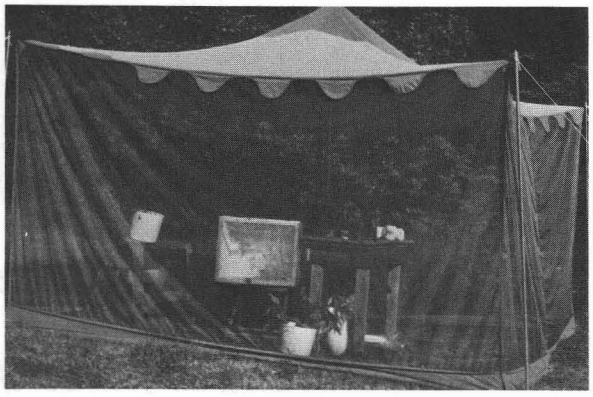
NEWS
of the LEPIDOPTERISTS' SOCIETY

Number 6
15 November, 1972

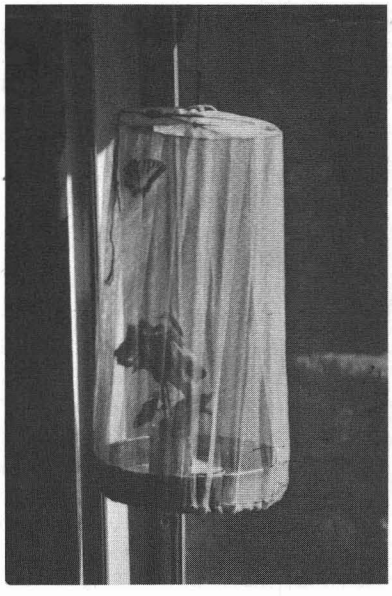
A Field Station for Butterfly Rearing

by JO BREWER
300 Islington Road — Auburndale, Mass. 02166

After more than ten years spent in rearing butterflies, I think we have arrived at a system which is almost completely satisfactory. In my case, the rather moderate initial cost of this system was by-passed when my husband gave me a field station for a wedding anniversary present. This field station, *(Fig. 1)*, in which I reared about 300 insects of 8 species last summer, is a tent made of plastic net, and can be purchased in any mail order house. It would be impractical for me to recommend my way of acquiring a tent to my fellow workers, since most lepidopterists do not have husbands; but the tents cost less than $40, and are well worth it. They are really sturdy, and they keep the whole project where it belongs — outdoors. They have tough net sides which allow plenty of sun, fresh air and moisture to circulate, and a zipper door which prevents ingress of predatory animals and most predatory insects as well. They also have a canvas top which provides shade in some part of the tent all day, and keeps out pelting rain. This canvas top is a great boon in many ways. For instance, I have found that larval food plants often wilt after being cut if left in the sun. The wilting can be inhibited by first submerging the cutting in water for an hour, after which it can be put in a bottle in the shady part of the tent with caterpillars installed on it. It will stay fresh for several days. The canvas top also traps heat, for the temperature inside the tent is several degrees warmer than the outside temperature. On a Maine island this is a definite advantage.



We kept a table in the middle of the tent. An umbrella table with a hole in the center is ideal, since the tent has a center pole. On this we put caterpillars or food stalks which required shade, and also boxes containing eggs and small larvae, neither of which should ever be left in the sun. Other stock was distributed near the edges of the tent on the ground. Supplies, including water, paper towels, saran wrap, plastic bags, twistums, scissors, reading glass, notebook and pencils were also kept in the tent. One food plant (Aristolochia), which had to be conned from distant inhabitants of the island, was stored in a large plastic bag in nearby deep shade.



I have found that if a plentiful supply of food is available, most caterpillars do not leave their food plants until ready to pupate. For this reason the caterpillars do not need to be caged. Consequently, with plenty of light, air, moisture, and normal temperature fluctuations, they can be reared under nearly natural conditions, making it easy for one to study their normal behavior and habits without disturbing them. Also, the flexible screening gives a diffused light which is far better for photography than direct sunlight. (Last summer especially, the field station was the only place where it was possible to go and wait for a butterfly to emerge without being eaten alive by mosquitos!)

The foregoing applies mainly to caterpillars in the later instars. Actually, it is

better to keep eggs and small caterpillars in plastic boxes, for a number of reasons. If not on a growing plant, the leaves will probably wilt unless they have high humidity. We have found that putting the leaf on a damp paper towel in a closed plastic box keeps it fresh for about a week. If the box is opened briefly every other day or so, there will be enough air. After the eggs have hatched, the food should be replaced often; and not more than three caterpillars should be in a box, since both mouldy food and overcrowding often result in disease. When the caterpillars are large enough to be seen easily, they can be put on bouquets of their food plants in bottles of water. A few stalks will fill the neck of the bottle, and the caterpillars cannot accidentally drown, as they sometimes do if a large-mouthed jar is used.

When some species of caterpillars are full grown—especially those which hibernate as pupae—they excrete a mass of fluid and other waste materials before pupating. This is the point at which they should be confined. Otherwise they will leave the food plant, probably climb up the sides of the tent, and invariably pupate in some inconvenient place. It is a good idea to put them into glass or plastic jars with a stick to climb on, covering the jar with slippery material such as saran wrap. They nearly always pupate on the stick rather than on the smoother surfaces. This makes it easier to store them. We usually stand them in flower pots of dirt.

When the butterflies emerge, they fly up to the most sunny corner of the screen, where some species mate. Others mate only after being released, or perhaps not at all. The success of this method of environmental rearing may have been reflected in the fact that of 38 eggs and larvae of Battus philenor which were given to me by Mrs. Dorothy Yeager at the Texas meeting last June, all emerged without defect except one which was accidentally crushed.

Some other simple home-made items were found to be very useful. Adults may be put in a collapsible cage *(Fig. 2)* made out of old curtain with wall board bottom, removable cake pan, and frame top of wire with removable hook. It can be used for mating or observation, and can be stored flat. The small wood-and-glass carrying cage for larvae or adults *(Fig. 3)* is one of a number assembled by boys in the group from parts mass-produced by my husband. The glass sides make observation easy.

The final asset which I think ought to be mentioned is the reaction of children and young people. We made it clear from the beginning that admission to the field station was by invitation only. It was amazing to see how much interest was generated in everyone from 16 down to 5 years old. It was really a big thing to be asked to help check things out in the field station and a big help to me as well.

Notes on Speyeria zerene populations in Modoc Co., California

by PAUL GREY
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Notes by Shields on the Canyon Creek, Ochoco Speyeria paradise (which I visited this year in late July and found abysmally dry and unproductive) prompt me to call attention to a situation at Blue Lake, South Warner Mountains, Modoc County, California.

Davis, Mattoon, Wells and I camped here early in August to study Speyeria. Some of our conclusions are best delayed until rearings are forthcoming to check our eyeball impressions, but it seems advisable to publicize the introgression observed in S. zerene and also to put this region on record as one favorable for study since all of the native sympatres (except mormonia, not yet recorded) are present in goodly quantity.

Moeck's pioneer discoveries of the red-yellow zerene blendings were made near here, across on the east slope. This, we now suspect, was at a time when the "yellow wave" was just beginning to roll in from Nevada. At least, almost all of the earlier Warners captures (by Newcomer, Sette, Thorne, and others) were of the "red Sierran" persuasion; and Mattoon says that even five years ago the Blue Lake zerene were all reds (which emphatically is not the case at present). The yellows are now swarming on both slopes and the population is a wild one. In a 60-pair sample taken from a 600-specimen catch the variation runs from deepest ruddy "conchyliatus" to palest yellow "cynna", along with incredible departures toward greenish disk and with every conceivable intermediate shade in individuals.

Silvering percentages were of special interest. Early-day red zerene from the Warners tended strongly toward lack of silver, whereas in 1972 wholly unsilvered red and "intermediate" red females were absent in the large sample. Unsilvered or vaguely silvered yellow and/or greenish females were in about the same ratio as unsilvered males of all colors and combinations, namely, about five per cent. Judging from this easily seen character, as well as from other indications, one gets the impression that the silvered Basin intruders are swamping the native gene pool.

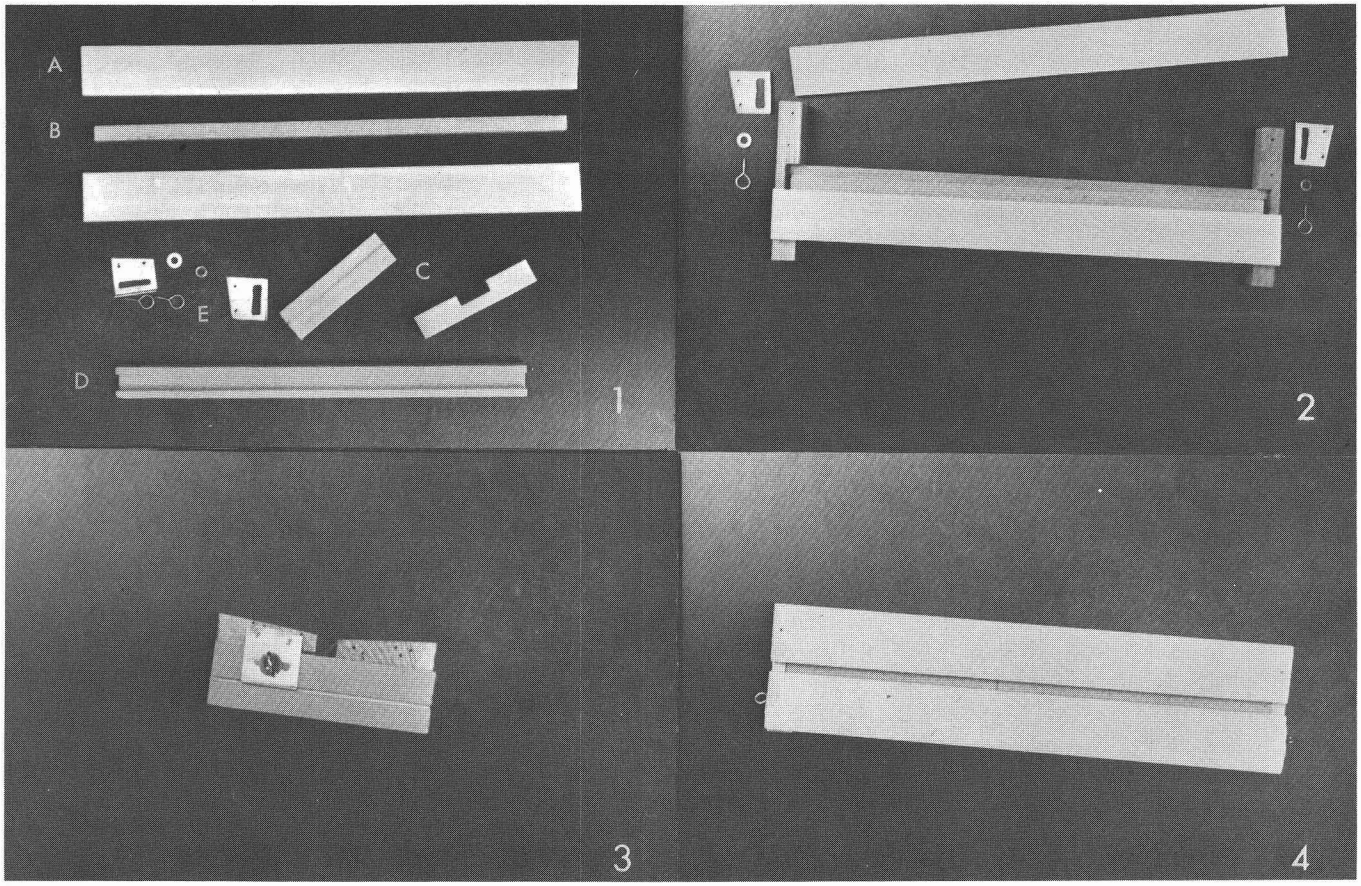
Here then, is a "tension zone" of the first magnitude, where "subspecies" can be seen in their more unobliging categorical aspects as discussed by Bowden in a recent Journal article. Also, Blue Lake is easily accessible, has a good road network (dirt) and a large campground, in National Forest giving some assurance of future preservation. So expectations are that this zerene display will be watched and reported. An obvious question is if the yellow subspecies will take over completely if the dry years continue? Or will a wet year or two bring on a resurgence of the reds? Higher percentages of reds were noted in a wet meadow this year, thus suggesting a delicate environmental balance which may dictate what happens to the genetic material now available here for selection. This is, indeed, a glorious "can of worms" to keep an eye on.

MAKE AN ADJUSTABLE SPREADING BOARD

by

Charles V. Covell, Jr. and Carl C. Cornett

Since lepidopterists are usually inveterate do-it-yourselfers, most of us have, at one time or another, designed some piece of equipment to suit either a particular need or a meager budget. Carl Cornett, curatorial associate at the Univ. of Louisville, has been experimenting with some wood, glue and nails. Here is a fairly simple plan for a sturdy, adjustable spreading board. The dimensions given are for an average-sized board, suited for medium-sized Lepidoptera; but length, width, and width of center notch can be varied to suit your individual needs.



First, some nomenclature for the parts, as shown in Fig. 1:

A – WING SUPPORT BOARDS
B – SPECIMEN PINNING STRIP
C – END PIECES
D – PINNING STRIP SUPPORT
E – END PIECE HARDWARE (two 3/4-inch screw eyes with washers and sheet-metal end piece clamps)

Other needs include a good saw, preferably a bench model with both conventional and cabinet blades; a router for the pinning strip support (parallel sawing will suffice); some strong glue; and some small finishing nails and/or brads. A vise for bending the end piece clamps, and some clamps would also be useful.

The dimensions used for the board parts in Fig. 1 are as follows:

WING SUPPORT BOARDS: 1-3/4" x 16", with outside edge 3/8" and inside edge 1/4" thick. (giving a 5° slant).
SPECIMEN PINNING STRIP: 1/2" wide (the thickness to purchase) 3/4" deep, and 15" long.
END PIECES: 4" x 1" x 3/4" (with cut of 1" width and 3/8" depth made to receive pinning strip support).
PINNING STRIP SUPPORT: 15" x 1" x 3/4" (with slot 1/2" wide and 1/2" deep routed in the 1" side).
END PIECE CLAMPS: 1" wide, trimmed to fit, with a 90° angle bent in lower 1/8" to fit into slot in end piece.

The materials can be varied somewhat; but we found that basswood and buckeye make a smooth but fairly soft surface for the wing support boards. Many kinds of wood can be used (even plywood) for the end pieces and pinning strip support. The specimen pinning strip is another crucial item. It must be soft for easy pinning; firm to hold the pin well; and durable for long use. Celotex wall board is good for this purpose, especially if it is placed so that the insect pin enters sidewise to the finished surface. Balsa wood, ethafoam, corrugated cardboard—these all may be used. The end piece clamps can be cut with tin snips to fit the needed size from 0.020 to 0.030" thick sheet aluminum or other metal. The slot is made by drilling two holes and connecting them by filing, and nail holes may also be drilled (Figs. 1-3).

In cutting the wooden parts, care must be taken to square each cut perfectly, and be accurate in measurements and cuts—especially where the inner edges of the wing support boards are concerned. To spread specimens perfectly, one wing support board must be the same height as the other! The narrow cut in the end pieces on the sides opposite the cut made for the pinning strip support, into which the end piece clamps will fit, can be made with any saw blade, and is 3/8" from the bottom of each end piece.

In assembling the board, first glue and/or nail the end pieces evenly to the pinning strip support. Place the specimen pinning strip in the slot; it may be glued in if you wish, but this is not necessary. Next, glue and/or nail one wing support board in place, and clamp if necessary (Fig.2). Fasten the end piece clamps to the other wing support board by first placing one in the slot in the end piece, placing the wing support board in the desired position, then nailing clamp to wing support board with small brads (Fig.3). Repeat at the other end. Finally, in placing the screweyes into the end pieces, be sure to measure for the desired adjustability of the center notch of the board. The board is now ready for use (Fig.4).

The method explained here can be improved on, to be sure; but it is a system that can be followed for making single boards or a goodly number. Happy winter carpentering!

ESPECIALLY FOR FIELD COLLECTORS

This section is edited by Dr. Paul A. Opler. Articles are solicited from members, and are to be sent to him on subjects of interest to the field lepidopterist. His temporary address is: Hacienda la Pacifica, Cañas, Guanacaste, COSTA RICA, C.A.

HOW MANY BUTTERFLY SPECIES IN ONE DAY?

by R. E. Stanford
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An article so entitled (Remington, 1955) recording a day's catch of 45 species in the northeastern USA stimulated several similar reports from other parts of the world: the French Alps (Hemming, 1955, 56 species; Langer, 1955, 38 species), Persia (Wiltshire, 1956, 31 species), India (Shull, 1957, 68 species; 1962, 101 species) and Brazil (Ebert, 1969, 162 species). I wish to report two daily butterfly counts from the southwestern U.S.A. and comment briefly on the usefulness of such observations.

On 20 June, 1958, Keith Hughes and I undertook to record as many butterfly species as possible in San Diego County, California. This is a roughly square (110 x 100 km) region, situated in the extreme southwestern corner of the country, varying in elevation from sea level to about 2000 m and including habitats in the Lower Sonoran, Upper Sonoran and Transition life zones, as well as extensive urban and rural areas. The day was selected on the basis of several years' field data suggesting that mid-June is the period when the maximum number of species might be expected, and was sunny and warm. Hughes began collecting soon after sunrise in desert habitats along the eastern edge of the County and worked thence into the mountains of the Peninsular Range; I concentrated on urban, coastal plain and west-slope foothill habitats. Together we took 65 species and sighted two others (total 67), accounting for 67% of species considered possible and 52% of the approximately 130 species occurring in San Diego County (Wright, 1930; Thorne, in litt; personal records). A list including abundance and condition of each species is available upon request.

The second species count was conducted with Mike Fisher on 19 June, 1969, in the Rocky Mountain foothills between Pueblo and Boulder, Colorado – a region encompassing prairie grassland, Transition and a few Canadian zone habitats from about 1500 to 2200 m elevation. Again the date was selected to allow us to find a maximum number of species, and the weather was perfect. We recorded 91 species (including 3 sight records), or 72% of 127 species considered possible for the date (Brown, 1957; personal records). A resume appears in the North American Annual Field Summary for 1969 (News Lepid. Soc.), and a complete list is available upon request.

What useful purpose does a daily species count serve? One taken by itself is perhaps of little scientific value, yet stimulates communication among field lepidopterists, encourages participation by families and youth groups, and provides good outdoor recreation. Scientific value accrues when data from several counts are compared, within a particular region or from different regions. Such parameters as relative faunal diversity, fluctuations in population densities, population shifts and effects of natural or man-made environmental alterations are subject to semi-quantitative analysis. A forum for the presentation of such data could be the annual Field Season Summary, where they would augment and partially replace subjective field observations. A more detailed study of regional fauna may be published monographically, as has been done for the butterflies of eastern Brazil (Ebert, 1969), or incorporated into more comprehensive reference works. Also, quantitative data showing progressive population decreases or habitat endangerment would be more effective than subjective opinions in efforts to establish wildlife preserves or natural study areas, or to influence legislation or judicial opinions in favor of conservation. If there is interest in conducting species counts in more than a very few regions, it would be advantageous for the Society to establish uniform guidelines (as ornithologic groups have for bird counts), and perhaps even organize an annual continent-wide butterfly survey as was suggested several years ago (Munroe, 1952).

I wish to thank Keith Hughes and Mike Fisher for help in planning and conducting the surveys, Don MacNeill and John Burns for identifications of certain Hesperiidae, and Paul Opler and Fred Thorne for helpful comments on this paper.

LITERATURE CITED:

Brown, E. M. 1957. Colorado Butterflies. Proc. Denver Mus. Nat. Hist. (3-7), 368 pp.
Ebert, H. 1969. On the frequency of butterflies in eastern Brazil. J. Lepid. Soc. 23 (Suppl. 3): 1-48.
Hemming, F. 1955. My highest catch of butterfly species in a single day. Lepid. News 9 (4-5): 144-5.
Langer, T. W. 1955. One day's species in the French Alps. Lepid. News 9 (6): 203-4.
Munroe, E. G. 1952. Special request [concerning butterfly surveys]. Lepid. News 6 (6-8) :91.
Remington, C. L. 1955. How many butterfly species in one day? Lepid. News 9 (2-3) :77-8.
Shull, E. M. 1957. My highest catch of butterfly species in a single day. Lepid. News 11 (4-5) :167-8.
. . . . . *1962.* Over one hundred butterfly species caught in a single day. J. Lepid. Soc. 16 (2) :143-5.
Wiltshire, E. P. 1956. My highest butterfly catch of a single day. Lepid. News 10 (3-4) :116-8.
Wright, W. S. 1930. An annotated list of the butterflies of San Diego County, California. Trans. San Diego Soc. Nat. Hist. 6 (1) :1-40.

THE 23rd ANNUAL MEETING OF THE LEPIDOPTERISTS' SOCIETY

The 23rd Annual Meeting of the Lepidopterists' Society will be held at the Allyn Museum of Entomology, Sarasota, Florida, between 22 and 24 June, 1973. A brochure will be mailed to all members of the Society early in January along with a list of accomodations and a formal call for papers.

The emphasis of the meeting will be on the Neotropics, and symposium sessions will be presented on "An Introduction to the Neotropics," featuring several speakers living in Latin America, as well as specialists from North America.

Submitted papers are solicited for sections of the program other than the symposia. These papers should be no longer than 20 minutes, and the titles must be in the hands of the Program Committee no later than 1 April for inclusion in the printed program. Every effort will be made to find time for papers submitted after that date, but the titles will not appear in the printed program. A rigid time schedule will be adhered to in the sessions, so authors should prepare their papers accordingly.

The Program Committee will be Dr. and Mrs. Lee D. Miller, Allyn Museum of Entomology, 712 Sarasota Bank Bldg., Sarasota, FLA. 33577, U.S.A.

SPECIAL NOTICE

BACK VOLUMES AVAILABLE (Complete)

VOL. 1 – For the first time since 1947, offered for sale to members. Printed in offset from re-typed pages in the original format and size, it is an exact duplicate of the original mimeographed volume.

VOL. 4 & 5 – Volumes 1 thru 5 were issued as THE LEPIDOPTERISTS' NEWS, in 8½" x 11" format; all are compatible for binding in a single unit; vols. 2-5 lithoprinted.

VOL. 10 & 11 – Beginning with vol. 6, format is 6" x 9" letterpress printed.

VOLS. 13 thru 18, Vols. 20, 22, 23, 25 – Beginning with Vol. 13, the name was changed from the Lep. NEWS to the current JOURNAL OF THE LEPIDOPTERISTS' SOCIETY.

Price to members – $8.00 per volume (1-24); $10.00 for volume 25 and subsequent.

ORDER COMPLETE VOLUMES FROM THE TREASURER OF THE SOCIETY:

COL. S. S. NICOLAY, 1500 Wakefield Dr., Virginia Beach, VA. 23455, U.S.A.

Parts of volumes omitted from the above list are available pro rata. Some lack only one part. Reprinting of missing numbers is continuing, but is time-consuming and costly. We anticipate volumes 2 and 3 should be available early in 1973. For additional information, contact:

SIDNEY A. HESSEL, Nettleton Hollow Road, Washington, Conn. 06793, U.S.A.

IT IS THAT TIME OF YEAR AGAIN ! ! !

Dues statements and ballots are in the mail this month. Student members will note an increase in their dues to $7.50; this just covers the cost of printing your NEWS and JOURNAL – all other administrative and postage costs are still borne by regular and sustaining members. All members are urged to pay their dues promptly.

WON'T YOU BE A SUSTAINING MEMBER THIS YEAR?

FIELD SEASON SUMMARY FOR 1972

Time to be getting your field notes for the 1972 season in order to submit to the Zone Coordinators in the areas in which you collected this year. Try to make your report brief, accurate, and neatly presented (double-spaced and typed if possible). Deadline for you getting your reports to Zone Coordinators is January 15, 1973. The Coordinators will be sending their reports to the Editor by March 1, as it is the March 15 edition that will carry the Field Season Summary.

Please try to avoid complete long lists of species collected in various localities, especially in the case of moths. Such data might best be prepared for separate papers. Mention the commoner species with reference to specific information such as population size, habits, unusual forms, etc. – not just as records of your having taken them again. Be sure to include information on your finer catches, new collecting areas, new time records, etc. Use the dos Passos Check List for North American butterfly names, and check your spelling so the Coordinator will not have that to worry about. Also, omit names of authors of species except where absolutely necessary.

Following are listed the 10 zones with their Coordinators and their addresses, and the areas encompassed by each:

ZONE 1: (Calif., Ariz., Nev.) – Robert L. Langston, 31 Windsor Ave., Kensington, CALIF. 94708, U.S.A.
ZONE 2: (B.C., Wash., Ore., Ida., Mont.) – Mike Van Buskirk, 4512 47th Ave. S.W., Seattle, WASH. 98116, U.S.A.
ZONE 3: (Alta., Wyo., Utah, Colo., N.M.) –Donald Eff, 445 Theresa Drive, Fairview Estates, Boulder, COLO. 80302, U.S.A.
ZONE 4: (Sask., Man., N. and S. Dakota, Nebr., Kans.,Okla., Texas) – H. A. Freeman, 1605 Lewis Drive, Garland, TEXAS 75040, U.S.A.
ZONE 5: (Ont., Minn., Wisc., Mich., Iowa, Ill., Ind., Ky., Ohio, Mo., West Va.) – M. C. Nielsen, 3415 Overlea Drive, Lansing, MICH. 48917, U.S.A.
ZONE 6: (Ark., La., Tenn., Miss., Ala., Fla., Ga., N. and S. Carolina, Va.) Bryant Mather, 213 Mt. Salus Drive, Clinton MISS. 39056, U.S.A.
ZONE 7: (Que., Nova Scotia, New England, N.Y., N.J., Pa., Del., Md., D.C.) – L. Paul Grey, Rt. 1, Box 216, Lincoln, MAINE 04457, U.S.A.
ZONE 8: (Alaska and Northern Canada) – Kenelm W. Philip, 1005 Gilmore St., Fairbanks, ALASKA 97701, U.S.A.
ZONE 9: (Northern Neotropics: West Indies, Mexico, and Central America) – Eduardo C. Welling M., Aptdo. Postal 701, Merida, Yucatan, MEXICO.
ZONE 10: (South America) Thomas C. Emmel, Dept. of Zoology, University of Florida, Gainesville, FLA. 32601, U.S.A.

– C. V. Covell, Jr.

NEWS AND NOTES:

Jo Brewer has informed the Editor that the poem published last time was written by David McCord. Please add that to your Sept. NEWS in the appropriate place.

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Beginning with the January, 1973, issue, the NEWS will be sent to all subscribers as well as members.

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An article in the Norfolk, Va., Virginian-Pilot, Oct. 1, 1972, reports finding of a University of Toronto - tagged Monarch having been collected in Bellingham, WASHINGTON - way off its expected migratory course.

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An addition to your Dealers' Directory under "Lepidoptera Specimens" is Arthropod Slidemounts, P. O. Box 185, Bluffton, IND. 46714, U.S.A. They offer preserved Lepidoptera larvae, as well as alcohol and slide preparations of many groups of insects, largely for teaching entomology.

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The Secretary has submitted the following corrections to the Membership List:

Pg. 2: Dr. Heinz Ebert (Brazil) has P. O. Box No. 178, not 728 as listed.
Pg. 7: Under the listing of D. G. Sevastopulo (Kenya), his town name, Mombasa, should be inserted after the P. O. Box number.

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NOMINEES for Society offices, whose names are on the November ballot being sent to you, are as follows:

President-Elect	Harry K. Clench
First Vice President	Alexander B. Klots
Vice Presidents	E. G. Munroe
	C. F. Cowan
Treasurer	Stanley S. Nicolay
Executive Council Members-at-large	Roy O. Kendall
	Jerry A. Powell
	Douglas C. Ferguson
Karl Jordan Medal Representative	Frederick H. Rindge

* * * * *

Now is a good time to bring a new member into the Society. Application forms are available from the Treasurer.

LEPIDOPTERA LITERATURE:

Godfrey, G. L. 1972. A review and reclassification of larvae of the Subfamily Hadeninae (Lepidoptera, Noctuidae) of America north of Mexico. USDA Tech. Bull. 1450, 265 pp., 547 figs. Supt. Documents, U. S. Govt. Printing Office, Washington, D.C., 20402, U.S.A. – Stock No. 0100-1574, $1.25.

Kurenzov, A. I. 1970. The butterflies of the Far East USSR (in Russian). 164 pp., 14 color pls., 104 figs. Acad. Sciences USSR (Siberian Division), Nauka ("Science"), Leningrad. Details from J. Mihkelson, 200 o23 Estonian SSR (USSR), Tallinn 23, Vana-Keila mnt. 6.

McGuffin, W. C. 1972. Guide to the Geometridae of Canada (Lepidoptera). II. Subfamily Ennominae 1. Mem. Ent. Soc. Canada 86, 159 pp., 239 figs. (incl. colored photos of moths).

RESEARCH REQUESTS:

Kurt Johnson and Dr. Robert Freckmann request massive notification of population locations for the species Callophrys (Mitoura) siva, gryneus, and hesseli, to establish their known ranges. If any of these species is found in your area, or any other you know of, please supply location and span of dates if possible. Send to Kurt Johnson, Holy Cross Monastery, West Park, N. Y. 12493, U.S.A.

Records of Sphinx franckii (Neum.) needed for census of distribution in time and space. Please give data, locality, collector's name, numbers by sex of specimens, and present location of specimens. Bryant Mather, 213 Mt. Salus Dr., Clinton, MISS. 39056, U.S.A.

Specimens (papered, with data) needed of Pieris venosa and P. marginalis and forms from Pacific Coast states. Will pay cash. C. F. dos Passos, Washington Corners, Mendham, N.J. 07945, U.S.A.

Reliable data on any Lepidoptera collected in Kentucky needed for state faunal work in progress. Contributors will be acknowledged. Any time in next year will do. Charles V. Covell, Jr., Dept. of Biology, Univ. of Louisville, Louisville, KY. 40208, U.S.A.

I am collecting regularly in Siberia, Far East, and in other parts of the U.S.S.R., and am revising the genus Erebia of the U.S.S.R. – especially the Asian species. I need specimens of Erebia, and correspondence with fellow "Erebiologists" in any country. J. Mihkelson, 200. o23 Estonian SSR (USSR), Tallim 23, Vana-Keila mnt. 6.

NOTICES:

Members of the Lepidopterists' Society are invited to use this section free of charge to advertise their needs and offerings in Lepidoptera. We cannot guarantee any notices, but all are expected to be made in good faith. Please be brief, clear, and check spelling. Avoid long lists. Generally, notices will be limited to 3 appearances if more than one is requested. The Editor reserves the right to alter or reject unsuitable copy.

FOR SALE: Fresh papered specimens of Atlides halesus and Eupsyche m-album, with printed data labels for each. Males, $.50 each; females, $1 each. Dr. George W. Rawson, 10405 Amherst Ave., Silver Spring, MD. 20902. U.S.A.

FOR SALE: Over 100,000 Malaysian butterflies representing over 300 species. World list on request, especially covering Indo-Australia, Africa, Philippines, New Guinea, India, and South America. T. brookiana, $1.40 ea. ($1 ea. if ordering 100 or more); P. iswara, $1.30 ($1 for 30 or more); O. priamus urvilleanus, $4.75 pr.; O. victoria regis, $18 pr.: T. helenus cerebus, $6 pr. ($4.50 pr. in lots of 10 prs. or more). Terence B. Bateman, 17 Conging St., Horncastle, Lincolnshire, ENGLAND LN9-5DW.

FOR SALE: 1,110 papered moths, mostly determined Noctuidae and Geometridae; 1,065 from eastern Mass., 45 from western Pa. $25. Charles G. Oliver, 22 Linnaean St., Cambridge, MASS. 02138, U.S.A.

FOR SALE: Pandora Sphinx pupae, $1 each. Mike Clappe, 829 E. Wilson St., Bryan, OHIO 43506, U.S.A.

FOR SALE: Butterflies of Papua/New Guinea, as well as Coleoptera, Phasmatidae, Phyllodes, and Odonata. Fine color slides of early stages of many species available. Will act as guide for collectors visiting New Guinea. Write for price list. Harry Borch, c/o Post Office, Maprik, East Sepik District, New Guinea, T.P.N.G.

FOR SALE: Complete Xerox copies of Comstock's Butterflies of California. Xerox of plates usable, but color (or black and white) photos of plates on request. $39.00 (advance, please). J. B. Heppner, 1908 NW 7th Lane, Gainesville, FLA. 32601, U.S.A.

FOR SALE: Tropical American butterflies – all families: Morpho, Agrias, Prepona, Papilio, Catagramma, Heliconius. Top quality, papered, with data. Price list available from Miguel Serrano, Avenida Alfredo Espino Y Calle "B", Colonia Campestre, San Salvador, El Salvador, C. A.

FOR SALE: I am the sole agent for preserved (injected) caterpillars made by Dr. Houyez's method. Price from $4 to $12 each. All with full data. Roger Ehrman, Sciences Nat., 86 rue de la Mare, 75020 Paris, FRANCE.

FOR SALE: Over 900 rare and common species of butterflies, moths, beetles and other insects from the Malaysian and Indonesian jungles. Write: SIM YAM SENG, 21 Joon Hiang Rd., Singapore 19, SINGAPORE.

FOR SALE: Lepidoptera, Coleoptera and other orders of Formosan insects. Mrs. Chang Pi-Tzu, P. O. Box 873, Taipei, FORMOSA.

FOR SALE: Will sell for best cash offer the following: Journal of the Lepid. Soc. vol. 20, no. 3 through vol. 26, no. 3, plus supplements; NEWS of the Lepid. Soc. – 74 issues, 1961-1972; Bull. Assoc. Minn. Entomologists, 7 copies, 1969-70; and Mid-Continent Lepidoptera Series, 16 copies, 1969-70. M. Spelman, 181 Waldo Place, Englewood, N. J. 07631, U.S.A.

FOR SALE: A variety of tree seeds, especially Tulip Tree, Persimmon, Sweetgum, Ailanthus, and Black Walnut available. Others collected to order. Will rear and collect trees and Lepidoptera to order if available. Write for prices and other information. Michael R. O'Brien, 22 Richards Ave., Pine Hill, N. J. 08021, U.S.A.

FOR SALE: Five hood storage boxes, $15; Staudinger relaxing box, $6; Superior "Ace" printing press with type, $10; also some small wooden shipping boxes. Donald L. Baber, 1511 Drake Ave., Burlingame, CALIF. 94010, U.S.A.

FOR SALE OR EXCHANGE: Cocoons, chrysalids and pupae of the following available: A. luna, H. cecropia, A. polyphemus, A. io, P. cynthia, P. troilus and E. clarus. Prices on request; minimum order $2 (plus $.50 for postage and handling). I wish to buy or will accept in exchange: R. forbesi, R. orizaba, R. jorulla, R. aureta, E. calleta, C. angulifera, A. illustris, E. imperialis, C. regalis, and male and female A. atlas. Michael R. O'Brien, 22 Richards Ave., Pine Hill, N. J. 08021, U. S. A.

EXCHANGE: Agrias narcissus (male and female), A. beata, A. amydon, A. amydon zenodorus (yellow and blue), A. claudianus, A. sardanapalus (male and female), A. praxitiles, O. alesandrae (male and female), O. lydius (pair), O. troganus, A. lidderdalei, Papilio ascanius (male and female), P. nobilis, P. blumei, P. androcles, Morpho anaxibia (female), M. rhetenor (female), M. cypris, M. godarti (male and female), many fine Saturniidae, and a variety of other exceptional exotics. Will exchange for other rare unusual and spectacular exotics, particularly Agrias. Robert E. Aronheim, 47 Grand St., Waterbury, CONN. 06702, U.S.A.

EXCHANGE: Many Papilionidae, Pieridae, Satyridae, Sphingidae, etc., from Tien-Shan and Pamirs. I am interested in tropical Papilionidae (especially Ornithoptera), Morpho, Heliconiidae, Catagramma, Haetera, Uraniidae and Saturniidae. Dr. D. S. Lastochkin, Poste Restante, Kiev 42, U.S.S.R.

EXCHANGE: Parnassius autocrator, P. actius sulla, P. honrathi afghanistanus, P. jaquemontii nuksanica, P. delphius ruth, eva; Colias marcopolo kushana, C. shahfuladi, C. wiskotti sweadneri, and other butterflies from Afghanistan, offered for Parnassius and Colias from other parts of the world. Seiichiro Sato, P. O. Box 6, Chitose, Tokyo, JAPAN.

WANTED: Back volumes of Lepidopterists' News and Journal of the Lepidopterists' Society desired. Please state volumes and numbers available, and your asking price. Steven R. Sims, Dept. of Entomology, Briggs Hall, Univ. of California, Davis, CALIF. 95616, U.S.A.

WANTED: Morpho butterflies and other South American species. Also books on S. American butterflies, and Butterflies of the Malayan Peninsula by Corbet and Pendelbury. Terence B. Bateman, 17 Conging St., Horncastle, Lincolnshire, ENGLAND LN9 - 5DW.

WANTED: I wish to buy English edition copies of Seitz's Macrolepidoptera of the World, American Fauna, Vols. 5 and 6; and Godman & Salvin's Biologia Centrali-Americana, Insecta, Lepidoptera, Rhopalocera, Vols. 1 - 3, and Heterocera, Vols. 1 and 2. James C. Brooks, M.D., 194 Riley Ave., Macon, GA. 31204, U.S.A.

WANTED: Information and correspondence on maximum number of ova and variations of larvae produced by Actias luna females. My wild Pa. female laid 592 ova. Is this a possible record? Michael R. O'Brien, 22 Richards Ave., Pine Hill, N.J. 08021, U.S.A.

NEW AND REINSTATED MEMBERS:

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BOUCHER, David	18 Old Market Place, Harleston, Norfolk, ENGLAND. RHOP., MACRO., esp. Sphingidae, Saturniidae, livestock or specimens. Ex., Buy, Sell.
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NEW ADDRESSES:

ANDERSON, Richard A.	1044-B Halsey Drive, Key West, FLA. 33040, U.S.A.
BELLINGER, Dr. Peter F.	Dept. of Biology, California State University, Northbridge, CALIF. 91324, U.S.A.
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DIMOCK, Thomas E.	c/o R. P. Anderson, 464 Fairfax Ave., Ventura, CALIF. 93003, U.S.A.
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WILLIAMS, Dr. Richard D.	Max Planck Institute for Biophysics, 6 Frankfurt am Main 70, Kennedyalle 70, WEST GERMANY.

ONE LESS BUTTERFLY

Foolish creature
Tried to cross the asphalt way;
Flittered along in mindless unconcern,
Till mountain fender clipped the wing
And sent it spinning - -
Cast against the hot black edge
Of man's debris.

D. M. Mark

[D. M. Mark is a graduate student at the University of Louisville. He has published poetry elsewhere, but the poem above is published for the first time here. —ED.]

Memoirs of the Lepidopterists' Society, Number 1 (Feb., 1964)
A SYNONYMIC LIST OF THE NEARCTIC RHOPALOCERA, by C. F. dos Passos
Price:

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Send to Memoirs Editor Sidney A. Hessel, Nettleton Hollow Road, Washington, CONN. 06793, U.S.A.

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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 ($10, U.S.A.) together with full address and areas of interest in Lepidoptera. Remittances in dollars (U.S.A.) should be made payable to The Lepidopterists' Society. Individual members will receive the JOURNAL (published quarterly) and the NEWS (published bimonthly). Institutional memberships will receive only the JOURNAL. A biennial membership list will comprise one issue of the NEWS in even-numbered years. Back issues of the JOURNAL may be purchased from the TREASURER.

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Manuscripts for publication in the JOURNAL are to be sent to the Editor, Dr. Theodore D. Sargent, Zoology Dept., Univ. of Massachusetts, Amherst, MASS. 01002, U.S.A. See the inside back cover of a copy of the JOURNAL for editorial policies.

Information regarding the SUPPLEMENTS (longer papers published occasionally by the Society), write to the Editor, Dr. Lee D. Miller (address above).

Items for inclusion in the NEWS should be sent to the Editor, Dr. Charles V. Covell, Jr., Dept. of Biology, Univ. of Louisville, Louisville, KY. 40208, U.S.A.

from: THE LEPIDOPTERISTS' SOCIETY
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