

RECENT LITERATURE ON LEPIDOPTERA

(Under the supervision of PETER F. BELLINGER)

Under this heading are included abstracts of papers and books of interest to Lepidopterists. The world's literature is searched systematically, and it is intended that every work on Lepidoptera published after 1946 will be noticed here; omissions of papers more than 3 or 4 years old should be called to Dr. BELLINGER's attention. New genera and higher categories are shown in CAPITALS, new species and subspecies are noted, with type localities if given in print. Larval foodplants are usually listed. Critical comments by abstractors may be made. Papers of only local interest and papers from *The Lepidopterists' News* and the *Journal* are listed without abstract. Readers, not in North America, interested in assisting with this very large task, are invited to write Dr. BELLINGER (Dept. of Natural Sciences, San Fernando Valley State College, Northridge, Calif., U. S. A.). Abstractors' initials are as follows: [P.B.] — P. F. BELLINGER; [I.C.] I. F. B. COMMON; [W.C.] — W. C. COOK; [A.D.] — A. DIAKONOFF; [W.H.] — W. HACKMAN; [T.I.] — T. IWASE; [J.M.] — J. MOUCHA; [E.M.] — E. G. MUNROE; [N.O.] — N. S. OBRAZTSOV; [C.R.] — C. L. REMINGTON; [J.T.] — J. W. TILDEN; [P.V.] — P. E. L. VIETTE.

F. BIOLOGY AND IMMATURE STAGES

- Burmans, Karl, "Aus dem Leben von *Crambus luctiferellus* Hb. (Lepidoptera, Pyralidae)" [in German]. *Zeitschr. wiener ent. Ges.*, vol.39: pp.209-218. 1954. Describes egg, larva (reared on *Racomitrium canescens*) & mating flight. [P.B.]
- Burmans, Karl, "Ein kleiner Beitrag zur Kenntnis der Lebensweise der Raupen von *Acasis (Lobophora) appensata* Ev. (Lepidoptera, Geometridae)" [in German]. *Nachrichtenbl. bayer. Ent.*, vol.4: pp.23-26. 1955. Details of larval habits; feeds on leaves & berries of *Actaea spicata*. [P.B.]
- Burmans, Karl, "*Nyssia alpina* Sulz (Lepid., Geometridae). Einige lebenskundliche Beobachtungen aus Nordtirol" [in German]. *Zeitschr. wiener ent. Ges.*, vol.41: pp.251-257. 1956. Detailed notes on biology. [P.B.]
- Burmans, Karl, "*Sawammerdamia zimmermani* Now. (Lepidoptera, Yponomeutidae)" [in German]. *Zeitschr. wiener ent. Ges.*, vol.41: pp.187-190, 1 fig. 1956. Describes larva, pupa, & biology; foodplant *Saxifraga caesia*. [P.B.]
- Burmans, Karl, "Etwas aus dem Leben der Endrosen (Lepidoptera, Endrosidae)" [in German]. *Zeitschr. wiener ent. Ges.*, vol.42: pp.65-72. 1957. General account of biology & habits of *Endrosa* spp. in Tyrol. [P.B.]
- Burns, A. N., "Moisture sucking habit among Australian butterflies." *Victorian Nat.*, vol.70: pp.228-229. 1954. Notes on butterfly spp. observed imbibing moisture from damp surfaces in various localities in Australia. [I.C.]
- Burns, A. N., & F. Angel, "The Small Brown Azure (*Ogyris atanes* Feld.)" *Victorian Nat.*, vol.68: pp.183-186, 1 pl. 1952. Descriptions and figures of adults and immature stages of a lycenid taken on Kangaroo Island and in other localities in South Australia. Larvae feed in the bark and shoots of *Choretrum glomeratum* (Santalaceae) and are attended by the ant *Myrmophyma ferruginipes*. [I.C.]
- Busbridge, William E., "Moths attacked by birds." *Entomologist*, vol.85: p.215. 1952. Stonechats eating *Saturnia pavonia*. [P.B.]
- Busch, Theo, "Beobachtungen über die Anlockungswirkung des Duftstoffes der ♀♀ auf die ♂♂ von *Lasiocampa quercus* L. in der Hoheifel" [in German]. *Zeitschr. Lepid.*, vol.3: pp.169-170. 1955. Observations on reactions of wild ♂♂ to ♀ scent. [P.B.]
- Callahan, Philip S., "Oviposition response of the imago of the Corn Earworm, *Heliothis zea* (Boddie)." *Bull. ent. Soc. Amer.*, vol.2, no.3: p.19. 1956. Abstract.
- Callahan, Philip S., "Reproductive behaviour and oviposition of the Corn Earworm, *Heliothis zea* (Boddie)." *Bull. ent. Soc. Amer.*, vol.2, no.3: p.19. 1956. Abstract.
- Callan, E. McC., "Observations on the species of *Pachyzancla* Meyrick (Lep., Pyraustidae) in Trinidad." *Ent. mo. Mag.*, vol.89: pp.160-161. 1953. *P. bipunctalis*, *P. periusalis*, *P. phaeopteralis*; records foodplants & discusses economic importance; lists parasites & predators. [P.B.]

- Camping, M. W., "Enkele kweekervaringen" [in Dutch]. *Ent. Berichten*, vol.14: pp.359-360. 1953. Rearing notes on *Macrothylacia rubi*, *Aglia tau*, *Orgyia antiqua*, & *Diataraxia splendens*. [P. B.]
- Camping, M. W., "De cocon van *Orgyia recens* Hb." [in Dutch]. *Ent. Berichten*, vol. 15: p.300. 1955.
- Capek, Milan, "Einige Bemerkungen über die Parasiten der Raupen der Motte *Tachyptilia disquei* Meess" [in Czech; Russian & German summaries]. *Folia zool. ent.*, vol.4: pp.29-32, 2 figs. 1955. 3 spp. of hymenopterous parasites of the caterpillars are recorded: *Lycorina triangulifera*, *Apanteles čapeki*, and *Perisierola gallicola*. [J. M.]
- Capek, M., & H. Zwolfer, "*Apanteles murinanæ* nov. spec. (Braconidæ, Hym.), ein neuer Parasit des Tannentriebwicklers" [in German; English summary]. *Mitt. Schweiz. ent. Ges.*, vol.30: pp.119-126, 5 figs. 1957. Parasite of *Choristoneura murinana*. [P. B.]
- Carlier, S. E., "Some leguminous plants and the lepidopterous insects which feed on them." *Proc. Birmingham nat. Hist. Soc.*, vol.18: pp.75-79, 113-118, 6 pls. 1954; 1955. Figures of plants, with associated Lepidoptera: *Lathyrus* spp., *Vicia cracca*, *Lotus corniculatus*, *Hippocrepis comosa*, *Ornithopus perpusillus*; Lepidoptera listed. [P. B.]
- Carpenter, G. D. Hale, "Homechromie et moyens de défense chez les insectes" [in English]. *C. R. XIII^e Congr. intern. Zool.*: pp.466-467. 1949. Abstract; natural selection as an explanation for cryptic, aposematic, & mimetic patterns. [P. B.]
- Carter, W. A. C., "Stridulation of Hairstreak pupæ." *Ent. Rec. & Journ. Var.*, vol.64: pp.254-255. 1952. Mechanism not discovered. [P. B.]
- Carter, W. A. C., "Parasites of *Limnitis camilla* L." *Ent. Rec. & Journ. Var.*, vol.66: pp.85-86. 1954. *Apanteles* spp.
- Cayrol, René, "Influence de l'alimentation et de l'effet de groupe sur la pigmentation des chenilles de *Plusia gamma* L." [in French]. *C. R. Acad. Sci., Paris*, vol.243: pp.601-602. 1956. Larval coloration varies with foodplant, but differences are slight except under crowded conditions, when dark larvæ are produced. [P. B.]
- Cepelák, Jiří, "Beitrag zur Kenntnis der Raupenfliegen des Ringelspinners *Malacosoma neustrium* L." [in Czech; Russian & German summaries]. *Folia zool. ent.*, vol.4: pp.167-174, 3 figs. 1955. Describes a number of dipterous parasites (Larvævoridæ) from *M. neustrium* in S. Slovakia. [J. M.]
- Cepelák, Jiří, "Beitrag zur Kenntnis der schlesischen Raupenfliegen (Dipt. Larvævoridæ)" [in Czech; Russian & German summaries]. *Acta Rer. nat. Dist. Ostraviensis*, vol.16: pp.222-223, 8 figs. 1955. Lists a number of parasite spp. from Silesia with remarks on their hosts among lepidopterous larvæ. [J. M.]
- Cermak, Květon, "Insect pests which attack the seeds of our main forest trees" [in Czech; Russian & English summaries]. *Prace vyzk. ustavů lesnických CSR*, vol.1: pp.5-87, 32 figs. 1952. Lists a number of insect spp. whose larvæ attack seeds of forest trees in Czechoslovakia. Lepidoptera are represented by many spp., namely Tortricidæ. Interesting paper in applied forest entomology. [J. M.]
- Chalmers-Hunt, J. M., "Observations on *Thalera fimbrialis* Scopoli in Kent in 1951, with some notes on its early stages." *Ent. Rec. & Journ. Var.*, vol.64: pp.10-11. 1952. Fed on *Achillea millefolium*. Description of egg. [P. B.]
- Chandy, K. C., "A note on *Apanteles flavipes* Cam., a braconid parasite of the Chelam Stem Borer, *Chilo zonellus* Swinh." *Journ. Bombay nat. Hist. Soc.*, vol.53: pp.6-9, 5 figs. 1955. Records other pyralid hosts; describes biology. [P. B.]
- Charpentier, L. J., "1954 studies of parasites for sugarcane borer control in Louisiana." *Journ. econ. Ent.*, vol.49: pp.267-268. 1956. Laboratory and field studies on parasitic control of *Diatraea saccharalis*. [W. C.]
- Chaudhry, Gulam-Ullah, "The development and fecundity of the Oriental Fruit Moth, *Grapholitha (Cydia) molesta* (Busck) under controlled temperatures and humidities." *Bull. ent. Res.*, vol.46: pp.869-898, 13 figs. 1956.
- Cheema, D. S., "Studies on the bionomics of the Case-bearing Clothes Moth, *Tinea pellionella* (L.)" *Bull. ent. Res.*, vol.47: pp.167-182, 1 pl., 2 figs. 1956. Data on biology of all stages and duration of instars, and on effects of temperature, humidity, & light on various activities. [P. B.]
- Cherian, M. C., & V. Margabandhu, "*Trichogrammatoidea nana* Zehnt. (Hym. Chalcidoidea) — an egg parasite of the sugarcane borer *Argyria sticticrasis* Hampson: a new record for South India." *Journ. Bombay nat. Hist. Soc.*, vol.48: pp.157-158.

1948. Lists recorded hosts; apparently attacks any available lepidopterous egg. [P.B.]
- Cherian, M. C., & V. Margahandhu, "Identity of *Microbracon brevicornis* Wesm and *Microbracon hebetor* Say." *Journ. Bombay nat. Hist. Soc.*, vol.48: pp.334-337. 1949.
- Lists numerous lepidopterous hosts of these Hymenoptera. [P.B.]
- Chevallier, L., "*Lampides haeticus* Linn. in Surrey." *Ent. Rec. & Journ. Var.*, vol.64: pp.274-277. 1952. Describes rearing.
- Chopard, Lucien, *Le mimétisme*. 335 pp., 100 figs. Paris: Payot. 1949. See notice in *Lepid. News*, vol.5: p.61.
- Christie, L., "Notes on rearing *Lampides haeticus* Linn." *Ent. Gaz.*, vol.4: pp.202-204. 1953. Careful description of larval habits; larvæ fed on buds, pollen, and seeds of *Lathyrus latifolius*. [P.B.]
- Church, H. F., "Sex ratios in the Pierinæ." *Entomologist*, vol.90: pp.19-20. 1957. Some data from captures of *P. napi*, *P. brassicae*, & *P. rapæ* in Britain, showing excess of ♂♂. [P.B.]
- Ciaccio, G., "Essai d'inoculation de *Rickettsia prowazeki* et *Rickettsia mooseri* chez les insectes. Étude des anticorps spécifiques" [in French]. *C. R. XIII^e Congr. intern. Zool.*: pp.496-498. 1949. *Bombyx mori*, etc., may be infected with *Rickettsia*, & are incapable of forming antibodies. [P.B.]
- Clark, Edwin C., "Survival and transmission of a virus causing polyhedrosis in *Malacosoma fragile*." *Ecology*, vol.38: pp.728-732. 1956. Shows that virus can survive winter on trees & infect larvæ of this univoltine sp. in spring. [P.B.]
- Clark, Edwin C., "The Great Basin Tent Caterpillar in relation to Bitterbush in California." *Calif. Fish & Game*, vol.42: pp.132-142, 4 figs. 1956. Describes biology of *Malacosoma fragile* on *Purshia tridentata*; figures early stages; records other food-plants. [P.B.]
- Clark, Gowan, "The life history of *Crudaria leroma*." *Journ. ent. Soc. southern Africa*, vol.14: pp.127-132, 1 pl. 1951. Detailed description; foodplant *Mimosa*. [P.B.]
- Clark, Gowan C., "Some peculiarities in the early stages of some butterflies." *Journ. ent. Soc. southern Africa*, vol.15: pp.96-98. 1952. Variations in number of instars and length of pupal period in South African spp. [P.B.]
- Clark, Gowan C., & C. G. C. Dickson, "The honey gland and tubercles of larvæ of the Lycænidae." *Lepid. News*, vol.10: pp.37-43, 3 pls. 1956.
- Clark, Gowan C., & C. G. C. Dickson, "The life history of *Lepidochrysops patricia* (Trim.) (Lepidoptera: Lycænidae)." *Journ. ent. Soc. southern Afr.*, vol.20: pp.114-116, 1 pl. 1957. Describes all stages & figures them in color; larva feeds on *Lantana camara* when young & lives in nests of *Camponotus maculatus* in last 2 instars. [P.B.]
- Clarke, C. A., "A note on the larva of *Maculinea alcon* (Lep. Lycænidae)." *Entomologist*, vol.88: pp.49-50, 1 pl. 1955. Young larvæ fed on *Gentiana pneumonanthe*; older larvæ reared by ants. [P.B.]
- Clarke, J. F., Gates, "Grant no.1259 (1950). To secure larvæ and rear moths of the genus *Depressaria* (Ecophoridae) attached to plants of the family Umbelliferae and to determine the degree of host specificity of these moths and their evolutionary relationship to the host plants." *Yearb. Amer. philos. Soc.*, 1950: p.136. 1951. Progress report.

G. PHYSIOLOGY

- Lichtenstein, N., "Proteolytic enzymes of insects. I. Proteases of the Silkworm (*Bombyx mori* L.)" [in English; French summary]. *Enzymologia*, vol. 12: pp. 156-165. 1947. Survey of glycerol-soluble proteolytic enzymes in all stages (not found in eggs). [P.B.]
- Limpel, L. E., & J. E. Casida, "Iodine metabolism in insects. I. *In vivo* metabolism of radioiodide." *Journ. exper. Zool.*, vol.135: pp.19-27. 1957. Study of retention of ingested radioiodide & its chemical form in larvæ of *Galleria mellonella*, *Euchaetias egle*, & other insects. [P.B.]
- Magnus, D., "Wie sieht der Kaisermantel sein Weibchen?" [in German]. *Umschau*, vol. 54: pp. 262-263, 5 figs. 1954. Appearance and disappearance of orange-brown wing color attracts ♂ of *Argynnis paphia*, even in absence of normal markings, shape, or movement. [P.B.]
- Manunta, C., "Sul metabolismo dell' azoto in *Bombyx mori*. — III. L'acido allantoinico durante lo sviluppo larvale nella razza bivoltina Awojiku" [in Italian]. *Rend.*

BEHAVIOR

- Gl. Sci. fis. mat. nat. Accad. naz. Lincei*, ser. 8, vol. 4: pp. 117-121. 1948: Records changes in allantoinic acid content of larva during development, and relates these to problem of nitrogen metabolism. [P.B.]
- Manunta, C., "Sul metabolismo dell' azoto in *Bombyx mori*. — IV. Ricerca degli enzimi allantoinici et allantoinasi nei bachi da seta durante lo sviluppo larvale" [in Italian]. *Rend. Gl. Sci. fis. mat. nat. Accad. naz. Lincei*, ser. 8, vol. 4: pp. 211-214, 1948. Presence of enzyme converting allantoin to allantoinic acid in larval tissues. [P.B.]
- Miyao, Takeo, "Wing-dimension of butterflies in relation to copulation flight" [in Japanese]. *Shin Konchu*, vol. 6, no. 11: pp. 18-19, 1 table. 1953. ♂♂ have more capacity to flight than ♀♀ do in *Pieris rapae crucivora*. [T.I.]
- Morita, Hiromichi, Satoru Doira, Kimihisa Takeda, & Mastaro Kuwabara, "Electrical response of contact chemoreceptor on tarsus of the butterfly, *Vanessa indica*." *Mem. Fac. Sci. Kyushu Univ., Ser. E., Biol.*, vol. 2: pp. 119-139, 9 figs. 1957. Describes method of stimulation (direct application of solutions to tarsal sensory hair) and recording of impulses. Shows existence of specific receptors for several different substances (sucrose, NaCl, etc.); also nervous response to stimulation of tarsal spines & integumentary proprioceptors. [P.B.]
- Moulinier, Claude, "Le glycogène de l'œuf embryonné de *Bombyx mori* et ses variations dans les conditions habituelles de conservation" [in French]. *C. R. Soc. Biol.*, vol. 150: pp. 1402-1403. 1956. Records changes in glycogen content of silkworm egg during diapause. [P.B.]
- Müller, Hans Joachim, "Die Bedeutung der Tageslänge für die Saisonformenbildung der Insekten, insbesondere bei den Zikaden" [in German]. *Ber. 7. Wanderversammlung deutscher Ent.*: pp. 102-120, 14 figs. 1955. Larvæ of *Araschnia levana* (offspring of summer generation), reared in artificial day length of 16 hours, developed without diapause into summer form "prorsa"; larvæ reared in 8-hour day entered diapause (and had not emerged when paper was written). [P.B.]
- Mutchmor, J. A., & W. E. Beckel, "Importance of photoperiod and temperature in inducing diapause in the European Corn Borer, *Pyrausta nubilalis* (Hbn.)." *Nature*, vol. 181: p. 204. 1958. Larvæ of multivoltine stock will enter diapause if reared at 65° F. during last instar. Percent entering diapause increases with increasing day length from 4 to 9.5 hours, but remains low at greater day lengths or in total darkness. [P.B.]
- Nawa, Saburo, & Toshifumi Taira, "Pterins found in Silkworm and *Drosophila*." *Proc. Japan Acad.*, vol.30: pp.632-635, 2 figs. 1954. Shows chemical difference in pterin pigment between normal *Bombyx mori* larvæ and larvæ of mutant *lem*. [P.B.]
- Niemierko, Stella, "Studies in the biochemistry of the Waxmoth (*Galleria mellonella*). 4. Metabolism of total phosphorus during feeding and during starvation of the larvæ." *Acta Biol. exper.*, vol.15: pp.91-99, 1 fig. 1950.
- Niemierko, Stella, "Studies in the biochemistry of the Waxmoth (*Galleria mellonella*). 5. Acid soluble phosphorus in the starving larvæ." *Acta Biol. exper.*, vol.15: pp.101-109, 1 fig. 1950.
- Niemierko, Stella & W., "Studies in the biochemistry of Waxmoth (*Galleria mellonella*). 6. Metaphosphate in the excreta of *Galleria mellonella*." *Acta Biol. exper.*, vol. 15: pp.111-123. 1950.
- Niemierko, W., & S. Cepelewicz, "Studies in the biochemistry of the Waxmoth (*Galleria mellonella*). 1. Growth of the larvæ and their chemical composition." *Acta Biol. exper.*, vol.15: pp. 57-68, 2 figs. 1950. Mainly on fat accumulation in developing larvæ. Notes great variation in number of instars, etc. [P.B.]
- Niemierko, W., & P. Wlodawer, "Studies in the biochemistry of the Waxmoth (*Galleria mellonella*). 2. Utilization of wax constituents by the larvæ." *Acta Biol. exper.*, vol.15: pp.69-78. 1950. Larvæ use about 50% of ingested wax. [P.B.]
- Niemierko, W., & L. Wojtczak, "Studies in the biochemistry of the Waxmoth (*Galleria mellonella*). 3. Oxygen consumption of the larvæ during starvation." *Acta Biol. exper.*, vol.15: pp.79-90, 1 fig. 1950.
- Palm, Nils-Bertil, "Storage and excretion of vital dyes in insects. With special regard to trypan blue." *Ark. Zool.*, n.s., vol.3: pp. 195-272, figs. 1952. Survey of dye reactions in some 125 spp., including many Lepidoptera. [P.B.]
- Petersen, B., O. Törnblom, & N.-O. Bodin, "Verhaltensstudien am Rapsweissling und Bergweissling (*Pieris napi* L. und *Pieris bryoniae* Ochs.)" [in German; English summary]. *Behaviour*, vol.4: pp.67-84, 1 fig. 1952. Study of effectiveness of differ-

- ent colors in releasing sexual behaviour in ♂. White ♀♀ are more attractive than yellow ♀♀ to ♂♂ of these spp., *P. rapæ*, *Anthocaris cardamines*, & *Leptidea sinapis*. Evidence from painted models suggests that ♂♂ perceive ultraviolet reflection from paint & are attracted to whites with such reflectance (though ♀ has little). [P.B.]
- Piepho, Hans, "Das Jugendhormon der Schmetterlinge" [in German]. *Umschau*, vol. 53: pp. 9-11, 8 figs. 1953. Review of action of hormone produced by corpus allatum, in *Galleria mellonella*. [P.B.]
- Pierantoni, Umberto, "Influenza delle varie luci sullo sviluppo del *Bombyx mori*" [in Italian; French & English summaries]. *Arch. zool. ital.*, vol.31: pp. 321-326. 1947. Reports differences in sizes of pupæ from larvæ reared under monochromatic light of various wavelengths. Violet light gave largest pupæ; yellow light, smallest. [P.B.]
- Pierpont, W. S., "Polyphosphates excreted by Wax-moth larvæ (*Galleria mellonella* L. and *Achroia grisella* Fabr.)." *Biochem. Journ.*, vol.67: pp.624-627, 1 fig. 1957.
- Possompès, Bernard, "Les données expérimentales sur le déterminisme endocrine de la croissance des insectes" [in French]. *Bull. Soc. zool. France*, vol.78: pp.240-275, 16 figs. 1953. Review of hormonal control of insect growth & metamorphosis. [P.B.]
- Potter, C., K. A. Lord, J. Kenton, E. H. Salkeld, & D. V. Holbrook, "Embryonic development and esterase activity of eggs of *Pieris brassicae* in relation to TEPP poisoning." *Ann. appl. Biol.*, vol.45: pp.361-375, 8 figs. 1957.
- Powning, R. F., M. F. Day, & H. Rzykiewicz, "Studies on the digestion of wool by insects. II. The properties of some insect proteases." *Austral. Journ. Sci. Res. B.*, vol. 4: pp.49-63, 6 figs. 1951. Including *Tineola*, whose ability to digest wool is not dependent on proteases. [P.B.]
- Prat, Henri, "Analyse micro-calorimétrique des variations de la thermogenèse chez divers insectes" [in French; English summary]. *Canad. Journ. Zool.*, vol.32: pp.172-197, 32 figs. 1954. Records of heat production by individual insects under various conditions; records of *Galleria mellonella* show notable deviations of output at time of eclosion, during egg-laying, & during flight. Some records also for *Tineola bisselliella*. [P.B.]
- Punt, A., "The respiration of insects during hibernation." *Acta brevia neerland. Physiol.*, vol.16: p.30. 1948. Reports discontinuous respiration (CO₂ production) by hibernating larvæ (*Arctia*), pupæ (*Papilio*, *Sphinx*, *Agrotis*), & adults (*Vanessa*). [P.B.]
- Punt, A. W., J. Parser, & J. Kuchlein, "Oxygen uptake in insects with cyclic CO₂ release." *Biol. Bull.*, vol.112: pp.108-119, 10 figs. 1957. Includes measurements on pupæ of *Hyalophora cecropia* & *Sphinx ligustri*. [P.B.]
- Purmann, Robert, & Fritz Eulitz, "Zur Kenntnis des Erythroptenins. Über die Flügelpigment der Schmetterlinge XVI" [in German]. *Liebigs Ann. Chem.*, vol. 559: pp. 169-174. 1948. On this and related pigments from wings of pierids (*Catopsilia argante*). [P.B.]
- Ramsay, J. A., "Active transport of potassium by the Malpighian tubules of insects." *Journ. exptl. Biol.*, vol.30: pp.358-369, 1 fig. 1953. Including *Pieris brassicae*.
- Razet, Pierre, "Recherches sur la localisation des enzymes uricolytiques chez les insectes" [in French]. *Comptes rendus Acad. Sci.*, Paris, vol.236: pp. 1304-1306. 1953. Localized in fat body in *Bombyx mori* & *Antheraea pernyi*. [P.B.]
- Reali, G., "Effet parasymphatocytique de l'atropine sur les muscles locomoteurs de chenilles de lépidoptères" [in French]. *Trans. 9th intern. Congr. Ent.*, vol.1: pp.303-304. 1953. Describes experiments on effects of alkaloids atropin, pilocarpin, & eserine on larvæ of *Galleria mellonella*. [A.D.]
- Rehm, Marianne, "Die zeitliche Folge der Tätigkeitsrhythmen inkretorischer Organe von *Ephestia kühniella* während der Metamorphose" [in German]. *Roux' Archiv Entwicklungsmech.*, vol.145: pp.205-208, 17 figs. 1951. Describes secretory cycle in neurosecretory cells of brain, prothoracic glands, corpora allata, corpora cardiaca, & pericardial cells, throughout life, mainly from histological changes. [P.B.]
- de Ruiter, L., & IJ. van der Horn, "Short-term oscillations in sign of phototaxis in the Eyed Hawk caterpillar (*Smerinthus ocellata* L.)" [in English; German summary]. *Experientia*, vol.13: pp.374-375, 2 figs. 1957. Demonstrates alteration between positive and negative phototaxis in individual larvæ. [P.B.]
- Salt, R. W., "Influence of moisture content and temperature on cold-hardiness of hibernating insects." *Canad. Journ. Zool.*, vol.34: pp.283-299, 2 figs. 1955. Study of effects of dessication & exposure to low temperature on cold-hardiness of *Loxostege sticticalis* & other insects. [P.B.]

- Salt, R. W., "Natural occurrence of glycerol in insects and its relation to their ability to survive freezing." *Canad. Ent.*, vol.89: pp.491-494. 1957. Glycerol present in *Antheraea polyphemus* pupæ (resistant) & *Loxostege sticticalis* larvæ (susceptible); absent in *Anagasta kühniella* (susceptible). Other insects also tested. [P.B.]
- Sanborn, Richard C., "Experiments on the permeability of the testicular envelope of *Samia walkeri*." *Anat. Rec.*, vol.128: p.617. 1957. Abstract.
- Schadewald, Gerhard, "Lichtfang" [in German]. *Nachrichtenbl. bayer. Ent.*, vol.4: pp.75-80; vol.5: pp.59-62. 1955, 1956. Observations on reactions of moths to light, and related subjects. [P.B.]
- Schneider, Dietrich, "Elektrophysiologische Untersuchungen von Chemo- und Mechano-rezeptoren der Antenne des Seidenspinners *Bombyx mori* L." [in German]. *Zeitschr. vergl. Physiol.*, vol.40: pp.8-41, 22 figs. 1957. Study of electrical potentials recorded in isolated antennæ exposed to various stimuli, notably the ♀ sex attractant scent; ♂ antennæ have a distinctive response to this substance. [P.B.]
- Schneiderman, Howard A., & Lawrence I. Gilbert, "The distribution and chemical properties of the juvenile hormone of insects." *Anat. Rec.*, vol.128: p.618. 1957. Abstract; Saturniidae, etc.
- Seiler, J., & O. Puchta, "Neue Ergebnisse aus den Intersexualitäts-Untersuchungen an *Solenobia*" [in German]. *Zool. Anz.*, suppl. no.20 (*Verhandl. deutschen Zool. in Hamburg*): pp.142-143. 1957. In development of reproductive organs in intersexes, both ♂ and ♀ elements are present from the beginning; this contradicts Goldschmidt's theory of intersex development. [P.B.]
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ERRATA in Vol.12: nos.3-4 — page 137, 2nd line of Ae reference should be: *Lepid. News*, vol.10: pp.9-14. 1956.

Same issue, page 141, volume number for Clench reference should be 9 (not "8").

CORRECTION

On p.188 of vol.13, no.3, of the *Journal*, the abstract of the second paper by B. C. S. WARREN concludes with the remark, "Misstates facts about differences in chromosome number." This is completely incorrect, and the sentence should be deleted. My apologies are due to Mr. WARREN for this error.

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