

RECENT LITERATURE ON LEPIDOPTERA

A. GENERAL WORKS

- Pavil'shchikov, N. N., *Descriptive list of insects. A short descriptive list of the most common insects occurring in the European part of the USSR* [in Russian]. 2d edition. 543 pp.; illustrated. Moscow, 1950. [Not seen].
- Phinhey, E. C. G., *Butterflies of Rhodesia*. iv + 208 pp., 21 pls., 13 figs. Rhodesia Scientific Association. Apr. 1949. See review in *Lep. News*, vol. 7: p. 25.
- Schvanvich, B. N., "On the interrelation of orders of the higher insects in connection with the origin of flight. II. Division of Pterygota into a series of orders according to the degree of specialization" [in Russian]. *Zool. Zhurn.*, vol. 27: pp.137-148. 1948. [Not seen].
- Swain, R. B., *The insect guide: orders and major families of North American Insects*. 261 pp. Garden City, N. Y.: Doubleday. 1948.
- Wolcott, George N., "The insects of Puerto Rico. Lepidoptera." *Journ. Agric. Univ. Puerto Rico*, vol.32: pp. 537-748, figs. "July 1948" [May 1951]. Lists all species recorded from the island, referring to original records; gives biological information when available. Many ssp. figured. [P. B.]

B. SYSTEMATICS AND NOMENCLATURE

- Agenjo, R., "Nuevo *Agdistis beticomaroui* (Lep. Pterophoridae)" [in Spanish]. *Trans. 9th Int. Congr. Ent.*, vol.1: pp.121-124, 2 figs. March 1953. Describes as new *A. bifurcatus* n. sp., from Ibel-Tual (Morocco) and Cadiz (Spain); figures genitalia. [A. D.]
- Alayo, Pastor, "Notas sobre las especies cubanas de *Eurema* del grupo *elathea-palmira* (Lepidoptera: Pieridae)" [in Spanish]. *Bol. Hist. Nat. Soc. Cubana Hist. Nat. "Felipe Poey"*, vol.2: pp.7-8. March 1951. Regards *palmira* and *cubana* as summer forms of *ebriola* and *elathea* respectively. [P. B.]
- Altena, C. O. van Regteren, "Biogéographie du genre *Nyctalemon* Dalman (Lepidoptera, Uraniidae)" [in French]. *Trans. 9th Int. Ent. Congr.*, vol.1: pp.562-567, 1 fig. March 1953. Divides the genus into three polytypic species, using coloring and markings (genitalia being of small taxonomic value). Gives distribution of the subspecies and discusses their history and origin. (Preliminary paper.) [A. D.]
- Bentlnck, G. A., "Some special details about very rare or little known Lepidoptera species, including the demonstration of these." *Trans. 9th Int. Congr. Ent.*, vol.1: pp.79-82. March 1953. 1. Gives a review of the history and the nomenclature of *Chrysophanus dispar* L. (Lycenidae), using quaternaire names. 2. Discusses 13 species of extremely rare Lepidoptera occurring in Holland. [A. D.]
- Betrem, J. G., "The genotypes of the Indo-Australian Psychidae (Lepidoptera)." *Tijdschr. voor Ent.*, vol.95: pp.331-340. 20 Dec. 1952. Gives a list of genera with types and authors of designations. Discusses synonymy of some genera. Suggests *CHALIELLA* nom. nov. for *Chalia* Moore, 1877 (not Walker, 1868), and *PAGODIELLA* nom. nov. for *Pagodia* Docteurs van Leeuwen, 1909 (not Walcott, 1905). [A. D.]
- Bonnet, P., "Proposition d'une réglementation pour la formation des termes scientifiques composées (choix de la voyelle de liaison)" [in French]. *Trans. 9th Int. Congr. Ent.*, vol.1: pp.189-193. March 1953. Proposes réglementation of the correct formation of composed scientific names or terms. [A. D.]
- Braun, Annette F., "The *Æsculus*-feeding species of *Exartema* with description of a new species (Lepidoptera, Eucosmidae)." *Ohio Journ. Sci.*, vol.51: pp.353-357, 10 figs. Nov. 1951. Describes as new *E. appalachianum* (Carter City, Ky.); notes on 4 other spp. [P. B.]
- Brown, F. Martin, "Statistics and taxonomy again." *Lep. News*, vol.6: p.67. 1952.
- Carpenter, G. D. Hale, "*Colotis fausta somalica* Hale Carpenter and Jackson, 1950." *Proc. Roy. Ent. Soc. London (B)*, vol.20: p.106. 15 Oct. 1951. *C. f. mijurteina* new name for *C. f. somalica*, nec Storace 1949. [P. B.]
- Comstock, William P., & F. Martin Brown, "Geographical variation and subspeciation in *Heliconius charitonius* Linnaeus (Lepidoptera, Nymphalidae)." *Amer. Mus. Novit.*, no.1467: 21 pp., 3 figs. 16 Oct. 1950. Describes as new *H. c. ramsdeni* (Matan-

- zas, Cuba) *H. c. churchi* (Port-au-Prince, Haiti); *H. c. tuckeri* (Winter Park, Fla.); *H. c. vazquezae* (Campeche, Mex.); *H. c. bassleri* (La Providencia, Carretera al Mar, Cauca, Colombia, 1300 m.). Analysis of wing length and markings of 8 of the 9 recognized ssp. Figures adults of 7 ssp. and holotype of *H. c. charitonius*. [P.B.]
- Diakonoff, A., "Records and descriptions of Microlepidoptera (4)." *Treubia*, vol.21: pp.133-182, 33 figs. 25 Apr. 1951. Describes as new *Epagoge mellosa*, *ASTROSA leucosema*, *Taeniarchis argyrota*, *Spatalistis hilarochroma*, *Schænotenes bathyglypha* (Tortricidae); *Agriothera cristata* (Amphitheridae) (all from Java). Reviews fam. Adelidae, gives a key to Malaysian spp., and describes as new: *Nemophora divina*, *kalshoveni*, *chalcobasa*, *rhodochrysa*, *micrometalla*, *chrysodonta*, *lieftincki*, *hemidesma*, *beteroxantha*, *bifasciella irrorata* (subsp.) (all Java), *chalcodactyla* (Moluccas), *plutodotis* (Celebes), and *liongi* (Borneo); figures genitalia. [A.D.]
- Field, William D., "Moths of the genera *Mulona* Walker and *Lomuna*, a new and closely related genus (Arctiidae: Lithosiinae)." *Proc. U. S. Natl. Mus.*, vol.102: pp. 221-230, 2 pls. 1952. Describes as new *LOMUNA* (type *Mulona nigripuncta* Hamps.); *Mulona schausi* (Matanzas, Cuba); *M. manni* (Mangrove cay, Andros Is., Bahamas); *M. barnesi* (Santiago de Cuba, Oriente, Cuba). Genitalia of the known spp. figured. Keys to separate genera and to spp. of *Mulona*. Genera confined to Bahamas and greater Antilles. [P.B.]
- Fleming, Henry, "A new genus and species of Lithosiinae (moths) from Rancho Grande, North-central Venezuela." *Zoologica, N. Y.*, vol.36: pp.183-184, 1 fig. 20 Oct. 1951. Describes as new *PSEUDOMACROPTILA argentea*; figures venation. [P.B.]
- Fletcher, D. S., "Four new species of Geometridae (moths) from Rancho Grande, North-central Venezuela." *Zoologica, N. Y.*, vol.37: pp.101-104, 1 pl., 7 figs. 19 Sept. 1952. Describes as new *Racheospila beebei*, *Oospila zamaradaria*, *Melanoptilon collinsi*, *Nelo glaucata*. Figures adults and genitalia. [P.B.]
- dos Passos, Cyril Franklin, "The distribution of *Eneis taygete* Geyer in North America with descriptions of new subspecies (Lepidoptera, Satyridae)." *Amer. Mus. Novit.*, no.1399: 21 pp., 16 figs. 26 Jan. 1949. Describes as new *O. t. gaspeensis* (Mt. Albert, Quebec); *O. t. fordii* (Kuskokwim R., Alaska); *O. t. edwardsii* (San Juan Mts., Hinsdale Co., Colo.). Redescribes *O. t. taygete*. Figures adults. Does not consider *banburyi* a subspecies of *taygete*. [P.B.]
- Roepke, W., "Het genus *Trabala* (Lep. Lasiocampidae)" [in Dutch]. *Verslag 82. Wintervergadering Nederl. Ent. Veren.*: pp. iii-v. 15 Apr. 1951. A preliminary report on the following paper. [A.D.]
- Roepke, W., "The genus *Trabala* Wlk. in the Far East (Lep. Het., fam. Lasiocampidae)." *Meded. Landbouwhogeschool Wageningen*, vol.50: pp.105-133, 14 pls., 2 figs. 18 June 1951. Describes as new: from the Malay Archipelago: *T. krishna*, f. ♀ hom-ichlora, *T. brahma*, *ganesha*, *arjuna*, *shiva*, *gautama*, *garuda*, *bantu*, *indra*; from the Philippines: *T. mahatma*, *subadra*, *sudara*, *rama*, *durga*, *mabadeva*. *T. vishnu* Mr. is confined to continental Asia, all insular records of this species are erroneous; the common Javanese species is *T. pallida* Wlk. Gives figures of genitalia, photographs and colored plate of the species. [A.D.]
- Stempffer, H., "La réserve naturelle intégrale du Mt. Nimba. IX. Lépidoptères Lycénidae" [in French]. *Mém. Inst. Franç. Afr. Noire*, no.19: pp.145-149, 2 figs. 1952. Describes as new *Pseudaletia richardi* (Mt. Nimba, Fr. West Africa); figures adult and ♂ genitalia. Records 17 other spp., listing ranges. [P.B.]
- Tilden, J. W., "Concerning the identity of *Mitoura nelsoni muiri*." *Lep. News*, vol.6: pp.95-96, 1 fig. 19 Feb. 1953.
- Wohlfahrt, Th. A., "Über den wert wenig beobachteter Merkmale für die Klassifikation der Schmetterlinge" [in German, English summary]. *Lep. News*, vol.6: pp.13-27, 9 figs. 8 Aug. 1952.
- Zagulyaev, A. K., "The Eastern Furry Moth (Lepidoptera, Tineidae)—a new species of moth from the Primorsk region" [in Russian]. *Zool. Zhurn.*, vol. 31: pp.284-287. 1952. Describes as new *Tinea eurinella*. [Not seen].

C. MORPHOLOGY AND CYTOLOGY

- Henke, Karl, & Heinz-Joachim Pohley, "Differentielle Zellteilung und Polyploidie bei der Schuppenbildung der Mehlmotte *Ephestia kuehniella* Z." [in German]. *Zeitschr. Naturforsch.*, vol.7b: pp.65-79, 9 figs. Feb. 1952. Study of cell lineage and cell division in developing hind wing, in relation to polyploidy of scale-forming cells. [P.B.]

- Hinton, H. E., "The structure and function of the endocrine glands of the Lepidoptera." *Proc. S. London Ent. Nat. Hist. Soc.* 1950-51: pp.124-160, 19 figs. Dec. 1951. Review article, summarizing recent work on retrocerebral system, brain, and prothoracic glands, and hormonal control of metamorphosis. [P. B.]
- Krumins, Rolfs, "Die Borstenentwicklung bei der Wachsmotte *Galleria mellonella* L." [in German]. *Biol. Zentralbl.*, vol.71: pp.183-210, 13 figs. 1952. Histology of setal formation in all stages. [P. B.]
- de Lesse, Hubert, "Formules chromosomiques nouvelles du genre *Erebia* (Lépid. Rhopal.) et séparation d'une espèce méconnue" [in French]. *C. R. Acad. Sci.*, vol.236: pp.630-632, 1 fig. 1953. Records haploid numbers for 8 forms of *Erebia*; separates 'form' *rondoui* (n=24) from *E. tyndarus* (n=8) and makes it a subspecies (?) of *E. hispania* (n not given). [P. B.]
- Lustig, K., "Über Hormonorgane bei Insekten. Die Histologie der Corpora allata und Prothoraxdrüsen beim grossen Kohlweissling" [in German]. *Mikrokosmos*, Vol.41: pp.85-89, 4 figs. Jan 1952. Histology of endocrine glands in larva of *Pieris brassicae*. [P. B.]
- Mercer, E. H., & M. F. Day, "The fine structure of the peritrophic membranes of certain insects." *Biol. Bull.*, vol. 103: pp.384-394, 8 figs. Dec. 1952. Electron microscope studies, including *Galleria mellonella* and *Pieris rapae*. [P. B.]
- Pryor, M. G. M., "On the abdominal appendages of larvæ of Trichoptera, Neuroptera, and Lepidoptera, and the origins of jointed limbs." *Quart. Journ. Micr. Sci.*, vol.92: pp.351-376, 30 figs. Dec. 1951. Describes morphology of anal prolegs in these orders, with particular reference to musculature; concludes that these structures in Lepidoptera are not necessarily homologous with those in other orders. [P. B.]
- Riabov, M. A., "Basic morphological characteristics of cutworms (Lepidoptera, Agrotidae)" [in Russian]. *Ent. Obozr.*, vol.31: pp.474-484. 1951. [Not seen.]
- Ryszka, Hans, "Über Gynandromorphe (Gynander) von *Lasiocampa trifolii* Esp. und *Colias croceus* Fourer" [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.33: pp.82-84. 1 Nov. 1948. Describes two bilateral gynandromorphs. [P. B.]
- Schvanvich, B. N., "Findings on the localization of the wing pattern in Lepidoptera" [in Russian]. *Ent. Obozr.*, vol.31: pp.485-494. 1951. [Not seen.]
- Short, J. R. T., "Some aspects of the morphology of the insect head as seen in the Lepidoptera." *Proc. Roy. Ent. Soc. Lond. (A)*, vol.26: pp.77-88, 18 figs. 15 Sept. 1951. Morphology of head of larval and adult *Dilina tiliæ*, and a discussion of the terminology of Hinton and Snodgrass and their views on morphology of the head in Lepidoptera. [P. B.]

D. VARIATION AND GENETICS

- Burmans, Karl, "Eine neue Form von *Parnassius appollo* L. var. *claudius* Bell f. g. *phrynius* Fruhst." [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.34: pp.43-44, 1 pl. 15 Mar. 1949.
- Burmans, Karl, "Zwei neue Formen von *Anisotaenia ulmana* Hb. aus Nordtirol. (Lepidoptera, Tortricidae)" [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.34: pp.43-44, 1 pl. 15 Mar. 1949.
- Cockayne, E. A., "Aberrations of British Macrolepidoptera." *Entomologist*, vol.84: pp. 241-245, 1 pl. Nov. 1951. Proposes 25 new names (Lymantriidae and Lasiocampidae). [P. B.]
- Collier, A. E., "A new aberration of *Agapetes galathea* (Lep. Satyridæ)." *Entomologist*, vol.85: p.5, 1 pl. Jan. 1952.
- Dowdeswell, W. H., & E. B. Ford, "The distribution of spot-numbers as an index of geographical variation in the butterfly *Maniola jurtina* L. (Lepidoptera: Satyridæ)." *Heredity*, Vol.6: pp.99-109, 6 figs. Apr. 1952. Analysis of local variation in numbers of spots on the underside of the hind wing; variation occurs in ♀ only. No simple correlation with locality was found. Populations studied were on the mainland and some coastal islands. [P. B.]
- Ford, E. B., "The genetics of polymorphism in the Lepidoptera." *Advances in Genetics*, vol.5: pp.43-87. 1953. Review of knowledge of "transient polymorphism" (Industrial Melanism) and balanced polymorphism (including mimicry). [C. L. R.]
- Galvagni, Egon, "Eine interessante Form der *Hybernia aurtantaria* Esp.: f. n. *venosaria*" [in German]. *Zeitschr. Wiener Ent. Ges.*, vol.32: pp.103-104. 30 June 1948.
- Kikkawa, Hideo, "Biochemical genetics of *Bombyx mori* (Silkworm)." *Advances in Genetics*, vol. 5: pp.107-140, 11 figs. 1953. Combined studies of genetics and chemistry of *B. mori* reviewed, particularly emphasizing pigment formation. [C.L.R.]

- Loritz, Jean, "Supplementary remarks on *Erebia* in the French Hautes Alpes and Alpes Maritimes." *Entomologist*, vol.84: pp.230-231. Oct. 1951. Notes on 4 spp., names one aberration. [P.B.]
- Owen, D. F., "A new aberration of *Erebia athiops* (Esper) (Lep. Satyridæ)." *Entomologist*, vol.85: p.92. Apr. 1952.
- Sevastopulo, D. G., "Genetics of East African Lepidoptera: III." *Entomologist*, vol.85: pp.88-89. Apr. 1952. Describes a sex-controlled color mutant in *Dasychira georgiana*, expressed in larva only. [P.B.]
- Sheppard, P. M., "A quantitative study of two populations of the moth *Panaxia dominula* (L.)." *Heredity*, vol.5: pp.349-378, 5 figs. Dec. 1951. Study of phenology, population size, and frequency of mutant varieties in the populations. Describes a new genetic variety. Reports change in the selective advantage of a pattern mutant, without VISIBLE corresponding change in environment. [P.B.]
- Sheppard, P. M., "A note on non-random mating in the moth *Panaxia dominula*." *Heredity*, vol.6: pp.239-241. Aug. 1952. Experimental evidence for selective pairing between moths of dissimilar, rather than similar, genotype with respect to pattern characters. [P.B.]
- Simonov, N. S., "Technical question on the nature of new races of the Mulberry Silkworm" [in Russian]. *Dokl. Vses. Akad. Sel'skokoz. Nauk im V. I. Lenina*, vol.15, part 12: p.42. 1950 [Not seen].
- Smith, P. Siviter, "Segment, marking, and other abnormalities in lepidopterous larvæ." *Entomologist*, vol.84: pp.273-275, 2 pls. Dec. 1951. Malformations in 3 unidentified larvæ. [P.B.]
- Tanaka, Yoshimaro, "Genetics of the Silkworm, *Bombyx mori*." *Advances in Genetics*, vol.5: pp.239-317, 27 figs. 1953. Detailed and well illustrated review of the knowledge of genetics of the Silkworm, especially that discovered since 1930. An important summary, particularly because much original literature is in the Japanese language. [C. L. R.]
- Wolfram, Rosemarie, "Die Ommochrom-Menge in den Malpighischen Gefässen bestimmende Allele der Mehlmotte *Ephestia kuehniella*" [in German]. *Zeitschr. Naturforsch.*, vol.3b: pp.291-293, 2 figs. 1948. Genetic control of amount of ommochrome pigment in Malpighian tubules. [P.B.]

E. DISTRIBUTION AND PHENOLOGY

- Adamczewski, Stanislaw, "The moths of Warsaw-City" [in Polish, English summary]. *Fragm. Faun. Mus. Zool. Polonici*, vol. 6: pp. 111-128. 12 Feb. 1951. Lists 155 spp. taken at light in the ruins, and groups them according to their status in the fauna. [P.B.]
- Arnhold, F. R., "Notes on collecting *Anthocaris midea* and *Euchloe olympia*." *Lep. News*, vol.6: pp.99-100. 19 Feb. 1953.
- Bentinck, G. A., "Nieuwe en zeldzame Lepidoptera" [in Dutch: New and rare Lepidoptera]. *Verslag 82^e Wintervergadering Ned. Ent. Veren.*: pp. xiv-xv. 15 Apr. 1951. 6 spp. new for the Dutch fauna. [A.D.]
- Bentinck, G. A., "Faunistische aantekeningen betreffende Nederlandse Lepidoptera" [in Dutch: Faunistic notes on Netherland Lepidoptera]. *Tijdschr. Ent.*, vol.94: pp.307-337. 22 Aug. 1951. Gives an annotated list of species discovered in Holland since 1938. [A. D.]
- Bernardi, G., & H. Stempffer, "Notes sur quelques Rhopalocères (Lep.) recueilles par P. de Mire au Tibesti et au Mortcha" [in French]. *Bull. Soc. Ent. France*, vol. 56: pp. 47-48. 1951. Notes on 6 spp. of Pieridae and 2 Lycaenidae from the Sahara. [P.B.]
- Betts, F. N., "On a collection of butterflies from the Balipara Frontier Tract and the Subansiri Area (Northern Assam)." *Journ. Bombay Nat. Hist. Soc.*, vol. 49: pp. 488-502, 1 map. Dec. 1950. Annotated list. [P.B.]
- Betz, J.-T., "Une nouvelle station française de *Boloria aquilonaris* et d'*A. aphirape* Hbn." [in French]. *Rev. Franç. Lépid.*, vol. 12: pp. 130-134. "Sept.-Oct." 1949 [25 Jan. 1950].
- Betz, J.-T., "Deuxième note sur *Boloria aquilonaris* Stch. et *Argynnis aphirape* Hbn. dans les Ardennes françaises" [in French]. *Rev. Franç. Lépid.*, vol. 12: pp. 335-337. "Nov.-Dec. 1950" [8 May 1951].
- Beuret, Harni, "A propos de *Plebejus argus* L. (Lep. Lycaenidae) de la région de Nîmes (Gard)" [in French]. *Rev. Franç. Lépid.*, vol. 12: pp. 225-232. "Mar.-Apr." [25 Sept.] 1950. Phenological notes on *P. a. pseudohyochiona*. [P.B.]

- Birkett, Neville L., "Some notes from South Westmoreland, 1950." *Entomologist*, vol. 84: pp. 34-35. Feb. 1951. Lepidoptera.
- Blackie, J. E. H., "The range and distribution of *Strymonidia pruni* (L.) (Lep. Lycaenidae)." *Entomologist*, vol. 83: pp. 246-248. Nov. 1950.
- Blair, K. G., "*Eupithecia arceuthata* Freyer in the Isle of Wight." *Entomologist*, vol. 84: pp. 158-159. July 1951.
- Brown, R. C., H. J. MacAloney, & P. B. Dowden, "The Spruce Budworm." *U.S. Dept. Agric. Yearb.* 1949: pp.423-427, 1 map. Distribution, biology, control.
- Burgeff, H., "Verbreitungsstudien an der Gattung *Zygæna* Fab. (Lepidoptera) (Mit besonderer Berücksichtigung des Problems der zwischen- und nacheiszeitlichen Besiedlung der Alpen). I." [in German]. *Portug. Acta Biol. (A)*, vol. R. B. Goldschmidt, pp.663-725, 6 figs, 21 maps. 1951. Origin and distribution of the European fauna of *Zygæna*, with special reference to the Mediterranean-Alpine area. [P. B.]
- Burmman, Karl, "Ein kleiner Beitrag zur Kenntnis der Verbreitung von *Exapate duratella* Heyd. (Microlepidoptera, Tortricidae)" [in German]. *Z. Wiener Ent. Ges.*, vol. 62: pp. 9-11. 15 Apr. 1951.
- Cary, Margaret M., "Collecting hawkmoths in Jamaica." *Frontiers*, Vol.13: pp.44-45. Dec. 1948.
- Cary, Margaret M., "Cloud forest adventures." *Frontiers*, vol.14: pp.34-38, 61, 4 figs. Dec. 1949. Collecting Sphingidae in Venezuela. [P. B.]
- Chugunin, I. A., "The focal cyclic rotation in the mass outbreak of the Gypsy Moth" [in Russian]. *Zool. Zhurn.*, vol.28: pp.431-438. 1949. [Not seen.]
- Doets, C., "Lepidopterologische mededeelingen over 1950-1951" [in Dutch]. *Ent. Ber.*, vol.14: pp.177-181, 196-200, figs. 1 Dec. 1952, 1 Jan. 1953. Gives notes on systematics and biology of rare species of Microlepidoptera. Records *Mompha nodiolella* Fuchs (Morphidae) as new for the Dutch fauna. [A. D.]
- Emme, A. M., "Variability and hereditability of the sensitivity to cold of the pupa of the mulberry silkworm when it is in diapause." [in Russian]. *Dokl. Akad. Nauk SSSR*, vol.75: pp.119-122. 1950.
- Ferguson, D. C., "The Lepidoptera of Nova Scotia. Part I. Macrolepidoptera." *Proc. Nova Scotia Inst. Sci.*, vol.23: pp.110-111. March 1953. Abstract only.
- Franz, Elli, "Sphingidae de El Salvador" [in Spanish]. *Comun. Inst. Trop. Invest. Cient. El Salvador*, no.4 pp.14-17. Oct. 1952. Annotated list of 33 spp.
- Frazer, J. F. D., "Notes on a colony of *Colias crocea* Fourcroy" *Entomologist*, vol. 84: pp. 25-29. Feb. 1951.
- French, R. A., "Lepidoptera at light in a Hertfordshire wood in July, 1949." *Entomologist*, vol. 84: pp. 49-55. Mar. 1951. Records of 187 spp. [P.B.]
- Gorter, A. J., "Uitbreiding van het vlieggebied van verschillende Macrolepidoptera" [in Dutch: Extension of flying area of various M.]. *Ent. Berichten*, vol. 13: pp. 321-323. 1 Sept. 1951. Deduces from faunistic notes that several rare Lepidoptera seem to disperse over Holland in western and northern directions. [A.D.]
- Grabe, Albert, "Faunistische Beobachtungen aus Westfalen" [in German]. *Zeits. Lepidopt.*, vol. 1: pp. 56-57. 1 May 1950. Notes on distribution and biology of 8 moths. [P.B.]
- Gremminger, Alois, "Lepidopterologisches über den Kaiserstuhl" [in German]. *Zeits. Lepidopt.*, vol. 1: pp. 49-52. 1 May 1950. Annotated list.
- Hackman, Walter, "Lepidopterologiska iakttagelser i Utsjoki socken 1949" [in Swedish]. *Notulae Ent.*, vol.30: pp.18-22, 1 fig. 1950. Annotated list.
- Hackman, Walter, "On the insect fauna of Cyprus. Results of the expedition of 1939 by Harald, Håkan and P. H. Lindberg. IX. Lepidoptera." *Comment. Biol. Soc. Sci. Fennica*, vol.13, no.8: 9 pp., 1 fig. 17 Mar. 1952. Annotated list of some 100 spp. in 23 families.
- Harper, G.W., "*Eupithecia arceuthata* (Lep. Geometridae) in West Sussex." *Entomologist*, vol. 84: pp. 162-163. July 1951.
- Harrison, J. W. Heslop, "Lepidoptera in the Outer Hebrides in 1950." *Entomologist*, vol. 83: pp. 241-245. Nov. 1950.
- Hessel, Sidney A., "A new altitudinal high for *Erora laeta*." *Lep. News*, vol.6: p.34. 8 Aug. 1952.
- Jones, J. R. J. Llewellyn, "An annotated check list of the Macrolepidoptera of British Columbia." *Occas. Pap. Ent. Soc. Brit. Columbia*, no. 1; 148 pp. 14 June 1951. See review in *Lep. News*, vol.6: p.79.
- Jost, Hans, "*Pristophora florella* Mann in der Pfalz (Lep., Pyralidae)" [in German]. *Zeits. Lepidopt.*, vol. 1: pp. 45-48, 1 pl., 1 map. 1 May 1950. Describes and figures this southern species, and discusses its distribution. [P.B.]

- Knowlton, George F., "Observations of *Celerio lineata*, the White-Lined Sphinx, in Utah." *Lep. News*, vol.7: pp.11-12. 20 Apr. 1953.
- Loberbauer, Rudolf, "*Rhyacia subrosea* Steph. v. *kieferi* Rbl. in Österreich, ein bemerkenswerter Neufund" [in German]. *Z. Wiener Ent. Ges.*, vol. 62: pp. 81-83. 1 Aug. 1951.
- van der Neulen, G. S. A., "Zeldzame en bijzondere Macrolepidoptera" [in Dutch: Rare and peculiar Lepidoptera]. *Verslag 82^e Wintervergadering Nederl. Ent. Veren.* p. xiv. 15 Apr. 1951.
- Olivier, Robert, "*Gortyna leucostigma* Hübner (Noctuidæ) en Basse-Normandie" [in French]. *Rev. Franç. Lépid.*, vol. 12: pp. 170-172, 1 map. 'Nov.-Dec. 1949' [26 Apr. 1950].
- Owen, D. F., "The Butterflies of Darent Wood." *Entomologist*, vol. 84: pp. 172-174. Aug. 1951.
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I. TECHNIQUE

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NOTICES

Eneis stanislaus, *Gyrocheilus tritonia*, *Speyeria myrtilæ*, *Speyeria clemencei* offered in exchange for North American species needed for my collection. Please send offerta lists. T.W. Davies, 791 Elsie Ave., San Leandro, California, U.S.A.

Morpho becuba, *M. eutropius*, and many other Brazilian butterflies for sale. 1953 catch, papered carefully with full data, mostly named. Lots of 80-100 mixed specimens (including at least 5 different species of *Morpho*) on request. Art work butterflies and wings. Jorge Kesselring, Caixa Postal 6, João Pessoa (Paraíba), BRAZIL.

Anyone interested in joining a field trip to Central America please write for details. Also offer to sell a part of my expected catch, in large quantities, to help defray expenses; arrangements should be made beforehand. E.C. Welling, 700 E. 240th St., Euclid 23, Ohio, U.S.A.

Anticorrosive steel insect pins in all lengths, black or white, each 1,000, \$1.20 or \$1.75; minutens each 1,000, \$0.45 or \$0.75. Price list of other entomological supplies on request. Dr. H. Wilcke, Kössen/Tyrol, AUSTRIA.

Wish to exchange Rhopalocera from all over the world. Wanted esp. Papilionidæ (esp. *Parnassius*, *Papilio*, *Graphium*), Pieridæ and Nymphalidæ. Have many butterflies from Japan for exchange. Masaki Nakayama, 1-398, Fujihonmachi, Wakamatsu-city, Fukuoka-pref., Kyushu, JAPAN.

Exchange papered named Morphos, Agrias, Caligos, etc., for North American butterflies, moths, cocoons, pupæ, chrysalids. Michael A. Zappalorti, 123 Androvette St., Charleston 13, Staten Island, New York, U.S.A.

Formosan butterflies for sale and exchange. Large quantities available in first class condition, for art work, collections, and research. Common and rare species at lowest prices. Exchange also, in small quantities. Check list and prices on request. Marcus Ling Shiao, No.20, 88th Lane, Wenchow St., Section 4, Roosevelt Road, Taipei, FORMOSA.

Seitz Macrolepidoptera Volume 9, Indo-Australian Rhopalocera, \$90.00. Text partially bound; plates complete, unbound. Write for particulars. Thomas W. Davies, 791 Elsie Ave., San Leandro, California, U.S.A.

Wanted: pupæ (in diapause) of any of the North American subspecies of *Pieris napi*, *P. bryoniae*, *P. virginiensis*. Available: pupæ of European *Pieris* subspecies and of certain hybrids. Sydney R. Bowden, 33 South View, Letchworth, Herts., ENGLAND.

For sale: collection of 2000 European Noctuidæ, containing many rarities, all best quality and with full data \$170. Collection of 1000 Geometridæ, especially of the High Alps, many rarities, all best quality and with full data \$60. Dr. H. Wilcke, Kössen/Tyrol, AUSTRIA.

LIVING MATERIAL

Breeder of U.S. Saturniidæ cocoons for scientific purposes. Please order now for 1954-55 season. Will buy or exchange parasite-free chrysalids of *Papilio* from U.S.A., Mexico, and Canada. Eugene Dluhy, 3912 No. Hamilton Ave., Chicago 18, Illinois, U.S.A.

California moths and butterflies for sale, papered, pinned to suit. Many pupæ available. Inquiry invited. F.P. Sala, 1912 Hilton Drive, Burbank, California, U.S.A.

Hyalophora (= *Platysamia*) *cecropia* cocoons offered in exchange for living pupæ of *Papilio* spp. and Western Saturniidæ. Lincoln P. Brower, Osborn Zoological Laboratory, Yale University, New Haven 11, Conn., U.S.A.