

RECENT LITERATURE ON LEPIDOPTERA

(Under the supervision of PETER F. BELLINGER)

Under this heading are included abstracts of papers and books of interest to lepidopterists. The world's literature is searched systematically, and it is intended that every work on Lepidoptera published after 1946 will be noticed here; omissions of papers more than 3 or 4 years old should be called to Dr. BELLINGER's attention. New genera and higher categories are shown in CAPITALS, new species and sub-species are noted, with type localities if given in print. Larval foodplants are usually listed. Critical comments by abstractors may be made. Papers of only local interest and papers from this *Journal* are listed without abstract. Readers, not in North America, interested in assisting with this very large task, are invited to write Dr. BELLINGER (Dept. of Natural Sciences, San Fernando Valley State College, Northridge, Calif., U. S. A.). Abstractors' initials are as follows:

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B. SYSTEMATICS AND NOMENCLATURE

- Marion, H., "Contribution à l'étude des Pyralidæ de Madagascar" [in French]. *Mém. Inst. scient. Madagascar, sér. E*, vol.5: pp.39-62, 1 pl., 14 figs. 1954. Contribution to the study of the Madagascar pyralids. Describes as new (from Ankaratra Mt. unless another type locality is given): *Ancylolomia auripaleella*; *PRODUCTALIUS*, & type *P. tritaeniellus*; *ANGUSTALIUS*, & type *A. ditæniellus*; *Tegulifera herbulotalis* (Tananarive), *T. sanguinalis* (Tananarive); *Obtusipalpis rubricostalis* (Tananarive); *EUPHYCIODES* (type species: *albotessulalis* Mabille); *Nacoleia pulveralis* (Tananarive); *Sylepta pauperalis*; *Diaphana viettealis* (Tananarive), *D. toulgoetalis* (Tananarive), *D. ankaratralis*; *Ischnurges paulianalis*; *Trigonuncus flavopunctalis*; *Pachyzancla ultratrinialis*; *MEGATAR-SODES* (type species: *baltealis* Mabille); *Argyractis ambahonalis*; *AMBAHONA*, & type *A. fusconebulis*. [P. V.]
- Marion, H., "Révision des Pyraustidæ de la faune française" [in French]. *Rev. franç. Lépid.*, vol.14: pp.123-128, 1 pl; pp.181-188, 221-227, 16 figs.; vol.15: pp.41-58, 24 figs. 1954-55. Revision of the Pyraustidæ of the French fauna. The author begins with long comments on the history of the classification, the taxonomic categories and the morphological structures. The group of pyralids is divided by Marion into: Crambidae, Pyraustidae, Acentropidae, Pyralidae, Phycitidae, and Galleriidae. The subfamilies of the Pyraustidae are Scopariinae, Nymphulinae, Schœnobiinae, Pyraustinae, Evergestinae. The author starts with the Acentropidae; Schœnobiinae and Scopariinae (with two tribes: Scopariini and Cybalomiini) follow. Keys for families, subfamilies, tribes, genera, and species are given. Study to continue. [P. V.]
- Marion, H., "Complément à la classification et nomenclature des Pyraustidæ d'Europe" [in French]. *Entomologiste*, vol.13: pp.129-130. "1957" [1958]. The two European spp. *palustris* Hbn. & *nubilalis* Hbn. should be placed in the genus *Ostrinia* Hbn. which has priority over *Micractis* W. Warren. [P. V.]
- Marion, H., "Révision des Pyraustidæ de France" [in French]. *Alexanor*, vol.1: pp.15-22, 2 pls. 1959. Continuation of the revision of the French pyraustids. Here the genus *Scoparia* is begun. [P. V.]
- Marion, H., "Classification et nomenclature des Pyraustidæ d'Europe" [in French]. *Entomologiste*, vol.15: pp.44-45. 1959. Nomenclatorial note about the genus *Epicorsia* Hbn. and the new genus *PARACORSIA* (type species: *repandalis* Den. & Schiff.). [P. V.]

- Marion, H., "Révision des Pyraustidæ de France (suite)" [in French]. *Alexanor*, vol.1: pp.103-110, 1 pl. 1959. Continuation. Description of the genus *HYPERLAIS* (Scopariinæ, Cybolomiini; type species: *Hypolaïs siccalis* Gn.). [P. V.]
- Marion, H., "Révision des Pyraustidæ de France (suite)" [in French]. *Alexanor*, vol.1: pp.175-182, 1 pl. 1960. Continuation; conclusion of Nymphulinæ, beginning of Evergestinæ, & complementary notes on Scopariinæ. Describes as new *Scoparia cembra pfeifferi* (Alps, Savoie, Peisey-Nancroix). [P. V.]
- Marquant, R. M., "Une nouvelle race de *Parnassius apollo* Linné: *P. apollo* race *ossalensis* mihi" [in French]. *Bull. mens. Soc. Linn. Lyon*, vol.27: pp.51-52. 1959. New subspecies described from central Pyrenees, Col. d'Aubisque, alt. 1700m. [P. V.]
- Mell, R., "Zur Geschichte der ostasiatischen Lepidopteren. I. Die Hebung Zentralasiens, das westchinesische Refugium zentralasiatischer Abkömmlinge und die Verbreitungsachse Sikkim/Kashiaberge—Zentralformosa (Achse V). Beiträge zur Fauna sinica XXV" [in German]. *Deutsche ent. Zeitschr.*, N. F., vol.5: pp.185-213, 11 figs. 1958. Describes as new: (Sphingidæ) *Clanis obscura* (Kuatun); *Rhagastis albomarginatus sauteri* (Taihorin, Formosa); (Bombycidæ) *THEOPHOBA* (type not selected; genus includes *Andraca albilunata*), *T. pendulans* (Lungtaoshan, 800 m., N. Kuangtung); *Ocinara diaphragma* (Mahntsishan, N. Kuangtung), *O. d. formosa* (Shis, central Formosa); (Eupterotidæ) *Genisa longipennata* (Kuatun, NW Fukien); (Notodontidæ) *Andraca olivacens* (Kuatun); (Acronictinæ) *Trisuloides klapperichii* (Kuatun); (Saturniidæ) *Antheræa yamamai titan* (Kuatun). A very diffuse discussion of faunal origins in central Asia, illustrated principally by Sphingidæ, Saturniidæ, and some other families of Lepidoptera. The paper is marred throughout by the presentation of probabilities or possibilities as certainties; for example, the author's statements of the geographic origins of genera unknown as fossils, and designation of species known from single specimens as "double-brooded" or "obligatorily single-brooded". [P. B.]
- von Mentzer, Erik, "*Erebia calcarius* Lork. ssp. *tridentina*, ssp. nova (Lep., Satyridæ)" [in German]. *Ent. Tidskr.*, vol.79: pp.6-10, 5 figs. 1958. Described from Lago Nambino, 1800 m., Venezia Tridentina, Italy. Discusses systematic position of *E. calcarius*. [P. B.]
- von Mentzer, Erik, "Ueber die Spezifität von *Erebia neleus* Frh. und *Erebia aquitania* Frhst. (Lep. Satyridæ)" [in German]. *Ent. Tidskr.*, vol.81: pp. 77-90, 4 pls., 8 figs. 1960. Carefully distinguishes these 2 spp. on material from Mt. Blanc region, pointing out differences in habit & genitalia. Notes on application of names in this difficult group. & on *E. tyndarus* & *E. cassioides* (sensu Warren) from the same locality. [P. B.]
- Moucha, Josef, "*Pieris napi* L. und *Pieris bryoniae* O. im Vihorlat-Gebirge (Lep. Pieridæ)" [in German; Czech summary]. *Acta ent. Mus. nationalis Pragæ*, vol.32: pp.91-100. 1958. The population of *P. bryoniae* from Vihorlat Mts. (E. Slovakia) is described. [J. M.]
- Munroe, Eugene, "Hampson's Schænobiinæ (Lepidoptera: Pyralidæ)." *Proc. 10th internat. Congr. Ent.*, vol.1: pp.301-302. 1958. Redefines subfamily and lists included genera, those which must be transferred to other subfamilies, and some of uncertain position. Sinks *Neobanepa aglossides* to *Pyralopsis peruviansis*. Erects new subfamily MIDILINÆ, for genera *Midilo* (= *Singamia*, *Tetraphana*), *Cacographis*, *Gonothyris*, *Dismidilo*; *Hositea*. Discusses relationships of several groups of Pyralidae. [P. B.]
- Musgrave, A., "Some butterflies of Australia and the Pacific. Family Danaidæ—danaids II." *Austral. Mus. Mag.*, vol.9: pp.309-314, 9 figs. 1948. Discussion of *Tellervo* and species groups of *Euplaca*; some figures & descriptive notes. [P. B.]
- Norman, T., "A new butterfly from Assam." *Journ. Bombay nat. Hist. Soc.*, vol.55: pp.180-181, 1 fig. 1958. Describes as new *Ypthima cantliei* (Margherita, upper Assam). [P. B.]

D. VARIATION AND GENETICS

- Bernardi, G., "Le polymorphisme et le mimétisme de l'*Hypolimnas dubia* Palisot de Beauvois (Lep. Nymphalidae)" [in French]. *Ann. Soc. ent. France*, vol.128: pp.141-158, 2 pls. 1959. Study on the polymorphism and mimicry of this nymphalid in Africa and Madagascar. [P.V.]
- Boursin, Ch., "Note au sujet de l'article de M. Yves de Lajonquière, 'Deux formes nouvelles de lépidoptères hétérocères'" [in French]. *Bull. mens. Soc. linn. Lyon*, vol.28: p.151. 1959. ♀ form of *Scotia crassa* named by de Lajonquière was previously named by Wagner. [P.V.]
- Bowden, S. R., "Sexual mosaics in *Pieris*." *Lepid. News*, vol.12: pp.7-13, 1 fig. 1958.
- Bowden, S. R., "Yellow-green larvæ of *Pieris napi* L." *Entomologist*, vol.91: pp.110-111. 1958. Simple recessive mutant. [P.B.]

F. BIOLOGY AND IMMATURE STAGES

- Kalshoven, L. G. E., "Twee soorten cacaomot in Nederland" [in Dutch; English summary]. *Cacao, Chocolade en Suikerwerken*, vol.22: no.10: 14 pp. 1954. Biology of *Ephestia cautella* & *E. elutella* in stored cacao. [P. B.]
- Kasy, F., "Die Raupe von *Gnophos stevenaria* Bsd. (Lepidoptera, Geometridae)" [in German; Serbocroatian summary]. *Fragm. balcanica*, vol.1: pp.115-116. 1954. Describes larva, reared on *Prunus spinosa*. [P. B.]
- Kasy, F., "Kleinschmetterlingsraupen als Bewohner der von der Weidenholzgallmücke (*Helicomyia saliciperda* Duf.) befallenen Weidenäste und -stammchen" [in German]. *Ent. Nachrichtenbl. österr. und schweizer Ent.*, vol.6 (Sonderheft 1954): pp.1-4. 1955. Notes on biology of *Euzophora bigella*, *Laspeyresia leguminana*, *L. corollana*, *Stenolechia albiceps*, *Chrysoclysta bimaculella*, *Trochilium vespiforme*; all reared from *Salix* branches stimulated to luxuriant growth by attack of a gall midge. [P. B.]
- Kasy, F., "Über die Jugendstadium und Bionomie von *Athetis lepigone* Moeschl. (Lep., Agrot.)" [in German]. *Zeitschr. wiener ent. Ges.*, vol.41: pp.289-297, 17 figs.; vol.42: pp.4-5. 1956, 1957. Describes early stages & phenology; larva polyphagous (numerous plants tested & preferences recorded); young larvæ refused fresh leaves of *Taraxacum* but ate dead leaves. [P. B.]
- Kasy, F., "Neues über *Chondrosoma fiduciarium* Anker" [in German]. *Ent. Nachrichtenbl.*, Vienna, vol.4, no.4: pp.1-2. 1957. Describes habitat; notes on biology. Pupa susceptible to dessication, but can also take up water from damp soil. Larvæ fed on *Taraxacum*, *Lactuca*, *Solidago*, & *Achillea*. [P. B.]
- Kato, Akira, "Hibernation of *Colias hyale poliographus* Motschulsky (Pieridae)" [in Japanese]. *Shin Konchu*, vol.4, no.13: pp.18-19. 1951. Pupal hibernation suggested. [T. I.]
- Kauffman, Guido, "Beobachtungen über die ersten stände einiger alpiner Pyrginæ" [in German]. *Zeitschr. wiener ent. Ges.*, vol.65: pp.23-28. 1954. Notes on early stages of *Pyrgus cacaliae*, *P. carlinae*, *P. malvoides*, & *P. alvenus*. [P. B.]
- Kawada, Akira, "Key to the pupæ of Saturniidae" [in Japanese]. *Shin Konchu*, vol.5, no.2: pp.23-26, 13 figs. 1952.
- Kawada, Akira, "Key to the pupæ of Sphingidae" [in Japanese]. *Shin Konchu*, vol.5, no.5: pp.39-47, 83 figs. 1952.
- Kawazoe, Akito, "On the eggs and the young caterpillars of *Melitæa diamina protomedia* Ménétries" [in Japanese; English summary]. *Trans. lep. Soc. Japan*, vol.7: pp.26-28, 4 figs. 1956. Describes & figures these stages; foodplant *Patrinia scabiosifolia*. [P. B.]
- Keji, Joseph A., "Oviposition observations." *Lepid. News*, vol.5: p.69. 1951.
- Kelsey, J. M., "Insects attacking tussock." *New Zealand Journ. Sci. Tech.* (A), vol.38: pp.638-643. 1957. Of the fourteen species of Lepidoptera listed as pests

- of New Zealand Tussock grasses (*Festuca* and *Poa* spp.) at altitudes of 1,500 to 4,500 ft., species of *Crambus*, *Persectania*, & *Leucania* are stated to be the most important. [I. C.]
- Kelsey, J. M., "Virus sprays for control of *Pieris rapæ* L." *New Zealand Journ. Sci. Tech.* (A), vol.38: pp.644-646. 1957. Experiments to control *P. rapæ* in New Zealand by spraying larvæ with suspensions of undetermined virus described. [I. C.]
- Kershaw, R. C., "Notes on the Army Worm." *Victorian Nat.*, vol.73: pp.76-77. 1956. Records larvæ of *Persectania ewingii* (Hadeninae) attacking pear fruits on trees in West Tamar, Tasmania. [I. C.]
- Kershaw, S. H., "*Phragmatobia fuliginosa* L. ♂ ♂ attracted by scent of ♀ *Panaxia dominula* L." *Ent. Rec. & Journ. Var.*, vol.65: pp.219-220. 1953.
- Kettlewell, H. B. D., "A further case of similar assembling scents." *Entomologist*, vol.88: p.19. 1955. *Xanthorhoe montanata* ♂ ♂ to ♀ *Biston betularia* [P. B.]
- Kettlewell, H. B. D., "The breeding of *Coscinia cribraria* Linn." *Ent. Rec. & Journ. Var.*, vol.64: pp.106-107. 1952.
- Kettlewell, H. B. D., "The pupation habits of *Gonimabrasia tyrreha* Cram. (Lep. Saturniidae)." *Ent. Rec. & Journ. Var.*, vol.65: pp.118-119. 1953. Larva of this South African sp. burrows into sand & pupates within larval skin. [P. B.]
- Kettlewell, H. B. D., "Brood size and dispersal in *Biston betularia* L. (Lepidoptera)." *Entomologist*, vol.88: p.50. 1955. Reports 1100 pupæ reared from single mating. Suggests that young larvæ disperse by silk ballooning, avoiding concentration; larvæ cryptic, not social. [P. B.]
- Kettlewell, H. B. D., "*Xanthorhoe montanata* and *X. spadicearia* assembling to females of *Biston betularia*." *Entomologist*, vol.89: p.130. 1956. Suggests similarity in ♀ scent. [P. B.]
- Kettlewell, H. B. D., "*Lithophane lapidea* Hübner (Lep. Noctuidæ) breeding in Britain." *Entomologist*, vol.90: pp.1-8, 1 pl. 1957. Summarizes knowledge of early stages (foodplant *Cupressus*); discusses distribution & method of arrival in Britain (probable recent immigrant).
- Kettlewell, H. B. D., "*Lithophane lapidea* Hübner (Lep.: Noctuidæ) breeding in Britain. A foreword." *Entomologist*, vol.90: pp.285-286, 1 pl. 1957. Breeding notes & figures of larvæ. [P. B.]
- Kettlewell, H. B. D., E. A. Cockayne, & C. N. Hawkins, "*Thalera fimbrialis* Scopoli in England." *Ent. Rec. & Journ. Var.*, vol.65: pp.305-308. 1953. Description of larva & pupa & account of larval habits; reared on *Achillea millefolium*. [P. B.]
- Kettlewell, H. B. D., & G. Haggett, "The life history of *Hydræcia hucherardi* Mabille (Lep., Agrotidae)." *Entomologist*, vol.88: pp.217-223, 2 pls., 1 fig. 1955. Describes rearing in captivity; discovery of larvæ & pupæ in nature; & full-grown larva & pupa. Foodplant *Althæa officinalis*. [P. B.]
- Khan, Mohammad Quadiruddin, "Note on life history and habits of castor-semi-loopers." *Proc. 33rd Indian Sci. Congr.*: p.122. 1947. Abstract; on *Achæa janata*, *Paralellia algira*.

G. PHYSIOLOGY AND BEHAVIOR

- Berger, Richard, "Fang der Birkeneule *Brephos parthenias*" [in German]. *Ent. Zeitschr.*, vol.69: pp.14-15. 1959. Notes on adult behavior. [P.B.]
- Bergerard, J., Ph. Dreux, & J. Fiszer, "Influence des ions alcalins et alcalino-terreux sur l'automatisme cardiaque de deux insectes: *Gryllulus domesticus* L. (adulte) et *Galleria mellonella* L. (larve)" [in French]. *Arch. Sci. physiol.*, vol.4: pp.225-240, 5 figs. 1950.
- Bittner, Alfred, "Besonderheiten der Bewegungsformen der Wachsmotten als Beispiel für die Untersuchung von Insektenlaufspuren" [in German]. *Naturwissenschaften*, vol.46: p.119, 3 figs. 1959. Suggests that erratic running of *Galleria* & *Achroia*

- mimics dance of host bees and so protects moths. Movement studied by recording tracks. [P.B.]
- Blaustein, Mordecai P., & Howard A. Schneiderman, "The effect of barbituric acid and its analogues on the adult development of giant silkworms." *Anat. Rec.*, vol.132: p.415. 1958. Abstract; *Callosamia & Antheraea*.
- Blaustein, Mordecai P., & Howard A. Schneiderman, "The effect of certain antimetabolites and hydrolytic enzymes on the adult development of giant silkworms." *Anat. Rec.*, vol.132: p.416. 1958. Abstract; *Callosamia promethea*.
- Blest, A. D., "The evolution of protective displays in the Saturnioidea and Sphingidae (Lepidoptera)" [in English; German summary]. *Behaviour*, vol.11: pp.257-307, 22 figs. 1957. Study of behavioral response to stimulation in adults of 35 saturniids and 6 sphingids. Behavior is classified and correlated with type of coloration. It is suggested that displays (but not cryptic behavior) evolved from preparatory flight movement. [P.B.]
- Blest, A. D., "Central control of interactions between behaviour patterns in a hemileucine moth." *Nature*, vol.184: pp.1164-1165. In *Automeris aurantiaca* the duration of a rocking response to stimulation is proportional to the duration of a preceding flight. This relationship is not affected by suppression of afferent impulses (removal of parts of the body, destruction of sense organs), and must be controlled in the central nervous system. [P.B.]
- Bonnemaison, L., "Elimination de la diapause chez la noctuelle du chou (*Mamestra Brassicae* L.) (Lep. Noctuidae)" [in French]. *Bull. Soc. ent. France*, vol.65: pp.73-78, 4 figs. 1960. Reports experiments on the effects of specific low temperatures at specific durations in breaking diapause of pupae. [P.B.]

I. MISCELLANY

- Brady, Philip, "Boarding house for butterflies." *Nature Mag.*, vol.51: pp.188-190, 3 figs. 1958. Report on establishment of Massachusetts Audubon Society at South Lincoln, for rearing and studying butterflies. [P.B.]
- Bruce, W. G., "Bible references to insects and other arthropods." *Bull. ent. Soc. Amer.*, vol.4: pp.75-78. 1958. Includes references to caterpillars and moths. [P.B.]
- Christl, Ott, "Entomologische Forschungsarbeit in Linz" [in German]. *Zeitschr. wiener ent. Ges.*, vol.43: pp.187-206. 1958. Brief history of entomology of Linz, Austria, from time of Schiffermüller to present; list of publications of entomologists of Upper Austria since 1945. [P.B.]
- Collins, D. L., & D. P. Connola, "Some recent research on forest insects in New York State." *Proc. 10th internat. Congr. Ent.*, vol.4: pp.335-340, 1 map. 1958. Includes notes on research on lepidopterous pests, especially *Malacosoma disstria*. [P.B.]
- Dexter, Ralph W., "Packard's final arrangement for publication of his monograph on the bombycine moths." *Lepid. News*, vol.11: p.206. 1958.
- Fontes, Elena Martinez, & Juan Jose Parodís, *Guía de Naturalista Sudamericanos*. 138 pp., Buenos Aires. 1949. See notice in *Lepid. News*, vol.12: p.56.
- Frederick, A. C., "John Howley Cook, 1878-1958." *Lepid. News*, vol.12: p.207. 1959.
- Gibson, William W., & José Luis Carillo S., "Lista de insectos en la colección entomologica de la Oficina de Estudios Especiales, S.A.G." [in Spanish & English]. *Folleto misc. Sec. Agr. Ganad., Mexico*, no.9: 254 pp. 1959. Records all specimens, with brief data; numerous Lepidoptera. Collection in Mexico City. [P.B.]
- Glen, Robert, et. al., "Entomology in Canada up to 1956. A review of developments and accomplishments." *Canad. Ent.*, vol.88: pp.290-371. 1956. History of entomology, especially applied entomology; this summary was prepared for the 10th International Congress of Entomology by various government and university entomologists in Canada. [P.B.]
- Henne, Christopher, "Charles Henry Ingham (1904-1957)." *Lepid. News*, vol.11 pp.169-170, 1 fig. 1958.