The Lepidopterists' News

THE MONTHLY NEWSLETTER OF THE LEPIDOPTERISTS' SOCIETY
P.O. Box 104, Cambridge 38, Massachusetts, U.S.A.

Editor - C. L. REMINGTON *Assoc. Editor* - J. E. REMINGTON

Volume II June 1948 Number 6

INTERNATIONAL AID

The News editors hope that a Society program will be initiated soon, under the guidance of one or more members, to provide regular aid to our destitute colleagues in the countries of Europe where suffering continues to be widespread. There is also a great need to aid institutions in which important collections are in danger of ruin because of lack of equipment, as reported by Kiriakoff in the News. Volunteers to organize such a program are earnestly requested. American entomologists have been conspicuously negligent in this direction, in contrast to the rallying of the ornithologists and some botanical groups.

Meanwhile, individual response is needed to aid two institutions victimized by violence and recently brought to our attention.

During the shocking Communist riots in Bogota, Colombia, on 10 April, a vicious mob set fire to the Instituto de La Salle and destroyed the entire University as well as the Museum and Library. The noteworthy insect collection had been assembled by Apolinar Maria, the foremost Colombian entomologist. A member of the Society recently wrote that he was sending Apolinar "all of my entomological publications and a representative collection of (local) butterflies to help replace the lost collections at the Institute. Would it not be a really good-neighbor job if all of us in the Lepidopterists' Society did the same thing?" Packages may be sent to: Hermano Apolinar Maria, Carr.9ª Nr.27.45, Sur.,Bogota, COLOMBIA. Insects should be addressed to: Museo Instituto de La Salle,Bogota,COLOMBIA.

In February, 1945, shortly before the liberation of the Philippines, the Japanese army destroyed the College of Agriculture at Laguna, burning the fine insect collection. Dr. L.B. Uichanco, Dean of the College and an excellent lepidopterist, was himself injured at that time. He has recently written that they are starting to rebuild the collection. It will bring valuable aid if a substantial number of the Society members in all parts of the world will send small series of the species, especially of butterflies, of which they have duplicates. Urgently needed are separates of papers and all books and periodicals on insects. Dr. Uichanco's address is: College, Laguna, PHILIPPINES.

We hope to obtain brief reports on Japan, China, Korea, Formosa, Malaya, the East Indies and more information on Europe this year.

ADDITIONAL WAR LOSSES IN GERMANY

After sending the former account (News 2: p.49), I have received further details, kindly supplied by Professor Hans Sachtleben, Director, Deutsches Entomologisches Institut, now at Blücherhof, Mecklenburg (Russian Zone). Professor Sachtleben writes that a very high proportion of the museums and collections in his zone have been destroyed, and that besides this in many cases no data are yet available regarding the amount of the damage sustained. To the list of larger private collections which have been completely lost, the following must be added: Von Frohrich, Aachen; Pfaff, Frankfurt a.M.; Till, ib.; Urbahn, Stettin. A further list of German lepidopterists killed or deceased, comprises: Prof. F. Eggers, Hamburg; Dr. K. Dannenberg, Berlin; Max Gaede, ib.; Prof. O. Meder, Kiel; Dr. K. Frh. von Rosen, Kreuth near Tegernsee; Prof. Süffert, killed a couple of days before the fall of Berlin to the Russians. On the other hand, Dr. Carl Börner, the well known authority on the classification of the Lepidoptera, and Prof. Bernhard Rensch, one of the world's leading taxonomists, are living and working.

Lepidopterists will be glad to hear that the well known dealers in insects, Messrs. O. Staudinger and A. Bang-Haas, Dresden-Blasewitz, still carry on, although Dr. Bang-Haas is dangerously ill; Messrs. H. Wernicke, ib., have also resumed business. There even has been founded a new firm, Messrs. Koch and Albert, Entomologisches Institut, Dresden-Wachwitz. It is not yet known whether there is any prospect at present of business with the United States, but the fact that these firms still exist, is encouraging for the future.

- S.G. Kiriakoff, Ghent, Belgium

PLEASE NOTE

The address of the News editors, beginning 1 September 1948, will be:

Dr. & Mrs. C.L. Remington
Osborn Zoological Laboratory,
Yale University
New Haven 11, Connecticut

It is not yet certain what will be the permanent mail address in New Haven for the News. Meanwhile, PLEASE SEND ALL SOCIETY CORRESPONDENCE TO THE ABOVE ADDRESS AFTER THE INDICATED DATE.

PRINCIPLES OF TAXONOMY - IV.

With the rise of genetics a special branch has appeared which is of the greatest importance to taxonomists and is becoming increasingly integrated into the working principles of the progressive, broadly-trained taxonomic biologists. This offshoot is frequently called POPULATION GENETICS and is concerned primarily with genetic evolution of structural and physiological characters of species, races, and micro-races as geographical units.

Taxonomists have long asked themselves how any two related species became separate. Various theories have been put forward confidently from time to time, but it is by no means certain that the real answer has been expressed thus far. However, it now seems probable that one species rarely, if ever,has split into two while the two diverging units were in actual contact (sympatric) and thus able to try to interbreed. Therefore, species must arise when two or more populations of a species become so separated by actual barriers that interbreeding does not occur. If the separation is maintained for a few hundred thousand years, fundamental differences become fixed in the populations by a combination of random mutation and selection, by the environment, of the mutations which have survival value. Many of the mutations and chromosomal modifications not only change the wing markings, bristles,type of flight, host plant preferences, and so on, but they also produce physiological changes within the body. Then, when the original barrier (a desert, ocean, mountain range)is finally removed and the now different populations are re-united, interbreeding cannot occur for one of several reasons: 1) there is no inclination to intermate because the sex-attractant odors of one do not interest the other; 2) the copulatory structures do not fit(the "lock and key principle"); 3)the sperms of one new species cannot fertilize the eggs of the other; 4) if fertilization does occur, a series of generations cannot result from the mating, because the offspring die in the egg, the larval or pupal stages,or if they reach the adult stage they are sterile.

Modern taxonomy continues to deal with the visible structural differences (coloration, genitalia, wing venation, bristles, claws, etc.), but it concerns itself to an important degree with differences in habits, distribution, chromosomes, and differences perceptible by experimental physiology. Of special importance, too, is the diligent prosecution of experimental cross-mating to determine the degree of sterility between related "species". It is the view of the writer that free inter-fertility between so-called species means that they are not TRUE species. If a gray Precis (= Junonia) from France is interfertile with a red Precis from Cuba,they are merely geographical races ("subspecies") of the same species. However, if an Asiatic Precis has male genitalia essentially identical to those of a North American Precis, but cross-matings produce no fertile offspring or notably reduced fertility in the first generations, they are clearly distinct species.

C.L.R.

PHIL RAU (1885-1948)

Phil Rau, widely known student of insect behavior, passed away suddenly at his home in Kirkwood, Missouri, on 30 May 1948. He was born in St. Louis, Mo., 12 April 1885. Having been left an orphan when only 10 years old, his formal education was ended early in life. However, having an inquiring mind, and eager for learning, he succeeded in reducing this deficiency through his own efforts. Insects had interested him since early youth. When he was 20 years old he spent 2 years in special study at Washington University in St.Louis.

Rau's interest first centered in the Coleoptera and he started to form a beetle collection. However, he found taxonomy boresome, so he soon gave that up. Shortly thereafter he met and came under the influence of Charles H. Turner, then head of the biology department of Sumner Teachers College in St. Louis. Dr. Turner was interested in insect behavior and was conducting a series of unique experiments in his laboratory. Rau, fascinated by Turner's work, determined to follow in his footsteps.

Rau began publishing articles on insect behavior in 1910. Thereafter papers from his pen appeared at frequent intervals in numerous scientific periodicals, especially the entomological journals. Although his chief interest was in the bees and wasps, many of his papers treated insects of other orders. Many of his earlier papers were concerned with Saturniidae and we find such articles as"Sexual Selection Experiments in the Cecropia Moth", "Longevity in Saturniid Moths, an Experimental Study", "The Fertility of Cecropia Eggs in Relation to the Mating Period", and "Sex Attraction and Rhythmic Periodicity in Giant Saturniid Moths". Other important articles which dealt with Lepidoptera were: "The Night Flight of Diurnal Butterflies" and "The Yucca Plant and the Yucca Moth; an Ecological Study".

Two of Rau's studies appeared in book form: "Wasp Studies Afield", by Phil and Nellie Rau, published in 1918, and "Jungle Bees and Wasps of Barro Colorado Island",published in 1933. Of the latter work William Morton Wheeler commented: "It is, in my opinion, one of the most outstanding recent contributions to natural history... The book is written in a very entertaining style, easily intelligible to any layman." Modified, this statement may be justly applied to any of Rau's work. His devoted wife shared his interests and was coauthor, with him, of many published papers.

Phil Rau was not only an entomologist but he found an interest in all phases of natural history. He was always attentive toward young and budding naturalists and did everything within his ability to foster their interests. His home was the mecca of the entomologists and other naturalists of the vicinity.

Rau was a Life Member of the Academy of Science of St. Louis, a member of the American Association for the Advancement of Science, a Fellow of the Entomological Society of America, and a member of the Lepidopterists' Society.

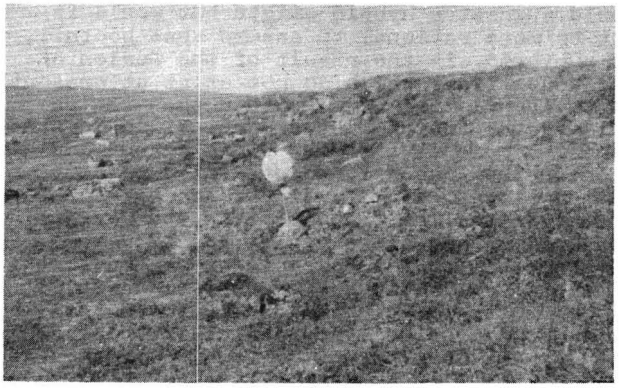
Edwin P. Meiners

THE ARCTIC LEPIDOPTERA OF BAKER LAKE, NORTH WEST TERRITORIES*

by T. N. Freeman
Ottawa, Ontario

North of the last dwarfed and wind-swept spruce, lies the true arctic zone - a northern prairie land, or rocky barrens, usually mantled with glacial debris, often climatically inhospitable but nevertheless extremely fascinating. Insect collecting over most of this vast area may often result in a total lack of specimens or one may witness an insect population so numerous as to stagger the imagination; it depends entirely on where one is as well as on temperature and other atmospheric conditions at the time. The wind is usually strong and one may conclude that some days at least will be cold (45° F.) and sudden rain squalls will appear. With this in mind, it is essential that the collector possess woolen underclothing, several pairs of heavy woolen socks and waterproof and windproof outer garments, such as heavy duck trousers and wool-lined, heavy duck parka with attached POINTED hood. I emphasize the pointed hood so that the biting flies will have no large lee surface upon which to alight and then crawl around to bite the collector on the cheek or temple. The best general foot-wear consists of rubber-bottomed leather-topped laced boots and these will require a good supply of dubbing. A pair of unlined gloves and a mosquito and black-fly head-net are essential. The collector must also possess a liberal quantity of a GOOD biting fly repellent, as well as a disposition sufficiently philosophic to allow for some physical and mental inconveniences. You may leave your flash-light behind because of the continuous daylight, and for the same reason, your lamp for attracting moths will be of little use. Your magnetic compass may point in any direction depending upon your location from the magnetic pole, and sometimes it will spin merrily around and around. This may seem a bit foolish but I wish to emphasize that these conditions prevail over most of the true arctic regions and collecting butterflies in this area cannot be compared with collecting them in a southern locality on a nice warm sunny day.

It is often profitable, because of the sudden advent of cold weather, to search for butterflies under rocks or other cover, and a good deal of general insect collecting is accomplished by this method. I collected several Colias boothii Curt. at Baker Lake, during a strong north wind with the thermometer registering 40° F. - a temperature about 5° below the minimum for the activity of even the hardiest arctic butterfly. These boothii were obtained by picking them up as they lay on their sides, with wings closed, on the shallow, floral carpet of the region. On such days some of the Oeneis species often may be found under the shelter of a rocky outcropping which possesses a southern exposure. These butterflies often accumulate in such areas when the sun is shining. Apparently they linger too long in the heat of the warm rocks after the sun is obscured by clouds, and the cold winds force them to crawl into the nearest shelter. Their camouflage is remarkable and intensive searching is necessary. On such days you will be astonished by the number of butterflies obtainable without a net. Your fingers will be none too warm even with gloves on, and snow squalls may pass across the tundra. Such days have their merit because they allow the collector some respite from the incessant annoyance of the countless myriads of mosquitoes.



ONE OF THE STEPPES ON THE LAKE SLOPE—
the home of Colias boothii

Baker Lake is approximately 200 miles inland from the northwestern shore of Hudson Bay and the settlement is situated near the mouth of the Thelon River on the northwest shore of the lake. The terrain in this vicinity consists of a rolling, treeless prairie or moor-land, with immense sweeping valleys separated by ridges of granitic outcropping in low relief. This shallow soil is peaty in texture and overlies perpetually frozen gravel or glacial deposits. This area approximates the centre or neve of the great Keewatin ice sheet of the Pleistocene glaciation and because of this there is relatively little glacial debris. The soil supports a low grassy-mossy carpet intermixed with an amazing display of myriads of brightly colored wild flowers in strong contrast to the drab green carpet. Steppes occur along the broad slopes, and on the southern sides of these the vegetation attains its maximum luxuriance and consists of ericaceous plants, dwarf birch and dwarf willow. In such locations insect life reaches its greatest density.

RHOPALOCERA

Colias boothii Curt. Fifty-six specimens, July 23 - August 13, 1947. This strongly flying sulphur flutters rapidly along the sheltered sides of the steppes or rocky promontories. It hugs the ground as it flies back and forth over the more luxuriant vegetation

(cont. on next page)

*Contribution No.2537, Div. Entomology, Science Service, Dept. Agriculture, Ottawa, Ontario.

and it is seldom seen on the wind swept plains or on the top of the granitic ridges. It loves to visit the ericaceous blooms and each individual haunts a particular, restricted and sheltered area for a long time. Its wing beat is more rapid than that of our common philodice and it flushes with startling rapidity. My limited observations and acquaintance with boothii and nastes Bdv. would suggest two well defined species, existing in the same general area but occupying different habitats and exhibiting extreme belligerence toward one another when they meet. The speculation suggested by Holland, on the basis of Sutton's Southampton material, that boothii is the result of hybridization between hecla Lef. and nastes, has little foundation in fact. The variability of boothii certainly would suggest a hybrid origin but would it not be more rational to assume that boothii, if a hybrid, is the result of the fusion of two populations which do not exist at present, in their original form, rather than the result of the fusion of two species now in existence? The effect of the Pleistocene glaciation on the insect fauna of Canada no doubt was considerable. If we must account for the total variability of boothii on the basis of a hybrid origin alone (which I doubt) is it not feasible that the ice sheet may have isolated two populations of ancestral boothii, each of which developed its own characteristics of maculation (geographical subspecies) without the development of gametic incompatibility, and that these populations fused into one when the ice barrier was removed? There is no evidence, to my knowledge, that hecla and boothii hybridize at the present time. Furthermore, they appear to occur in different habitats and, in my opinion, the total variability of boothii does not intergrade with that of nastes.

Colias nastes subarctica McD. Two specimens, August 1 and 8, 1947. This butterfly was not common at Baker Lake during the past summer. Several were observed but they fly with such rapidity that capture is difficult. They were observed, as at Churchill, Man., on the top of the wind-swept rocky ridges and the rapidity of wing beat somewhat resembles that of a skipper.

On August 7, the sun shone for the first time in a week and the temperature soared to 57° F. Through the mosquito haze, I observed my first nastes, greenish against the lichens and rocks, and hugging the ground as it bore against a fresh north wind. They are difficult to capture and if missed by the net, they suddenly shoot upward and fly with the wind for a considerable distance at a safe altitude. Unlike the Oeneis, they do not alight soon and I observed several startled nastes starting across the 25 mile expanse of Baker Lake. Their rate of flight, aided by the wind, and their apparent intention, could only suggest an attempted lake-crossing. Ordinarily, I believe nastes is quite sedentary and occurs in local restricted populations - quite unlike the general and widely distributed boothii.

Erebia rossii rossii Curt. Twenty-four specimens, July 20 - August 13, 1947. The first butterfly I encountered at Baker Lake was rossii. The temperature was 45° F. and the weather inclement. A short period of sunshine caused this specimen to venture on the wing and the rather slow flight of the Erebias make them an easy target. From this characteristic I refer to the Erebias as Bouncing-Browns. At Baker Lake, this species occurs rather commonly along the moist areas of the broad slopes and around the hummocky, grassy shores of the numerous lakes. It is truly a marsh or wet ground butterfly and I wondered what particular guardian angel watched over me as I ran without being aware of where I trod, over the hummocky, wet ground in pursuit of rossii.

Erebia fasciata fasciata Butl. Eight specimens, July 23, 25, 26 - August 7, 1947. This beautiful and somewhat variable species was not common at Baker Lake. It occurred in the same habitat as rossii and its lazy, typically "bouncing-brown" flight caused it to be the most easily captured butterfly at Baker Lake.

Oeneis melissa assimilis Butl. Fifty-four specimens, July 23 - August 8, 1947. This species and boothii were the commonest butterflies encountered at Baker Lake. It occurs occasionally along the broad slopes but is usually found in numbers, sunning itself on the sheltered or south side of the rocky outcroppings, near the top of the wind swept ridges. Like its companion species taygete hanburyi Wats., it flushes suddenly when disturbed, rapidly flits with the wind for a short distance, then folds its wings and drops suddenly to almost perfect camouflage and concealment among the lichens, mottled granites or dull colored mosses. Marking the spot it alights, sneaking around "down wind" and scanning the spot systematically through the mosquito haze, sometimes results in the pleasant surprise of discovering the specimen lying on its side. You are "down wind" so watch for its sudden flight past your head if you are not cautious enough to approach stealthily. I found that by walking carefully among the rocks I did not frighten them much and they would only fly a few feet, thus facilitating capture. If a cloud suddenly obscures the sun, the temperature drops rapidly and after a few minutes the butterflies will be chilled and become inactive. At such times, diligent search along the edges of the rocks often results in a good easy catch, as I mentioned at the beginning of this article.

Oeneis taygete hanburyi Wats. Seventeen specimens, July 23 - August 13, 1947. This butterfly occurred in the same habitat as assimilis but was not as plentiful. It is larger than assimilis and does not fly as rapidly. While chasing a specimen of this species on July 23, the writer overran a female Ptarmigan with her brood of ten chicks. In spite of the sudden distraction I managed to capture my specimen. One never knows what to expect in the arctic.

(concl. on next page)

Boloria polaris polaris Bdv. Eighteen specimens, July 20 - August 10, 1947. This species occurs rather sparingly along the sweeping slopes and valleys of the area. It is a rapid flier and is extremely difficult to follow when flushed. The brown maculation blends well with the short vegetation and the butterfly suddenly appears and often disappears just as abruptly. Typical of most of the arctic butterflies, this species flies very close to the ground and this adaptive habit certainly does not facilitate their capture. When not in flight, they crawl awkwardly among the lichens, mosses and other abortive vegetation.

Boloria improba Butl. Two specimens August 2 and 5, 1947. It was rare at Baker Lake and captured along with polaris. It is typically an arctic butterfly of the barrens, specifically distinct from frigga Thunb. and occurs later than that species. Both species occur in some localities on Baffin Island, and unless they were specifically distinct, a hybrid swarm would be manifest. Frigga mainly occurs in the northern boreal forest zone and rarely extends its range into the treeless area.

Boloria aphirape triclaris Hbn. One ♂, August 8, 1947. This single specimen was taken along the broad slope adjoining the lake. The Canadian National Collection contains specimens from Wakeham Bay, Hudson's Str., N.W.T. 23 - 25 August 1927 (F. Johansen).

Plebeius aquilo aquilo Bdv. Two specimens, August 7, 10, 1947. This drab Blue was rare at Baker Lake last summer. It occurred in the habitat of C. boothii where the vegetation was most luxuriant on the southern sides of the steppes or rocky prominences.

HETEROCERA

NOCTUIDAE

Anomogyna sp. 1 ♂, August 7, 1947.
Archanarta quieta constricta Wlk., 10 ♂, 2 ♀, August 2 - 10, 1947.
Sympistis lapponica Thunb. 1 ♂, August 7, 1947.
Lasiestra leucocycla Staud., 1 ♂, August 7, 1947.
Anarta richardsoni Curt., 1 ♂, August 7, 1947.

GEOMETRIDAE

Dasyuris polata Dup., 4 ♂, 2 ♂, August 2-13, 1947.
Xanthorhoe baffinensis McD. 2 ♂, July 23, 25, 1947.
Aspilates orciferaria Wlk., 9 ♂, July 27 - August 7, 1947.

PYRALIDAE

Crambus trichostomus Christ., 3 ♂, July 25, August 2, 8, 1947.
Plodia interpunctella Hbn. Many specimens infesting walnuts in the Hudson's Bay Post.

OLETHREUTIDAE

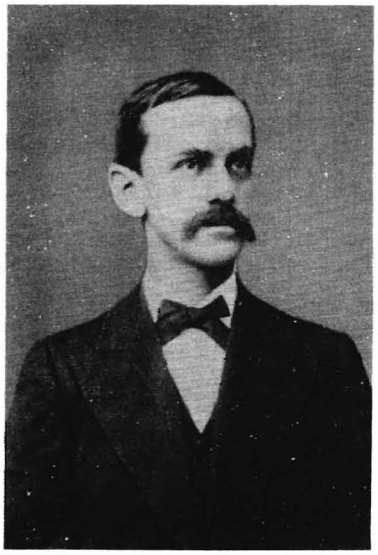
Olethreutes mengelana Fern., 1 ♂, July 25, 1947.
Olethreutes tessellana Pack., 4 ♂, July 23, August 2, 8, 1947.
Olethreutes inquietana Wlk., 1 ♀, August 8, 1947.

Summary of A. Jefferis Turner's PHYLOGENY AND CLASSIFICATION OF THE LEPIDOPTERA

This paper (Proceedings of the Linnean Society of New South Wales 71: 303-338, 1947), is the culmination of the late Dr. Turner's study for very many years of nearly all major groups of moths. The classification is based almost exclusively on venational characters. Contrast the treatment of the Rhopalocera with that of Clark (see p.73, below). The endings "iadae" and "ianae" used by Turner should be "iidae", following the international Règles.

Suborder HOMONEURA
- Superfamily MICROPTERYGOIDEA (Micropterygidae, Eriocranidae, Mnaesarchaeidae)
- Superfamily HEPIALIDOIDEA (Prototheoridae, Anomosetidae, Palaeosetidae, Hepialidae)

Suborder HETERONEURA
- Division ASTHENOCHORDA
- Subdivision RHOPALOCERA
  - Superfam. HESPEROIDEA (Hesperiadae)
  - Superfam. PAPILIONOIDEA (Papilionidae)
  - Superfam. NYMPHALOIDEA (Nymphalidae, Pieridae, Lycaenidae)
- Subdivision MICROPTILA
  - Superfam. TINEOIDEA
    - Fam. Elachistidae (Coleophorinae, Scythrinae, Elachistinae, Douglasianae, Cosmopteryginae)
    - Fam. Gelechiadae (Hypnomeutinae, Amphitherinae, Thalmarchellinae, Oecophorinae, Blastobasinae, Gelechianae, Xyloryctinae)
    - Fam. Tortricidae (Chlidanotinae, Eucosminae, Tortricinae, Phalonianae)
    - Fam. Copromorphidae (Copromorphinae, Carposininae)
    - Fam. Aegeriadae
    - Fam. Glyphipterygidae (Glyphipteryginae, Heliodininae, Heliozelinae)
    - Fam. Plutellidae (Plutellinae, Epermenianae, Gracilarianae)
    - Fam. Tineidae (Adelinae, Lampronianae, Tineinae, Lyonetianae, Oposteginae, Cyclotorninae, Epipyropinae)
    - Fam. Nepticulidae
  - Superfam. PTEROPHOROIDEA (Orneodidae, Pterophoridae)
  - Superfam. PYRALOIDEA (Thyrididae, Phycitidae, Galleriadae, Crambidae, Schoenobiadae, Pyralidae, Pyraustidae, Tineodidae)
  - Superfam. ZYGAENOIDEA (Zygaenidae)
- Division STHENOCHORDA
  - Superfam. COSSOIDEA (Arbelidae, Cossidae)
  - Superfam. CASTNIOIDEA (Castniadae, Tascinidae)
  - Superfam. PSYCHOIDEA (Psychidae, Limacodidae)
  - Superfam. LASIOCAMPOIDEA (Lasiocampidae)
  - Superfam. NOCTUOIDEA (Anthelidae, Noctuidae, Nolidae, Hypsidae, Lymantriadae, Arctiadae, Syntomidae)
  - Superfam. DREPANOIDEA (Callidulidae, Drepanidae)
  - Superfam. SPHINGOIDEA (Sphingidae)
  - Superfam. URANOIDEA (Uranidae, Epiplemidae)
  - Superfam. GEOMETROIDEA (Oenochromidae, Boarmiadae, Geometridae, Sterrhidae, Larentiadae)
  - Superfam. BOMBYCOIDEA (Saturniadae, Bombycidae, Brahmaeidae, Cymatophoridae, Notodontidae)



Geo. D. Hulst

BRIEF BIOGRAPHIES

14. George Duryea Hulst (1846-1900)

Dr. L.O. Howard, in the introduction to his Insect Book, wrote: "I know a stock broker, an insurance agent, a commerical traveler, a hotel clerk, a minister of the Gospel, a keeper of a beer saloon, a portrait painter, a hardware merchant, a stonecutter, an iron founder, a carpenter and builder, a wholesale wine merchant, a lawyer, a chemist, an undertaker, a librarian, an army officer, a navy officer, and any number of physicians and teachers who take the greatest delight in the study and collection of insects." He could have elaborated upon this list to include nearly every walk of life, but he could especially have mentioned "minister of the Gospel" in the plural, for clergymen, next to teachers and physicians, lead the ranks of enthusiastic amateur entomologists. In 1872 a few interested collectors met and organized the Brooklyn Entomological Society. New members were rapidly added to the growing organization. Among the earlier ones to join the Society was Rev. George D. Hulst, who was destined to become one of its most prominent and respected members.

George Duryea Hulst was born March 9,1846. He graduated from Rutgers College in 1866 and the Theological Seminary at New Brunswick, N.J., in 1869. Following this he was installed as pastor of the South Bushwick Reformed Church in Brooklyn, where he remained for the rest of his life. Rev. Hulst became keenly interested in natural history during his student days. Botany was his first love. Entomology, however, soon occupied his interest and it was in this science that he did his most notable work. At first interested in the Lepidoptera generally, he later specialized in the Geometridae and Pyralidae. By 1878 the Brooklyn Entomological Society had flourished to the extent of publishing its Bulletin. To this publication Rev. Hulst was a frequent contributor from its inception. In Volume 3 appeared "A Catalogue of the Catocalae of North America with Notes", and in Volume 7 a monograph of "The Genus Catocala".

In 1885 the Brooklyn society ceased publication of its Bulletin and, combining with the journal Papilio, issued a new periodical under the name Entomologica Americana. This journal continued through six volumes, Rev. Hulst being the editor of Volumes 3 and 4. About this time he began to specialize in the Geometridae and Pyralidae, becoming an authority in these families. A monograph of "The Epipaschiinae of North America" from his pen appeared in Volume 5 of Entomologica Americana. In 1890 his monograph on "The Phycitidae of North America" appeared in Volume 17 of the Transactions of the American Entomological Society. This is a scholarly work and still the last revision of the group. He collaborated with Dyar in his "List of North American Lepidoptera", which appeared in 1902, preparing the list of Geometridae and Phycitinae.

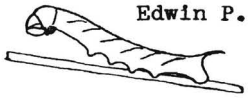
After the passage by Congress of the Hatch Act, which provided for the organization of State Agricultural Experimental Stations, Rev. Hulst served for a short time as entomologist of the New Jersey Agricultural Experiment Station in 1888-89. He was followed in this capacity by John B. Smith.

Rev. Hulst was firm in the conviction of his opinions, which at times brought him into sharp conflict with some of his colleagues. That he was not without humor, however, is evident from some of his editorial comments in Entomologica Americana, notably "A Bee new to Entomology" (a "bee in the bonnet") which appeared in Volume 3, and "Handling Wasps without Harm" in Volume 4. This latter was a comment on an article which appeared in Science in which the author had stated that "if one holds his breath wasps, bees and hornets can be handled with impunity".

Rev. Hulst built up a large collection of Lepidoptera. Commenting upon it in a letter written in 1887 he said it "is North American only but in Diurnals is good, in Sphingidae, Zygaenidae and Bombycidae fair; in Noctuidae rather poor except in Catocala where it is one of the best; in Geometridae and Pyralidae by odds the best in existence; in Tortricidae and Tineidae very poor". At the time of his death it was estimated to contain over 2200 species and varieties, over 6500 specimens, with at least 550 types.

Rev. Hulst was elected a member of the A.A.A.S. in 1880 and a Fellow in 1888. In 1891 he received the degree of Ph.D. from Rutgers College, his alma mater. While still relatively young, he died suddenly on November 5, 1900, at his home in Brooklyn, N.Y.

Edwin P. Meiners, M.D.



GEORGE WHEELER (1858-1947)

Reverend Wheeler was one of the most active British amateur lepidopterists until a few years before his passing on 9 December 1947. His book, "Butterflies of Switzerland", published in 1933, is well known. He also was responsible for the completion of Volume XI of "British Lepidoptera" by J.W. Tutt, after the latter's death in 1911. Wheeler devoted most of his attention to collecting and studying variations of Lepidoptera. He was elected Secretary and Vice-President of the Entomological Society of London and in 1933 was honored as a Special Life Fellow.

L.P. Grey is investigating the Boloriidi of North America as a sequel to the thorough treatment of Speyeria recently produced by Grey and C.F. dos Passos. There is a particular need for extensive material of the helena, epithore, frigga, and kriemhild groups from Utah, Idaho, Montana, Wyoming, western Colorado, and New Mexico. Collectors having such specimens are urged to lend them to Mr. Grey (address: R.F.D., Lincoln, Maine) and to present to him imperfect males for genitalic dissections. Collectors who plan to be in any of these regions this summer should make a special effort to get large series of the Bog Fritillaries.

Dr. A.B. Klots is working on the manuscript of a new butterfly book on the same plan as the famous Peterson field guides to North American birds. The first volume will cover the area east of the 100th meridian. It will be freely illustrated in color and will give prominent attention to biology and basic taxonomy. The News will announce its publication as soon as it appears.

SUMMER TRIPS

At least among the American members numerous trips are planned or have been completed by Lep. News readers. Here are a few:-

F.G. Werner is now in Mexico and later will collect intensively in the southwestern U.S.A. C.E. Wood will also be in Mexico.

W.T.M. Forbes and C.F. dos Passos are attending the Zoological Congress in Paris and Entomological Congress in Stockholm and will be visiting various European collections.

Mrs. Fred Williams has returned from a trip to Arizona, Utah, and Nevada.

F.H. Rindge is visiting the Eastern museums in connection with his geometrid studies.

C.P. Alexander will concentrate on Oregon in this summer's collecting.

J.G. Franclemont and L.R. Rupert will go to the New Jersey Pine Barrens for moths.

L.P. Grey and A.C. Frederick have been collecting on Cape Breton (eastern Canada).

P.S. Remington is in the Colorado Rockies enjoying, with Don Eff, some of the best collecting there in many years.

Lep.Soc. members & subscribers now exceed 350!

A BLOOD-SUCKING FLY ATTACKING LEPIDOPTERA

A minute fly has been found attached to the wings of several species of Lepidoptera in Venezuela by René Lichy. The tiny fly pierces a wing-vein of the lepidopteron and sucks the "blood" (hemolymph) of the butterfly or moth. The presence of the attacker can usually be detected by the loss of scales in the small area of the wing on which the blood-sucker is situated. Lichy reported that there was usually only one fly on each lepidopteron attacked, but that the migrating season of the butterflies was accompanied by a great increase in the blood-suckers with even a little Eurema carrying 2 or 3 flies. The flies, when present, were almost invariably on the upper side of the hind wings. Satyridae were the most frequently attacked, but most other families of butterflies and the Euchromiidae (moths) were also infested. Lichy listed 24 spp. on which he took the flies. His paper is in the Boletin de Entomologia Venezolana 5:1-4(1946).

Lichy suspected that his flies were Simuliidae, but the published records of similar cases are all of Ceratopogonidae and the fly he figured seems to be one of these "punkies". Ceratopogon pierces the wing veins of moths and butterflies in Europe. Two other genera have been found on the wing veins of many species of dragonflies in Liberia and the Dutch East Indies. Others have been taken from caterpillars in Hungary, Florida, Cuba, Mexico, Peru, Brazil, Samoa, Sumatra, Java and Ceylon.

Careful field observations by Lep. Soc. members should result in new records of these attacks. The little flies should be collected if possible and the host species noted.

The most amazing report of this kind is of tiny larvae living parasitically in the wing veins of large Lepidoptera in South America. The only record is an old one and the larvae were thought to be of the fly family Phoridae.

C.L.R.

With the collecting season well along, it is appropriate to reiterate last year's reminder to keep sufficiently detailed data with all specimens collected. The minimum information without which no specimen has much value is: (1) the exact locality, including the county; (2) the date of capture; (3) the name of the collector. In addition it is very desirable to note the habitat ("juniper scrub", "grassy marsh", "maple ravine", etc.) and in mountains it is important that the approximate elevation above sea-level be given. Copulating pairs should always be associated in some way, since they may provide valuable taxonomic evidence.

* * * * *

All members interested in rearing Lepidoptera are reminded that we are glad to give in the News your notice regarding the exchange(or reasonable sale) of living eggs and pupae. It is important to send us your notice early so that it will be out long before emergence time.

ERRATUM: In the preceding issue, on page 52 (lines 1, 40) and on page 53 (lines 9, 18), "palmyra" should be "palmira".

219. 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, 1 fig. 18 Mar.1948. Gives notes amplifying his main paper(see Lep. News 2: 18) on this subject. Deals mainly with Lepidoptera.

220. Berger, L., "Espèces nouvelles pour la Faune belge". (In French). Lambillionea, (Brussels), vol.47:pp.27-28,59-61,78. Apr., Oct.,Dec.1947. Records Cucullia artemisiae, Laelia caenosa, Procus aerata, Hydraecia fucosa, Sedina büttneri, Diarsia florida.

221. Berger, L., "Remarques sur la faune belge". (In French). Lambillionea, vol.47: pp.39-40, 74-75. Apr., Oct., 1947.

222. Betz, J.-T., "Peut-on parer aux déformations dues à l'humidité des insectes préparés?" (In French). Rev.franç.Lépid.,vol.11: pp.222-226. Dec. 1947. Means of combating effects of moisture on insect collections.

223. Betz,J.T., "La Faune Rhopalocère Anglaise et sa distribution sur le Continent dans ses régions les plus voisines de l'Angleterre". (In French). Lambillionea, vol.48: pp.3-12, 3 text figs. Feb. 1948. Reviews parts of Ford's "Butterflies"(see Lep.News 1:p.3) and compares Continental situations to British conditions given by Ford.

224. Blanc, Léo, "Essais sur la technique à employer pour la préparation des chenilles." (In French). Rev. franç. Lépid., vol.11: pp.211-217. Dec. 1947. Detailed directions for preparing inflated larvae without expensive equipment.

225. Boursin, Ch., "Un nouveau genre paléarctique de la sous-famille des Agrotinae." (In French). Rev. franç. Lépid., vol.11: pp.257-258. Feb. 1948. New genus Hemiexarnis (type:- moechilla Pglr.) related to Parexarnis, Euxoa, etc. Has spp.: cucuna Pglr., epiphana Brsn., iuguma Brdt.

226. Boursin, Ch., "Un nouveau Standfussiana Brsn. (Agrotis Auct.) dans les Alpes françaises." (In French). Rev. franç. Lépid., vol.11: pp.300-302. Apr. 1948. Describes as new: S. osmana carriéi (Hautes-Alpes).

227. Carpenter, G.D.Hale, "Notes on the males of Papilio dardanus Brown (Lep.), with the definition of a new transitional race and a redescription of P. dardanus ochracea Poulton." Proc.Roy.Ent.Soc.Lond.(B),vol.17: pp. 11-17,9 figs.,pl.1. 20 Feb.1948. Describes new race meseres (Suna, Kenya), based on genitalic differences, transitional between races cenea, tibullus, and polytrophus. Redescribes race ochracea (Marsabit). Fine photos of adults; ♂ genitalia shown.

228. Carr, F.M.B., "Notes on Collecting Lepidoptera in 1947." The Entomologist, vol.81: pp.57-63. March 1948. Notes from Bournemouth, England.

229. Caruel, M., "Aberrations et Classification." (In French). Rev. franç. Lépid., vol.11: pp.129-132,pl.2. June 1947. Maintains,with obvious truth, that some aspects of aberration study have scientific importance. Shows that the occurrence of same type of aberration in several spp. proves very close relationship, giving as example an aberration common to Vanessa atalanta, "Euvanessa" antiopa, Polygonia c-album, figuring 1st two. Believes lack of such an aberration in one species means phylogenetic remoteness from supposed relatives.

230. Caruel, M., "Satyrus hermione L. existe-t-il dans le département de la Marne? A-t-il jamais existé dans celui des Ardennes?" (In French). Rev.franç.Lépid., vol.11: pp. 206-208. Nov. 1947. Believes hermione is dying out or gone from N.E.France & Belgium.

231. Corbet, A. Steven, "Papers on Malaysian Rhopalocera. V. The Conspecificity of the American Precis lavinia (Cramer) with the Oriental Precis orithya (Linnaeus)." The Entomologist, vol.81: pp.54-56, 8 figs. March 1948. Concludes, apparently soundly, that American Buckeye("Junonia coenia") is actually a race of Oriental Precis orithya. Figures ♂ genitalia of orithya, lavinia, lintingensis, lemonias, villida. (It seems likely that biological studies will prove lavinia & orithya closely related, but distinct spp. ♂ genitalia are by no means the final criterion of conspecificity. - Ed.)

232. Crosson du Cormier, A. & P. Guérin, "A propos de la division spécifique du genre Boloria Moore.- B. aquilonaris Stichel en France." (In French). Rev. franç. Lépid., vol.11: pp.177-195. Nov. 1947. B. aquilonaris claimed to be full species, rather than race of pales, primarily because aquilonaris (= arsilache) lives only in sphagnum bogs and has as host plant Oxycoccos palustris,- although some color and genitalic differences known. Larva described in detail. All known localities given. Seems unfairly critical of Warren's paper and to have given unsatisfactory PROOF of specific distinctness of aquilonaris, which remains a matter of opinion until cross-mating tried.

233. Crozes,J., "Argynnis hecate Schiff. dans le Tarn." (In French). Rev. franç. Lépid., vol.11: p.144. June 1947.

234. Curran, C.H., "The Life History of the Tent Caterpillar." Nat. Hist., vol.57: pp. 168-172, ill. Apr. 1948. Fine photos.

235. Darteville,Edm., "Varia. Une utilisation imprévue d'un nid d'Anaphe". (In French). Lambillionea, vol.47: pp.72-74. Oct. 1947. Records the use of the nest of the social caterpillars of Anaphe (prob. venata) for the headpiece of a wooden fetish statuette by natives of the Congo.

236. Dasse, G., "Espèces nouvelles pour la Faune belge". (In French). Lambillionea, vol.47: pp.58-59. Oct. 1947. Records Procus versicolor.

237. Dasse, G., "Trachea furva Schiff." (In French). Lambillionea, vol.47: pp.61-63. Oct. 1947. Recorded from Belgium.

238. Edwards, E.O.,"Notes on Butterflies of Western Queensland." Australian Zool., vol. 11: pp.225-232. 11 Feb. 1948. Life history and field notes on 43 spp.

239. Eliot, Neville, "Some notes on the habits of butterflies." The Entomologist, vol. 81: pp.64-69. March 1948. Observations on color preferences in flower feeding by butterflies in S. France.

240. Forbes, Wm.T.M., "A Second Review of Melinaea and Mechanitis (Lepidoptera, Ithomiinae)." Journ.N.Y.Ent.Soc., vol.56:pp.1-24, pls.I,II. March 1948. Summarizes additions to these genera since writer's earlier revisions. Describes as new:Melinaea isocomma (R. Negro, Colombia), Mechanitis polymnia race solaria (Sucre,Venezuela) and race mauensis and bipuncta (Venez.Guiana). Maps.

241. Harper, G.W., "Lepidoptera in West Sussex, 1947." Ent. Rec. & Journ. Variation, vol.60: pp.28-32. March 1948.

242. Harrison, J.W.Heslop, "Inbreeding in Hebridean Lepidopterous Populations." Ent.Rec. & Journ.Var., vol.60:pp.46-50. Apr.1948. Investigates tiny, isolated (inbred) colonies of 14 spp. Concludes that no weakening effects arose from inbreeding. Reduction in size probably due to favorable adaptation.

243. Hayward, Kenneth J., "Hesperioidea Argentina XVI." (In Spanish). Acta Zoologica Lilloana, vol.4: pp.5-18, 1 fig. 12 Dec. 1947. New Argentine records: Jemadia gnetus, Urbanus erycina, Telemiades purpurascens, Discophellus porcius, Nascus hydarnes, Hyalothyrus mimicus, Cyclosemia satyrus. Sunk as synonyms: Urbanus elegans Hayw.(under U. octomaculata), Epargyreus argentosus Hayw. (Under Proteides clarus), Pellicia herse Hayw. (under P. minor). Notes on other spp. Figures ♂ genitalia of C. satyrus.

244. Hayward, Kenneth J., "Algunas plantas huéspedes de las larvas de los Hespéridos americanos (Lep.Rhop.Hesp.)." (In Spanish). Acta Zoologica Lilloana, vol.4: pp.19-54. 12 Dec. 1947. Lists foodplants (with references) of 136 spp. and races of North and South American skippers(over 70 U.S.A.spp.). Also a list of host plants, with skippers listed thereunder, and bibliography.

245. Hayward, Kenneth J., "Hesperioidea argentina XVII." (In Spanish). Acta Zoologica Lilloana,vol.4:pp.55-61,2 figs. 12 Dec.1947. New Argentine records: Pythonides jovianus crameri, Pellicia extensa, Antigonus mutilatus,Anisochoria sublimata,Chiomara dichrous, Erynnis austerus. Sunk as synonyms:Pellicia herse Hayw. (under P. minor), Pythonides suppar Drdt. (under P. jovianus crameri). Figures ♂ genitalia of P.extensa,E.austerus.

246. Hayward, Kenneth J., "Una nueva especie de Automolis (Lep. Het. Arctiidae)." (In Spanish). Acta Zoologica Lilloana, vol.4: pp.63-67,1 pl. 12 Dec. 1947. Describes as new and figures types of A.flammula(Fontana, Chaco, Argentina). Reprints orig. descriptions and figures A. subflammans, mathildae.

247. Hayward, Kenneth J., "Nuevas especies de hespéridos sudamericanos(Lep. Rhop.)." (In Spanish). Acta Zoologica Lilloana, vol.4: pp.121-128,6 figs. 12 Dec.1947. Describes as new: Pellicia hypsipyle (Villavicencio, Colombia), P. hecata (Colombia), Pholisora melaina(Misiones,Argentina), Ph. toba(Paraguay), Moeris meraca(Brasil), Mnesthes silvanus(Brasil). Figures ♂ genitalia of all.

248. Hayward, Kenneth J., "Hesperioidea argentina XVIII." (In Spanish). Acta Zoologica Lilloana, vol.4: pp.133-144. 12 Dec. 1947. New Argentine records: Pholisora giselus, Poanes paranensis, Atrytone peneia, Euroto geisa, Schausana altama, Turesis lucas. Sinks as synonyms: Telemiades simplicius Hayw. (under T. laogonus), Lerodea violacea (under Thargella caura). Lists name changes resulting from Evans' findings.

249. Hayward, Kenneth J., "Catalogus Hesperiidarum Rei Publicae Colombianae." (In Spanish). Acta Zoologica Lilloana, vol.4: pp. 201-392. Synonymic catalogue of 550 spp. and races in 158 genera of Hesperiidae from Colombia. Generotypes noted. Many localities given. A necessary reference work for skipper specialists.

250. Herbulot, C., "Une géomètride nouvelle pour la faune de France: Sterrha rathmaria Obth." (In French). Rev. franç. Lépid., vol.11: pp.170-171. Oct. 1947.

251. Herbulot, C., "Nouvelles Chasses à Saint-Tropez." (In French). Rev. franç. Lépid., vol.11: pp.220-221. Dec. 1947.

252. Higgins, L.G., "Butterflies in Granada." The Entomologist, vol.81: pp.25-29, 49-53. Feb., Mar.1948. Annotated list of 82 spp., describing 2 new races: Polyommatus amandus tora and P. escheri agenjoi. No figures.

253. Hovanitz, William, "Differences in the Field Activity of Two Female Color Phases of Colias Butterflies at Various Times of the Day." Contr.Lab.Vert.Biol.,no.41: 37 pp. Apr. 1948. Found white ♀ form proportionately more active early in morning, orange ♀ form proportionately more active later in day. Found high temperature and low solar radiation equal to low temperature and high solar radiation in causing maximum activity.

254. Inoue, Hiroshi, "Notes on some Geometridae from Japan, Corea and Saghalien." (In English). Bull. Lepid. Soc. Japan, vol.1: pp.1-17, 10 figs. June 1946. Describes as new: genus Nipponogelasma (type - Gelasma immunis Prout), Scopula cinis (Nagano, Japan), Abraxas grossulariata memorabilis (Kaijo, Corea), Ourapteryx nomurai (Gifu, Japan), Gonodontis aurata "form" uchidai (Mt.Teiso, Hokkaido), Boarmia definita ultradefinita (Nagano, Japan). Considers: Gelasma colataria a species distinct from grandificaria; Comibaena a subgenus of Euchloris; Acidalia virginaria Imaidz. a synonym of Scopula modicaria; Trichodezia leechi (Staud.) not an aberration, but the Honshu & Kyushu race of T. kindermanni, which is typical on Hokkaido); Xenospora the correct genus for flavipes (Ménétries), with sachalinensis Mats. as synonym; Trichopteryx, not Trichopterigia the correct genus for volitans (Buth); japonica Inoue a synonym of Hydrelia nisaria; Asthena chibiana Mats. a synonym of Hydrelia flammeolaria; truncangulata Wehrli a synonym of Cystidia agrionides; Ourapteryx jesoensis a race of Euctenurapteryx maculicaudaria, with O. laeta Mats. a synonym. New distribution records from Corea: Chloromachia gavissima aphrodite, Euchloris diluta, E. volgaris amurensis, Hemistola zimmermanni, Xenospora flavipes, Trichopteryx volitans, Dysstroma corussaria, Perizoma taeniata, Venusia cambrica, Percnia prouti, P. giraffata, Buzura recursaria confusa, Ectropis bistortata. New record for Japan: Ninodes scintillans. Key and figures of ♂ genitalia of the 5 Japanese spp. of Asthena. Figures ♂ genitalia of Pseudosteganía defectata, Laciniodes plurilinearia, Nipponogelasma immunis, and Gelasma grandificaria.

255. Inoue, Hiroshi, "A Catalogue of the Geometridae of Corea." (In English). Bull. Lepid. Soc. Japan, vol.1: pp.19-59. June 1946. Lists 251 spp., with localities. Complete index to spp. and generic names.

256. Janmoulle, E., "Microlépidoptères intéressants capturés à Aye, en 1946". (In French). Lambillionea, vol.47: pp.35-36, 54-56. Apr., Aug. 1947.

257. Janmoulle, E.,"Espèces nouvelles pour la Faune belge." (In French). Lambillionea, vol.47: pp.2,27,57-58. Feb.,Apr.,Oct.1947. Records Polychrosis fuligana, Trifurcula atrifrontella, Adela ochsenheimerella, Pancalia latreillella, Tinea personella.

258. Janmoulle, E., "Un synonyme inattendu: Alucites porella F.-V.Raspail." (In French). Lambillionea, vol.47: pp.13-16. Feb. 1947. Porella a synonym of Acrolepia assectella Z.

259. Janmoulle, E., "Microlépidoptères nouveaux pour la faune belge". (In French). Lambillionea, vol.47: pp.43-44. Aug. 1947. Records Eccopisa effractella, Conchylis affinitana, Evetria pinicolana, Cymolomia hartigiana, Bucculatrix maritima.

260. Janmoulle, E., "Une question de nomenclature". (In French). Lambillionea, vol.47: pp.64-72. Oct. 1947. Thorough search for correct names traced. Concludes: Cycnodia H.-S. was still-born and is not available; Elachista argentella Cl. has as synonyms - cygnipenella Hübn., cygnella Dup., cygnipennis Stph., semialbella Stph.; Mendesia farinella Thnbg. has as synonyms - cygnella Tr.?, subargentella Dattin.

261. Johnson, Frank & Charles D. Michener, "New Neotropical Saturnioid Moths (Lepidoptera)." American Mus. Novitates, No.1372: 15 pp.,16 figs. 14 May 1948. Described as new: Dysdaemonia raveni (El Alto, Peru); Dirphia rufescens(Minas Gerais, Brazil), D. flavosignata(Sergipe, Brazil), D. centralis (Tarma, Peru), D. levis (Rio Piene,Peru); Dirphiopsis albofasciata (Chiapas, Mexico); Automeris lauta (Chiapas, Mexico), A.oaxaca (Oaxaca, Mexico). Meaningful descriptions, drawings of ♂ genitalia, and photos of holotype given for each species. Either photos or actual specimens leave something to be desired. It is interesting to note in these Saturnioids the great differences shown by genitalia where the color pattern is deceptively similar to another species.

262. Kaisila, Jouko, "Die Makrolepidopterenfauna des Aunus-Gebietes." (In German). Acta Ent. Fennica, vol.1: 112 pp.,10 figs., 63 maps. 1947. Lists records for 79 butterflies, over 500 macro-moths, for region between Lake Ladoga and Lake Onega,Finland. Analyses ecology and zoogeography.

263. Kiriakoff, S.G.,"L'aptérisme sexuel chez les Psychidae (Lép.)." (In French). Lambillionea, vol.47: pp.2-7. Feb. 1947. Reviews some theories of origin of wings in insects, actually with little attention to the only widely-held theory among modern specialists--origin of insects from a myriapod ancestor. Latter theory was brought to present state through work of Packard, Brauer, Tillyard, Imms,and Tiegs, not Franz. However, the only possible conclusion is reached-- that ancestral females of Psychidae were fully winged.

264. Kiriakoff, S.G., "Les Papillons Mimétiques". (In French). Lambillionea, vol. 47: pp.46-53, 79-88, 3 pls. Aug. 1947. A scholarly review of the question of mimicry among butterflies. Summarizes fairly the views supporting and attacking the theory of mimicry and concludes (transl.): "probably no species will be destined to become extinct for want of mimetic resemblance. (in the restricted sense adopted here by the writer), but where parallel mutations produce these resemblances, they have a protective value sufficient so that selection will come into play."

265. Köhler, Pablo E., "Las Noctuidae argentinas. Subfamilia Hadeninae." (In Spanish). Acta Zoologica Lilloana, vol.4: pp.69-105. 12 Dec. 1948. Continues writer's revisions of "Noctuidae". Describes as new: genera Oortiana (O. olivacea nov.), Rugofrontia (R. unifera nov.); spp. Craterestra distincta (Chubut), Polia olivocincta var. intensa (Misiones), P. bruchi (Córdoba), P. rosina (Misiones), Onychestra verdinigra (?), Nephelistis pulcherrima (?), Chabuata mayor var. fasciata (?), C. sedosa (Misiones), C. lacertosa (?), C.anthracina (Tucumán), Hyssia polioides (?), H.paupera (Tucumán), Eriopyga monilis tucumana (Tucumán), E. lilacea (Misiones), E.nigrocollaris (Misiones), E. descolei (?), E.metanensis (Salta), Morrisonia funebris (?), Poliodestra albolimbata (Chubut), Oortiana olivacea (Chubut), Perigrapha benepicta (Salta), Clavipalpula alboradiata (Chubut), Sideridis tridens(Salta), S. marginata (Tucumán), Scriptania mus (Chubut), S. graphica(Chubut), S. albofusca (Chubut), Cirphis haywardi (?), C. lilloana (Tucumán), Borolia roseilinea (Tucumán), B. lilloana(?), Neleucania multistria(Tucumán), Rugofrontia unifera (Chubut), R. micans(Chubut), Lasiestra wittmeri (Oruro, Bolivia). Records 51 other names. Gives key to genera. Serious errors are omissions of designations of type localities and holotypes, almost total lack of comparisons, lack of figures, and lack of genitalic notes.

266. Langeard, P., "Un non-sens à proscrire: 'nymotypique'." (In French). Rev. franç. Lépid., vol.11: pp.260-261. Feb. 1948. Calls attention to fact that "nymotypical" is a meaningless coinage, since no such classical root as "nymo-" exists, and that "typical" is an entirely adequate adjective.

267. Leeds, H.A., "Butterfly Collecting in Wood Walton, Hunts., Area, the Chiltern Hills, and Royston, Herts., during 1947." Ent. Rec. & Journ. Var., vol.60: pp.33-35, 41-43. Mar., Apr. 1948.

268. Le Marchand, S., "Les Tineina: Gelechiidae." (In French). Rev. franç. Lépid., vol.11: pp.145-163, figs. Oct. 1947. Concise summary of the family. Discusses the subfamilies (Apatetrinae, Aristoteliinae, Gelechiinae, Anacampsinae, Chelariinae, Dichomerinae, Lecithocerinae, Autostichinae) and lists the French genera. Gives special notes on 13 genera and an illustrated key to French genera.

269. Lempke, B.J., "Notes sur quelques formes de Pararge megaera L." (In French). Lambillionea, vol.47:pp.17-24,12 figs. Feb.1947. Detailed analysis of aberrational names.

270. Lempke, B.J., "Note sur Maculinea alcon arenaria Lpk." (In French). Lambillionea, vol.47: pp.37-38. Apr. 1947. Supports distinctness of Berger's remarkable species, M. rebeli.

271. Lhomme, L., "Le nouveau piège à insectes de N. Hallé." (In French). Rev. franç. Lépid., vol.11: pp.259-260, 1 fig. Feb. 1948. Describes & figures Hallé's bait trap reported in L'Entomologiste 2: 262.

272. Loritz, Jean, "Quelques aberrations nouvelles." (In French). Rev. franç. Lépid., vol.11: pp.133-134, pl.2. June 1947. Names 3 new aberrations, which certainly do not have the scientific importance Caruel calls for! (see#229, above).

273. Maury, J., "Captures de Cucullia argentea Hufn.en Charente-Maritime." (In French). Rev.franç.Lépid.,vol.11:pp.170-171. Oct.1947.

274. McDunnough, J., "A New Californian Apamea (Lepidoptera, Phalaenidae)." Journ.N.Y. Ent.Soc.,vol.56:pp.51-52,1 fig. Mar.1948. Describes as new and figs. ♂ genitalia of A. cottlei (Arrowhead Lake, Calif.).

275. Mouterde, R., "Nouvelle note sur Lycaena dispar Haw." (In French). Rev. franç. Lépid., vol.11: pp.261-264. Feb. 1948. The inevitable, but not brilliant reply to Stempffer's criticisms (see#298, below).

276. Muspratt, V., "Pullulation de Phytometra gamma L. au Maroc en 1946." (In French). Rev.franç.Lépid.,vol.11: pp.141-143. June 1947. Gives records of swarming in Marocco in 1946, after scarcity in drought year. Suggests that most pupae fail to yield adults in poor years, but remain as pupae for 1 to 3 yrs., emerging in swarms in a good yr.

277. Needham, James G., "A Bucculatricid Gall Maker and its Hypermetamorphosis." Journ. N.Y.Ent.Soc., vol.56: pp.43-50. Mar. 1948. Life history of species living in Helianthus stems in Florida. Feeding stages extremely simplified, last(non-feeding) instar taking usual caterpillar form for pupation. Species severely attacked by beetles, mites, ants.

278. Newman, J.H., "A New Noctuid from Michigan and Tennessee (Lepidoptera)." Occ.Pap. Mus. Zool. Univ. Mich. No.509: 4 pp.,2 pls. 27 Apr. 1948. Described as new: Oligia ambifusca (Parkdale, Mich.). A model paper which other taxonomists would do well to emulate! Excellent figures of ♂ genitalia & full holotype. Genitalia of Oligia diversicolor Morr. also figured.

279. Okada, Y., & M. Torii, "Ueber die japanischen Arten der Gattung Coenonympha." (In Japanese). Trans. Nippon Lepidopterological Soc.,vol.1: pp.2-10, pl.1(1-5). Dec. 1945. Describes as new (in Japanese!) and gives photo of C. oedippus race arothius. Notes on Japanese races of C. oedippus, C. hero, C. iphis, with photos of C. oedippus annulifer, C. iphis khinganensis, C.inornata (Saskatchewan), C. californica (Calif.).

280. Okada, Yoshio, "Description on an aberrant form of Glaucopsyche euphemus daisensis." (In Japanese). Trans. Nippon Lepid. Soc., vol.1: p.26, pl.1(6-8). Dec. 1945. Aberration described,figured but not named!

281. Okada, Yoshio, "On a new subspecies of Spindasis takonis from Japan." (In Japanese). Bull.Lepid.Soc.Japan, vol.1:pp.94-95, pl.1. Oct. 1946. Describes as new and figures S. takonis prospera (Lycaenidae). Figures typical takonis and S. syama formosana.

282. Okagaki, Hiromu, "Consideration of subspecies and forms." (In Japanese). Bull. Lepid. Soc. Japan, vol.1: pp.96-100. Oct. 1946.

283. Okagaki, Hiromu, "On the forms of Spindasis takonis from Japan, especially its marking." (In Japanese). Bull.Lepid. Soc. Japan, vol.1:pp.101-108. Oct. 1946. Names 6 new individual variants as "forms".

284. Ozorski, E., "A propos d'une 3e génération de Lycaena dispar Haw., ssp. rutilus Wern." (In French). Rev. franç. Lépid., vol.11: pp.218-219. Dec. 1947. Larvae of 2nd brood of dispar normally start hibernating in Sept. Writer took one lot just after eclosion, reduced light intensity and day length artificially down to 8 hrs. after 8 days, then rapidly increased it to a 15-hr. day in a week. These larvae all pupated in late September and emerged within 15 days. The control group (untreated larvae) went into hibernation as usual.

285. Picard, J., "Identification des Pyrgus Français." (In French). Rev.franç.Lépid., vol.11: pp.202-205. Nov. 1947. Gives key to identify the 12 spp. in France. Stresses distinctness of P. carlinae and P.cirsii, armoricanus and bellieri as species. Drops foulquieri as race of sertorius.

286. Picard, J., "Répartition en France de Heteropterus morpheus Pallas." (In French). Rev.franç.Lépid., vol.11: pp.226-229, map. Dec. 1947. Not known in the southeastern one-third of France.

287. Powell, H., "Note sur l'abondance de certains Lépidoptères au Maroc au printemps et en été 1946." (In French). Rev. franç. Lépid., vol.11: pp.134-137. June 1947.

288. Puységur, K., "Lycaena (Heodes) dispar s.sp. burdigalensis D. Lucas dans le Lot-et-Garonne." (In French). Rev. franç. Lépid., vol.11: pp.294-295. Apr. 1948.

289. Ramain, Paul, "Contribution à l'étude des espèces et races françaises du genre Erebia Dalman." (In French). Rev.franç.Lépid.,vol.11: pp.195-202. Nov. 1947. Shows E.duponcheli a synonym of E.pluto. Reports E. pluto glacialis as absent from Upper Savoy. Erects new name velesiaca (U. Savoy) for race tristis H.-S. of E. eriphyle. E. pluto and race alecto reported from Valais.

290. Rawson, George W., "A New Subspecies of Lycaena epixanthe Boisduval & Leconte with Comments on the Identity of Typical epixanthe (Lepidoptera, Lycaenidae)." Journ.N.Y. Ent. Soc., vol.56: pp.55-62. Mar. 1948. Describes as new: race michiganensis (Oakland Co., Mich.) with large type series from Mich. and Wisc. Offers clear proof that Boisduval's stated type locality (New Harmony, Ind.) is incorrect and should be on east coast (prob.N.J.). The 3rd race is amicetus from Newfoundland and Nova Scotia.

291. Richard, F., "Ponte des femelles de Rhopalocères en captivité." (In French). Lambillionea, vol.47: pp.7-13. Feb. 1947. See summary on p.74.

292. Richard, F., "Une espèce à rayer de la faune belge: Eupithecia expallidata Dbld. nec Gn.". (In French). Lambillionea, vol. 47: pp.44-46. Aug. 1947.

293. Rütimeyer, E., "Coenonympha leander Esp. ssp. gallica m. espèce et race nouvelles pour la France." (In French). Rev. franç. Lépid., vol.11: pp.251-256, 1 fig., pl.7. Feb. 1948. Recorded from Porté, Pyrénées-Orientales, described as new race(gallica). From ♂ genitalia figures it appears that leander and C.iphis are only one species. Description not clearly set aside in usual convenient manner and types nowhere designated or number stated. Photos of wings:C. iphis and C. leander races iphioides and gallica.

294. Salerou, A., "Simple observation sur les éclosions successives de chrysalides du même jour." (In French). Rev.franç.Lépid., vol.11: p.143. June 1947.

295. Sevastopoulo, D.G., "The Early Stages of Indian Lepidoptera. Part XIX." Journ. Bombay Nat. Hist. Soc., vol.47: pp.197-219. Dec. 1947. Notes on 6 spp. of Papilio, 21 spp. of moths.

296. Sibatani, A., "Zweiter Beitrag zur Systematik der Lycaeninen (= Theclinen) aus Japan und angrenzenden Gegenden nebst Bemerkungen über einige Formen aus Formosa (Lep. Lycaenidae)." (In Japanese). Bull. Lepid. Soc. Japan, vol.1: pp.61-86, 12 figs. August 1946. Lists Lycaeninae of Japan, Sachalin, Korea and Formosa dividing them into tribes: Lycaenini, Sithonini, Strymonini, Theclini, Arhopalini. Erects new genus Teratozephyrus (type - Zephyrus arisanus Wil.). Reviews genitalic chracters. Very poor photos.

297. Sperry, John L., "Southwestern Geometrid Notes and New Species. I." Bull. Brooklyn Ent. Soc., vol.43: pp.54-60. Apr. 1948. Describes as new: Drepanulatrix bauerariа (Big Sur, Calif.), Semiothisa melanderi (Baboquivari Mts., Ariz.). Gives notes on spp. of Semiothisa.

298. Stempffer, H., "Note sur Lycaena dispar Haw." (In French). Rev. franç. Lépid.,vol. 11: pp.137-140. June 1947. Sharply criticizes loose thinking given in paper by Réal. Repeats that Heodes is synonym of Lycaena, the only correct generic name for the Coppers, and that hippothoe Obth. is not Linné's hippothoe and is synonym of dispar. Shows that new distribution records prove more zealous collecting, not extensions of range. This paper is the highest type of scientific criticism!

299. Swezey, O.H., miscellaneous notes. Proc. Hawaiian Ent. Soc., vol.13: pp.204-206,217-218. Apr.1948. New island record: Trichoclea postica. Host of Agrotis coniotis: Chenopodium sp.

300. Swezey, O.H., "New Species of Hawaiian Lepidoptera." Proc. Haw. Ent. Soc., vol. 13: pp.259-260. Apr. 1948. Describes as new: Eucymatoge styphelіae (Hydriomenidae) (host- Styphelia tameiameiae), Scotorythra apicalis (Selidosemidae), Omiodes pritchardii (Pyraustidae)(host- Pritchardia beccariana). All from Hawaii.

301. Torii, Masana, "Revision of Erebia-niphonica-group occurring in Japanese Empire." (In Japanese). Trans. Nippon Lepid. Soc., vol.1:pp.11-18,7 figs. Dec.1945. Describes as new: E. niphonica races sakae, okadai. Notes on other races and on E. neriene and E.ligea takanonis, with ♂ genitalia figured.

302. Turner, A. Jefferis, "Revision of the Australian Psychidae (Lepidoptera)." Proc. Roy. Soc. Queensland, vol.57: pp.57-64. 20 Jan. 1947. Describes as new: Hyaloptila, Phasmyalea, Bathromelas (type- hyaloscopa M. & L.), each monotypical (types listed below in capitals); Elinostola hyalina (N.Austr.); HYAL. MELANOSOMA (N.Queens.); Clania persimilis (N.Austr.); PHAS. PELLUCIDA (Queens.); Plutorectis crocobathra (N.Queens), fulva (N.Austr.), dysmorpha (N.Queens.), capnaea (Vict.), paura (Queens.). Records of 27 other spp. No figures! Key to genera.

303. Turner, A. Jefferis, "Contributions to our Knowledge of Australian Microlepidoptera." Proc. Roy. Soc. Queens., vol.57: pp. 65-74. 20 Jan. 1947. Describes as new: Carposina hyperlopha, poliosticha, trigonogramma, sysciodes (W.Austr.), olbiodora, tanaoptera (Tasm.), ceramophanes, loxolopha (W.Austr.), dascioptera (W.Austr.); Paramorpha tenuistria (W.Austr.); Blastobasis pallescens (N.Queens.), scotia (N.Queens.), tanyptera (N.Queens.), mesomochla (S.Austr.), celaenephes, leucochyta, phaeopasta (N. Queens.), pentasticta (N.S.W.); genus Exapateter (Blastobasidae), E. epeirana (N. Queens.); Lithocolletis agrapha, scythrodes (S.Austr.); Phyllocnistis nymphidia (N. Queens.), dichotoma (N. Queens.), spilota, zophosema (Tasm.); Epicephala bathrobaphes, acinacephora, spumosa; Acrocercops argyrosema, euryschema (N.Queens.), peratocapna (N.Queens.), candida, albida; Parectopa rhicnodes, stictocrossa. Where not stated above, type locality is in Queensland. Descriptions brief, n.spp. never compared to known spp.! No figures.

304. Turner, Henry John,"Butterfly collecting in 1947." Ent. Rec. & Journ. Variation, vol.60: pp.35-38. March 1948.

305. Viette, P., "Contribution à l'étude des Hepialidae - 3." (In French). Rev. franç. Lépid., vol.11: pp.292-294, 5 figs. Apr. 1948. Erects new genus, Neohepialiscus,for algeriensis de Joannis. Description and figs. of venation, ♂ genitalia, antennae, tibia.

306. Vigneau, Pierre, "Contribution à l'étude des Lépidoptères de la Gironde." (In French). Rev.franç.Lépid.,vol.11:pp.233-238. Feb.1948.

307. Williams, Joseph L., "Anatomie comparée des genitalia internes de quatres espèces représentant quatres genres et deux sous-familles de Noctuidae (Lepidoptera)." (Transl. into French by S. LeMarchand). Rev. franç. Lépid., vol.11: pp.238-250, 4 figs. Feb. 1948. Continuation of writer's studies on internal ♀ genitalia, here described and figured for Agrotis ypsilon,Feltia subgothica,Euagrotis lubricans,Leucania unipuncta. These Phalaenidae (= Noctuidae), like all Frenatae, are diplotremes (having 2 abdominal orifices). Williams seems to believe the double orifice originated independently twice (from the Micropterygids and the Eriocraniidae), a belief difficult to accept.

308. Wiltshire, E.P.,"Early Stages of Palearctic Lepidoptera, IX." Ent. Rec. & J.Variation, vol.60: pp.1-3. 15 Jan. 1948. Describes and presumably will figure larvae of Pararge roxelana, Cerura leucotera, Catamecia deceptrix, Catocala diversa, Dyscia simplicaria, Nephopteryx diplocapna, from Cyprus, Iraq, and Iran.

309. Wolf, Edgar, "Observations sur les chenilles processionaires du pin. Réflexions sur l'instinct." (In French). Rev. franç. Lépid.,vol.11: pp.163-168. Oct.1947. Gives account of behavior of Pine Processionary Caterpillar and concludes: that no intelligence is manifested, that "instinct is not the opposite of intelligence,it is only the lack of intelligence", and that "the caterpillar never goes otherwise than in following the thread which it has spun." It is a surprise that the latin name of the caterpillar is not given anywhere in the paper!

Review of "CLASSIFICATION OF THE BUTTERFLIES, WITH THE ALLOCATION OF THE GENERA OCCURRING IN NORTH AMERICA NORTH OF MEXICO", by Austin H. Clark

In this paper, published in the Proceedings of the Biological Society of Washington (vol.61: pp.77-81), the author does a service in assembling into one list the most recent classifications of the various groups of butterflies. For the Papilionidae Ford is followed, for the Pieridae Klots, for the Nymphalides Mr. Clark's system based on larvae (see Lep. News 1:52), for the Riodinidae Stichel, for the Lycaenidae the advice of Prof. Forbes and W.D. Field. This list should be compared with that of Warren(see News 1: 74).

The system, with North American genera in parentheses, is as follows:

Superfamily PAPILIONOIDEA
- Group NYMPHALIDES
  - Family SATYRIDAE
    - Subfam. Satyrinae(Coenonympha, Eumenis, Minois, Oeneis, Erebia, Neonympha, Megisto, Paramecera)
    - Subfam. Lethinae (Lethe, Satyrodes)
    - Subfam. Pronophilinae (Gyrocheilus)
    - Subfam. Elymniinae
    - Subfam. Pierellinae
  - Family BRASSOLIDAE
    - Subfams. Brassolinae, Caliginae, Biinae
  - Family MORPHIDAE
    - Subfam. Morphinae
    - Subfam. Amathusiinae
      - Tribes Taenarini, Amathusiini, Hyantini, Discophorini
  - Family APATURIDAE
    - Subfam. Charaxinae (Anaea)
    - Subfam. Apaturinae (Asterocampa)
  - Family NYMPHALIDAE
    - Subfam. Marpesiinae(Megalura, Marpesia)
    - Subfam. Nymphalinae
      - Tribe Nymphalini (Polygonia, Nymphalis, Vanessa, Junonia, Anartia, Hypanartia, Victorina, Hypolimnas)
      - Tribe Melitaeini (Euphydryas, Melitaea, Chlosyne, Phyciodes, Anthanassa, Eresia, Microtia)
    - Subfam. Ergolinae
      - Tribe Catagrammini (Diaethria)
      - Tribe Ergolini (Cystineura, Eunica)
      - Tribe Epicaliini (Myscelia)
      - Tribe Ageroniini (Ageronia)
      - Tribe Gynaeciini (Historis, Smyrna)
  - Family ARGYNNIDAE
    - Subfam. Limenitinae
      - Tribe Euthaliini
      - Tribe Limenitini (Limenitis,Dynamine)
    - Subfam. Argynninae
      - Tribe Cynthiini (Euptoieta)
      - Tribe Argynnini (Speyeria,Boloria,etc.)
    - Subfam. Heliconiinae
      - Tribe Heliconiini (Heliconius)
      - Tribe Dionini (Agraulis, Dryas)
      - Tribe Cethosiini
    - Subfam. Acraeinae
  - Family CALINAGIDAE
  - Family DANAIDAE
    - Subfam. Danainae
      - Tribe Danaini (Danaus)
      - Tribe Lycoreini (Lycorea)
      - Tribe Anellini
      - Tribe Euploeini
    - Subfam. Tellervinae
    - Subfam. Ithomiinae
      - Tribes Melinaeini,Thyridiini,Ithomiini
- Group LYCAENAE
  - Family LIBYTHEIDAE (Libytheana)
  - Family RIODINIDAE
    - Subfam. Nemeobiinae
    - Subfam. Riodininae
      - Tribe Eurybiini
      - Tribe Ancylurini (Caria, Calephalis, Lasaia, Emesis, Apodemia)
      - Tribe Stalachtini
  - Family LYCAENIDAE
    - Subfam. Liphyrinae
    - Subfam. Gerydinae
    - Subfam. Spalginae (Feniseca)
    - Subfam. Lipteninae
    - Subfam. Ceretinae
    - Subfam. Poritiinae
    - Subfam. Ogyrinae
    - Subfam. Amblypodiinae
    - Subfam. Lycaeninae
      - Tribe Theclini (Strymon, Callipsyche, Satyrium, Incisalia, Eumaeus, etc.)
      - Tribe Lycaenini
        - Subtr. Lycaenina (Tharsalea,Lycaena)
        - Subtr. Plebejina (Leptotes, Hemiargus, Plebejus, Cyaniris, Everes, Philotes, Glaucopsyche, etc.)
- Group PAPILIONES
  - Family PIERIDAE
    - Subfam. Pseudopontiinae
    - Subfam. Dismorphiinae
    - Subfam. Pierinae
      - Tribe Pierini (Neophasia, Appias, Pieris, Ascia)
      - Tribe Rhodocerini (Colias, Zerene, Anteos, Phoebis, Aphrissa, Kricogonia, Eurema, Nathalis)
      - Tribe Euchloini (Anthocaris, Euchloë)
  - Family PAPILIONIDAE
    - Subfam. Papilioninae
      - Tribe Lampropterini
      - Tribe Graphiini (Iphiclides)
      - Tribe Teinopalpini
      - Tribe Papilionini (Papilio)
      - Tribe Troidini (Battus)
      - Tribe Cressidini
    - Subfam. Zerynthiinae
    - Subfam. Parnassiinae (Parnassius)
    - Subfam. Baroniinae

Superfamily HESPERIOIDEA
- Family HESPERIIDAE
  - Subfam. Pyrrhopyginae (Apyrrothrix)
  - Subfam. Pyrginae
    - Tribe Celaenorrhini (Pyrgus,Pholisora, Erynnis, Timochares, Grais, etc.)
    - Tribe Eudamini (Proteides, Urbanus, Telegonus, Achalarus, Thorybes,etc.)
  - Subfam. Hesperiinae
    - Tribe Heteropterini (Pamphilida, etc.)
    - Tribe Adopaeini (Ancyloxypha, Oarisma, Thymelicus, Copaeodes)
    - Tribes Hesperiini (Hesperia, Hylephila, Polites, Poanes, Amblyscirtes, etc.)
    - Tribe Calpodini (Calpodes,Panoquina,etc.)
  - Subfam. Trapezitinae
  - Subfam. Ismeninae
  - Subfam. Euschemoninae
- Family MEGATHYMIDAE (Megathymus)

C.L.R.

HOW TO MAKE ♀ RHOPALOCERA LAY EGGS

In the Belgian entomological periodical Lambillionea (vol.47:pp.7-13), F. Richard had a delightfully written article(in French) on: "Oviposition of female Rhopalocera in captivity." It has so much valuable information that appears to solve most problems of obtaining quantities of eggs for rearing,that I decided to translate for the News readers the essence of M.Richard's instructions. Undoubtedly many Lep. Soc. members have experienced the same difficulties as I in making futile efforts to obtain eggs from a tattered ♀ of a rare species or from an apparent hybrid.

In M. Richard's words, he has found: "a system which I can characterize as truly automatic for the oviposition of the Rhopalocera. It is now possible for me, regardless of the hour of day or night, in less than 15 minutes, to make any species of diurnal flier oviposit and I can state that it is even easier to make Rhopalocera oviposit than species of Geometrids or even Noctuids. Finally, the dissection of ♀♀ proves that they lay their very last egg." However, M. Richard stresses the point of being certain that one is not trying to obtain eggs from a ♂, relating an experience in which he tried for 15 days to make a ♂ Papilio podalirius oviposit! In condensed form, here is the Richard technique.--

1. CHOICE OF THE ♀. Over 95% of ♀♀ which are flying and feeding at flowers have mated and can lay fertile eggs. Virgin ♀♀ rest on foliage and await a ♂. The ♀ can be captured with a net and transferred to a CARDBOARD box (metal boxes are apt to get so hot in the sun that the ♀ dies). "If you take several ♀♀ of the same species, when you get home it will be necessary to provide as many receptacles for ovipositing as ♀♀; to place several ♀♀ together is to renounce...all scientific work; how can you say that in the species you wish to rear two species have not been always confused? We are no longer mere collectors; we are not dealers; the only interest which rearing from the egg can provide us is to enrich our knowledge of entomology; only the rearing from an isolated ♀ can provide information which science can use."

2. THE EGG-LAYING CHAMBER. Glass bottles are undesirable for several reasons and close-mesh cages do not provide proper light. The best receptacle is a common flower pot of an appropriate size to permit the ♀ some freedom of movement. Rest the pot on a glass of water and put a few cuttings of the foodplant in the pot, with their stems placed through the drainage hole in the pot, into the water below. Also add a few flowering stalks of the flowers you found the wild ♀ visiting. Cover the pot with a piece of glass of a convenient size. Introduce the ♀ and keep the pot away from light and warmth for a day while the ♀ recovers from the excitement of capture. Never let the direct sun shine on the chamber. Instead, place a flexible desk lamp containing a 40-watt bulb over the top of the chamber. Put a thermometer in the pot and adjust the distance of the light so that the temperature remains a little below 85° F. (30° C.). Keep the lamp lit for one or two hours at a time, a few times a day. The ♀ will first feed at the flowers, then flutter a bit, and then lay numerous eggs on the host plant. Each time the lamp is turned off, remove the glass cover and substitute netting to allow aeration and reduce the chance for mildew, which can kill every egg. Be sure that fresh flowers are always present, but in discarding the withered ones, watch for stray egg. [Sugar water dripped on flowers also provides nourishment for egg production.- C.R.] Continue to illuminate each day until the ♀ dies. Then remove and mount her immediately, affixing to her the same code number as to the offspring. It is important to record the place and date of capture of the ♀ and dates of egg-laying and death.

3. CARE OF THE EGGS. After the ♀ dies remove everything not carrying eggs, to reduce the possible growth sites for deadly mould. It is not necessary to remove the eggs from the leaves. The leaves should not be allowed to dry, since this may kill the embryo, as will too much moisture. The best system seems to be to leave the egg-bearing plants in the pot, trying to keep them fresh until the eggs hatch. Cover the pot mouth with netting fixed on the pot with string or rubber bands.

The greatest enemies to success are: too much heat, mould from too much moisture, and lack of nectar for the ♀. Never use direct sun for illumination! Now, if you'll excuse the translator, he wants to rush out and try the system himself.

C.L. Remington

Lep.Soc. members with sons or daughters interested in butterflies and moths may put them in touch with collectors of their own age and provide them with an entertaining monthly letter, by making them members of THE MOTH AND BUTTERFLY CLUB. The monthly sheet is called "Notes on Moths and Butterflies" and the editor is: Mrs. Evelyn G. Williams, North San Juan, Calif. An active Lep. Soc. member, she deserves strong support in her excellent work. We endorse the Club unreservedly. Dues are 75¢ per year.

Professor Vladimir Nabokov has recently accepted a professorship of literature at Cornell University. While literature is his primary interest, he expects to continue taxonomic studies of Lycaenidae. One of the finest blends of literature and Lepidoptera we have been privileged to read is Nabokov's on pp.25-28 of the New Yorker magazine for June 12, 1948.

Now available to all Lep. Soc. members are reprints of two papers by Mr. Nabokov. U.S.A. members send 10 in stamps to cover mailing costs. As always, members outside the U.S.A. may have the papers without sending postal costs.- (1) "Some New or Little Known Nearctic Neonympha" (1942,20 pp.); (2) "Notes on Neotropical Plebejinae" (1945, 61 pp., 8 pls.).

There are still a few copies of the Speyeria Catalogue (News 2: p.5) and the paper on Colias eye colors. Also, any member sending us a card requesting it will receive a reprint of Dr. Klot's Eurema paper from the May News. It will be mailed with the next News after your request, so no postage need be sent.

NOTICES BY MEMBERS

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.

Lepidopterists desiring to buy BULGARIAN SPECIES are invited to write: Jordan Chr. Jordanof, Rue Neophit Rilsky 34, Sofia,BULGARIA.

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

Named BUTTERFLIES from HIMALAYAN FOOTHILLS available for sale. Especially rich in Lethe, Papilionidae, Danaus, Amathusiidae. F.N.Betts, 4, Mount St., London, W.2, ENGLAND.

CASH PAID FOR BUTTERFLIES of almost any species from any part of 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 Parnassiidae. Buy or will exchange U.S.Macrolepidoptera. Kent H. Wilson, 430 Ridgewood Road, Fort Worth 7, Texas.

Papered specimens of BRITISH LEPIDOPTERA offered in exchange for American beetles of the families Cerambycidae ("Long-horns"), Prionidae, Lamiidae. Michael G. Fraser, Ennerdale, College Ave., Formby, Lancs., ENGLAND.

LARGE STOCK OF HIGH GRADE INSECT PINS from Czechoslovakia available at 65¢/100, $6/1000. R.G.Wind, Rt.1, Box 145, Livermore, Calif.

ALL SPECIES OF EUREMA desired, esp. mexicana, proterpia, arbela, gundlachia, damaris, xanthochlora and others. Cuban butterflies offered in exchange. Dr. S.L.de la Torre y Callejas, Playa 75½, Matanzas, CUBA.

FOR SALE: All NYMPHALIDAE of Rhodesia and S. Africa, except Charaxes p. pelias. In good condition. Write: R.H.R. Stevenson, Selukwe, Southern Rhodesia, AFRICA.

BELGIAN CONGO BUTTERFLIES. About 40 named spp. available. Desire in exchange North American Papilionidae (incl. Parnassius) and Pieridae, in papers. S.G. Kiriakoff, 14 Univeriteitsstraat, Ghent, BELGIUM.

WANTED: Tingidae ("Lace Bugs") of world in alcohol. Give name of plant host and as much other ecological detail as possible. Will collect in exchange any local Lepidoptera(or other insects) you specify. N.S. Bailey, 16 Neponset Ave., Hyde Park 36, Mass.

WANTED: Papilionidae from any part of the world. Best prices paid for rare species. Robert G. Wind, Rt.1, Box 145,Livermore, Cal.

EXOTIC AND LOCAL LEPIDOPTERA & INSECTA- Buy and sell. Exchange in some genera. I have contacts in remote regions in various countries. Will supply material for specialists or artwork or for general collections and museums by arrangement. R.F. Sternitzky, Star Route, Laytonville, Mendocino Co., Calif.

E. Janmoulle,2 rue Ernotte, Watermael, BELGIUM, will be pleased to help Lep. Soc. members obtain Belgian Microlepidoptera on an exchange basis.

PHALAENIDAE(Noctuidae), NOTODONTIDAE, SPHINGIDAE of U.S. and Canada wanted in exchange for these families of New Jersey Pine Barrens area. Will collect in limited numbers in these and other families of Lepidoptera for exchange or sale. Correspondence invited. J.W. Cadbury 3rd, Spung Hollow, R.D.#1, Pemberton, N.J.

Would like to correspond with collectors interested in Speyeria and Saturniidae. Have good exchange for these, needed for my collection. E.J. Frederick, 5508 E.Gage, Bell,Calif.

American collectors desiring European races of holarctic spp. such as Papilio machaon, Pieris napi, Colias palaeno, Boloria pales, Deilephila gallii, and others should write Dr. H.Wilcke, Kössen/Tyrol,Nr.199, AUSTRIA. His current list gives all groups of Alpine Lepidoptera, incl.: 20 spp. of Erebia, 24 spp. of Blues, 15 of Sphingidae, 85 of Larentia, 12 of Acronicta, 60 of Agrotis, 7 of Catocala, 39 of Eupithecia, 12 of Sesia, 7 of Hepialus, etc. Prices are low, the fee to be sent in the form of CARE packages.

LIVING MATERIAL

LIVING EGGS OF ACTIAS LUNA available in lots of 100 or 1000. M. Eugene Smith, Route 2, Newnan, Georgia.

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 euryale, or will buy. D.P. Frechin, 1504 N.Lafayette, Bremerton,Wash.

Specimens & cocoons of SATURNIIDAE of the world desired. Correspondence invited. F.E. Rutkowski, St. Bede College, Peru, Illinois

---

Wanted for determination, exchange, or purchase: HEMILEUCAS from the U.S. & Mexico. Wish to urge collectors to search for larvae in spring, egg masses in fall & winter. Information regarding H. sororius greatly desired. D.L. Bauer, P.O. Box 469, Yuma, Arizona.

Wanted: CATOCALA EGGS, esp. of Crataegus (Hawthorn) feeders. Will exchange for other Catocala material. Sidney A. Hessel, 8 Woodmere Blvd. S., Woodmere, New York.

QUESTIONS AND ANSWERS

Q. "Is not Basilarchia as distinct from European Limenitis as Speyeria is from European Argynnis?"

A. Limenitis as used in Europe comprises three rather distinct species; L. sibylla, which is usually thought of first, agrees in structure with Adelpha; while populi, which was named type(unfortunately) many years ago, is the only Old-world species with the same caterpillar as Basilarchia. So if we follow the Code at all, Basilarchia becomes a synonym of Limenitis (typical), and there is no special name for the sibylla group, unless we sink it to Adelpha.

In the case of Argynnis, the type(paphia) is one of the species least like ours, so if we wish to divide the old genus Argynnis, Speyeria becomes as good a section as any of the half dozen others recognized by European "splitters". The nearest European to ours is aglaia, but even this shows good genitalic features, while all our species are almost identical in genitalia.

Q. "What is the correct name for the noctuid moths - Noctuidae or Phalaenidae, and why has the latter been used instead of the more familiar name by some recent writers?"

A. Phalaenidae if you are an extreme literalist in following the rules of the Code, because Phalaena typica Linnaeus falls in this group. If tradition, a hundred years and more of usage and common sense rule over bookkeeping, Noctuidae is the name.

W.T.M. Forbes

(The question of this family name is so important that, in order to give fairly both sides of the debate, we asked Dr. J. McDunnough to give the argument for Phalaenidae. - Ed.)

A. The matter of Phalaena versus Noctua has been dealt with very fully by Barnes and Benjamin in the Contributions, vol.5, pp.53/57, 1923. The gist of their remarks is that in the 10th edition of "Systema Naturae" Linnaeus created only three genera, viz. Papilio for the diurnals, Sphinx for the hawk moths, and Phalaena for the balance of the moths. The trouble lies in the fact that Linnaeus further subdivided the last named genus into Phalanges, one of which was termed Noctua and included the owlet moths, which led to this name being applied in the old accepted sense and Phalaena either discarded or used as a superfamily. Of recent years the International Committee of Zoological Nomenclature has ruled against the crediting of the Phalanges names to Linnaeus as subgeneric terms: this leaves the name of Phalaena as the oldest and perfectly valid generic term which must be used and applied somewhere in our system of nomenclature. Barnes and Benjamin seem to have advanced a fairly sound argument in favor of the supplanting of Noctua by Phalaena, the details of which may be studied in the above mentioned article. For this reason the change was adopted in the 1938 (N. American)check list.

J. McDunnough

TABLE OF CONTENTS

NEW MEMBERS

Cobb, R.B., 594 Asbury Rd., Cincinnati 30, Ohio.
Emerson, Kenneth, 806 W.Main St., Urbana, Ill.
Essig, Prof. E.O., Div. of Entomology, University of California, Berkeley 4, Calif.
Hackray, Joseph, rue Simon Lobet 9, Verviers, BELGIUM.
Kolyer, J.M., 23 High St., East Williston, N.Y.
Marten, Werner, calle Guillermo Tell, 44, Barcelona, SPAIN.
Morris, J.W., 2704 W. Genessee St., Syracuse 9, N.Y.
Sanford, L.J., Amer. Museum Nat. Hist., 79th St. & Central Park West, New York 24, N.Y.
Torres, Juan, 1, Calle Dr. Romagosa, Valencia, SPAIN.
Uichanco, Dean Leopoldo B., College, Laguna, PHILIPPINES.
Vernon, John B., P.O. Box 195, Bonham, Texas.

* * *

CHANGES OF ADDRESS: Breedlove, R.W., 2370 Julian Ave., San Diego 2, Calif.
Fauteux, J.M., Box 162, Framingham Center, Mass.
Halbert, R., 1201 W.30th St., Los Angeles 7, Cal.
Irwin, R.R., 602 S. Park St., Streator, Ill.

* * *

DECEASED: Rau, Phil, Kirkwood, Missouri.

As stated on page 1 of the current volume, the News will not be issued for July-September. No.7 will be the October issue and with it will probably be the annual membership list.

F.E. Holley writes that members who were unsuccessful in purchasing Englehardt's revision of the Aegeriidae of North America (see review in News, vol.1, no.2) may obtain it free of charge by writing to: DIV. OF PUBLICATIONS, SMITHSONIAN INSTITUTION, WASHINGTON 25, D.C. In writing, ask for "U.S. National Museum Bull.190". The supply is limited.

THE LEPIDOPTERISTS' NEWS is the monthly periodical of The Lepidopterists' Society. Membership is open to anyone interested in the study of butterflies & moths. The 1948 dues, including subscription to the NEWS, are $1.50 for Regular Members and $3.00 or more for Sustaining Members. Please make remittances payable to : Charles L. Remington.