

The Lepidopterists' News

THE MONTHLY NEWSLETTER OF THE LEPIDOPTERISTS' SOCIETY

c/o Osborn Zoological Laboratory, Yale University, New Haven 11, Connecticut, U.S.A.

Editor - C. L. REMINGTON

Assoc. Editor - J. E. REMINGTON

Volume II

November 1948

Number 8

ANNOUNCEMENT OF THE FIELD SEASON SUMMARY FOR 1948

The December issue (No. 8) of Volume I of the News was devoted largely to the Society's first field season summary of Lepidoptera in North America. Once again we are ready to assemble the annual summary, and we invite the fullest possible participation by Society members. Two aspects interest us in this summary. First, it is clear that there is lively interest among News readers in the fresh information on collecting results around the continent during the recent season. Second, the summary constitutes a permanent reference source which will grow in value as more and more years are on record and factual information accumulates for analyzing cycles.

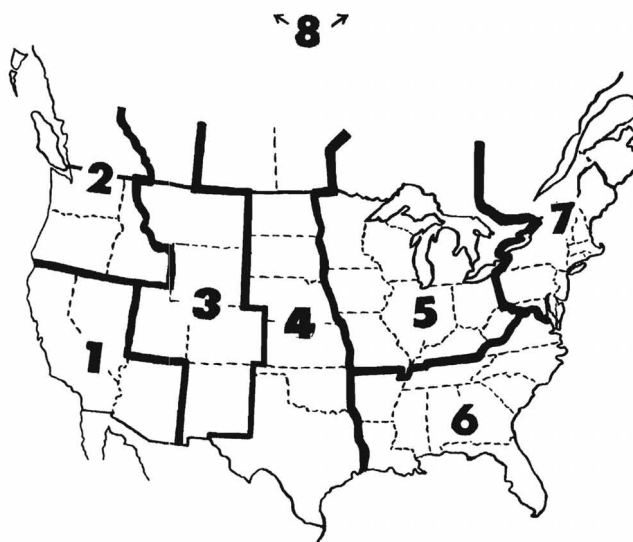
Certain weaknesses appeared in the 1947 Summary. There was regrettably thin coverage of the southeastern and central states and the Canadian West. In contrast, the enthusiastic participation of the Californians resulted in a fine summary for the Southwest. Moth records were altogether too few, with accurate data lacking even for such popular groups as Sphingidae and Catocala. Since moths comprise the major portion of the Lepidoptera, at least half of the Summary should be devoted to them.

The following information is again requested from individual cooperators: 1) Were the flight periods of the various species earlier or later than the average? 2) If either earlier or later, did they return to normal or otherwise change as the season progressed? 3) Did unusual climatic events (cold, drought, excessive rain, hurricanes, etc.) occur, and if so what was their effect on Lepidoptera? 4) Did biological or human agencies (parasites, forest fires, swamp draining, birds, diseases, etc.) affect Lepidoptera this year in an unusual way or to a significant degree? 5) Did any individual species show very unusual changes -- rare species suddenly common or vice versa? 6) Did the migrating species have noteworthy flights and if so, what detailed observations were made? Please note that it is of little value to call any season "good" or "bad". Details are essential.

In the Season Summary for 1947, individual reports were received from 46 members -- a fine response for the initial effort, but we hope to double it this year. Every report will be used and then placed in a permanent Society file for later reference. All participants will be named in the published summaries.

For convenient grouping of the summaries, North America will be considered in eight fairly uniform faunistic areas, for each of

which a general summary will be written from the individual reports. The accompanying map



shows the eight divisions. Each regional summary will be prepared by an active lepidopterist in the region. Five regions were so handled last year and once again the same five members will be serving. This year Dr. R.L. Chermock and Mr. P.S. Remington are rounding out the group. Please send your reports directly to the regional coordinator and if you collected in more than one region please prepare separate reports. REPORTS MUST REACH THE COORDINATORS BEFORE JANUARY 15, 1949. The coordinators and their addresses are:

- Zone 1. (Southwest) - LLOYD M. MARTIN,
Los Angeles County Museum, Exposition Park,
Los Angeles 7, Calif.
- Zone 2. (Northwest) - JOHN C. HOPFINGER,
Brewster, Wash.
- Zone 3. (Rocky Mts.) - DONALD EFF,
820 Grant St., Boulder, Colo.
- Zone 4. (Great Plains) - DON B. STALLINGS,
216 W. First St., Caldwell, Kansas.
- Zone 5. (Central) - P.S. REMINGTON,
5570 Etzel Ave., St. Louis 12, Mo.
- Zone 6. (Southeast) - DR. RALPH L. CHERMOCK,
Dept. of Biology, University of Alabama,
University, Ala.
- Zone 7. (Northeast) - EUGENE MUNROE,
Institute of Parasitology, Macdonald College,
Quebec, CANADA.
- Zone 8. (Far North) - send reports to the News
editor.

C.L.R.

Any attempt at classification requires a series of categories into which the classified objects can be arranged. Animal classification in recent years has been brought to a point at which there is nearly universal agreement on the basic categories to be used. The number and names of intermediate categories differ greatly among various writers, but there is no present necessity for uniformity in these interjacent categories. For discussions of the intermediate categories above and below species see the News 2: pp.3-4,15,16,39.

For the benefit of News readers unfamiliar with the broad classification of animals a list and discussion of the categories follows.

The basic unit of classification is the SPECIES. A species may be thought of as a population of actually or potentially interbreeding individuals whose range may be world-wide or limited to a single swamp or mountain peak. In other terms, a species is a group of individuals which are very similar to one another, which differ from all other living animals in at least one consistent characteristic, and which can interbreed and produce fertile offspring. Further discussions of the species may be found in the News 2: pp.3, 62. In separate parts of the range of a species the individuals may have characters which distinguish them from the individuals in other parts of the range. These may be named as SUBSPECIES, often called RACES.

A group of closely related species making up a unit consistently separable from all other groups of species is a GENUS. Like all other categories except species, the genus is a man-made concept and various authorities differ greatly in the breadth of the genera. As elsewhere, among American lepidopterists there is strong disagreement, so that one well-informed specialist may lump all "Hair-streaks" in the genus Thecla while another equally able specialist may separate the same species into the genera Thecla, Strymon, Incisalia, Mitoura, Habrodais, Atliades, Callipsyche and Satyrion, and still a third authority may accept these eight genera but split Strymon further into several other genera. Usually those who recognize the fewest genera (the "lumpers") are the older workers who grew up with the smaller number and are understandably crystallized in their viewpoint. Those who accept the most genera (the "splitters") are usually the newer workers who are actively studying the group and equally understandably see the differences looming larger than they really are. The middle-rollers are usually the dispassionate observers who try to use the system and who can thus examine the arguments from a relatively unprejudiced viewpoint. A very convenient category which is all too often ignored by lepidopterists (in contrast to other taxonomists) is the SUBGENUS. If a cohesive genus includes species which fit into lesser groupings, these latter should be considered subgenera.

A group of similar genera which fit together in sharing at least one fundamental character is called a FAMILY. For example, all dog-like mammals (dog, foxes, wolf, etc.) belong to the same family. Similarly, all

cat-like mammals (cat, lion, tiger, lynx, etc.) belong to one family. A family may be divided into two or more TRIBES, and of course a tribe may be divided into SUBTRIBES. See the News 2: p.73, for an example of the application of these categories. A family name can always be recognized by the ending "-idae". The ending for subfamily is "-inae", for tribe "ini", and for superfamily "-oidea". No other categories have standardized endings.

A group of families making up a very distinct unit with great structural and ecological differences from all other families is called an ORDER. For instance, the flesh-eating mammals with long canine teeth (cats, skunks, dogs, bears, raccoons, weasels, etc.) all belong to one order. Similarly, all insects having four heavily-scaled wings belong to one order (the Lepidoptera). An order may be divided conveniently into two or more SUBORDERS. A suborder may be divided into SUPERFAMILIES.

A series of orders with major common characters by which they differ from all other orders is called a CLASS. All animals having exactly three pairs of true legs and in some stage of their life history having eleven abdominal segments are in one class (the Insecta). Likewise, all warm-blooded animals having hair are in the Class Mammalia; all warm-blooded animals having feathers are the Class Aves. A class may be divided into SUBCLASSES, and a subclass may be divided into SUPERORDERS.

Finally, a group of classes which differ from all other classes in major structural characteristics is called a PHYLUM. All the single-celled animals are in the Phylum Protozoa. All animals with a linear series of segments, jointed limbs, and ventral nerve cord are in the Phylum Arthropoda (insects, crabs, spiders, ticks, centipedes, etc.). SUBPHYLIA and SUPERCLASSES are used in many instances.

The following sample list of animals in their respective groups shows the system of categories defined above:

Phylum Arthropoda
 Subphylum Tracheata
 Class Insecta
 Subclass Pterygota
 Division Neoptera
 Superorder Hemimetabola
 Order Orthoptera (crickets, etc.)
 Superorder Holometabola
 Order Coleoptera (beetles)
 Order Lepidoptera
 Suborder Jugatae (hepialids, etc.)
 Suborder Frenatae
 Superfamily Papilionoidea
 Family Nymphalidae
 Subfamily Argynninae
 Tribe Argynnini
 Subtribe Argynnidi
 Genus Argynnis
 Genus Speyeria
 Subgenus Speyeria
 Subgenus Semnopsyche
 Species cybele
 Subspecies leto
 Species diana
 Subtribe Boloriidi
 Genus Boloria.

C.L.R.

A COLLECTING TRIP IN SEARCH OF SPEYERIA EGLEIS SECRETA

by P.S. Remington, Jr., St. Louis, Missouri
and J. Donald Eff, Boulder, Colorado

The race secreta of Speyeria egleis named by dos Passos and Grey (1945) has remained one of the rarest of Speyerias ever since. Among several hundred specimens of Speyeria sent by the senior author to Mr. L. Paul Grey in 1946 for determination, three specimens of secreta were found, taken on July 5, 1941, by P.S. and C.L. Remington at Rabbit Ears Pass, Colorado. The trip presently described was intended to relocate the exact collecting spot if possible and to study the habits and abundance of secreta in a positively known locality.

After many preparations and much planning, the authors loaded their car with assorted collecting equipment, camping gear, food and bedding, forgetting of course a few of the most needed items, always discovered too late. We left Boulder, Colorado, on the afternoon of July 3, 1948. We crossed the Continental Divide at Berthoud Pass. As we descended the western side we observed that the vegetation changed and that we were entering rolling upland prairie, covered with Sagebrush (Artemisia) and occasional sparse stands of aspen or juniper. The aspect of the country was quite different from that of the foothills of the Front Range to which we were accustomed. From Granby on, the country changed little until we approached Muddy Pass, the eastern slope of which borders the Routt National Forest and leads into Rabbit Ears Pass. Here we crossed the Continental Divide again, Rabbit Ears Pass overlooking the western slope of the Divide. As we went up Muddy Pass the Sagebrush prairie region disappeared and gave way to lush stands of flowers and conifers. We reached this locality toward evening, too late to determine anything of the butterfly population. Later, when opportunity afforded, we found Muddy Pass to be a poor collecting area with no secreta present. We found a good camping spot at the Columbine Camping Ground located between Muddy Pass and Rabbit Ears Pass. Our view that this was a good camping ground was upheld by the appearance of the hordes of mosquitoes which always seem to know where the "pickings" are best.

Early the next morning, blessed with excellent weather, guaranteed and produced by the senior author against the skepticism of colleague Eff, we broke camp and headed for the western slope, where recollection promised that we should find secreta. Both Wiest, who collected the types, and Remington reported that secreta would be found flying along the road going down the western slope and particularly along an old road which angled off to the right. As we drove we were alert for any likely looking collecting spot. Finding such an area we would stop and give full attention to every Speyeria that we saw, hoping each time that it would prove to be secreta. At this point it might be well to point out that as one descends the western slope the ecological conditions change sharply at different elevations. The Summit is really a plateau densely wooded in spots and characterized by open meadows and marshy areas. This is suc-

ceeded, at lower levels, by a drier evergreen area, which was the point of our first success. Along the road at about 8000 feet above sea level we took our first secreta, flying with several other Speyeria. In fact, before the day was over we took a total of seven species of Speyeria. Until we learned to distinguish secreta in flight, it was necessary to take every Speyeria we saw. After a while we felt that we could recognize secreta pretty well by the lighter rosy flush on the underside, although we discovered when we sent the entire catch to Grey that many specimens which we had thought were secreta were really of a race of atlantis close to dorothea. As predicted by Grey, zerene and atlantis occur sympatrically in this area and it takes careful study to separate them. Grey thinks they do not interbreed. The safest course for the collector searching for secreta is to do as we did and catch every Speyeria he sees flying.

Progressing on down the western slope of Rabbit Ears Pass toward Steamboat Springs, we noticed that the vegetation gave way to a predominantly aspen area interspersed with some oak and with a ground carpet of solid bracken. Here was a congregation of butterflies at a wet roadside spot which was recognized by P.S. Remington as the place where he and his son had originally taken secreta. An intensive search resulted in the discovery of the old road which Dr. Wiest had mentioned, and which led off around the brow of the mountain for several miles. This road had been long unused and was overgrown with flowers and weeds and was crossed at several places by rills which proved to be a mecca for many species of butterflies, including male secreta. The sight of a half dozen fresh males of S. secreta congregated about a wet spot is one long to be remembered. It should be pointed out that while more than a hundred specimens of "secreta" were caught by the two authors along this road in a day and a half, only very few females were taken and these were all found, not along the road, but cruising thru the aspen and dense bracken which carpeted the slopes at this point. The fact that females were very scarce and hard to capture may be attributed in part to the fact that we were probably a little too early to find females in abundance. Experience shows that in the genus Speyeria the females usually emerge considerably later than the males. We hope to visit the locality another year, at about the middle of July, to verify this idea.

After collecting intensively in the area for a couple of hours, we completed our descent into Steamboat Springs, collecting as we went. Below the locality just described, which proved to be the heart of the range of secreta, the vegetation changed to oak and Sagebrush. Collecting here proved to be not nearly so rich as the higher areas, but Speyeria zerene sinope was taken and secreta sparingly. At the base of the western slope not one secreta was found. From our experience on this trip, we believe that secreta flies dur-

ing the fore part of July on the Western Slope in northwestern Colorado wherever there is a predominantly aspen or oak vegetation at altitudes from 6000 to 8000 feet.

Our experience on this trip also proves very clearly the extreme importance of correctly labelling specimens as to locality and date, and elevation wherever significant. The original description of secreta gave the type locality as "Estes Park". The senior author has already pointed out in the Entomological News (1947) that this is an error. Two years ago Dr. Roy Wiest accompanied the present authors on a trip to a spot which he remembered as the type locality, a ravine at Poudre Lakes, near the crest of the Continental Divide in Rocky Mountain National Park. On that trip no Speyeria were seen except S. mormonia eurynome. Both authors visited the alleged type locality again in 1948, shortly after returning from Rabbit Ears Pass, and no Speyeria of any sort was seen. The conclusion is forced upon us that the type locality is undoubtedly Rabbit Ears Pass, for Wiest has collected there many times. This conclusion is supported by the fact that in no way does the habitat at either Estes Park or Poudre Lakes resemble that of the Rabbit Ears Pass area.

Lest the readers gain the impression that we collected only secreta, we list here a few of the other butterflies taken on this two-day trip: Speyeria atlantis ssp. near dorothea Moeck, S. mormonia eurynome (Edw.), S. edwardsii (Reak.), S. zerene sinope dos P. & Gr., S. callippe ssp. near meadii (Edw.), S. hydaspe ssp. near sakuntala (Skin.), Papilio rutulus Luc., P. eurymedon Luc., Euchloe ausonides coloradensis Hy. Edw., Pieris napi pseudonapi B. & McD., an interesting race of Euphydryas anicia (Dblld. & Hew.), Melitaea acastus Edw., M. palla Bdv., Phyciodes nymphaeae drusus Edw., P. tharos pascoensis Wgt., P. camillus Edw., Limenitis wiedemeyeri (Edw.), Lycaena nivalis browni dos P., L. helloides florus (Edw.), Plebeius aquilo rusticus (Edw.), P. saepiolus (Bdv.), Glaucopsyche lygdamus oro (Scud.), and others.

Our memories of this trip, besides the surprisingly good catch of a butterfly which was regarded as one of America's rarest, include the elusiveness of secreta -- certainly one of the most artful dodgers in Lepidoptera, the difficulties of papering and labelling our catch by lantern light while we served as banquets for the mosquitoes, the quiet beauty and solitude of that deserted road where we saw the swarms of butterflies, the occasional yellow and black flash of the Western Tanager and the leap of the startled deer across the trail, and finally, the satisfaction that comes with the successful completion of an eagerly anticipated expedition.

REFERENCES

- dos Passos, Cyril F. & L. Paul Grey. 1945. "A New Species and Some New Subspecies of Speyeria." American Museum Novitates, no. 1297: pp. 1-17, figs. 1-30.
- Remington, P.S., Jr. 1947. "Notes on the Type Locality of Speyeria egleis secreta dos Passos and Grey." Entomological News, vol. 58: pp. 99-100.

ON THE EYE COLORS OF THE COLIAS EURYTHEME-PHILODICE COMPLEX. Since Mr. dos Passos published his paper on this subject (see Lep. News 2: p. 44), I have examined well over 400 specimens of this complex alive in the field at Maplewood and South Orange, Essex Co., N.J.; Bethesda, Cabin John, Carderock, and Great Falls, Montgomery Co., Maryland; and Cheltenham, Cheltenham township, Montgomery Co., Pa. All of those specimens had normal yellow-green eyes. Some of those specimens were retained for my collection, being killed in jars of Potassium Cyanide, and, to my surprise, the eyes of all those specimens darkened considerably as time went on. I believe that the darkening is due either to the dessication of the specimen or to the chemical effect of the cyanide on the pigment in the eyes. Since no darkening was found in the eyes of living specimens, I think that the possibility that it is caused by genetic factors is slight.

ON THE PARASITIZATION OF DANAUS PLEXIPPUS. Late this summer, I raised about eighteen specimens of Danaus plexippus from larvae. Two specimens were parasitized and the two parasitic flies which hatched from the pupae were sent, along with the pupae to Dr. C.W. Sabrosky for identification. He identified them as Compsilura concinnata (Meigen) (Diptera, Larvaevoridae).

ON THE USE OF "FLYWAYS" BY PAPILIO GLAUCUS. This spring and summer, I noticed in Bethesda, Montgomery Co., Md., individuals of P. glaucus flying past one place towards open fields in the southeast between 9:30 and 11:00 o'clock in the morning and flying in exactly the opposite direction between 4:00 and 5:30 in the afternoon. If someone could offer an explanation of this phenomenon, I would appreciate it very much.

Paul R. Ehrlich
Maplewood, N.J.

A specimen of Anaea andria, the Goatweed Butterfly, with identification numbers clearly stamped on one wing, was found in Kansas by a student. Presumably someone was studying flight of this species. If it is a member of the Lepidopterists' Society, please write the News editor at once and he will notify the finder of the specimen.

Readers of the News may be interested to know of two new maps being published by the AMERICAN GEOGRAPHICAL SOCIETY, BROADWAY AT 156th STREET, NEW YORK 32, N.Y. One is of the U.S.A. and southern Canada at a scale of about 1 inch to 80 miles. The other, not yet off the press, covers Alaska, northern Canada, and Labrador. The price is \$4.00 each.

Professor C.P. Alexander writes that: "the well-known tropical collector, William Clarke MacIntyre, Cojmes, Manabi, ECUADOR, is resuming collecting and would be interested to hear from prospective buyers. MacIntyre and his native assistants are among the most efficient collectors of tropical insects whom I have ever known."

A SURVEY OF THE HELOPHILOUS MACRO-MOTHS OF THE HUNGARIAN MOORLANDS

by Dr. Lancelot A. Gozmány
Budapest, Hungary

I.

The moorlands, or swamps, of the Carpathian Basin in comparison with those of the rest of Europe are unique in their psammological aspects and especially their helophilous (swamp-loving) fauna. For present purposes swamps may be arranged into five categories, as follows:

1. Glacial Swamps
2. Fluvial Swamps
3. Lake-shore Marshes
4. Peat Bogs, or Turfmoors
5. Sphagnum Bogs

The first three are of inorganic origin, and are simply the creation of geological and geographical factors. The others are the result of decaying vegetable matter on which a special flora exists. If you try to draw a rough map of the distribution of the types of European swamps you can assert with more or less precision, that, aside from fluvial and shore swamps occurring in every European lowland where rivers and lakes find sufficient space for overflowing their banks to create stagnant backwaters, the swamps of the Scandinavian Peninsula, North and Middle Germany, the Baltic States, Poland and Hungary are the remnants of the moving of glaciers and hydrogeologic corrosion of ice. Peat and sphagnum bogs can be found all over Europe, especially in their most classical sites - Ireland and Great Britain, but also sporadically in Germany, France and Hungary.

Before surveying the special macro-moth fauna of the Hungarian swamps, I must first draw attention to the fact that the term Hungary in this paper designates the territory of this country as it was before World War I, that is, 1914, this territory being geographically, and therefore zoogeographically, a perfect unity.

II.

Moorlands have a typical aquatic flora (*Typha*, *Carex*, *Euphorbia*, *Glyceria*, etc.), extending sometimes over miles of otherwise agriculturally valuable soil, presenting a characteristic landscape. In this special habitat a special Lepidoptera fauna also lives.

Collecting in swamps has its manifest hindrances. These were the reasons why older collectors have not satisfactorily investigated these habitats. Nobody can comfortably put up with inconveniences of swamp climate, wetness, etc. Another cause of infrequent collecting was ignorance of localities. Until the third decade of this century "rarer" helophilous species were represented by only one or two specimens in the collection of the Hungarian Natural History Museum in Budapest. There is, for instance, *Rhadinogoes lepigone* (Möschl.), with the note in the Catalogus Fauna Regni Hungariae (1898): "Rarissima, specimen unicum ex Hungaria cognitum". In the

above Museum there are three specimens, last date: 1928. I caught 26 specimens in one night on the reedy shore of Lake Velence, central Hungary. *Pelosis obtusa* (H&S.) was held to be one of the rarest helophilous moths, but you can collect 10-15 specimens in the above place and in the southernmost reedy swamps of Lake Balaton, southwest Hungary. It is said that this species is extinct in England and Italy. Possibly it was not sought after enough! The same holds true for *Gortyna leucostigma* (Hbn.), *Aspilates formosaria* (Ev.), *Archana neurica* (Hbn.), and others.

Collecting in swamps therefore calls us lepidopterists urgently. Furthermore, river improvements, the draining of marshy regions to transform them into agriculturally valuable land threatens to extirpate sometimes unique and always peculiar floras and faunas. The priceless relict marshes, for instance, of geologically young, diluvial origin in the middle of the Great Hungarian Plains have their only ecological and biological equivalents 2000 miles away, near Stalingrad and in the Volga Valley.

How to collect moths in swamps? There are three points to be considered:

1. Clothing. Have watertight, light boots (preferably rubber where very wet ground is concerned), old, warm clothes, and, most important!, a light net or gauze applied in some manner (on the rim of your hat, perhaps) to keep away gnats. It is also advisable to bring with you a hunter's tripod on which to sit.

2. Collecting lantern. A satisfactory arrangement for the lamp is to have made three poles of bamboo or other light wood, cut into convenient lengths for carrying. These sections can be joined together for use. One pole should be longer than the other two. At the proper location stick the two shorter poles into the soil parallel to each other and stretch your sheet between them. This forms the reflector and collecting surface. Thrust the longer pole into the soil so that it leans toward the sheet and hang the lantern on it near the sheet. The lamp should face the marsh and should be placed at the edge of woods if there are any. Otherwise the collecting is most successful if the lamp shines directly into the reeds.

3. Lure. The usual "sugaring" is not applicable. The best method is to bind 4-5 slices of dried apple or whole dried pears on a string, immersing them in the following mixture: 1 quart beer, 1 pound sugar, 1 pound honey. Put nothing else in the liquid! Immersion should last for one hour. The strings (20 are convenient) can be looped on the lower branches of trees on the shore of clearings in marshy woods, or, in fact, on 3 or 4 strong reeds taken together. Disperse these about every 20 yards, carefully choosing a path which will be passable also in the dark. Even so, collecting is sometimes unsuccessful,

as masses of gnats may light on the lures, preventing moths from approaching them. Do not hang the lures on dry twigs, because ants are likely to swarm onto them.

III.

A strict separation of which moths are helophilous is, of course, impossible on technical grounds. This is rather a matter of aspect. The greater part of the moths that feed on Alders (*Alnus* spp.) are not helophilous, although this is a typical swamp-loving tree. Furthermore, *Polia splendens* (Hbn.) feeds on various small plants in many different habitats, including swamps, where it can be caught in great numbers.

After considering their ecological associations, both plant and animal, I consider the following Hungarian species as helophilous moths. The numbers refer to the five swamp habitats listed above in Section I.

- Sesia palustris* (Kautz), on *Euphorbia aquatica*. (1)
Comacla senex (Hbn.), on liverworts (*Jungmannia* spp.). (1,3,5)
Pelosi muscerda (Hufn.), in woods. (1,2,3)
Pelosi obtusa (H.-S.). (3,5)
Rhyaroides metelkana (Ld.), on palustrine plants. (1,2)
Phragmatoclea castanea (Hbn.), on reed (*Phragmites* spp.). (1,2,3,5)
Laelia coenosa (Hbn.), on reed (*Phragmites* spp.). (1,2,3,5)
Cosmotriche potatoria (L.), on sedge (*Carex*, *Dactylis*, *Luzula*). (1,2,3,5)
Acronycta leporina abs. *bradyporina* & *melanoccephala*, on birches and grasses. (2,3)
Rhyacia strigula (Thnbg.), black heath (*Erica cinerea*). (4)
Rhyacia hyperborea (Zett.), on blueberry (*Vaccinium myrtillus*). (4)
Aporophyla nigra (Haw.), on dock (*Rumex* spp.). (4)
Gortyna leucostigma (Hbn.) & abs. *fibrosa* & *albipuncta* on flag (*Iris pseudacorus*). (2,3,4,5)
Hydroecia micacea (Esp.), palustrine plants. (3,5)
Hydroecia petasitis (Dbl.), on sweet coltsfoot (*Petasites hybridus*). (2)
Phragmitiphila typhae (Thnbg.), on cat-tail (*Typha latifolia* & *angustifolia*). (1,3,4,5)
Phragmitiphila typhae ab. *fraterna*. (2,3,5)
Phragmitiphila nexa (Hbn.). (2)
Archanaera algae (Esp.), on sedge (*Typha latifolia*). (1,3,5)
Archanaera gigantea (Osth.). (1,2,3,5)
Archanaera sparganii (Esp.), on sedge and reed (*Typha latifolia* & *Phragmites communis*). (4)
Archanaera geminipuncta (Hatch.), on reed (*Phragmites communis*). (4,5)
Archanaera neurica (Hbn.). (2,3)
Archanaera dissoluta & f. *hessii* (O.). (5)
Archanaera dissoluta ab. *arundineta*. (1,3,5)
Meliana flamma (Curt.), on reed (*Phragmites communis*). (1,2,3,5)
Tapinostola extrema (Hbn.). (1,2,3)
Tapinostola pygmaea (Haw.). (1,2,3,5)
Tapinostola hellmanni (Ev.), on reed grass (*Calamagrostis epigelos*). (1,2)
Rhizedra lutea (Hbn.), on reed (*Phragmites communis*). (1,2,5)

- Sedina büttneri* (Hering). (2,3) (coll. Natan, Dr. Kovács)
Athetis palustris (Hbn.), on palustrine plants. (4)
Radinogoes lepigone (Möschl.). (2,3,5)
Phytometra chryson (Esp.), on hemp agrimony, and glutinous sage (*Eupatorium cannabinum* & *Salvia glutinosa*). (2,4)
Anarta myrtilli (L.), on heather (*Calluna vulgaris*). (4)
Eustrotia uncula (Cl.), on grasses. (1,2,3,5)
Schrankia turfosalis (Wocke). (2,3) (coll. Dr. Kovács)
Acidalia corivalaria (Krtschm.), on palustrine plants. (2,3,4)
Aspilates formosaria (Ev.), on hemp agrimony (*Eupatorium cannabinum*). (1,3)
Garsia paludata var. *imbutata* (Hbn.), on peat blueberry (*Vaccinium oxycoccos*). (4)
Eupithecia absinthiata (Cl.). (1,3,4)
Aril lonche albovenosa (Goetze). (1,2,4,5)
Boarmia danieli. (3) (coll. Dr. Kovács, and according to him, a typical moth of our ancient peaty-woods.)

There are still other moths (for instance, *Nudaria mundana* L., *Acosmetia caliginosa* Hbn., etc.) that prefer wet places and yet cannot be held strictly helophilous. Heavy dew and a humid northern hillside are enough for them to occur in places many miles away from any river, lake, or swamp.

BUTTERFLY MIGRATION NEAR ITALY

The interesting communications by Saville and Henderson on bird migration in *Science*, June 4, 1948, recall a remarkable insect migration that I witnessed years ago.

On August 14, 1934, at 8 A.M., I had occasion to leave a schooner, becalmed about 28 miles due south of Messina, Italy, and proceed in a small motor boat in quest of supplies. Travelling north at about 12 knots over a glassy sea, we observed a great number of small, pale yellow butterflies all flying west a few feet above the water. They were not grouped in flocks, but flew singly, apparently spaced about 50 to 100 yards apart. As I recall it, we continued to see them for a distance of several miles as we entered the funnel between Sicily and the Italian mainland. They were all about 5 or 6 feet above the water, as I recall it, and every single one was flying due west, as nearly as we could judge. I can give no accurate estimate of the size of these butterflies, but, as nearly as I can recall it, the wing span appeared to be between 3 and 5 cm.

The distance across the strait, east to west, at the point where we first encountered the flight, is about 14 statute miles, and it narrows progressively as Messina is approached.

The ecological meaning of this flight, and the instinctive drive and sensory clues involved are interesting problems for speculation and study.

Alexander Forbes, M.D.
 Harvard Medical School, Boston, Mass.

BOOK REVIEWS

9. Biologie der Schmetterlinge
by Martin Hering*

In spite of being entirely in German, this book should be on the reference shelf of every specialist in Lepidoptera. It is the only existing scholarly treatment of the various aspects of lepidopterology other than strict classification. The material is considered from a world-wide basis and all groups of Lepidoptera are included. The most direct means of showing the scope of the book is to give a translation of the chapter titles, as follows:

INTRODUCTORY SECTION

1. Characteristic Features of the Structure of the Lepidoptera.
2. Phylogeny and Affinities in Lepidoptera.
3. Egg and Oviposition.
4. The Larva.
5. The Pupa (Nymph) and its Development.
6. The Hatching-out of the Imago.

THE LIFE OF THE IMAGO, ITSELF

7. The Food of the Lepidopteron.
8. Courtship and Mating.
9. The Sensory Life of Lepidoptera.
10. The Flight of Lepidoptera.

GENERAL PROBLEMS

11. The Geographical Distribution of Lepidoptera.
12. Alternation of Generations and Polymorphism.
13. Phenology. Melanism and Albinism.
14. Enemies of Lepidoptera and Protective Devices against Them.
15. Aquatic Lepidoptera.
16. Mining Lepidoptera.
17. Gall-making Lepidoptera.
18. Lepidoptera in Relation to Ants and Termites.
19. Symbiosis and Related Phenomena.
20. Forms of Association among Lepidoptera.
21. Experimental Biology.
22. Peculiarities of Instinct Development.
23. Destruction and Benefits from Lepidoptera.

CONCLUDING CONSIDERATIONS

24. The Practice of Biological Observation.

Chapter two concludes with a classification of the Lepidoptera and a phylogenetic chart of relationships. Dr. Hering recognized 56 families.

Within this book there are assembled numerous interesting trivial facts, such as the range of size in Lepidoptera, from Thysania agrippina (225 mm.) to Nepticula acetosae (3 mm.). Equally interesting and far more significant are the discussions of experimental physiology, mimicry, zoogeography, and numerous other profound aspects of lepidopterology.

The illustrations are regrettably few for a work of this sort, but the plates are of excellent quality.

G.L.R.

* Pp. 480; 13 plates, 82 figs. Berlin, 1926 (Julius Springer). For sale by J.D. Sherman, 132 Primrose Ave., Mt. Vernon, N.Y., for \$9.00.

WAR LOSSES IN JAPAN

Mr. Takashi Shirôzu of the Entomological Laboratory, Kyushu University, has reported on war damage to lepidopterology in Japan.

The losses were relatively slight. Dr. J. Shibuya, able authority on the Pyralidae, was killed when Rota Island, in the Marianas, was bombed. Mr. I. Fukushima was killed in the fighting in North China.

None of the major collections, including those at the universities in Sapporo and Fukuoka, were destroyed. However, the collection of the Tokyo Agricultural College was burned, as were private collections including those of K. Nomura in Tokyo and Mr. Shirôzu, himself.

The large collections of the Taihoku University and the Central Experiment Station in Formosa were not damaged, but were occupied by the Chinese Army and are now the property of the Chinese Government. Dr. S. Issiki, noted authority on Japanese and Formosan Microlepidoptera, has returned to Japan, as have his colleagues, Dr. T. Shiraki, Dr. Y. Miwa, T. Mitono, and M. Chujo. None of them was able to bring his literature or private collection.

*

We have recently learned that the very valuable library of the Societa Entomologica in Genova, Italy, was destroyed by fire as a result of bombardment during World War II.

LEPIDOPTERA LITERATURE FOR SALE

In the April News (p.42) announcement was made of large sets of papers being disposed of by the Entomological Society of Washington at fairly reasonable rates, with a 20% reduction for Lepidopterists' Society members. Dr. Gurney, secretary of the Washington Society, has informed us that there was a good response from our members. He further stated that one more lot has been discovered in his society's store rooms and he has agreed to a very low price for this valuable literature.

The new lot consists of two parts. The first includes about 58 papers, with about 230 pages and at least 5 plates. They were published from 1897-1905. There are about 40 papers by H.G. Dyar. The rest are by A.R. Grote, G.H. French, J.B. Smith, and others.

The second part consists of a substantial portion of Dyar's series entitled "Life Histories of North American Geometridae", published in at least 68 parts in Psyche from 1899 to 1905. The set now being offered comprises between 45 and 50 parts of the first 68. There are over 100 pages in the lot.

These two lots of scarce old works total over 100 papers and well over 300 pages, plus plates. The two sets together may be obtained by Lepidopterists' Society members for only \$3.00, postpaid, by writing to:

Entomological Society of Washington
c/o Bureau of Entomology & Plant Quarantine
Washington 25, D.C.

G.L.R.

346. Ariga, K., "Distribution of butterflies in Matsumoto City and its eastern mountain district, Japan." (In Japanese). Collecting and Breeding (Tokyo), vol.9: pp.185-188. Oct. 1947. (T.S.)
347. Beirne, Bryan P., "Notes on the Origin and History of the British Insect Fauna." Proc. Roy. Ent. Soc. Lond. (A), vol.23: pp.1-8. 18 Mar. 1948. Supplements with records of Lepidoptera and other insects his earlier paper (see Lep. News 2: p.18).
348. Bibby, F.F., "Notes on the Insect Fauna of the Samar Group, Philippines." Philippine Journ. Science, vol.77: pp.61-81. May 1947. Records 3 identified spp. and 10 families of Lepidoptera from Calicoan Is.
349. Chernock, Ralph L. & Ottilie D., "Notes on the Life Histories of Three Floridian Butterflies." Canadian Ent., vol.79: pp.142-144, 9 figs. July-Aug. 1948. Life histories of Appias drusilla neumogenii (host - Beloperone guttata), Strymon acis bartrami (host - Croton linearis), all in Florida.
350. Corbet, A. Steven, "Papers on Malaysian Rhopalocera. VI. Symbrenthia hippocla (Hübner, 1838), a Species distinct from S. hippocla (Cramer, 1779)." Entomologist, vol.81: pp.164-167, 2 figs. July 1948. Confirms 1947 findings of Toxopeus & Pock-Steen of separateness of these 2 spp. Describes as new: S. hippocla race selangorana (Malaya) and S. hippocla race viridis (N.Borneo). Lists all known local races of the two largely sympatric spp. Figures uncus of a race of each.
351. Darlow, H.M., "Insects taken at Sea, August to October, 1947." Entomologist, vol.81: pp.158-163. July 1948. Records 14 spp. of Lepidoptera taken out at sea between England and Malta.
352. Diakonoff, A., "Een verbeterde methode voor het monteeren van genitaal-preparaten." (An improved method for mounting genitalia). (In Dutch). Entom. Berichten, vol.12: pp.259-260. 1 July 1948. The method is to macerate the genitalia in 10% sodium hydroxide, transfer to 96% alcohol in benzyl-alcohol and enclose permanently in Venetian turpentine on small glass slides which can be put on the pin of the specimen concerned. (A.D.)
353. Diakonoff, A., "Records and descriptions of Microlepidoptera (2)." Treubia, vol.19: pp.483-524. Sept. 1948. 2 Phalonidae, 31 Tortricidae and 2 Chlidanotidae are recorded from the Malay Archipelago. New species, all Tortricidae, are: Zacorisca toxopei (N. Guinea), Z. t. aplasta (Borneo), Isotenes cryptadia (Buru), I. inae (Java, Sumatra, Assam), I. thaumasia (Java, Sumatra), Neocalypsis insularis (Sebesi Id., Java), Epagoge occidentalis, Homona intermedia, H. scutina, Cacoecia alioica, Syndemis miae, Epoda discobola, E. spinosa, E. musculus, (all from Java), Protypanthes eutrachys and Schoenotenes helioconis (Sumatra). Homona wetan Diak. is a good species; Proactenias sisix Diak. ♀ described. "Harmologa" (= Isotenes) miserana Walk. appears to be confined to Australia; records from other islands concern new Isotenes spp. mentioned above. Glysiaria opisthodonta Diak. is a synonym of G. reliquatrix (Meyr.), Homona picrostacta Meyr. a synonym of H. nubiferana (Walk.). Genitalia of both sexes, when available, and of neuration and head of Picroxena scorpiura Meyr. (Chlidanotidae) are figured. (A.D.)
354. Dowden, Philip B., W.D. Buchanan, & V.M. Carolin, "Natural-Control Factors Affecting the Spruce Budworm." Jour. Econ. Ent., vol.41: pp.457-464. June 1948. Detailed parasite data, including valuable lists of primary and secondary parasites.
355. Dufrane, Abel, "Pieridae". (In French). Bull. Ann. Soc. Ent. Belgique, vol.83: pp.46-73. 28 Feb. 1947. Describes as new: Leptosia medusa f. houzeaui (Ivory Coast), Pieris melete f. tonkinensis (Tonkin), Mylothris nubila f. wansonii (locality not given), M. agathina f. maureli (Ethiopia), Colotis mathieu (Belgian Congo), C. antevippe f. subgavisa (L. Congo), C. paradoxa (Belgian Congo), C. auxo race hararensis (Ethiopia), C. vreuricki (Congo), Hebomia glaucippe formosana f. transiens (Formosa), Catopsilia f. florella f. inornata (Guinea) & f. ornata (Sikkim), C. florella gnoma f. transiens (Tonkin), Terias trufilensis (Peru), T. joannisi (Peru), Colias minuscula f. peruviana (Peru). In addition, at least 58 new aberrations and 5 new seasonal forms are named. It is difficult to find any genuine usefulness to science in this paper. By M. Dufrane's system, one could hardly fail to catch scores of "new aberrations" in a single day in Colorado, all of which M. Dufrane would presumably wish to name formally, designating holotypes, etc. There are many shaky points. For example, "ab. lambillioni" of Colias elis is a whitish female "semblable du Canada, sans nom de localité précise" - not even the Continent definitely known! Some supposed races named from uniques!
356. Fisher (Richardson), K.J., "Some Geographical Notes on West China Localities." Entomologist, vol.81: pp.192-195, 213-219, map. Aug., Sept. 1948. Locates accurately a large number of important historical localities of Chinese Lepidoptera.
357. Fleming, Henry, "A New Genus and Species of Orneodidae (Moths) from Rancho Grande, North-central Venezuela." Zoologica (N.Y.), vol.33: pp.39-42, pl.1. 20 Apr. 1948. Describes in detail as new: genus ALINGUATA and lone species neblina (Rancho Grande). Drawing and photos of types.
358. Fox, Richard M., "Two new Ithomiinae in the Schaus collection (Lepidoptera: Nymphalidae)." Journ. Wash. Acad. Sci., vol.38: pp.315-316, 2 figs. 15 Sept. 1948. Describes as new and figures: Pteronymia schausi (Colombia), Hypoleria meridana (Merida, Venezuela).
359. Fukaya, M., "The fundamental study on the forecast of Rice Borer, Chilo simplex Butler (preliminary report)." (In Japanese). Nogaku Kenkyu (Report of the Ohara Institute for Agricultural Research), vol.37: pp.23-26. June 1947. (T.S.)
360. Gardner, J.C.M., "Notes on Pupae of the Noctuidae." Proc. Roy. Ent. Soc. Lond. (B), vol.17: pp.84-92, 12 figs. 18 June 1948. Keys pupae of subfamilies of Noctuidae (= Phalaenidae), with descriptions, keys, figures of some Indian species.
361. Hayashi, K. & T. Niimura, "Note on the egg laying habit of Argynnis paphia paphioides But. (Nymph.)." (In Japanese). Zephyrus, vol.9: p.294. June 1947. (T.S.)
362. Herwarth von Bittenfeld, H.W., Hebben Colias croceus Fourer. en de variaties uit de helice-groep verschillende vlieguren?" (Do C.g. and the varieties of the h.-group fly at different hours?" (In Dutch). Entom. Berichten, vol.12: p.249. 1 July 1948. In warm hours of the day mostly pale coloured varieties are on the wing. (A.D.)
363. Ishibashi, Y., "Note on Graphium doson albidus Wil. captured in Nagasaki Pref., Jap. (Papilion.)." (In Japanese). Zephyrus, vol.9: pp.293-294. June 1947. (T.S.)
364. Itô, S., (Choaspes beniamini japonica Mur. attracted to the electric light (Hesper.).) (In Japanese). Zephyrus, vol.9: p.294. June 1947. (T.S.)
365. Kapur, A.P., "A Note on the Genus Epina Walker (Lep.-Pyral.)." Entomologist, vol.81: p.191. Aug. 1948. Diatraeaopsis Dyar & Heinr. sunk as synonym of Walker's Epina, with D. differentialis a synonym of E. dichromella. Confusion resulted from Walker's failure even to mention locality of dichromella.
366. Kibe, K., "Capturing of Zizina otis sylvia Nak. near Nakatsu, Jap. (Lycaenidae)." (In Japanese). Zephyrus, vol.9: pp.291-292. June 1947. (T.S.)
367. Kibe, K., "Larvae of Lampides boeticus L. attended by ant, Lasius niger." (In Japanese). Zephyrus, vol.9: p.294. June 1947. (T.S.)

368. Kibe, K., "*Pieris rapae crucivora* Boisd. attracted to electric light (Pierid.)." (In Japanese). *Zephyrus*, vol.9: p.294. June 1947. (T.S.)
369. Lempke, B.J., "Trekvlinders in 1946." (Migration of Lepidoptera in 1946). (In Dutch). *Entom. Berichten*, vol.12: pp.234-239. 1 May 1948. 7th annual report on migration of Lepidoptera in Holland completed. (A.D.)
370. Ludwig, Daniel, "Relation between Lipid Content of Cuticle, Duration of Diapause, and Resistance to Dessiccation of Pupae of the *Cynthia* Moth." *Physiological Zoology*, vol.21: pp.252-257. July 1948. Removed lipids by immersion in ether; found no effect on diapause but some loss of water and increased mortality from moulds as results.
371. Matsuzawa, H., "Notes on biology of *Chilo simplex* Butler and *Schoenobius incertellus* Walker." (In Japanese). *Ann. Miyazaki Linn. Soc.*, vol.12: pp.5-8. May 1948. (T.S.)
372. Moriya, Y., "Two rare butterflies in Ogaki City and its vicinity." (In Japanese). *Zephyrus*, vol.9: p.290. June 1947. Records *Zizina otis sylvia* and *Danaus tytia nipponica*. (T.S.)
373. Nakajima, S. and K. Shimizu, "Bionomic studies on an injurious insect of sweet potato, *Anophia leucomelas* L." (In Japanese). *Danchi-Nogaku* (published from Miyazaki Agricultural College), vol.1: pp.55-57. June 1948. (T.S.)
374. Nakamura, M., "Abnormal venation in *Pieris melete* Men. and *Aporia crataegi* Linné." (In Japanese). *Coll. and Breed.*, vol.9: p.99. May 1947. (T.S.)
375. Needham, James G., "Ecological Notes on the Insect Population of the Flower Heads of *Bidens pilosa*." *Ecological Monographs*, vol.18: pp.431-446. July 1948. Includes 10 spp. of moths, mostly micros.
376. Niimura, T., "Capturing of *Melanitis leda* in Chiba Pref., Jap. (Satyr.)." (In Japanese). *Zephyrus*, vol.9: p.289, 1 fig. June 1947. (T.S.)
377. Niimura, T., "A migrating *Danaus chrysippus* in Nakatsu City, Jap. (Danaiidae)." (In Japanese). *Zephyrus*, vol.9: p.292. June 1947. (T.S.)
378. Niimura, T., "A revision of the species of *Pyrgus* in Japan (Lep., Hesper.)." (In Japanese). *Matsumushi*, vol.2: pp.110-112. Mar. 1948. *P. zona* Mab. dropped as a synonym of *P. maculatus* Brem. & Grey by rearing experiments. *Zona* is merely a summer form of *maculatus*. *P. bieti tokachiana* Mats. also sinks under *P. maculatus*. (T.S.)
379. Okamoto, D., "The Life-history of *Elycisma westwoodi* Vollenhoven (Lep.) a cherry-tree pest." (In Japanese). *Matsumushi*, vol.2: pp.52-55. Sept. 1947. (T.S.)
380. Okamoto, D., "Some Notes on *Pieris rapae* L. in Corea." (In Japanese). *Biosphaera*, vol.1: pp.171-175. Oct. 1947. (T.S.)
381. Picard, J., "Les Hesperilidae du département du Gard d'après les chasses de R. Gaillard." (In French) *Lambillionea*, vol.48: pp.25-30, 34-42. Apr., June 1948. Records 21 spp. from Gard. Describes as new: *Pyrgus carthami* race *nemausensis* (Nîmes), *P. serratae* race *arvernensis* (La Séyreyrède), *P. bellieri* race *gaillardi* (Nîmes), *Ochlodes ventatum* race *concouensis* (Concoules) and four "individuals formes".
382. Saito, S., "Capture of *Hypolimnas misippus* L. at Matsumoto, Cent. Honshu, Jap. (Nymph.)." (In Japanese) *Mushi Shizen* (Tokyo), no.18: p.91. Apr. 1948. (T.S.)
383. Shirôzu, T., "A new locality of *Neptis philyra excellens* But. in Kyûshû, Jap. (Nymphal.)." (In Japanese). *Zephyrus*, vol.9: p.292. June 1947. (T.S.)
384. Shirôzu, T., "A new locality of *Lethe marginalis* Mot. in Kyûshû, Jap. (Satyr.)." (In Japanese). *Zephyrus*, vol.9: pp.292-293. June 1947. (T.S.)
385. Shirôzu, T., "Two butterflies new to the fauna of the Gotô Islands, Japan." (In Japanese). *Zephyrus*, vol.9: p.293. June 1947. Records *Euchloe scolymus* and *Precis orithya*. (T.S.)
386. Shirôzu, T., (Note on the generation of *Papilio machaon hippocrates* Fel. at the low land of Fukuoka and its vicinity). (In Japanese). *Zephyrus*, vol.9: pp.295-296. June 1947. (T.S.)
387. Sibatani, A., "On the generic name of *Penthema formosanum* (Rothschild) and its systematic position (Satyr.)." (In Japanese). *Zephyrus*, vol.9: p.288. June 1947. From the characters of the male genitalia, *P. formosanum* is shown to be a satyrid and not a nymphalid as treated before. (T.S.)
388. Sperry, John L., "Southwestern Geometrid Notes and New Species. II." *Bull. Brooklyn Ent. Soc.*, vol.43: pp.88-93. June 1948. Describes as new: *Sericosema meadowsaria*, *Phengommataea mabelata*, *Antepione hewesata* (all from Oak Creek Canyon, Ariz.). First description of female of *Parexcelsa ultraria*. Notes on 3 other spp. (T.S.)
389. Takahashi, Y., "Note on the collecting of *Arhopala ganesa loomisi* Pryer in Mt. Kiyosumi in Chiba Pref., Jap. (Lycaen.)." (In Japanese). *Zephyrus*, vol.9: pp.285-288, 1 fig. June 1947. (T.S.)
390. Takatsuka, M., "A locality of the red-marked form of *Graphium doson albidus* Wil. in Kochi Pref., Japan. (Papilionidae)." (In Japanese). *Zephyrus*, vol.9: pp.290-291. June 1947. (T.S.)
391. Terayoshi, F., "Capturing of *Badamia exclamatoris* Fab. in Shiga Pref., Jap. (Hesper.)." (In Japanese). *Zephyrus*, vol.9: pp.289-290, 1 fig. June 1947. This is the first record of this tropical butterfly migrating into Japan. (T.S.)
392. Timon-David, Jean, "Pigments des Insectes." (In French). *L'Année Biologique*, vol.51: pp.237-271. Sept.-Oct. 1947. Detailed discussion, mainly chemical, including many pigments in Lepidoptera. Very extensive bibliography.
393. Toxopeus, L.J., "Een bijdrage tot de kennis van *Actias maenas*." (A contribution to the knowledge of *A.m.*). (In Dutch). *Chronica Naturae*, vol.104: pp.60-62. Feb. 1948. A report on comparative rearing of material from Java and Sumatra respectively, under same conditions. Eggs and larvae were alike. Duration of development was distinctly different: Javanese material almost 2 months, Sumatran 4-6 weeks. The Javanese moths were larger consequently. An annotated list of sub-species is added. (A.D.)
394. Umeya, K., "Note on the breeding of *Polygonia c-album hamigera* But. (Nymph.)." (In Japanese). *Coll. and Breed.*, vol.9: p.112. May 1947. This is the first record of *P. c-album* breeding in Japan. The food-plant observed is *Celtis sinensis* var. *japonica*.
395. Waloff, N., M.J. Norris, and E.C. Broadhead, "Fecundity and Longevity of *Ephestia elutella* Hübner (Lep., Phycitidae)." *Trans. Roy. Ent. Soc. Lond.*, vol.99: pp.245-268, 6 figs. 25 June 1948. Fecundity increased and longevity decreased with increase in temperature. Other life history factors also analyzed experimentally.
396. Weiss, Harry B., "The New York Entomological Club and 'Papilio'." *Journ. N.Y. Ent. Soc.*, vol.56: pp.119-136. June 1948. Detailed history of the famous Club and its members, including Henry Edwards, Jacob Doll, A.R. Grote, Thos. L. Mead, and other lepidopterists. Also history of short-lived journal, "Papilio".
397. Wellington, W.G. & W.R. Henson, "Notes on the Effects of Physical Factors on The Spruce Budworm, *Choristoneura fumiferana* (Clem.)." *Canadian Ent.*, vol.79: pp.168-170. 12 Oct. 1948. Detailed correlation of weather and life of this pest moth. Valuable ecological data.
398. Wilmsink, G.F., "Massaal optreden van *Rhizedra lutosaria* Hb. in de N.O. polder." (Mass occurrence of *R.l.* in the Northeast Polder). (In Dutch). *Entom. Berichten*, vol.12: pp.246-247. 1 May 1948. Mass occurrence of *lutosaria* observed in Holland in Sept.-Oct., 1947, possibly caused by very warm summer (A.D.)



Herman Strecker

BRIEF BIOGRAPHIES

16. Ferdinand Heinrich Herman Strecker (1836-1901)

Science and art are often distinguished by the statement that the former excludes emotion while the latter expresses it. Yet since emotion and reason are both essential parts of living they have a close relationship. F.H. Herman Strecker must have found this closeness particularly true in his own life for he was both artist and scientist. His inherited talent for the artistic profession was expressed in sculpture, architecture and design. His father, who had been a well-known sculptor in Germany, came to America in 1835 and settled in Philadelphia. Herman Strecker was born on March 24, 1836, in that city. When he was twelve years old the family moved to Reading, Pennsylvania, where he attended the public schools. He showed his interest in both art and science as a boy, and after his father's passing in 1856, he took up the parental profession.

The scientific leanings of this famous lepidopterist also had ancestral roots, for three of Strecker's uncles were naturalists. As a young man, he studied natural history, particularly the Macrolepidoptera, at the Academy of Natural Sciences of Philadelphia. Of those days he later wrote (1878): "I shall never forget when a little boy how my heart bounded when one day Prof. Jos. Leidy took me into the basement of the...Academy..., and pointing to the books on Entomology told me I had permission to examine them. Great God what a Heaven opened to me! ... How I now reveled in the treasures of old Cramer, in Donovan, ... in indefatigable Hübner, and in dust ad libitum. How I gazed wonderstruck on the great African Saturnidae depicted by the old authors, never dreaming that I should ever become the happy possessor of such treasures." Throughout Strecker's life scientific work had to be done at night or on holidays, yet

in addition to his papers, he amassed a large and valuable collection, obtaining many of the specimens on his trips to Mexico, the West Indies, and Central America, where he went primarily to study ancient Aztec architecture.

Strecker's principal work was the voluminous "Lepidoptera Rhopaloceres and Heteroceres, Indigenous and Exotic, with Descriptions and Coloured Illustrations." This was published in fifteen parts and four supplements, during the period 1872-77. The fifteen colored plates are among the remarkable aspects of the series and have a laborious history. When the plates were being done Strecker was a poor man and could not afford fifteen separate lithographic stones on which to make his drawings. So one plate was completed, sent to the publishers and printed, and returned to the artist, who repolished the stone and drew the second plate. This was repeated until all the plates had been printed.

Strecker described several hundred new species, many of which were published in his two large works. His thoroughness is shown in the completeness of the references in them. In his second major work, "Butterflies and Moths of North America" (1878) are included detailed instructions for rearing, collecting, preparation, classifying, packing, etc. He was awarded an honorary degree of Doctor of Philosophy by Franklin and Marshall College for his scientific contributions.

Strecker has been variously described by his associates as cordial, affable, genial, and modest about his talents. However, it is admitted that another side of his personality was his intense desire to build up his collection of Lepidoptera, and he evidently resorted to devious means, in some cases, to obtain specimens. Two of his characteristic sayings were: "I don't let my right hand know what my left hand is doing", and "It is human nature to think of ourselves first, last and always." On the other hand, he was always enthusiastically interested in helping and advising beginning lepidopterists, and had a tremendous number of correspondents all over the world. He said of his book on North American Lepidoptera that it was written in order to furnish plain instructions and information to the beginner, and hoped it would increase his correspondence with students and collectors. His philosophy was: "Never...give a cold look or word to those who hunger after the truths of science; foolish questions may be asked you, and your patience at times taxed, but remember the time, far back, when you too were groping in the dark... Remember how a hand was reached out to direct you aright from gloom and uncertainty to light and knowledge; show now your gratitude for that kindness, in the only way in your power, by doing for some other one who is humbly striving, that which at a time long passed, was done for you."

At his passing on Nov. 30, 1901, at the age of 65, in Reading, Pa., he left a wife and a son and daughter. His Lepidoptera collection is now in the Chicago Museum of Natural History. The above photograph, previously unpublished, was kindly loaned by Dr. A.B. Klots of New York.

Jeanne E. Remington

NOTICES BY MEMBERS

Wanted: Argynniinae, Papilionidae, diurnal swamp-loving moths. Offer in exchange RARE HUNGARIAN LEPIDOPTERA of any group. Dr. L. Gozmány, Budapest XII, Györi út 1. II. 14., HUNGARY.

PAPILIO ARISTODEMUS PONCEANA for sale and exchange. Also all other south Florida and Florida Keys Lepidoptera for exchange. Write: H.L. King, 4618 Abercorn St., Savannah, Ga.

DANISH LEPIDOPTERA offered in exchange for papered Rhopalocera, Sphingidae, Arctiidae. A. Andersen, Odensegade F, Ø, Copenhagen, DENMARK.

Wanted immediately: All species of the genus ANNAPHILA Grt. and forms of AXENUS ARVALIS Grt. Accurate ecological data desired. Offer in exchange Phalaenidae of S. Calif. & living pupae of Hemileuca nevadensis californica Wgt. C.I. Smith, 161 So. 16th St., Apt. 1-B, Richmond, California.

WANTED: Wasps (Hymenoptera: Vespidae, Sphecidae, Chrysididae), particularly Psammocharidae (Spider-Wasps) and Mutillidae (Velvet "Ants"), of the world. Will collect Lepidoptera or other insects in exchange. David G. Shappirio, 4811 17th St., N.W., Washington 11, D.C.

Wanted from collectors or museums: any material of PEREUTE, ARCHONIAS and LEODONTA (Pieridae), for determination and distributional data to be used in revisions. It will be returned promptly and handled carefully. Please write before sending shipment. F.M. Brown, 326 Burns Bldg., Colorado Springs, Colo.

WANTED: for taxonomic study, any U.S. species of Hesperiid genus MEGATHYMUS. I have for exchange many species of North American Macrolepidoptera. Paul R. Ehrlich, 538 Academy St., Maplewood, New Jersey.

NAMED RHOPALOCERA & PARTIALLY NAMED HETEROGERA & MICROLEPIDOPTERA offered in exchange for Microlepidoptera of South Asia. Collections of such Microlepidoptera also solicited for identification. Dr. A. Diakonoff, Zoölogisch Museum, Buitenzorg, Java, D.E.I.

SPEYERIA DIANA and many other scarce Lepidoptera available for exchange for desired spp., esp. of Papilio, Megathymus, Sphingidae, etc. William F. Duhlmeier, 2535 Indian Mound Ave., Norwood 12, Ohio.

In exchange for Philotes of the world, MY ENTIRE COLLECTION of 5,000 specimens of western Lepidoptera. Will send list of check list nos. available. Let me know your localities. R.H. Mattoni, V-29 Terr. War Housing, Richmond, Cal.

ENTOMOLOGICAL EQUIPMENT FOR SALE. Quality material at quantity price. Write for catalog. Bio Metal Associates, P.O. Box 346, Beverly Hills, Calif.

Japanese Rhopalocera offered in exchange for needed specimens from S. & Cent. America & S. Pacific Is. (list available on request). T/5 R.J. Jablonski, Med. Det., 13th F.A. Bn., A.P.O. 24, Unit 4, c/o P.M., San Francisco, Cal.

PLEASE NOTIFY THE NEWS EDITORS
OF CHANGES OF ADDRESS PROMPTLY

BUTTERFLIES OF THE BELGIAN CONGO AND BELGIUM offered in exchange for North American butterflies (except Hesperidae). S.G. Kiriakoff, 14 Universiteitsstraat, Ghent, BELGIUM.

Will trade a ROTHSCHILDIA ORIZABA or a ROTHSCHILDIA ARETHUSA for a Samia rubra or a Samia columbia (both males). D.H. Kistner, 1142 Cheyenne Dr., Cincinnati 16, Ohio.

FOR SALE: common MEXICAN BUTTERFLIES in good condition. Supply limited, order early. Write: L.S. Phillips, Loyola University Medical School, 706 S. Wolcott Ave., Chicago, Ill.

In papers with data. CATOCALA texana, amestris and westcotti, pretiosa, mira, verilliana, ahola and other Texas species. For cash or exchange. Complete list on request. L.H. Bridwell, Forestburg, Texas.

CASH PAID FOR BUTTERFLIES of almost any species from any part of the world. Only perfect specimens with data wanted. Will buy 1 or 100 of any species, or contract for season's catch. A. Glanz, 289 E. 98th St., Brooklyn 12, N.Y.

WANTED FOR STUDY: PAPILIONIDAE OF WORLD, especially P. glaucus group (incl. eurymedon, daunus, etc.); also machaon and thoas group and Nearctic Parnassidae. Buy or will exchange U.S. Macrolepidoptera. Kent H. Wilson, 430 Ridgewood Road, Fort Worth 7, Texas.



LIVING MATERIAL



LIVING COCOONS of Lepidoptera from India for sale as follows: Attacus atlas -50¢, A. Cynthia -12¢, A. edwardsi -50¢, Antheraea mylitta -40¢, Leopha katinka -25¢, Caligula cachara -25¢ each. Send with U.S.A. orders permit from U.S. Dept. Agriculture. Himalayan Butterfly Co., Shillong, Khasi Hills, INDIA.

Living pupae of Eacles imperialis and Papilio troilus offered in exchange for other specimens, including papered Papilio, or for sale at 25¢ each. Mrs. Vonta P. Hynes, 152 Meachem Ave., Battle Creek, Mich.

FOR SALE: cocoons of Telea polyphemus, Callosamia promethea (10¢ ea., \$1 doz.), Automeris io (15¢ ea., \$1.60 doz.), Actias luna (25¢ ea., \$2.50 doz.), Attacus cynthia (20¢ ea.), Anisota rubicunda (5¢ ea., 50¢ doz.), Ancasa mylitta (50¢ ea.). Bombyx mori eggs (50¢/100). E.A. Ferguson, 1213 Bellflower, S.W., Canton 4, Ohio.

WANTED: Living pupae of any species of Colias, esp. eurytheme-philodice, in exchange or for purchase. Carl W. Gottschalk, Harvard Medical School, 25 Shattuck St., Boston 15, Mass.

Can offer living pupae Rothschildia orizaba in exchange for pupae Platysamia columbia or gloveri and Callosamia angulifera. R.L. Halbert, 1201 W. 30th St., Los Angeles 7, Calif.

Wanted: EGGS OR COCOONS OF SATURNIIDAE, esp. Platysamia, for rearing & hybridization stock. Offer in exchange pupae of several genera, including Papilio, Parnassius, Speyeria, Polites, Arctia, and Platysamia euryle, or will buy. D.P. Frechin, 1504 N. Lafayette, Bremerton, Wash.

Q. "Will you please suggest two or three good general books on Lepidoptera as a whole, in any languages?"

A. Such books are scarce. For the world point of view I know only: M. Hering, Biologie der Schmetterlinge, Berlin, Julius Spring, which is very strong on biology in the strict sense; the Lepidoptera section of Kukenthal's Handbuch der Zoologie, by Zerny and Beier (vol. iv, part 2, pp. 1554-1728), which is very strong on morphology and presents a world-classification; and the great series of volumes of Seitz' "Macrolepidoptera of the World", which covers the species, and figures the majority. The Butterflies are complete, the "Bombyces" complete except for a few pages on the American fauna, the Noctuidae and Geometridae far from complete when the second world war stopped publication.

Q. "Can you suggest references regarding the Agrotid Achaea janata, recently introduced to Hawaii on Castor Bean, concerning its occurrence and biology elsewhere?"

A. Literature appears frequently under the name of Achaea or Ophiusa melicerta. See Maxwell-Lefroy, Mem. Ind. Dept. Agr. 11, 59-77, which is the basic reference; also Fletcher's "Some South Indian Insects", p. 286. It appears almost every year in the "Review of Applied Entomology".

Q. "Is there any moth in Madagascar with a proboscis as much as eleven inches long? There is an orchid there which seems to require such a moth for pollination."

A. The longest reported by Rothschild and Jordan (Nov. Zool. ix, supplement, p. 32) is Xanthopan morgani, with a tongue 8 inches long; they thought that this would serve to reach the honey "in short and medium sized nectaries", and so would reach the nectar often enough to keep trying, and fertilize the flowers.

W.T.M. Forbes

The second volume of Professor Forbes' "Lepidoptera of New York" has been published and will soon be reviewed in the News, with information on how to obtain it. Also to be reviewed soon is Dr. Annette Braun's important new revision of the family Elachistidae.

In the review of French's Butterfly Guide (Lep. News 2: p. 55) we gave the date of the 1st edition as "1890". However, Dr. Meiners has found that the first "1st edition" was published in 1885, as French himself wrote. The 1890 issue was at least a new printing.

We are fortunate in having two additional cooperators preparing abstracts for "Recent Literature on Lepidoptera". Takashi Shirôzu (see p. 95) will scour the Japanese literature. C.F. dos Passos will cover the Canadian Entomologist, Proceedings Ent. Soc. Washington, and Journal New York Ent. Soc. Each abstract not prepared by the News editor is followed by the abstractor's initials in parentheses.

| | |
|---|---------|
| 1948 Season Summary Announcement..... | 89 |
| Procedure in Taxonomy - V. | |
| Categories of Classification..... | 90 |
| Collecting <u>Speyeria eglesis secreta</u> by P.S. Remington & J.D. Eff..... | 91-92 |
| Helophilous Moths of Hungarian Moorlands by L.A. Gozmány..... | 93-94 |
| Field Notes | |
| Ehrlich: <u>Colias</u> Eye Colors..... | 92 |
| Ehrlich: Parasite of <u>Danaus plexippus</u> | 92 |
| Ehrlich: Flyways of <u>Papilio glaucus</u> | 92 |
| Forbes: Butterfly Migration near Italy.... | 94 |
| Review of Hering's <u>Biologie der Schmetterlinge</u> | 95 |
| War Losses to Lepidopterology in Japan..... | 95 |
| Scarce Literature for Sale..... | 95 |
| Recent Literature on Lepidoptera..... | 96-97 |
| Brief Biographies - 16. Herman Strecker by Jeanne E. Remington..... | 98 |
| Miscellany and Special Notices..... | 92, 100 |
| Notices by Members..... | 99 |
| Questions & Answers..... | 100 |
| Additions to List of Members..... | 100 |

ADDITIONS TO THE 1948 MEMBERSHIP LIST

- Carls, E.W., 1985 E. Phillips Blvd., Pomona, Calif.
 Evey, J.A., Benson, Illinois.
 Gaillard, F., 5 Cité du Midi, Paris 18, FRANCE.
 Gibbs, J. Paxton, 222 Curtis East, Denison University, Granville, Ohio.
 Henriksen, Mrs. Emily, Orcas Island, East Sound, Wash. LEPID. Coll. Ex.
 Hill, Charles, 210 E. Glen Oaks Blvd., Glendale 7, Calif. Phalaenidae.
 KRAFT, GUSTAVE, 1421 Hutchinson, Chicago 13, Ill.
 Lempke, B.J., Oude Yselstraat 12^m, Amsterdam-Zuid, 2, NETHERLANDS. RHOP. & MACRO: Dutch. Biology, Migration, Distribution, Variation, Heredity, Coll.
 *Munroe, Eugene, Institute of Parasitology, MacDonald College, Quebec, CANADA. LEPID: esp. Pyralidae and West Indian RHOP. Coll. Ex.
 Sørensen, Arne, Hellerupvej 10, Hellerup Bogbinderi, Hellerup, DENMARK.
 Wilcox, LeRoy, Speonk, Long Island, New York.
 Wilson, F.E., 28 Ferncroft Ave., E. Malvern, (S.E. 5), Victoria, AUSTRALIA. RHOP: esp. Hesperidae. Coll. Ex.

CHANGES OF ADDRESS:

- Michener, Charles D. (Dr.), Dept. of Entomology, Univ. of Kansas, Lawrence, Kansas.
 Plomley, Mervyn, 578 Dunsmuir Rd., Hamilton, Ontario, CANADA.

The annual dues statements will be mailed out with the December News, but meanwhile we wish to announce that the 1949 dues for Regular Members will be \$2.00 and for Sustaining Members a minimum of \$4.00. The small increase will provide urgently needed typographic help for the enormous task of preparing the final copy of each News for the lithoprinter, without reducing the size of News volumes.

THE LEPIDOPTERISTS' NEWS is the monthly periodical of The Lepidopterists' Society. Membership is open to anyone interested in the study of butterflies & moths. The 1949 dues, including subscription to the NEWS, are \$2.00 for Regular Members and \$4.00 or more for Sustaining Members. Please make remittances payable to : Charles L. Remington.