

## RECENT LITERATURE ON LEPIDOPTERA

Under this heading are listed each month papers on Lepidoptera from all the scientific journals which are accessible to us and our cooperating abstractors. It is hoped that eventually our coverage of the world's literature will be virtually complete. It is intended that every paper and book published after 1946 will be included. **Abstracts** give all new subspecies and higher categories, with type localities and generotypes. Papers of only local interest are merely listed. Papers devoted entirely to economic aspects will be omitted. Reprints are solicited from all publishing members. Initials of cooperating abstractors are as follows: [P.B.] - P. F. BELLINGER; [A.D.] - A. DIAKONOFF; [C.R.] - C.L. REMINGTON.

### B. SYSTEMATICS AND NOMENCLATURE

- Boursin, Ch., "Ueber zwei *Autophila*-Arten aus den Brandt'schen Ausbeuten in Süd- und Ost-Iran" [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.32: pp.142-148, 3 pls. 30 July 1948. Describes as new *A. libanotica perornata* (Tahte-Malek, Baluchistan). Redescribes *A. subfusca*. Discusses related forms, figuring adults and ♂ genitalia of some. [P.B.]
- Boursin, Ch., "Neue palaearktische *Agrotis*-Arten aus dem Naturhistorischen Museum in Wien nebst Synonymie-Notizen" [in German]. *Zeitschr. Wiener Ent. Ges.*, vol. 33: pp.97-136, 14 pls. 1 Dec. 1948. Describes as new: *Euxoa zugmayeri* (West Tibet); *Agrotis xylographa* (Poddaban, Transbaikial, Siberia); *Ochropleura (Dichagyris) eremopsis* (Korla, Chinese Turkestan); *Ogygia perturbans* (Akso, Chinese Turkestan); *O. (O.) suburbans* (Ft. Naryn, Semiretschje, Turkestan); *O. geochroides* (Richtofen Range, Liang-Tschou, West China); *Hemixarnis nivea* (Ft. Naryn, Turkestan); *Eugraphe exusta sinica* (Ta-Tsien-Lu, Szechuan); *E. disgnosta* (Mt. Daisen, Hohki, Japan); *E. longipennis* (Japan); *E. megaptera* (Siao-Lou, Szechuan); *Diarsia moltrechti* (Mt. Morrison, Formosa); *D. beckeri* (Kinfushan, Szechuan); *D. formosana* (Mt. Morrison, Formosa); *Pachnobia xena* (Noworotnaja, Transbaikial); *Amathes pseudaccipiter* (Ta-Tsien-Lu, Szechuan); *A. sturnecki* (Szechuan); *A. draesekei* (Sunpanting, Szechuan); *A. triphaenoides* (Ta-Tsien-Lu, Szechuan); *A. amydra* (Ta-Tsien-Lu, Szechuan); *Cerastis orientalis* (Nikolsk-Ussurijsk, E. Siberia); also one "form". Figures adults, and genitalia of these and some related spp. Synonymizes some 45 spp. and ssp. [P.B.]
- Clements, A. N., "A revision of *Diparopsis* Hmps. (Agrotidae, Lepidoptera)." *Bull. Ent. Res.*, vol.42: pp.491-497, 12 figs. Nov. 1951. Describes as new *D. perditor* (Meisso, Ethiopia); *D. gossypoides* (north of Lindi, Tanganyika). Figures frontal processes and ♂ genitalia of the four known spp. [P.B.]
- Dammerman, K. W., "Proposals concerning the nomenclature of family names and of names of economically important insects to be submitted to the IXth International Congress of Entomology at Amsterdam." *Trans. 9th Int. Congr. Ent.*, vol.1: pp.203-204. March 1953. Proposes appointing of a special international committee for fixation of family names and of names of economically important insects, viz. a certain number of each per year. [A.D.]
- Ferrière, Ch., "Le fardeau des vieilles espèces inconnues" [in French]. *Trans. 9th Int. Congr. Ent.*, vol.1: pp.194-196. March 1953. Makes proposals for reglementation of old, unknown, not identified names: their liquidation, or redescription of the species concerned. [A.D.]
- Forbes, William T.M., "A draft key to *Taygetis* (Satyriinae)." *Lep. News*, vol.6: pp.97-98. 19 Feb. 1953.
- Gerasimov, A. M., "Description of the pyralid *Chilo tadschikiellus* Gerasimov and of the noctuid *Sesamia cretica striata* Stgr.; injurious to sugar-cane in Tadzhikistan" [in Russian]. *Trud. Zool. Inst. Akad. Nauk SSSR*, vol.8: pp.700-713, 9 figs. 1949. *C. tadschikiellus* described as new. [Not seen.]
- Hackman, Walter, "On the *Choreuthis myllerana* group (Lepid., Choreuthidae)." *Notulæ Ent.*, vol.26: pp.71-75, 12 figs. 15 Feb. 1947. Describes as new *C. montelli* (Geta, Finland); *C. sibirica* (V. Sujetuk, Siberia). Redescribes 3 other spp. Figures fore wing and genitalia of all. [P.B.]
- Hackman, Walter, "Zwei neue Kleinschmetterling aus Finland" [in German]. *Notulæ Ent.*, vol.30: pp.23-25, 6 figs. 1950. Describes as new *Stomopteryx karvoneni* (Kouvola); *Tortrix fuliginosana* (Vouksenniska); figures adults and genitalia. [P.B.]

- Hemming, Francis, "Zoological nomenclature." *Nature*, vol.170: p. 938. 29 Nov. 1952. *Science*, vol.116: p.546. 14 Nov. 1952. Notice of impending action by the International Commission on questions involving *Sphinx*, *Phalæna*, *Bombyx*, *Noctua*, *Geometra*, *Tortrix*, *Pyralis*, *Tinea*, *Alucita*, *Attacus*, *Episema*, *Diloba*, and *cydippe* L., *adippe* L., and *adippe* D. & S. [P.B.]
- Jackson, T. H. E., "Notes on some new or rare Rhopalocera from eastern Africa. Parts I and II." *Proc. Roy. Ent. Soc. London (B)*, vol.20: pp. 91-96, 97-105, 1 pl. 15 Aug., 15 Oct. 1951. Describes as new: *Pseudacraea dolomæna elgonensis* (W. Elgon, Uganda); *P. d. congoensis* (Mt. Walikali, Congo); *Neptis metella flavimacula* (W. Elgon, Uganda); *N. incongrua kikuyuensis* (Aberdare Mts., Kenya); *Monotrichitis sophrosyne brunnea* (Kalinzu Forest, Uganda); *Acræa excelsior usambaræ* (Usambara Mts., Tanganyika); also several "forms". Notes on some other butterflies of the West Elgon area and of East Africa generally. Figures in color 8 *Pseudacraea*. [P.B.]
- Kiriakoff, S. G., "Les organes tympaniques des Lépidoptères comme caractère systématique et phylogénétique" [in French]. *Trans. 9th Int. Congr. Ent.*, vol.1: pp.71-75. March 1953. Gives a survey on the importance of the tympanal organs for the classification of higher groups of Lepidoptera [P.B.]
- Klots, Alexander B., & Harry K. Clench, "A new species of *Strymon* Huebner from Georgia (Lepidoptera, Lycænidae)." *Amer. Mus. Novit.*, no.1600: 19 pp., 3 figs. 11 Dec. 1952. Describes as new *S. kingi* (Savannah). See review in *Lep. News*, vol.7, p.26.
- Lempke, B. J., "De generieke nomenclatuur van onze kleine Wapendragers" [in Dutch: Generic nomenclature of 5 Europ. species formerly included in *Pygæra*; with English summary]. *Ent. Berichten*, Vol.13: pp.262-265, 3 figs. 1 May 1951.
- Lempke, B. J., "De nomenclatuur van onze Hermelijnvinders" [in Dutch: the nomenclature of our Puss Moths; with English summary]. *Ent. Berichten*, vol.13: pp.293-296, 6 figs. 1 July 1951.
- Michener, Charles D., "The Saturniidae (Lepidoptera) of the Western Hemisphere. Morphology, phylogeny, and classification." *Bull. Amer. Mus. Nat. Hist.*, vol.98: pp.335-502, 1 pl., 420 figs. 3 March 1952. Describes as new: *Psilopygida basalis* (Paraná, Brazil); *Hylesia gamelioides* (Chiapas, Mexico). See also review in *Lep. News*, vol.6: pp.109-111.
- Munroe, E. G., "The *Karanasa* butterflies—a critical review." *Lep. News*, vol.7: pp.16-23. 20 Apr. 1953.
- Nabokov, V., "The female of *Lycæides argyrognomon sublivens*." *Lep. News*, vol.6: pp.35-36. 8 Aug. 1952.
- Nabokov, V., "On some inaccuracies in Klots' *Field Guide*." *Lep. News*, vol.6: p.41. 8 Aug. 1952.

## F. BIOLOGY AND IMMATURE STAGES

- Davatchi, A., & M. Vakilian, "Les pyralides nuisibles aux produits emmagasinés" (in Arabic, French summary). *Ent. & Phytopath. Appliqués* (Tehran), no.12-13 pp. 56-66, 7 figs. Biology and control of *Ephestia kühniella* and *Plodia interpunctella*; figures larvæ and adults. [C. R.]
- Henson, W. R., "Mass flights of the Spruce Budworm." *Canad. Ent.*, vol. 83: p. 240. Sept. 1951.
- Tenhet, Joseph N., & C. O. Bare, "Control of insects in stored and manufactured tobacco." *U. S. Dept. Agric. Circ.* no. 869: 32 pp., 20 figs. June 1951. Gives life history and habits of *Ephestia elutella*, with figures. Lists several parasites. *Tlascala finitella* and *Agllossa* sp. also recorded from stored tobacco. [P.B.]
- Toumanoff, Constantin, "Action de *Bacillus* larvæ W. agent pathogène de la Loque maligne des larves d'Abeilles sur les chenilles de *Galleria mellonella* L." [in French]. *C. R. Acad. Sci.*, vol. 230: pp. 1709-1711. 8 May 1950.
- Vago, Constantin, "Diversité des symptômes extérieurs dans une même maladie à ultra-virus d'insectes" [in French]. *C. R. Acad. Sci.*, vol. 232: pp. 1587-1588. 18 Dec. 1950. Records variable symptoms of polyhedrosis in silkworms. [P.B.]
- Walters, S. M., "Biological flora of the British Isles. *Eleocharis* R. Br." *Journ. Ecol.*, vol.37: pp.192-206, 3 figs. July 1949. Larvæ of *Bactra furfurana* recorded as stem feeders. [P. B.]
- Webb, D. A., "Biological flora of the British Isles. *Saxifraga* L. (section *Dactyloides* Tausch)." *Journ. Ecol.*, vol.38: pp.185-213, 7 figs. July 1950. Larval food plant of *Entephria flavicinctata*, *Stenoptilia saxifragæ*. [P. B.]

- Wittstadt, H., "Beobachtungen an *Lemonia dumi* L." [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.33: pp.33-38. 1 Oct. 1948. Biology and phenology.
- Woodroffe, G. E., "A life-history study of *Endrosis lactella* (Schiff.) (Lep. Cœphoridæ)." *Bull. Ent. Res.*, vol. 41: pp. 749-760, 3 pls. 2 figs. Apr. 1951: Biology and morphology of all stages. Records 2 predators and 5 parasites. [P.B.]

### G. PHYSIOLOGY AND BEHAVIOR

- Bottger, G.T., "Sugar and protein in the corn plant as related to nutrition of the European corn borer." *Journ. Econ. Ent.*, vol. 44: pp. 40-44. Feb. 1951. *Pyrausta nubilalis*.
- Bradfield, J.R.G., "Phosphatases and nucleic acids in silk glands: cytochemical aspects of fibrillar protein secretion." *Quart. Journ. Micr. Sci.*, vol. 92: pp. 87-112, 2 pls., 2 figs. Mar. 1951. Work done on *Bombyx*, *Cossus* and spiders. [P.B.]
- Drilhon, Andrée, "Identification chromatographique et chimique d'une substance fluorescente du sang et du tube de Malpighi de la larve de *Bombyx mori* atteinte de grasserie" [in French]. *C.R. Acad. Sci.*, vol. 232: pp. 1876-1878. 16 May 1951. A normal constituent of silk is released in the blood in this disease. [P.B.]
- Niemierko, Stella, & W. Niemierko, "Metaphosphate in the excreta of the Wax Moth, *Galleria mellonella*." *Nature*, vol. 166: pp. 268-269. 12 Aug. 1950.
- Osborne, M.F.M., "Aerodynamics of flapping flight with application to insects." *Journ. Exp. Biol.*, vol. 28: pp. 221-245, 15 figs. June 1951. Mathematical analysis; the theoretical conclusions are related to performance figures for 25 spp. of insects, including 5 Macrolepidoptera. [P.B.]
- Pavan, M., "Ricerche sperimentali sul comportamento degli Artropodi-II: Sulla igroreazione degli insetti" [in Italian]. *Boll. Zool. Agr. Bachic.*, vol. 17: pp. 3-22, 1 pl. 1951. Experiments on reactions to humidity by *Inachis io*, *Bombyx mori*, and other insects. [P.B.]
- Peklo, Jaroslav, & Jiří Satava, "Fixation of free nitrogen by insects." *Experientia*, vol. 6: pp. 190-191, 3 figs. 15 May 1950. Fixation by symbionts in *Ephesia*, clothes moth and other insects demonstrated. [P.B.]
- Piepho, Hans, & Helga Meyer, "Reaktionen der Schmetterlinghaut auf Häutungshormone" [in German]. *Biol. Zbl.*, vol. 70: pp. 252-260, 2 figs. 1951. Pieces of larval skin of *Galleria* implanted in host larva undergo pupal and imaginal molts in synchrony with host, and may repeat these molts if implanted in a new host. [P.B.]
- Pratt, John J., "A qualitative analysis of the free amino acids in insects blood." *Ann. Ent. Soc. Amer.*, vol. 43: pp. 537-580. Dec. 1950. Analysis made on *Prodenia*, *Galleria* and other insects. [P.B.]
- Rawle, Sylvia G., "The effects of high temperature on the common Clothes Moth, *Tineola bisselliella* (Humm.)." *Bull. Ent. Res.*, vol. 42: pp. 29-40, 2 pls., 4 figs. July 1951.
- Rockstein, Morris, "Glycogen metabolism in insects: a review." *Bull. Brooklyn Ent. Soc.*, vol. 45: pp. 74-81. June 1950. Summary of recent work on occurrence of glycogen and its chemical and physiological role in insects, including a number of Lepidoptera. [P.B.]
- Roeder, Kenneth D., "Movements of the thorax and potential changes in the thoracic muscles of insects during flight." *Biol. Bull.*, vol. 100: pp. 96-106, 4 figs. Apr. 1951. Contraction of flight muscles in *Agrotis* is directly produced by nerve impulses; in some other insects tested contraction is a resonance phenomenon, with irregular impulses not synchronous with contraction. [P.B.]
- Williams, Carroll M., & Howard A. Schneiderman, "The necessity of motor innervation for the development of insect muscles." *Anat. Rec.*, vol.113: pp. 561-562. Aug. 1952. Abstract only.

### H. MIGRATION

- Beebe, William, & Henry Fleming, "Migration of day-flying moths through Portachuelo Pass, Rancho Grande, North-central Venezuela." *Zoologica, N. Y.*, vol.36: pp.243-254, 1 pl. 28 Dec. 1951. Records 3 Arctiidae, 17 Dioptriidae, 1 Epiplemidæ, 1 Ethmiidae, 35 Eucromidae, 21 Geometridæ, 1 Glyphipterygidæ, 8 Lithosiidae, 2 Lymantriidae, 7 Noctuidæ, 1 Notodontidae, 7 Pericopidae, 13 Pyralidae, 2 Gelechiidae, 1 Psychidae, 1 Tineidae, 2 Tortricidae, 1 Zygaenidae. Figures adults of 45 spp. Some spp. undescribed. [P.B.]

- Iwase, Taro, "Some records of butterfly migration in Japan and Korea." *Lep. News*, vol. 4: p. 43. "1950" [Jan 1951].
- Kennedy, J. S., "Unidirectional movement in migrating insects." *Trans. 9th Int. Congr. Ent.*, vol.1: pp.348-349. March 1953.
- Larsen, Ellinor Bro, "Activity and migration of *Plusia gamma* L. Studies on the activity of insects III." *K. Danske Vidensk. Selsk. Biol. Medd.*, vol.21, no.4: 32 pp., 17 figs. 1949. Field observations and experiments on temperature preference and activity cycles in relation to temperature and light. Migration takes place by sustained upper level flying, with the wind, at night; feeding periods diurnal. [P. B.]
- Seilkopf, H., "Über die meteorologischen Verhältnisse bei Falterwanderungen" [in German]. *Trans. 9th Int. Congr. Ent.*, vol.1: pp.416-423, 6 maps. March 1953. Studied atmospheric conditions during mass occurrence of *Pyrameis cardui* L. and other butterflies in the Alps. They seem to migrate with tropospheric areas of warm air. [A. D.]
- Shull, Ernest M., "Migration of *Catopsilia* butterflies in India." *Lep. News*, vol.6: pp.68-69. 1952.
- Williams, C. B., "Migration in Lepidoptera and the problem of orientation." *Proc. Roy. Ent. Soc. London (C)*, vol. 1948-1949: pp.70-84, 1 fig. Review article; considers especially factors which might serve as stimuli in maintaining direction of flight. [P. B.]
- Williams, C. B., "The migration and drift of insects and its international aspect." *Trans. 9th Int. Congr. Ent.*, vol.1: pp.63-68. March 1953.

#### I. TECHNIQUE

- Betz, J., "Comment résoudre le problème du transport d'un important matériel vivant recolté au cours de longs déplacements" [in French]. *Rev. Franç. Lépid.*, vol.13: pp.53-55, 9 figs. "Mar.-Apr." 31 July 1951. Describes a simple sleeve cage for transporting or confining living specimens. [P. B.]
- Carne, P. B., "Preservation techniques for scarabæid and other insect larvæ." *Proc. Linn. Soc. N. S. Wales*, vol.76: pp.26-30. 31 May 1951. Various methods are compared; a cheap and very satisfactory fixative is 8% kerosene, 5% glacial acetic acid, and rest alcohol (95%)—modification of Peterson's KAAD fixative. [P. B.]
- Coutin, R., "Alimentation des larves de *Laspeyresia pomonella* L. (Lépidoptères, Tortricidæ) sur milieux artificiels" [in French]. *C. R. Soc. Biol.*, vol.146: pp.516-520, 1 fig. 10 Aug. 1952. Reports partial success in rearing species on artificial media with powdered pear base [P. B.]
- David, W. A. L., & B. O. C. Gardner, "Laboratory breeding of *Pieris brassicæ* L. and *Apanteles glomeratus* L." *Proc. Roy. Ent. Soc. London (A)*, vol.27: pp.54-56, 1 fig. 16 June 1952. Describes method for insuring year-round supply of host and parasite [P. B.]
- Kettlewell, H. B. D., "Use of radioactive tracer in the study of insect populations (Lepidoptera)." *Nature*, vol.170: pp. 584-585. 4 Oct. 1952. Larvæ, pupæ, and especially resulting adults give high counts after feeding on food plants impregnated with sulphur-35; technique permits permanent marking of larvæ for release-recapture experiments. [P. B.]
- Loebel, Friedrich, "Auffinden und Bestimmung von Psychiden" [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.32: pp.20-22. 15 Apr. 1948. Collecting methods for Psychidæ [P. B.]
- Ortner, Anton, "Aus der Praxis des Entölens von Lepidopteren" [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.31: pp.172-179. 15 Mar. 1948. Describes technique for restoring greasy specimens. [P. B.]
- Robinson, H. S., "The use of anæsthetics in funnel mercury-vapor insect traps." *Entomologist*, vol.85: pp.97-101. May 1952. Recommends use of tetrachlorethane, in concentrations sufficient to anesthetize but not kill specimens. [P. B.]
- Smith, Kenneth M., & Ralph W. G. Wyckoff, "Electron microscopy of insect viruses." *Research*, vol.4: pp.148-155, 16 figs. April 1951. Technique and results of study of infected caterpillars. [P. B.]
- Tarasevich, L. M., "Rearing Mulberry Silkworms free of yellow jaundice" [in Russian]. *Mikrobiologia*, vol. 19: pp.364-368. 1950. [Not seen.]