



NEWS

of the LEPIDOPTERISTS' SOCIETY

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How to Collect Insects (Legally) in Alaska

by Ken Philip
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The 1981 modifications to the Lacey Act have included insects (as well as all other invertebrates) in the category of organisms that must be acquired and transported in compliance with foreign, U.S. federal, U.S. state, and Indian tribal laws. Since a larger fraction of the land in Alaska is owned or administered by the federal government than for any other state except Nevada, and another large fraction is owned as private property by Native Corporations, it behooves the collector to be aware of the various permits that are required in order to collect insects in Alaska.

I have contacted a number of federal and state agencies in the course of gathering data for this article, and have also checked my conclusions with the Fairbanks office of the enforcement division of the Fish & Wildlife Service. Nonetheless, there may be some errors of fact or interpretation—and I am not a lawyer, and can thus do no more than pass on what I have been told by the agencies involved. It is the responsibility of the collector to find out what permits are required and what forms must be filed—this article will have served its purpose if it makes that task easier.

For the purposes of insect collecting, we shall divide the lands in Alaska into the following categories:

A. Federal lands.

1. National Parks.
2. National Wildlife Refuges.
3. National Forests.
4. Bureau of Land Management lands.

B. State lands.

1. State Parks
2. State Forests.
3. Department of Transportation rights of way.
4. Other state lands.

C. Private lands.

1. Native Corporation lands.
2. Individual private lands.

Permit requirements for federal lands are as follows: all National Parks and National Wildlife Refuges in Alaska require permits for insect collecting for scientific purposes. National Parks will normally add a stipulation that the insects must be deposited in a public collection and catalogued to NPS curatorial standards, and in many cases will also require that the collecting be done out of sight of the public (which can be difficult to arrange in tundra areas where individuals can be seen at a distance of many miles). National Forests in Alaska do not issue written permits for scientific insect collecting, but all such activities must be approved in advance—so you should contact the appropriate district office before collecting. In National Forests it may also be possible to collect for commercial purposes, but that will involve a permit and fees. Note that your access to some areas may be restricted within all these lands in order to avoid harassment of nesting raptors, or because of wildfire. In National Wildlife Refuges, all landings by helicopter require a Special Use Permit.

Bureau of Land Management (BLM) lands do not require insect collecting permits for scientific purposes, but the BLM informs me that they would nonetheless appreciate being notified of any scientific research being carried out on their lands (See Appendix 1 for the addresses of BLM District Offices). It would not, however, be a violation of the Lacey Act to collect insects on BLM lands without such notification. As in the case of National Forests, commercial collecting on BLM lands is a separate matter, involving permits and fees.

Note that there is one "gray" area here, with regard to scientific versus commercial collecting. Under some circumstances, exchange of specimens is legally equivalent to sale of specimens, because the specimens have a commercial value. Exchanges for purely scientific purposes would not be considered as commercial transactions, but exchanges based on the commercial values of material, or to enhance the commercial value of a collection, could be interpreted as *ex post facto* commercial collecting, thus invalidating your scientific collecting permit. In general, you should be extremely careful about exchanges involving material collected under scientific collecting permits.

Collecting without permits on National Park or National Wildlife Refuge lands, or without approval on National Forest lands is a Lacey Act violation. Permits must be obtained from the individual parks and refuges involved, and approval from the forests involved. Appendix 1 lists the addresses for these in Alaska. For the approximate locations of refuges, ask for a copy of the brochure National Wildlife Refuges of Alaska from any of the Refuge offices. Note that in some cases (as in the Yukon Delta Refuge) the refuge may completely surround one or more villages—but the village land itself may be under the control of a regional or local Native Corporation (see below), not the wildlife refuge. The USGS "E" map of Alaska (1:2,500,000) shows National Parks, National Wildlife Refuges, and National Forests, and recent editions of the 1:250,000 quadrangles will show the current borders of these regions. Be sure to request a version of the "E" map showing Federal lands. BLM lands are not marked on the USGS "E" map, but the flyer BLM Alaska, available from any BLM District Office, has a small-scale map showing the major BLM holdings.

Permits are required for insect collecting in State Parks. (See Appendix 2 for addresses). No permits are required for State Forests or for general state lands which are not part of State Parks. State Parks are now assessing a \$25 fee for collecting, but some Alaska-based scientific projects can get the fee waived, and can also apply for a 5-year area-wide permit.

Department of Transportation rights of way convey only the rights to drive or walk through the corridor involved, so no collecting can be carried out (without permits) along roads and highways that pass through any land units which themselves require collecting permits. This includes Denali National Park. There may be exceptions to the above for individual cases—but it would take a lot of research to establish the details for any given right of way.

Two F&WS agents have assured me that the Lacey Act does not apply to collecting non-endangered species of insects on private lands. It is still common courtesy to request permission to collect on private lands—but there are many cases in Alaska where large expanses of privately-owned land are not posted, look exactly like the surrounding wilderness, and are normally traversed by hikers, berry-pickers, etc. In such cases you have to use your own judgement. I have never yet been refused permission to collect insects on individually-owned private lands in Alaska—the only problem is tracking down the owner!

Private lands owned by Native Corporations are another matter. These are not considered to be Indian Tribal Lands, but are simply private land holdings. However, it is strongly recommended that you obtain permission from any Native Corporations on whose land you plan to collect. Some Native Corporations simply do not want unauthorized strangers on their land, and may even be reluctant to grant permission for scientific work. You should be aware that it can take many months to obtain permission from remote villages, and in many cases the

location of village lands may be far from the actual village. Some of the land on the Seward Peninsula is owned by the King Island Native Corporation, for example. For the Seward Peninsula, the people at the Bering Straits Native Corporation (see Appendix 3) can help you ascertain which village Native Corporation to contact for any given region along the road system. For the rest of Alaska, you might start by contacting the major Native Regional Corporations (see Appendix 3A) to find out where to apply for any given area. Note that collecting permits must be obtained individually from the each village corporation, of which there are over 200. See Appendix 3B for a breakdown by village. Both the Regional Corporations and BLM should be able to help you with maps showing the land holdings of individual villages, so you can find out from which villages you need to request collecting permits.

The Sitnasuak Native Corporation (in Nome) now has a land use officer that is in charge of permits. They are charging a \$100 application fee as well as a \$100 per month land use fee for scientific work on their lands. I had a long conversation with the officer in question, and was told that the Corporation wanted to keep posted on the activities of scientists on their land, but was not particularly concerned about hobbyist collectors who might fly in, spend a day or two collecting, and then fly out again and never publish any papers on their material. Apparently they want to be kept aware of any scientific work that might result in additional government restrictions on their own use of their land—which is understandable.

There was a peculiar situation in Alaska with regards to aquatic insects. A state law designed to protect marine invertebrates was so worded that you needed a permit to collect any insect that is aquatic during any portion of its life cycle. The law was never intended to protect mosquitoes from scientific collecting, and it was not being enforced—but it was still a Lacey Act violation to break it. However, the permitting office (see Appendix 4) has recently issued a general statewide permit (for 1994) to allow collecting of aquatic insects for scientific and educational (but not commercial) purposes. This permit covers you without your having to have a copy on hand. You are not allowed to move aquatic insects from one stream to another. You should check with the permitting office about the status of this general permit in 1995 and subsequent years.

There is another aspect of collecting in (and near) Alaska that you must be aware of. The F&WS is now requiring a declaration (Form 3-177) whenever you bring wildlife (including insects and all invertebrates) into the U.S., even if they were collected in the U.S.! If you are driving to Alaska, this form must thus be presented if you collect in the lower 48 states, British Columbia, or the Yukon Territory on your way to Alaska, at the time you enter Alaska. Form 3-177 requires a listing of genus, species, and numbers of individuals for all wildlife you are transporting. For scientific work, it is permitted to file the form with incomplete determinations—but you are then required to file an extension every 180 days until the material is all determined. In some insect groups, that could take years, or even decades—I am not sure the people who promulgated this regulation were aware of just how little is still known about many orders of insects, even in northern regions with their smaller faunas.

Similarly, the form must again be presented when you return to the lower 48, and must include all specimens you are carrying, even those from the Alaska and the lower 48 states. Not declaring your wildlife is not a Lacey Act violation, but it is a violation of F&WS regulations, and for specimens having commercial value would be considered smuggling.

In order to reach parts of Alaska by car, even from other parts of the state, you have to drive through portions of Canada, which involves taking insect specimens across an international border. You might be crossing the U.S.-Canada border several times in the same day. I asked the Fairbanks F&WS enforcement office what to do about such cases, and was told that one could be reasonable about the situation. Let the border station know what you are doing, and get Customs

permission to file the form the last time you cross into the U.S.

The F&WS regulations state that all wildlife must enter and leave the U.S. through a limited number of Ports of Entry. There are no Ports of Entry in Alaska. The regulations say that scientists can apply for a permit to bring material in at other points—but the agents I talked to said that as far as taking non-endangered insects into and out of Alaska goes, any Customs station was fine. At the present time I know of no endangered species of insects in Alaska or the Yukon Territory.

An interesting problem can arise for people doing sweep-net collections, or black-light collections of large numbers of specimens. As the regulations are written, Form 3-177 would appear to apply even to such things as soil samples, with their hundreds of thousands of arthropods, nematodes, fungi, and bacteria; or samples of pond water, with equal numbers of protozoa and bacteria. The Fairbanks F&WS enforcement office said that Form 3-177 was only required when the specimens could be enumerated, and would not apply for soil samples, pond water, etc. In the case of sweep-net or black-light material, my guess is that you should file Form 3-177 for those parts of the material that you intend to add to your collection (that is, those parts that will be enumerated) and not worry about the material that you discard.

People collecting insects in the Yukon and Northwest Territories should be aware that both territories request that you obtain a scientific research permit for any kind of scientific work. See Appendix 5 for the addresses to write to for permit applications. For the Yukon, ask for a copy of the Guidebook on Scientific Research in the Yukon, and note that the application process may take as long as three months. For the Northwest Territories, ask for a copy of Doing Research in the Northwest Territories: A Guide for Researchers Working in Canada in Northwest Territories. The purpose of these permits appears to be chiefly to let the authorities know what kind of scientific work is being done in the territory, but there is an element of wildlife protection involved as well, and it may be a Lacey Act violation to bring such

material into the U.S if you collect without the permit. Collectors who are not doing scientific work (i.e. hobbyists who will never be publishing their work) may not have to obtain these scientific research permits, but it would still be courteous to check—and in all cases collectors would need the additional permits discussed in the following paragraph if they were working within such restricted areas. Within the Yukon and Northwest Territories, there are special permit requirements for collecting in National Parks, on Department of National Defense Bases or Distant Early Warning Sites, an western arctic, which includes the Yukon North Slope and Herschel Island, the arctic coast from Inuvik to east of Paulatuk, and Banks Island, western Victoria Island, western Melville Island, and other islands west and north of Melville Island. Similar restrictions exist in Native Settlement areas in the eastern arctic as well.

Canada has just passed its own version of the Lacey Act, which is scheduled to take effect in November 1994. Like the Lacey Act, this law concerns itself with non-endangered species of insects, and other lower life forms, but it is not yet known exactly how the law will impact entomological research. It may not apply to older material already in collections the way the Lacey Act is currently being interpreted to do.

One final comment about the process of obtaining collecting permits—allow plenty of time! You normally have to request a permit application, and when that arrives you have to send in the completed application to receive the permit. All these agencies have other things to do besides issuing collecting permits, so the procedure can take many weeks or months. The Yukon Scientific Research permits are sent out for review by Canadian scientists, which adds more time to the process. The safest thing to do, if you can make plans that far ahead, is to apply for each year's permits in January (not earlier, since some agencies will wait until the calendar year involved to do any work on permit applications). In any case, I would recommend allowing at least three months lead time. A followup phone call may be helpful, timed shortly after your application was received.

Appendix 1: Addresses for National Parks, National Wildlife Refuges, National Forests, and BLM District Offices in Alaska.

A. National Parks (The four-letter codes are the Park Service's own designators.):

1. BELA

Superintendent
Bering Land Bridge National Park
P. O. Box 220
Nome, AK 99762
(907) 443-2522

2. DENA

Superintendent
Denali National Park & Preserve
P.O. Box 9
Denali Park, AK 99755
(907) 683-2294

3. GAAR

Superintendent
Gates of the Arctic National Park & Preserve
P.O. Box 74680
Fairbanks, AK 99707
(907) 456-0281

4. GLBA

Superintendent
Glacier Bay National Park & Preserve
P.O. Box 140
Gustavus, AK 99826
(907) 697-2232

5. KATM, ANIA

Superintendent
Katmai National Park & Preserve
Aniakchak National Monument/Preserve
P.O. Box 7
King Salmon, AK 99613
(907) 246-3305

6. KEJF

Superintendent
Kenai Fjords National Park
P.O. Box 1727
Seward, AK 99664
(907) 224-3175/3176



7. KLGO

Superintendent
Klondike Gold Rush National Historical Park
P.O. Box 517
Skagway, AK 99840
(907) 983-2921

9. Northwest (CAKR, KOVA, NOAT)

Superintendent
Kobuk Valley National Park
Cape Krusenstern National Monument
Noatak National Preserve
P.O. Box 1029
Kotzebue, AK 99752
(907) 442-3890

11. WRST

Superintendent
Wrangell-St. Elias National Park & Preserve
P.O. Box 29
Glennallen, AK 99588
(907) 822-5234

B. National Wildlife Refuges:

1. Alaska Maritime

Refuge Manager
Alaska Maritime National Wildlife Refuge
2355 Kachemak Bay Drive, Suite 101
Homer, AK 99603-8021
(907) 235-6546

3. Arctic

Refuge Manager
Arctic National Wildlife Refuge
Federal Building & Courthouse
101-12th Avenue, Box 20
Fairbanks, AK 99701
(907) 456-0250

5. Innoko

Refuge Manager
Innoko National Wildlife Refuge
P.O. Box 69
McGrath, AK 99627
(907) 524-3251

7. Kanuti

Refuge Manager
Kanuti National Wildlife Refuge
Federal Building & Courthouse
101-12th Avenue, Box 20
Fairbanks, AK 99701
(907) 456-0329

8. LACL

Superintendent
Lake Clark National Park & Preserve
4230 University Drive, Suite 311
Anchorage, AK 99508
(907) 271-3751

10. SITK

Superintendent
Sitka National Historical Park
P.O. Box 738
Sitka, AK 99835
(907) 747-6281

12. YUCH

Superintendent
Yukon-Charley Rivers National Preserve
P.O. Box 167
Eagle, AK 99738
(907) 547-2234

2. Alaska Peninsula

Refuge Manager
Alaska Peninsula National Wildlife Refuge
P.O. Box 277
King Salmon, AK 99613
(907) 246-3339

4. Becharof

Refuge Manager
Becharof National Wildlife Refuge
P.O. Box 277
King Salmon, AK 99613
(907) 246-3339

6. Izembek

Refuge Manager
Izembek National Wildlife Refuge
Box 127
Cold Bay, AK 99571
(907) 532-2445

8. Kenai

Refuge Manager
Kenai National Wildlife Refuge
P.O. Box 2139
Soldotna, AK 99669
(907) 262-7021

9. Kodiak

Refuge Manager
Kodiak National Wildlife Refuge
1390 Buskin River Road
Kodiak, AK 99615
(907) 487-2600

11. Nowitna

Refuge Manager
Nowitna National Wildlife Refuge
P.O. Box 287
Galena, AK 99741
(907) 656-1231

13. Tetlin

Refuge Manager
Tetlin National Wildlife Refuge
P.O. Box 155
Tok, AK 99780
(907) 883-5312

15. Yukon Delta

Refuge Manager
Yukon Delta National Wildlife Refuge
P.O. Box 345
Bethel, AK 99559-0346
(907) 543-3151

C. National Forests

USDA Forest Service
Cordova Ranger District
P.O. Box 280
[612 2nd Street]
Cordova, AK 99754
(907) 424-7661

USDA Forest Service
Glacier Ranger District
P.O. Box 129
[Monarch Mine Road]
Girdwood, AK 99587
(907) 783-3242

For the Tongass National Forest there is a main office, and a number of area offices, as follows:

USDA Forest Service
Tongass National Forest
P.O. Box 21628
Juneau, AK 99802-1628
(907) 586-8863

USDA Forest Service
Tongass National Forest
Chatham Area
204 Sinaka Way
Sitka, AK 99835
(907) 747-6671

10. Koyukuk

Refuge Manager
Koyukuk National Wildlife Refuge
P.O. Box 287
Galena, AK 99741
(907) 656-1231

12. Selawik

Refuge Manager
Selawik National Wildlife Refuge
P.O. Box 270
Kotzebue, AK 99752
(907) 442-3799

14. Togiak

Refuge Manager
Togiak National Wildlife Refuge
P.O. Box 10201
Dillingham, AK 99576
(907) 842-1063

16. Yukon Flats

Refuge Manager
Yukon Flats National Wildlife Refuge
Federal Building & Courthouse
Box 20, 101-12th Avenue
Fairbanks, AK 99701
(907) 456-0440

USDA Forest Service
Seward Ranger District
P.O. Box 390
334 Fourth Avenue
Seward, AK 99664
(907) 224-3374

USDA Forest Service
Chugach National Forest
3301 C Street, Suite 300
Anchorage, AK 99503-3998
(907) 271-3992

USDA Forest Service
Tongass National Forest
Ketchikan Area
Federal Building
Ketchikan, AK 99901
(907) 225-3101

USDA Forest Service
Tongass National Forest
Stikine Area
P.O. Box 309
Petersburg, AK 99833
(907) 772-3841

D. Bureau of Land Management regional offices:

1. Northern/Central Alaska

Bureau of Land Management
Northern District Offices
1150 University Avenue
Fairbanks, AK 99709
(800) 437-7021

2. SW & SE Alaska

Bureau of Land Management
Anchorage District Office
6881 Abbot Loop Road
Anchorage, AK 99507
(907) 267-1267

3. South Central Alaska

Bureau of Land Management
Glennallen District Office
P.O. Box 147
Glennallen, AK 99588
(907) 822-3217

Appendix 2: Selected State Parks in Alaska. There are too many state parks to list here. A complete list may be obtained by writing: Department of Natural Resources, Division of Parks & Outdoor Recreation, 3601 C Street, P.O. Box 107001, Anchorage, AK 99510-7001, or 3700 Airport Way, Fairbanks, AK 99709 and asking for a copy of Alaska State Parks. This flyer lists all 116 parks and 56 campgrounds, and includes a map showing their locations. Permits would be obtained from one of the six Area Offices:

1. Southeast

Alaska State Parks
Southeast Area Office
400 Willoughby Building, 3rd Floor
Juneau, AK 99801
(907) 465-4563

2. Northern

Alaska State Parks
Northern Area Office
3700 Airport Way
Fairbanks, AK 99709-4613
(907) 451-2695

3. Mat-Su/Valdez/Copper Basin

Alaska State Parks
Matanuska-Susitna/Valdez/
Copper River Area Office
HC32 Box 6706
Wasilla, AK 99687
(907) 745-3975

4. Chugach/Southwest

Alaska State Parks
Chugach/Southwest Area Office
HC52 Box 8999
Indian, AK 99540
(907) 345-5014

5. Kenai Peninsula

Alaska State Parks
Kenai Peninsula Area Office
Mile 85 Sterling Highway
P.O. Box 1247
Soldotna, AK 99669
(907) 262-5581

6. Kodiak

Alaska State Parks
Kodiak Area Office
Mile 3.5 Mill Bay Road
SR Box 3800
Kodiak, AK 99615
(907) 486-6339

Appendix 3A: Addresses for Native Regional Corporations in Alaska.

1. Copper River Basin

Ahtna Incorporated
P.O. Box 649
Glennallen, AK 99588
(907) 822-3476

2. Aleutian Islands

Aleut Corporation
1 Aleut Plaza, Suite 300
4000 Old Seward Highway
Anchorage, AK 99503
(907) 561-4300

3. Arctic Alaska

Arctic Slope Regional Corporation
P.O. Box 129
Barrow, AK 99723
(907) 852-8533/8633

4. Seward Peninsula

Bering Straits Native Corporation
P.O. Box 1008
Nome, AK 99762
(907) 443-5252

5. Bristol Bay Area

Bristol Bay Native Corporation
P.O. Box 100220
Anchorage, AK 99510
(907) 278-3602

7. Prince William Sound

Chugach Alaska Corporation
560 East 34th Avenue, Suite 200
Anchorage, AK 99503-4196
(097) 563-8866

9. Interior Alaska

Doyon, Limited
201 First Avenue, Suite 300
Fairbanks, AK 99701
(907) 452-4755

11. Kobuk Region

NANA Corporation
P.O. Box 49
Kotzebue, AK 99752
(907) 442-3301
or
1001 E. Benson Road
Anchorage, AK 99508
(907) 265-4123

6. Yukon-Kuskokwim Delta

Calista Corporation
601 West 5th Avenue, Suite 200
Anchorage, AK 99501-2225
(907) 279-5516

8. Cook Inlet Region

Cook Inlet Region, Inc.
P.O. Box 93330
Anchorage, AK 99509
(907) 274-8638

10. Kodiak Area

Koniag, Incorporated
4300 B Street, Suite 407
Anchorage, AK 99503
(907) 561-2668

12. SE Alaska

Sealaska Corporation
One Sealaska Plaza, Suite 400
Juneau, AK 99801-1276
(907) 486-1512

Appendix 3B: Villages by Native Regional Corporations in Alaska.

1. Ahtna Incorporated: Cantwell, Chistochina, Chitina, Copper Center, Gakona, Gulkana, Mentasta Lake, Tazlina.
2. Aleut Corporation: Akutan, Atka, Belkofski, False Pass, King Cove, Nelson Lagoon, Nikolksi, Saint George, Saint Paul, Sand Point, Unalaska, Unga.
3. Arctic Slope Regional Corporation: Anaktuvuk Pass, Atkasook, Barrow, Kaktovik, Nuiqsut, Point Hope, Point Lay, Wainwright.
4. Bering Straits Native Corporation: Brevig Mission, Council, Golovin, Inalik/Diomedea, King Island, Koyuk, Marys Igloo, Nome, Saint Michael, Shaktoolik, Shishmaref, Stebbins, Teller, Unalakleet, Wales, White Mountain.
5. Bristol Bay Native Corporation: Aleknagik, Chignik, Chignik Lagoon, Clarks Point, Dillingham, Egegik, Ekuk, Ekwok, Igiugig, Iliamna, Ivanof Bay, Kokhanok, Koliganek, Levelock, Manokotak, Naknek, Newhalen, New Stuyahok, Nondalton, Pedro Bay, Perryville, Pilot Point, Portage Creek, Port Heiden, South Naknek, Togiak, Twin Hills, Ugashik.
6. Calista Corporation: Akiachak, Akiak, Alakanuk, Andreefsky, Aniak, Atmautluak, Bethel, Bill Moores, Cheformak, Chevak, Chuathbaluk, Chuloolnik, Crooked Creek, Eek, Emmonak, Georgetown, Goodnews Bay, Hamilton, Hooper Bay, Kasigluk, Kipnik, Kongiganak, Kotlik, Kwethluk, Kwillingok, Lime Village, Lower Kalskag, Marshall, Mekoryuk, Mountain Village, Napaimiute, Napakiak, Napaskiak, Newtok, Nightmute, Nunapitchuk, Ohogamiut, Oscarville, Paimiut, Pilot Station, Pitkas Point, Platinum, Quinhagak, Red Devil, Russian Mission, Saint Marys, Scammon Bay, Sheldons Point, Sleetmute, Stony River, Toksook Bay, Tuluksak, Tuntutuliak, Tununak, Umkumiut, Upper Kalskag.
7. Chugach Alaska Corporation: Chenaga, English Bay, Eyak, Port Graham, Tatitlek.
8. Cook Inlet Region, Inc: Chickaloon, Knik, Eklutna, Ninilchik, Seldovia, Tyonek.
9. Doyon, Limited: Alatna, Allakaket, Anvik, Beaver, Bettles Field, Birch Creek, Chalkyitsik, Circle, Dot Lake, Eagle, Fort Yukon, Galena, Grayling, Healy Lake, Holy Cross, Hughes, Huslia, Kaltag, Koyukuk, Manley Hot Springs, McGrath, Minto, Nenana, Nikolai, Northway, Nulato, Rampart, Ruby, Shageluk, Stevens Village, Takotna, Tanacross, Tanana, Telida.
10. Koniag, Incorporated: Afognak, Akhiok, Kaguyak, Karluk, Larsen Bay, Old Harbor, Ouzinkie, Port Lions, Woody Island.
11. NANA Regional Corporation: Ambler, Buckland, Deering, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, Shungnak.
12. Sealaska Corporation: Angoon, Craig, Hoonah, Hydaburg, Kake, Kasaan, Klawock, Saxman, Yakutat.

Note that some villages are not part of a regional corporation. For example, Arctic Village lies within the Doyon Regional Corporation area, but is not part of that Corporation. The Regional Corporation should, however, be able to supply you with the addresses for such villages.

Appendix 4: Address for aquatic insect collecting permit in Alaska.

Director's Office
Division of Sport Fish
Alaska Department of Fish and Game
Capital Office Park
P.O. Box 25526
Juneau, AK 99802-5526

Appendix 5: Addresses for permit applications for Yukon and Northwest Territories, Canada.

1. Yukon

Director, Heritage Branch
Department of Tourism
Government of the Yukon
Box 2703
Whitehorse, Yukon Y1A 2C6
CANADA
(403) 667-5386

2. N.W.T.

Science Administrator
Science Institute of the Northwest Territories
Box 1617
Yellowknife, N.W.T. X1A 2P2
CANADA
(403) 873-7592 (voice)
(403) 873-0227 (FAX)

Early Capture of *Phoebis sennae* (Pieridae) in Rhode Island Indicating Historically Significant Early Migration in 1992

by Wm. David Garrahan, Jr.
Providence, Rhode Island

Known in Rhode Island from numerous late season records, the migratory Cloudless Sulfur, *Phoebis sennae*, normally visits Southern New England in the latter part of September and the earlier part of October. In Rhode Island, the travelers have primarily been seen on Block Island and around the mouth of Narragansett Bay reaching the limits of what is probably their farthest northward migratory extent in the northeast. More recent New York and Massachusetts lepidopteral records (Foster, 1994) indicate that *P. sennae* can arrive in the northeastern states in early August as well. In 1992, however, reports from the New York City area and eastern Maryland indicated that the yearly migration was in progress a full brood-period earlier than previously documented. A report from John Fales, in the 1992 "Season Summary" (Lepid. Soc. News, 1993) lists early Maryland records of *P. sennae* from 21.V.92 to 9.VI.92. This earlier record is a full month and a half before the previous early record for Maryland. This migration reached the New York City metropolitan area by 17.VI.92 in Doodletown, New York, also being sighted in East Brunswick, New Jersey on 8.VII.92 (Mulberry Wing, 1992). The first migrators to reach Rhode Island arrived by 4.VII.94, with an additional record for 5.VII.94. Oddly, no additional sightings were reported until late September (Pavulaan, pers.comm.). This is now the earliest date for the arrival of *P. sennae* in New England, predating previous Rhode Island records by a full two and a half months. Evidenced by a lack of reporting, not many noticed this premature migration into the area, perhaps because there are so few Lepidopterists in the vicinity. The two specimens were taken in East Greenwich, Kent County, Rhode Island, located in the center of the state, on the west side of Narragansett Bay. The two, a female taken on 4.VII.94 and a male on 5.VII.94, were apparently attracted to a rather large patch of non-native *Senna* (= *Cassia*) *marilandica* which had been planted in a residential garden. There was no evidence of breeding in this patch.

A possible explanation for this early flight phenomena was a mild winter and an unusually warm spring which the east coast experienced in 1992. Abnormally favorable winter conditions in the species' year-round breeding grounds in the Southeast could conceivably have allowed continued growth of host *Senna* spp. well into the winter, or spurred spring growth of the host exceptionally early in the year. An early-season heat wave hit South Carolina, bringing February temperatures into the 70's and 80's, normally not felt until April - two

months later! The butterfly, therefore, could have taken advantage of the extended breeding conditions, resulting in high population pressure much earlier in the season than normal causing strays to arrive early. This early population pressure could have been the impetus for the early migration, causing strays to arrive in the northeast much earlier than normal, as reflected in the 4-5.VII.94 records from Rhode Island. Perhaps those few Rhode Island naturalists who noticed the migration were gifted with the opportunity to see a one-in-a-lifetime premature "wave" of *P. sennae* into the area.

In addition, 1992 brought another unusual visitor to the state. On 15.VIII.92, a male *Phoebis philea* was taken in East Greenwich, Kent County, Rhode Island. Previously unknown to Rhode Island, the vagrant stray may have ended up in the state as a result of the same conditions that brought about the early migration of *P. sennae* mentioned above. A powerful flier, *P. philea* is known to stray far north of its natural breeding range in Florida. While no actual large-scale migratory movements have been documented in the eastern United States, individual strays have been taken in widely-scattered locations as far north as New York and as near as New London County, Connecticut. Unfortunately, not realizing the significance of the capture, *Phoebis philea* was released after an identification was made. However, the specimen was unmistakable *P. philea* having had the orange bars bordering the hindwing and a vertical bar crossing the forewing.

It was only after correspondence with Harry Pavulaan, the coordinator of the Rhode Island Butterfly Survey, that the importance and significance of these records was made apparent.

The *Phoebis sennae* specimens are deposited in the personal collection of the author. In addition, the *P. sennae* accounts are a Kent County record for the State of Rhode Island, while the *P. philea* account is a Kent County record and a new state record.

Literature Cited

- Forster, R. 1994. "1993 Cloudless Sulfur Flight." *Mass. Butt.* No. 3: pg. 16-18.
Mulberry Wing Field Reports. 1992. "Cloudless Sulfur Records."

In addition, I would like to thank Mr. Harry Pavulaan of Herndon, Virginia for his guidance and expert review of the manuscript.

The following notice was received by the Editor from Ron Nowak of the Fish and Wildlife Service. It announces a review of 27 swallowtail butterflies that are being considered for addition to the U.S. List of Endangered and Threatened Wildlife.

In his letter he states "Although the notice indicates that replies should be sent by September 7, 1994, that date is not critical. Information submitted until about November 1994 should be useful for this review, and new data are welcome anytime."

-Ed.

Endangered and Threatened Wildlife and Plants: Finding on Petition and Initiation of Status Review of 27 Foreign Butterflies

from the Federal Register/ Vol. 59, No. 89/ Tuesday May 10, 1994

50 CFR Part 17

ACTION: Notice of petition finding and status review.

SUMMARY: The U.S. Fish and Wildlife Service announces the 90-day finding that a petition to add seven kinds of foreign butterflies to the List of Endangered and Threatened Wildlife has presented substantial information indicating that the action may be warranted. A status review of these butterflies, together with 20 others that may be of similar concern, is initiated.

DATES: The finding announced herein was made on May 2, 1994. Comments and information may be submitted until September 7, 1994.

ADDRESSES: Comments, information, and questions should be submitted to the Chief, Office of Scientific Authority; Mail Stop: room 725, Arlington Square; U.S. Fish and Wildlife Service; Washington, DC 20240 (Fax number 703-358-2276). Express and messenger-delivered mail should be addressed to the Office of Scientific Authority; room 750, 4401 North Fairfax Drive; Arlington, Virginia 22203. The petition finding, supporting data, and comments will be available for public inspection, by appointment, from 8 a.m. to 4 p.m., Monday through Friday at the Arlington, Virginia address.

FOR FURTHER INFORMATION CONTACT: Dr. Charles W. Dane, Chief, Office of Scientific Authority, at the above address (phone 703-358-1708).

SUPPLEMENTARY INFORMATION: Section 4(b)(3) of the Endangered Species Act of 1973, as amended, requires that within 90 days of receipt of a petition to list, delist, or reclassify a species, or to revise a critical habitat designation, a finding be made on whether the petition has presented substantial information indicating that the requested action may be warranted, and that such finding be published promptly in the Federal Register. If the finding is positive, section 4(b)(3) also requires commencement of a review of the status of the involved species. The U.S. Fish and Wildlife Service (Service) now announces a 90-day finding on a recently received petition.

The petition was submitted by Ms. Dee E. Warena of Roseville, California. It was dated January 1, 1994, and was received by the Service on January 10, 1994. It requests that the following seven kinds of foreign swallowtail butterflies be added to the List of Endangered and Threatened Wildlife (50 CFR 17.11): *Teinopalpus imperialis*, *Eurytides marcellinus*, *Eurytides lysithous harrisiianus*, *Parides ascanius*, *Parides hahneli*, *Troides* (= *Ornithoptera*) *meridionalis*, and *Papilio esperanza*. It was accompanied by appropriate detailed data sheets from the World Conservation Union (IUCN) Red Data Book *Threatened Swallowtail Butterflies of the World* (by N. Mark Collins and Michael G. Morris, 1985). The seven butterflies are classified therein as endangered, vulnerable, or rare, mainly because of environmental disruption and overcollection.

Of the petitioned species, *Teinopalpus imperialis* is reportedly threatened by overcollecting and rapid destruction of the Himalayan mountain forests upon which it depends. *Eurytides marcellinus* has a very restricted breeding habitat in Jamaica, where its larval foodplants are being destroyed by cultivation. *Eurytides lysithous harrisiianus* has been eliminated by habitat destruction from all but one known site in southeastern Brazil, which itself is now under development. *Parides ascanius* is jeopardized by the drainage and development of its subcoastal swamp habitat near Rio de Janeiro. *Parides hahneli* is known only from three localities in Amazonian Brazil, with very specialized habitat, and is threatened by overcollection for commercial purposes. *Troides meridionalis* is threatened by the lumbering of its specialized rainforest habitat in New Guinea. *Papilio esperanza* is known only from one site in the cloud forest of Oaxaca, Mexico, and is vulnerable to overcollection.

The Service has examined the petition and supporting data, finds that substantial information has been presented indicating that the requested listing of the seven taxa of butterflies may be warranted, and now initiates a status review of these butterflies. In addition, the Service will take this opportunity to review the 20 other kinds of foreign swallowtail butterflies that are classified as endangered or vulnerable by the IUCN, and that are not now on the U.S. List of Endangered and Threatened Wildlife. Therefore, a total of 27 swallowtail butterflies, as designated below, are now under review.

<i>Teinopalpus imperialis</i>	Himalayas
<i>Eurytides marcellinus</i>	Jamaica
<i>Eurytides lysithous harrisiianus</i>	Brazil
<i>Eurytides iphitas</i>	Brazil
<i>Graphium levassori</i>	Comoro Islands
<i>Graphium sandawanum</i>	Philippines
<i>Battus zetides</i>	Hispaniola
<i>Parides ascanius</i>	Brazil
<i>Parides hahneli</i>	Brazil
<i>Parides burchellanus</i>	Brazil
<i>Parides</i> (<i>Atrophaneura</i>) <i>jophon</i>	Sri Lanka
<i>Parides</i> (<i>Atrophaneura</i>) <i>schadenbergi</i>	Philippines
<i>Troides dohertyi</i>	Talud (Indonesia).
<i>Troides</i> (<i>Ornithoptera</i>) <i>meridionalis</i>	New Guinea.
<i>Troides</i> (<i>Ornithoptera</i>) <i>croesus</i>	Moluccas (Indonesia)
<i>Papilio esperanza</i>	Mexico
<i>Papilio himeros</i>	Brazil
<i>Papilio maraho</i>	Taiwan
<i>Papilio osmana</i>	Philippines
<i>Papilio carolinensis</i>	Philippines

Papilio moereri
Papilio benguetanus
Papilio phorbanta
Papilio desmondi teita
Papilio morondavana
Papilio leucotaenia
Papilio neumogeni

New Ireland (PNG)
 Philippines
 Reunion Island
 Kenya
 Madagascar
 Central Africa
 Sumba (Indonesia)

The Service encourages the submission of appropriate data, opinions, and publications regarding these butterflies, as well as other kinds of foreign swallowtails that may warrant consideration for addition to the List of Endangered and Threatened Wildlife. In accordance with section 4(b)(3) of the Act, within 12 months of receipt of the petition,

the Service will make another finding as to whether the requested listing of seven kinds of butterflies is warranted, not warranted, or warranted but precluded by other listing measures, and may also announce decisions with respect to other kinds of butterflies.

Authority: 16 U.S.C. 1531-1544

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

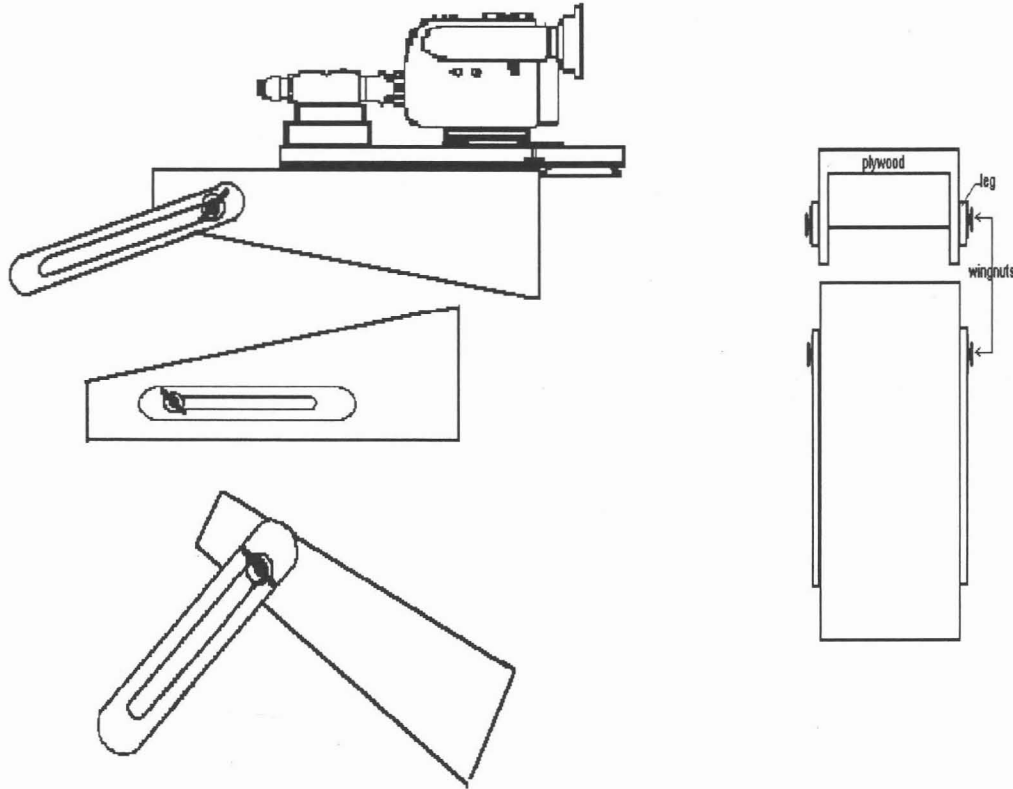
Dated: May 2, 1994.

Mollie H. Beattie,
 Director, Fish and Wildlife Service.
 [FR Doc. 94-11256 Filed 5-9-94; 8:45 am]



A Base Designed for use With Video Microscope for Work Near Ground

by Ryk P. Spoor
 Albany College of Pharmacy

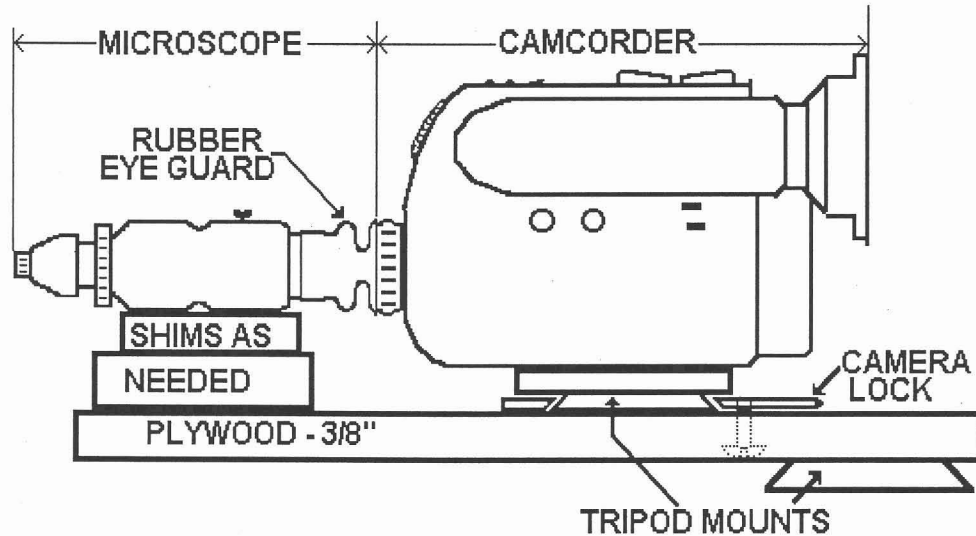


The drawings above are of a base I made for working on or very close to the ground with the videocamera-microscope. Most of the material I have been documenting is from 0" to 10" above the ground. While there are tripods which lie flat - the legs tend to get in the way. This device is made from plywood, with two wing nuts to lock the legs in position. I have shown above the stand with the camera in place in one of the positions of the stand, and two other positions of the stand. It can be set from pointing almost straight down to up about 10". How

high depends on the working distance of the camera. I hope the drawings are enough for you to build one. I am certain the design could be improved upon. It has two advantages over tripods. (1) It takes very little space on the ground when in use. (2) It is extremely stable - very important when using higher powers of the microscope. The main disadvantage of my whole system is difficulty in pointing and focussing quickly. I have missed a few good events because I could not get set up quickly enough.

Microscope - Camcorder Arrangement for Field Use

by Ryk P. Spoor
Albany College of Pharmacy



The camera is a Nikon 8mm compact camera. Actually any camera will do, but the compact ones are much easier to handle in the field. My original microscope was a large stereo unit made by Bausch and Lomb. It worked well but was very heavy and clumsy to use. The microscope I now use is from Edmund Scientific (Model D72,528). It is a monocular microscope with a very wide field eyepiece and relatively large field of view. This makes it couple with the camera with relative ease. The tripod mounts can be purchased or made easily from plexiglas or Lexan. The rubber eye guard on the microscope makes a good seal with the camera lens, keeping out most of the light and dirt. The main structure is made from plywood, as are the shims for the microscope. The camera lock is an eccentric cam with a short handle. Some care is necessary to get good alignment of the optics, but for most purposes this need not be perfect, and the

locks are somewhat flexible. Focusing can be done by moving the unit or by using the focusing mechanism of the camera. It is also possible to mount the microscope on a rack which would allow focusing, but would also alter the field of view as the microscope moves closer or farther from the camera. Focusing is not easy, since one has to use the viewfinder in the camera to do it. My camera does not have a color viewer; this is a distinct disadvantage for it is sometimes very difficult to see the subject against the background. The major advantage of the camcorder is its ability to operate in extremely low light levels. I have taken pictures using a flashlight (the only light available) with fair success. The 8mm cameras can record 2 hours of fairly high quality color pictures. Extra batteries for the camera are a must. I highly recommend the use of this arrangement for documenting or studying the behavior of small organisms in the field.

Just For Fun

Here is a list of newly-coined common names for a few of our North American butterfly that may be of some interest

Megathymus yuccae
Euchloe olympia
Colias pelidne skinneri
Mitoura johnsoni
Piebejus shasta spangelatus
Speyeria mormonia opis
Chlosyne gabbii
Texola elada perse
Euphydryas chalcedona corralensis
E. c. colon
Polygonia interrogationis
Cercyonis pegala boopis

The Comic Giant Skipper
Brewer's Marble
Mule's Sulphur
The Waxed Hairstreak
The Stars -and-Stripes Blue
Mozart's Fritillary
Hayes' Checkerspot
The Sweepstakes Checkerspot
The O.K. Checkerspot
The Aftershave Checkerspot
The Watergate Anglewing
Betty's Satyr





This column is dedicated to sharing ideas and techniques on any aspect of lepidopterology. Please send anything you feel our readers would enjoy to me at Dept. of Biology, University of Louisville, Louisville, KY 40292-0001.

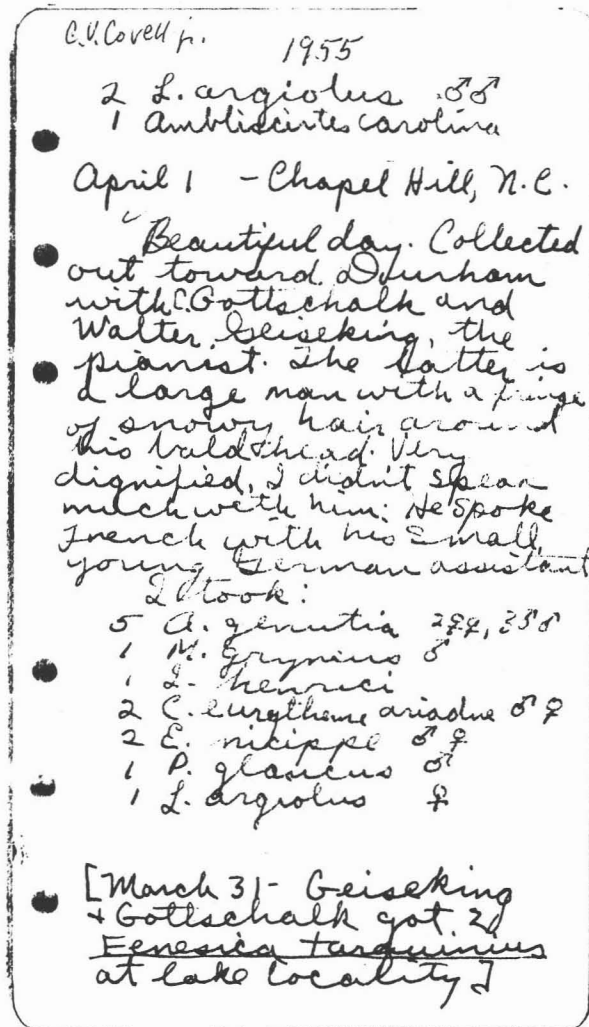
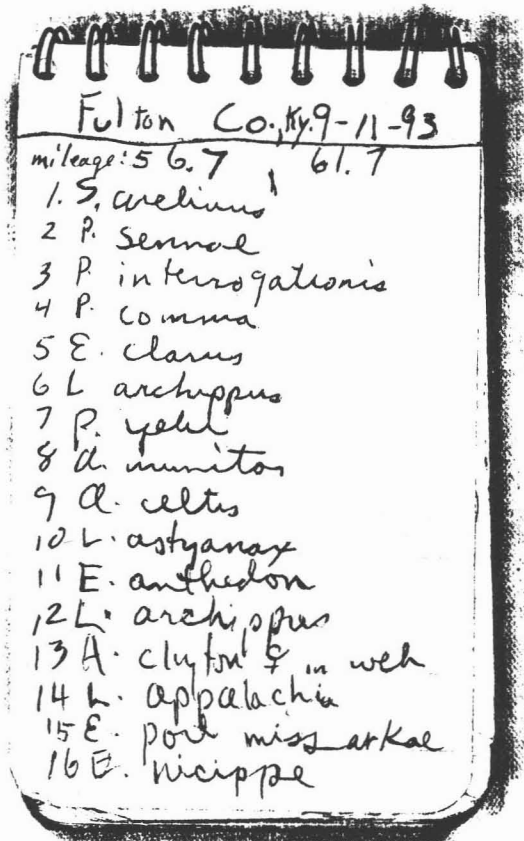
Field Notes

In addition to proper labelling, a scientifically oriented lepidopterist will keep notes of observations made while in the field. If you continue in this pursuit for many years, these notes are indispensable.

You might wish to take a small notebook with you in the field. I used to use a small 3-ring binder, but now use a spiral notepad. You can even get these with waterproof pages (from BioQuip and other sources of field equipment). Enter the date, place, climatic conditions, Lepidoptera seen and their abundance, any plants noted as visited by butterflies and moths, any larval foodplants detected, habits of Lepidoptera, environmental changes, and photo data (lens aperture, wetting, film speed, etc.) when taking photos (as basis for improvement). One purpose for my notes is to construct annotated checklists of the species in a given area. For example, I hope to write

up my observations of the butterflies of North Carolina, 1949-1993, and would be lost without the notes I began keeping in 1950. Specimens, of course, provide much data if properly labelled. But that is no help with species observed but not collected. And other information will be very useful too.

When I am on field trips locally, I return to my computer to enter field notes. I usually have a piece of paper, or a printed checklist of the state's butterfly fauna in my pocket. I just tick off the species on the checklist, add the date and locality in spaces provided, and use that to copy into my computer records. This is especially useful now that I do more "watching" and "counting" than collecting. Then I can print out copies of pages to send parks and preserves where I have visited and have been asked to report what I find; or print data on observations for colleagues who want to know about some species or locality; or print out appropriate pages to include in newsletter reports, as in the *Kentucky Lepidopterist*; or print lists for the Field Season Summary reports each year. I keep a notebook with each year's printed field notes, now 43 years' worth!



Do You See All You Want to See?

by Dave Winter



All lepidopterists, as the years roll by, gradually lose the ability to focus for close vision and must resort to the use of supplementary plus-lenses. For those already wearing glasses, the recommended solution is usually bifocals. These are useful to a degree, but there is always a region between the near and the distance focal areas where it is not quite possible to focus sharply --- and that is where the lesser leps and larvae largely lurk. In addition, as you look over the data labels in the drawer of specimens on the table in front of you, those at the near edge of the drawer are readable, while those at the far edge are not quite. Trifocals are not a satisfactory solution.

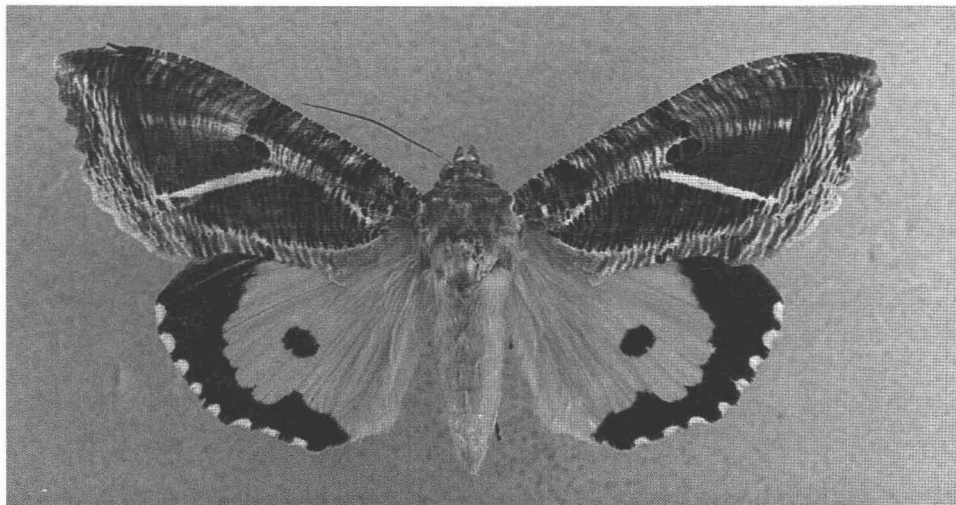
Enter the "variable bifocals," sold under various trade names. They are marketed "so that you don't look as though you are wearing bifocals", with an appeal to vanity rather than vision. In reality, "you don't see as though you are wearing bifocals" --- instead you can focus sharply on anything from near to far.

The upper half of the lens is ground to your distance prescription. An invisible "alley" down the middle of the lens below that, through some kind of computerized magic, is ground so that it gradually incorporates your near prescription, from nil at the equator of the lens, to full at the bottom. The wearer takes advantage of this variation by tipping his head very slightly up or down to achieve just the right focus for the distance he is viewing. This adjustment quickly becomes automatic and unconscious: the manufacturers say it takes two or three days. I found that it took two or three hours. While the "alley" may seem to be narrow, it is entirely satisfactory for reading full-width pages, because it widens a bit near the bottom.

Variable bifocals cost significantly more than regulars, but the benefits, in terms of photography, collecting, and dealing with collections cannot be measured in dollars. At your next prescription change, they are worth serious consideration (and I don't own stock in Titmus or American Optical!)

Wisconsin Mystery Moth

by Les Ferge
Middleton, WI 53562



An extraordinary moth record from Wisconsin was brought to my attention in late September 1993 by Mike and Julie Van Stappen, of the Apostle Islands National Lakeshore. In the early morning hours of September 12 while preparing to do a migratory bird count on Outer Island, the northeasternmost of Lake Superior's Apostle Islands, they caught the specimen of *Eudocima materna* (L.) illustrated in the accompanying photo as it fluttered around the Coleman lantern in their tent. With a 98 millimeter wingspread (almost 4 inches), this moth is significantly larger than any of the local *Catocala* species. Its shiny gray-brown forewings and striking orange and black hindwings signaled its alien origin, even to observers not well acquainted with moths.

Little information on U.S. occurrences of this moth has been published. Brief mention of the species (as *Ophideres materna*) is made by Holland (1903) and Kimball (1965). Both authors state that *materna* is a stray from the tropics, occasionally turning up in Florida. Given only that information, its presence on an island in Lake Superior is most baffling. It seems most plausible that the moth or pupa was a stowaway on a ship that had passed through the tropics, destined for Duluth-Superior via the St. Lawrence Seaway and the Great Lakes. It likely escaped from the ship only to become marooned on the

nearest island, where cold temperatures undoubtedly inhibited its activity. Its remarkably good condition (despite being mailed in a film canister) would support the contention that it had not flown far.

It also seems remotely possible that the moth could have flown north, possibly aided by strong winds or storm systems. Some of its close *Catocala* relatives are known to stray far north of their breeding range. For example, *Ascalapha odorata* (Black Witch), *Thysania zenobia* (Owl Moth) and *Alabama argillacea* (Cotton Leafworm) have been recorded a number of times in Wisconsin, and some of these specimens are in surprisingly good shape for the distance they must have travelled.

I would welcome any information regarding other occurrences of *materna* in the U.S., which may shed additional light on this mystery.

LITERATURE CITED

- Holland, W. J. (1903). *The Moth Book*. Doubleday, Page and Company, New York.
Kimball, Charles P. (1965). *The Lepidoptera of Florida*. Division of Plant Industry, Florida Dept. of Agriculture.

Back From The Brink!

An article was forwarded to me from former NEWS Editor June Preston. This is taken from an article written by Marla Cone of the Los Angeles Times and was dated March 30 1994.

"Rising from the dead to dispute its own obituary, a fragile blue butterfly believed to have been extinct for more than a decade has been rediscovered on Navy land in San Pedro" It's the Palos Verdes blue...long thought to have been wiped out by encroaching development! About 100 individuals have been found frequenting a pocket of deer weed at a fuel depot next to an oil refinery!

"Ironically, the same scientist who had originally reported them extinct discovered earlier this month that the Palos Verdes Blue is still alive. Rudi Mattoni had all but given up hope and had reported last year that the butterfly was "now certainly extinct". However...on March 10, Mattoni and two other researchers were at the Navy's Defense Fuel Supply Point --which had never been investigated for butterflies -- to trap insects as part of a biological survey of the Palos Verdes Peninsula."

"At the time, bulldozers were digging up the area to replace part of a Chevron pipeline that runs through to the harbor. Suddenly one of the entomologists spotted a butterfly and shouted for the others. They identified three of the Palos Verdes Blues on the spot.

"Mattoni asked Chevron's plant manager to stop the maintenance work, and he complied immediately. The next day Mattoni went back and saw a dozen more of the butterflies, and in the past few days the discovery has been verified by entomologists at the U.S. Fish and Wildlife Service"

David Klinger of the U.S. Fish and Wildlife Service said the federal agency routinely leaves species on the endangered list for years. "You never want to remove them totally from the list unless you are certain that all hope is gone," because once they are declared extinct it leaves them unprotected should the species reappear. Land owners and developers in the Palos Verdes area had hoped the butterfly would be delisted and declared extinct. This would have enabled them to develop their land much faster.

The field of deer weed where the butterfly was rediscovered is one of a few fragments (a few acres total) of undisturbed natural habitat left on Palos Verdes Peninsula.

Mattoni and John Hanlan, branch chief for federal projects at the Fish and Wildlife Service in Carlsbad, California both agree they are confident that vegetation in the area can be fairly easily restored so the butterflies can survive.



Going to Costa Rica? Check This Out.



A fax transmission was received by former Society Secretary Dave Winter regarding a Reforestation Project.

The Finca La Suerte Reforestation Project is located 18 kilometers west of Tortugero National Park, 30 kilometers South from Barra Colorado National Reserve. Their objective is tropical lowland rainforest reforestation, research station and Eco-Tourism Facilities.

La Suerte is located in the Northeast region of Costa Rica, Central America. The farm's topography is composed of 900 acres of cattle pasture, 700 acres of forest and 3-4 kilometers of Rio La Suerte, a beautiful flowing river in the area. There are well established primary and secondary rain forests running along the river banks.

In the mid 1970's the logging industry abandoned its home in the area, leaving 700 acres of forested area. The forest itself and 3-4 kilometers of the river had been made available for the exclusive use of educational endeavors, scientific research and ecotourism. The farm is suitable for kayaking, hiking, mountain biking, astronomy, bird watching, etc. Rio La Suerte is a tributary of Tortugero National Park, Barra Colorado Natural Reserve and Rio Colorado; the latter can be reached by kayaks or motor vehicles.

There are housing facilities, electricity, well water, all-weather roads, soccer field, corrals, phone lines and fences. If you are interested in participating in maximizing Finca La Suerte's potential in becoming a well established ecological reserve contact Mr. Rene Molina at Finca La Suerte [phone numbers in Costa Rica (506) 71-68-56 & 71-69-19] or Alvaro Molina, 9439 Fountainbleau Blvd. #207, Miami, FL 33172. phone (305) 221-8329.

On site visits are welcome! So if you are in the neighborhood, visit this place and let us know about it.

New Endangered Species Regulations Help Lepidopterists in Ohio

by Eric Metzler

The Ohio Department of Natural Resources (ODNR), Division of Wildlife, in cooperation with The Ohio Lepidopterists, announced a change in the Ohio Wildlife Regulations that will allow Lepidopterists to retain specimens of butterflies and moths that are declared to be endangered in Ohio. The announcement recognizes the close cooperation of the ODNR, Division of Wildlife and The Ohio Lepidopterists in providing the data that contributed to the Division of Wildlife's understanding that some species are imperiled in Ohio. The change in the Ohio Wildlife Regulations was made to encourage members of The Ohio Lepidopterists to continue their research in Ohio.

In making the announcement, Richard B. Pierce, Chief of the Division of Wildlife, said "I consider the information provided to the ODNR, Division of Wildlife by The Ohio Lepidopterists, on the status of moth and butterfly populations, to be vital in managing and protecting this important segment of Ohio's wildlife. It is certainly in the Division's best interest to facilitate the collection of information by those who are qualified and motivated to do so. A second key factor is ensuring that there is close cooperation in the sharing of data and development of protective strategies."

Ohio's Division of Wildlife and The Ohio Lepidopterists society continue to be leaders in recognizing the mutual benefits of working together. It is not easy to chart a course that appears to contradict popular thinking pertinent to protecting endangered species, but the rules of protection, that were not developed with insects in mind, can be recreated to encourage participation by the persons most capable of monitoring populations of butterflies and moths, lepidopterists. Although it is not easy to recast long held ideas, openness to new ideas, while recognizing the sincerely held beliefs of traditional thinking, can lead to a new way of doing things.

The new rules for Ohio took effect on 15 May 1994. The revised language states: "It shall be lawful for any persons to collect and possess the following wild animals for their own personal use. It shall be unlawful to sell, barter, trade, or offer for sale any wild animal, or parts thereof, listed in this paragraph:" The paragraph proceeds to list most of Ohio's endangered butterflies and moths. Species that are protected by federal regulations are not effected by Ohio's change.

"We've made a lot of progress toward conservation of lepidopterans in Ohio," said Pierce. "There is still a tremendous amount of work still to be done. With our united efforts, I am confident that progress will continue to be made." The action by the Division of Wildlife to modify their regulations are part of the partnership.

The Ohio Lepidopterists society conducted a six year Comprehensive Survey of Moths and Butterflies in Ohio for the ODNR, Division of Wildlife. During the survey, which ran from 1986 through 1992, The Ohio Lepidopterists accumulated nearly 100,000 individual records of butterflies and moths in Ohio. The Ohio Lepidopterists discovered that several species of butterflies and moth were endanger of being extirpated from Ohio due to threats to critical habitats. Two major publications, Butterflies and Skippers of Ohio, and The Owllet Moths of Ohio, also came from the six year effort. As part of the survey, The Ohio Lepidopterists also own and curate a synoptic collection of Ohio's butterflies and moths at The Ohio State University Museum of Biological Diversity.

For more information, you may contact: The Ohio Lepidopterists, 1241 Kildale Sq. N., Columbus, Ohio 43229-1306.



News From Europe

by Willy DePrins

In order to promote the journal *Nota lepidopterologica* published by the SEL (Societas Europaea Lepidopterologica) the contents of its 16th volume (1993) are given hereunder. Book reviews are not mentioned in this list.

Number 1 :

Baldizzzone, G. & Landry, J.-F.: *Coleophora cratipennella* Clemens, 1864 and *C. tamesis* Waters, 1929, two distinct species (Coleophoridae). p. 2-12.

Fauchieux, M.J.: Uniporous pegs associated with sensilla auricillica on the antennae of Noctuidae (Lepidoptera). p. 13-17.

Fibiger, M.: *Autographa gamma* (Linnaeus, 1758) (= *A. messmeri* Schadewald, 1992, syn.n.; = *A. voelkeri* Schadewald, 1992, syn.n.) and *Phlogophora meticulosa* (Linnaeus, 1758) (= *P. lanii* Schadewald, 1992, syn.n.) (Lepidoptera, Noctuidae). p. 18-22.

Hausmann, A.: *Heterolocho xerophilaria* Püngeler, 1902 - ein Synonym von *Pseudosterrha rufistrigata* (Hampson, 1896), comb.n., mit weiteren Anmerkungen zur Systematik der Sterrhinae (Lepidoptera, Geometridae). p. 23-33.

Häuser, C.L.: Critical comments on the phylogenetics relationships within the family Papilionidae (Lepidoptera). p. 34-43.

Huemer, P.: Europäische Arten der Gattung *Thiotricha* (= *Reuttia*) (Lepidoptera : Gelechiidae). p. 44-56.

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Park, K.T.: Notes on *Chorivalva* and *Stenolechia* species in Korea, with new synonyms (Lepidoptera, Gelechiidae). p. 281-289.

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Letter to the Editor

Conservation Worldwide
Compton House, Sherborne
Dorset, DT9 4QN, ENGLAND
Tel: 0935 74608
FAX: 0935 29937

Dear Ms McKown,

I read in the Society News that it is to be policy not to allow Ornithoptera to be the subject of advertisements. I do understand the feeling behind the regulation, but I thought I should draw to your attention the Worldwide Fund for Nature (WWF) Arfaks Butterfly Farming project in Irian Jaya, Indonesia. I am acting as Consultant to WWF and have been out there to help the local people develop the Agency that encourages the mountain village people to breed six species of Ornithoptera and Troides, which has the effect of giving the people incentive to earn a living from this and thus avoid cutting down

and burning parts of the rainforest for growing rather meagre crops. The butterflies are ranched and the activity is showing signs of encouraging the populations of these butterflies rather than causing them any harm. Thus one achieves the object of providing a living not only for the native villagers, but for the people who operate the Agency that sells the pupae and specimens, the rainforest is given valuable protection and so are the butterflies. This scheme includes the endemic *Ornithoptera rothschildi* which was always considered to be an extreme rarity until it was bred for sale. You will, of course, also be aware of the Insect Farming and Trading Agency at Bulolo in Papua New Guinea, where I have also been acting as consultant in the past.

Both these Agencies are set up and run legitimately and under professional guidance. I wonder whether the Lepidopterists' Society Council would reconsider the restriction on listing these species in advertisements, in view of the importance of these schemes which, though entailing commerce, are contributing considerably to the ecology and social improvement in these developing countries.

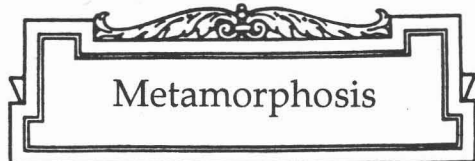
I am directly assisting WWF Indonesia in establishing markets across the world and would consider it would be a responsible move if the Lepidopterists' Society would permit this legitimate trading in the interests of both the local people and the environment.

I also take this opportunity to send you details of our newly established Registered Charity, CONSERVATION WORLDWIDE, through which we are raising public awareness of conservation initiatives across the world and guiding public opinion in the direction of environmental issues.

Sincerely,

Robert Goodden
Joint Hon. Director

Ed. note: The Lep Soc. NEWS ran an article by Larry Orsak in the May/June 1993 issue detailing the efforts of the Insect Farming and Trading Agency at Bulolo, PNG. All Ornithoptera, Trogonoptera and Troides are listed on CITES appendix 2. All those species may be imported, but must be accompanied by an export permit from the country of origin. Lepidopterists' Society advertisers are notified that they must provide a copy of export permit to purchaser. This reflects a change in the advertising policy allowed for Marketplace Ads.



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

Anthony J.W. Owston...

of Kent, England. Mr. Owston had been a member of the Society since 1970, and became a Life Member in 1976.

Mrs. Roland Schmidt...

of Lakewood, Colorado, member since 1974.

John M. Snider...

of San Pedro, California, on 2 May 1994, at the age of 88. John had been a member of the Society since 1961, and had served as Treasurer from 1975 to 1977.

John B. Warner...

of Richland, Washington. Mr. Warner had been a member since 1989.



Announcements and Notices



Springtime in Australia

A Natural History Tour escorted by lepidopterist/birder Julian Donahue and botanist Bob Gustafson, 7-22 October 1994, will explore the rainforest of Queensland (including a visit to Kuranda Butterfly Sanctuary), the Great Barrier Reef in two places (including Fraser Island), Lamington National Park, and Grampians National Park, with optional extension to Alice Springs and Ayers Rock. (Note: this is a study tour, definitely not a collecting trip, devoted to observation and photography of all aspects of natural history.) Land and air package from Los Angeles (includes many meals) \$4,050 per person (price reduced since earlier announcement). More info toll-free from Geostar Travel, 1-800-624-6633.

New Membership Directory in Preparation

The next issue of the Society's Membership Directory (published every two years) will be mailed in late 1994 as News #6. If you have moved during the last two years, we may not have your new telephone/fax/e-mail numbers. You may also wish to revise your list of interests or rescind a previous request to omit your name, address, or phone number. Remember, members will be using this Directory for two years. **DEADLINE FOR RECEIPT OF CHANGES IN YOUR DIRECTORY LISTING: 14 October 1994!!** Send all revisions and corrections of your listing to Julian Donahue, Natural History Museum, 900 Exposition Blvd., Los Angeles, CA 90007-4057. All information is entered in the computer as it is received. For an acknowledgement that changes have been made, send self-addressed, stamped envelope (if you want your request returned) or postcard.

JCZN

The following opinions were published on 30 June 1994 in Vol. 51, Part 2 of the *Bulletin of Zoological Nomenclature*.

OPINION 1773. *Nacaduba* Moore, [1881] (Insecta, Lepidoptera): given precedence over *Pepliphorus* Hübner, [1819]

OPINION 1774. *Catocala commubialis* Guenée, 1852 (Insecta, Lepidoptera): specific name conserved

The Lepidopterists' Bookshelf



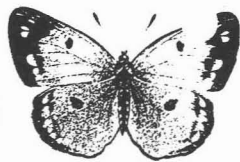
RECENTLY PUBLISHED BOOKS

Abadjiev, Stanislav. 1992. **BUTTERFLIES OF BULGARIA. PART I: PAPILIONIDAE & PIERIDAE.** Veron Publishers, P.O. Box 91, Sofia 1408, Bulgaria. 91 pages. Softcover, 13.5 x 21.5 cm, ISBN 954-8225-02-6, \$15.00 U.S. postpaid.

This book is the first of a planned seven-part monograph on Bulgarian butterflies. It contains some introductory chapters on the country of Bulgaria, its history of research, as well as a complete systematic list of the species of the families Papilionidae and Pieridae. The book ends with an exhaustive bibliography covering

the period from 1758 to 1991.

[Currently being reviewed for the *Journal*.]



Abadjiev, Stanislav. 1993. **BUTTERFLIES OF BULGARIA. PART II: Nymphalidae: Libytheinae & Satyrinae.** Veron Publishers, P.O. Box 91, Sofia 1408, Bulgaria. 127 pages, 16 color plates. Softcover, 13.5 x 21.5 cm, ISBN 954-8225-04-2, \$18.00 postpaid.

This is the second of the planned seven-part monograph on Bulgarian butterflies, containing a complete systematic list of the species of the subfamilies Satyrinae and Libytheinae. The illustrations include 16 color plates of habitats and mounted specimens (including some types). The author is a Bulgarian, who was graduated from Sofia University with a BSc in Entomology in 1991. He now works as a computer operator at VEREN Publishers, Sofia.

[Currently being reviewed for the *Journal*.]

Ackery, P. R., C. R. Smith & R. I. Vane-Wright (Eds.). 1994. **CARCASSON'S AFRICAN BUTTERFLIES. An Annotated Catalogue of the Papilionoidea and Hesperioidea of the Afrotropical Region.** The Natural History Museum, London, U.K. 400 pages, 300 illustrations. Hardcover, 29.7 x 21 cm, ISBN 0-643-05561-4, \$140.00 U.S. Available from CSIRO Publications, P.O. Box 89 (314 Albert Street), East Melbourne, Victoria 3002, Australia OR Apollo books, Kirkeby Sand 19, DK-5771 Stenstrup, Denmark (add 10% for p&h).

Touted as the first ever comprehensive catalogue to the entire butterfly fauna of the Afrotropical region, this book covers 3593 species in 300 genera, roughly 20% of the world butterfly fauna. All genus-group, species-group, and infrasubspecific names applied to the Afrotropical butterfly fauna are included (a total of about 14,000 names) and the sequence of families, subfamilies, tribes, and genera reflects current knowledge of classification. For each species, information is provided on distribution, habitats, and known larval foodplants. However, fewer than 10% of the species are illustrated --- the 300 photographs show only one representative species from each of the 300 genera. Complementing the catalog is a comprehensive introduction, with sections on general behavior, biogeography, and early stage biology, together with a gazetteer and a list of regional works; a comprehensive bibliography; and an index.

Balint, Zsolt. no date. **A CATALOGUE OF POLYOMMATINE LYCAENIDAE (LEPIDOPTERA) OF THE XEROMONTANE OREAL BIOME IN THE NEOTROPICS AS REPRESENTED IN EUROPEAN COLLECTIONS.** Reports of the Museum of Natural History, University of Wisconsin, Stevens Point, No. 29. 42 pages, 4 halftone plates illustrating 125 specimens; *and* **COMMENTS AND ADDITIONS CONCERNING THE RECENT "CATALOGUE" OF NEOTROPICAL POLYOMMATINE LYCAENIDAE.** Reports of the Museum of Natural History, University of Wisconsin, Stevens Point, No. 42. 4 pages. Softcover, 21.5 x 27.5 cm, no ISBN. Available bound together from the author: Zsolt Balint, Zoological Department, Hungarian natural History Museum, H-1088 Budapest, Baross u. 13, Hungary. Price unknown.

Balint's paper is the first review of the neotropical polyommata lycaenids since that of Vladimir Nabokov in 1945, and provides new taxonomic and biogeographic data based on specimens deposited in various European museums. Forty-eight species are recognized, of which 21 were described by Balint (either alone or with Kurt Johnson). In fact, this publication describes 6 new species and one new genus, and, in addition, presents 14 new combinations or new status. Lectotype designations are made for 11 species. There are 90 photographs of specimens, each showing upper and lower wing surfaces, and 32 rather crude drawings or photographs of male genitalia.



Bernays, Elizabeth A. (Ed.). 1994. **INSECT-PLANT INTERACTIONS, VOLUME V.** CRC Press, Inc., 2000 Corporate Blvd., N.W., Boca Raton, Florida 33431. Hardcover, 16 x 23 cm, ISBN 0-8493-4125-6, \$169.95 (\$204.00 outside U.S.A.).

The seven chapters in this, the most recent volume of the series, cover a broad range of topics, including chemical changes in plants as a result of insects feeding on their leaves, avoidance of host plants by tephritid flies as a result of the presence of other flies, effects of floral volatiles in insect biology, endophytic fungi as mediators of plant-insect interactions, the cost of chemical defense against herbivory, life history traits of insect herbivores in relation to host quality, and a review of physicochemical conditions of the insect gut lumen from an ecological perspective.

Bernays, E. A. & R. F. Chapman. 1994. **HOST-PLANT SELECTION BY PHYTOPHAGOUS INSECTS.** Contemporary Topics in Entomology, Chapman & Hall, Ltd. 296 pages, 153 figures, 14.8 x 21 cm. Hardcover (ISBN 0-412-03111-6): £ 57 (about \$86 U.S.); Softcover (ISBN 0-412-03131-0): L 25 (about \$38.00 U.S.).

This book surveys the behavior of host-plant selection by plant-feeding insects. The chemical features of plants that determine host selection are identified and the sensory systems insects use to make selections are discussed. Other topics include genetic variation host selection and evolution of host range. A glossary of terms is included.

Blandin, Patrick. 1993. **THE GENUS MORPHO, PART 2.** (English translation by Brian Morris). Sciences Nat, 2, rue Andre Mellenne, 60200 Venette, France. 98 pages, maps 7-14, color plates 21-36. Softcover, 25 x 33 cm, ISBN 2-85724-65-1, £ 98 (about \$147.00 U.S.). Available from E. W. Classey Ltd., P.O. Box 93, Farringdon, Oxon SN7 7DR, England.

This slim but oversized softcover book continues coverage of the genus *Morpho* begun in 1988 with the publication of Part I. Part II covers the subgenera *Iphixibia*, *Cytheritis*, *Balachowskyna*, and *Cypritis*. Two more volumes in the series are planned.

[To be reviewed in the *Journal*.]

Buning, J. 1994. **THE INSECT OVARY: ULTRASTRUCTURE, PREVITELLOGENIC GROWTH AND EVOLUTION.** Chapman & Hall, Ltd. 370 pages, 60 line drawings, 61 halftone figures. Hardcover, 23.4 x 15.6 cm, ISBN 0-412-36080-2, £ 47 (about \$71.00 U.S.). Available from E. W. Classey Ltd., P.O. Box 93, Farringdon, Oxon SN7 7DR, England.

This review volume summarizes what is known about the cytology, morphology, phylogeny, and genetics (meiosis, sex chromosomes and determination, pathenogenesis) of ovarian structure and function. It is aimed at pure and applied scientists and is written with the needs of the pharmacological and chemical industries engaged in insect pest control in mind.

Common, Ian F. B. 1994. **OECOPHORINE GENERA OF AUSTRALIA I. THE WINGIA GROUP (LEPIDOPTERA: OECOPHORIDAE).** Monographs on Australian Lepidoptera, Volume 3. CSIRO Publications. i-xvi & 390 pages, 712 halftone figures. Hardcover, 18 x 26 cm, ISBN 0-643-05524-X, \$100 Australian (in Australia); \$100 U.S. outside of Australia. Available from CSIRO Publications, 314 Albert Street (P.O. Box 89), East Melbourne, Victoria 3002, Australia; and from Apollo Books, Kirkeby Sand 19, DK 5771 Stenstrup, Denmark.

Australia has the richest fauna in the world of the Lepidoptera subfamily Oecophorinae, commonly known as mallee moths. Australian Oecophorinae represent about a fifth of all Australian Lepidoptera and probably over 70% of the world fauna of the

subfamily. In fact, the Oecophorinae, with 5500 species (2277 named) in 275 genera (170 named) are the second most species-rich family group of living organisms on the Australian continent. This, the first volume of a three volume monograph on the Australian fauna, treats 91 genera (35 described as new!) of the *Wingia* group, most of which are endemic, and 500 species. The Australian species are largely dependent on *Eucalyptus* and other Myrtaceae and the book provides the first informative account of the biology and pest status of the Australian genera. There are copious illustrations of adult moths, venation, genitalia, and other features.

[To be reviewed in the *Journal*.]

Corbet, Steven A. & H. M. Pendlebury. 1993. **THE BUTTERFLIES OF THE MALAY PENINSULA**. Fourth Edition revised by J. N. Eliot. The Malayan Nature Society, Kuala Lumpur. 595 pages, 64 color plates, 6 halftone plates. Hardcover, 19 x 25 cm. Available from Southdene Sdn. Bhd, P.O. Box 10139, 50704 Kuala Lumpur (\$96 U.S. incl. p&h; make check payable to Horan & Devlin) or from BioQuip Products, Inc., 17803 LaSalle Avenue, Gardena, CA 90248 (\$61.50)

This update of the third edition (1978) boosts the number of species recorded from the Malay Peninsula from 1008 to 1031. Following the layout and pattern of earlier editions, there is a general text describing the main characteristics of each genus and most of the better known species, including their habits and early stages. There are detailed but simple keys to all families, subfamilies, genera, and species. One new species and five new subspecies are described. All species known to occur in the Peninsula are illustrated on 64 color plates, with an additional 146 text-figures to illustrate external structures, such as venation, and 455 figures of genitalia. A new section based on the work of the late Lt. Col. C.F. Cowan has been incorporated, consisting of an alphabetical listing by author of all the original scientific descriptions of the species occurring in the Peninsula, facilitating the accurate dating of many complicated nineteenth century taxonomic works.

[Currently being reviewed for the *Journal*.]



D'Abrera, Bernard. 1993. **BUTTERFLIES OF THE HOLARCTIC REGION, PART III. Nymphalidae (concl.), Libytheidae, Riodinidae & Lycaenidae**. Hill House, Victoria, Australia. 524 pages, 1950 color figures. Hardcover, 26 x 35 cm, ISBN0-947-352-20-1, \$240 U.S. Available from BioQuip Products, Inc., 17803 LaSalle Avenue, Gardena, CA 90248.

This is the latest volume in D'Abrera's lavishly illustrated, but overpriced, underdocumented, and inconsiderately designed series that summarizes the World's butterfly fauna.

Elias, Scott A. 1994. **QUATERNARY INSECTS AND THEIR ENVIRONMENTS**. Smithsonian Institution Press, Washington. 284 pages, 31 halftone photographs, 42 line illustrations. Hardcover, 16 x 23.5 cm, ISBN 1-56098-303-5H, \$40.00. Available from Smithsonian Institution Press, Department 900, Blue Ridge Summit, PA 17294-0900 (add \$2.25 p&h).

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

Gullan, P. J. & P. S. Cranston. 1994. **THE INSECTS: An Outline of Entomology**. Chapman & Hall, Ltd. 448 pages, 220 line drawings. Softcover, 19 x 25 cm, ISBN 0-412-49360-8, £ 27 (about \$41 U.S.). Available from E. W. Classey Ltd. P.O. Box 93, Farringdon, Oxon SN7 7DR, England.

Written for intermediate students, this book begins with a survey of the significance of insects, their internal and external structure, and how they sense their environment, followed by explanations of their systematics and their modes of reproduction and development. Other chapters cover habitats of specialized insects (soil, dung, carrion,

water, etc.), defense mechanisms, medical and veterinary entomology, and pest management.

Hogue, Charles L. 1993 (2nd edition). **INSECTS OF THE LOS ANGELES BASIN**. Natural History Museum of Los Angeles County. 446 pages, 500 illustrations, 370 in color. Hardcover (ISBN 0-938644-32-7): \$42.00; softcover (ISBN 0-938644-29-7): \$27.95; 13 x 21.5 cm. Available from Museum Book Store, The Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007. (add 10% p&h).

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



Hogue, Charles L. 1993. **LATIN AMERICAN INSECTS AND ENTOMOLOGY**. University of California Press, 2120 Berkeley Way, Berkeley, CA 94720. xiv + 536 pages, 32 color photographs on 4 plates, 127 halftone illustrations, 2 maps. Hardcover, 18.5 x 26 cm, ISBN 0-520-07849-7, \$85.00.

This is Charles Hogue's last major work, published posthumously after his sudden death in mid-1992. It is a broad survey of the insects and related arthropods of the neotropics, illustrated by photographs and line drawings by the author. The introductory chapters cover general and practical entomology, insect ecology, and zoogeography. The bulk of the text consists of overviews of the major orders that focus on ecology and behavior.

[Currently being reviewed for the *Journal*.]

Holloway, J. D. 1993. **THE MOTHS OF BORNEO, PART 11: GEOMETRIDAE: ENNOMINAE**. The Malayan Nature Society, Kuala Lumpur. 309 pages, 19 color plates, 593 halftone figures of genitalia. Softcover, 18 x 25 cm. Available from Southdene Sdn. Bhd, P.O. Box 10139, 50704 Kuala Lumpur (\$35 U.S. incl. p&h; make check payable to Horan & Devlin) or from BioQuip Products, Inc., 17803 LaSalle Avenue, Gardena, CA 90248 (\$35).

The Ennominae are the largest subfamily of the Geometridae and in the Bornean fauna just under half the species are ennomines. In this volume (the 5th to be published of a projected 18 volumes of *The Moths of Borneo Series*), an attempt is made to define tribal groupings and suggest a higher classification for the subfamily (based primarily on groups represented in S.E. Asia). Host plant specialization is reviewed in relation to this proposed classification.

[To be reviewed in the *Journal*.]

International Atomic Energy Agency. 1993. **RADIATION INDUCED F₁ STERILITY IN LEPIDOPTERA FOR AREA-WIDE CONTROL**. Proceedings of the Final Research Co-ordination meeting, Phoenix, Arizona, 9-13 September 1991. International Atomic Energy Agency, Vienna. 162 pages. Softcover, 16 x 24 cm, ISBN 92-0-101793-6, \$55.00. Available from UNIPUB (order No. STI/PUB/929), 4611-F Assembly Drive, Lanham, Maryland 20706-4391.

Very high doses of ionizing radiation are required to induce full sexual sterility in Lepidoptera. In almost all cases these high doses are detrimental to behavior and reproductive physiology, thus interfering with pest control efforts by greatly diminishing the ability of irradiated males to compete for mates with wild males. However, inherited sterility can be induced in all species of Lepidoptera by means of doses of ionizing radiation that induce only low levels of sterility in the irradiated individuals themselves. This book explores the efficacy of radiation induced sterility in F₁, F₂, and even F₃ generations as a mechanism for the large scale control of lepidopteran pests. There are 13 chapters covering a variety of lepidopteran species.

[To be reviewed in the *Journal*.]

Kogure, Midori & Yoshiya Iwamoto. 1992 & 1993. **ILLUSTRATED CATALOGUE OF THE GENUS EREBIA IN COLOR**. Yadoriga 150:

1-33 (6 color & 1 B&W plates); 154: 1-38 (6 color & 2 B&W plates). Softcover, 18 x 26 cm, ISSN 0513-417X. Available for 2,000 yen (about \$19) plus a small postage charge from the Lepidopterological Society of Japan, % Ogata Building, 3-2-17 Imibashi, Chuou-ku, Osaka 541 Japan.

[see review by Ron Leuschner in this issue of the *NEWS*.]

Marttila, Olli, Tari Haahtela, Hannu Aarnio & Pekka Ojalainen. 1990. **SUOMEN PAIVAPERHOSET**. Kirjayhtyma, Helsinki, Finland. 371 pages, 365 text figures, 26 color plates & additional color photographs. Hardcover, 22 x 28.5 cm, ISBN 951-26-3659-X, about \$70.00 U.S. In Finnish.

The Finnish butterfly fauna comprises 95 resident species, 14 of which live in Lapland in northernmost Finland. There are 19 species that are occasional migrants or vagrants, giving a total of 114 butterfly species known from Finland. This attractively designed and beautifully illustrated book provides detailed discussions of each species, including biology, ecology, behavior, populations, and taxonomy. In short, it's an excellent book from start to Finnish!

[Currently being reviewed for the *Journal*.]

Michener, Charles D., Ronald J. McGinley & Bryan N. Danforth. 1994. **THE BEE GENERA OF NORTH AND CENTRAL AMERICA (HYMENOPTERA: APOIDEA)**. Smithsonian Institution Press. 304 pages, 79 photographs, 440 line illustrations. Hardcover, 22 x 28.5 cm, ISBN 1-56098-256-X, \$45.00. Available from Smithsonian Institution Press, Department 900, Blue Ridge Summit, PA 17294 (add \$2.25 p&h).

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

Mittler, T. E., F. J. Radovsky, & V. H. Resh. 1994. **ANNUAL REVIEW OF ENTOMOLOGY, VOLUME 39**. Annual Reviews Inc., 4139 El Camino Way, P.O. Box 10139, Palo Alto, CA 94303-0897. 615 pages. Hardcover, 16 x 23 cm, ISBN 0-8243-0139-0, \$47.00 U.S. (postpaid).

The *Annual Review of Entomology* is a veritable gold mine of information, long exploited by academic researchers and graduate students as an excellent introduction to the literature about topics of particular interest. Most university and college libraries carry this series (and related series, such as the *Annual Review of Ecology and Systematics*) and I urge all interested readers who have access to such libraries to peruse these volumes once a year. They provide up-to-date summaries on a broad range of topics that are, for the most part, well-written and accessible to most lepidopterists. This year's ARE volume has several articles of interest to lepidopterists. For those interested in lepidopteran reproductive biology, there are: *Oviposition Behavior in Lepidoptera* (by J. A. A. Renwick & F. S. Chew) and *Postinsemination Associations Between Males and Females in Insects: The Mate-guarding Hypothesis* (by John Alcock). Those members interested in biological control should read: *Integrated Pest Management in European Apple Orchards* (by L. H. M. Blommers) and the special section (5 papers) on *Cotton Pest Management*. Systematists and morphologists should check out: *Form and Function of Stemmata in Larvae of Holometabolous Insects* (by Cole Gilbert). Ecologists and behavioral biologists will want to read: *Chemical Mimicry and Camouflage* (by K. Detner & C. Liepert) and *Nonpheromonal Olfactory Processing in Insects* (by B. H. Smith & W. M. Getz). All of these papers discuss lepidopteran examples.

Pollard, E. & T. J. Yates. 1993. **MONITORING BUTTERFLIES FOR ECOLOGY AND CONSERVATION**. The British Butterfly Monitoring *Orchards* (by L. H. M. Blommers) and the special section (5 papers) on *Cotton Pest Management*. Systematists and morphologists should check out: *Form and Function of Stemmata in Larvae of Holometabolous Insects* (by Cole Gilbert). Ecologists and behavioral biologists will want to read: *Chemical Mimicry and Camouflage* (by K. Detner & C. Liepert) and *Nonpheromonal Olfactory Processing in Insects* (by B. H. Smith & W. M. Getz). All of these papers discuss lepidopteran examples.

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others have flourished and expanded in range. This is the first book to describe the results from a British scheme to monitor butterflies during this period of change. The Monitoring Scheme, initiated in 1976 by the senior author, is based on frequent counts at some 90 sites throughout Britain. The combined efforts of both amateurs and professionals have thus produced a dataset with no equivalent elsewhere in the world, providing a unique perspective on trends in numbers, extinction and foundation of populations; flight periods, local distributions, migration, and other aspects of population ecology. Practical problems encountered during the conservation of butterflies at individual sites are outlined.

[Currently being reviewed for the *Journal*.]

Preston-Mafham, Rod & Ken. 1993. **THE ENCYCLOPEDIA OF LAND INVERTEBRATE BEHAVIOUR**. The MIT Press, 55 Hayward Street, Cambridge, MA 02142. 320 pages, 240 illustrations (200 in color). Hardcover, 21.5 x 28 cm, ISBN 0-262-16137-0, \$45.00 (add \$4.50 p&h).

The Preston-Mafham's document and describe the whole fascinating gamut of behavior of land-living invertebrates such as worms, snails and slugs, insects, spiders and many other small animals. They reveal routines of courting, mating, egg-laying, raising families, defending, and attacking, hunting, and eating that exhibit trickery, violence, deception, and odd sexual practices. Illustrated by 200 color photographs from the authors' own archives (Premaphotos Wildlife), This book is scholarly, comprehensive, and extremely informative without ever being stuffy or boring. It is accessible to novice and expert alike.

Pyle, Robert Michael & Kristin Kest. 1993. **INSECTS**. Peterson Field Guide Coloring Books. Houghton Mifflin Company, 215 Park Avenue, New York, NY 10003. 64 pages, 8 color plates. Softcover, 21.5 x 28 cm, ISBN 0-395-67088-8, \$5.95.

Another in the series of informative nature coloring books from Houghton-Mifflin (there are now 14 titles available), *INSECTS* includes high quality line drawings of 247 common and colorful insects of America (including 80 Lepidoptera). Line drawings are printed on heavy paper suitable for coloring and are keyed to illustrations on the four-page color wrap showing the real-life colors of each insect. Each line drawing is accompanied by a short paragraph describing the insect's behavior and ecology. [Published at the same time as *Insects was Deserts*, by Lynn & Kenn Kaufman.]

Ruffin, Jane. 1993. **WHERE ARE THE BUTTERFLY GARDENS?** The Lepidopterists' Society. 42 pages. Softcover, 14 x 21.5 cm, no ISBN, \$5.00. Available from the author, 1013 Great Springs Road, Rosemont, PA 19010 (add \$0.75 p&h).

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

Samways, M. J. 1993. **INSECT CONSERVATION BIOLOGY**. Chapman & Hall, Ltd. 376 pages, 86 line, 7 halftone figures. Hardcover, 23.5 x 15.5 cm, ISBN 0-412-45440-8, £ 40 (about \$60 U.S.). Available from E. W. Classey Ltd., P.O. Box 93, Farringdon, Oxon SN7 7DR, England.

M. J. Samways, of the University of Natal, South Africa, is a member of the IUCN (International Union for the Conservation of Nature) and has written a comprehensive analysis of the issues involved in conserving insects. The importance of insects to the world's

Samways, M. J. 1993. **INSECT CONSERVATION BIOLOGY**. Chapman & Hall, Ltd. 376 pages, 86 line, 7 halftone figures. Hardcover, 23.5 x 15.5 cm, ISBN 0-412-45440-8, £ 40 (about \$60 U.S.). Available from E. W. Classey Ltd., P.O. Box 93, Farringdon, Oxon SN7 7DR, England.

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NEW JOURNAL

Journal of the Ukrainian Entomological Society. Published Quarterly, with Volume 1 published in 1993, by Apollo Popular Science Publishers, % Schmalhausen Institute of Zoology, UA-252601 Kiev MSP, Ukraine. Fax: (007 044)225 14 30, 225 1001. E-mail: postmaster@apollo.kiev.ua. Personal subscriptions \$40 U.S. or BEF 1400; institutional subscriptions \$60.00 U.S. or BEF 2100. Payments should be made by International Money Order, Eurocheque or Post Giro Account Brussels No. 000-0598263-64 to: Mr. Willy De Prins, Diksmuidelaan 176, B-2600 Antwerpen, BELGIUM, clearly mentioning your address and "JUES 93" (send duplicate of application and payments document to Apollo Popular Science Publishers.

The *Journal of the Ukrainian Entomological Society* publishes articles containing results of original investigations in the fields of entomology and acarology: fauna and systematics; descriptive and comparative morphology; ecology, physiology, behavior; insect and mite development; entomological aspects of nature conservation; applied entomology; research methods; history of entomology; reviews; and surprise photo. Papers may be submitted in Ukrainian, Russian, English, German, or French.

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 *NEWS* or *Journal*. Members interested in reviewing books for the *NEWS* or the *Journal* should send their requests or interests to:

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BOOK REVIEWS

Kogure, Midori & Yoshiya Iwamoto. 1992 & 1993. **ILLUSTRATED CATALOGUE OF THE GENUS *EREBIA* IN COLOR**. Yadoriga 150: 1-33 (6 color & 1 B&W plates); 154: 1-38 (6 color & 2 B&W plates). Softcover, 18 x 26 cm, ISSN 0513-417X. Available for 2,000 yen (about \$19) plus a small postage charge from the Lepidopterological Society of Japan, % Ogata Building, 3-2-17 Imibashi, Chuou-ku, Osaka 541 Japan.

This work proposes to be the start of a new "science" --- Erebiology --- but it leaves much to be desired on the taxonomic end. The authors recognize 89 species, and under each species entry are listed subspecies, if any. Any synonyms are ignored. Apparently, there are some status changes created here, but these are not so indicated. North American references are minimal, limited to Howe (1975), Scott (1986), and Lee Miller's monograph on the Satyridae (1968). The Miller/Brown Catalog (1981) and the Ferris update (1989) are totally ignored, which leads me to make the following comments and corrections:

- 1) *vidleri* --- OK
- 2) *rossi*: type locality (TL) given as Altai Mts, not Boothia Peninsula; SSP *gabrieli* and *kuskoquina* are omitted
- 3) *disa*: TL of SSP *mancinus* is "prob. Banff, Alta" not Alaska
SSP *steckeri* is misspelled; SSP *subarctica* is omitted
- 4) *magdalena mackinleyensis* is given FULL SPECIES status (not SSP)
- 5) *fasciata*: TL is listed as "Victoria Is, Canada" not Bern. Hbr, NWT

(Note: Canadian TL's are "Canada" rather than giving the Province or Territory name); SSP *avinoffi* is not listed as such, but the name is mentioned in the text; SSP *semo* is promoted to FULL SPECIES.

- 6) *discoidalis*: TL is given as Hadson (*sic*) Bay rather than Manitoba; SSP *mcdunnoughi* is omitted.
- 7) *theoano*: SSP *alaskensis* is omitted; SSP *canadensis* is used rather than *sofia*; SSP *demmi*'s TL omits "Colorado."
- 8) *youngi*: OK
- 9) *episodesea*: OK
- 10) *callais*: nomenclature OK, but range is given as "Colo. and across the whole [maybe just Siberia?] of Asia from Mongolia to the Caucasus [not shown on the Distribution Chart]. This is amazing!
- 11) *lafontainei*: is considered a SSP of *kozhanthshikovi* Sheljuzhko, 1925 (TL: Amur, Dz. Gebirge); *dabanensis* is listed as occurring in Alaska in addition to *lafontainei*.
- 12) *oculta*: TL is given as "Seward (*sic*) Peninsula, Alaska." Should be "Demster Hwy, Yukon Terr., Canada."
- 13) *inuitica* Warren is not listed as a species. The name is included at the end with a few probable "nomen inquir."

If the reviewer could read Japanese, maybe some of the above questions or confusion could be explained. But it seems certain to me that the authors never saw the Miller/Brown Catalog, and that is a major error for someone intending to publish THE paper on *Erebia*. I wonder what European workers say about the treatment of their species?

In conclusion, let me note that the photographs are excellent.

Ron Leuschner
1900 John Street
Manhattan Beach, CA 90266

Ruffin, Jane. 1993. **WHERE ARE THE BUTTERFLY GARDENS?** The Lepidopterists' Society. 42 pages. Softcover, 14 x 21.5 cm, no ISBN, \$5.00. Available from the author, 1013 Great Springs Road, Rosemont, PA 19010 (add \$0.75 p&h).

This brief compilation, a labor of love by member Jane Ruffin, lists 135 butterfly gardens, *sensu lato*, in the United States and Canada. Following a one-page introduction, the butterfly gardens are listed by state or province, the latter in alphabetical sequence for each country. The entry for each garden consists simply of an address and telephone number, followed by one or two sentences describing the nature and extent of the facility. On the inside covers are given the addresses of organizations that can offer expertise on butterfly gardens, namely, the Lepidopterists' Society, the North American Butterfly Association, the Young Entomologists' Society, and the Xerces Society.

Thus, this booklet offers the bare minimum of information about butterfly gardens in North America and is intended primarily as a networking directory for those who are interested in starting a butterfly garden and for travelers who enjoy butterfly watching, gardening, and photography. As such, the book performs a great service. I only wish that the entries for each garden had provided a bit more information. For example, it would be nice to know the actual sizes of the exhibits (which range from a few square feet to many acres for outdoor gardens, and from small glass exhibit cases to large walk-through enclosures for indoor exhibits), to know the extent of the educational programs (lectures, tours, etc.) associated with each facility, and to know whether or not any of the gardens also are actively involved in conservation efforts or scientific research.

Of the 135 gardens listed, most are part of or attached to state and local parks, nature centers, arboretums, zoos, and museums. The majority of these do not focus on butterfly gardens or education, but include these only as part of a much broader program of natural history interpretation. Only 21 facilities (15.6%) have butterflies or butterfly gardens as the primary attraction, ranging from small

demonstration butterfly gardens to huge commercial ventures such as Butterfly World in Coconut Creek, Florida. Two of these 21 are large butterfly houses expected to open within the year in Houston, Texas, and Denver, Colorado. A small number of the butterfly gardens listed are private and are open to the public only by appointment.

There are 37 states and 3 Canadian provinces listed in this survey, with 15 (11%) of these having only one facility. The maximum number recorded for a single state is 12 for Pennsylvania (Jane Ruffin's home state); there are 9 in Michigan; 8 in Louisiana, Maryland, and New Jersey; 7 in Ohio; and 6 each in Texas, Florida, Massachusetts, and New York. Of the 130 facilities in the U.S., two-thirds (87) are located east of the Mississippi River.

Only 17 (about 13%) of the gardens are listed as having free-flight enclosures for butterflies, in which subtropical and tropical species are often exhibited. However, the number of butterfly enclosures in Canada is not clear from the book: the Metro Toronto Zoo in Ontario has an enclosed area, but the three "Butterfly Worlds" in British Columbia are described only as "Butterfly Conservatory," without an explanation of what that means. If these have a free-flight enclosure, that raises the total to 20 (about 15%). At any rate, the vast majority (at least 85%) are outdoor exhibits, most with planted gardens, but some with just a designated "butterfly walk" through natural woods or prairie.

Since the first modern stand-alone butterfly house opened in 1977 (the Guernsey Butterfly Farm on Guernsey, Channel Islands, UK), the concept of attracting people to butterfly exhibits for education and enjoyment has grown considerably. Today, there are over 50 butterfly houses in the United Kingdom alone, and at least nine other European countries have butterfly houses. The number of butterfly gardens and outdoor exhibits in Europe is unknown but surely must number in the scores if not hundreds. It is gratifying to learn from Jane Ruffin's booklet that the number of such exhibits in the United States and Canada is higher than I ever expected, averaging more than two per state or province. But another service provided by this book is to identify where butterfly houses and gardens are *not* located. If there is not one in your state or region, why not follow the example of the many organizations listed in this book and try to start one!

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OUT OF ORDER

Here are three books that either do not mention Lepidoptera at all or include them only as part of a survey of all insect life in a region. They are, however, of interest to lepidopterists for a variety of reasons, as explained in the brief reviews that follow.

Elias, Scott A. 1994. **QUATERNARY INSECTS AND THEIR ENVIRONMENTS**. Smithsonian Institution Press, Washington. 284 pages, 31 halftone photographs, 42 line illustrations. Hardcover, 16 x 23.5 cm, ISBN 1-56098-303-5H, \$40.00. Available from Smithsonian Institution Press, Department 900, Blue Ridge Summit, PA 17294-0900 (add \$2.25 p&h).

For the past few years, and under the tutelage of the late F. Martin Brown, I have been studying the fossil insects of the Florissant Formation, lacustrine deposits preserved in volcanic ash some 35 million years ago at the close of the Eocene. Although early researchers placed most of these insects in genera now believed to be extinct, the morphological similarity between these Tertiary insects and their living counterparts is often remarkable. As the paleotaxonomy of these fossil insects continues, it appears that they are indeed more closely related to the modern fauna than previously expected, and a substantial number of species can be placed in living genera.

Similarly, the nineteenth-century scientists that studied insect

fossils from the Pleistocene believed that, being fossils, they must belong to extinct taxa, as it was widely assumed that insects were evolving rapidly to the present day. Yet recent research reveals extraordinary species stability throughout the Quaternary (the past 1.7 million years) --- many of these Quaternary insect fossils are now recognized to be conspecific with living species. Identifying fossil fragments is notoriously difficult, as reflected in some of Samuel Scudder's names for Late Pleistocene insects from Scarborough Bluffs, Ontario, arranged here to reflect Scudder's increasing level of frustration: *fossilis*, *dilapidatus*, *damnosum*, and *infernalis*. But the importance of the fossil insect record from Quaternary deposits throughout the world lies in their ability to help scientists reconstruct the paleoenvironmental record of the past million years or so.

In this book Scott Elias summarizes his own research and the pioneering work of G. Russell Coope and his students in England over the past four decades. The book discusses the methods used to sample and analyze Quaternary insect fossils and describes the principal characters used in their identification. The major topics discussed are paleoclimatic studies using insects, especially their importance to the mutual climatic range method, insect zoogeography in the Quaternary, and the use of insect fossils in archaeology. The book concludes with a survey of research to date in Europe, Siberia, East Beringia, and North and South America.

The startling take-home message of this book is that, contrary to previous thought, insect species in the temperate zones have remained relatively constant for hundreds of thousands of years (generations) in the face of great climatic changes of the glacial/interglacial cycles. Detailed studies of the Quaternary fossil evidence indicate that insect species responded to these climatic changes by *moving* out of trouble rather than by *evolving* out of trouble, by tracking areas of acceptable climate as it shifted over the surface of the earth. Elias argues that because of this response, and because of the more refined environmental sensitivity of insects, fossil insects are often more reliable indicators of past environments and climates than the pollen data now commonly used.

This is an extremely well-written book and should be of interest to all lepidopterists who wish to interpret the current distribution of butterflies and moths in the Holarctic.

Hogue, Charles L. 1993 (2nd edition). **INSECTS OF THE LOS ANGELES BASIN**. Natural History Museum of Los Angeles County. 446 pages, 500 illustrations, 370 in color. Hardcover (ISBN 0-938644-32-7): \$42.00; softcover (ISBN 0-938644-29-7): \$27.95; 13 x 21.5 cm. Available from Museum Book Store, The Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007. (add 10% p&h).

Anyone who has ever worked with the public as an educator or interpreter for a museum, nature center, or a national, state, or local park knows that some questions come up over and over again. No doubt many nature guidebooks have been conceived as a convenient way to answer these persistent and often interesting questions.

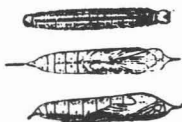
Insects of the Los Angeles Basin was born of just such an experience by Charles Hogue, who used the first edition of this book (published in 1974) to answer the questions that he was most often asked in his position as Curator of Entomology at the Natural History Museum of Los Angeles County. Hogue began this position just four months after receiving his doctorate from U.C.L.A. in 1962 and held it until his death in 1992. In the words of the biographical sketch on the cover of this book, for 30 years "Charlie Hogue took great satisfaction in sharing information about the fascinating ways of insects; he was a steady source of specimens, photographs, and advice to colleagues, journalists, and museum patrons. This book [the 2nd

edition] --- one of his last projects --- vividly reflects his talents as a naturalist and teacher and his affectionate regard for his insect subjects."

The Los Angeles Basin is home to the second largest metropolitan center in the country (lots of people to ask questions) and to an estimated 3,000 to 4,000 insect species (lots of bugs to ask questions about). In his book, Hogue provides an introduction to 424 of the most conspicuous or curious of these insects and to about 60 spiders, mites and ticks, and their relatives. Almost all species are illustrated with color photographs or drawings, which complement the text entries that describe the size and most striking physical characteristics of adults and immature stages, and gives information on movement and behavior, offensive and defensive strategies, noise and scent production, nests and traps, courtship and mating behavior, habitat requirements, geographic range, and, for some of the more notorious species, essays on their lore and superstition.

Part I of the book consists of two introductory chapters that describe the characteristics of insects in general and explore the environment and ecology of the Los Angeles Basin, with special emphasis on the habitat requirements and distribution of insects in the area. Part II covers the insects, with chapters roughly organized by orders. Moths (67 species covered) and butterflies (55 species covered) occupy 80 pages, roughly 26% of the 304 pages devoted to insects. Part III covers the arachnids (scorpions, spiders, mites, and ticks). Part IV deals with other insect-like animals (centipedes, millipedes, crustaceans, snails, slugs, and planarians). There are three appendices: A) Insect and arachnid pests in the Los Angeles Basin; B) Keeping insects in captivity; C) Simple ways to make an insect collection. A Glossary, General Bibliography and Resource List, and an Index complete the book.

The photographs, the majority of which were taken by Hogue himself, are excellent and add greatly to the attractiveness and usefulness of the book. For species not illustrated by photographs, there are superb line drawings by Tina Ross. The text is very readable and the book is designed in an easy-to-use field guide format. This is an excellent introduction to the diversity of insects and their relatives.



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Michener, Charles D., Ronald J. McGinley & Bryan N. Danforth. 1994. **THE BEE GENERA OF NORTH AND CENTRAL AMERICA (HYMENOPTERA: APOIDEA)**. Smithsonian Institution Press. 304 pages, 79 photographs, 440 line illustrations. Hardcover, 22 x 28.5 cm, ISBN 1-56098-256-X, \$45.00. Available from Smithsonian Institution Press, Department 900, Blue Ridge Summit, PA 17294 (add \$2.25 p&h).

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Many lepidopterists are interested in the flowers visited by butterflies, and some keep accurate records of floral visitation, noting date, time, weather conditions, duration of visit, behavioral manipulation of the flower, etc. Others go further and research the nature of the floral reward, recording nectar volume per flower, nectar replacement rate, nectar components (sugars, amino acids, etc.). A few even calculate the energy budget of flower-visiting butterflies (energy expended versus energy collected and assimilated, etc.) and also document the mode and efficiency of pollen transfer. Such observations are extremely valuable and enter the realm of pollination ecology.

For years I have taught field courses and workshops in pollination ecology, capitalizing on the observations I have made on butterfly flower visitation that began with my doctoral research on ithomiine butterflies (Nymphalidae: Ithomiinae) that obtain courtship pheromone precursors (pyrrolizidine alkaloids) from the nectars of certain Boraginaceae and Asteraceae. I have continued recording my observations of flower visitation by butterflies and other insects in the Rocky Mountains.

I learned long ago that many flowers in the tropics and in the temperate zone are visited by both butterflies and bees, and that to understand the dynamics of pollination ecology in these systems would require analysis of all visitors to such flowers. The first step in any pollination study is to identify all the organisms involved. For lepidopterists it usually simple enough to identify the flower and its butterfly visitors, but other visitors, especially bees, are often more problematic. (My field notes often have entries like: "*Cirsium incanum* (elk thistle): *Speyeria mormonia* at 11:15am; large bumblebee with orange abdomen at 11:33am."

Other pollination biologists, botanists, ecologists, and even entomologists have had the same problem and for years have urged bee specialists to prepare a key for identifying bee genera. Michener, McGinley, and Danforth have responded with *The Bee Genera of North and Central America*, an extensively field-tested reference that is the first to facilitate identification of bees to the genus level throughout the northern (American) Hemisphere. This well illustrated book has more than 500 drawings and photographs that illustrate nearly every step in this key to the 169 genera of bees. The authors and Smithsonian Institution Press are to be commended for publishing the text in both English and Spanish, thereby greatly increasing the usefulness of the book throughout the Americas.

The introductory chapters explain how to interpret floral visits, how to collect and preserve specimens, how to use the keys (with shortcuts for those already somewhat familiar with bees, and with suggestions and tips for the novice), and how to understand bee structures and terminology. Following the keys themselves, one to genera and another to families, is a guide to the genera of each family, giving the genus range (for North and Central America), the number of species, references to any revisional studies, subgenera, if any, and distinguishing features. Biological notes include nesting sites for those bees that do not nest in the ground, and hosts for socially parasitic and cleptoparasitic genera. The authors conclude with a list of classificatory and nomenclatural changes made in the book, four appendices dealing with bee classification, an extensive bibliography, and an index.

My only complaint with the book lies in its design. This is a book I would like to take into the field for ready reference, yet it is published in hardcover, with an attractive jacket, in large format --- not the ideal size and weight for the backpack. On the other hand, many of the structures used in the keys are so small that a stereo microscope will be needed for accurate identification. Given that the book will be used primarily in conjunction with a microscope, its large size and sewn binding are ideal for a life of ease, spread open on a lab bench.

Research Notices



Pterophoridae WANTED to borrow for dissertation research: Preserved larvae, pupae, larva and pupa skins, and reared adult pterophorids associated with immatures or with host data. Please contact of send to Deborah Matthews, Department of Entomology and Nematology, Bldg. 970 Hull road, University of Florida, Gainesville FL 32611. Phone 904-392-1901 ext. 185. E-Mail DML0@gnv.ifas.ufl.edu

Research of Nymphalini. We are studying several aspects of the evolutionary ecology of butterflies in the tribe

Nymphalini. For this reason we are seeking livestock, preferably ova, of the following species. *Aglais milberti*, *Kaniska canace*, all species of *Polygonia* except *c-album*, *interrogationis* and *comma*, all species of *Nymphalis* except (European) *antiopa*, all species of *Mynes*, *Hypanartia*, *Antanartia* and *Symbrenthia*. We will pay a modest cash reward to cover Express-mail expenses etc., or when possible European species may be given in exchange. contact Sören Nylin, Department of Zoology, Stockholm University, S-106 91 Stockholm, Sweden. Phone 46 8 164033. FAX 46 8 167715. E-Mail Nylin_S@zoologi.su.se.

Rhode Island Heterocera Checklist. Seeking correspondence with persons having collected moths in the state of Rhode Island (USA). Species records needed for eventual inclusion in a geographic distribution publication (i.e. "annotated checklist"). Also, notes on Northeastern heterocerian ecology, specifically New England and Rhode Island are requested. Publication to cover biology, ecology, and distribution of Rhode Island moths. Contact Wm. David Garrahan, Jr., 29 Balmoral Avenue, Providence, Rhode Island, 02908-2201; or (401) 274-7693 after 5:00 EST.

Arctiid Research WANTED: Ova, larvae, pupae or gravid females of *Euchaetes egle*, and any species of *Haploa*. Also still need ova, larvae, pupae, or adult Arctiidae for Behavioral Research, especially *Cosmosoma myrodora*, *Syntomeida ipomoeae*, and *Composia fidelissima*. Please contact Bill Conner, Department of Biology, Wake Forest University, Box 7325 Reynolda Station, Winston-Salem, NC 27109. Phone (910)759-4348 or (910) 759-5323. FAX: (910) 759-6008.



Forthcoming Meetings

An international symposium "**Butterfly Ecology and Evolution**" will be held 10 - 12 October 1994 at Stockholm University, Sweden. Preliminary list of speakers include Carol Boggs, Mamuro Watanabe, Konrad Fiedler, Richard Vane-Wright, John Thompson, Paul Brakefield. For details write to Dr. Bengt Karlsson or Dr. Sören Nylin, Department of Zoology, University of Stockholm, S-106 91 Stockholm. FAX: +46-8-167715.

North American Savannas and Barrens Conference: Living in the Edge, October 15-16, 1994 at Illinois State University, Normal, IL. Contact Dr. Roger Anderson, Dept. of Biological Sciences, IL State Univ. Normal, IL. 61790-4120 or phone: 309/438-2653.

Entomological Society of Canada / Entomological Society of Manitoba Annual Meeting to be held 15-19 October.

Southern Lepidopterists Field Trip 22-23 October at Neal's Lodge located on the Rio Frio in ConCan, Texas. Contact Ed Knudson, 8517 Burkhardt, Houston, TX 77055.

Urban Landscapes for People and Wildlife, An Integrative Approach, October 22-26, 1994 at Embassy Suites Hotel, Bellevue, WA. Contact Lowell W. Adams, Chair, National Symposium on Urban Wildlife, National Institute for Urban Wildlife, 10921 Trotting Bridge Way, Columbia, MD 21044; or phone

301/596-3311.

Third Annual National Watchable Wildlife Conference, October 26-29, 1994 at Burlington, Vermont. Contact Hannah Kirchner, National Watchable Wildlife Conference, 607 Lincoln West, Mishawaka, IN 46544. or phone 219/258-0100; or FAX: 219/258-0189.

High Country Lepidopterists -- Fifth Annual Meeting will be held Saturday, October 29, 1994 in Fort Collins, Colorado. On Saturday morning there will be an open house at the Gillette Insect Biodiversity Museum in the Plant Sciences Building at Colorado State University, a Saturday afternoon paper session and business meeting at the University Park Holiday Inn, and an evening banquet at the University Park Holiday Inn. A banquet presentation and door prize drawing will follow dinner. An informal Friday reception will be held but arrangements haven't been completed. A table will be provided for displays and door prizes. There will be no commercial displays, but notify Paul Opler if you wish to sell anything at the meeting. Please be sure to bring door prizes.

Contributed papers should be 20 minutes in length, and may address any aspect of Lepidoptera. Please respond to Dr. Paul A. Opler, NBS, 1201 Oak Ridge Drive, Suite 200, Fort Collins, Co 80525.

Registration Fee; (all participants) \$10.00 Banquet (Prime Rib) \$19.50 or (Pasta Prima Vera, vegetarian) \$11.00. Contact Paul Opler immediately at the above address or phone (303) 223-9709 extension 234.

20th Anniversary Annual Meeting of **The Society of Kentucky Lepidopterists** on 11-12 November, 1994. Special guest speaker will be Dr. Paul A. Opler of the National Biological Survey. He will give a seminar in the Biology Department at the University of Louisville on Friday entitled "History and Status of endangered Insect Conservation in North America: Some Case Histories". His address to the Kentucky Lepidopterists on Saturday is entitled "Western Lepidoptera Studies: Stresses, Photography, and Mercury Vapor Lights." Contact Charles V. Covell, Jr. for further information.

Entomological Society of America annual meeting to be held 13-17 December, 1994 in Dallas, Texas.

1995 - **Association For Tropical Lepidoptera** annual meeting will be held 21-23 April in Gainesville, Florida. For further information contact J.B. Heppner c/o Florida State Collection of Arthropods, P.O. Box 141210 Gainesville, FL 32614-1210

1995 - **Lepidopterists' Society Meeting** to be held 29 June - 2 July, 1995 at the University of Minnesota, Minneapolis, MN. ARTISTS, ILLUSTRATORS, PHOTOGRAPHERS -- AMATEURS AND PROFESSIONALS -- TAKE NOTE!!! At our next annual meeting (Univ. of Minnesota, Minneapolis, MN, 29 June to 2 July, 1995), there will be two competitions -- yes, two -- for the privilege to display your work.

First--
BELL MUSEUM EXHIBITION COMPETITION. "Beauty and Biology: Butterflies and Moths in Art and Science"

The University of Minnesota's Bell Museum of Natural History is organizing an exhibition in conjunction with the annual 1995 Lepidopterists' Society Meeting. The exhibition will run from June 17 to September 17, 1995, with a possible extension through December 30. This exhibition will explore the intricate beauty and amazing biology of Lepidoptera from both an artistic and biological perspective. Scientific illustrations as well as artistic designs inspired by

Lepidoptera will be featured.

Artists, illustrators and photographers are invited to submit works for inclusion in the exhibition. Here's how:

- Submit up to five 35mm slides, and a self-addressed, stamped, return envelope.
- Include full address, phone, title, medium, size, species and dates completed.
- Include \$15 entry fee with submission (Check payable to Bell Museum of Natural History).
- Deadline for submission is March 15, 1995.
- Accepted works need to be framed and ready to display.
- Artists are responsible for packing and incoming shipping costs.
- The Bell Museum will pay return shipping and insurance.

For further information: Byron Webster, Bell Museum of Natural History, University of Minnesota, 10 Church St. S.E. Minneapolis, MN 55455. Phone (612) 624-0225.

Second--
LEPIDOPTERISTS' SOCIETY 1995 ANNUAL PHOTOGRAPHY [SALON] CONTESTS

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

Entries will be judged by a three to five member jury and the awards will be selected based on composition, balance, clarity and compliance with the rules.

- Submit up to four entries in each category.
- All subjects must be live specimens and photographs must be taken in natural settings.
- Only 8" x 10" color prints on 11" x 14" cardboard mounts which must be matted will be accepted.
- Entry fee of \$5.00 U.S. currency for each category.
- Deadline for submission is by April 15, 1995.
- Selected entries will be on display during the 1995 Annual Meeting of the Lepidopterists' Society. Award winners will be published in a future issue of the News.

Other conditions of entry including entry form will appear in a future issue of the News or contact: Education Committee, c/o Dr. J.Y. Miller, Allyn Museum of Entomology/FLAMNH, 3621 Bay Shore Road, Sarasota, FL 34234.

Come on, Shutterbugs, join the fun and share some of your photographs with other members of the Society. This year's contest was one of the highlights of the meetings. Don't miss this opportunity!

1996 - **20th International Congress of Entomology** will be held in Florence, Italy, August 25-31, 1996.

The scientific program will be arranged in sections including Systematics and Phylogeny, Zoogeography, Morphology, Reproduction and Development, Cell Biology, Physiology and Biochemistry, Insect Neurosciences, Insect Immunity, Genetics and Evolutionary Entomology, Insect Molecular biology and Genetic Engineering, Ecology and Population Dynamics, Special Environments Entomology, Ethology, Social Insects, Apidology and Sericulture, Agricultural Entomology, Forest Entomology, Tropical Entomology, Urban and Stored Products Entomology, Ecology of Pesticides, Resistance and Toxicology, Entomophagous Insects and Biological Control, General and Applied Insect Pathology, Integrated Pest Management, Medical and Veterinary Entomology, Biodiversity and Conservation, History of Entomology, Entomology for the Third Millennium - Critical Issues.

There will also be workshops, plenary symposia, audio-visual sessions, poster sessions. If you are interested in more information write to the Congress Organizing Secretariat O.I.C., Via a La Marmora, 24; 50121 Florence (Italy). (Telephone ++39-55.5000631 or FAX ++39-55.5001912).

"LOST" MEMBERS



The U.S. Postal Service was unable to deliver 1994 News #1 to the following active members (members please note that you are "lost" and will receive no further publications until you furnish a valid current address if the Postal Service returns publications because you are "temporarily away."): Eli W. BEERY (Traverse City, MI); Raymond COLLINS (Milwaukee, WI), and Eric C. Scharnberg (Malvern, PA.).

Corrections and Minor Changes to the 1992 Membership Directory

(make appropriate changes in Alphabetical List of Members)

CORRECTION: Correct name and address of new member previously published as "Gulli": is: Gulli, Gioacchino: Via Ferrarotto n. 7, 95125 Catani, ITALY.

New & Reinstated Members

(NOT included in 1992 Membership Directory; all in U.S.A. unless noted otherwise)

- ADONIZIO, ANTHONY C.: 250 North 24th Street, Camp Hill, PA 17011.
- ANASTASSIU, HRISTOS: 1440 Broadway, Ann Arbor, MI 48105.
- ARNOLD, AUSTIN: 2917 Halifax Road, Rocky Mount, NC 27803.
- ASBURY, LINDA: 3530 SW Tunnelwood Street, Portland, OR 97221.
- BADEAUX, MARYLOU: 5230 Babcock Avenue, Valley Village, CA 91607.
- BAEHEL, CHARLES W.: 901 Gardenia Drive, #3-377, Delray Beach, FL 33483.
- BEREZHONI, YURI: P.O. 29, 394029 Voronezh, RUSSIA.
- BERKHOFER, WAYNE: [address omitted by request]
- BEST, DAVID T.: Ohio Valley Butterfly Farm, 1176 Muirwood Lane, Batavia, OH 45103.
- CAMP, RUSSELL: 7959 Jerusalem Road, Oregon, OH 43618.
- CHARBONEAU, ROBERT W.: P.O. Box 5184, Colorado Springs, CO 80931-5184.
- CHONG, KUEN: Dept. of Insects, China Fujian Specimen Co., 39# Chayuan Road, Fuzhou, Fujian, PEOPLES REPUBLIC OF CHINA.
- CONCES, DEWEY J., Jr.: 125 Lynn Court, Zionsville, IN 46077.
- DAVIS, R. LAURENCE (Dr.): c/o Camp Pemigewassett, Wentworth, NH 03282.
- DION, YVES-PASCAL: 1266 Boulevard Rene-Levesque, Quebec, Quebec G1S 1W2, CANADA.
- EICHELBERGER, ALISON: Entomology Curator, c/o North Museum, P.O. Box 3003, Lancaster, PA 17604.
- ESSIG, KEN: 2189 Bluegrass Lane, Cincinnati, OH 45237.
- FENGLER, JEFF M.: 418 Asbury Ridge, Shelton, CT 06484.
- GODFREY, GEORGE L. (Dr.): Dept. of Natural & Social Sciences, Haskell Indian Nations University, 155 Indian Avenue, Lawrence, KS 66046.
- GOODPASTURE, CARLL (Ph.D.): 47 Ing. Hoelsv., 1346 Gjettem, NORWAY.
- HALL, ANGELA: Carter House, P.O. Box 990185, Redding, CA
- HAULK, LINDA C.: 766 Lunar Lake Circle, Cocoa, FL 32926.
- HAWKS, DAVID: Dept. of Entomology, University of California, Riverside, CA 92521-0001.
- HAYNES, BRITTANY: 1110 Kenton Road, Deerfield, IL 60015-3308.
- HELES, PETER J., III: 628 Westover Drive, Richardson, TX

75080-4209.
 HESSLER, JOHN: 651 Manhattan Ave., #3L, Brooklyn, NY 11222.
 HODGES, VYE: 2160 N.E. Country Club Court, Gresham, OR 97030.
 HOSKO, MARY ANN: 250 North 24th Street, Camp Hill, PA 17011.
 INGRAM, ALVIN R.: 1106 Cardinal Drive, West Chester, PA 19382-7804.
 INGRAM, VIRGINIA: 1106 Cardinal Drive, West Chester, PA 19382-7804.
 KENNEY, BILL: 671 RR #1, Dixmont, ME 04932.
 KOHLER, MONIKA: Vice President, Finca La Suiza, Hornito, Apartado 1152, David Chiriqui, PANAMA.
 KOHSAKA, HIROSHI: 10-16, Tsukushigaoka, 2-chome, Kashiwa-shi, Chiba 277, JAPAN.
 KORALISHN, STEPHEN: 7 Aiken Street, Derry, NH 03038.
 KRICK, PHILIP: President, Papillon Trading Company, 6993 NW 82 Avenue, Building #29, Miami, FL 33166.
 LAURENT, KURT: 5550 East Canfield Road, Chana, IL 61015.
 LEHMAN, ROBERT D.: Apartado 720, La Ceiba, Atlantida, CP 31101, HONDURAS.
 LICHTI, W.F.: RR #2, Ariss, Ontario N0B 1B0, CANADA.
 MARHOEFER, GILBERT: 601 Fourth Street, #315, San Francisco, CA 94107.
 MEERMAN, J.C.: P.O. Box 134, Orange Walk, BELIZE.
 MOGHADDAM, NAZAREH A.: 3426 West Tenaya, Fresno, CA 93711.
 MUHLENBERG, J. PETER (M.D.): 1725 Cambridge Avenue, Wyomissing, PA 19610.
 MULROONEY, JOSEPH E.: P.O. Box 350, Stoneville, MS 38776.
 NADOLNY, JULIAN J.: 121 Hickory Hill Road, Kensington, CT 06037.
 NYKODYM, NICK (Dr.): P.O. Box 8601, Toledo, OH 43623-8601.
 PEACOCK, BOB: 1010 East 7th Street, Austin, TX 78702.
 PETERSON, DWIGHT THOMAS: 1528 Walnut Street, 12th Floor, Philadelphia, PA 19102.
 PICKNELL, DALE: 33 Templeton Court, White River Junction, VT 05001.
 ROINE, ANTTI: Loukkurantie 22 AS 5, FIN-28450 Vanha-Ulvila, FINLAND.
 ROSCIOLI, RONALD J.: 101 Rose Court, Easton, PA 18042.
 ROSSETTI, MARK: 50 Bert Well Road, Lexington, MA 02173.
 SMITH, WILLIAM T.: 8412 Martingale Drive, McLean, VA 22102.
 SORENSEN, SOREN C. (DVM): 1061 St. Clair Avenue, Saint Paul, MN 55105.
 SPOTTS, CONNIE: 100 Crispell, Clark Lake, MI 49234.
 THORGAARD, GREG (M.D.): 135 Deppe Lane, Ottumwa, IA 52501.
 THRASH, RON M.: 155 Woodcock Way, Doyline, LA 71023.
 VAN HOUTEN, JEANNE: Rural Route 03, Box 200B, Ellisville, MS 39437.
 WARREN, KEITH ROBERT: 10 Wildwood Place, Waterloo, Ontario N2L 4B1, CANADA.
 WATKINS, REED A.: 9258 Cloy Road, Spring Valley, OH 45370-9604.
 WATKINS, PAUL C.: 6020 Sunbeam Lane, #140, Knoxville, TN 37920.
 WATSON, FRANK H.: P.O. Box 189, Durham, CA 95938-0189.
 WILSON, JOHN S.M. (Dr.): Fisheries Dept., P.O. Box 206, Zomba, MALAWI.

Address Changes

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



ADAMS, JAMES K. (Dr.): 1702 Crow Valley Road, Dalton, GA 30720.
 BELL, ELIZABETH A.: 135 Palmetta Street, Santa Cruz, CA 95060.
 DAYTON, JOHN J.: 135 Palmetta Street, Santa Cruz, CA 95060.
 ENTERLINE, HORATIO T.: 16 Crosslands, Kennett Square, PA 19348-2008.
 GIBSON, NATE: 510 South Lagoon Drive, Gilbert, AZ 85233-6738.
 GLASSBERG, JEFFREY (Dr.): 4 Delaware Road, Morristown, NJ 07960.
 HANSEN, KENNETH C.: P.O. Box 2209, McKinleyville, CA 95521-2209.
 HASHASH, YOUSSEF: 118 Bucareli Drive, San Francisco, CA 94132-2336.

KOEHN, LEROY C.: 207 Quail Trail, Greenwood, MS 38930-7315.
 LAMOND, BILL: 238 St. George Street, Brantford, Ontario N3R 1W7, CANADA.
 LEEN, ROSEMARY: USDA - Forest Service, Quarantine Facility, P.O. Box 236, Volcano, HI 96785.
 MERGOTT, WINSTON B.: 219 North Laurel Avenue, Exton, PA 19341.
 MURPHY, RAYMOND J.: P.O. Box 914, Mzuzu, MALAWI (Africa).
 OSBORNE, KEN H.: 11705 Indian Street, Moreno Valley, CA 92557-6303.
 OTERO, LUIS DANIEL (Dr.): Apartado 57, La Hechicera, Merida 5251, Edo. Merida, VENEZUELA.
 PETERSON, MERRILL A.: Dept. of Entomology, University of Maryland, College Park, MD 20742.
 REGENHARDT, BILL: 6971 SW 35th Avenue, Bushnell, FL 33513.
 ROCK, WILLIAM B., Jr.: 2622 North Avers 1R, Chicago, IL 60647.
 SABOURIN, MICHAEL: 763 Blair Avenue, St. Paul, MN 55104-1653.
 SCHEURELL, CLARE: 2813 South 33 Street, Milwaukee, WI 53215-3618.
 SNIDER, JOHN M.: 6526 Korematsu Court, San Jose, CA 95120-4570.
 WEYLAND, CAROL: 763 Blair Avenue, Saint Paul, MN 55104-1653.
 WOLF, RANDY: 6740 Omalley Road, Anchorage, AK 99516.
 WRIGHT, AMY BARTLETT: Scientific Illustration, 202 Cottontail Drive, Portsmouth, RI 02871.
 WU, PEI-HENG: Formosa Insect Farm, #1, Lane 11, King-Fu St., Chutung, Hsingchu, TAIWAN, R.O.C.



The Market Place

Buy • Sell • Exchange • Wants

BUY - SELL - EXCHANGE: POLICY STATEMENT

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 federal threatened or endangered species list. **All *Ornithoptera*, *Trogonoptera* and *Troides* are listed on CITES Appendix 2. All those species imported must have an export permit from the country of origin. Advertisers are notified that they must provide a copy of the export permit to the purchaser. Let the buyer beware and be aware.**

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 1994".

The Society, as always, expects all notices to be offered in good faith and takes no responsibility for the integrity and legality 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 of your state department of agriculture and/or PPQAPHUS, Hyattsville, Maryland. Additionally, there are laws restricting the collecting/import/export of certain species in certain countries and the buyer should take the responsibility for being aware of these and all permits necessary to import, export, obtain or possess these species.

WANTED: Ova, larvae, pupae or gravid females of Euchaetes egle, and any species of Haploa. Please contact Bill Conner, Dept. of Biology, Wake Forest University, Box 7325, Reynolda Station, Winston-Salem, NC 27109. Phone (910) 759-4348 or (910) 759-5323 or FAX (910) 759-6008.

FOR SALE: Bait traps in local and tropical forms available. Adapted moth traps also available. Inquire Wm. Ward, 1474 Melbourne Dr. SE, Girard, Ohio 44420-1332. Phone 216-539-5374.

AVAILABLE: Where Are The Butterfly Gardens. This booklet lists some of the butterfly gardens to be found in North America and Canada. 1 copy \$5.75 Postpaid. Send orders to: Where Are The Butterfly gardens, 1013 Great springs Rd, Rosemont, PA 19010.

AVAILABLE: I am in the process of upgrading the Toliver manuscript, Distribution of Butterflies in New Mexico, (J.L.S. 46:241) to cover the period 1977-present, and to include northern Chihuahua and NE Sonora. A few newly annotated, unbound, working copies are available for \$5. postage. Richard Holland, 1625 Roma NE, Albuquerque, NM 87106.

WANTED: Seeds or healthy rootstock of the following aquatic/water plants: Quillwort (Isoetes engelmanni), Giant Bur-Reed (Sparganium eurycarpum), Reed Grass (Phragmites communis), Saw Grass (Cladium jamaicensis), Mud Plantain (Heteranthera dubia), Water Oak (Quercus nigra), Sweet Gale (Myrica gale), Black or Red Mangrove (Avicennia officinalis? Rhizophora officinalis and Stratiotes aloides). ALSO WANTED: Seeds/Acorns of Evergreen Oak species. Especially myrtle oak (Quercus myrtifolia) and laurel oak (Quercus laurifolia). Contact: Randy Robinette, 4528 Hatfield Street, Ashland, KY 41102-9154 USA

WANTED: Photographer needs any type livestock Lepidoptera & Coleoptera in quantity expected to emerge September - December '94 for photo project. Send price quotes to Ralph Nelson, 1247 Tenth Street, #5, Santa Monica, CA. 310 394-4771 - fax 310 394-1733.

FOR SALE: Light Traps, 12 volt DC or 110 volt AC with 15 watt or 8 watt black lights. Portable, easy to use traps. Rain drains and beetle screens protect specimens from damage. Request free brochure and price list. ALSO 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. ALSO FOR SALE: Two wood entomology cabinets (3 years old). Each cabinet will hold 21 Cornell Drawers. constructed of 3/4" plywood with aluminum drawer tracks, rubber door seal and a three point door latching mechanism. Neutral varnish finish. For more information contact: Leroy Koehn, 207 Quail Trail, Greenwood, MS 38930-7315: Telephone 601-455-5498

AVAILABLE: Biology and systematics of Phyciodes (Phyciodes). Immatures of nearly taxon and adult wing pattern antennal & genitalic traits are analyzed to make sense of this difficult group of "sibling" species, and the nomenclature is stabilized with careful study of types and designation of neotypes/lectotypes. Nine new names are used, including several widespread new U.S./Canada taxa. P. picta is transferred to the phaon group, while P. vesta is removed to the same subgenus as P. frisia. 100 pages, Papilio (new series) #7 (new quality printing), \$6. postpaid in U.S. (#1-7, \$23.). James A. Scott, 60 Estes St., Lakewood, Colo., 80226.

FOR SALE OR EXCHANGE: Die Gross Schmetterlinge der Erde, by Dr. Adalbert Seitz, Volume 1-4, with text and plates, german text edition, 1914-1915, Contact Hugo A. chaves, Félix de Azara 174 7° F, 3300 Posadas, Misiones, Argentina, Fax 0752-25414.

FOR SALE: 75 plus Natural History publications. Most are Lepidoptera books and revisions including some rare and hard to find items. Send SASE for list to Richard Heitzman, 3112 S. Harris Ave., Independence, MO 64052. Or call (816) 461-1831.

FOR SALE: Binocular microscope with 3 different sets of eye pieces and 1 scala eye piece, lighting, enlargement 3,6, to 98x. Fair price. ALSO FOR SALE OR EXCHANGE: Pupae of Saturnia pavonia. For further information contact Jürgen Krüger, Danziger Str. 14, D-40822 Mettmann, Germany, FAX +49/2104/73913.

FREE: Sania cynthia ova for restoration/re-establishment projects. Call Jeff Frey, 364 Oaklyn Rd, Lebanon, PA 17042. or phone 717/272-6597. or mail \$1.00 to cover postage with any reasonable request.

WANTED: Atlas de Los Mariposas Diurnes de Cuba by Alayo & Hernandez (1987). Is anyone willing to part with their copy? Please contact Mel Tintpulver, 215 Indian Grove, Toronto, Ontario, CANADA M6P-2H4 or phone collect to (416) 532-8595.

FOR SALE OR EXCHANGE: Livestock and papered rare Papilionidae from Europe. WANTED: rare Parnassius, live material (cocoon) of Politysana, Saturnioides albofasciata, Rothschildia cincta, yorulla, ericina, forbesi and a few others. Contact U. Nardelli, Via Cosma e Damiano 9/2, I-38100-Vela-TRENTO (Italy).

FREE TO A GOOD HOME: Several hundred Western U.S. Butterflies. Full data. All are damaged (chips, or worn, lost scales or antennae, etc.) and are ideal for dissections, to practice relaxing and spreading, or for the indiscriminating collector to whom condition is of secondary importance. Contact Bruce O'Hara, 25078 Peachland Ave. #C, Newhall, Calif. 91321.

FOR SALE OR EXCHANGE: ova of H. cecropia, A. io, C. promethea, H. gloveri, A. pernyi and a few others. SASE for reply to: Mark A. Howe, RR #1 Box 217, North Horseshoe Drive, Lake Village, Indiana 46349.

FOR SALE: Papered specimens of butterflies from Russia, China, Indonesia, Peru, Brazil, PNG, etc. Many hard to obtain species, eg. Leuhdorffia longicaudata, Graphium stessemanni, Euryades corethrus, Papilio neumoeni, many Parnassius, Delias, Charaxes etc. For free price list write to: David Hall, 6 Rule St., Cambridge Park, N.S.W. 2747, AUSTRALIA.

WANTED: A copy of Grasshoppers of California (1968) by Strohecker, Middlekauf, & Rentz. Will pay \$10-\$20 depending on condition (negotiable). Contact Ray White, 788 Mayview Avenue, Palo Alto, CA 94303-4549 or phone (415) 493-5070.

FOR SALE: "The Insect Book" by Leland O. Howard. This book was published in 1902 by Doubleday, Page & Company and is in the same format as Hollands Butterfly and Moth books having 48 plates within its 429 pages. Subject matter includes bees, wasps, all flies, grasshoppers, dragonflies, etc. Book is in very good condition. For those wishing to make an offer send same to Robert Muller, 17 Sailors Lane, Devon, CT 06460, USA.

FOR SALE: Two great old reference books. #1. SCUDDER, S.H., 1890. The Tertiary Insects of North America; in Hayden, F.V., 1890. Report of the USGS of the Territories, Vol. SIII. Washington, DC., GPO. 734 pp. + xxviii plates. EX library copy in great condition, cover somewhat worn, very minor water stains on a few plates; a very sound volume. #2 PACKARD, A>S>, 1876. A Monograph of the Geometrid Moths or Phalaenidae of the United States; in Hayden, F.V., 1876. Report of the USGS of the Territories, Vol. X. Washington, DC., GPO. 607 pp. + xiii plates. Ex library copy in great condition,

cover somewhat worn; a very sound volume. SASE to Steve Stone, 18102 East Oxford Drive, Aurora, CO 80013 PHONE: 303/690-8649.

FOR SALE: 84 Cornell drawers of spread saturniids of the world; the drawers, three BioQuip 12-drawer cabinets, one antique (walnut or mahogany) 48-drawer cabinet, and numerous other entomological paraphernalia are also for sale. For print-out inventory send long double stamped SASE to Steve Stone, 18102 East Oxford Drive, Aurora, Colorado 80013 PHONE: 303/690-8649.

FOR SALE: One pinned a+ hybrid saturniid *Graellsia isabellae* ♂ X *Actias luna* ♀; five A/A+ pinned African saturniids *Eustera argiphontes* 2 ♂, 3 ♀; five pinned *Hemileuca* hybrids *H. nuttalli nuttalli* ♂ (Colorado) X *H. eglanterina shastensis* ♀ (California), 3 ♂, 2 ♀. SASE to Steve Stone, 18102 East Oxford Drive, Aurora, Colorado 80013 PHONE: 303/690-8649.

FOR SALE: pupae/cocoons of *H. cecropia*, *A. polyphemus*, *A. luna*, *S. cynthia*, *C. promethea*, *E. imperialis*, *C. regalis*, *R. cincta*, and others. SASE to Dallas Dowhower, 2111 S. 5th Street, Lebanon, PA 17042. Or phone 717/273-4912 (evenings 717/273-4924).

FOR SALE: cocoons for Spring 1995 wintered to emerge May and June. *Luna*, *Cecropia*, and *Polyphemus*. Will have 1st brood *Luna* and *Poly* for delivery about 7-1-95. These will emerge by 8-1-95. Send SASE: Don Oehlke, c/o P.O., Pottersville, NJ, 07979. Phone (908) 439-2462.

FOR EXCHANGE: Pupae of *Gloveria medusa* (Lasiocampidae) from the San Rafael Mountains, Santa Barbara County, will be available in 1995. Contact Richard Priestaf, P.O. Box 14203, UCSB, Santa Barbara, California 93107.

FOR SALE: Cocoons of *A. luna* and probably *A. io*, *C. promethea* and *Cressonia juglandis*. SASE for prices. Larry J. Kopp-R.D. 1, Box 30, Klingertown, PA 17941-9718.

FOR EXCHANGE: Wisconsin leps, including Canadian Zone species plus miscellaneous Insecta. For other North American Species. SASE for list. George F. Holbach, N 1549 Lynn Rd, Adell, Wisconsin, 53001.

FOR SALE: Papered A1 wild collected topotypical *Hemileuca magnifica* ♂♂. SASE to: Steve Stone, 18102 E. Oxford Dr., Aurora, Colorado 80013 or call 303/690/8649.

FOR SALE: Bred, ex-pupae specimens of *Sasakia funebris* and other species of bred Apaturinae. Also, superb specimens of *Agrias* including *fournierae*, *excelsior*, *viola* and many other fine forms. also WANTED: Contact (correspondence) with breeders, researchers and collectors worldwide of these and related species of Nymphalidae. Write or phone: John McFeely, 90 Stonechat Avenue, Abbeydale, Gloucester GL4 9XF England UK.)Tel.0452-415130).

WANTED CONTACTS FOR PURCHASE, SALE OR EXCHANGE: Contacts with collectors/dealers worldwide interested in large selection of butterflies, moths and beetles from remote regions of former USSR; large selection of *Parnassius*, *Colias*, *Satyridae*, *Carabidae*. Can supply large and small quantities of all attractive and colorful butterfly, moth beetle and other insects for decorative collections. Write, FAX or call for price lists in US\$ (price list is free). Dr. Iliia N. Osipov, Novogireevskaja str. 53-8, 111394, Moscow, RUSSIA. FAX: (7-095)-292-65-11, especially mark at the top of FAX letter "for BUTTERFLIES, Box 3081". Tel. (7-095)-301-25-14.

FOR SALE: Pupae of *A. luna*, *A. selene*, *A. polyphemus*, *A. pernyi*, *A. atlas*, *A. io*, *B. philenor*, *C. promethea*, *C. regalis*, *E. imperialis*, *E. marcellus*, *H. cecropia*, *H. euryalis*, *H. gloveri*, *P. glaucus*, *P. troilus*, and *S. pyri*. Ova: *A. yamamai* and *H. nevadensis*. Others may be possible. Send SASE to Mark D. Schmidt, 8780 Red Lion-Five Points Rd., Springboro, OH 45066. Willing to trade.



MEMBER'S COMMERCIAL NOTICES

IMOGENE L. RILLO, P.O. BOX 1099 MANILA PHILIPPINES. Selling farm-bred Philippine butterfly pupae of Papilionidae, Nymphalidae, Pieridae and Danaidae. REGULAR ORDERS ONLY. Please send \$1.00 for price list and postage.

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KUEN CHONG, DEPT. OF INSECTS, CHINA FUJIAN SPECIMEN CORPORATION, 39# CHA YUAN ROAD, FUZHOU, FUJIAN, P.R. OF CHINA. "Supply all kinds of Chinese butterflies, moths, Coleoptera, Odonata, Mantodea and entomological books. For free lists, please write to above address.

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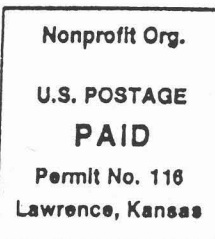
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From: The Lepidopterists' Society
Allen Press
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Lawrence, KS 66044

Address Correction Requested



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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, 1762 Upper Twin Rock Road, Florissant, Colorado 80816-9256, USA. Phone (719) 748-3663.

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, Michael J. Smith, 7428 Holworthy Way, Sacramento, CA 95842, USA. Home phone .

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.

