

RECENT LITERATURE ON LEPIDOPTERA

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 subspecies are noted, with type localities if given in print.

F. BIOLOGY AND IMMATURE STAGES

- Mills, M. B., "Observations on the life history of the moth *Anthela xantharca* (Meyrick)." *West. Austral. Nat.*, vol.4: pp.86-90, 4 figs. 1954. Larvæ of *A. xantharca* (Anthelidæ) feed during the winter at night on *Acacia acuminata*; the adults emerge the following autumn. [I. C.]
- Minamikawa, Jinhaku, "On the hymenopterous parasites of the tea-leaf rollers found in Japan and Formosa." *Mushi*, vol.26: pp.35-46, 3 figs. 1954. Records of 19 spp. parasitic in *Homona coffearia*, *Adoxophyes privatanana*, & *Gracilaria theivora*; 3 parasites are described as new. [P. B.]
- Minch, Edith L., "Insect inhabitants of *Polyporus betulinus*." *Journ. New York ent. Soc.*, vol.60: pp.31-35. 1952. Including larva of *Tinea granella*. [P. B.]
- Minkiewicz, St., "The Codling Moth *Carpocapsa pomonella* (Cydia Wlshm., *Laspeyresia* Meyr.). Morphology, development and biology" [in Polish; English summary]. *Bull. ent. Pologne*, vol.19: pp.23-91, 7 pls. 1949.
- Mitchell, Robert T., "Consumption of Spruce Budworms by birds in a Maine spruce-fir forest." *Journ. Forestry*, vol.50: pp.387-389. 1952. Lists 40 spp. whose stomachs contained *Choristoneura fumiferana*; estimates amount of predation by 14 spp. [P. B.]
- Mitiae, I. D., "Data on the biology of *Bucculatrix ulmiella* Ger." [in Russian]. *Trudy Inst. Zool. Kazakhskoi SSR*, vol.4: pp.218-222. 1955. [Not seen].
- Moingenon, M., "Quelques remarques sur *P. podalirius* L." [in French]. *Bull. Soc. ent. Mulhouse*, 1947: pp.19-20. Foodplant of first generation of this *Papilio* is *Prunus mahaleb*. Notes on biology. [P. B.]
- Momoi, Sigeyuki, "Notes on the breeding of *Papilio helenus* at Yokohama (Papilionidæ)" [in Japanese]. *Collecting & Breeding*, vol.13: pp.284-288, 2 pls., 4 tables. 1951. Foodplants: *Citrus* spp. [T. I.]
- Morgan, Councilman, G. H. Bergold, Dan H. Moore, & Harry M. Rose, "The macromolecular paracrystalline lattice of insect viral polyhedral bodies demonstrated in ultrathin sections examined in the electron microscope." *Journ. biophys. biochem. Cytol.*, vol.1: pp.187-190, 3 pls. 1955. Parasites of *Lymantria dispar* & *Bombyx mori*.
- Morgan, Councilman, G. H. Bergold, & Harry M. Rose, "Use of serial sections to delineate the structure of *Porthetria dispar* virus in the electron microscope." *Journ. biophys. biochem. Cytol.*, vol.2: pp.23-28, 3 pls. 1956.
- Morley, A. M., "*Catocala fraxini* L.—a further note." *Ent. Gaz.*, vol.1: pp.99-100. 1950. Rearing.
- Morley, A. M., & G. H. Youden, "The first appearance of *Thalera fimbrialis* Scop. (Lep: Geometridæ) in Kent." *Ent. Gaz.*, vol.3: pp.193-195. 1952. Account of unsuccessful rearing, on Wild Thyme; describes larva. [P. B.]
- Moucha, Josef, "Quelques remarques sur *Gastropacha populifolia* Esp. et *Gastropacha quercifolia* O." [in French]. *Bull. Soc. ent. Mulhouse*, 1951: pp.37-28, 1 fig. 1951. The biology of *G. populifolia* is described and a case of a monstrosity of the wing of *G. quercifolia* is recorded & figured. [J. M.]

- Moucha, Josef, "The importance of asilid-flies in the nature" [in Czech; Russian & English summaries]. *Acta Rer. nat. Distr. Ostraviensis*, vol.13: pp.549-553, 4 figs. 1953. *Pieris rapae* as prey of *Laphria fimbriata*, and *Lycæna phlæas* as prey of *Machimus atricapillus*. [J. M.]
- Moucha, Josef, "Über den Einfluss der Nahrung auf die Entwicklung des Schwammspinners (*Lymantria dispar* L.)" [in Czech; German & Russian summaries]. *Acta Soc. ent. Českoslov.*, vol.54: pp.73-80. 1957. About the breeding of *L. dispar* caterpillars on different plants. [J. M.]
- Müller, Oskar, "Biologische Studien über den frühen Kastanienwickler *Pammene juliana* (Stephens) (Lep. Tortricidæ) und seine wirtschaftliche Bedeutung für den Kanton Tessin" [in German; English summary]. *Zeitschr. angew. Ent.*, vol.41: pp.73-111. 1957. Biology & control; detailed description of all stages, with comparative notes on *Laspeyresia splendana*. [P. B.]
- Müller, Peter, "Untersuchungen über die Morphologie und Biologie der Raupenfliege *Drino lota* Meigen" [in German]. *Mitt. zool. Mus. Berlin*, vol.32: pp.3-58. 1956. Parasite of *Chærocampa elpenor*, *Metopsilus porcellus*, & *Bupalus piniarius*. [P. B.]
- Müller-Kögler, E., "Über eine Erkrankung der Kiefernspanner-Altraupen und -Vorpuppen" [in German]. *Zeitschr. Pflanzenkrankh.*, vol.58: pp.404-410. 1951. Describes a new bacterial disease of *Bupalus piniarius*. [P. B.]
- Mukerji, D., & Basanta Kumar Behura, "On the biology of *Danaus chrysippus* (Linnaeus)." *Proc. 33rd Indian Sci. Congr.*: p.123. 1947. Abstract.
- Mukerji, Durgadas, & Basanta Kumar Behura, "The enemies of *Danaus chrysippus* (Linnaeus)." *Journ. Bombay nat. Hist. Soc.*, vol.47: pp.177-178. 1947. Records of parasites. [P. B.]
- Murray, Desmond, "A note on *Odezia atrata* L." *Ent. Rec. & Journ. Var.*, vol.67: pp.188-192, 1 pl. 1955. Describes all stages; foodplant *Conopodium majus*. [P. B.]
- Murray, Desmond P., "Some notes on *Philereme vetulata* Schiff." *Ent. Rec. & Journ. Var.*, vol.68: pp.181-182. 1 pl. 1956. Describes all stages; larvæ on buckthorn. [P. B.]
- Murray, D. P., "The life history of *Alucita galactodactyla* Hübn." *Ent. Rec. & Journ. Var.*, vol.69: pp.231-232, 1 pl. 1957. Describes & figures all stages; food-plant *Arctia lappa*. [P. B.]
- Murray, Desmond P., "The life history of *Nymphula stagnata* Donovan." *Ent. Rec. & Journ. Var.*, vol.69: pp.29-30, 7 figs. 1957. Brief descriptions of all stages. Food-plants *Potamogeton natans* and other water plants. [P. B.]
- Muspratt, Vera M., "A new ready-made moth trap" [in English & German]. *Ent. Nachrichtenbl.*, Burgdorf, vol.3: pp.81-82. 1949. Gives short list of moths, mostly Noctuidæ (& *Tineola bisselliella*!), visiting flowers of *Gentiana lutea* by day in Pyrenees; records larva of *Axylia exoleta* feeding on seed capsules. [P. B.]
- Nagayama, Fumiaki, "Symbiosis of *Niphanda fusca* larvæ (Lycænidæ) with *Camponotus* ants" [in Japanese]. *Shin Konchu*, vol.3, no.5: pp.18-21, 6 figs. 1950.
- Nagayama, H. [F.], "Observations on some Lycænidæ" [in Japanese]. *Insect Ecology*, vol.3: p.98. 1951. Some larval habits of *Celastrina argiolus ladonides*, *Curetis acuta paracuta*, & *Rapala arata* are observed. [T. I.]
- Nagayama, Fumiaki [Fumiaki], "Life-history of *Niphanda fusca* Bremer et Grey (Lycænidæ)" [in Japanese; English summary]. *Insect Ecology*, vol.3: pp.3-18, 10 figs. 1950. Original description of the life of this remarkable ant-friend lycænid. Larva is orally fed by ant *Camponotus herculeanus japonicus* by the latter's disgorging of liquid foods. Young larva feeds on the excretion of Oak Aphid, *Greenidea kuwanai*. [T. I.]
- Nagayama, Fumiaki, "Eggs of 6 argynnids (Nymphalidæ)" [in Japanese]. *Chukai Sokuro*, no.25: p.2, 6 figs. 1952. *A. anadyomene*, *cydippe pallescens*, *sagana*, *paphia paphioides*, *laodice japonica*, & *ruslana*. [T. I.]
- Nakamura, Masanao, "Biological notes on *Zizeeria maha* (Lycænidæ)" [in Japanese]. *Insect Ecology*, vol.2: p.27. 1948.

- Nakamura, Masanao, "Morphological and biological notes on a fungivorous hypenid moth, *Diomea cremata* (Butler) in Japan (Phalænidæ)" [in Japanese; English summary]. *Insect Ecology*, vol.3: pp.37-42, 1 pl., 4 figs. 1950. Foodplants: *Polystictus cinnabarinus* & *P. abietinus*. [T. I.]
- Nakamura, Masanao, "A food-plant of *Schiffermülleria heptalitha* Meyrick (Ecophoridae)." *Insect Ecology*, vol.4, no.4, no.11: p.89. 1952. Fungivorous on *Merulius lacrymas*. [T. I.]
- Nakamura, Masanao, "Notes on the 'swell inch-worm on *Ilex crenata* Thunb.' which was recorded by Dr. T. Sasaki (1899)" [in Japanese; English summary]. *Butt. & Moths (Trans. lep. Soc. Japan)*, vol.3: pp.11-12, 3 figs. 1953. Identifies larva as *Rhynchobapta flaviceps*; describes pupa. [P. B.]
- Nakamura, Shingo, "Notes on the breeding of *Nymphalis xanthomelas japonica* Stichel (Nymphalidæ)" [in Japanese]. *Collecting & Breeding*, vol.13: pp.328-330, 2 figs. 1951. Foodplants: *Salix* spp. [T. I.]
- Nakatake, Masachika, "Life history of *Papilio memnon thunbergii* (Papilionidæ)" [in Japanese]. *Shin Konchu*, vol.5, no.6: pp.14-18, 15 figs., 1 table. 1952. Foodplants: *Citrus* spp. [T. I.]
- Namba, Ryoji, "Descriptions of the immature stages and notes on the biology of *Ithome concolorella* (Chambers) (Lepidoptera: Cosmopterygidæ), a pest of kiawe in the Hawaiian Islands." *Proc. Hawaiian ent. Soc.*, vol.16: pp.95-100, 7 figs. July 1956. Feeds on flowers of *Prosopis chilensis* & *Acacia farnesiana*. Descriptions include larval setal pattern. [P. B.]
- Narayanan, E. S., & T. V. Venkatraman, "Technique of mass multiplication of *Stenobracon deesæ* (Cam.) (Hymenoptera: Braconidæ for use against sugarcane and maize borers." *Proc. Indian Acad. Sci., Sect. B*, vol.36: pp.12-18, 1 pl., 6 figs. 1952. Reared on *Corcyra cephalonica*, whose eggs are also used, to raise *Trichogramma*. [P. B.]
- Narayanan, E. S., & M. J. Chacko, "Superparasitism in *Trichogramma evanescens minutum* Riley (Hymenoptera: Trichogrammatidæ), an egg parasite of sugarcane and maize borers in India. I. Effects of superparasitism." *Proc. Indian Acad. Sci. B.*, vol.45: pp.122-128. 1957. Parasites will oviposit repeatedly in single egg, though only 1 healthy wasp can develop in each egg. Tests on eggs of *Corcyra cephalonica*. [P. B.]
- Narayanan, E. S., & B. R. Subba Rao, "Studies in insect parasitism I-III. The effect of different hosts on the physiology, on the development and behaviour and on the sex-ratio of *Microbracon gelechiæ* Ashmead (Hymenoptera: Braconidæ)." *Beitr. Ent.*, vol.5: pp.36-60, 6 figs. 1955. Experiments using 9 spp. of Lepidoptera as hosts. [P. B.]
- Narayanan, E. S., B. R. Subba Rao, & M. Ramachandra Rao, "*Hymenia recurvalis* F. and its parasite complex." *Proc. Indian Acad. Sci.*, vol.26: pp.241-246. 1957. Records 3 primary parasites, whose effectiveness is reduced by attacks of 8 hyperparasites. [P. B.]
- Neunzig, H. H., & George G. Gyrisco, "Some insects injurious to Birdsfoot Trefoil in New York." *Journ. econ. Ent.*, vol.48: pp.447-450. 1955. *Archips rosaceana*, *Sparganothis sulphurana*, *Tortrix pallorana*, *T. velutinana*, *Plathypena scabra* recorded feeding on *Lotus corniculatus*. Lists 3 parasites of *A. rosaceana*. [P. B.]
- Newman, L. Hugh, "Rearing *Nymphalis antiopa* in captivity." *Entomologist*, vol.90: pp.106-108. 1957. Unsuccessful attempts, using swallow as foodplant. [P. B.]
- Niimura, Taro, "Biological notes on butterflies (1), (2)" [in Japanese]. *Collecting & Breeding*, vol.9: pp.80-83, figs., 1947; vol.10: pp.370-373, 7 figs., 1948. Chiefly larval feeding habits. [T. I.]
- Niimura, Taro, "*Hyphantria cunea*, a new pest from America (Arctiidæ)" [in Japanese]. *Shin Konchu*, vol.2, no.9: pp.16-17, 4 pls.; vol.4, nos.2/3: pp.28-29. 1949, 1951.
- Nininger, Harvey, "The mystery of the little brown jugs." *Natural History*, vol.65: pp.374-377, 7 figs. 1956. Metamorphosis of *Phlegethontius*.

- Nishida, Toshiyuki, "The phenomenon of arrested insect development in the Hawaiian Islands." *Proc. Hawaiian ent. Soc.*, vol.15: pp.575-582. 1955. *Depressaria umbellana*, imported from England to control *Ulex europæus*, remained inactive in adult stage during "winter" months. [P. B.]
- Nohira, Akio, "Biological notes on the early stages of *Luehdorfia japonica* Leech (Papilionidæ)" [in Japanese]. *Shin Konchu*, vol.3, no.3: pp.12-15, 2 figs., 4 tables. 1950.
- Nohira, Akio, "Two separate emergences of the same broods of *Antheræa yamamai* Guérin (Saturniidæ)" [in Japanese]. *Shin Konchu*, vol.4, no.6: pp.10-11, 1 table. 1951.
- Nolte, H.-W., "Parasiten der Nonne (*Lymantria monacha* L.) in Sachsen 1937-1941" [in German]. *Forstwiss. Zentralbl.*, vol.68: pp.183-188. 1949. Records 6 dipterous & 9 hymenopterous parasites & gives notes on their biology. [P. B.]
- Norman, T., "Note on the larva of *Amblypodia centaurus*." *Journ. Bombay nat. Hist. Soc.*, vol.48: p.814. 1949. When larva was kept isolated from ants, death resulted from infection with mold, beginning at honey gland opening. [P. B.]
- Norman, T., "Notes on the Lepidoptera of Assam I." *Journ. Bombay nat. Hist. Soc.*, vol.50: pp.952-953. 1952. Describes larva & pupa of *Eribæa arja* (foodplant *Albizzia*) & *Cirrochroa aoris*; records *Prothoe franckii regalis*. [P. B.]
- Notley, F. B., "The *Leucoptera* leaf miners of coffee on Kilimanjaro. II.-*Leucoptera coffeina* Wshbn." *Bull. ent. Res.*, vol.46: pp.899-912, 14 figs. 1956. Describes biology; compares all stages with those of *L. coffeella*; records parasites. [P. B.]
- Nowakowski, J. T., "Mining insects of the Isle of Wolin and the Pziwnów Peninsula" [in Polish; Russian & English summaries]. *Prace Komisya biol. Poznanskie Tow. przyj. Nauk*, vol.15, no.1: 119 pp. 1955. Records 136 spp. of leaf-mining Lepidoptera, with foodplants (18 families of micros). [P. B.]
- Nyholm, Tord, "Egendomlig förpuppningsplats för *Exapate congelatella* Cl. (Lep., Tortr.)" [in Swedish]. *Ent. Tidskr.*, vol.74: pp.162-163. 1953. Species pupating in exit holes of *Anobium* on apple. [P. B.]
- Ohgushi, Ryohichi, "Ecological notes on *Epiponponia nawai* Dyar. a parasite of Cicada in Japan (Epipyropidæ)." *Trans. Shikoku ent. Soc.*, vol.3: pp.185-191, 6 figs., 2 tables. 1953. Habitat preference and morphological structure of cicada *Tanna japonensis* may be key points of the host determination of *E. nawai*, the author suggests. [T. I.]
- Okagaki, Hiromu, "Larva and pupa of *Amata germana* Felder" [in Japanese]. *Trans. lep. Soc. Japan.*, vol.7: p.29, 2 figs. 1956. Figured; larva on *Ligustrum ibota* var. *angustifolium*. [P. B.]
- Okano, Masao, "On (the life history of) *Zygæna nippona* Butler (Zygænidæ)" [in Japanese]. *Bull. Tohoku ent. Soc.*, vol.2: p.9, 2 figs. 1949.
- Okano, Masao, "On larvæ and pupæ of two species of Noctuidæ (=Phalænidæ)" [in Japanese]. *Kontyû*, vol.18: pp.148-149. 1950. *Ramesa straminea* (food: *Sasaella ramosa*) & *Pterostoma sinicum* (food: *Robinia pseudacacia*). [T. I.]
- Okano, Masao, "Eggs of *Metanastria subpurpurea* Butler (Lasiocampidæ)" [in Japanese]. *Insect Ecology*, vol.4, no.10: pp.25-26, 1 pl. 1952. Eggs are on the leaves of *Betula* sp. [T. I.]
- Okano, Masao, "Notes on larva and pupa of *Nygmia nipponis* Butler (Lymantriidæ)" [in Japanese]. *Insect Ecology*, vol.4, no.10: pp.23-25, 1 pl. 1952. Foodplant: *Corylus heterophylla* var. (*Betulaceæ*). [T. I.]
- Okuno, Hiroshi, "Bionomics of *Eterusia xdea virescens* Butler (Zygænidæ)" [in Japanese]. *Shin Konchu*, vol.5, no.12: pp.19-21, 5 tables. 1952. Foodplants: various Theaceæ. [T. I.]
- Olivier, R., "Note sur *Pamphila palæmon* Pallas" [in French]. *Rev. franç. Lépid.*, vol.15: pp.36-37. 1955. The larva of this hesperiid probably feeds on grass *Molinia cærulea*. [P. V.]
- Olivier, R., "Observations sur *Heteropterus morpheus* Pallas et ses premiers états" [in French]. *Rev. franç. Lépid.*, vol.15: pp.34-36. 1955. Notes on the biology of *H. morpheus* in the NW of France. The larva lives on grass *Molinia cærulea*, but only in humid areas. [P. V.]

- Olivier, R., "*Chloroclystis chlærata* Mabille et ses premiers états (Geometridæ)" [in French]. *Rev. franç. Lépid.*, vol.15: pp.74-75. "1955" [1956]. Notes on the first stages of this geometrid. [P. V.]
- Ono, Sachio, "A parasite on the larva of *Niphanda fusca* (Lycænidae)" [in Japanese]. *New Entomologist*, vol.2, nos.3/4: pp.55-56, 2 figs. 1952. *Neotypus lapidator coreensis* (Ichneumonidae). [T. I.]
- Oord, W., "Kweek van *Ectropis bistortata* Goeze" [in Dutch]. *Ent. Berichten*, vol.15: p.456. 1955. Rearing notes.
- Oord, W., "*Endromis versicolora* L." [in Dutch]. *Ent. Berichten*, vol.16: p.11. 1956. Notes on biology; photo of larva. [P. B.]
- Osanai, Minoru, "On the life-history of *Strymon* (= *Strymonidea*) *w-album fentoni* Butler" [in Japanese; English summary]. *Chûhō*, no.5: 12 pp., 2 pls. 1951. Food-plants *Rhamnus japonica* & *R. dahurica* var. *nipponica*. [T. I.]
- Ossowski, L. L. J., "The Hadedah Ibis, *Hagedashia hagedash hagedash* (Latham) and its relation to pest control in wattle plantations." *Ann. Natal Mus.*, vol.12: pp.279-290. 1952. Records 3 noctuids, 3 saturniids, and 1 tortricid, all said to defoliate wattle, taken from stomach contents of this bird; also 4 undetermined Pyralididae. [P. B.]
- Ossowski, L. L. J., "The biological control of the Wattle Bagworm (*Kotochala junodi* Heyl.) by a virus disease. I. Small-scale pilot experiments." *Ann. appl. Biol.*, vol.45: pp.81-89, 1 fig. 1957. Describes disease; records some parasites. [P. B.]
- Ovington, J. D., & G. Scurfield, "Biological flora of the British Isles. *Holcus mollis* L." *Journ. Ecol.*, vol.44: pp.272-280, 2 figs. 1956. Records five species of *Elachista* mining in leaves. [P. B.]
- Owen, D. F., "Larvæ of *Deilephila elpenor*." *Ent. Rec. & Journ. Var.*, vol.64: pp.20-21. 1952. Apparent effect of crowding in producing dark larvæ; reluctance of jays to eat larvæ with "eye" markings visible. [P. B.]
- Owen, D. F., "Habitat selection in *Argynnis aglaia* (L.) and *A. cydippe* (L.) in the British Isles." *Entomologist*, vol. 86: pp.128-129. 1953. Suggests that these spp. compete & replace each other ecologically; where both occur, former is found in open country & latter in woods, but north of range of *A. cydippe*, *A. aglaia* also occurs in woods. [P. B.]
- Owen, D. F., "The habitats of *Pararge ægeria* L. in southern England." *Ent. Rec. & Journ. Var.*, vol.65: pp.129-130. 1953. Woodland butterfly spreading into open areas. [P. B.]
- Owen, D. F., "Habitat selection in *Pararge ægeria* (L.) (Lep., Satyridæ) in S. W. France." *Entomologist*, vol.87: pp.1-2. 1954. Attempt to correlate color & habitat; the brown French race flies in open country, the light-and-dark-marked British race was confined until recently to woodlands. [P. B.]
- Paclt, Jiří, "K boji proti přástevníku *Hyphantria cunea*" [in Czech]. *Ochrana Rostlin*, vol.21: pp.160-163. 1948. About some methods of mechanical, chemical, and biological control of *H. cunea*. [J. M.]
- Paclt, Jiří, "Krankheiten und Schädlinge der *Paulownia*" [in Slovak; Russian & German summaries]. *Biol. Sborník*, vol.7: pp.55-59. 1952. Insect pests and diseases of *Paulownia* spp. in Czechoslovakia. Some Lepidoptera are mentioned: *Apatele rumicis* and *Acherontia atropos*. [J. M.]
- Paclt, Jiří, "Pests of the genus *Catalpa*." *Biol. Jaarboek*, vol.19: pp.60-73, 4 pls. 1952. Records, from *Catalpa* spp., *Hyphantria cunea*, *Hyblæa pueræ*, *Apatele rumicis* (new record), *Ceratonia catalpæ*, *Acherontia atropos*; lists some parasites of *H. cunea* and *C. catalpæ*. [P. B.]
- Paclt, Jiří, & Rudolf Schwarz, "Sind die Raupen der *Hyphantria cunea* (Insecta, Lepidoptera) im Stande Cellulose zu verdauen?" [in Slovak; Russian & German summaries]. *Biol. Sborník*, vol.7: pp.143-149, 4 figs. 1952. Discusses the polyphagy of *H. cunea* larvæ. Some examples of destruction of paper are given. [J. M.]
- Paramonow, S., "Hauptschädlinge der Ölkulturen der Ukraine" [in German]. *Zeitschr angew. Ent.*, vol.35: pp.63-81. 1953. Biology of *Homæosoma nebulellum*

- on *Helianthus annuus*; *Etiella zinckenella* on *Glycine hispida*; *Phalonia epilnana* & *Chloridea dipsacea* on *Linum usitatissimum*; *Plutella maculipennis* on various oil-producing plants. [P. B.]
- Pardi, L., "*Abraxas pantharia* (L.) defoliatrice del frassino" [in Italian]. *Mem. Soc. toscana Sci. nat., ser. B*, vol.55: pp.157-160. 1948. Outbreak of this geometrid on *Fraxinus excelsior*. [P. B.]
- Parmenter, L., "Some records of bred Tachinidæ." *Ent. Rec. & Journ. Var.*, vol.65: pp.29-31. 1953. List of 20 British spp., with their hosts, mostly Lepidoptera; some new records. [P. B.]
- Parmenter, L., "*Amblyjoppa proteus* Christ (Hym., Ichneumonidæ) bred from *Deilephila elpenor* L. (Lep., Sphingidæ)." *Ent. mo. Mag.*, vol.91: p.310. "1955" [1956].
- Parsons, R. E., "Early stages of the butterfly *Delias aglaia* Linn." *Journ. Bombay nat. Hist. Soc.*, vol.47: pp.556-557. 1948. Describes pupa; notes on larva. Food-plant *Loranthus* sp. [P. B.]
- Patel, G. A., R. R. Savoor, & A. C. Basu, "Some aspects of study in the life history of insects." *Science & Culture*, vol.15: pp.57-58. 1949. Gives data on duration of early stages of *Plutella maculipennis*. [P. B.]
- Patel, R. C., & H. L. Kulkarny, "Bionomics of the Pumpkin Caterpillar—*Margaronia indica* Saund. (Pyrilidæ: Lepidoptera)." *Journ. Bombay nat. Hist. Soc.*, vol.54: pp.118-127, 2 pls. 1956. Describes all stages & life cycle; records 17 foodplants. [P. B.]
- Patočka, Jan, "Raupen, die an Pappelblätter Schaden verursachen" [in Czech; Russian & German summaries]. *Práce Výzk. Ústavu Lesnických ČSR*, vol.5: pp.165-282, 44 pls. 1954. Very important study of the caterpillars living on *Populus* spp. in Central Europe; with keys for determination of all spp. [J. M.]
- Patočka, Jan, "Bemerkungen über die Motte *Cerostoma coriaceum* an der Tanne" [in Slovak; Russian & German summaries]. *Biológia*, Bratislava, vol.10: pp.361-367, 9 figs. 1955. Contribution to the knowledge of the genus *Cerostoma* with description of larva and pupa of *C. coriaceum*. [J. M.]
- Patočka, Jan, "Zur Frage der Überwinterung der an Eichen schädlichen Schmetterlinge und der Kontrolle der Eichenwickler mit Hilfe der überwinterten Eier" [in Czech; Russian & German summaries]. *Lesnický Casopis*, vol.1: pp.17-42, 16 figs. 1955. Ecological study about the harmful Lepidoptera from Slovakian forests. [J. M.]
- Patočka, Jan, "Die Motte *Tachyptilia disquei* Meess—ein Schädling an *Quercus cerris* in der Slowakei" [in Czech; German & Russian summaries]. *Folia zoologica*, vol.5: pp.111-120, 8 figs. 1956. Describes biology & gives data on economic importance of the sp. [J. M.]
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- Roe, H., "Tagschmetterlinge als Vorzugsnahrung einiger Singvögel" [in German]. *Journ. Ornithol.*, vol.98: pp.416-420. 1957. *Passer montanus* & other birds feeding on *Pieris brassicæ*; at least 10% of individuals released in one experiment on migration were eaten. [P. B.]
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- Rougeot, P. C., "Des attacides buveurs: les *Epiphora* africains" [in French]. *Rev. franç. Lépid.*, vol.16: pp.6-9. 1957. A classic character of the family Attacidae is: proboscis reduced or absent; the author has observed in Gaboon (French Equatorial Africa) a genus of saturniids, *Epiphora*, that absorb water by the proboscis and eject it by the anus like some papilionids, pierids, nymphalids, & lycænids. It is a very interesting observation. [P. V.]
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- Rüttiman, Marcel, "Eine ex ovo Zucht von *Antheræa mylitta* Fabricius" [in German]. *Ent. Nachrichtenbl.*, Burgdorf, vol.3: pp.1-3. 1949. Describes rearing, on oak. [P. B.]
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- Ryszka, Hans, "Die Zucht von *Perigrapha 1-cinctum* Schiff." [in German]. *Ent. Nachrichtenbl.*, Burgdorf, vol.3: pp.73-75. 1949. Describes rearing, on *Convolvulus arvensis* & *Tussilago farfara*. [P. B.]
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- Sala, Frank P., & Charles L. Hogue, "Descriptions of the early stages and male imago and notes on the life history of *Saturnia walterorum* (Saturniidae)." *Lepid. News*, vol.12: pp.17-25, 18 figs. 1958.
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- Salmond, K. F., "The insect and mite fauna of a Scottish flour mill." *Bull. ent. Res.*, vol.47: pp.621-630. 1956. Records 6 Lepidoptera (Noctuidæ, Pyralididae, Ctenoporidae, Tineidae). [P. B.]
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- Sarlet, L., "Iconographie des oeufs de lépidoptères (faune de la Belgique) (suite)" [in French]. *Lambillionea*, vol.54: pp.45-49. 1954. Descriptions of eggs of *Pieris rapæ*, *Pontia daplidice*, *Anthocaris cardamines*. [P. B.]
- Sarlet, L., "Iconographie des oeufs de lépidoptères (faune de la Belgique)" [in French]. *Lambillionea*, vol.55: pp.59-64, 67-77, 1 pl.; pp.94-96. 1955. Iconography of eggs of Lepidoptera of Belgium: Nymphalidae, subfamilies Melitæinae and Argynninae. [P. V.]
- Sarlet, L., "Iconographie des oeufs de lépidoptères (faune de la Belgique) (suite)" [in French]. *Lambillionea*, vol.55: pp.94-97; vol.56: pp.6-7, 35-36. 1955, 1956. Describes eggs of *Brenthis aquilonaris*, *B. dia*, *Argynnis ino*, & *A. lathonia*. [P. B.]

- Sarlet, L., "Iconographie des oeufs de lépidoptères (faune de la Belgique) (suite)" [in French]. *Lambillionea*, vol.56: pp.43-48. 1956. Notes on the eggs of *Argynnis niobe*, *A. adippe*, & *A. paphia* (all experimental laying). [P. V.]
- Sarlet, L., "Iconographie des oeufs de lépidoptères (faune de la Belgique) (suite)" [in French]. *Lambillionea*, vol.56: pp.68-76, 93-101. 1956. Iconography of the eggs of *Brenthis daphne*, *Limenitis camilla*, *Vanessa atalanta*, *Nymphalis antiopa*, *N. io*, *Erebia medusa brigobanna*, *E. æthiops peneplana*, *E. ligea carthusianorum*, & *Agapetes galathea*. [P. V.]
- Sarlet, L., "Iconographie des oeufs des lépidoptères" [in French]. *Lambillionea*, vol.57: pp.11-27. 1957. Iconography of eggs of *Hipparchia fagi*, *H. semele*, *Satyrus bryce*, *Brintesia circe*, *Aphantopus hyperanthus*, *Maniola jurtina*, *Pyronia tithonus*, *Pararge egeria vulgaris*, *Lasiommata megera*, *L. mæra adrasta* (all Satyridæ). [P. V.]
- Sauter, W., "Zur Biologie des Gabelschwanzes, *Dicranura vinula* L. (Lep. Notodontidæ)" [in German]. *Mitt. thurgauische naturf. Ges.*, vol.34: pp.33-38. 1947. Describes early stages, rearing, phenology, & habits of adult. [P. B.]
- Sauvaut, André, & Keutgens, "Insectes récoltés sur le cotonnier et autres plantes en Côte d'Ivoire" [in French]. *Bull. Soc. Hist. nat. Toulouse*, vol.84: pp.22-24. 1949. Lists 10 spp. (Noctuidæ, Arctiidæ, Pyralidæ, Tineidæ, Gelechiidæ) feeding on cotton plant. [P. B.]
- Schätz, Willi, "Beobachtungen an *Psyche viciella* Schiff. (Lep. Psychidæ)" [in German]. *Nachrichtenbl. bayer. Ent.*, vol.4: pp.102-104, 107, 109, 118-119. 1955. Details of biology of all stages. Case of facultative parthenogenesis reported. [P. B.]
- Schedl, Karl E., "Der Kiefernspinner an Fichte" [in German]. *Allg. forst- und holzwirtsch. Zeitung*, vol.60: p.29. 1949. *Bupalus piniarius* larvæ common in pure spruce stands; usual foodplant pine. [P. B.]
- Schiebe, A., "Die phänophasisch bedingte Typenresistenz der Erbsensorten gegen den Erbsenwickler (*Grapholitha nigricana* Steph., =*Laspeyresia* (*Cydia*) *nigricana* Steph.)" [in German]. *Phytopathol. Zeitschr.*, vol.21: pp.433-448, 5 figs. 1954. Races of *Pisum* with short flowering period which precedes flight period of moth are subject to least attack. [P. B.]
- Schimitschek, Erwin, "Durch Polyederkrankheit im Ei abgestorbene Nonnenraupen" [in German]. *Österreichs Forst- und Holzwirtsch.*, vol.4: p.55. 1949. Virus disease of *Lymantria monacha* eggs. [P. B.]
- Schimitschek, Erwin, "Forstentomologische Studien im Urwald Rotwald" [in German]. *Zeitschr. angew. Ent.*, vol.34: pp.178-215, 513-542, 18 figs. 1952; 1953. Includes notes on biology of *Scardia tessulatella*, on conifers; *Borkhausenia similella*, on dead fruiting bodies of *Fomes* and *Gonoderma*. [P. B.]
- Schimitschek, Erwin, "*Boarmia bistortata* Goeze als Lärchenschädling" [in German; English summary]. *Zeitschr. angew. Ent.*, vol.40: pp.37-51, 16 figs. 1957. Study of outbreak in larch stand. Describes early stages, with notes on biology; records parasites. [P. B.]
- Schmidt, H., "*Cossus cossus* L." [in German]. *Holz als Roh- und Werkstoffe*, vol.9: pp.473-474, 4 figs. 1951. Biology & identification. [P. B.]
- Schneider, F., "Auftreten und Bekämpfung einiger Obstschädlinge in Syrien" [in German; English summary]. *Zeitschr. Pflanzenkrankh.*, vol.64: pp.613-619. 6 figs. 1957. Includes notes on biology of *Carpocapsa pomonella* in Syria. [P. B.]
- Schneiders, Hildegard, "Das Schlüpfen des Falters von *Aporia crataegi* L. aus der Puppe" [in German]. *Zeitschr. Pflanzenkrankh.*, vol.62: pp.561-563, 10 figs. 1955. Excellent series of photos of emerging adult. [P. B.]
- Schütte, Friedrich, "Untersuchungen über die Populationsdynamik des Eichenwicklers (*Tortrix viridana* L.)" [in German; English summary]. *Zeitschr. angew. Ent.*, vol.40: pp.1-36, 285-331, 45 figs. 1957. Study of economic biology. Factors affecting population size are analyzed. Coincidence of larval emergence with opening of oak leaf buds is most favorable for larval development. Various predators, including larvæ of *Epinotia corticana*, and parasites recorded. [P. B.]