partly telescopic, from 34" to 48". This is ideal if one can be found.

When traveling from my home to outlying collecting areas, I frequently must travel by bus. A neatly folded net and wire semihoop in my shoulder bag eliminates many questioning stares and curious questions. If the handle is too long for a suitcase, it can be cut into 2 pieces which can be rejoined with a wooden dowel, thus making even the handle quite portable.

Jack Holliday
Ottawa, Canada

EDUCATIONAL WORKSHOPS ON THE BIOLOGY OF LEPIDOPTERA

Butterflies and moths comprise the order Lepidoptera, which, with over 150,000 named species, is the second largest (after beetles, order Coleoptera) in the class Insecta. Achieving an understanding of the biology of this diverse group is a lifelong task, even for the professional lepidopterist. The three publications of our Society, the *News, Journal*, and *Memoirs*, along with the *Journal of Research on the Lepidoptera*, publish news items, scientific research, and book reviews. These publications allow members of the Lepidopterists' Society and the Lepidoptera Research Foundation to keep abreast of the latest information on butterflies and moths. In addition, a number of excellent butterfly and moth books have been published in this country in the last decade. Many of these treat regional faunas, focusing primarily on taxonomy and distribution. A few other publications, like Jo Brewer's and Dave Winter's *Butterflies and Moths: A Companion to your Field Guide* (Prentice-Hall, New York, 1986), present basic information about the biology of butterflies and moths and how to study them.

But reading about the biology of Lepidoptera and how to study them in the field is different from actually working with the insects in nature. For the past six years, we have

been attempting to bridge the gap between the published information available in books and journals, and the lack of formal training in Lepidoptera possessed by most enthusiastic collectors and photographers. Our series of summer workshops on the Biology of Lepidoptera, offered annually in the Colorado Rockies at the Colorado Outdoor Education Center (COEC), has exposed hundreds of lepidopterists of all ages and backgrounds to current field techniques and to the fascinating behaviors and ecologies of North American butterflies and moths. The Summer Workshop for 1990 will be July 1 through 7 at the luxurious facilities of The Nature Place conference center at COEC. Our location in the Front Range of the Colorado Rockies allows us to visit a variety of habitats over a diversity of elevational ranges that includes all the major life zones of Colorado. Participants have ample opportunity to collect in all of these habitats during the workshops, but the focus of the week is to highlight the behavior and ecology of the species we encounter and to demonstrate a variety of field and laboratory techniques, such as capture/mark/recapture, hand-pairing, and close-up photography. Dr. Charles V. Covell of the University of Louisville also has taught with us almost annually, assuring the Workshop participants of an excellent introduction to the moths and their biology, and thus a valuable breadth of approach to the whole order of Lepidoptera.

In addition to learning more about Lepidoptera and how to study them, enjoying collecting amid spectacular scenery, and sharing experiences with other lepidopterists, workshop participants contribute in very meaningful ways to ongoing projects during their week at the Workshop. More swinging nets means more captured butterflies, and some of the captures represent new records. In the Florissant area, where the Colorado Outdoor Education Center is located, the number of recorded species of butterflies has risen dramatically in the last few years as a result of collecting activity during the workshops. The first faunal list for this area was published in 1964 (T. C. Emmel, *The ecology and distribution of butterflies in a montane community near Florissant, Colorado*, *American Midland Naturalist*, 72(2): 358-373), when only 60 species were known after five years of fieldwork. The list now stands at 94, with two new species added just this past summer by workshop participants. The great amount of information amassed on the butterfly fauna of this montane forest area has been gathered into a new book to be published early in 1990: "FLORISSANT BUTTERFLIES: A Guide to Fossil and Present-Day Species of Central Colorado," by Thomas C. Emmel, Marc C. Minno, and Boyce A. Drummond.

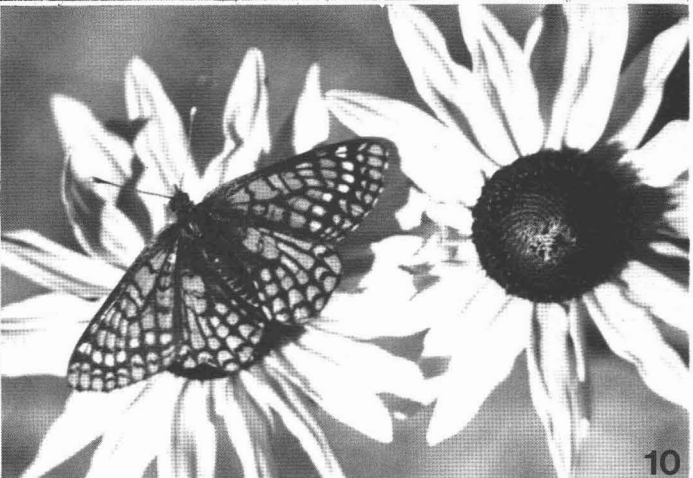
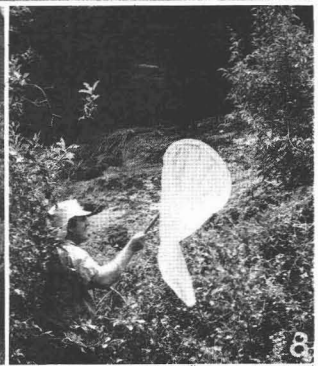
Also of great interest was the discovery of a highly polymorphic colony of *Papilio bairdii* in Royal Gorge Park near Canon City four years ago. By re-visiting this site with workshop participants every summer, we have been able to document the persistence and strength of this easternmost population of this fascinating species. Additionally, in June 1989, Lowell N. Harris and the Workshop participants discovered an extraordinary new subspecies of *Euphydryas* in South Park, which will shortly be described by Emmel and Harris. Two years ago, Workshop participants were invited to join in a national survey of butterflies sponsored by the Xerces Society. This is the annual Fourth of July butterfly count, in which participants record the number of individuals of every butterfly species they see in a designated area with a radius of 7.5 miles. In 1988, we started the Little Blue Fourth of July Butterfly Count, the

first in Teller County, Colorado. In addition to the baseline data on community composition and relative population sizes that such counts provide, there is also great benefit to the participants. Nothing sharpens one's observational skills like the necessity of recording the identity (and even the sex!) of every individual butterfly seen. The record sheets of each participant in the count are combined at the end of the day into a report submitted in standard format to the Xerces Society, which publishes the results annually. Thus, workshop participants who contribute to the Fourth of July butterfly count make a lasting contribution to the permanent record on butterfly distributions and abundance in this region.

That learning about butterflies and moths is a never-ending enterprise is attested to by the fact that many of our workshop participants repeat the experience, sometimes several times. Yet Colorado, despite its diverse butterfly fauna, contains less than 2% of the world's butterfly species. The greatest diversity of butterflies and moths occurs, of course, in the tropics. The numerous trips to tropical collecting areas we have led for Holbrook Travel have exposed many lepidopterists to the joys of tropical collecting since the first trip was offered to Ecuador after the 1980 Gainesville, Florida meeting of the Society. Collecting in the tropics for the first time can be an overwhelming experience. In addition to exotic new sites and sounds, the incredible diversity of the fauna is both exciting and bewildering. Most first-time visitors collect frantically, not wishing to waste a minute of opportunity in amassing the largest number of specimens possible. After returning home, many pleasant months are spent pinning, spreading, and attempting to identify the catch. A pinned specimen, however, although beautiful, represents but a fraction of what is interesting about that organism. The collecting frenzy engaged in by most collectors in the tropics means that almost no time is spent observing butterflies or moths in the wild. But in the tropics, even more so than in the temperate zone, behavioral interactions of butterflies are even more diverse and interesting than their color patterns. Patient observation and close-up photography of these behaviors can make a visit to the tropics much more interesting and rewarding than if one simply collects everything in sight.

With this in mind, and in response to numerous requests, we have decided to launch a new series of educational workshops on Lepidoptera to be conducted in the tropics. Costa Rica has been chosen as the site for this new series of annual winter workshops because of its political stability, its friendliness to Americans and Europeans, its exemplary system of national parks, and the logistical ease with which one can visit a variety of tropical habitats, ranging from tropical wet forest and seasonal dry forest in the lowlands to montane cloud forests in the mountains. In addition, unlike in many tropical countries, the butterfly fauna is reasonably well known. The recent publication of Philip J. DeVries' *The Butterflies of Costa Rica* (Princeton University Press, Princeton, New Jersey, 1987), which covers the Papilionidae, Pieridae, and Nymphalidae, means that ready identification of many species is possible, and that biological information on behavior and larval foodplants is available for many species. In addition, both of us have extensive field experience in Costa Rica, beginning as students and faculty in Organization for Tropical Studies courses and continuing, more recently, with ongoing research projects in that country.

PHOTO CAPTIONS: Some scenes from a typical Biology of Butterflies Workshop week (June 26 - July 1, 1989) in the Colorado Rocky Mountains: (1) Avid lepidopterists crossing a snowfield at 11,800' near Horseshoe Mountain to reach the surrounding talus slopes where *Erebia magdalena*, *Chlosyne damoetus*, and *Lycaena snowi* may be found in abundance; (2) Jim Nation of Florida in pursuit of hilltopping arctic-alpine butterflies on the 13,000' talus slopes of Horseshoe Mountain; (3) Kojiro Shiraiwa of Oregon collecting *Neominois ridingsi* at 10,000' near Cripple Creek, Teller County; (4) The rolling mountains and verdant valleys of the over 6,000 acres comprising the Colorado Outdoor Education Center property at Florissant, Colorado, provide a rich environment for montane butterfly and moth species; (5) The excitement and new information on Lepidoptera generated by the Workshop activities carries over to the adjacent boys' and girls' camps at COEC, where the Workshop staff often help in the nature programs for children 8-17 years of age; (6) The June 1989 Biology of Butterflies Workshop group, on the steps of The Nature Place lodge; (7) An ever-popular sign along the entrance road to the Colorado Outdoor Education Center, posted in the 1960's; (8) James R. Bettman, well-known professor of business administration from Duke University, wades into the willows of an Upper Sonoran Zone wash in Red Canon Park, in search of an elusive lepidopteran; (9) and (10) the Anicia Checkerspot, *Euphydryas anicia capella*, is one of the more abundant butterflies around Florissant and the Pikes Peak Region in general at mid-summer. Photos by Boyce A. Drummond, Thomas C. Emmel and Virginia Klein.



EDUCATIONAL WORKSHOPS PHOTOS

The first Workshop on The Biology of Tropical Butterflies will be held in Costa Rica in December of this year, from December 27th until January 5. This workshop will explore the behavior and ecology of tropical butterflies, with time in the field spent learning how to observe and understand the many complex behaviors and mimetic interactions so common among the Lepidoptera in tropical habitats. In addition, general information on tropical ecology will be presented to provide a proper context for interpreting the behavioral ecology of these fascinating insects. Field techniques specifically designed for collecting and observing and photographing tropical butterflies will also be demonstrated.

If you would like to learn more about the biology of butterflies and about techniques for studying and photographing them, we hope you will join us for one or both of the two workshops on the Biology of Butterflies scheduled during the coming year. These will be a great opportunity for you and your family to combine your interest in learning about butterflies with a chance to visit a spectacularly scenic and biologically interesting locality. Please feel free to call or write either of us for more information on these workshops, or to make suggestions for new topics and localities for future workshops. We hope the idea of field based instruction will spread, and that many such workshops — whether for a day, weekend, or week — will be sponsored and offered by museums, universities, field stations, and regional lepidopterist societies in the next few years. For further information contact Boyce A. Drummond, Natural Perspectives, P.O. Box 9061, Woodland Park, Colorado 80866. Phone (719) 687-6596. Or Thomas C. Emmel, Department of Zoology, University of Florida, Gainesville, Florida 32611. Phone (904) 392-1137.

Boyce A. Drummond
Thomas C. Emmel

AN IRISH BUTTERFLY FARM

An article was sent to the NEWS by Bryant Mather about a Butterfly Farm in Ireland. It appeared in the publication "Ireland of the Welcomes," Vol. 38, No. 1, Jan-Feb 1989 published by the Irish Tourist Board, Dublin 2, Ireland, and was written by Liam Robinson with photographs by Tom Kelly. The article tells about the Butterfly Farm of Des and Iris Fox at Ovidstown near Straffan in County Kildare, only a short drive from Dublin City. The two young Fox sons, Ian and Alan also are very much involved in the venture. The boyhood hobby of Des Fox has grown into a living museum which attracts thousands of visitors each year when it is open to the public at a modest fee during May, June and July. The butterfly enterprise simulates the conditions of the tropics in a large tropical greenhouse or of the temperate Irish countryside with lots of native Irish plants. Many of the local species are reared on the farm from eggs collected in surrounding areas and the adults are then released in their native habitats. The showy exotic butterflies are mounted and framed and sold so the money can be ploughed back into the farm. This venture is primarily one devoted to conservation and a promotion of awareness of the Irish and British lepidoptera. The Fox family advises their visitors of the native plants which are attractive to butterflies as nectar sources. Visitors can see the larvae as well as the adults at this truly fascinating butterfly farm. Also there are several Mexican Tarantulas, Stick Insects from Australia and a rare Irish Natterjack Toad from Kerry plus several large and showy moths. The exotic insects come from many areas, including a butterfly farm in Penang, a state in Malaysia, and from Africa, Australia, Madagascar and South America to name but a few places.



HOW TO FIND AN ORIGINAL DESCRIPTION: LEPIDOPTERA

Finding an original description, or any other publication on Lepidoptera, can often be a very frustrating and time-consuming process. Access to a good reference library, or good working relations with a colleague who does, greatly reduces the search time. Searching for a reference by randomly searching the literature can waste a lot of time, but may ultimately be the only way to find a particular obscure reference. In most cases, however, assuming that you have access to all the references listed, following the sequential steps listed here should result in the most rapid "hit rate."

NOTE: The most important key to the literature is the name of the AUTHOR of the taxon (genus or species) AND the YEAR in which that name was published. With this information, ZOOLOGICAL RECORD usually quickly yields a citation of the original description, and should be the reference of choice.

INFORMATION ONE HAS

1. any amount
 2. name, author, year (genus or species)
 3. generic name (family known or unknown)
 4. generic name (family known)
 5. species name (family known or unknown)
 6. species name (family known)
- (region also known)

REFERENCES TO CONSULT

someone who knows or who can find out (e.g., a friendly curator with access to a good library). [CAUTION: although this technique is easiest for the questioner, your source will have to do all the legwork outlined below; be prepared to return the favor if you want to cultivate a continuing relationship.]

ZOOLOGICAL RECORD (for all the names published 1864 to present)

BERICHTE UBER ENT. (for names published 1834-1863)

Sherborn, INDEX ANIMALIUM (1801 - 1850)

any animal: Neave, NOMENCLATOR ZOOLOGICUS butterfly: Heming, GENERIC NAMES OF BUTTERFLIES; Kirby, SYN. CAT. DIURNAL LEPIDOPTERA; Beattie, RHOPALOCERA DIRECTORY

moth: GENERIC NAMES OF MOTHS OF THE WORLD; Kirby, SYN. CAT. LEPIDOPTERA HETEROCERA (part)

(in addition to references in #2): GENERA INSECTORUM (not complete); LEPIDOPTERORUM CATALOGUS (nearly complete)

also: worldwide family catalogs and monographs, e.g., Bleszynski, Crambinae; Rothschild & Jordan, Sphingidae; Hampson, Noctuidae & Arctiidae (incl. Ctenuchidae); Evans, Hesperidae of the World (4 regional works)

also: regional catalogs, e.g., Hodges, Check List of Lepidoptera of Amer. N. of Mex.; L'homme, Cat. Lep. France & Belgique; Staudinger & Rebel, Cat. Palaearctischen Lepidopteren

butterfly: Beattie, RHOPALOCERA DIRECTORY

LEPIDOPTERORUM CATALOGUS; Any appropriate world & regional catalogs (#3 above); Hesperidae: Bridges, NOTES ON SPECIES-GROUP NAMES: Lycaenidae, Riodinidae: Bridges, LIST OF ORIG. DESCR.

Seitz, MACROLEPIDOPTERA OF THE WORLD (incomplete)

The following publications are very useful for locating references to the older literature:

Derksen, Walter and Ursula Scheiding. 1963-1968. IndexLitteraturae Entomologicae, Serie II. Die weltliteratur ueber die gesamte entomologie von 1864-1900, in 4 vols. Deutsche Akademie der Landwirtschaftswissenschaften zu Berlin. Vol. 1 (1963), authors A-E, xii + 697 p.; vol. 2 (1965), authors F-L, 678

p.; vol. 3 (1968), authors M-R, 528 p.; vol. 4 (1968?), authors S-Z, 482 p. [A world bibliography of entomological publications from 1864 to 1900, to complement the two earlier bibliographies of Hagen and Horn & Schenkling (below).]

Hagen, Hermann August. 1862-1863. *Bibliotheca Entomologica: die litterature ueber das ganze gebiet der entomologie bis zum jahre 1862*, in 2 vols. [vol. 1, 1862, authors A-M, 566 p.; vol. 2, 1863, authors N-Z, 512 p.]. Leipzig. A bibliography of virtually all entomological works published up to and including 1862. [A reprint edition is currently available.]

Horn, Walther and Sigm. Schenkling. 1928-1929. *Index Litteraturae Entomologicae, Serie I: Die welt-literatur ueber die gesamte entomologie bis inklusive 1863*. 4 vols., xii + 1426 p. Covers the same territory as Hagen (above), with bibliographic refinements.

SOURCES:

Neave, Nomenclator Zoologicus (7 vols., including supplements): Zoological Society of London, Regent's Park, London NW1 4RY, England.

ZOOLOGICAL RECORD. Insecta, Part D: Lepidoptera. Paper copy available from BIOSIS, 2100 Arch Street, Philadelphia, Pennsylvania 19103.

Volume 115 (1978) to present is available on-line through DIALOG Information Retrieval Services, Inc., 3460 Hillview Avenue, Palo Alto, California 94304.

Dialog maintains and constantly updates a substantial number of computer databases which may be accessed via telephone and a modem from a terminal or personal computer. The fee is calculated according to the amount of time the user is connected with the main computer. DIALOG training is available.

Julian P. Donahue
Katharine E. S. Donahue
Natural History Museum of L.A. County
June 15, 1985

From The Editor's Desk

June Preston

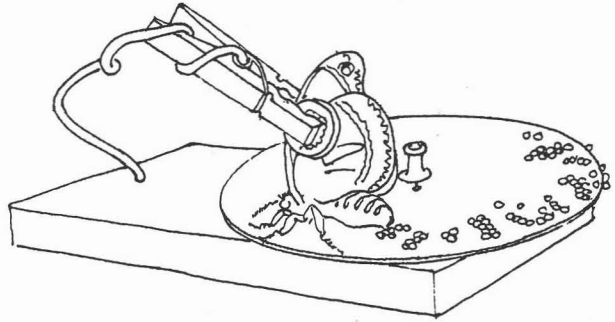


As the year winds down, so does the decade of the 80's. What the 90's have in store for us is anybody's guess, but lepidopterologically speaking, there are sure to be fewer and fewer natural environmental niches to support the butterfly and moth populations that we all enjoy. We hope there will be more butterfly gardens, however, as the National Council of State Garden Clubs has been encouraging their propagation and the Xerces Society will soon be publishing a book on Butterfly Gardening to further encourage us. The movement sponsored by the Entomological Society of America to promote the Monarch as our National Insect continues to gain momentum, and more and more organizations are taking up the cause. As more people become aware of the destruction of the environment, hopefully there will be more support for organizations that are involved in conservational efforts. The "Wall Street Journal" of May 24, 1989 reported that The Nature Conservancy and Conservancy-led Heritage Programs had "out-performed and out-innovated" the federal government in conservation acreage protection. Let us hope that we Lepidopterists' Society members are conservation minded too and that we will use discretion in collecting so as to leave viable populations where we have been.

The following letter and sketch seemed intriguing even to someone who isn't "into" moths.

Dear June,

Concerning silk moths, I've noticed it's hard to trade for some spring brood females. I suspect it's because the early ones are used for breeding and by the time they've been in a container for a few days, they've become worn.



The gadget in the illustration prevents that. I humbly call it: THE NEW IMPROVED MOTH CORNELIUSIZER. The clothespin idea is taken from J. A. Scott, The Butterflies of North America.

The record-like disc should be about 4 inches in diameter with a loose hole in the middle so it will turn easily.

The clothespin has cardboard pads glued on, they're about the size of a quarter.

The wire holding the clothespin should be 1/8 in. solid core soldering wire (flexible and strong), fitted into a 1/8 inch hole drilled in the wood block. Sincerely,

Bill Cornelius
Albion, CA



Notices

SOCIETY PROMOTIONAL BROCHURES AVAILABLE

The Lepidopterists' Society wishes to make its promotional brochure and membership application more broadly available to the public in an effort to increase its membership. Local nature and science centers, and natural history museums, frequently have book or gift shops. These are the sites we would like to contact.

If you are familiar with such a center or museum in your area, I would appreciate having you send me its name and address, and also the name of a contact person, if possible. We shall then be able to send them a small poster to draw attention to the Society, and also a supply of brochures which can be handed out to visitors specifically requesting them.

Let me hear from you now, before spring comes. This is an opportunity for you to help the Society grow.

Dave Winter, Secretary
257 Common Street
Deham, MA 02026-4010, USA

ICZN

The following opinion was published on September 29, 1989 in Vol 46, Part 3 of the Bulletin of Zoological Nomenclature.

Opinion

1557 Elachista Treitschke, 1833 (Insecta, Lepidoptera): conserved, and E. bifasciella Treitschke, 1833 confirmed as the type species.

GRANTS FOR NONGAME WILDLIFE RESEARCH IN MINNESOTA

The Minnesota Nongame Wildlife Program is soliciting proposals for projects to be conducted during the 1990 and/or 1991 field seasons. Proposals should be for work contributing to the conservation and management of nongame wildlife (vertebrate or invertebrate) in Minnesota. Projects focusing on state endangered, threatened, or special concern species will be given high priority. Appropriate projects may include censuses, surveys, studies of life history or population dynamics, assessment or identification of habitat, design of long-term monitoring programs, and a wide variety of other topics. Requests average \$3000 per year, but larger requests will be considered. The deadline for submitting proposals is January 1, 1990. Decisions will be announced no later than March 1, 1990. For program guidelines, proposal format, sample research ideas, E&T species lists, and other information, please contact: Richard J. Baker, Nongame Wildlife Program, Minnesota Department of Natural Resources, Box 7, 500 Lafayette Road, St. Paul, MN 55155-4007 [or call at (612) 297-3764]. Funding comes from contributions to the Minnesota Nongame Wildlife Tax Checkoff.

SEASON SUMMARY REMINDER

Reports for the 1989 Field Season Summary are due to reach the Zone Coordinators (see NEWS #5, pg 70 for the listing of Zones and Coordinators) no later than January 5, 1990. Get those reports in early and make it easier for us all!

LOST MEMBER

James F. Collins was a member living in Florida. Mail to this member is now being returned by the post office. Please contact Julian Donahue (address on back cover) if you know his present address.

ENT-LIST: A NEW AVENUE OF COMMUNICATIONS FOR SYSTEMATIC ENTOMOLOGY

Per the recommendations made by the attendees at the Systematics Resources Management in Entomology Workshop, August 19, 1989 at Penn State University, I have established an e-mail group on the UM computer called **ENT-LIST**. ENT-LIST will be available to all people who can access me via INTERNET, BITNET, or Merit, and probably other networks that can tie into the UM computer.

What will ENT-LIST do?

It will facilitate the exchange of information among collection managers and those working with entomological collections. For example, once someone is a registered user, any message sent to ENT-LIST gets routed to all subscribers. E-mail can also be sent to a single person, too (to their computer address). Let's say you are looking for distributional data for a particular taxon. Send your request to ENT-LIST, and subscribing collections and individuals will get your message that same day! This is an extremely efficient way to get your message to a number of institutions.

How to get on:

Send me your Name and your (computer) mailname, for example:

Joe Smith, JSMTH@CORNELLA

That way I can register you as a member of the group. Send your message to me at:

Mark_O'Brien@ub.cc.umich.edu ; or hcfb@umichub

When you are registered you need only to send your mail to:

ENT-LIST@umichub [BITNET access] or

ENT-LIST@ub.cc.umich.edu [Internet access]

Any messages sent to ENT-LIST will then be forwarded to all registered users.

Please do not attempt sending messages addressed to ENT-LIST until I have sent a message to you stating that you are a member of the group. If you have problems using the system, or get error messages from the UM Postmaster, please relay them to me.

This is a pioneering venture for collections and me, too. Let's give it a little time to get things working properly. Your input will be greatly appreciated. Like any e-mail system, it will only be as useful as the amount of use it gets. If you are familiar with file transfers over BITNET or whatever network you use, it will be feasible to send entire files (species catalogs, supplier lists, type information, etc.) to users that request such information. I will inform you when more features become available. As more people subscribe, ENT-LIST should become, within a few months, a viable communications link for collections and systematists in North America.

Mark F. O'Brien
Insect Division, Museum of Zoology
University of Michigan, Ann Arbor, MI

NEW CURATOR AT MSU ENTOMOLOGY MUSEUM

Dr. Frederick W. Stehr has been appointed as the new Director and Curator of the Michigan State University Entomology Museum, effective November 1, 1989. The Museum has a large collection of insects, spiders and other arthropods, estimated to be in excess of 1.5 million specimens, and is anxious to make it available to the scientific community via loans, visits or other appropriate means. Direct requests for loans, visits or other matters to Dr. Frederick W. Stehr, Dept. of Entomology, Michigan State University, East Lansing, Michigan 48823-1115. Phone (517) 353-8739. FAX (517) 353-9581.

ADDRESS CHANGE NOTICES NEEDED

Many members recently have been changing their addresses and notifying the Post Office, but not also notifying the Society Asst. Secretary. The Post Office does not forward journals unless one signs up to pay extra for them. If you have plans to move in the future, PLEASE SEND YOUR NEW ADDRESS to Julian Donahue (address on back page) as well as notifying the Post Office. This will save the Society both time and money and will help prevent your society publications from going astray.

MONARCH BUTTERFLY SAFARI

The Natural History Museum of Los Angeles County is sponsoring a 5 day trip from Los Angeles to the Mexican Monarch overwintering grounds west of Mexico City from Jan 13 to 17, 1990. The Safari will be led by Julian Donahue, past president of the Lepidopterists' Society and Gary Falxa, a naturalist from Betchart Expeditions, Inc. Those interested in joining this safari should write for further information to Karen Hovanitz, Museum Travel Program, Natural History Museum of Los Angeles, County, 900 Exposition Blvd, Los Angeles, California 90007-4057.

COLOR ILLUSTRATIONS FOR THE JOURNAL

The Executive Council in July decided to include color illustrations in the JOURNAL on a more or less regular basis, the frequency being at the discretion of the JOURNAL Editor. This medium will be reserved for articles in which color is essential for communication of the author's message. Funding of the approximately \$800 cost per color page will be 25% by the Society and 75% by the author or the author's supporting institution, a policy practiced by other similar publications.

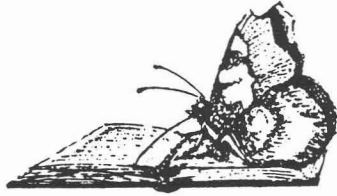
The Society's portion of the cost will be drawn from the long-standing but little used Illustration Fund, now redesignated the Color Illustration Fund. Its resources are meager, although enough to get us through a trial year. Any contributions from members, to bolster this fund, will be greatly appreciated.

Color, in our formal publication on the most beautiful creatures in the world, is long overdue. Tell us what you think of this policy. A few penciled notes on the back of your (tax deductible) check would be just fine!

NEW REGIONAL SOCIETY FORMING

An organizational meeting of about 25 interested lepidopterists from Kansas and Missouri was held on Sept 12, 1989 at the home of Suzette Slocumb in Kansas City, Missouri. It was a wonderful evening for getting acquainted and planning for future meetings. There were several displays of pinned specimens plus a number of ova and larvae were also on display. Richard Heitzman's grandson, Nathan, provided pinning lessons for the other young lepidopterists in attendance, and James Adams showed some examples of mimicry among the lepidoptera. It was decided to adopt the Regal Fritillary, *Speyeria idalia* as the theme for a logo and Elinor Adams volunteered to design the logo. An interest was expressed by some lepidopterists in Nebraska and Iowa who heard about the organizational meeting, so the **Idalia Society of Mid-American Lepidopterists** has now eclosed. For further information contact Suzette Slocumb, 219 W. 68th St., Kansas City, Missouri 64113. Phone (816) 523-2948.

Books



REVISED EDITION UPCOMING

Silvio Mattacchione & Co. of Canada will be handling the third revised edition of Bernard D'Abrera's Butterflies of the Australian Region for both the USA and Canada. Publication is scheduled for December 1989. The price, postpaid, is \$300 U.S. Immediate delivery is promised. The author has re-photographed most of the Birdwings, the Ulysses group, the genera *Hypochrysops* and *Ogyris* and has brought the Danaidae up to date in line with the 1984 Revision of that family by Vane-Wright and Ackery. With the exception of the Amathusidae, every family in the book has new species and/or races added to it. This work is not simply a reprint, but a virtual reconstruction in line with modern revisions and publications of new discoveries and descriptions. There will be only 1000 copies printed for world wide distribution and the book will not be reprinted in the author's lifetime. Since the first and second editions are long out of print, this is the last chance for institutions and entomologists to add this volume to their libraries.

Also available will be the complete line of D'Abrera books: Butterflies of the Neotropical Region, Parts I through V; Butterflies of the Oriental Region, Part I, II, III; Birdwing Butterflies of the World; Moths of Australia; Butterflies of South America; Sphingidae Mundi. For further information, write or call: Silvio Mattacchione, 1793 Rosebank Rd N., Pickering, Ontario L1V 1P5, Canada. Phone (416) 831-1373. Fax (416) 831-3734.

BUTTERFLY COLORING BOOKS



In 1988, the Xerces Society published a coloring book for children entitled Butterflies of the American West: A Coloring Album. The text is by Paul A. Opler and artwork by Susan Strawn. Cost is \$5.45 postpaid. In 1989 the companion piece was published, entitled Butterflies of Eastern North America: A Coloring and Activity Book. Again the text is by Paul A. Opler and artwork by Susan Strawn. Cost is \$6.45 postpaid. They can be ordered from the Xerces Society, 10 Southwest Ash Street, Portland, Oregon 97204. Phone (503) 222-2788. Both of these 8.5" x 11" books have the colored illustrations of the butterflies to be colored on the front inside and back inside and outside covers. A brief paragraph accompanies each outlined butterfly so that the person coloring it can learn a little about it. The Eastern North America butterflies volume also has games, puzzles and activities for children, plus informational paragraphs on Conservation, Butterfly Anatomy, Classification, Life Cycles and Watching Butterflies.



Forthcoming Meetings

IDALIA SOCIETY OF MID-AMERICAN LEPIDOPTERISTS

The newly formed Idalia Society of Mid-American Lepidopterists will hold their first formal meeting on Saturday, December 2, 1989 at 6:00 p.m. at the home of Suzette Slocumb, 219 W. 68th St, Kansas City, Missouri 64113. Bring something for a pot-luck supper. Table service and drinks furnished. For those unable to join in the pot-luck supper, the program will begin at 7:30 p.m. James Adams, a soon-to-be Ph.D. from the department of Systematics and Ecology at the University of Kansas, will present the program, followed by a general discussion. James is not divulging his topic so that potential members attending the meeting can be surprised. Attendees are invited to bring specimens, slides, questions and species to be identified or traded. Officers will be elected, the logo chosen and future meeting dates determined. Please let Suzette know if you can attend. Her telephone is (816) 523-2948.

41ST ANNUAL MEETING OF THE LEPIDOPTERISTS' SOCIETY MILWAUKEE, WISCONSIN, USA. 14-17 JUNE 1990

The Milwaukee Public Museum will host the 41st annual meeting of the Society from June 14 to June 17, 1990, in Milwaukee, Wisconsin. Symposia on the Chemical Ecology of Lepidoptera and Biology of Lepidoptera in the Upper Midwestern U.S. will be featured. MPM is nationally recognized for outstanding exhibition, including a new Rain Forest exhibit. Its central location provides easy access to public transportation, shopping, restaurants and city attractions. Dormitory accommodations at Marquette University and various hotel rooms are available within walking distance. Organized field trips are planned to follow the meeting and information on collecting sites will be provided in advance. The pre-registration form will be in the next issue of the News. For additional information contact: Dr. Allen Young or Susan Borkin, Invertebrate Zoology Section, Milwaukee Public Museum, 800 W. Wells St., Milwaukee, Wisconsin 53233, USA. Phone: (414) 278-2758, Fax: 223-1396.



Research Notices

● INFORMATION WANTED: Looking for behavioral information on the adult stage of the North American noctuid AMPHIPYRA PYRAMIDOIDES Gurnee (Copper Underwing) and the following European noctuid moths - AMPHIPYRA PYRAMIDEA Linnaeus (Copper Underwing), AMPHIPYRA BERBERA SVENSSONI Fletcher (Svensson's Copper Underwing), AMPHIPYRA TRAGOPOGINIS Clerck (Mouse Moth). Using mark-recapture techniques I am investigating localized population behavior of AMPHIPYRA PYRAMIDOIDES Gn. (Copper Underwing) at sugar bait trees along a transect in the woods of central Minnesota. The focus of this work deals with sex ratios and the possible influence of sex pheromones and/or weather conditions during feeding and roosting aggregation. I wish to communicate with anyone who has any experiences, information or references of similar context relating to or about these listed moths. Please correspond to: TOM SEABOLT, 710 7th Street SE, Minneapolis, Minnesota 55414 USA.

New Members



- FUJIMORI, EIJI: 100 Boatswain's Way, Chelsea, MA 02150.
GRUNSELL, GERALD: 450 Main Street, Ridgefield, CT 06877.
KRUPSHA, ANDREW J.: 36 Turkey Path, Sugarloaf, PA 18249.
LAMOUR, MICHEL: 24 Rue de Petit Paris, Le Chateau d'Olonne, 85100 FRANCE.
MARTINEZ, GEORGE EUJENS: 260 West 25th Street, #2, New York, NY 10001.
PARK, DICK: 263 West Butternut Road, Williston, VT 05495.
STREICH, HEIDI: 1862 West 24th Street, Erie, PA 16502.
TAYLOR, ORLEY R., Jr. (Dr.): Biological Sciences, 3038 Haworth Hall, University of Kansas, Lawrence, KS 66045-2106.
VanHEEL, MARK: 217 South Jackson Street, Mason City, IA 50401.
VAN OOSTEN, JAN ROGER: 9765 Mesa Springs Way, #62, San Diego, CA 92126-4129.
WALLACE, IAN W.: Entomological Livestock Supplies Ltd., Unit 3, Beaver Park, Haysech Road, Halesowen, West Midlands B63 3PD, ENGLAND.
WALZ, BRENDA: 7090 West 62nd Avenue, Arvada, CO 80003.
WALZ, RANDY: 7090 West 62nd Avenue, Arvada, CO 80003.
WALZ, MELODY: 7090 West 62nd Avenue, Arvada, CO 80003.
WEISS, NANCY L. (M.D.): 125 Liberty Street, Springfield, MA 01103.
WICKHAM, JACOB D.: 8081 Clinton Street, Elma, NY 14059.
WILLIAMS, GREG: 21 Lorraine Gardens, Islington, Ontario M9B 4Z5, CANADA.

Address Changes



- BEEBE, WARDEN: 2425 SW 27th Avenue, #6, Miami, FL 33145.
BUSBY, GEORGE W., III (Dr.): 1618 South Medio River Circle, Sugar Land, TX 77478.
BYERS, BRUCE A.: 865 Circle Drive, Boulder, CO 80302.
CALHOUN, JOHN V.: 3524 Old Village Way, Oldsmar, FL 34677.
CHAVEZ, JUANA M.: 1015 North El Centro Avenue, Los Angeles, CA 90038-2803.
CLAYTON, RODERICK, K. (Prof.): 16 Dudley Avenue, #A, Venice, CA 90291-2497.
CONSOLI, ALFRED T., Jr.: Rural Route 04, Box 195, Bernville, PA 19506.
COOK, JAMES M., III: P.O. Box 1061, 5000 Gasparilla Road, Boca Grande, FL 33921.
CUTHRELL, DAVID: 216 Iba Hall, Oklahoma State University, Stillwater, OK 74077-0082.
GORMAN, LARRY R.: P.O. Box 823, Inola, OK 74036-0823.
JONES, DONNA KAY: 6422 King Post Drive, Houston, TX 77088-6407.
KLEIN, THOMAS W. (M.D.): 8208 S.W. 42nd Avenue, Gainesville, FL 32608.
KOPPOS, KEITH J.: 7241 North Ulene Place, Tucson, AZ 85741.
LAYBERRY, ROSS A.: 6124 Carp Road, Rural Route #2, Kinburn, Ontario K0A 2H0, CANADA.
POLLOCK, DAVID M.: 4723 Springridge Road, Enid, OK 73703.
PORTER, ADAM H.: Dept. of Zoology, University of Canterbury, Christchurch, NEW ZEALAND.
SKEEL, DAVID A.: 3459 West Queen Lane, Philadelphia, PA 19129.
SPENCER, LORI: 220 Graham, P.O. Box 1201, Pella, IA 50219.
STEWART, ROBERT: 8710 Appomattox Drive, College Station, TX 77840.
STINNER, RON: P.O. Box 2057, Chapel Hill, NC 27515.
TROUBRIDGE, JIM: 23847-36A Avenue, R.R. #12, Langley, B.C. V3A 7B9, CANADA.
WATKINSON, IAN A.: 37518 Alpine Lane, Lake Villa, IL 60046.
WEBSTER, REGINALD P.: 20 Goodine Street, Apt. 3, Fredericton, N.B. E3B 5W6, CANADA.
WHALEY, WAYNE H.: 1234 North 50 East, Orem, UT 84057.
WIERNASZ, DIANE C.: Dept. of Biology, University of Houston, Houston, TX 77204-5513.

The Market Place

Buy • Sell • Exchange • Wants



Items submitted for inclusion in this section are dealt with in the manner set forth on page 9 of the Jan/Feb 1989 NEWS. Please note that in keeping with the guidelines of the Society, henceforth no mention of any species on any threatened or endangered species list will be accepted in these items. This will include all Ornithopterans now and for the foreseeable future. Items will be accepted from members only and will be printed only once unless entry in the maximum of two successive issues is requested. Please keep items short. A maximum of 100 words is allowed. SASE in an ad stands for self addressed stamped envelope.

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 of the structure of the Society.

ATTENTION, THOSE INTERESTED IN REARING, PHOTOGRAPHY OF LIVING STAGES OF LEPIDOPTERA, LIFE CYCLES, CRYPISIS & MIMICRY, HABITAT DOCUMENTATION, PHENOLOGY, OR ADULT/LARVAL BEHAVIOR: A new book is now FOR SALE entitled PORTRAITS OF SOUTH AUSTRALIAN GEOMETRID MOTHS (see Covell's recent review in NEWS #5, 1989, pp. 72-73). M. S. Moulds, founder of the Australian Entomological Magazine, recently had the following to say about this book: "... I have no doubt that this is the most significant single work ever to appear on Australian entomological literature." The limited 1st edition (500 copies) is already more than half sold; second edition unlikely. Send a 9" x 4" SASE if in the USA and I will forward a 5-page summary detailing the contents of this book. If not in the USA, just write. Noel McFarland, P.O. Box 1404, Sierra Vista, AZ 85636.

FOR SALE: Neotropical Butterfly Reference Collection. All families represented - many genera including varieties. All specimens pinned, labeled and determined. Must sell complete, with over 50 Cal Academy drawers housing over 2,500 butterflies (and some moths). Some families in unit trays. Please send SASE for more information to Brian P. Harris, 13692 Berkshire Way, Garden Grove, California 92643.

WANTED: Agrius cingulata. Will give good exchange for perfect specimens. Henry Hensel, 145 Bellevue Street, Edmundston, New Brunswick E3V 2E2, Canada.

FOR SALE OR EXCHANGE: Pupae of Anisota senatoria. Contact Kenneth R. Knight, 433 Brady N.W., Comstock Park, Michigan 49321, or phone (616) 784-6243.

FOR SALE: Papered specimens, in good condition, with data. Charaxes from rain forests of Central Africa, Zaire; Brazzaville; Central African Republic, Bangui. Including C. candope, ummines, laodice, porthos, amellae, tiridates, zingha, bohemani, monitar, varanes, protoclea. Also Charaxes from Bonga, Ethiopia. Many Cymothoe sangaris and Danaidae from Zaire. Charaxes from Letecia, Colombia, Amazon, also Caligos and Preponas. Papilio memestheus, hesperus, phorcus, nireus from Zaire. Papilios from Bonga, Ethiopia. P. thersites from Jamaica. Urania leilus and Historis orion from Colombia. Or will exchange for wild collected cocoons of H. cecropia, A. polyphemus, Actius selene. John Bradley, 90 Pembroke Road, Clifton, Bristol BS8 3EG, England.

FOR SALE: Light traps for use with 12 volt batteries or 120 volt AC, or both. Portable and light weight with 8-, 15 or 22 watt bulbs. Beetle screen and rain drain. Excellent design and construction. For more information and pricing, contact: Leroy C. Koehn, 2946 N.W. 91st Ave., Coral Springs, FL 33065. Telephone (305) 344-3873.

FOR TRADE: Dark coastal H. euryalus live cocoons and ova for papered North American Saturniidae, Hemileuca, P. indra ssp., or what have you. Write to Bill Cornelius, P.O. Box 57, Albion, CA 95410.

FOR SALE: Live pupae of P. cresphontes, P. glaucus and P. asterius. Large or small quantities available. Jaret C. Daniels, 12606 6 1/2 Mile Rd., Caledonia, WI 53108.

FOR SALE: Large and small quantities of both Papilio glaucus and Hyalophora cecropia in pupal stage. Send all inquiries and a SASE for prices and quantities to William Houtz, Box 477, Rt 4, Pine Grove, PA 17963.

FOR SALE OR EXCHANGE: Cocoons of A. luna and Catocala ova including relicta, rectata, piatrix, palaeogama, cerogama, ilia, aholibah and serena plus a few others. SASE please. Jim Mouw, 245 Sarah Avenue, Iowa Falls, Iowa 50126.

WANTED: PUPAE of Dapnis nerii, Hyles tithymali himyarensis, Papilio alexanor, and Papilio hospiton. Please send prices & amounts, to RANDY ROBINETTE, 4800 State Rt. 5, Ashland, Ky. 41101, U.S.A.

FOR SALE: Saturnid cocoons and pupae - cecropia, luna, imperial, regalis, stigma, io, polyphemus, pernyi, and cynthia. ALSO papered moths with data. SASE to JEFF FREY, 364 OAKLYN RD., Lebanon, PA 17042. Phone (717) 272-6597.

FOR EXCHANGE: Parnassius szechenyii, imperator, orleans, epaphus, Colias sifanica and others, from collecting trip in south Gansu (China). From Europe: P. apollo filabricus (yellow spotted) pairs A+, and other less common Rhop.

WANTED: Asian Parnassius and Colias, Buthanitis sp., Sericinus pupae, Canada-Alaska Parnassius and less common Colias. FOR SALE: A few pairs A+ P. szechenyii. Javier Olivares, P/Gran Capitan No. 1, E-18002 Granada, Spain.

FOR SALE: D'Abrera, Butterflies of the Afrotropical Region, \$150.00 (negotiable) and D'Abrera, Butterflies of the Neotropical Region, Vol. 1, \$150.00 (negotiable). Both books are like new; I will pay shipping costs. Send inquiries and a SASE to Adrienne Venables, 6212 Princess Garden Parkway, Lanham, MD 20706.

FOR SALE: Cocoons of Actias luna and possibly other species. SASE for prices. Larry J. Kopp, R.D. 1, Box 30, Klingerstown, PA 17941.

WANTED TO BUY: Live pupae, eggs; Papilio zelicaon, P. indra, P. rutulus, P. multicaudatus, P. cresphontes, P. eurymedon, P. rudkin. Mary Carol Krane, 24932 Rivendell, Lake Forest, CA 92630. Phone (714) 837-1077.

MEMBERS' COMMERCIAL NOTICES.....

IANNI BUTTERFLY ENTERPRISES, P.O. Box 81171, Cleveland, Ohio 44181, U.S.A. Phone: (216) 888-2310. Worldwide butterflies, moths and beetles for all price ranges. Superior quality, double boxed for shipping safety. Personalized service to the beginning or seasoned collector. Specializing in Papilio, Morpho and Heliconius. ALSO, excellent quality insect mounting pins including Std. Black, Elephant, Stainless Steel. Best prices available. Send \$5.00 for one year price list subscription.

JOHN McFEELY, 90, STONECHAT AVENUE, ABBEYDALE, GLOUCESTER GL4 9XF ENGLAND. FOR SALE OR EXCHANGE: Freshly emerged A1 ex pupae pairs of Argema mittrei; Madagascar Comet Moth - Freezer stored for easy spreading. Cocoons of Saturnia pyri ilvana (from Corsica), pupae of Brahmaea certhia from Korea, Acherontia atropos from Europe and other interesting species.

JOEL MILLER, P.O. Box 397 (Westside Station), Worchester, Mass. 01602, USA. Phone (305) 435-2243 after 5 p.m. (leave message). Indonesian butterflies from Bali, Borneo, Moluccas, Sumatra, Irian Jaya, Sulawesi, and other islands. Papilios, Delias, Nymphalids and others. Send SASE with your phone number for further information.

THANAT SIEW, 92, Leboh Raya Perajurit 2, Ipoh Garden East, Ipoh 31400, Malaysia. Breeder & supplier of Malaysian butterfly pupae. Also supply beetles, butterflies & insect specimens. List \$2.00 air mail.

CHANG PI-TZU, P.O. Box 873, Taipei, Taiwan 10099, Republic of China. FOR SALE: Formosan butterflies, moths, beetles and other dried insect specimens in papers; sexual mosaics and rare butterflies and moths and beetles and aberrations of lepidoptera of Formosa. Also viable eggs of Attacus atlas moths and cocoons of Saturniidae and chrysalids of butterflies of Formosa in season. Please send \$1.00 for price lists and information.

KEN THORNE, P.O. Box 684, Lambeth, Ontario, CANADA N0L 1S0, (Tel. (519) 652-6696). Fine quality Lepidoptera and Coleoptera from around the world. Specializing in World Papilio, Morpho, Lycaenidae, North American species, including far north. I have items for the specialist and the generalist. Please send \$1.00 for lists and postage. I sell and trade.

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THOMAS GREAGER, R.D. #6, Box 56-B, Greensburg, PA 15601, U.S.A. FOR SALE: WORLDWIDE BUTTERFLIES in all families: also 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 price list subscription.

ALSO WANTED: Contacts with serious collectors of North American Lepidoptera who would like to exchange specimens. I am interested in all families of butterflies and skippers: also Catocala, Saturniidae, and Spingidae. Offer many species of butterflies, skippers, and identified macro-moths in all families, from eastern United States; also some western material. I have a large number of specimens ready for exchange right now, all are A-1 with complete data. Can supply either series or single specimens. Have many bred pairs, as well as wild collected. Write to Thomas Greager, R.D. #6, Box 56-B, Greensburg, PA 15601, USA.

APOLLO BOOKS, Lundbyvej 36, DK-5700 Svendborg, Denmark. The Lepidopterists' bookseller. Our entomological catalogue #8 is available in September. Ask for a free copy. CHARAXINAE BUTTERFLIES OF AFRICA, DKK 1,795. PRIMITIVE GHOST MOTHS. Vol. 1 of the new important series "Monographs on Australian Lepidoptera", DKK 360; A free leaflet available upon request. BUTTERFLIES OF THE WORLD. NEOTROPICAL REGION vol. 5, DKK 1,225. THE GENERIC NAMES OF THE BUTTERFLIES AND THEIR TYPE-SPECIES, DKK 315. THE ZOOLOGY OF ICELAND: LEPIDOPTERA, DKK 168. KEYS TO THE INSECTS OF THE EUROPEAN PART OF THE USSR. Vol. 4: LEPIDOPTERA; In two parts containing approx. 1900 pages; Per part approx. DKK 570. TROPICAL LEAF MOTHS: A MONOGRAPH OF THE SUBFAMILY STRIGLININAE, DKK 437. For your information: US \$1 = approx. DKK 7.50.

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DEADLINES: Material for the Jan/Feb issue should reach the NEWS EDITOR by Dec 1 of the previous year, and that for the Mar/Apr Issue by Feb 15, for the May/June issue by Apr 1 and for the July/Aug issue by May 1, the Sept/Oct issue by Aug 15 and the Nov/Dec issue by Oct 15. Reports for the SEASON SUMMARY must reach the ZONE COORDINATORS listed on the front cover no later than the 5th of January. NEWS EDITOR is June Preston, 832 Sunset Dr, Lawrence, Kansas 66044-2373, USA. Phone (913) 843-6212. RIPPLES EDITOR is Jo Brewer, 257 Common St, Dedham, Massachusetts 02026-4020, USA.
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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, James P. Tuttle, 3838 Fernleigh Ave, Troy, Michigan 48083-5715, USA, phone (313) 689-6687, the full dues for the current year, \$25.00 US, together with mailing address and a note about areas of interest in the 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) 326-6053.

Requests for Missed Issues (i.e. those not delivered although dues have been paid on time) should be sent to the TREASURER, James P. Tuttle, address above, or the PUBLICATIONS COORDINATOR, Ron Leuschner, address below. Defective issues will also be replaced by the TREASURER. Do not request these of the NEWS editor.

Manuscripts submitted for publication in the JOURNAL are to be sent to Dr. Boyce Drummond, EDITOR, JOURNAL of the Lepidopterists' Society, Natural Perspectives, P.O. Box 9061, Woodland Park, Colorado 80866-9061, USA. Phone (719) 687-6596. See the inside back cover of a recent issue of the JOURNAL for editorial policies.
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AVAILABLE PUBLICATIONS OF THE SOCIETY..... Order from the PUBLICATIONS COORDINATOR, Ron Leuschner, 1900 John St., Manhattan Beach, CA 90266-2608 USA.

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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, postpaid.

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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 SECRETARY or to the PUBLICATIONS COORDINATOR.