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CULTURING SATYRIDS

Satyrids (or satyrines, if you prefer) have always had a special fascination for me, perhaps partly because of their tendency for great geographic variation. In Eurasia satyrids account for a large part of the butterfly fauna, and many of the common species (e.g. Pararge spp.) are multivoltine even in northern Europe. Here the grass-feeding niche seems to be dominated by skippers, and only a very few of the American species north of, say, latitude 40°N have more than one generation per season. When rearing satyrids, the key word is PATIENCE. Most species grow very slowly and must be carried over the winter as diapausing larvae. On the other hand, generally they are quite tough and survive well under laboratory culture conditions.

There is usually no problem getting eggs. I confine each wild or lab-mated female in a quart jar put on its side and scatter a handful of grass sedge the length of the jar so that the female will flutter on top of it. Females are fed individually each morning on sugar-water-soaked pieces of paper towel in petri dishes, then put into the jars. I cover the open end of each jar with a piece of nylon stocking held with a rubber band, then line the jars up on their sides on a shelf with a fluorescent light with two 40-watt tubes about 8 inches above. The jars can also be put on a sunny window sill, but be careful to avoid overheating. Small species like the "Euptychias" survive better if put under artificial light and kept active only 6 hours or so a day; species like Cercyonis pegala are very hardy and can take more heat and exposure time. Very fresh wild or newly mated reared C. pegala females may take up to a week to begin oviposition. They will begin by laying very little but achieve a steady flow of 10-30 eggs a day after a week or so.

I gather eggs each morning, while the adults are feeding, by snipping off short pieces of grass or sedge with eggs attached. These are put into 15 X 100mm plastic petric dishes, which are then sealed into ziploc* bags (20 fit perfectly into an 11 X 11 inch bag) and put aside to await hatching, which takes 6 to 12 or so days at 75° to 80°F.

Usually I rear larvae in 20 X 100mm petri dishes. Each dish is lined with a circle of slightly moist-

ened paper towel, onto which I place 6 or 8 short lengths of foodplant plus 4 or 5 newly hatched larvae. All of the grass-feeding species I have tried (Cercyonis, Megisto, Coenonympha) have done well on the common lawngrass, Poa pratensis (Kentucky bluegrass), which also keeps fresh especially well in the dishes. Sixteen dishes fit well into a ziploc* bag, and since the grass will keep fresh for 3 to 4 days, I divide my bagged stacks of dishes into 3 piles, one of which is fed each day in rotation. As the larvae grow, the number to each dish should be reduced to 1 to 3, and obviously, they will need enough food to last until the next change. Last summer I reared about 700 Megisto cymela in this way, and the time I took each day to replace the paper liner and add new grass spears to about 80 dishes took 1 hour and 40 minutes.

Another method is to rear larvae on potted clumps of grass or sedge enclosed in glass cylinders or in cages and kept under lighting to keep the plant growing. With this method the day-to-day maintenance of larvae is less, but the setting up for large numbers takes a good deal of time and lab space. In addition, it is very hard to keep tabs on small larvae. C. pegala, Lethe eurydice, and L. appalachia do well in dishes as long as the temperature is kept below about 78°F. At 80°-85°F mortality has been very high (80-90%) in cultures I have kept under sealed conditions, and pot culture is probably best under hot summer conditions.

F. M. Brown in Colorado Butterflies recommends rearing satyrids in corked glass vials. I once did a breeding project involving rearing several hundred Pararge aegeria and P megera (common European species) using this method. After weeks spent snipping grass blades to just the right length, washing dirty vials, and bandaging my cuts, I vowed, "Never again!"

Multivoltine species will probably develop straight through unless reared outdoors in late summer; univoltine larvae will usually diapause at some stage of larval development. This is as newly hatched larva in Cercyonis, half-grown larva in Neonympha and Coenonympha, and nearly mature larva in Megisto. Diapausing larvae can be overwintered as I described in the September-October 1982 Culture Corner. After 8 weeks or so of cold exposure, diapause should be terminated (i.e. larvae will resume feeding if warmed up), but larvae will keep well in cold storage for at least 8 months. To terminate diapause I bring the dishes of larvae out of the refrigerator, moisten the paper towelling with a drop of water, add some foodplant spears, and put the dishes back into the rearing bags. Feeding should begin within a week; losses run 20 to 50%, but this is much better than with other diapause storage methods I have tried. Pupation usually takes place on the lid of the petri dish, and this can be transferred to the top of a jar or glass cylinder to await eclosion.

I have been pleased to find that it is possible to rear C. pegala year round in southwestern Pennsylvania, even in the coldest part of the winter. Last winter ('81-'82) I was interested in a comparison of two Pennsylvania populations, one of "nephele" and the other of "alope." Larvae from eggs laid from late July into September were brought out of the fridge in mid-November and fed on Poa from our shaggy lawn until maturity in early January. A second set from the same parents was started in mid-February and fed until maturity in April. There were times when the temperature fell as low as -20°F at night, and on several occasions I picked frozen grass blades at 5°F during the day. The larvae did well on thawed grass, and the main problem was finding good Poa clumps under the snow. This year I had planned to cover several spots with plastic tents and to mark other good areas, but the mild weather we have had has made rearing up until now (early January) as easy as in summar. Since each group of C. pegala larvae takes about 9 weeks to reach adults in my lab, in theory I could rear at least 3 non-overlapping groups from September to May, when my field collecting, at least in the North, is not very exciting. I have not tried winter rearing on any scale with other species, but there is no reason why it should not work well.

I have attempted to get matings thus far only with Cercyonis pegala, Megisto cymela, Pararge aegeria, and P. megera. Hand-pairing was so easy with these species that I did not try any other method. I think that Lorković has hand-paired a number of Erebia species, and most American satyrids have the feel of good hand-pairers. Lethe could be an exception. I'll bet that future rearing and breeding studies will show that satyrids hold many surprises for lepidopterists.

Charles G. Oliver
Scottdale, Penna.

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THE ENDANGERED SPECIES ACT IN A NUTSHELL

The United States Endangered Species Act of 1973, amended substantially in 1978 and 1982, seeks to prevent man-caused extinction of animal and plant species world-wide and to promote the conservation of Endangered Species and Threatened Species and the ecosystems upon which they depend. Endangered species are those threatened with extinction, while Threatened species are those likely to become Endangered in the foreseeable future. For insects, the term "species" includes both taxonomic species and subspecies. Serious economic pests, such as the boll weevil, may not be protected by the Act should attempts to eradicate them ever approach success. Permits may be obtained for scientific, propagational or educational purposes. For further information on permits, write to the Wildlife Permit Office, U.S. Fish and Wildlife Services, address below.

Species are added to the "U.S. List" by a rulemaking process which involves publication in the Federal Register, the daily magazine of the government's executive branch. A proposed rule is followed by a mandatory 60 day public comment period. Public hearings may be held if requested in writing. Lepidopterists' Society members have always been notified of relevant proposals. Comments received are considered and summarized, and, if appropriate, a final rule will be published adding the species to the list. Currently listed species are shown on the accompanying table. At present there are no active proposals to add Lepidoptera to the List, although several are planned later this year. The Fish and Wildlife Service, which administers the Act, is planning an extensive notice for United States invertebrate animals; a number of Lepidoptera may be included. This notice will correct previous notices and seek data on the current status of potential candidates. Comments or data from Society members would certainly be welcomed. The Service may be petitioned by members of the public to add species to the list. Such petitions should be accompanied by sufficient data to document that the species is a good candidate for listing. Historical declines or threats should be documented. The Service is subject to law-suits if petitioned actions are not dealt with in a timely manner.

Once species are added to the List a number of provisions and prohibitions come into force. Provisions for conservation include cooperative agreements with state wildlife agencies, land acquisition (such as that for the Lange's metalmark), recovery plans and cooperation between Federal agencies. For listed species, unless excepted by special rule or permit, it is a violation of Federal law to take such species (including harrassment, capture, chasing or attempts to engage in such activities), to import or export, or to transport between states any illegally taken specimens. A "grandfather clause" excudes specimens taken prior to passage of the 1973 Act. Violations of the Act are punishable for up to a $10,000 fine and/or a year in prison for each civil

penalty and double that for criminal penalities. Several hundred Federal and state wilfelife enforcement agencies police the wildlife laws and undercover operations, e.g., last year's "snakescam", are sometimes employed. Let's hope all our members honor this important law.

For further information about the Act or its provisions write to:

Director, Office of Endangered Species
U.S. Fish and Wildlife Service
Washington, D.C. 20240.

Another wildlife law which may affect Lepidopterists is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The United States is a signatory to this international treaty. The only insects currently protected by this treaty are all species of Troidini (Troides, Ornithoptera, etc.), birdwings and their allies, and a few subspecies of Parnassius apollo. It is illegal to import any of these butterflies or their life stages into the United States (or other signatory countries) for commerial purposes (sale) without an export permit from the country where the specimens were collected. If you buy any such butterflies make sure that you have a copy of the export permit. Specimen exchanges are not subject to the provisions of CITES. For further information write to the Director (WPO), U.S. Fish and Wildlife Service, Washington, D.C. 20240.

TABLE 1. Species listed under provisions of the U.S. Endangered Species Act of 1973

Common Name Latin Name	Status
Schaus' swallowtail Papilio aristodemus ponceanus	Threatened*
Bahaman swallowtail Papilio andraemon bonhotei	Threatened**
Oregon silverspot Speyeria zerene hippolyta	Threatened
Lange's metalmark Apodemia mormo langei	Endangered
San Bruno elfin Incisalia mossii bayensis	Endangered
Lotis blue Lycaeides argyrognomen lotis	Endangered
Mission blue Icaricia icarioides missionensis	Endangered
El Segundo blue Euphilotes battoides allyni	Endangered
Smith's blue Euphilotes enoptes smithi	Endangered
Palos Verdes blue Glaucopsyche lygdamus palosverdesensis	Endangered
Kern primrose sphinx Euproserpinus euterpe	Threatened

*A special regulation allows for the capture of adults only without a permit.
**Specimens from the Bahamas are not protected.

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STILL MORE ON GRADING CLASSIFICATION

The adoption of Mr. Rahn's classification would seem to reduce the collecting of Lepidoptera from a scientific to an aesthetic exercise. I am firmly of the opinion that a bad specimen is preferable to none. Study of the many monographs will show that numerous holo- and allo-type specimens grade well below Mr. Rahn's category C.

One of the most complete private collections of East African Butterflies lost most of its scientific value because of the owner's well known habit of replacing poor specimens from marginal localities with good specimens from well-known ones.

D. G. Sevastopulo, F.R.E.S.
Mombasa, Kenya

MYSTERIOUS DAMAGE SOLVED?

Attention Mr. Gorelick:

I noticed with interest your note about a "mysterious damage" that occurred to a part of your collection (page 3 of the NEWS, #1 for 1983). You did mention you found some dead psocids on the wings of some of your swallowtails, meaning that they were present in your cabinets and I think this is the best clue. Small immature psocids can eat away fringes on the wings of Lepidoptera without leaving tell-tale signs, however when they grow they attack tougher tissues in the body and on the wings, leaving little piles of dust-like particles below a mounted specimen or in the corners of an envelope of a papered one. I have had many sad experiences with these little monsters and found the only way to keep them from feasting on your specimens is to keep them well enclosed in a cabinet with plenty of fumigant such as Vapona*, paradichlorobenzene (PDB), naphthaline, etc. Outside the cabinets you will find them walking around on any possible surface, the dustier the better, as they seem to thrive on very dusty surfaces, in fact I wonder if they don't eat dust also in the absence of a food alternative. I always wipe the surfaces of my cabinets before opening, as a precautionary measure so there will be none just walking inside at their leisure while I am consulting my collection.

I have seen all the bizarre destruction patterns you mention in your note on account of psocids ... sheared away effects, wing membrane eaten away between venation, eaten away scales only on the wings, etc. It appears that low humidity helps them more than anything ... during our wet season from June through September, I find that unprotected specimens in glassine envelopes can become infested but that damage occurs on a much faster level after the rains have stopped and the humidity is around 60% on the average. Higher temperatures, such as we have in our dry season from March to May and in which temperatures of 42°C are common, are also to their advantage. You said you saw no frass under specimens. If you look close enough you might see the dust like settlements under your specimens, especially on labels under specimens if their bodies have been infested. The lack of dead specimens lying around after you fumigated may be on account of the fact that you fumigated with something that is slow acting, and the psocids may have had time to crawl under pinning bottoms, or just into crevices along the sides of same. I fumigate with carbon disulfide and this gives them no time for anything! I find the Vapona* strips in porous cardboard storage boxes do not work so well, and specimens easily become infested. In wooden boxes or something stored in wooden or metallic cabinets, Vapona* works very well. I have also noticed that psocids are attracted to certain colors of butterflies first, Pieridae seeming to be high on their list. When I have a selection of specimens unprotected sitting around various days or weeks, Appias ilaire, a pure white species of this family is the first to go. Perhaps the best way to keep these varmits from further damaging your collection is to put Vapona*, naphthaline, thymol (to ward off mold), and a few flakes of PDB all in the same cabinet.

Eduardo C. Welling M.
Merida, Yucatan, MEXICO

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MORE ON FUMIGANTS (in response to Dave Winter's article in NEWS #1, 1983, pg. 3)

Prior to reading Dave Winter's article, I had never before heard, from anyone anywhere, that there was anything even vaguely "safe" about longterm paradichlorobenzene (PDB) inhalation. I had also frequently been told that naphathalene (NPH) was (supposedly) less dangerous than PDB, not the reverse as stated in Winter's 7th paragraph.

My serious interest in this topic goes back more than 30 years: All through this period I have been regularly asking questions of "experts", whenever such opportunities have presented themselves. I have constantly maintained fumigated private insect collections since about 1950.

Without going into much detail, I feel obligated to state that some of my teenage and subsequent health problems and disease conditions were, in the light of later information, and after discussions with various medical and other specialists, seen to have been connected with (or aggravated by) longterm close exposure to high concentrations of PDB fumes, over a 13-year period (1951-1963). I can, of course, never "prove" what percentage of these health problems was to be blamed on PDB, nor will I ever know to what extent irreversible damage was done.

Upon numerous occasions over the past 20 years, both in Australia and the U.S., I have been warned (by medical doctors, chemists, physiologists, and toxicologists), that PDB is a cumulative liver poison; each additional exposure translates into just that much more damage done. Naphthalene has been described in a similar way. Whether or not the damage done can be repaired (or reversed) depends entirely upon later dietary and other measures taken by the long-exposed individual, and any other health-destroying habits that the individual continues to maintain, or is prepared to give up, etc., etc.

In Nov., 1964, I began work as Assistant Curator of Insects at the South Australian Museum (Adelaide), where I spent 5 days per week (9 a.m. to 5 p.m.), in a heavily naphthalene-polluted environment, for 6 years. By early 1969, I was having multiple serious health problems and, after extensive testing (and elimination of all other possibilities), I was medically diagnosed as having "naphthalene-induced toxic hepatitis". I was advised by my medical doctor (Dr. W. McEwen, of Blackwood, S. Australia) to remove myself from that work-environment, the sooner the better. It has taken more than 10 years, and extensive research into health-supporting (as opposed to health-destroying) modalities to stop, and gradually to begin to reverse the damage done in the 1965-70 period. (I do not know under what damage or handicaps I was already operating, from the above-described 1951-1963 period-of-ignorance, when I began my time of almost daily NPH-exposure at the S.A. Museum...). I mention these things as background material to the main reason for writing this letter, as I wish to make it clear that I am not new to this field, nor am I being flippant in the remarks that follow.

As most (or all?) pest repellents now employed in insect collections and herbaria have documented potential for destroying the health of those individuals who work regularly in collection rooms, it would seem obvious (in fact imperative) that any "reassuring" information given out, concerning these chemicals, should be most carefully researched indeed.... Many years ago, Dr. N. B. Tindale (then of the South Australian Museum, Adelaide) told me that he knew of two documented deaths (Bonn Museum, West Germany) connected with longterm PDB exposure--which information he could still verify upon request (Palo Alto, CA.). Tindale also told me (March, 1983) that a mutual lepidopterist friend of ours, in Victoria (Australia), was recently being treated for unexplained severe cirrhosis of the liver, which was finally traced to longterm exposure to strong PDB fumes in his collection room, where he regularly spent evening hours at work on his moths, over many years. Both Tindale and I can attest to the (former) high concentration of PDB fumes in this man's collection room! Dr. Edmund C. Jaeger (Riverside, CA.), reported to me that the death of John Sperry (geometrid taxonomist), was also traced to the same chemical; I am not aware of anything published concerning either of these two cases.

I have several questions regarding Winter's 7th paragraph, which will first be quoted here in full: "Of the three traditional museum pest repellents (PDB, naphthalene, and camphor), PDB is classed as the least toxic." What I would like to see (in print) is further documentation of this entire statement, with answers to the following specific questions: (1) What expert (name and qualifications) has determined this, and (2) where and when was his research published??? (3) By what means was it determined that PDB could be classed as "the least toxic" of the three above-named fumigants? And (4), from what source did the money, for the research that is supposed to prove this, come? The last question may be the hardest to answer, but it may also be (by far) the most important one for those who seek truth in all areas of inquiry.

When one is playing with anything that damages the liver (as both PDB and NPH are known to do), one is also greatly decreasing one's chances of effectively combating cancer, whether or not the chemicals themselves are a direct cause. In our polluted environments (air, water, and food), the primary detoxifying organ of the body already has an immense overtime job, in most instances, without any additional stresses. If this is not abundantly apparent through experience, observation, and common sense, then mountains of literature exist to help one reach this comprehension of the world we have created for ourselves.

I am concerned that some of the statements in Winter's article are based more on wishful thinking than upon published or scientifically proven information. The only "safe" advice is to use none of these chemicals--which, of course, leads to a serious dilemma for those who wish to maintain dry collections of insects or plants. Regardless of this dilemma (which it certainly is!!), one cannot change the laws of nature, with respect to health, merely by repeatedly saying (or wishing) that the facts were other than they are! Such an approach is called self-deception. In the end it fools no one, not even its faithful adherents....

Perhaps we will all have to become (or employ) better carpenters? Or undertake periodical fumigations (once every 3 to 6 mo., depending on need), where the fumes are only present for 2-3 days at a time in the collection room? Such fumigations can usually be timed for periods when one is away for a few days, so that actual exposure-time can be reduced still further. Ethyl acetate used periodically, in small but deep containers (like 35mm. film tins), adapts well to this approach. The small surface area guarantees a slower evaporation-rate, over a 2-3 day period, inside a tightly-closed drawer.

Another area worthy of investigation and trials would be in the use of ultrasonic sound devices to repel insect collection pests. If, as some dealers claim, these devices are effective in repelling "silverfish, roaches, moths, mosquitoes, lice, rats, and mice", then is there good reason to suspect that they might also repel psocids and dermestid beetles??? One such device ("Pest-Elim 1500") was recently advertised (March, 1983) by Keystone Products, New Oxford, PA. 17350, costs $32.38 postpaid, and is said to treat an area of 1500 square feet. It uses 4 watts of electricity (not battery-operated). During 1983-84, I will be experimenting with this device in my own collection room. Whether or not these devices are totally harmless to Homo sapiens, over longterm exposure, I do not know, although (of course) their sellers claim they are.

Of Camphor and Vapona* I have heard and read very little. However, specific reference to one published paper on Vapona* (or its other U.S. equivalent, brand-named "Texize No-Pest Strip", or "Shelltox" in Australia) should be mentioned, for those who wish to dig deeper and need a starting-point: "Vapona for the Control of Museum Pests" (J. Med. Ent. 6(1):93, 30 Jan. 1969). A summary of this is available as a leaflet from BioQuip Products, P.O. Box 61, Santa Monica, CA. 90406. In the leaflet, they also quote R. E. Ryckman of the Dept. of Microbiology, School of

Medicine, Loma Linda Univ., CA. 92354, and they list one reference possibly worth checking(?): Funckes, A. J., S. Miller, and W. J. Hayes, Jr. (1963) - Bull. W.H.O. 29:243-46. (I have not seen this.)

With ref. to the 9th paragraph of Winter's article, I couldn't agree more that PDB gives "time-tested protection" for collections. (It has indeed been long in use!) But whether or not there is a "good margin of safety", for the collectors using it, is quite another question: This remains to be demonstrated by still more human guinea pigs. I, for one, do not elect to participate in any future attempts to prove the wished-for "safety" of PDB or naphthalene!

As a footnote to the above discussion, for those who value their vision, I should also quote the following from a recent book, entitled CATARACT BREAKTHROUGH, by Dr. Alex Duarte (1982), published by the International Institute of Natural Health Sciences, Inc., P.O. Box 5550, Huntington Beach, CA. 92646 ($8.95, paperback): On p. 173 of this book there is an "Appendix A", listing physical and chemical agents that have been shown to induce cataract formation. Included among the 48 listings are the following: Ultraviolet-light, Naphthalene, Paradi-chloro-benzol, and Cresol. The author states that "This summary list was compiled and modified from: Bellows, J. G., and Bellows, R. T. (1975), in CATARACT AND ABNORMALITIES OF THE LENS, Grune and Stratton, Inc., N.Y., N.Y. (pp. 230-240)."

In some future letters, it might be of value to hear discussions of dangerous vs. relatively "safe" killing agents for insect killing jars, to be using over a lifetime....Can anyone contribute (documented) information on this topic?

Noel McFarland
P.O. Box 1404,
Sierra Vista, Ariz. 85635

*registered trademark

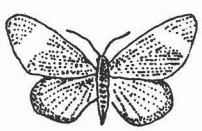
SUNSPOTS AND MIGRATIONS

Col. Gillette's reference to sunspots and their lack of correlation with sporatic Utah migrants is in need of further comment. The summer of 1982, when the migrant species I reported in Nevada and Utah turned up, was a wet year following a dry one, like the tendency in Celerio lineata migrations, so I assumed (falsely?) it would be a notable migration year. Rainfall peaks precede the sunspot peaks by 1.3 year average, with 1983 being the next sunspot maximum.

Migration doesn't result directly from the sunspots themselves but rather from the effect they have on the earth's weather. Solar flares at sunspot maxima cause magnetic disturbances on earth, creating larger than average low pressure weather systems in the Gulf of Alaska. The increased rainfall produces more vegetation than normal and, hence, migration.

Vanessa cardui and Nymphalis californica apparently migrate nearly every year but only periodically as massive migrations: 4-7 year intervals for cardui, 5-13 year intervals for californica. Powell (1972) noted the outbreaks of N. californica were apparently too irregular for cyclic periodicity. The V. cardui, however, tend to have massive migrations at sunspot maxima and minima (Shields, 1974). Celerio lineata's migration years correlate with sunspot maxima, or at least most often occur away from the sunspot minima (Grant, 1937). Years of sunspot maxima are the following (±11 yr. average): 1904, 1915, 1927, 1938, 1950, 1960, 1971, 1983. That the sun controls migrations should come as no big surprise in view of its dominant role in weather patterns and overall butterfly behavior.

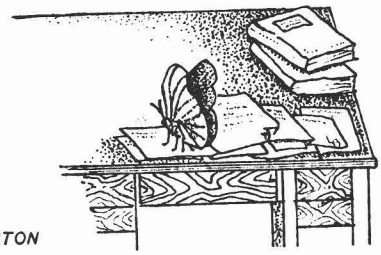
Oakley Shields
Mariposa, California



PAINTED LADY MIGRATION

Members are advised to be aware that Vanessa cardui has been observed migrating in large numbers in Southern California since late March. Keep on the lookout for unusually large numbers of these colorful butterflies in your area.

From The Editor's Desk



JUNE PRESTON

The LEP NEWS is intended to be a vehicle in which members can air their views and, in the interest of science, to debate these views. I print the following letter with that objective in mind. Dr. Miller's reply follows.

Dear Mrs. Preston:

I find in Dave Winter's note on the Season Summary the unsupported statement that the use of the Miller & Brown list should simplify the work of the zone coordinators. While I fail to see how this is so, my main reason for writing is to state that the Miller & Brown checklist is in no way an official list, any more than its alternatives (Howe 1975, Ehrlich & Ehrlich 1961) are official, and to point out its two major defects.

Most obvious, the Miller & Brown list changes many well-known generic names without stating reasons, sound or otherwise. Should the list be used, then literature searches will be more expensive and more time consuming. We will all have to use twice as many symbols for the same number of butterfly species.

Less obvious, but more important, the Miller & Brown list significantly increases the number of monotypic genera. Since the relationship of the species (singular) within each monotypic genus to species in other genera is thus rendered obscure, information is lost. For example, in the Nymphalidae, Miller & Brown list thirteen monotypic genera, compared to Howe's eight. The new arrangement omits information about the relationships of five species (and of other species to them) that the older arrangement possesses. Reference to Miller & Brown does not tell me whether Aglais milberti is thought to be more closely related to Vanessa or to Nymphalis. Reference to Howe does convey this information.

I urge that the Miller & Brown names not be used in any publication until Miller & Brown support their name changes in refereed publications and until excision of their new monotypic genera from the work.

Sincerely yours,

Dr. Raymond R. White
788 Mayview Avenue
Palo Alto, California 94303
(415) 493-5070

Dear June;

Dr. White's letter addresses a few points that deserve comment. Thank you for the opportunity to respond to them.

Of course the Miller/Brown list is not "official" (who said it was?). The only possible list that would be official would be one sanctioned by the International Commission on Zoological Nomenclature.

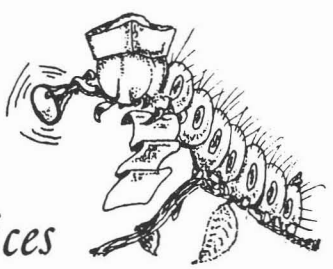
White's point on nonbasic genera is an example of parochial thinking. The genera he complains about are all save one represented in the Neotropics or the Palearctic by additional species. The only possible ways to have shown whether Aglais was nearer Nymphalis or Vanessa (it is closer to the former) would have been through cladograms (not totally resolved), meaningless taxa between tribal and generic level or by long discourse for which there is ample in European literature. It is frustrating to have a work rejected because it is not North American or does not conform to a "favored" scheme.

As a taxonomist who has had to search other generic names from Papilio to the present one for a taxon routinely, I have little sympathy for the literature survey argument that White proposes. Are taxonomists the only ones supposed to be discomfited?

I am afraid that we may be doomed to have two nomencaltures: one a stable, rigid scheme that is probably taxonomically wrong, and one a dynamic taxonomy that is really never stable until we arrive at an acceptable phylogenetic arrangement for the group. I wish this were not so, but since I can understand both "languages", I shall, always reserving the privilege of translating what I perceive as the "wrong" one into the "correct" one. This perception will change until an acceptable phylogenetic classification appears.

Both Brownie's and my recent lepidopterological writings have always been refereed, incidentally, and we resent the implication that they might not have been.

Sincerely yours,
Dr. Lee D. Miller, Curator
The Allyn Museum of Entomology
of The Florida State Museum
Sarasota, FL. 33580



ICZN

The Commission hereby gives six months notice of the possible use of its plenary powers in the following case, published in the Bulletin of Zoological Nomenclature, volume 40, part 1, on 29 March 1983, and would welcome comments and advice on it from interested zoologists.

Correspondence should be addressed to the Secretary, R. V. Melville, c/o British Museum (Natural History), Cromwell Road, London, SW7 5BD, Great Britain, if possible by 5 October 1983. Refer to letter reference number ITZN 11/4 (A.N. (S.) 125).

Case No

1688 Pseudopontia Plötz v. Gonophlebia Felder (Insecta, Lepidoptera): settlement of case.

NEW DUTIES

Dr. Paul A. Opler is no longer associated with the Office of Endangered Species of the U.S. Fish and Wildlife Service. After 8 years with that office he has transferred to the Division of Biological Services and he is no longer directly involved with the Endangered Species Program. Dr. George Drewry is now the entomologist in OES. Dr. Opler also has the additional duties of an Editor of the Bulletin of the Entomological Society of America.

JOURNAL UPDATE

The latest issue of the Journal of the Lepidopterists' Society, Vol. 36, No. 4 was mailed to members in mid March, 1983.

ELECTION RESULTS.....

The 608 ballots cast in the Society's 1983 election of officers have been tabulated, with the results listed below. Successful candidates are indicated by an asterisk(*):

PRESIDENT ELECT:	
*Lee D. Miller	572
VICE PRESIDENTS:	
*J. Donald Lafontaine	448
*Karolis Bagdonas	435
*Miguel R. Gomez Bustillo	431
Uri Caspi	257
EXECUTIVE COUNCIL MEMBERS-AT-LARGE:	
*John M. Burns	471
*Nancy E. Stamp	376
*Floyd W. Preston	310
Robert Robbins	276
Irving Finkelstein	269
SECRETARY:	
*Julian P. Donahue	586
KARL JORDAN MEDAL REPRESENTATIVE:	
*Don R. Davis	479

(The balance of the votes consisted of abstentions and a total of five write-ins.)

The CONSTITUTIONAL AMENDMENT establishing a new class of Family Membership passed overwhelmingly, 528 Yes vs. 42 No votes. Information on how family members may join the Society at reduced rates will be published in the NEWS after the Executive Council has worked out the details.

OFFICERS OF THE SOCIETY are now as follows:

Through the 1983 Annual Meeting:

President:	Charles V. Covell, Jr.
President-Elect:	Lee D. Miller
Immediate Past President:	Lincoln P. Brower
Vice Presidents:	Clifford D. Ferris
	Alberto Diaz Frances
	Claude Lemaire
Secretary:	Julian P. Donahue
Treasurer:	Ron Leuschner

After the 1983 Annual Meeting:

President:	Lee D. Miller
Immediate Past President:	Charles V. Covell, Jr.
Vice Presidents:	Karolis Bagdonas
	Miguel R. Gomez Bustillo
	J. Donald Lafontaine
Secretary:	Julian P. Donahue
Treasurer:	Ron Leuschner

Executive Council:
(term expires at annual meeting in year shown)

1983	Robert L. Langston	1985	Frances S. Chew
	Robert M. Pyle		Gloria J. Harjes
	Arthur M. Shapiro		Eric H. Metzler
1984	Keith S. Brown	1986	John M. Burns
	Everett "Tim" Cashatt		Floyd W. Preston
	Thomas C. Emmel		Nancy E. Stamp

FORTHCOMING MEETINGS

ANNUAL MEETING REMINDER

The annual meeting of the Society will be held in Columbus, Ohio from July 7 through July 10, followed by several field trips. Don't forget to notify Charlie Covell if you have door prizes to offer for the meetings. Preregistration for the meetings is very important (see NEWS #1, insert). The PROGRAM AND REGISTRATION FORM will be available by May 20, 1983 and will be sent to all preregistrants.

1983 PACIFIC SLOPE MEETING REMINDER

Information and registration materials will be mailed to all members west of the Rockies. Other interested parties should contact Julian Donahue (see NEWS #1, 1983, pg. 6 or NEWS #2, 1983, pg. 38). The meeting is scheduled for Aug 26-28 at Camp Inyo, Big Pine, California.

Metamorphosis

ALBERT HANSEL SHEFFIELD.....

Long time lepidopterist of Ottawa, Kansas, Al Sheffield passed away Jan 17, 1983 following a long illness. He was 60 years old. He was a member of the Society from 1968 until his death. His friends remember the enthusiastic dedication with which he captured butterflies. He made many trips to Tamazunchale, Mexico with fellow Ottawa resident Bill Howe and the two would collect butterflies in style as Al would hire a chauffeur to drive them throughout the canyons in the area. He frequently would purchase specimens from the natives, once paying for a beautiful Caligo uranus with an American hundred dollar bill, then declaring in his typical Texas drawl: "That there butterflah is mahne - all mahne!"

Information furnished by Bill Howe.

*****

VIRGIL CALKINS.....

Word has been received of the death of Virgil Calkins in Seattle, Washington.

*****

LANCELOT A. GOZNANY.....

Lancelot Goznany of Hungary is reported to have died.

*****

VIRGIL WARCZYNSKI.....

Word has been received of the 1982 death of Virgil Warczynski of Bay City, Michigan.

FLORENCE GRIMSHAW.....

On Feb 17, 1983, at the age of 86, Florence Grimshaw passed away in Miami, Florida. She was a charter member of the Society and a pioneer lepidopterist in southern Florida. She helped found the Florida Society of Lepidopterists and it was she who did the first life cycle study of Papilio aristodemus ponceanus. She donated her collection of 10,000 butterflies to the Univ. of Florida Museum in 1970.

Information furnished by David F. Jamieson.

*****

CARL C. CORNETT.....

The Society lost another charter member with the death of Carl Cornett in Louisville, Kentucky on Aug 4, 1982 at the age of 79. He was also a charter member of the Kentucky Society of Natural History. He was a Personnel Manager for Reynolds Metals when he retired and had been an active worker in the Boy Scouts of America in his earlier years. In 1970, after retirement, he began collecting moths for the Univ. of Louisville and added many specimens over the years through his use of blacklighting in various Kentucky State Parks. He put much of his time, talent and treasure into the work of the Kentucky Lepidoptera Survey, and many state records are based on his captures. He is greatly missed by his many friends and fellow collectors.

Information furnished by Charlie Covell.

*****

ROBERT H. CARCASSON.....

Bob Carcasson, a recent past vice president of the Society, died in Vancouver, British Columbia on Sept 28, 1982 at the age of 63. He was born in Cheltenham, Gloucestershire, England but moved to Florence, Italy when still a child, and it was in Italy that his interest in entomology developed. He earned a Diploma in Tropical Agriculture from the Univ. of Florence in 1937 and immediately moved to Southern Rhodesia where he started farming in the Sabi Valley. After World War II he became an employee of a pest control firm and moved to Kenya. There he became Entomologist at the Coryndon Museum (Nat'l Museum of Kenya) with Louis Leakey as Director. He published in the Proceedings of the Royal Entomological Society of London in 1957 and a number of books and papers followed. He became acting director of the Museum in 1961 and was full director from 1961-1969. During that period he travelled widely in Europe and Africa and in 1968 obtained a Doctorate from the University of East Africa for his thesis on Sphingidae. He moved to Vancouver, B.C., Canada in 1969 to become Chief Curator of the new Centennial Museum there. He resigned in 1971 to concentrate on writing and illustrating natural history books, and travelled through much of South America, Polynesia, Melanesia, Australia and the Indian Ocean to this end, preparing his "Collins Guide" to the coral reef fishes of the Indian and West Pacific Oceans. In 1973 he returned to Canada to become Curator of Entomology at the British Columbia Provincial Museum in Victoria. This post he held until he was forced to retire because of ill health. He was found to have cancer in 1979, but still found time and energy, following the removal of one lung, to publish his "Handguide to the Butterflies of Africa". He was an outstanding field naturalist and a man with considerable charm. He was an accomplished artist, frequently illustrating his own field guides. His greatest work, a synonymic catalogue of African butterflies remains unpublished, but is being revised by the staff of the British Museum and its eventual publication will be a fitting memorial to the memory of Bob Carcasson.

Abstracted from Antenna, Lond. 7(1) pp. 30-32, Feb 1983, an obituary written by R. I. Vane-Wright, Dept. of Entomology, British Museum (Natural History).

Jo Brewer, Ed, 257 Common St, Dedham, MA 02026

Dear Ripples,

Re: Joseph Muller's inquiry about Horama texana. To the best of my knowledge, the most recent revision, by Robert Dietz IV and W. Donald Duckworth, 1976, has sunk texana to a subspecies of H. pathalon. I'm not sure where the trinomial Horama texana didasys came from, but I presume that it is an accidental amalgamation with the genus Didasys, another genus of ctenuchid.

It might be instructive to ascertain from which subspecific population (Antillean or Texan), it came. Besides the possibility that it may, indeed, have flown to New Jersey under its own steam, it may have hitchhiked there, just as the pupae of Antichloris viridis, a banana feeder, turn up on bananas in many stateside localities.

Finally, I don't think that the fragility of a species necessarily means that it doesn't or can't migrate for long distances. There is a considerable body of knowledge on this subject showing how insects can travel great distances utilizing the movement of large air masses, and arrive at the collector's net (or light), in relatively unworn condition.

Although I haven't really answered Mr. Muller's question, I hope that these comments will be of some use.

Julian P. Donahue,
Assistant Curator, Entomology,
Los Angeles County Museum.

To the Editor:

This is in response to Glenn A. Gorelick's letter re: Robert Pyle's Audubon Society Field Guide of North American Butterflies. He writes that "it does indeed meet the goal of making people aware of the fascinating variation among our butterfly species ..." Later in his letter Gorelick states that my Butterflies of North America fails in this goal.

Actually, the variations and subspecies illustrated in Butterflies of North America vastly outnumber those to be found in any other book in print. For example, no less than 14 plates are devoted to the genus Speyeria alone. I fail to see how anyone could depict more variations than that (if such be the goal, as Gorelick states).

But let's go a bit further and check the accuracy of the variations in Pyle's book. The color photograph of Speyeria egleis is certainly S nevadensis. Just what population we cannot say other than to state that it agrees rather closely with northwestern Utah S. harmonia. The brilliant color photograph which purports to show the underside of S. callippe is also S nevadensis. In all California callippe the disc is brown--not green. If nevadensis is not treated as a full species, the trinomial MUST be used.

Nor is the text entirely trustworthy. The distribution of S. egleis is incorrect. In California, egleis does not occur in the Coast Ranges south of San Francisco, but only in the Cascade, Sierra and Tehachapi Ranges. What the author probably means here is Speyeria adiaste, a totally distinct species!

In The Butterflies of Southern California, (Emmel & Emmel, p. 29), both text and range are correct. If Gorelick does not trust my word, and if he does not already own a copy of this book, he may go to the nearby Los Angeles County Museum and borrow one from Julian Donahue.

William H. Howe
822 E. 11th Street
Ottawa, Kansas

To the Ripples Editor:

As my speciality is the Hackberry butterfly group, I was dismayed at its treatment in the recently published Audubon Field Guide to North American Butterflies. I was not too surprised, though, as it is a difficult genus. I offer the following corrections:

Plate 662: (p. 656)

"Empress Leilia" d ♀ depicts a ♂ A. Leilia on the left and a ♀ Hackberry Butterfly (Asterocampa antonia of the check list) on the right. The ♀ specimen appears to be from south Texas and probably belongs to that population, which differs from typical antonia. I'm considering describing it.

Plate 663: (p. 655)

"Mountain Emperor" depicts a ♂, possibly Asterocampa montis of the check list, and a ♂ A. leilia on the right which is incorrect.

Plate 666 (p. 657)

Tawny Emperor d ♀ depicts a ♂ Tawny Emperor on the left.

Page 654 at the bottom states that the Pale Emperor is closely related to the Hackberry Emperor (Hackberry Butterfly). In the opinions of some Taxonomists it seems rather more closely related to the Tawny Emperor.

There is also an inconsistent usage of the code letters "d" and "v" for dorsal and ventral in the plates. Some have them and some don't.

I don't have the training to critique other parts of the book. I hope other butterfly workers will, as this is a fine book with excellent color plates.

Jim Friedlander,
Dept. of Entomology,
Texas A & M University,
College Station, TX 77843

Dear Ripples Ed:

The light hearted exchange between Jo Brewer and Paul Grey (NEWS Sep/Oct '82) sparked my interest. They were attempting to establish a northeastern record for the variegated fritillary (E. claudia). I don't want to be involved in any one-upmanship, but I captured a male E. claudia near Danforth Lake, Quebec, about 60 kilometres north of Ottawa, Ontario, on June 27, 1980--only two days before Jo made her capture. My specimen was worn but not to a thread.

Intrigued by Jo's Maine capture and my Quebec specimen having occurred so nearly at the same time, I did a quick survey of the season summary, discussed records with other members, and discovered that E. claudia showed up in other northern localities such as southern Ontario, Wisconsin and Michigan (where it was common) in late June and early July, 1981, and also in Western Montana (where it was present for the first time), in August of that year.

The eastern records are particularly interesting because further searching reveals that most northern captures of E. claudia were from August or September and involve the last generation. I would be interested to hear from other members about records further north of E. claudia in 1981, or information as to whether this species was super-abundant during the first generation in 1981 in its more usual haunts.

Peter Hall,
24 Wendover Ave,
Ottawa, Ontario, K1S 427.

Editor's note: You win, Peter. I shrink back into my hole! (Jo Brewer)

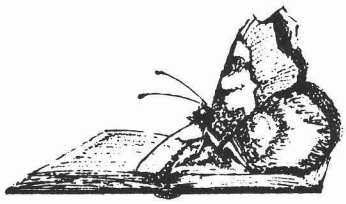
Dear Ed:

In southern California, Maenas vestalis (Arctiidae) and Papilio indra (Papilionidae) fly in the springtime. It is a rare event to see them emerge in the autumn months. However, on November 7, 1982, one fresh male of M. vestalis was spotted sitting in the window of a 7-11 store in Goleta, CA. in company with such typical fall flying Arctiids as Apantesis proxima, Arachnis picta and Hemihylaeae edwardsii. I have observed vestalis in the Goleta - Santa Barbara area for twenty five years now, and this is the very first time I have seen it on the wing in autumn. I suspect an earlier rainstorm may have triggered this most unusual emergence.

In November, 1981 I witnessed premature emergences from pupae of Papilio indra fordi and Papilio indra martini in my hotel room. Both subspecies had been reared in room temperatures the previous spring, and the pupae had remained thus during the summer and fall months. The indra pupae had not been subjected to the customary 2-3 month period of refrigeration which triggers emergence. There had been a late October 1981 rainstorm in Santa Barbara, and the temporary change in atmospheric conditions outside the hotel room, and also inside, (since the window was open) may have triggered these unusual autumn emergences.

This brings us to the topic of what triggers emergences in the wild. Temperature change? Humidity change? Photoperiod? Is it possible that a substantial rainfall and the changes in atmospheric conditions that occur during rainfall may occasionally trigger premature emergences in butterflies and moths? The author admits to not having kept up with all current research in this field.

Richard Carl Priestaff,
P. O. Box 1403, U.C.S.B.
Goleta, CA 93107



Books

BEETLES

"Beetles of the World" by Gakken. 144 pages, hard bound. Beautiful pictorial book illustrates over 600 worldwide beetles in full color with fine representation for major and most popular families. English index gives names of species and countries of origin. Text Japanese. A must for everyone interested in Coleoptera. Send $35.00 check or money order to IANNI Butterfly Enterprises, P.O. Box 81171, Cleveland, Ohio 44181. Price includes postage.

BOOK NOTICE:

THE BUTTERFLIES OF THE CRIMEA by Yuri P. Nekrutenko (Russian title: Bulavousyye Cheshuyekrylyye Kryma) is now at the publisher, 'Naukova Dumka', Kiev and will be available in mid-1984. The book covers all 113 Rhopalocera (Papilionoidea and Hesperioidea) species known for the Crimean peninsula. Each species is described and figured (123 line drawings of male and female genitalia, 24 full color plates consisting of approx. 300 color photographs. Type specimens of all taxa described from Crimea are figured). All primary literary sources of nominal taxa and faunal lists have been checked, not re-cited from secondary sources. In Russian, with Latin nomenclature and bibliographic data on European languages - no knowledge of Russian is necessary to use the book. Tentative price 5 to 7 Rbls. ($1.00 = 0.75 Rbl.).

A limited number of copies will be produced, and to ensure delivery, order now, giving author's name, Russian title, publisher's name and locality, (all underlined). Order from: V/O Mezhdunarodnaya Kniga, Smolenskaya pl. 32/34, 121200 Moscow, U.S.S.R.

BOOK REVIEWS

"Insect Neurohormones" by Marie Raabe, Pierre and Marie Curie University, Paris, France, 1982. Hard cover with 352 pages including numerous diagrams and black/white illustrations. $42.50 in U.S. and Canada; $51.00 elsewhere. Inquire or order from Plenum Publishing Co., 233 Spring St., New York, NY 10013, USA.

Neurohormones are secreted by special cells in the nervous system and regulate insect behavior and development through control of endocrine gland activity. This is a summary work, in which the experiments and investigations of many workers are used to support the principles as outlined (there are 62 pages of references to published papers). Diapause, reproduction, color change, behavior and rhythmic phenomena, osmoregulation, metabolism and cuticle formation are discussed as affected by neurohormones. The secon on diapause is of special interest, showing how environmental factors are sensed by the brain, neurohormones released, and activity suspended by inhibiting the moulting gland. In one experiment, 2 million head capsules of silkworms were ground up to yield 0.012 gram of a hormone for chemical analysis. The final chapter summarizes 40 years of studies to show what has been learned, and predicts areas for future investigation.

R. H. Leuschner

Insect Pheromone Technology: Chemistry and Applications (Symposium of August, 1981). B. Leonhardt and M. Beroza, Editors. 1982. American Chemical Society, 1155 Sixteenth St. NW, Washington, D.C. 20036, USA. Price: U.S. and Canada, $35.95; other countries, $43.95. 14 articles, 254 pp., bl/wht illustrations.

The 14 articles of this symposium were published directly from typed manuscripts of the participants (some day our Society might consider this). The subjects include heavy emphasis on pheromone chemistry, plus large scale production techniques, method of dispensing and effectiveness measurements. 15 species of Lepidoptera are mentioned including well known forest/agricultural pests - Spodoptera exigua, Lymantria dispar, Pectinophora gossypiella, Heliothis virescens, Choristoneura fumiferana, etc. A few other insects are discussed (weevils, bark beetles). One interesting paper showed how various substances distract or disrupt the male in his normal mating procedure. Each paper has a full list of references. This is an excellent reference book for a research worker involved with pheromones but not for the average Lepidopterist.

Ron Leuschner

The Butterflies of Northern Europe, by Bjorn Dal. 1982 (English edition). 128 pp. with numerous illustrations, mostly in color. Croom Helm Ltd., c/o Biblio Distribution Center, 81 Adams Drive, Towata, NJ 07512, USA. Price, $13.00 (U.S.).

124 species plus additional subspecies are illsutrated in color with natural settings and positions. Each species has a map showing distribution in all of Europe and North Africa, not just the area covered by the book. Species are arranged and discussed by habitat type: bog, woods, mountains, grasslands, meadows or cultivated land. Nomenclature is fairly standard for Europe with the only surprise (to the reviewer) being a new family (Nemeobiidae) for one species, Mellicta athalia which looks like a Melitaea. In summary, this is an attractive little book which serves well as an introduction to northern European butterflies.

Ron Leuschner

Research Notices

● I may have to scrap my free Sesiidae pheromone program (see Jan/Feb 1981 NEWS, pg 8) for lack of forwarded specimens. If you caught anything interesting with the pheromone, PLEASE WRITE. Chances are I won't want much. Last year's output was nil and a lot of time, effort and money was spent. It is now up to those of you who were given the free pheromone to respond. You can phone me in the evenings at (312) 237-0543. Dr. John Holoyda, 2819 N. Marmona Ave, Chicago ILL 60634 USA.

● WANTED: Living or recently dead specimens of primitive Lepidoptera for research on spermatozoa. Field-caught males or females or any rearable stage of Zeugloptera (Micropterygidae), Dacnonypha (e.g. Eriocraniidae), Exoporia (e.g. Hepialidae), and Monotrysia (e.g. Nepticulidae, Incurvariidae) would be very much appreciated. Send best way (will at least pay postage) or consult with Dr. Julian Shepherd, Dept. of Biological Sciences, State University of New York, Binghamton, NY 13901, tel: 607-798-6538 (reverse charges).

● Information is wanted on avian interactions with butterflies. I am seeking detailed accounts of North American birds attacking, capturing, and/or eating butterflies. Please send as much of the following information as possible: bird species, butterfly species, date, habitat, number of attacks and hits, how the butterfly was captured, wing damage observed, handling time, parts consumed, and the birds reaction after eating. Interations with other lepidoptera such as large diurnal moths would also be helpful. Your information is appreciated and is acceptable through November 1983. Send to Mark K. Wourms, Dept. of Biology, Boston University, 2 Cummington St., Boston, MA 02215.

New Members

BAKER, KENT: 3479 Jullion, Boise, ID 83704.
BASCH, STEPHEN S.: 698 Palisade Ave. - 1B, Cliffside Park, NJ 07010.
BUDRIS, BILL: 5037 N. Mobile, Chicago, IL 60630.
CHEHEY, ROBERT L.: 2705 North 32nd St., Boise, ID 83703.
CUSHING, DAVID: 1512 Jenny Lane, Richmond, TX 77469.
DESARIO, LARRY: 159-16 Sanford Ave. Flushing, NY 11358.
EVANS, DR. DAVID L.: Dept. of Biology, American Univ. of Beirut, Beirut, LEBANON.
FUSDAHL, JAN: Fredtunvn. 15, 1370 Asker, NORWAY.
GARTHE, WILLIAM C.: 704½ South First St., DeKalb, IL 60115.
GIBBONS, MRS. BONNIE L.: 205 Grant, Ottawa, KS 66067.
HASHMI, ALI A.: Director, Pest Mgmt. Proj. (PARC), P.O. Box 1634, Islamabad, PAKISTAN.
HAZEL, WADE N.: Dept. of Zoology, Depauw Univ., Greencastle, IN 46135.
HOWARD, RICHARD EDWIN: Dept. of Biol. Sciences, Amarillo College, Box 447, Amarillo, TX 79178.
IMPLOM, HARVEY S.: 119 Plum Creek Road, Longview, TX 75605.
KAWAKAMI, YUZO: No. 1094-15 Asakura-bo, Kochi City, JAPAN.
MARTIN, JOHN, 1212 Shattuck Ave., Berkeley, CA 94709.
MOHN, THIERRY, 3938 Kingston, Corpus Christi, TX 78415.
MULLALY, WALLACE J.: 18554 Royalton Rd., Apt. 202, Strongsville, OH 44136.
NAUMAN, DOUGLAS: Box 204, Central City, IA 52214.
PETERSON, DR. RICHARD H.: 75 Ernest St., P.O. Box 219, St. Andrews, NB EOG 2X0, CANADA.
STAPLES, JOHN E.: 389 Rock Beach Road, Rochester, NY 14617.
TUTHILL, SAMUEL J.: 304 30th St. S.E., Cedar Rapids, IA 52403.
VIEUXGUE, FRANCOIS: Melezes, Residence du Parc, 91700 Villiers Sur Orge, FRANCE.
WEIDENHOFFER, DR. ZDANEK: Valcikova 8, 18000 Praha 8, CZECHOSLOVAKIA.

Address Changes

AALTO, DR. ANTTI: Antillilantie, SF-05840 Hyvinkaa 4, FINLAND.
BLACK, WILLIAM R. JR: Box 464, Paducah, KY 42001.
BRANDT, CAPT. JOHN H.: P.O. Box 571, Alamosa, CO 81101
CONDIE, SUSAN: Gate 5 Road, Box 251, Sausalito, CA 94965.
HARTMANN, PATRICIA PLUMB: 438 Flagler Road, Winter Haven, FL 33880.
HENNING, W. H.: 1 Harry Lawrence St., Florida Park, 1710 Florida, Transvaal, SOUTH AFRICA.
HEPPERLE, DONALD: P.O. Box 143, Meadow Lands, PA 15347.
HEPPNER, DR. JOHN B.: Fla. St. Arthrop. Coll., Bur. Entom., DPI, FDACS, P.O. Box 1269, Gainesville, FL 32602.
JIMENEZ-GOMEZ, JOSE LUIS: c/o Bletsas, Stratigou Kalari, 5; Salonique, GREECE.
MUEHLBACH, LAURITZ: Box No. 426, Chino Valley, AZ 86323.
PARSONS, M. J.: Hurst Lodge, Hurst Lane, Egham, Surrey TW20 8QJ, ENGLAND.
PAVULAAN, HARRY: 189 Clarissa Drive, Bay Shore, NY 11706.
SHOWALTER, AMOS H.: Rt. 4, Box 115, Waynesboro, VA 22980.
TREAT, ASHER E.: P.O. Box 51, Jerusalem Road, Tyringham, MA 01264.
WILLIAMS, BRIAN: 36 Birchview Cres., Toronto, ON M6P 3H8, CANADA.

Buy Sell Exchange

Items submitted for inclusion in this section are dealt with in the manner set forth on page 10 of the Jan/Feb 1983 NEWS. Please note that in keeping with the guidelines of the Society, henceforth no mention of any species on any threatened or endangered species list will be accepted in these items. Items will be accepted from members only and will be printed only once unless entry in two (maximum) successive issues is requested. SASE calls for a self addressed stamped envelope.

The Society, as always, expects all notices to be offered in good faith and takes no responsibility for the integrity of any advertiser.

WANTED: To exchange various species with collectors from Italy, Ireland, Philippines and Alaska. Also would like others in California to accompany me on California field trips and exchange information on California lepidoptera. Write A. Williams, Box 1073, Burlingame, Calif. 94010.

WANTED TO BUY: Pupae or ova of Nymphalis milberti and N. v.-a. j-album when in season. Send price and number available. Will pay good price within reason. Contact Mark A. Howe, RR#1, Box 217, Lake Village, Indiana 46349.

WANTED: Cocoons of Samia cynthia, Callosamia angulifera, C. prometheus and C. securifera. Please indicate food plant that C. securifera was collected from or reared on. Alani David, P.O. Box 727, Gonzalez, Florida 32560.

EXCHANGE: Papilio machaon aliaskae, P. kahli for Colias ruckesi, C. scudderii, Papilio ornythion, P. pilumnus, P. astylus or send your offerta and list. H. P. Kimmich, 3372 Mahon Ave, North Vancouver, B.C. V7N 3T6, CANADA.

FOR SALE: Canadian and Canadian Arctic butterflies, including Oeneis excubitor (new species), Erebia (new species), P. kahli, P. dodi, B. distincta, and many other of the choicest Erebia, Colias, Boloria, Oeneis, etc. All specimens guaranteed in A-1 condition. Jim Troubridge, RR3, Caledonia, Ontario NOA IA0, CANADA for list.

WANTED: Pupae of Citheronia regalis (female only). Will buy or trade. Presently have approximately 5 cocoons each of the following for exchange: H. cecropia, A. polyphemus, A. io, S. cynthia. David Purdum, 3429 Brandywine Ave, Roanoke, VA 24018.

WANTED: copies of the following supplements to Canadian Entomologist: No. 6, Hardwick, elliptoid-eyed Schinia, 1958; No. 8, Larvae of Nearctic Laurentiinae, McGuffin, 1958; No. 101, Geometridae of Canada, Ennominae 2, McGuffin, 1977; please quote price and condition. Dave Winter, 257 Common Street, Dedham, Mass. 02026, USA.

FOR SALE: Republication of Frederick Valentine Melsheimer's 1806 "A Catalogue of Insects of Pennsylvania", the first separate work devoted to American insects. The facsimile lists more than 1300 species of Coleoptera (other orders were not completed), and includes a short biography of Melsheimer. Price: U.S., $5.00 (overseas, airmail $6.50). Checks payable to Entomological Society of Pennsylvania, c/o Entomology Dept., Pennsylvania State University, University Park, PA 16802, U.S.A.

WANTED: Pupae and cocoons, buy or trade, small lots of: Samia cynthia, Actias selene, Actias luna, Celario lineata, Pachysphinx modesta, Ceratomia amyntor, Eacles imperialis, Eupackardia calleta, Citheronia regalis and Calasymbolus myops. Also any Rothschilda ssp. Philip A. Johnson, 26 Great Plain Terrace, Needham, MASS 02192.

FOR SALE: Cocoons of Samia cynthia. Doss Heath, 911 Timmons Dr, Tuscola, Ill. 61953.

WANTED: the following Nearctic notodontids and lymantriids; Any Cerura, Harpyia, Nagidusa, Ichthyura and Lophopteryx americana, Odontosia elegans, Hyperaeschra stragula, Hyperaeschra georgica, Notodonta basitriens and Phoesia portlandidi. Will purchase or exchange, offerta list on request. Glenn A. Gorelick, Citrus College Biology Dept, 18824 Foothill Blvd, Azusa, Calif. 91702.

EXCHANGE: A few very nice pairs of Neophasia terlootii. Am interested in subspecies of P. indra, P. machaon, P. brevicauda, P. oregonius. Also Speyeria diana, Boloria, Oeneis and other northern material. Send SASE and offerta for each pair. Peter J. Heles III, 628 Westover, Richardson, Texas 75080.

FOR SALE: The Lepidoptera of Pennsylvania by Harrison M. Tietz, 1952, Penn State College Agr. Exp. Station, 193 pages. Fewer than 100 copies left. Cover price is $3.00. We are selling it for $2.00 (post paid). Respond to: The Ohio Lepidopterists, c/o Eric H. Metzler, 1241 Kildale Sq. N., Columbus, Ohio 43229.

WANTED: Two pair of Papilio pilumnus. Contact Doss R. Heath, 911 Timmons Dr, Tuscola, ILL 61953.

FOR SALE: Bait traps in two styles. COLLAPSIBLE: 15" diameter by 36" high with 4"X15" inverted cone. Plastic coated fiberglass screen with light canvas top and tethers. 22" plastic zipper for easy access and cleaning. 17" square base suspended by "S: hooks and eye screws. Steel rings for frame. TOTALLY COLLAPSIBLE: same as above except steel rings replaced with removable spring steel hoops. Entire trap can be packed in a suitcase. Idea for travel to South America. Allow 2 to 4 weeks for delivery. For prices and further information contact Leroy C. Koehn, 12862 Clifton Blvd, Apt. 7, Lakewood, Ohio 44107, Phone (216) 521-9571.

MEMBERS' COMMERCIAL NOTICES....

S.C. LIN, P.O. Box 9-296, Taipei, Taiwan, R.O.C. Selling Formosan butterflies, beetles and assorted insects in large quantities.

MICHAEL K. P. YEH, P.O. Box 32, Ipoh Garden P.O., Ipoh, MALAYSIA. Selling butterflies, beetles, insects & moths of Malaysia. Indonesian and Thai species also available. Cocoons of Saturnid moths, Ova of Phasmida. Write for 83 catalogue, $1.00 cash. Reply to dealers only. Ova & cocoons offer to hobbyists.

WORLD LEPIDOPTERA, WILLIAM W. THRASHER, R.D. Route 1, Box 44, S.R. 305,8473; Garrettsville, Ohio 44231. I have many World Lepidoptera, Morphos, Papilios etc. to offer for sale. S.A.S.E. for Price Lists.

ASAKAWA TRADING COMPANY, M. ASAKAWA. P.O. Box 14, Komatsushima, Tokushima 773, JAPAN. Wish to buy butterflies from Middle/South American countries, Australia, Greece and East European countries.

W. B. RICHFIELD, INTERNATIONAL SPECIMEN SUPPLY, P.O. Box 1066, Goleta, CA 93116, USA. Selling all families of world lepidoptera and other insects by mail order; quality papered specimens with data. Send either the new $5 domestic rate or the new $10 foreign rate for specimen price lists, 12-issue subscription. With expansional relocation underway, diminishing operations shall be temporarily suspended, until further notice, beginning May 31, 1983.

IANNI BUTTERFLY ENTERPRISES, P.O. Box 81171, Cleveland, Ohio 44181: Phone (216) 888-2310 or (216) 888-9763. Neotropical butterflies for sale. Listings from Brazil, Peru, Columbia, Bolivia, Argentina, Panama, Costa Rica, El Salvador, Venezuela, Mexico, Jamaica and the Bahamas. Included are P. andraemon, P. hahneli, numerous Morphos, Heliconius spp., Anaea, other Nymphalids, and Satyrids. Some seldom or never offered before. Reasonable prices. For latest list contact Chuck Ianni or send $5.00 for one year price list subscription. The following book is also for sale:

"The International Butterfly Book" by Paul Smart. 275 pages, hard bound. Over 2,000 Butterflies photographed actual size. Encompasses evolution, habitats, history, classification, structure, and ecology. Postpaid, send $32.45 check or money order to above address.

DAVE E. DE ROSA, P.O. Box 15432, San Diego, CA 92115, U.S.A. FOR SALE: Agrias claudina claudianus ab. ♂♀, Prepona escalantiana ♂♀, Morpho cypris, cacica, theseus justiciae, rhtenor, phanodemus, etc. Bhutanitis lidderdalii (India) ♂♀, Papilio thersites ♂♀, thoas melonius ♂♀ etc. Also available, 1983 List of available Lepidoptera and Coleoptera from around the world--especially the Neotropical region. Please send SASE. The price list is free.

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DEADLINES: Material for the Jan/Feb issue should reach the NEWS EDITOR by Dec. 1 of the previous year, and that for the Mar/Apr issue by Feb 15, for the May/June issue by Apr 1 and for the July/Aug issue by May 1, the Sept/Oct issue by Aug 15 and the Nov/Dec issue by Oct 15. Reports for the SEASON SUMMARY must reach the ZONE COORDINATORS listed on the front cover no later than the 15th of January.

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INFORMATION ABOUT THE SOCIETY.....

Membership in the Lepidopterists' Society is open to all persons interested in any aspect of Lepidopterology. Prospective members should send the TREASURER the full dues for the current year ($18.00 US), together with mailing address and a note about areas of interest in the Lepidoptera; student membership (must be certified) $12; sustaining membership $25. 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 list will comprise the last issue of the NEWS in even-numbered years.

Information on membership must be obtained from the TREASURER, Ron Leuschner, 1900 John St., Manhattan Beach, CA 90266, USA. Changes of address must be sent to the TREASURER, and only when the changes are permanent or long-term.

Other information about the Society may be obtained from the SECRETARY, Julian P. Donahue, Natural History Museum of Los Angeles County, 900 Exposition Blvd., Los Angeles, CA 90007, USA. Please notify him of any additions or changes in areas of interest for publication in the membership list.

Manuscripts submitted for publication in the JOURNAL are to be sent to the JOURNAL EDITOR, Dr. Thomas D. Eichlin, JOURNAL of the Lepidopterists' Society, Insect Taxonomy Laboratory, 1220 N. Street, Sacramento, CA 95814, USA. See the inside back cover of a recent issue of the JOURNAL for editorial policies.

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AVAILABLE PUBLICATIONS OF THE SOCIETY.....

CATALOGUE/CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO (Memoir No. 2), Lee D. Miller & F. Martin Brown: includes references to original descriptions and location of type specimens. Members and subscribers, $10 cloth, $5 paper; non-members, $17 cloth, $8.50 paper, postpaid. Order from Ron Leuschner, Treasurer, 1900 John Street, Manhattan Beach, CA 90266, USA.

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, $6; non-members, $10, postpaid. Order from Ron Leuschner, Treasurer, address above.

BACK ISSUES of the JOURNAL and of the NEWS of the Lepidopterists' Society: order from Ron Leuschner, Treasurer, address above. A list of the available issues and their cost, postpaid, is in the NEWS for Jan/Feb 1983, page 6.