

RECENT LITERATURE ON LEPIDOPTERA

(Under the supervision of PETER F. BELLINGER)

F. BIOLOGY AND IMMATURE STAGES

- Comstock, John Adams, "Notes on metamorphoses of the Giant Skippers (Lepidoptera: Megathyminae) and the life history of an Arizona species." *Bull. southern Calif. Acad. Sci.*, vol.55: pp.19-27, 3 figs. 1956. Describes mature larva & pupa of *Megathymus evansi*. [P.B.]
- Comstock, John Adams, "Notes on the life history of a rare Arizona sphinx moth, *Xylophanes falco* Walker." *Bull. southern Calif. Acad. Sci.*, vol.55: pp.102-106. 5 figs. 1956. Describes mature larva & pupa; foodplant *Bouvardia glaberrima*. [P.B.]
- Comstock, John A., "Brief notes on the life histories of two Arizona geometrid moths." *Bull. southern Calif. Acad. Sci.*, vol.56: pp.99-100 1957. Describes larva & pupa of *Philobia aspirata* (from Black Walnut), & egg & young larva of *Pero modestus*. [P.B.]
- Comstock, John Adams, "Life histories of two southern Arizona moths of the genus *Caripeta*." *Bull. southern Calif. Acad. Sci.*, vol.56: pp.88-96, 4 pls. 1957. Describes & figures early stages of *C. hilumaria* (reared on willow, probably not the normal foodplant) & *C. macularia* (reared on oak). [P.B.]
- Comstock, John Adams, "Notes on the early stages of two western American moths." *Bull. southern Calif. Acad. Sci.*, vol.56: pp.42-47, 6 figs. 1957. Describes mature larva & pupa of *Cisthene nexa* & *Agriopodes viridata*; both feed on the lichen *Ramalina combeoides*. [P.B.]
- Comstock, John Adams, "Notes on the metamorphosis of an *Agave*-boring butterfly from Baja California, Mexico." *Trans. San Diego Soc. nat. Hist.*, vol.12: pp.263-276, 1 pl. 1957. Describes mature larva & pupa of *Megathymus comstocki* & compares them with those of *M. stephensi*. Foodplant *Agave orcuttiana*. [P.B.]
- Coombs, C. W., "The insect fauna of an empty granary." *Bull. ent. Res.*, vol.46: pp.399-417, 2 pls., 2 figs. 1955. Reports survival in unused warehouse of some stored products pests, including 4 Lepidoptera [P.B.]
- Coppel, H. C., & M. G. Maw, "Studies on dipterous parasites of the Spruce budworm, *Choristoneura fumiferana* (Clem.) (Lepidoptera: Tortricidæ). III. *Ceromasia auricaudata* Tns. (Diptera: Tachinidæ)." *Canad. Journ. Zool.*, vol.32: pp.144-156, 16 figs. 1954. Describes parasite & biology. Eggs are laid on leaves & ingested by larvæ; parasites develop during pupal stage of host. *Hyphantria cunea* is another host. [P.B.]
- Coppel, H. C., & M. G. Maw, "Studies on dipterous parasites of the Spruce Budworm, *Choristoneura fumiferana* (Clem.) (Lepidoptera: Tortricidæ). IV. *Madremyia saundersii* (Will.) (Diptera: Tachinidæ)." *Canad. Journ. Zool.*, vol.32: pp.314-323, 16 figs. 1954. Describes parasite attacking larvæ of many Lepidoptera. [P.B.]
- Coppel, H. C., & B. C. Smith, "Studies on dipterous parasites of the Spruce Budworm, *Choristoneura fumiferana* (Clem.) (Lepidoptera: Tortricidæ). V. *Omotoma fumiferanae* (Tot.) (Diptera: Tachinidæ)." *Canad. Journ. Zool.*, vol.35: pp.581-592, 15 figs. 1957. Describes morphology & biology. [P.B.]
- Cornwell, P. B., L. J. Crook, & J. O. Bull, "Lethal and sterilizing effects of gamma radiation on insects infesting cereal commodities." *Nature*, vol.179: pp.670-672, 2 figs. 1957. Including *Ephestia* spp. & *Sitotroga cerealella*.
- Cowley, J., "*Pararge aegeria* captured by a dragon fly." *Entomologist*, vol 86: p.151. 1953.
- Cox, H. C., "Feeding habits of European Corn Borer larvæ on selected field corn inbreds and single cross hybrids." *Iowa State Coll. Journ. Sci.*, vol.30: pp.343-344. 1956. Abstract.
- Cretschmar, Max, "Ein Gartenschläfer als Konkurrent beim Lichtfang" [in German]. *Zeitschr. Lepid.*, vol.1: p.30. 1950. Dormouse *Eliomys quercinus* taking moths at light. [P.B.]
- Crooke, Myles, "An outbreak of the Pine Looper Moth (*Bupalus piniarius*, L.) at Cannock Chase in Staffordshire, and some notes on the biology of this pest." *Irish Forestry*, vol.10: pp.60-63, 3 figs. 1953. Figures larva & adults. [P.B.]

- Crooke, Myles, "The Pine Looper Moth." *Quart. Journ. Forestry*, vol.48: pp.36-38, 1 pl. 1954. Biology of *Bupalus piniarius*. [P. B.]
- Crooke, Myles, "Host of the overwintering generation of *Trichogramma evanescens* Westw. (Hym., Trichogrammatidæ)." *Ent. mo. Mag.*, vol.92: p.368. 1956. Recorded from eggs of *Bupalus piniarius*. [P. B.]
- Cumber, R. A., "Injury to *Phormium* caused by insects, mites, and molluscs." *N. Z. Journ. Sci. Tech., Sect. A*, vol.36: pp.60-74, 20 figs. 1953. Lepidoptera attacking the plant are *Oxycanus signata*, *Stathmopoda phlegyra*, *Tortrix postivittana*, *Cnephasia jactatana*, *Ceceticus omnivorus*, *Orthoclydon præfectata*, & *Persectania steropastis*. [P. B.]
- Cunningham, J. R., "A note on the Ghost Moths — family Hepialidæ. *Abantiades hyalinatus* (Herrick Schaeffer)." *Pap. Roy. Soc. Tasmania*, vol.89: p.151. 1955. Life history notes: larvæ occur in silken tunnels in the ground, leading to the roots of *Eucalyptus amygdalina* upon which they feed. [I. C.]
- Curtis, W. Parkinson, "*Epischmia bankesella* Rich. (Lep. Phycitidæ)." *Journ. Soc. Brit. Ent.*, vol.3: pp.278-279. 1951. Larvæ fed successfully on *Inula crithmoides* from cliff edge (normal habitat of moth) but rejected same plant sp. from salt marsh. [P. B.]
- Curtis, W. Parkinson, "The Robin (*Erithacus rubecula melophilus* Hartert) attacking insects." *Ent. mo. Mag.*, vol.92: p.10. 1956. Including Noctuidæ, *Pieris*, *Aglais*, *Vanessa* (adults). [P. B.]
- Daniel, F., "Beobachtung über die Lebensweise hochalpiner Vertreter der Gattung *Hepialus* (Lep.-Hepialidæ)" [in German]. *Mitt. münchener ent. Ges.*, vol.40: pp.203-206. 1950. On the flight periods of 2 alpine spp. *H. carna* ♂♂ fly in the morning, while ♀♀ are emerging; latter fly & deposit eggs in afternoon; ♂♂ probably live only 1 day. *H. fusconebulosus* ♂♂ fly for about 20 minutes at dusk; ♀♀ fly & deposit eggs at night. [P. B.]
- Daniel, Franz, "Beiträge zur Lebensweise von *Selenephora lunigera* f. *lobulina* Esp. (Lep. Lasiocamp.)" [in German]. *Mitt. münchener ent. Ges.*, vol.41: pp.251-257. 1951. Spring & summer 'generations' in Bavarian lowlands are actually 2 races, each with an annual cycle. [P. B.]
- Darlington, Emlen P., "Notes on blueberry Lepidoptera in New Jersey." *Trans. Amer. ent. Soc.*, vol.78: pp.33-57. 1952. Records (some from literature) of nearly 100 spp. of Lepidoptera feeding on *Vaccinium* or *Gaylussacia*; notes on habits of some. [P. B.]
- Darlow, H. M., "*Callophrys rubi* L., a new foodplant." *Ent. Rec. & Journ. Var.*, vol.65: p.19. 1953. Mature larva on *Hieracium pilosella*. [P. B.]
- Darlow, H. M., "Stridulation in *Laphygma exigua* Hüb. and *Agrotis segetum* Schf." *Ent. Rec. & Journ. Var.*, vol.65: p.20. 1953. Adults; mechanism unknown. [P. B.]
- Darteville, E., "Nouveau cas de transport de pseudoscorpion par un papillon" [in French]. *Lambillionea*, vol.54: pp.34-35. 1954. Pseudoscorpion attached to leg of *Sterrha aversata*. [P. B.]
- Das, G. M., "Insects and mite pests of jute." *Science & Culture*, vol.14: pp.186-190. 1948. Records *Diacrisia abliqua*, *Anomis sabulifera*, *Laphygma exigua*, *Prodenia litura*, *Tarache crocala*, & *Scopula emmissaria* feeding on *Corchorus* spp. [P. B.]
- Daviault, Lionel, "La tordeuse à tête verte de l'épinette: *Tortrix packardiana* Fern." [in French]. *Ann. de l'ACFAS*, vol.16: pp.147-151, 1 fig. 1950. Describes all stages & records parasites & predators. [P. B.]
- Davis, C. J., "New host and insect records from the island of Hawaii." *Proc. Hawaiian ent. Soc.*, vol.15: pp.85-86. 1953. Including spp. feeding on *Acacia koaia*: *Amorbia emigratella* & *Lycæna blackburni* (leaves), *Argyroploce illepida* (seeds), *Orthomy-cena* sp., *Enarmonia walshinghami*, & *Decadarchis minuscula* (twigs). [P. B.]
- Davis, C. J., "Some recent lepidopterous outbreaks on the island of Hawaii." *Proc. Hawaiian ent. Soc.*, vol.15: pp.401-403. 1955. Including *Pseudaletia unipuncta* & *Laphygma exempta*, with lists of grasses attacked & parasites reared. [P. B.]
- Delamare Debouteville, C., & R. Paulian, "Cycle évolutif d'un peuplement nidicole en Basse Cote d'Ivoire" [in French]. *Bull. Mus. nat. Hist. nat.*, Paris, vol.19: pp.453-455. 1947. Records *Monopis megalodelta* larvæ from nests of weaver birds. [P. B.]
- Delucchi, Vittorio, & Jean Verbeke, "*Habrocytus milleri* n. sp., ectoparasite de *Coleophora frischella* L." [in French]. *Bull. Inst. Roy. Sci. nat. Belg.*, vol.29, no.3: 14 pp., 19 figs. 1953. Describes biology of this hymenopteran. [P. B.]
- Demuth, R. P., "Birds and moths." *Ent. Rec. & Journ. Var.*, vol.67: pp.157-158. 1955. Notes on birds feeding on moths remaining near light trap in morning [P. B.]

- Dever, D. A., "Identification of the larvæ of the more important insect pests of sour cherry in Wisconsin." *Trans. Wisconsin Acad. Sci.*, vol.43: pp.83-88, 1 pl. 1954. Brief descriptions and setal maps for *Grapholitha packardii*, *Mineola scitulella*, *Archips argyrosbila*, & *Spilonota ocellana*. [P. B.]
- Diadetchko, N. P., "Parasites and predators of the American White Moth" [in Russian]. *Nauchn. Trudy Inst. Ent. Filopatol. Akad. Nauk URSS*, vol.5: pp.106-109. 1954. *Hyphantria cunea*. [Not seen].
- Diakonoff, A., "Case bearing Lepidoptera IV." *Ent. Berichten*, vol.14: pp.134-137, 5 figs. 1952. Describes 3 cases belonging to undetermined spp. of Lepidoptera, collected at Tjibodas, Java. [P. B.]
- Dickson, C. G. C., "The life history of *Phasis pyræis* Trim (Lepidoptera: Lycænidae)." *Journ. ent. Soc. southern Africa*, vol.11: pp.50-62, 1 pl., 1 fig. 1948. Detailed descriptions of all stages. Foodplant *Zygodphyllum flexuosum*; larvæ 'milked' by ants. [P. B.]
- Dickson, C. G. C., "The larva and pupa of *Pseudonympha trimenii* Butl. (Lep.: Satyridæ)." *Journ. ent. Soc. southern Africa*, vol.12: pp.173-174. 1949. Describes adult larva and pupa; foodplant *Danthonia stricta*. [P. B.]
- Dickson, C. G. C., "The life-history of *Charaxes pelias pelias* Cram. (Lepidoptera: Nymphalidæ)." *Journ. ent. Soc. southern Africa*, vol.12: pp.109-117, 2 pls. 1949. Detailed description; foodplant *Rafnia amplexicaulis*. [P. B.]
- Dickson, C. G. C., "Recently observed food-plants of some Cape lepidopterous larvæ (4th series)." *Journ. ent. Soc. southern Africa*, vol. 16: pp.73-76. 1953. Records of foodplants and plants, etc., selected for oviposition; 46 spp. (15 families). [P. B.]
- Dickson, C. G. C., "Note on oviposition of *Thestor basutus* (Wllg.) (Lep.: Lycænidae)." *Journ. ent. Soc. southern Africa*, vol.17: p.140. 1954. Eggs laid on *Vernonia natalensis*, but presence of ant *Anaplolepis custodiens* probably more significant for this (presumably) myrmecophilous sp. [P. B.]
- Dickson, C. G. C., "On the association of *Lepidochrysops patricia* (Trim.) (Lepidoptera: Lycænidae) with ants." *Journ. ent. Soc. southern Africa*, vol.18: pp.48-49. 1955. Pupæ found in nests of *Camponotus* sp. Foodplant (young larvæ): *Lantana salwifolia*. [P. B.]
- van Dinther, J. B. M., "*Laphygma frugiperda* S. & A. and *Mocis repanda* F. in Suriname." *Ent. Berichten*, vol.15: pp.407-411, 427-431, 5 figs. 1955. Describes all stages & biology of these noctuids. [P. B.]
- van Dinther, J. B. M., "Caterpillars injurious to *Brassica* species in Surinam." *Ent. Berichten*, vol.16: pp.201-206. 1956.
- van Dinther, J. B. M., "Soy bean insects." *Ent. Berichten*, vol.16: pp.104-107, 3 figs. 1956. Describes life histories of Surinam Lepidoptera: *Laphygma frugiperda*, *Agrotis repleta*, & *Anticarsia gemmatilis*. [A. D.]
- van Dinther, J. B. M., "Three noxious hornworms in Suriname." *Ent. Berichten*, vol.16: pp.7-9, 26-28, 42-44, 3 figs. 1956. Describes all stages & biology & figures adults of *Protoparce sexta paphus* (on tobacco, tomato, peppers), *Erinnyis alope* (on papaya), & *Pseudosphinx tetrio* (on *Plumeria*). [P. B.]
- van Dinther, J. B. M., "Notes on the moth *Arsenura armida erythrinae* (F.)." *Ent. Berichten*, vol.17: pp.229-232, 2 figs. 1957. Describes all stages & biology; larvæ feed on *Erythrina glauca* & cacao in Suriname. [P. B.]
- van Dinther, J. B. M., "*Papilio anchisiades anchisiades* Esper, a citrus pest of minor importance." *Ent. Berichten*, vol.17: pp.213-216. 1957. Describes all stages. [P. B.]
- Docters van Leeuwen, W. M., "Kweek van *Macrothylacia*" [in Dutch]. *Ent. Berichten*, vol.14: pp.30-31. 1952. Rearing notes.
- Docters van Leeuwen, W. M., "On the biology of some Javanese Loranthaceæ and the role birds play in their life-history." *Beaufortia*, vol.4: pp.103-207, 10 pls., 23 figs. 1954. Records numerous insects feeding on plants of this family, including *Tajuria cippus*, *Delias* spp., *Dasychira mendosa*, & *Euproctis cataba*. [P. B.]
- Dodge, Harold R., "Defoliating insects in the northern Rocky Mountains in 1955." *Northwest Sci.*, vol.31: pp.38-42, 1 map. 1957. Includes host records for *Choristoneura* spp., *Hemerocampa pseudotsugata*, *Zeiraphera griseana*, *Archips cerasivorana*, *Malacosoma* sp., *Tortrix cockerellana*. [P. B.]
- Döring, Ewald, "Ein Beitrag zur Kenntnis der Cremaster von Microlepidopteren" [in German]. *Deutsche ent. Zeitschr.*, N.F., vol.1: pp.23-32, 64 figs. 1954. Describes & figures cremaster of 32 spp. of micros. [P. B.]

- Döring, Ewald, "Ein Beitrag zur Kenntnis der Cremaster der Lepidopteren (Lep.)" [in German]. *Deutsche Ent. Zeitschr.*, N.F., vol.2: pp.326-331, 20 figs. 1955. Describes & figures cremaster in 20 spp. (*Hepialus* & Microlepidoptera, especially *Zygænida* & *Ægeriida*). [P. B.]
- Döring, Ewald, *Zur Morphologie der Schmetterlingseier* [in German]. 154 pp., 61 pls. Berlin: Akademie-Verlag. 1955. See review in *Lepid. News*, vol.10: p 56.
- van Doesburg, P. H., jr., "Enige waarnemingen betreffende de waard-parasiet relatie bij *Bupalus* (Lep. Geometridæ) en *Carcelia* (Dipt. Tachinidæ)" [in Dutch; German summary]. *Ent. Berichten*, vol.16: pp.173-175, 2 figs. 1956.
- Donahue, Ralph J. & Mildred L., "A moth that likes company." *Natural History*, vol. 66: pp.201-203, 7 figs. 1957. Habits of larvæ of *Harrisina americana*. [P. B.]
- Donohoe, Heber Clark, "The bionomics of the Raisin Moth, *Ephestia figulilella* Gregson." *Summ. Ph.D. Theses Univ. Minnesota*, vol.3: pp 47-49. 1949. Abstract.
- Douglass, J. R., K. E. Gibson, W. E. Peay, & J. W. Ingram, "Western Bean Cutworm as a pest of corn." *Bull. ent. Soc. Amer.*, vol. 2, no. 3: p. 19. 1956. Abstract; *Loxagrotis albicosta*.
- Douglass, J. R., J. W. Ingram, K. E. Gibson, & W. E. Peay, "The Western Bean Cutworm as a pest of corn in Idaho." *Journ. econ. Ent.*, vol. 50: pp. 543-545, figs. 1957. *Loxagrotis albicosta*, which has been a pest of beans, reported attacking ears of corn around Twin Falls, Idaho. [W. C.]
- Drees, H., & H. Schwitulla, "Bekämpfung einer Epidemie von *Malacosoma neustria* L. durch die Tachine *Carcelia gnava* Meig." [in German; English summary]. *Zeitschr. Pflanzkrankh.*, vol. 64: pp. 215-228, 3 figs. 1957. Describes biology & life cycle of a parasite developing on *M. neustria* & *Arctia caja*. [P. B.]
- Dresner, Edgar, "The toxic effect of *Beauveria bassiana* (Bals.) Vuill. on insects." *Ohio State Univ. Abs. doct. Diss.*, vol. 61: pp. 117-122. 1951. Including *Phthorimæa operculella*; abstract.
- Drilhon, A., & C. Vago, "Discrimination entre deux types étiologiques de flacherie chez *Bombyx mori*. Diagnostics différentiels par l'électrophorèse" [in French] *C. R. Soc. Biol.*, vol. 149: pp. 39-42, 1 fig. 1955. Method of distinguishing the form of this disease caused by *Bacillus cereus* from one of unknown cause. [P. B.]
- Drooz, A. T., & D. M. Benjamin, "Parasites from two Jack-pine Budworm outbreaks on the Upper Peninsula of Michigan." *Journ. econ. Ent.*, vol. 49: pp. 412-413. 1956. Lists larval & pupal parasites of *Choristoneura pinus* [W. C.]
- Dufrane, A., "Chernètes et lépidoptères" [in French]. *Bull. & Ann. Soc. ent. Belg.*, vol. 92: pp. 61-63, 1 fig. 1956. Presence of pseudoscorpion *Withius cæcus* on *Tinea biskraella* from S. Tunisia. [P. V.]
- Dunk, H. C., "Observation on the early stages of *Apatura iris* Linn." *Ent. Rec. & Journ. Var.*, vol. 66: pp. 135-137. 1954.
- Dunn, Paul Hayden, "The susceptibility of certain common insects to *Bacillus thuringiensis* Berliner." *Ohio State Univ. Abs. Masters' Theses*, no. 74: pp. 29-30. 1955. Abstract; including 9 Lepidoptera.
- Dziurzyński, Adam, "Contributions to the knowledge of the development and morphology of *Antispila petryi* Mart. and other species of the genus *Antispila* occurring in environs of Cracow, Poland" [in Polish; English summary]. *Docum. physiogr. Polon.*, nr. 28: pp. 1-55, 12 figs. 1952. Important study on biology and morphology of this sp. [J. M.]
- Easton, N. T., "Egg-laying of butterflies in close confinement." *Ent. Rec. & Journ. Var.*, vol. 66: pp. 276-277. 1954. Reports *Pieris* hybrid ♀♀ laying in small boxes while in transit. [P. B.]
- Ebeling, Walter, & Roy J. Pence, "Orange Tortrix on avocados." *Calif. Agric.*, vol.11, no.8: pp.13-14, figs. 1957. Habits of *Argyrotaenia citrana*. [W. C.]
- Edwards, E. O., "The foodplants of the Chequered Swallowtail, *Papilio demoleus sthenelus* Macleay, 1826 (Lepidoptera: Papilionidæ)." *Proc. Roy. zool. Soc. New South Wales*, 1954-55: pp.63-64. 1956. Reports that in western Queensland the larvae of this species feed on *Psoralea patens* and *P. tenax* (Leguminosæ). The ovipositing adults are not attracted to *Citrus*, one of the host plants previously recorded for the species, in coastal areas. [I. C.]
- Eisenbeiss, H., "From caterpillar to butterfly." *Nat. Hist.*, vol.65: pp.184-185, 8 figs. 1956. Pupation and emergence of *Papilio machaon*.
- Elfferich, N. W., "Kweek van *Leucodonta bicoloria* Schiff." [in Dutch; English summary]. *Ent. Berichten*, vol.17: pp.137-138, 1 fig. 1957. Describes rearing; photos of larva & adult. [P. B.]

- Eliescu, Grigore, "Beiträge zur Kenntnis der Verteilung der Eier von *Tortrix viridana* L. auf den Zweigen in Hinblick auf die Abschätzung der Befallsintensität" [in German]. *Beitr. Ent.*, vol.5: pp.462-472, 10 figs. 1955. Plot of egg distribution along twig follows regular curve, greater concentration being near tip; initial slope of curve is a measure of expected population size. [P. B.]
- Eliot, N., "Dragon-fly preying on Humming-bird Hawk Moth." *Entomologist*, vol.88: p.21. 1955. *Macroglossa stellatarum*.
- Eliot, N., "A natural check to a Gypsy Moth plague." *Entomologist*, vol.89: pp 5-8. 1956. Records larvævorid parasite. Also records parasites (2 new records) of *Libythea celtis* & *Nymphalis antiopa*. [P. B.]
- Elton, E. T. G., "Infestation of 'moll' sheets by *Achroia grisella* Fabr. (Lep., Pyralidæ)" [in Dutch; English summary]. *Ent. Berichten*, vol.16: pp.12-14. 1956. Larvæ reported attacking material (modified cork) used as pinning sheets in insect boxes. [P. B.]
- Ene, M., & H. Almasan, "Destruction of eggs of the Gypsy Moth (*Lymantria dispar* L.) by insectivores in the forests of Badadag" [in Roumanian]. *Revista Padurilor*, vol.70: pp.225-226. 1955. [Not seen].
- Etcheverry C., María, "Identificaciones lepidopterologicas" [in Spanish; English summary]. *Rev. chilena Ent.*, vol.3: pp.126-131. 1954. Records following spp. bred from alfalfa in Chile: *Hemiargus ramon*, *Leptotes trigemmatius*, *Laphygma frugiperda*, *Rachiplusia ni*, *Prodenia eridania*, *Anticarsia gemmatilis*, *Heliothis armigera*; key to adults. [P. B.]
- Evans, William H., "Foodplants of *Pero macdunnoughi*." *Lepid. News*, vol.10: p.168. 1957.
- Fallig, P. W., "The Ichneumonidæ or parasitic Hymenoptera of Georgia." *Emory Univ. Mus. Bull.* no.9: 78pp. 1950. Lists hosts, including numerous Lepidoptera; no host index. [P. B.]
- Fearnehough, T. D., "A note on rearing *Hydriomena ruberata* Freyer" *Ent. Rec. & Journ. Var.*, vol.64: p.88. 1952. Larval behaviour & pupation; reared on sallow. [P. B.]
- Fearnehough, T. D., "Experiments with eggs of *Lysandra coridon*." *Ent. Rec. & Journ. Var.*, vol.69: pp.230-231. 1957. When eggs containing fully formed larvæ which appeared to be hibernating normally were opened, larvæ emerged & began to feed. [P. B.]
- Fedderson, Tage, "Mere om *Calotenia celsia*" [in Danish]. *Ent. Meddelelser*, vol.26: pp.506-507. 1953. These noctuids are attracted to flowering heads of *Festuca* & *Calamagrostis*. Sp. apparently well established in Denmark. [P. B.]
- Ferrière, Ch., "Les parasites de *Lyonetia clerckella* près de Lausanne" [in French]. *Mitt. schweiz. ent. Ges.*, vol.25: pp.145-146. 1952. Records 8 parasites & their frequency. [P. B.]
- Ferrière, Ch., "Parasites de *Lyonetia clerckella* en Valais (Hym. Chalcidoidea)" [in French]. *Mitt. schweiz. ent. Ges.*, vol.25: pp.29-40. 1952. Describes 6 eulophids (2 new spp.) reared from this moth. [P. B.]
- Ferrière, Ch., "Observations sur les parasites de l'hyponomeute du pommier" [in French]. *Mitt. schweiz. ent. Ges.*, vol.26: pp.149-150. 1953. Records 11 parasites of *Hyponomeuta malinellus*. [P. B.]
- Fiedler, H. G., "Biologie und Bekämpfung der Kaffeeminiermotte Ostafrikas unter Berücksichtigung des Klimas" [in German]. *Zeitschr. angew. Ent.*, vol.31: pp.38-76, 8 figs. 1949. Biology and control of *Leucoptera coffeina* and *L. coffeella*. The moths are similar but differ in structure and habits at all stages (which are carefully described). Some parasites recorded. [P. B.]
- Fiedler, O. G. H., "Entomologisches aus Afrika (Beobachtungen über Kaffeeschädlinge). IV. Ist der Kaffeezünsler wirklich ein Schädling?" [in German]. *Zeitschr. angew. Ent.*, vol.32: pp.304-306. 1950. Biology of *Thliptoceras octoguttale* (Pyralididæ) on coffee. [P. B.]
- Fife, L. C., C. B. Cowan, & J. W. Davis, "Factors influencing winter carryover of Pink Bollworm in central Texas." *Journ. econ. Ent.*, vol.50: pp.642-644. 1957. Effects of weather and host plant conditions on overwintering of *Pectinophora gossypiella*. [W. C.]
- Figueroa Potes, Adalberto, "El cogollero del tomate en el Valle del Cauca. *Keiferia lycopersicella* (Busk) Lepidoptera — Gelechiidæ" [in Spanish; English summary]. *Acta agron.*, Palmira, vol.1: pp.1-18. 1950. Biology & control; brief description of stages. [P. B.]

- Finlayson, L. H., & V. Ann Walters, "Abnormal metamorphosis in saturniid moths infected by a microsporidian." *Nature*, vol.180: pp.713-714. 1957. Infection of *Hyalophora cecropia*, *Antheraea pernyi*, & *A. polyphemus* with *Nosema* sp. results in adults with some pupal, or even larval, structures. Parasite apparently upsets hormone balance locally. [P. B.]
- Fischer, Ch., "Quelques indications concernant l'élevage et l'hivernage de *Gastropacha quercifolia* O. et *G. populifolia* Esp." [in French]. *Bull. Soc. ent. Mulhouse*, 1948: pp.86-88. 1948. Notes on biology & rearing. [P. B.]
- Fischer, Franz, "Zur Zucht der Raupen von *Heliothis scutosa*, Schiff." [in German]. *Ent. Nachrichtenbl. österr. und schweizer Ent.*, vol.3: pp.183-184. 1951. Foodplants *Artemisia*, *Anthemis arvensis*. [P. B.]
- Fischer, Franz, "Interessante Beobachtungen bei einigen bekannten Noctuiden" [in German]. *Ent. Nachrichtenbl. österr. und schweizer Ent.*, vol.4: pp.38-43. 1952. Rearing notes on *Perigrapha cincta*, *Hylomania conspiciellaris*, & *Episema glaucina*. [P. B.]
- Flores, Hilario, "Acerca de la atracción sexual a distancia en los lepidopteros" [in Spanish]. *Graellsia*, vol.8: pp.19-22. 1950. Shows that attraction of ♂ by virgin ♀ cannot be by electromagnetic radiation. [P. B.]
- de Fluiter, H. J., "Insecten, schadelijk bij het kruisingswerk met populieren" [in Dutch]. *Tijdschr. Ent.*, vol.94: pp.vii-xi. 1951. Records *Amathes circellaris*, *A. lota*, *Epiblema nissella*, *Steganoptycha minutana*, & *Tachyptilia populella*, damaging *Populus*. [P. B.]
- Foltin, Hans, "Neues und Wissenswertes aus Oberösterreich. Biologisches über einige Falterarten" [in German]. *Zeitschr. wiener ent. Ges.*, vol.39: pp.407-411. 1954. Biological notes on *Cerura furcula*, *Hoplitis milhauseri*, *Hadena gemina*, *Amphipyra livida*, & *Hylophila prasinana*; describes 2nd generation adults of last. [P. B.]
- Ford, Leonard T., "*Ethmia bipunctella* Fabr." *Ent. Gaz.*, vol.1: p.28. 1950. Describes egg and larva; foodplant *Echium vulgare*. [P. B.]
- Ford, Leonard T., "*Ethmia terminella* Fletcher (*sexpunctella* Hübner)." *Ent. Gaz.*, vol.2: p.139. 1951. Describes larva; foodplant *Echium*. [P. B.]
- Ford, L. T., "Notes on Microlepidoptera." "Winter work for the microlepidopterist." *Ent. Rec. & Journ. Var.*, vol.67: pp.294-295, 328-329. 1955. Foodplants & methods of collecting various British spp. [P. B.]
- Ford, L. T., "A note on the ova and larva of *Heterographis oblitella* (Zeller) (Lep: Phycitidæ)." *Ent. Gazette*, vol.8: p.27. 1957.
- Ford, R. L. E., "Insects associated with the plant *Oenanthe phellandrium*." *Ent. Gaz.*, vol.1: p.27. 1950. *Depressaria nervosa* feeds on flowers, *D. ultimella* in stems; two parasites recorded. [P. B.]
- Fountain, H. G., "The life history of *Parage megæra* Linn." *Proc. Birmingham nat. Hist. philos. Soc.*, vol.18: pp.29-30. 1949. Description of all stages & emergence. [P. B.]
- Fransen, J. J., & P. Nieuwdorp, "De invloed van de voedselplant op de ontwikkeling van de Ringelrups (*Malacosoma neustria* L.)" [in Dutch]. *Medded. Direct. Tuinbouw*, vol.12: pp.404-405. 1949. Comparison of larval development on 20 spp. of trees. [P. B.]
- Franz, Jost, "Ein Vergleich des europäischen und des nordarikanischen Tannentriebwicklers (*Choristoneura murinana* (Hb.) und *C. fumiferana* (Clem))" [in German; English summary]. *Zeitschr. Pflanzenkrankh.*, vol.64: pp.578-584, 4 figs. 1957. Points out great similarity in biology of these spp., & some differences in larval behaviour. [P. B.]
- Franz, J., & A. Krieg, "Virosen europäischer Forstinsekten" [in German; English summary]. *Zeitschr. Pflanzenkrankh.*, vol. 64: pp. 1-9. 1957. Survey of viruses recorded from European forest insects (mainly Lepidoptera—13 spp.) and general discussion of their biological significance. [P. B.]
- Fraser, F. C., "*Argynnis aglaja* L. (Lep. Nymphalidæ) the prey of a frog, *Rana temporaria* L." *Ent. mo. Mag.*, vol. 88: p. 199. 1952.
- Fraser, F. C., "*Cerura vinula* (L.) (Lep., Notodontidæ) larva feeding on *Salix repens* L." *Ent. mo. Mag.*, vol. 90: p. 251. 1954. New foodplant record. [P. B.]
- Fraser, F. C., "High infestation of larvæ of *Dasychira fascelina* (L.) (Lep., Lymantriidæ) by *Amblyteles fossorius* (L.) (Hym., Ichneumonidæ)." *Ent. mo. Mag.*, vol. 90: p. 238. 1954.
- Fraser, F. C., "Duplicated beak-marks on wing of *Nymphalis io* (L.) (Lep., Nymphalidæ)." *Ent. mo. Mag.*, vol. 90: p. 3, 1 fig. 1954.

- Fraser, F. C., "High mortality of larvæ of *Euphydryas aurinia* (Rott.) (Lep., Nymphalidæ) from parasitization by *Apanteles bignelli* Marsh. (Hym., Braconidæ)." *Ent. mo. Mag.*, vol. 90: p. 253. 1954.
- Fukazawa, Hiromu, "Observation on the hatching of eggs of *Luehdorfia puziloi* Ershov. (Papilionidæ)" [in Japanese]. *Shin Konchu*, vol. 4, no. 10: pp. 14-16, 2 figs., 3 tables. 1951.
- Fukuda, Haruo, "Yearly life-cycle of *Celastrina albocærulea* Moore in Kyûshû (Lycænidæ)." *Shin Konchu*, vol. 6, no. 5: pp. 21-22. 1953. Foodplants: *Prunus* (Rosacæ), *Dicalix* (Symlocacæ), *Ilex* (Aquifoliacæ), & *Viburnum* (Caprifoliacæ). [T.L.]
- Fullaway, D. T., "New species of Hymenoptera." *Proc. Hawaiian ent. Soc.*, vol. 16: pp. 40-44. 1956. Includes parasites reared from *Cremastobombycia lantanella*, *Myelois ceratoniæ*, & *Opogona* sp. [P. B.]
- Gäbler, H., "Nonnenaufreten in Sachsen" [in German]. *Allg. Forstzeitschr.*, vol.2: pp.108-109. 1947. Outbreak of *Lymantria monacha*; notes on population density, mortality, & predators. [P. B.]
- Gäbler, Hellmuth, "Beobachtungen über den Kiefernprozessionsspinner" [in German]. *Zeitschr. Pflanzenkrankh.*, vol.58: pp.92-96, 4 figs. 1951. Notes on biology & control of *Cnethocampa pinivora*. [P. B.]
- Gäbler, Hellmuth, "Die Tachine *Carcelia processionæa* Rtzbg. als Parasit des Kiefernprozessionsspinners *Cnethocampa pinivora* Tr." [in German]. *Zeitschr. angew. Ent.*, vol.34: pp.294-296, 3 figs. 1952. Notes on biology and morphology of parasite; mentions some other larvævorid flies attacking *Cnethocampa*. [P.B.]
- Gäbler, Hellmuth, "Beitrag zur Kenntnis von tierischen Forstsamenschädlingen" [in German]. *Beitr. Ent.*, vol.3: pp.479-487, 8 figs. 1953. Biology of *Epiblema penkleri-ana*, *E. nisella*, *Orthosia circellaris*, *Xanthia gilvago*, & other insects attacking buds & catkins of various trees. [P. B.]
- Garcés O., Carlos, & Luis Gallego F., "Algunas enfermedades y plagas que atacan al Manzano en Antioquia" [in Spanish]. *Rev. Facult. nac. Agron.*, Medellín, vol.7: pp.443-494, 20 figs. 1947. Notes on biology & control of pests of apple in Colombia, including *Carpocapsa pomonella*, *Automeris janus*, & *Phobetrion hipparchio*; poor figures of larvæ & adults. [P. B.]
- Gardiner, B. O. C., "Wasps attacking *Pieris brassicæ* L." *Ent. Rec. & Journ. Var.*, vol.64: p.355. 1955.
- Gardiner, Brian O. C., "Some observations on breeding *Catocala fraxini* L." *Ent. Rec. & Journ. Var.*, vol.68: pp.202-205. 1956. Successful rearing, through 2 generations, on Black Poplar. [P. B.]
- Gardner, F. W., "Breeding of *Psodos coracina* Esp." *Ent. Gaz.* vol.1: pp.47-48, 1 fig. 1950. Describes early stages; reared on *Calluna vulgaris* and *Erica darleyensis*. [P.B.]
- Gauss, Rudolf, "Die Lärchenminiermotte *Coleophora laricella* Hb., ein neuer Schädling and der Douglasie?" [in German]. *Zeitschr. angew. Ent.*, vol.40: pp.52-54, 2 figs. Feb. 1957. Reports of this sp. mining needles of Douglas Fir. [P. B.]
- Gavrilović, Dušanka, & Ljubodras Janković, "Ecological observations on caterpillar Gypsy Moth (*Lymantria dispar* L.) 1950-51" [in Serbian; English summary]. *Acad. serbe Sci. XXXI, Inst. Ecol. Biogeogr.*, no.4: pp.113-137, 8 figs. 1953. Most larval hatching from 6 to 10 A.M., none at night. New larvæ at 17°-20° C. fast for 4-6 days before feeding. Molting solitary for 1st & 2nd instars, social later. ♂ larvæ molt 5 times, ♀ ♀ 6 (80%) or 5 (20%) times. Larvæ feed (or at least defecate) most at night. [C. R.]
- Gavrilović-Zečević, Dušanka, "Contribution to the knowledge of the Gypsy Moth's laying at Ada Huja 1949/50" [in Serbian; English summary]. *Acad. serbe Sci. XXXI, Inst. Ecol. Biogeogr.*, no.4: pp.93-111, 5 figs. 1953. Detailed analysis of oviposition sites. [C. R.]
- Geier, P. "Enseignements écologiques du recensement par sondage d'un grand ensemble de pontes de *Cacæcia rosana* L. (Lep., Tortricidæ), exposées aux attaques d'un parasite (*Trichogramma cacæciae* Marchal, Hym., Chalcididæ) et de prédateurs ornithologiques" [in French; English summary]. *Mitt. schweiz. ent. Ges.*, vol.29: pp.19-40, 8 figs. 1956. Describes method of sampling for studying distribution of *C. rosana* egg masses in orchard. Describes distribution of clusters (not uniform). Considers effects of parasite on population negligible; bird predation, directed against the most dense concentrations of egg clusters, may support rather than diminish the abundance of the species. [P. B.]

- Geier, P., "Observations sur les parasites du Carpocapse (*Cydia pomonella* L.) près de Genève" [in French; English summary]. *Revue suisse Zool.*, vol.64: pp.497-525, 19 figs. 1957. Records 6 larval parasites & 2 hyperparasites; describes biology of parasites & their effects on Codling Moth populations. [P.B.]
- Geoffrion, Roger, "Influence de divers facteurs écologiques sur la fécondité de la cochyliis (*Clysis ambiguella* Hb.) et du carpocapse (*Laspeyresia pomonella* L.)" [in French]. *C. R. Acad. Sci.*, Paris, vol.241: pp.1222-1225. 1955. Reduction or absence of light during larval period reduces number of eggs laid. [P.B.]
- Hinton, H. E., "Protective devices of endopterygote pupæ" *Trans. Soc. Brit. Ent.*, vol.12: pp.49-92, 23 figs. 1952. Deals with passive methods (pensile cocoons, protective or warning color, protective resemblance) and active devices; the latter include mandibles, stridulatory organs, "gin traps" of hardened cuticle between adjacent movable segments, etc. Distinguishes between devices effective against large (mostly vertebrate) and small predators. A stimulating paper on a neglected subject. [P.B.]
- Hinton, H. E., "The larvae of the species of Tineidæ of economic importance." *Bull. ent. Res.*, vol.47: pp.251-346, 216 figs. 1956. Describes larvae of 32 spp., with figures of setal patterns & other structural characters; key to these larvae. Notes on habits of 16 other spp. [P.B.]
- Hinz, Rolf, "Zur Systematik und Ökologie der Ichneumoniden I (Hym.)" [in German]. *Deutsche ent. Zeitschr.*, N.F., vol.4: pp.86-90. 1957. Records parasites of *Pieris brassicae*, *Gonepteryx rhamni*, & *Miana ophiogramma*. [P.B.]
- Hiraga, Sota, "Breeding of *Celastrina sugitanii* Matsumura (Lycænidæ)" [in Japanese]. *Essa Konchu Dôhokai Kaihō*, vol.6: pp.83-89, 5 figs. 1952. Foodplant: *Æsculus turbinata*. [T.I.]
- Hiraga, Sota, "Life-history of *Erebia nipponica* Janson (Satyridæ)" [in Japanese]. *Essa Konchu Dôhokai Kaihō*, vol.6: pp.1-5, 5 figs. 1952. Foodplants: grasses. [T.I.]
- Hiraga, Sota, "Life of *Maculinea arionides* (Lycænidæ)" [in Japanese]. *Shin Konchu*, vol.5, no.2: pp.16-18, 3 figs. 1952. Preliminary report on the phyto-predaceous habit. [T.I.]
- Hiromoto, Senta, "Growth of caterpillars (Papilionidæ)" [in Japanese]. *Shin Konchu*, vol.5, no.1: pp.14-18, 2 figs., 8 tables. 1952. Weights of consumed leaves, excretion, and increase in larval weights are measured and compared in each larval instar of *Papilio xuthus*, *P. protenor demetrius*, & *Menelaides alcinous*. [T.I.]
- Hirose, Makoto, "A mass of eggs produced by the joint laying of two or more females of *Neozephyrus taxila* (Lycænidæ)" [in Japanese]. *Shin Konchu*, vol.5, no.4: pp. 34-35. 1952.
- Hodgson, S. B., "*Biston betularia* attacked by a wasp." *Entomologist*, vol.90: p.243. 1957.
- Hoffman, Emil, "Biologische Beobachtungen bei unseren heimischen *Parnassius*-Arten der *apollo*-Gruppe" [in German]. *Ent. Nachrichtenbl.*, Vienna, vol.1: pp.79-86. 1954. Notes on rearing & biology of *P. apollo*, *P. delius*, & *P. phæbus styriacus*. Points out that size of *P. apollo* adults depends on food plant; those reared on *Sedum maximum* are larger than those fed *S. album*. [P.B.]
- Holloway, Paul H., "Insects and ivy-bloom." *Ent. Rec. & Journ. Var.*, vol.63: pp.275-277. 1956. Records insect visitors, especially moths. [P.B.]
- Houtman, G., "Twee mineerders, schadelijk voor het appelblad: *Nepticula maella* Hb. en *Phytomyza hevingiana* Hendel" [in Dutch]. *Ent. Berichten*, vol.14: pp.67-70, 6 figs. 1952. Notes on biology of these miners in apple leaves. [P.B.]
- Howard, J. O. T., "*Celerio galii* Schiff. at Dorking." "Breeding *Celerio galii* Schiff." *Ent. Rec. & Journ. Var.*, vol.67: pp. 235-236, 277-278. 1955. Account of rearing a British immigrant. [P.B.]
- Howarth, T. G., "Notes on *Catocala fraxini* L. - a British resident species." *Ent. Gaz.*, vol.1: pp.41-44, 4 figs. 1950. Describes rearing; photos of larvæ. The species appears to be resident in Kent. [P.B.]
- Howarth, T. G., "Notes on the life history of *Margaronia unionalis* Hbn." *Ent. Gaz.* vol.1: pp.87-88, 1 fig. 1950. Describes early stages; figures pupa. Reared on *Jasminum officinale*. [P.B.]
- Howe, R. W., & J. A. Freeman, "Insect infestation of West African produce imported into Great Britain." *Bull. ent. Res.*, vol.46: pp.643-668, 8 figs. 1955. Reports on stored products pests found in shipments of ground nuts, cocoa, and some other materials; *Ephestia cautella*, *Corcyra cephalonica*, and *Plodia interpunctella* found in many shipments of all types. [P.B.]