

LITERATURE GUIDE TO METHODS FOR REARING
INSECTS AND MITES

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INTRODUCTION

A list of references is provided to acquaint investigators with some of the rearing techniques already employed for insects and mites. It is hoped that the rearing of certain groups of insects and mites can be expedited and simplified by adopting or modifying the known methods.

References were obtained by consulting issues of the Insecta section of the Zoological Record, Abstracts of Entomology, Entomology Abstracts, Bibliography of Agriculture, various entomological journals etc. for the last twenty or more years. These are grouped under general methods and methods for specific insects according to families. All references have not been read, but are presented for the information of those who may wish to do so. Some information on rearing methods undoubtedly has been omitted because the titles of the entomological papers do not suggest this subject, and because of the impracticality involved in reading all papers that might contain this information. This shortcoming may partly be overcome by consulting the references in the papers cited.

CLASS: ARACHNIDA

GENERAL

- Boczek, J. 1954. The rearing method of small insects and mites in controlled conditions of air humidity. (Pol) Ekol. polska 2:473-476.
- Rodriguez, J.G. 1959. A simplified method of rearing mites using detached leaf culture. (Abs.) Ent. Soc. Amer. No. Cent. Br. Proc. 14:40.
- Salama, H.S., and A.H. Rasmy. 1970. Artificial feeding of mites and its use in screening acaricides. Z. angew. Ent. 67:31-33.
- Singh, P. 1972. Bibliography of artificial diets for insects and mites. New Zeal. Dep. Sci. Ind. Res. Bull. 209. 75 pp.

ORDER: PHALANGIDA

Phalangidae

- Klee, G.E. and J.W. Butcher. 1968. Laboratory rearing of Phalangium opilio (Arachnida: Opiliones). Mich. Ent. 1:275-278.

ORDER: ACARINA

MESOSTIGMATA

Aceosejidae

- Rivard, I. 1960. A technique for individual rearing of the predacious mite Melichares dentriticus (Berlese) (Acarina: Aceosejidae) with notes on its life history and behaviour. Can. Ent. 92: 834-839.

Ixodidae

- Ammah-Attoh, V. 1966. Laboratory rearing of the parasitic stages of Boophilus decoloratus (Koch, 1844) on the European rabbit (Oryctolagus cuniculus). Nature, Lond. 210(5031):43-44, 77.
- Loomis, E.C. 1971. Rearing of Boophilus microplus (Acarina: Ixodidae) on the laboratory rabbit. Ann. ent. Soc. Am. 64:598-603.
- Uilengberg, G. 1967. Amblyomma chabaud: Rageau, 1964 (Ixodidae): laboratory rearing, description of larvae and supplementary observations of the nymph. (Fr) Anns. Parasit. hum. comp. 42:343-351.

Macrochelidae

- Singh, P., and J.G. Rodriguez. 1966. Food for macrochelid mites (Acarina) by an improved method for mass rearing of a nematode, Rhabditella leptura. Acarologia 8:549-550.

Phytoseiidae

- Burnett, T. 1960. A technique for maintaining acarine predator-prey populations. Can. Ent. 234-237.
- McMurtry, J.A., and G.T. Scriven. 1962. The use of agar media in transporting and rearing phytoseiid mites. J. econ. Ent. 55:412-414.
- McMurtry, J.A., and G.T. Scriven. 1965. Insectary production of phytoseiid mites. J. econ. Ent. 58:232-284.

- Rasmy, A.H. 1970. A laboratory technique for mass-rearing of a phytoseiid mite (Arach., Acari).
Z. angew. Ent. 65:159-161.

SARCOPTIFORMES

Acaridae

- Bot, J., and M.K.P. Meyer. 1967. An artificial rearing medium for acarid mites. J. Ent. Soc. Sth. Afr. 29:199.
- Burnett, T. 1960. A technique for maintaining acarine predator-prey populations. Can. Ent. 92:234-237.

Epidermoptidae

- Hall, C.C. Jr., B. McMahon, and J.T. Sams. 1971.
Collecting and rearing Dermatophagoides farinae Hughes, a mite from housedust. Ann. Allergy 29:81-85.

Oribatei

- Prokopic, J. 1966. Method of collecting and rearing oribatid mites for experimental study of the developmental cycle of tapeworms. (Ge) Angew. Parasit. 7:16-19.
- Sengsusch, H.G. 1963. Methods recommended for the preparation and culture of Oribatei. Advn. Acarology 1:181-190.

Tyroglyphidae

- Pimentel, D., M.W. Rumsey, and F.A. Streams. 1960.
Rearing tyroglyphid mites on Neurospora. Ann. ent. Soc. Am. 53:549.

- Rivard, I. 1958. A technique for rearing tyroglyphid mites on mould cultures. *Can. Ent.* 90:146-147.

TROMBIDIFORMES

Cheyletidae

- Burnett, T. 1960. A technique for maintaining acarine predator-prey populations. *Can. Ent.* 92:234-237.

Eriophytidae

- Del Rosario, M.S., and W.H. Sill Jr. 1958. A method of rearing large colonies of an eriophyid mite, Aceria tulipae (Keifer), in pure culture from single eggs or adults. *J. econ. Ent.* 51:303-306.

- Reed, D.K., A.K. Burditt, and C.R. Chittenden. 1964. Laboratory methods for rearing rust mites (Phyllocoptruta oleivora and Aculus pelekassi) on citrus. *J. econ. Ent.* 57:130-133.

- Sternlicht, M. 1967. A method for rearing the citrus bud mite (Aceria sheldoni Ewing). *Israel J. Agr. Res.* 17:57-59.

Tetranychidae

- Kamburov, S.S. 1966. Methods of rearing and transporting predacious mites. *J. econ. Ent.* 59:875-877.
- Munger, F. 1955. Rearing citrus red mites in the laboratory. *J. econ. Ent.* 48:72-74.
- Munger, F. 1956. Activated-carbon filter for purification of air for rearing citrus red mite. *J. econ. Ent.* 49:138.

- Munger, F. 1957. Equipment and technique used in laboratory studies of the citrus red mite. USDA, ARS-33-39.
- Munger, F., and J.E. Gilmore. 1960. Mass production of the citrus red mite. J. econ. Ent. 53:964-966.
- Naegele, J.A., and W.D. McEnroe. 1963. Mass rearing of the two spotted spider mite. Advn. Acarology 1:191-192.
- Specht, H.B. 1963. The rearing of European red mite under controlled environmental conditions. Can. Ent. 95:35-41.

Trombiculidae

- Lipovsky, L.J. 1953. Improved technique for rearing chigger mites (Acarina: Trombiculidae). Ent. News 64: 4-7.
- Nadchatram, M. 1968. A technique for rearing trombiculid mites (Acarina) developed in a tropical laboratory. J. Med. Ent. 5:465-469.
- Neal, T.J., and L.J. Lipovsky. 1959. Techniques for rearing the chigger mite, Trombicula akamushi (Brumpt). J. econ. Ent. 52:824-826.

CLASS: INSECTA

GENERAL

- Alekseev, A.N. 1965. Compulsory dosed feeding of insects. (Rus)
Medskaya Parazit 34:467-471.
- Arthur, A.P. 1954. A plastic cage for rearing small parasites. Can.
Ent. 86:33-35.
- Ash, C.R. 1956. A lightweight cage for leaf feeding insects. J. econ.
Ent. 49:421-422.
- Bjarnov, N., and J. Thorup. 1970. A simple method for rearing running-
water insects with some preliminary results. Arch. Hydrobiol.
67:201-209.
- Boness, M. 1968. Artificial nutrition in the rearing of insects. (Ge)
Umschau 68:562.
- Boczek, J. 1954. The rearing method of small insects and mites in
controlled conditions of air humidity.(Pol) Ekol. polska
2:473-476.
- Bricault, F.A. 1965. The rearing program of the Forest Insect Survey
in Ontario. Canada Dept. of Forestry Information Report Forest
Insect Laboratory Sault Ste. Marie.
- Bryan, D.E., C.G. Jackson, and A. Stoner. 1969. Rearing cotton insect
parasites in the laboratory. USDA Prod. Res. Rept. 109, 13pp.
- Callaham, R.Z., and J.M. Miller. 1952. A frameless insect cage for
the use on trees. USDA Bureau of Entomology and Plant
Quarantine ET-304, 4 pp.

- Cassagnau, P. 1964. Un dispositif d'élevage pour Arthropodes
édaphiques. *Revue Ecol. Biol. Sol.*, 1:611-614.
- Connin, R.V., D.L. Cobb, M.S. Gomulinski, and J.C. Arnsman. 1966.
Plaster of paris as an aid in rearing insects pupating in
the soil. *J. econ. Ent.* 59:1530.
- Cram, W.T., H. Andison, and T.L. Theaker. 1960. A plastic leaf-cage
for rearing insects on whole attached leaves. *Can. Ent.*
92:640.
- Dinther, J.B.M. Van. 1953. An apparatus for breeding insects.
Tijdschr. PlZiekt. 59:200.
- Edwards, C.A.T. 1955. Simple techniques for rearing Collembola,
Symphyta and other small soil-inhabiting arthropods. In
Nottingham University Easter School in Agricultural Science.
2. 1955. *Soil Zoology* p. 412-416. London. Butterworth 1955.
- Flanders, S.E. 1949. Culture of entomophagus insects. *Can. Ent.*
81:257-274.
- Fraser, M.G. 1949. Some notes on a cheap and easily constructed incu-
bator breeding cage. *Ent. mon. Mag.* 85:100-101.
- George, R.S. 1955. Breeding receptacles for minute insects. *Ent. mon.*
Mag. 91:263.
- Given, B.B. 1958. A container for rearing insects on potted plants.
N.Z. Ent. 2:18-19.
- Godan, D. 1966. Erfahrungen bei der Aufzucht von Maulwurfsgrillen,
Frucht- und Taufliegen sowie Gallmücken. *Mitt. dt. ent. Ges.*
25:4-8.

- Greenberg, B. 1970. Sterilizing procedures and agents, antibiotics and inhibitors in mass rearing of insects. Bull. ent. Soc. Am. 16:31-36.
- Hill, A.R. 1955. A bivalve cage for small arthropods. Proc. R. ent. Soc. Lond. (A) 30:167-168.
- House, H.L. 1967. Artificial diets for insects: a compilation of references with abstracts. Can. Dep. Agr. Res. Inst. Inform. Bull. 5, 163pp.
- Hueck, H.J. 1968. Standardized rearing of storage and textile pests. (Du) Ent. Ber., Amst. 28:82-83.
- Kasting, R., and A.J. McGinnis. 1968. Growth cabinet for the efficient handling of containers used for rearing insects. Can. Ent. 100:193-195.
- Kitchen, W.H., and D. Gall. 1953. A controlled humidifier for insect breeding rooms. Bull. ent. Res. 44:367-369.
- Linquist, O.H. 1952. A device for capturing adult insects in rearing containers and cages. Can. Ent. 84:380-381.
- Lipke, H. 1957. Nutritional considerations for rearing insects. Ent. Soc. Amer. No. Cent. Br. Proc. 12:90-91.
- Ludvik, G.F. 1959. A simple rearing cage. J. econ. Ent. 52:773-774.
- MacPhee, A.W., and B.H. Patterson. 1958. A rearing cabinet with temperature and humidity controls. Can. Ent. 90:174-176.
- Mallis, A., A.C. Miller, and R.C. Hill. 1958. Feeding of four species of fabric pests on natural and synthetic textiles. J. econ. Ent. 51:248-249.

- Martignoni, M.E., and J.E. Milstead. 1961. A technique for individual rearing of small phytophagous insects. *J. econ. Ent.* 54:609-610.
- Martineau, R. 1963. Dispositif pratique pour le relevé individuel des éclosions de Diptères et Hyménoptères. *Ann. ent. Soc. Queb.* 8:44-45.
- Mason, W.T. 1970. Rearing devices for stream insect larvae. *Prog. Fish. Cult.* 32:61-62.
- McConnell, E. 1956. A simple method for artificially feeding blood sucking insects. *Entomological News* 67:103-105.
- Miles, P.M. 1952. Mica scales as a soil substitute in rearing insects. *Ent. mon. Mag.* 88:181.
- Mitsuhashi, J. 1964. Axenic rearing of insect vectors of plant viruses. *N.Y. Acad. Sci. Am.* 118:384-386.
- Moore, G.E., and E.W. Clark. 1968. Suppressing microorganisms and maintaining turgidity in coniferous foliage used to rear insects in the laboratory. *J. econ. Ent.* 61:1030-1031.
- Muller, J. 1961. Containers for rearing larvae constructed easily and quickly. *J. Lepid. Soc.* 14:159-160.
- Muller, H.J., and H. Strubing. 1958. Über einen neuen Zuchtkäfig für phytophage insekten. *Zool. Beitr. (N.S.)* 3:227-233.
- Patana, R. 1969. Rearing cotton insects in laboratory. *USDA Prod. Res. Rept.* 108, 6pp.
- Peterson, A. 1959. *Entomological techniques How to work with Insects.* Edwards Brothers, Inc. Ann Arbor, Michigan. 435 pp.
- Phillips, J.R., and W.C. Yearian. 1966. Rearing insects for research purposes. *Ark. Farm Res.* 15:10.

- Schimitschek, E. 1967. Results of rearing parasites 1961-1965. (Ge)
Z. angew. Ent. 59:64-73.
- Shumakov, E.M., N.M. Edel'man, and A.E. Borisova. 1967. Rearing
phytophagous insects on medium. (Rus) Zashch. Rast. 6:21-22.
- Singh, P. 1972. Bibliography of artificial diets for insects and mites.
New Zeal. Dep. Sci. Ind. Res. Bull. 209. 75pp.
- Smith, C.N. 1966. Insect colonization and mass production. New York,
Academic Press 618pp.
- Smith, C.N. 1967. Mass-breeding procedures. In Wright, J.W., and
Pal, R., ed. Genetics of insect vectors of disease, pp. 653-672.
- Stanley, J. 1951. The autotrephon: an apparatus for rearing insects
under controlled conditions with automatic time-controlled
withdrawal of samples. Ecology 32:413-442.
- Steinhausen, W. 1966. Breeding on artificial diet. Mitt. dt. ent.
Ges. 25:3-4.
- Swingle, M.C., J.B. Gahan, and A.M. Phillips. 1941. Laboratory rearing
of certain leaf-eating insects. J. econ. Ent. 31:90-95.
- Szalkay, J. 1964. Rearing of insects. I. "Dry" insectaries. (Hu)
Buvar 9:118-120.
- Szalkay, J. 1964. Rearing of insects. II. "Wet" insectaries. (Hu)
Buvar 9:304-306.
- Taylor, A.E.R., and J.R. Baker. 1968. The cultivation of parasites
in vitro. Blackwell Scientific Pub. Oxford, England.
377 pp.
- Vago, C., J. Fosset, and G. Meynadier. 1961. Elevage aseptique d'
insectes phytophages. Rev. Path. vég. Ent. agric. Fr.
40:111-129.

- Wardojo, S. 1967. Artificial diet as replacement of the host-plant. Ghent. Rijks fac. Landbouwwetensch. Meded.:357-364.
- Wardojo, S. 1968. Rearing of phytophagous insects with the help of synthetic media. (Du) Ent. Ber., Amst. 28:85.
- Way, M.J., P.M. Smith, and B. Hopkins. 1951. The selection and rearing of leaf-eating insects for use as test subjects in the study of insecticides. Bull. ent. Res. 42:331-354.
- Wood, J. 1970. Rearing *Wiseana* in the laboratory. N.Z. Ent. 4:3-7.
- Zlotin, A.Z. and M.A. Lymareva. 1966. The winter rearing for the biological testing of insecticides. (Rus) Zool. Zh. 45:1100-1102.

ORDER: COLLEMBOLA

GENERAL

- Goto, H.E. 1960. Simple techniques for the rearing of Collembola and a note on the use of a fungistatic substance in the cultures. Ent. mon. Mag. 96:138-140.
- Kyle, M.L., and W.H. Long. 1967. A simple technique for rearing Collembola in the laboratory. J. econ. Ent. 60:882-883.
- von Törne, E. 1966. Ergänzende Bemerkungen zur Anzucht von Kleinen Bodentieren und zur Massenzucht von Collembolen. Pedobiologia 6:288-292.

Isotomidae

Marshall, V.G., and D.K. McE. Kevan. 1962. Preliminary observations on the biology of Folsomia candida Willem, 1902 (Collembola: Isotomidae). Can. Ent. 94:575-586.

Poduridae

Vail, P.V. 1965. Colonization of Hypogastrura manubrialis (Collembola: Poduridae), with notes on its biology. Ann. ent. Soc. Am. 58:555-561.

ORDER: EPHEMEROPTERA

GENERAL

Leonard, J.W., and F.A. Leonard. 1962. Mayflies of Michigan trout streams. Bull. Cranbrook Inst. Sci., Bloomfield Hills, Mich. no. 43: x + 139 pp.

Baetidae

Kamiński, A. 1961. Probleme der biologischen Insektizidprüfung. II. Textikodynamische Charakteristik der Insektizide. III Eintagsfliegenlarven als Testtiere zum Nachweis und zu quantitativen Bestimmung von Insektizidspuren. Angew. Parasit. 2:86-88, 110-118; 3:19-23.

Ephemeridae

Darchis, A. 1965. Essais de réalisation de la fécondation artificielle chez Ephemera vulgata (Liné). Archs Zool. exp. gén. 104:135-139.

Fremling, C.R. 1967. Methods for mass-rearing Hexagenia mayflies (Ephemeroptera: Ephemeridae). Amer. Fish. Soc. Trans. 99:407-410.

ORDER: ODONATA

GENERAL

Johnson, C. 1965. Mating and oviposition of damselflies in the laboratory. Can. Ent. 97:321-326.

Johnson, C. 1966. Improvements for colonizing damselflies in the laboratory. Tex. J. Sci. 18:179-183.

Aeshnidae

Macklin, J.M. 1963. Notes on the life history of Anax junius (Drury) (Odonata: Aeshnidae). Proc. Indiana Acad. Sci. 73:154-163.

Theischinger, G. 1966. Erstnachweis der Libelle Aeschna subarctica interlineata Ander für Oberösterreich. Freilandbeobachtungen und teilweise Aufzucht in Linz. Naturk. Jb. Stadt Linz:179-185.

Libellulidae

Bilek, A. 1961. Die Zucht von Epitheca bimaculata Charb. aus dem Ei bis zur Imago mit biologischen und morphologischen Angaben (Odonata). NachrBl. bayer. Ent. 10:124-130.

ORDER: ORTHOPTERA

GENERAL

Frings, H., and M. Frings. 1962. Simplified methods for laboratory maintenance of saltatory Orthoptera. J. econ. Ent. 55:1019-1020.

Gangwere, S.K. 1960. The feeding and culturing of Orthoptera in the laboratory. Ent. News 71:7-13; 37-45.

Acrididae

Albrecht, F.O. 1953. The breeding of the red locust in captivity. Bull. ent. Res. 44:1-4.

Anderson, N.L., and E. Hastings. 1966. Some notes on rearing Aulocara elliotti (Orthoptera: Acrididae). Ann. ent. Soc. Am. 59:718-719.

Bland, R.G. 1967. Notes on rearing Melanoplus lakinus Scudder (Orthoptera: Acrididae). Pan-Pacif. Ent. 43:23-28.

Borisova, A.E. 1965. Rearing Locusta migratoria manilensis Mey and Locusta migratoria migratoria L. on semisynthetic media. (Rus) Zool. Zh. 45:858-864.

Crouzel, I.S. de. 1960. Schistocerca cancellata (Serv.). Estudio hemocitario. Actas Trab. I Congr. sudamer. Zool. 1959, 5:101-125.

- Dudley, B., G.E. Gregory, and D.W. Payne. 1962. An all-metal cage for rearing locusts in the laboratory. Bull. ent. Res. 53:219-221.
- Ford, B.J. 1964. A glass container for the experimental rearing of locusts (Schistocerca gregaria). Ent. mon. Mag. 100 (1204/1205):232-233.
- Hunter-Jones, P. 1961. Rearing and breeding locusts in the laboratory. London, Anti-locust Res. Cent.
- Kelly, G.D., and W.W. Middlekauff. 1961. Biological studies of Dissosteira spurcata Saussure with distributional notes on related California species (Orthoptera: Acrididae). Hilgardia 30:395-424.
- Levita, B. 1963. Laboratory rearing of a homochromous grasshopper: Oedipoda coerulescens Linne. (Fr.) Bull. Soc. ent. 68 (3/4):56-60.
- Liana, A. 1966. The biology and rearing of the migratory locust Locusta migratoria L. in the laboratory conditions. (Pol.) Przegl. zool. 10:140-151.
- Mazuranich, P.C., and F.T. Cowan. 1966. A metal cage for rearing grasshoppers. J. econ. Ent. 59:232-234.
- McKinlay, K.S., and R.L. Randell. 1971. Moisture content and nutritional value of laboratory diets for the migratory grasshopper, Melanoplus sanguinipes (Orthoptera: Acrididae). Can. Ent. 103:657-661.

- Mulkern, G.B., and D.R. Toczek. 1972. Effect of plant extracts on survival and development of Melanoplus differentialis and M. sanguinipes (Orthoptera: Acrididae). Ann. ent. Soc. Am. 65:662-671.
- Nayer, J.K. 1964. The nutritional requirements of grasshoppers. I. Rearing of the grasshopper, Melanoplus bivittatus (Say), on a completely defined synthetic diet and some effects of different concentrations of B-vitamin mixture, linoleic acid, and β -carotene. II. Effects of plant phospholipids and extracts of bran on growth, development, and survival of the grasshoppers Melanoplus bivittatus (Say) and Camula pellucida (Scudder). Can. J. Zool. 42:11-22, 23-38.
- Srivastava, P.D., S.S. Kumar, M.W. Bhamburkar, and S. Pradhan. 1964. An artificial diet for rearing the desert locust (Schistocerca gregaria). Indian J. Ent. 26:352-356.
- Walker, W.J., and E.I. Shaw. 1964. Rearing of Chortophaga viridifasciata for biological studies. Kans. Acad. Sci. Trans. 67:539-543.

Blattellidae

- Benschoter, C.A., and R.T. Wrenn. 1972. Germfree technique for establishment and maintenance of a colony of aseptic German cockroaches. Ann. ent. Soc. Am. 65:641-644.

- Clayton, R.B. 1959. A simplified method for the culture of Blattella germanica under aseptic conditions. Nature, Lond. 184(4693):1166-1167.
- Dahm, P.A. 1955. A convenient method for rearing large cockroaches. J. econ. Ent. 48:480-482.
- Gordon, H.T. 1959. Minimal nutritional requirements of the German roach, Blattella germanica L. Ann. N.Y. Acad. Sci. 77:290-351.
- Hallsman, S.A. 1955. Raising cockroaches in the laboratory. Turtox News 33:36.
- Heal, R.F. 1948. Rearing methods for German and American roaches. J. econ. Ent. 41:329-330.
- Noland, J.L. 1956. An improved method for rearing cockroaches. J. econ. Ent. 49:411-412.
- Piquett, P.G., and J.H. Fales. 1952. Rearing cockroaches for experimental purposes. USDA, ET-301: 12pp.
- Tarshis, I.B. 1961. Breeding cockroaches for feeding purposes. Int. Zoo Yb. 3:105-107.

Blattidae

- Dahm, P.A. 1955. A convenient method for rearing large cockroaches. J. econ. Ent. 48:480-482.
- Fisher, R.W., and F. Juric. 1958. Rearing houseflies and roaches for physiological research. Can. Ent. 90:1-7.
- Hallsman, S.A. 1955. Raising cockroaches in the laboratory. Turtox News 33:36.

- Haskins, K.P.F. 1962. A new system for laboratory culture of the American cockroach. *Entomologist* 95:27-29.
- Heal, R.F. 1948. Rearing methods for German and American roaches. *J. econ. Ent.* 41:329-330.
- Koshy, T., and D. Mallik. 1968. An improved method for rearing and maintaining large colonies of the American cockroach in the laboratory. *J. econ. Ent.* 61:1748-1750.
- Mehrotra, O.N., S.L. Perti, and P.N. Agarwal. 1965. A laboratory technique of culturing cockroaches. *Indian J. Ent.* 27:358-360.
- Noland, J.L. 1956. An improved method for rearing cockroaches. *J. econ. Ent.* 49:411-412.
- Piquett, P.G., and J.H. Fales. 1952. Rearing cockroaches for experimental purposes. USDA, ET-301: 12pp.
- Tarshis, I.B. 1961. Breeding cockroaches for feeding purposes. *Int. Zoo Yb.* 3:105-107.
- Whitlaw, J.T., and L.W. Smith. 1964. Equipment for trapping and rearing the American cockroach, Periplaneta americana. *J. econ. Ent.* 57:164-165.

Gryllidae

- Busvine, J.R. 1955. Simple methods for rearing the cricket (Gryllulus domesticus L.) [i.e. Acheta domestica] with some observations on speed of development at different temperatures. *Proc. R. ent. Soc. Lond. Ser. A. Gen. Ent.* 30:15-18.

- Harris, C.R., and H.J. Svec. 1964. Mass rearing of the common field cricket Gryllus pennsylvanicus Burmeister (Orthoptera, Gryllidae) for use as a test insect in toxicological studies. Bull. ent. Res. 54:805-809.
- Hogan, T.W. 1966. Physiological differences between races of Teleogryllus commodus (Walker) (Orthoptera: Gryllidae) related to a proposed genetic approach to control. Aust. J. Zool. 14:245-251.
- Mathad, S.B., and K. Dakshayani. 1972. Laboratory rearing of the cricket Plebeiogryllus guttiventris. Ann. ent. Soc. Am. 65:282-283.
- Mathad, S.B., and J.E. McFarlane. 1967. Effect of initial rearing at 28°C followed by 35°C on wing development in Gryllodes sigillatus (Walk.). Can. J. Zool. 45:135-137.
- Patton, R.L. 1963. Rearing the house cricket, Acheta domesticus, on commercial feed. Ann. ent. Soc. Am. 56:250-251.
- Pinter, L. 1961. Beitrage zum Nachweis von Bienenvergiftungen mit Pflanzenschutzmitteln. b) Grillen Test (Gryllus domesticus L.). Mitt. schweiz. ent. Ges. 33:195-200.

Mantidae

- Travassos Filho, L., and T.J. Heitzmann. 1962. Binomia de Mantodea (Insecta) em laboratorio. I--Parastagmatoptera unipunctata (Burm., 1838) Mantidae-

Vatinae. Arq. Zool., Sao Paulo 11:171-192.

Phasmatidae

Ebner, R. 1960. Phasmiden als Insektarium-Tiere.

Verh. XI. Int. Kongr. Ent. Wien 1960. 1:30-32.

Tettigoniidae

Hartley, J.C. 1967. Laboratory culture of a tettigoniid,

Homorocoryphus nitidulus vicinus (Wlk.)

(Orthoptera). Bull. ent. Res. 57:203-205.

ORDER: DERMAPTERA

GENERAL

Kapoor, V.C., and H.N. Baijal. 1967. A simple

laboratory method for rearing earwigs (Derm.).

Agra. Univ. J. Res. 16:15-16.

ORDER: ISOPTERA

GENERAL

Ausat, Ali, P.S. Cheema, T. Koshi, S.L. Perti, and

S.K. Ranganthan. 1962. Laboratory culturing
of termites. Termites in the humid tropics.

Proc. New Delhi Symp. 1960, Paris (UNESCO):121-125.

Becker, G. 1965. Über Haltung von Termiten im Labor-

atorium. Z. angew. Zool. 52:385-398.

ORDER: MALLOPHAGA

Trichodectidae

Hopkins, D.E., and W.F. Chamberlain. 1972. In vitro
colonization of the cattle biting louse,
Bovicola bovis. Ann. ent. Soc. Am. 65:771-772.

ORDER: ANOPLURA

Pediculidae

Haddon, W. 1956. An artificial membrane and apparatus
for the feeding of the human body louse
Pediculus humanus corporis (ie. P. humanus
humanus). Am. J. trop. Med. Hyg. 5:315-325.

Haddon, W. 1956. The maintenance of the human body
louse Pediculus humanus corporis (ie. P. humanus
humanus) through complete cycles of growth by
serial feeding through artificial membranes. Am.
J. trop. Med. Hyg. 5:326-330.

Louw, B.K. 1969. On rearing human body lice, Pediculus
humanus L. J. ent. Soc. Sth. Afr. 32:489-490.

ORDER: THYSANOPTERA

Thripidae

Abdel Gawaad, A.A., and A.Y. Shazli. 1970. A new method
for rearing Thrips tabaci Lind. and bionomics
of its egg and adult stages (Thysanoptera). Bull.
Soc. ent. Egypte 53:443-447.

Beavers, J.B., and W.H. Ewart. 1971. Observations on citrus thrips biology and an improved method of rearing them in the laboratory. J. econ. Ent. 64:1124-1127.

Munger, F. 1942. A method for rearing the citrus thrips in the laboratory. J. econ. Ent. 35:373-375.

ORDER: HEMIPTERA (HETEROPTERA)

GENERAL

Sailer, R.I. 1952. A technique for rearing certain Hemiptera. USDA Bur. Ent. and Plant Quar., ET-303 5pp.

Shimizu, J.T., and K.S. Hagen. 1967. An artificial ovipositional site for some Heteroptera that insert their eggs into plant tissue. Ann. ent. Soc. Am. 60:1115-1116.

Anthocoridae

Anderson, N.H. 1962. Growth and fecundity of Anthocoris spp. reared on various prey (Heteroptera: Anthocoridae). Entomologia exp. appl. 5:40-52.

Bronnemann, H. 1964. Rearing anthocorids on an artificial medium. Commonwealth Inst. Biol. Control Tech. B. 4:147-150.

Styles, J.H. 1962. Notes on Cardiastethus consors B. White and Cardiastethus poweri B. White (Heteroptera: Anthocoridae). N.Z. Ent. 3:29-37.

Cimicidae

Wattal, B.L., and N.L. Kalra. 1961. New methods for the maintenance of a laboratory colony of bed-bug, Cimex hemipterus Fabricus, with observations on its biology. Indian J. Malar. 15:157-171.

Lygaeidae

Dunbar, D.M., and O.G. Bacon. 1972. Feeding, development, and reproduction of Geocoris punctipes (Heteroptera: Lygaeidae) on eight diets. Ann. ent. Soc. Am. 65:892-895.

Lippold, P.C. Processing of milkweed seed and notes on laboratory rearing of the large milkweed bug. J. econ. Ent. 60:491-493.

May, B.M. 1965. The immature stages of Dieuches notatus (Dallas) (Hemiptera: Lygaeidae: Rhyparochrominae). N.Z. Jl. Sci. 8:359-367.

Woodroffe, G.E. 1960. On rearing Kleidocerys truncatulus (Walker) (=K. ericae Horvath) (Hem., Lygaeidae) on birch. Ent. mon. Mag. 96 (1154/6):156.

Miridae

Beards, G.W., and T.F. Leigh. 1960. A laboratory rearing method for Lygus hesperus Knight. J. econ. Ent. 53:327-328.

- Champlain, R.A., and L.L. Sholdt. 1966. Rearing Geocoris punctipes, a lygus bug predator, in the laboratory. J. econ. Ent. 59:1301.
- Prins, G. 1965. A laboratory rearing method for the cocoa mirid Distantiella theobroma (Dist) (Hemiptera, Miridae). Bull. ent. Res. 55:615-616.
- Raulston, J.R., and J.L. Auclair. 1968. Responses of Lygus hesperus to chemically defined diets. Ann. ent. Soc. Am. 61:1495-1500.
- Raw, F. 1959. An insectary method for rearing cacao mirids, Distantiella theobroma (Dist.) and Sahlbergella singularis Hagl. Bull. ent. Res. 50:11-12.
- Vanderzant, E.S. 1967. Rearing lygus bugs on artificial diets. J. econ. Ent. 60:813-816.
- Youdeowei, A. 1964. Progress in the laboratory rearing of cocoa mirids in Nigeria, (Hemiptera: Miridae). Conf. Mirids other Pests Cacao. Proc 1964:98-100.

Notonectidae

- Ellis, R.A., and J.H. Borden. 1969. Laboratory rearing of Notonecta undulata (Hem. Het. Notonectidae). J. ent. Soc. Brit. Columbia 66:51-53.
- McPherson, J.E. 1966. Notes on the laboratory rearing of Notonecta hoffmanni (Hemiptera: Notonectidae). Pan-Pacif. Ent. 42:54-56.

Pentatomidae

- Altenkirch, W. 1962. Beobachtungen über die Lebensgewohnheiten und -ansprüche von Palomena prasina L. (Pentatomidae, Hemiptera-Heteroptera). Dt. ent. Z. 9:350-358.
- McPherson, J.E. 1971. Laboratory rearing of Euschistus tristigmus tristigmus. J. econ. Ent. 64:1339-1340.
- McPherson, J.E. 1972. Laboratory rearing of Trichopepla semivittata (Hemiptera: Pentatomidae) on wild carrot. Ann. ent. Soc. Am. 65:485-987.
- Mukerji, M.K., and E.J. Leroux. 1965. Laboratory rearing of a Quebec strain of the pentatomid predator, Podisus maculiventris (Say) (Hemiptera, Pentatomidae). Phytoprotection 46:40-60.
- Voegelé, J. 1960. Etude préliminaire pour un élevage permanent des trois Aelia du Maroc: Aelia cognata Fieb., Aelia germari Kust, Aelia acuminata L. C.r. Soc. Sci. nat. Phys. Maroc, 26:29-30.

Pyrrhocoridae

- Brunt, A.M. 1971. A culture method for the cotton stainer Dysdercus fasciatus Signoret (Hem., Pyrrhocoridae). Ent. mon. Mag. 107:177-179.
- Schlagbauer, A. 1966. A new method of mass rearing of the red bug. (Pyrrhocoris apterus Linnaeus) (Heteroptera, Pyrrhocoridae). (Ge) Beitr. Ent. 16(1/2):199-202.

Reduviidae

Friend, W.G., and E. Cartwright. 1963. A practical apparatus for feeding artificial diets to all stages of Rhodnius prolixus Stål. Can. Ent. 95:362-364.

Harrington, I.S. 1960. A simple apparatus for the artificial feeding of Rhodnius prolixus (Hemiptera, Reduviidae). Parasitology 50:273-277.

ORDER: HEMIPTERA (HOMOPTERA)

Aphididae

Akey, D.H., and S.D. Beck. 1971. Continuous rearing of the pea aphid, Acyrthosiphon pisum, on a holidic diet. Ann. ent. Soc. Am. 64:353-356.

Andrasfalvp, P. 1969. A Kukorica gyoekértetű (Tetraneura ulmi L.) eredményes laboratoriumi tenyésztésenck módszere. [A method for rearing the corn root aphid (Tetraneura ulmi L. Pemphigidae) in the laboratory.] Folia ent. hung. 22:43-47.

Auclair, J.L., and J.J. Cartier. 1963. Pea aphid: (Acyrthosiphon pisum) rearing on a chemically defined diet. Science 143 (3595):1068-1069.

Auclair, J.L., and J.J. Cartier. 1964. L'elevage du puceron du pois, Acyrthosiphon pisum (Harr.), sur un régime nutritif de composition chimique connue. Ann. ent. Soc. Queb. 9:68-72.

- Belvett, V.B., R.Y. Sun, and A.G. Robinson. 1965. Observations on laboratory rearing of grain aphids (Homoptera: Aphididae). *Can. J. Zool.* 43:619-622.
- Bradley, G.A., and D.C. Wighton. 1959. Description and life history of a new species of Cinara (Homoptera: Aphididae) from Pinus banksiana Lamb. *Can. Ent.* 91:453-456.
- Bragdon, J.C., and T.E. Mittler. 1963. Differential utilization of amino-acids by Myzus persicae (Sulzer) fed on artificial diets. *Nature, Lond.* 198:209-219.
- Cartier, J.J. 1959. Mass rearing of the pea aphid, Acyrtosiphon pisum (Harris) (i.e. Macrosiphum pisi) for the artificial infestation of experimental plots of resistant varieties of peas. *Quebec Soc. Protect. Plants. Rpt.* 40:148.
- Cartier, J.J., and J.L. Auclair. 1964. Pea aphid behaviour: colour preference on a chemical diet. *Can. Ent.* 96:1240-1243.
- Cartier, J.J., and S.G. Morin. 1965. L'élevage du puceron de la pomme de terre Macrosiphum euphorbiae (Thos.) (Homoptera: Aphididae) sur diete synthetique. *Ann. ent. Soc. Queb.* 10:69-79.

- Cress, D.C., and H.L. Chada. 1971. Development of a synthetic diet for the greenbug, Schizaphis graminum 1: Greenbug development on two synthetic diets. Ann. ent. Soc. Am. 64:1237-1240. 2: Greenbug development as affected by zinc, iron, manganese, and copper. Ann. ent. Soc. Am. 64:1240-1244. 3: Response of greenbug biotypes A and B to same diet medium. Ann. ent. Soc. Am. 64:1245-1247.
- Dadd, R.H. 1967. Improvement of synthetic diet for the aphid Myzus persicae using plant juices, nucleic acids, or trace metals. J. Insect. Physiol. 13:763-778.
- Dadd, R.H., and T.E. Mittler. 1966. Permanent culture of an aphid on a totally synthetic diet. Experientia 22:832-833.
- DeLyzer, A.J. 1965. Rearing of woolly pine needle aphid, Schizolachnus piniradiatae, Viviparae. J. econ. Ent. 58:1021-1022.
- Ehrhardt, P., and W. Kloft. 1962. A simple method of rearing Lachninae for investigations in the laboratory (Ge). Internatl. Cong. Ent. Trans. 11th Cong. V.2 (Sect. 7/44):544-546.
- Hassan, M.S. 1963. Studies on the biology of some root aphids, in Egypt (Hemiptera-Homoptera: Aphididae). Cairo, Gen. Org. Govt. Print. Off. 9pp.

- Kennedy, J.S., and C.O. Booth. 1950. Methods for mass rearing and investigating the host relations of Aphis fabae Scop. *Annals of applied biology* 37:451-470.
- Kieckhefer, R.W., and R.F. Derr. 1967. Rearing three species of cereal aphids on artificial diets. *J. econ. Ent.* 60:663-665.
- Kosmachevskii, A.S. 1967. How to keep sugar beet root aphid under laboratory conditions. (Rus) *Zool. Zh.* 46:442-443.
- Krezal, H. 1960. Hinweise sur Abwehr von Verticillium lecanir als Parasit an Passerinia (i.e. Pentatrachopus) fragaefolii in Gewächshauskulturen. *Nachr Bl. dt. Pflschutzdienst., Stuttg.* 12:92-93.
- Krieger, D.L. 1971. Rearing several aphid species on synthetic diet. *Ann. ent. Soc. Am.* 64:1176-1177.
- MacKauer, M.J.P., and H.E. Bisdee. 1965. Two simple devices for rearing aphids. *J. econ. Ent.* 58:365-366.
- Maltais, J.B., and J.L. Auclair. 1962. Free amino acid and amide composition of pea leaf juice, pea aphid haemolymph, and honeydew, following the rearing of aphids on single pea leaves treated with amino compounds. *J. Insect. Physiol.* 8:391-399.

- Markkula, M., and J. Rautapää. 1963. PVC rearing cages for aphid investigations. *Ann. agric. fenn.* 2:208-211.
- Massonié, G. 1971. L'elevage des aphides sur milieu synthétique. *Ann. Zool. Ecol. Anim.* 3:103-123.
- McLean, D.L., and M.G. Kinsey. 1961. A method for rearing the lettuce root aphid, Pemphigus bursarius. *J. econ. Ent.* 54:1256-1257.
- Mittler, T.E., and R.H. Dadd. 1962. Artificial feeding and rearing of the aphid, Myzus persicae (Sulzer) on a completely defined synthetic diet. *Nature, Lond.* 195:404.
- Mittler, T.E., and R.H. Dadd. 1964. Improved method of feeding aphids (Hem.) on artificial diets. *Ann. ent. Soc. Am.* 57:139-140.
- Muir, D.A. 1960. A culture method for myrmecophilous root aphids. *Bull. ent. Res.* 51:7-8.
- Müller, H.J., and E. Hennig. 1965. A method of mass rearing of aphids for ecological and physiological studies. (Ge) *Arch. Pflanzenschutz* 1:41-48.
- Nault, L.R. 1969. Laboratory rearing of aphids. *J. econ. Ent.* 62:261-262.
- Schmidt, H.E., and E. Karl. 1965. Laboratory rearing of Phorodon humili Schrank in the winter months. (Ge) *Naturwissenschaften* 52:399.

- Sethi, S.L., and K.G. Swenson. 1967. Methods for culturing root aphids Eriosoma pyticola, E. americanum and E. lanigerum on woody plants. J. econ. Ent. 60:1170-1171
- Shaposhnikov, G. Kh. 1965. Morphological divergence and convergence in the experiment with aphids (Homoptera, Aphidinea). (Rus) Ent. Obozr., Moscow 44:3-25. [See also Ent. Obozr., Transl. Ent. Soc. Amer. Scripta Tech. 1:1-12.]
- Srivastava, P.N., and J.L. Auclair. 1971. An improved chemically defined diet for the pea aphid Acyrtosiphon pisum. Ann. ent. Soc. Am. 64:474-478.
- Standler, P.P. 1971. Mass rearing parasite free green peach aphids in the greenhouse. J. econ. Ent. 64:775-776.
- Tahori, A.S., and A. Hazan. 1970. Rearing of the black aphid Toxoptera auranti on chemically defined diets. J. Insect. Physiol. 16:1975-1981.
- Tsitsipis, J.A., and T.E. Mittler. 1970. Convenient lighting system for inducing the production of sexual forms of aphids feeding on artificial diets. Ann. ent. Soc. Am. 63:1665-1667.

Cercopidae

- Fewkes, D.W., and M.R. Demidecki-Demidowicz. 1971. Rearing technique for sugar cane frogopper

nymphs (Homoptera: Cercopidae). Ann. ent.
Soc. Am. 64:1471-1472.

Hagley, E.A.C. 1967. Artificial diet for the adult
frog hopper. Nature, Lond. 213(5074):414-415.

Cicadellidae

Dahlman, D.L. 1963. Survival of Empoasca fabae (Harris)
(Cicadellidae, Homoptera) on synthetic media.
Iowa Acad. Sci. Proc. 70:498-504.

Mitsuhashi, J. 1965. Aseptic rearing of leafhoppers
and planthoppers (Homoptera: Cicadellidae and
Delphacidae). Kontyu 33:271-274.

Moreau, J.P. 1963. A propos de l'élevage permanent d'un
Homoptère Jasside du genre Macrosteles. Rev.
Zool. agric. appl. 62:114-117.

Saxena, R.C., and K.N. Saxena. 1971. Growth, longevity,
and reproduction of Empoasca devastans on okra
for laboratory rearing. J. econ. Ent. 64:424-425.

Strong, R.G., and W.A. Rawlins. 1957. Mass rearing
of six-spotted leafhoppers (Macrosteles fasci-
frons). J. econ. Ent. 50:76-79.

Coccidae

Ben-Dov, Y. 1970. Laboratory rearing of wax scales.
J. econ. Ent. 63:1998-1999.

Carle, P. 1968. A method for the mass production of
eggs laid by Matsucoccus feytaudi Duc.
(Coccoidea, Margarodidae) by trapping the
females. (Fr) Ann. Sci. Forest. 25:57-68.

Reed, D.K., W.G. Hart, and S.J. Ingle. 1968. Laboratory rearing of brown soft scale and its Hymenopterous parasites. Ann. ent. Soc. Am. 61:1443-1446.

Sacantanis, K.B. 1961. Elevage au laboratoire de la cochenille noire *Saissetia oleae* Bernard (Homoptera--Coccidae). C.r. Soc. Sci. nat. Phys. Maroc, 27:121-122.

Diaspididae

Tashiro, H. 1966. Improved laboratory techniques for rearing California red scale on lemons. J. econ. Ent. 59:604-608.

Delphacidae

Mitsuhashi, J. 1965. Aseptic rearing of leafhoppers and planthoppers (Hemiptera: Cicadellidae and Delphacidae). Kontyu 33:271-274.

Membracidae

Meisch, M.V., and N.M. Randolph. 1965. Life history studies and rearing techniques for the three-cornered alfalfa hopper. J. econ. Ent. 58:1057-1059.

Tropiduchidae

Harris, R.H.G. 1970. Rearing Numicia viridis Muir (Homoptera: Tropiduchidae) in captivity. J. ent. Soc. Sth. Afr. 33:49-52.

ORDER: NEUROPTERA

Chrysopidae

- Finney, G.L. 1950. Mass-culturing Chrysopa californica to obtain eggs for field distribution. J. econ. Ent. 43:97-100.
- Hagen, K.S., and R.L. Tassan. 1965. A method of providing artificial diets to Chrysopa larvae. J. econ. Ent. 58:999-1000.
- Hagen, K.S., and R.L. Tassan. 1970. The influence of food wheat and related Saccharomyces fragilis yeast products on the fecundity of Chrysopa carnea (Neuroptera: Chrysopidae). Can. Ent. 102:806-811.
- Ridgway, R.L., R.K. Morrison, and M. Badgley. 1970. Mass-rearing a green lacewing. J. econ. Ent. 63:834-836.
- Shuvakhina, E. Ya. 1969. Laboratornoe razvedene dvukh vidov zaltoglazok Chrysopa carnea Steph. i Ch. septempunctata Wesm. [Raising the Chrysopidae species (Chrysopa carnea Steph. and Chrysopa septempunctata Wesm.) under laboratory conditions.] Byull. Vses. Nauch. Issled. Inst. Zashch. Rast 3.11. 82-86.
- Vanderzant, E.S. 1969. An artificial diet for larvae and adults of Chrysopa carnea, an insect predator of crop pests. J. econ. Ent. 62:256-257.

Mantispidae

- Davidson, J.A. 1969. Rearing Mantispa viridis Walker
in the laboratory (Neuroptera, Mantispidae).
Ent. News 80:29-31.

ORDER: TRICHOPTERA

GENERAL

- Wiggins, G.B. 1959. A method of rearing Caddisflies
(Trichoptera). Can. Ent. 91:402-405.

ORDER: LEPIDOPTERA

GENERAL

- Braun, A.E. 1950. Leaf mining Lepidoptera with special
reference to methods of rearing. Lepidopter-
ists' News 4:3-6.
- Burton, R.L., E.A. Harrell, H.C. Cox, and W.W. Hare.
1966. Devices to facilitate rearing of
lepidopterous larvae. J. econ. Ent. 59:594-596.
- Edel'man, N.M. 1962. Assessment of the effect of
individual feed components of the development
of phytophagous insects during their breeding
in artificial media. (Rus) Zool. Zh. 41:1013-1027.
- George, B.W., E.S. Raun, D.C. Peters, and C. Mendoza.
1960. Artificial medium for rearing some
lepidopterous corn insects. J. econ. Ent.
53:318-319.

- Gray, P.H.H. 1951. An apparatus for incubating lepidopterous larvae or pupae in nutrition and environment tests. *Lepidopterists' News* 5:35.
- Guppy, R. 1958. Some simple equipment for rearing larvae. *Lepidopterists' News* 11:227-229.
- Hedges, A.V. 1947. Technique of breeding Lepidoptera. *So. London Ent. and nat. Hist. Soc. Proc. and Trans.* 48:74-81.
- McFarland, N. 1965. Additional notes on rearing and preserving larvae of Macrolepidoptera. *J. Lepid. Soc.* 19:233-236.
- Muller, J. 1961. Containers for rearing Lepidoptera larvae, constructed easily and quickly. *J. Lepid. Soc.* 14:159-160.
- Pronin, G.F. 1954. The turgorator, a new device for rearing insects. *Lepidopterists' News* 8:121-123.
- Strong, R.G., G.J. Partida, and D.N. Warner. 1968. Rearing stored-product insects for laboratory studies: six species of moths. *J. econ. Ent.* 61:1237-1249.
- Wetzel, K. 1966. Rearing polyphagous caterpillars. (*Ge*) *Ent. Z.* 76:28.
- Wilkinson, R.S. 1966. The David-Gardiner method of feeding lepidopterous larvae on a semi-synthetic diet. *Mich. Ent.* 1:26-28.

Worthington-Stuart, Brian. 1951. Collecting and breeding butterflies and moths. London, Frederick Warnet Co. Ltd. 190pp.

Zlotin, A.Z., and M.A. Lymareva. 1966. Rearing insects in winter for biological tests of insecticides. (Rus) Zool. Zh. 45:1100-1102.

Aegeriidae

Cleveland, M.L., T.T.Y. Wong, and K.W. Lamansky. 1968. Rearing methods and biology of the lesser peach tree borer, Synanthedon pictipes in the laboratory. Ann. ent. Soc. Am. 61:804-814.

Lamansky, K.W., and R.E. Dolphin. 1970. Improved method of puncturing thinning apples used to rear the lesser peach tree borer. J. econ. Ent. 63: 307-308.

Russell, W.G. 1968. A medium for laboratory rearing of the peach tree and lesser peach tree borers. J. econ. Ent. 61:1450-1451.

Smith, E.H. 1965. Laboratory rearing of the peach tree borer and notes on its biology. J. econ. Ent. 58:228-236.

Smith, H.R., E.G. Richardson, E.E. Yonce, and S.W. Jacklin. 1969. A method of rearing the peach tree borer on artificial diet. J. econ. Ent. 62:961-962.

Agrotidae

Salama, H.S., and R.A. Tolba. 1971. Development of the sugar can borer Sesamia cretica Led. on a semi-artificial diet. Z. angew. Ent. 68:74-75.

Amatidae

Frings, H., and M. Frings. 1959. Notes on rearing the moths, Cisseps (Scepsis) fulvicollis (Hbn.) and Ctenucha virginica (Charp.) in the laboratory. J. econ. Ent. 52:168-169.

Arctiidae

Marujama, T., and S. Kamioka. 1963. Rearing experiment of Spilosoma imparilis Butler (Lepidoptera: Arctiidae) on artificial diet. (Ja) J. Seric. Sci., Tokyo. 32:268-270.

Vail, P.V., T.J. Henneberry, and R. Pengalden. 1967. An artificial diet for rearing the salt marsh caterpillar Estigmene acrea (Lepidoptera: Arctiidae), with notes on the biology of the species. Ann. ent. Soc. Am. 60:134-138.

Vanderzant, E.S. 1967. Wheat-germ diets for insects: Rearing the boll weevil and the salt-marsh caterpillar. Ann. ent. Soc. Am. 1062-1066.

Watson, R.W. 1968. Notes on breeding Callimorpha; Jacobaeae Linn (Lep. Arctiidae). Entomologists' Rec. J. Var. 80:183-184.

Wright, D., and G.S. Smith. 1956. Experiments with a remarkable melanic strain of Arctia caja (L.) Entomologists' Gazette 7:119-122.

Yearian, W.C., K.L. Gilbert, and L.O. Warren. 1966. Rearing the fall webworm, Hyphantria cunea (Drury) (Lepidoptera: Arctiidae) on a wheat germ medium. J. Kans. ent. Soc. 39:495-499.

Bombycidae

Craicu, M. 1967. Rearing silkworms with the use of the infrared rays. (Rum) Sericicultura 3:14-16.

Fukuda, T. 1967. The development of an artificial diet not containing leaf powder of any food plants for eri-silkworm (Philosomia ricini) raising. J. Seric. Sci., Tokyo 36:309-313.

Fukuda, T., Y. Higuchi, and M. Suto. 1960. Silkworm raising on artificial food. II. The improvement of the food composition. Symposium 3: Insect chemistry. Verh. XI. int. Kongr. Ent. Wien 1960:157-162.

Ito, T. 1960. An artificial diet for the silkworm, Bombyx mori, and the effect of soybean oil on its growth. Symposium 3: Insect chemistry. Verh. XI. int. Kongr. Ent. Wien 1960:157-162.

Ito, T. 1967. Nutritional requirements and artificial diets for the silkworm Bombyx mori L. J. Seric. Sci., Tokyo. 36:315-318.

- Ito, T., and Y. Horie. 1962. Nutrition of the silkworm, Bombyx mori—VII. An aseptic culture of larvae on semi-synthetic diets. J. Insect. Physiol. 8:569-578.
- Kafian, A.G. 1964. Methods of estimating efficiency of breeding of Bombyx mori. (Rus) Soobshch. Akad. Nauk. gruz. SSR 34:449-456.
- Matsubara, F., M. Kato, K. Hayashiya, R. Kodama, and Y. Hamamura. 1967. Aseptic rearing of silkworm with prepared food. (Ja) J. Seric. Sci., Tokyo 36:39-45.
- Naum, G. 1967. Aspects of rearing silkworms in the Dobruja region. (Rum) Sericicultura 3:45-47.
- Nayer, J.K., and G. Fraenkel. 1963. Practical methods of year-round laboratory rearing of the silkworm, Bombyx mori (L.) (Lepidoptera, Bombycidae). Ann. ent. Soc. Am. 56:122-123.
- Nimura, M., and T. Ito. 1964. Feeding on filter paper by larvae of the silkworm, Bombyx mori L. J. Insect. Physiol. 10:425-430.
- Nitescu, A. 1967. Some aspects of the labor productivity in the rearing of silkworms. (Rum) Sericicultura 3:12-17.
- Preadcencu, C. 1967. Methods of rearing brood, hybrid and polyhybrid silkworms with white cocoons in summer and autumn. (Rum) Sericicultura 3:4-7.

- Selim, A.K., F.A. Kotbi, A.A.M. Omar, and M.H. Hassanein.
1962. Inheritance of some silk characters in
silkworm (Bombyx mori L.) Ann. agric. Sci.
7:185-216.
- Shimizu, S. 1960. Practical methods of hatching eggs
for silkworm rearing throughout the year. Revue
Ver. Soie 12:125-129.
- Titescu, E. 1967. Layout of structures and accommoda-
tions for the collective rearing of silkworms.
(Rum) Sericicultura 3:41-43.
- Titescu, E. 1968. How to obtain good results in rearing
silkworms in spring. (Rum) Sericicultura 4:21-23.

Cossidae

- McFarland, N. 1968. A rearing technique for speeding
up the larval stages of some root or stem-
boring Lepidoptera. J. Res. Lepid. 7:166.
- Rivas, A.M., and W.D. Buchanan. 1958. A new technique
for rearing carpenterworms. J. econ. Ent.
51:406-407.
- Solomon, J.D. 1966. Artificial rearing of the carpen-
terworm, Prionoxystus robiniae (Lepidoptera:
Cossidae), and observations of its development.
Ann. ent. Soc. Am. 59:1197-1200.
- Solomon, J.D. 1967. Rearing the carpenterworm
Prionoxystus robiniae, in the forest.
(Lepidoptera: Cossidae). Ann. ent. Soc. Am.
60:283-285.

Crambidae

- Caresche, L. 1963. Mass rearing of the spotted borer of sugar cane (Proceras sacchariphagus Boj.) on sorghum. Internatl. Soc. Sugar Cane Technol. Proc. Cong. 11th Cong. 604-611.
- Dupnik, T.D. 1970. Notes on the biology and rearing of Euchromius occilus. J. econ. Ent. 63:1677-1678.
- Dupnik, T.D., and J.A. Kamm. 1970. Development of an artificial diet for Crambus trisectus. J. econ. Ent. 63:1578-1581.

Ctenuchidae

- Remington, J.E. 1963. Laboratory mass-rearing of Cisseps fulvicollis (Ctenuchidae), with notes on fertility, fecundity, and biology. J. Lepid. Soc. 17:65-80.

Danaidae

- Munger, F., and T.T. Harris. 1970. Laboratory production of the monarch butterfly Danaus plexippus. J. Res. Lepid. 8:169-176.
- Urquhart, F.A. 1960. The monarch butterfly. Univ. Toronto Press 1960 xxiv + 361 pp.
- Urquhart, F.A., and R.W. Stegner. 1966. Laboratory techniques for maintaining cultures of the monarch butterfly. J. Res. Lepid. 5:129-136.

Galleriidae

- Beck, S.D. 1960. Growth and development of the greater wax moth, Galleria mellonella (L.) (Lepidoptera: Galleriidae). Trans. Wisc. Acad. Sci. 49:137-148.
- Bronskill, J.F. 1962. A cage to simplify the rearing of the greater wax moth, Galleria mellonella (Pyralidae). J. Lepid. Soc. 15:102-104.
- Dutky, S.R., J.V. Thompson, and G.E. Cantwell. 1962. A technique for mass rearing the greater wax moth (Galleria mellonella) (Lepidoptera: Galleriidae). Proc. ent. Soc. Wash. 64:56-58.
- Ryan, R.B. 1968. Electric barrier confinement and cocooning trays in rearing the great wax moth to facilitate recovery of decocooned pupae. Ann. ent. Soc. Am. 61:1341-1342.

Gelechiidae

- Adkisson, P.L., E.S. Vanderzant, D.L. Bull, and W.E. Allison. 1960. A wheat germ medium for rearing the pink bollworm. J. econ. Ent. 53:759-762.
- Beckman, H.F., S.M. Bruckart, and R. Reiser. 1953. Laboratory culture of the pink bollworm on chemically defined media. J. econ. Ent. 46:627-630.
- Chippendale, G.M. 1970. Development of artificial diets for rearing the Angoumois grain moth. J. econ. Ent. 63:844-848.

- Clark, E.W., C.A. Richmond, and J.M. McGough. 1961.
Artificial media and rearing techniques for
the pink bollworm. J. econ. Ent. 54:4-9.
- Finnegan, R.J. 1964. Note on a laboratory method for
obtaining emerged adults of the pine needle
miner Exoteleia pinifoliella (Chamb.) from
infested pine foliage. Phyto protection
45:125-126.
- Mills, R.B. 1965. Apparatus for studying feeding and
oviposition by Angoumois grain moth adults.
J. econ. Ent. 58:177.
- Raulston, J.R. 1971. A practical diet containing
cotton seed for rearing pink bollworm. J.
econ. Ent. 64:1021-1023.
- Richmond, C.A., and C. Ignoffo. 1964. Mass rearing
pink bollworms. J. econ. Ent. 57:503-505.
- Richmond, C.A., and D.F. Martin. 1966. Technique for
mass rearing of the pink bollworm by infesting
diet medium with eggs. J. econ. Ent. 59:762-763.
- Schieferdecker, H. 1968. The biology and mass rearing
of the grain moth, Sitotroga cerealella
Olivier. I. oviposition of Sitotroga cerealella
Olivier (Lepidoptera: Gelechiidae) (Ge) Beitr.
Ent. 18:329-345.

Strong, R.G., D.E. Sbur, and G.J. Partida. 1967.

Rearing stored-product insects for laboratory studies: lesser grain borer, granary weevil, rice weevil, Sitophilus zeamais and Angoumois grain moth. J. econ. Ent. 60:1078-1082.

Geometridae

Brinkmann, R. 1964. On rearing Cidaria turbata (Lep., Geometridae). (Ge) Ent. Z. 74:1-4.

Danard, A.S. 1968. Newly hatched western hemlock looper larvae successfully reared on forced foliage of American larch. Bi-month. Res. Notes 24(1):7.

Hackray, J. 1965. Rearing Boarmia maculata Stgr. f. bastelbergeri Hirschke. (Fr) Lambillionea 64(1/4):9-10.

Kittle, W.G. 1970. Notes on rearing Cosmybia puppillana Hubn (Lep. Sterrhidae). Ent. Rec. 82:101-102.

Wakely, S. 1967. Notes on rearing Thalera fimbrialis Scop. (Lep. Geometridae). Entomologists' Rec. J. Var. 79:73-74.

Glyphipterygidae

Galford, J.R., and J.W. Peacock. 1968. Combined laboratory and greenhouse techniques for year-round rearing of the mimosa webworm, Homadaula anisocentra. Ann. ent. Soc. Am. 61:919-920.

Hepialidae

Dodgshun, T.J. 1970. A semi-synthetic maintenance diet suitable for Hepialid and Melolonthid larvae. N.Z. Ent. 4:78-79.

Elder, R.J. 1971. A rearing technique for Oncopera brachyphylla Turner and Oncopera mitocera (Turner). Queens l. J. Agric. Anim. Sci. 27:401-404.

Lasiocampidae

Addy, N.D. 1969. Rearing the forest tent caterpillar on an artificial diet. J. econ. Ent. 62:270-271.

Bucher, G.E. 1959. Winter rearing of tent caterpillars, Malacosoma spp. (Lepidoptera: Lasiocampidae). Can. Ent. 91:411-416.

Heimpel, A.M. 1957. Notes on methods for rearing two Canadian forest insects. Annual Report of the Entomological Society of Ontario. 88:42-43.

Ottenheijm, C. 1966. Rearing Gastropacha populifolia L. from eggs in 1964 (Lep., Lasiocampidae). (Du) Ent. Ber., Amst. 26:54.

Sippell, W.L. 1952. Winter rearing of the forest tent caterpillar, Malacosoma disstria Hbn. Bi-Monthly Prog. Rept. 8(4):1.

Lycaenidae

Malicky, H. 1970. Züchten: Aber wie? Die Sucht von Lycaeniden (Lepidoptera) aus den Ei. [Rearing: But how? The rearing of Lycaenidae (Lepidoptera) from the egg.] Entomol. Nachr. 13:148-153.

Stempffer, H. 1966. The method of rearing larvae of
Iolana iolas Ochsenheimer (Lycaenidae). (Fr)
Alexanor 4:222-224.

Lymantriidae

Andres, K. 1966. Once again on the rearing of Dasychira
abietis (Lepidoptera, Lymantriidae). (Ge) Ent.
Z. 76:26-28.

Leonard, D.E., and C.C. Doane. 1965. Rearing gypsy
moths in the laboratory. Frontiers plant Sci.
18, 8p.

Leonard, D.E., and C.C. Doane. 1966. An artificial
diet for the gypsy moth, Porthetria dispar
(Lepidoptera: Lymantriidae). Ann. ent. Soc. Am.
59:462-464.

Lyon, R.L., and H.W. Flake. 1966. Rearing Douglas-fir
tussock moth larvae on synthetic media. J.
econ. Ent. 59:696-698.

Magnoler, A. 1970. A wheat germ medium for rearing of
the gypsy moth, Lymantria dispar L. Entomophaga
15:401-406.

Odell, T.M., and W.D.A. Rollinson. 1966. A technique
for rearing the gypsy moth, Porthetria dispar
(L.), on an artificial diet. J. econ. Ent.
59:741-742.

Zhukovskii, S.G., and T.M. Alekseeva. 1969. Razvedenie neparhogo shelkopryada (Porthetria dispar) v laboratornykh usloviyakh. [Breeding Porthetria dispar under laboratory conditions.] Byull. Vses. Nauch. Issled. Inst. Zashch. Rast. 3.11. 72-78.

Noctuidae

Benschoter, C.A. 1970. Production of disease-free Heliothis spp. (Lepidoptera: Noctuidae) by biological selection: A hypothesis. Ann. ent. Soc. Am. 63:465-466.

Berger, R.S. 1963. Laboratory techniques for rearing Heliothis spp. on artificial medium. USDA, ARS 33-84. 4pp.

Blahutiak, A. 1970. Cria de Laphygma frugiperda (Smith y Abbott) en el laboratorio. [Raising Laphygma frugiperda (Smith and Abbott) in the laboratory.] Poeyana Inst. Biol. (La Habana) Ser. A 76:r7.

Blakeley, P.E., L.A. Jacobson, and R.R. Forster. 1958. Rearing the army cutworm, Chorizagrotis auxiliaris (Grote) (Lepidoptera: Noctuidae), in the laboratory. Can. Ent. 90:301-302.

Bot, J. 1966. An artificial diet for the plusia looper, Plusia acuta Walker. S. Afr. J. agric. Sci. 9:67-70.

- Bot, J. 1966. Rearing Heliothis armigera Hubn. and Prodenia litura F. on an artificial diet. S. Afr. J. agric. Sci. 9:535-538.
- Bot, J. 1967. An artificial rearing medium for three noctuids of economic importance belonging to the genus Spodoptera (Lepidoptera). J. Ent. Soc. Sth. Afr. 29:157-160.
- Bot, J. 1967. Rearing three species of fruitsucking moths on artificial diets. S. Afr. J. agric. Sci. 10:1009-1014.
- Bourgogne, J. 1964. Un élevage d'Agrotis ripae Hb. (Noctuidae). Alexanor 3:221-224.
- Bowling, C.C. 1967. Rearing of two lepidopterous pests of rice on a common artificial diet. Ann. ent. Soc. Am. 60:1215-1216.
- Brazzel, J.R., H. Chamsers, and P.J. Hamman. 1961. A laboratory rearing method and dosage-mortality data on the boll-worm, Heliothis zea. J. econ. Ent. 54:949-952.
- Burton, R.L. 1967. Mass rearing the fall army-worm in the laboratory. USDA, ARS 33-117, 12pp.
- Burton, R.L. 1970. A low-cost artificial diet for the corn earworm. J. econ. Ent. 63:1969-1970.
- Callahan, P.S. 1962. Techniques for rearing the corn earworm, Heliothis zea. J. econ. Ent. 55:453-357.

- Chatterji, S.N., G.C. Sharma, K.H. Siddiqui, V.P.S.
Panwar, and W.R. Young. 1969. Laboratory rearing of the pink stem-borer, Sesamia inferons Walker, on artificial diet. (Lep. Noctuidae). Indian J. Ent. 31:75-77.
- Chauthani, A.R., and P.L. Adkisson. 1965. Comparison of two artificial diets for rearing Heliothis zea larvae for insecticide tests. J. econ. Ent. 58:1163-1164.
- Chippendale, G.M., and S.D. Beck. 1965. A method for rearing the cabbage looper, Trichoplusia ni, on a meridic diet. J. econ. Ent. 58:377-378.
- David, W.A.L., and B.O.C. Gardiner. 1966. Rearing Mamestra brassicae (L.) on semi-synthetic diets. Bull. ent. Res. 57:137-142.
- Dimetry, N.Z. 1970. A successful technique for mass rearing of the cotton leaf worm Spodoptera littoralis Boisd. on an artificial diet. Z. angew. Ent. 66:408-411.
- Elfferich, N.W. 1965. Rearing Parascotia fuliginaria L. (Lep., Noctuidae). (Du) Ent. Ber., Amst. 25:151-152.
- El-Minshawy, A.M., and M. Zeid. 1972. Rearing the larvae of the cotton leaf worm Spodoptera littoralis (Boisd.) on semi-artificial diet. Z. angew. Ent. 70:101-104.

- Farnsworth, D. 1962. An improved cage for rearing cutworm moths (Noctuidae). J. Lepid. Soc. 15:105-106.
- Favard, A. 1966. Élevage ab ovo de Parascotia nisseni Trti. (Noctuidae, Othreinae). Alexanor 4:268-272.
- Finney, G.L. 1964. The rearing of the variegated cutworm, Peridroma saucia, in the laboratory. J. econ. Ent. 57:788-790.
- Getzin, L.W. 1962. Mass rearing of virus-free cabbage loopers on an artificial diet. J. Insect Path. 4:486-488.
- Greenwood, J.A.C. 1965. Rearing Heliothis armigera Hubn. Entomologists' Rec. J. Var. 77:190.
- Haggett, G. 1958. Note on rearing Schrankia costnes-trigalis Stephens (Lep: Plusiidae). Entomologists' Gaz. 9:213.
- Hamm, J.J., R.L. Burton, J.R. Young, and R.T. Daniel. 1971. Elimination of Nosema heliothiolis from a laboratory colony of the corn earworm. Ann. ent. Soc. Am. 64:624-627.
- Harris, C.R., J.A. Begg, and J.A. Mazurke. 1958. A laboratory method of mass rearing the black cutworm, Agrotis ypsilon (Rott.) for insecticide tests. Can. Ent. 90:328-331.

- Hocking, B. 1952. Larval nutrition in Agrotis orthogonia Morr. (Lepidoptera: Phalaenidae). A new rearing method. Can. J. agric. Sci. 33:23-29.
- Ignoffo, C.M. 1963. A successful technique for mass-rearing cabbage loopers on a semi-synthetic diet. Ann. ent. Soc. Am. 56:178-182.
- Jacobson, L.A., and P.E. Blakeley. 1957. A method of rearing the pale western cutworm, Agrotis orthogonia Morr. (Lepidoptera: Phalaenidae) in the laboratory. Can. Ent. 89:87-89.
- Kamano, S. 1964. Rearing the cabbage army worm, Barathra brassicae Linne, on artificial diets. (Ja) Jap. J. appl. Ent. Zool. 8:340-342.
- Kessler, P. 1962. Dasypolia templi Thnbg. and ssp. alpina Rghfr. (Lep. Noct.). Mitt. ent. Ges. Basel 12:63-66.
- Khlistovskii, E. 1965. Artificial media for rearing Heliothis armigera. (Rus) Za shch. Rast. Vredit. Bolez. 12:44.
- Khlistovskiy, Y.D. 1970. The rearing of the bollworm Chloridea obsoleta (Lepidoptera: Noctuidae) on an artificial nutrient medium. Ent. Rev. 49:55-57.
- King, K.M., and N.J. Atkinson. 1927. Quantitative methods of collecting and rearing soil cutworms. J. econ. Ent. 20:821-830.

- Lee, B.L., and M.H. Bass. 1969. Rearing technique for the granulate cutworm and some effects of temperature on its life cycle. *Ann. ent. Soc. Am.* 62:1216-1217.
- Maleki-Milani, H. 1971. Elevage de la noctuelle du chou Mamestra (Barathra) brassicae L. *Annls. Soc. ent. Fr.* 7:39-56.
- McEwen, F.L., and G.E.R. Hervey. 1960. Mass-rearing the cabbage looper, Trichoplusia ni, with notes on its biology in the laboratory. *Ann. ent. Soc. Am.* 53:229-234.
- McGinnis, A.J., and R. Kasting. 1962. Nutrition of the pale western cutworm, Agrotis orthogonia Morr. (Lepidoptera: Noctuidae) v. Utilization of protein labelled with carbon - $14^{1,2}$. *J. Nutr.* 76:333-340.
- Moore, I., and A. Nayon. 1964. An artificial medium for rearing Prodenia litura F. and two other noctuids. *Entomophaga* 9:181-185.
- Myers, A.A. 1967. The rearing of Leperina nickerlii knilli Baarsin (1964) (Lep., Noctuidae) under laboratory conditions. *Entomologist* 100 (1244): 13-15.
- Pant, N.C., and P. Gupta. 1959. A method of rearing the spotted bollworm of cotton, Earis spp. (Lepidoptera, Noctuidae) in the laboratory and some

observations on the larval feeding habits.

Indian J. Ent. 21:66-69.

- Paschke, J.D. 1964. Disposable containers for rearing loopers (Trichoplusia ni). J. Insect Path. 6:248-251.
- Paulian, F., and C. Popov. 1968. Cercetari privind colonizarea si inmultirea speciei Scotia (Agrotis) segetum Den. et Schiff. in laborator. [Investigations on the colonization and mass production of Scotia (Agrotis) segetum Den. and Schiff. in the laboratory.] (Rum) Ann. Inst. Cercet. Pentru. Prot. Plant 6:347-357.
- Peking, F. 1970. Zuechten - aber wie? Ein Treibzucht von Parascotia fuliginaria (Lep. Noctuidae). Rear - but how? A forced rearing of Parascotia fuliginaria L. (Lep., Noctuidae). Ent. Nachr. 14:108-110.
- Poitout, S., and R. Bues. 1970. Élevage de plusieurs espèces de Lépidopteres Noctuidae sur milieu artificiel riche et sur milieu artificiel simplifié. Ann. Zool. Ecol. Anim. 2:79-91.
- Raulston, J.R., and P.D. Lingren. 1969. A technique for rearing larvæ of the bollworm and tobacco budworm in large numbers. J. econ. Ent. 62:959-961.

- Raulston, J.R., and T.N. Shaver. 1970. A low agar casein-wheat germ diet for rearing tobacco budworm. J. econ. Ent. 63:1743-1744.
- Redfern, R.E. 1967. Laboratory techniques for rearing the southern armyworm. J. econ. Ent. 60:308.
- Redfern, R.E., and J.R. Raulston. 1970. Improved rearing techniques for the southern armyworm. J. econ. Ent. 63:296-297.
- Revelo, M.A., and E.S. Raun. 1964. Rearing the fall armyworm under greenhouse conditions. J. econ. Ent. 57:1000.
- Roberson, J.L., and L.W. Noble. 1968. Rearing of tobacco budworm in honeycomb-like cells. J. econ. Ent. 61:331-332.
- Sato, Y. 1965. The artificial diet for mass rearing of the tobacco cutworm, Prodenia litura Fabricius and the common armyworm, Leucania separata Walker. Jap. J. appl. Ent. Zool 9:99-106.
- Sevastopulo, D.G. 1965. Rearing Heliothis armigera Hb. Entomologists' Rec. J. Var. 77:262-263.
- Shaver, T.N., and J.R. Raulston. 1971. A soybean-wheat germ diet for rearing the tobacco budworm. Ann. ent. Soc. Am. 64:1077-1079.
- Shorey, H.H. 1963. A simple artificial medium for the cabbage looper. J. econ. Ent. 56:536-537.

- Shorey, H.H., and R.L. Hale. 1965. Mass-rearing of the larvae of nine noctuid species on a simple artificial medium. J. econ. Ent. 58:522-524.
- Soo hoo, C.F., and G. Fraenkel. 1964. A simplified laboratory method for rearing the southern armyworm Prodenia eridania for feeding experiments. Ann. ent. Soc. Am. 57:798-799.
- Sundaramurthy, V.T., and T.R. Subramaniam. 1969. A laboratory technique for mass rearing of the tobacco caterpillar Spodoptera littoralis, Prodenia littura Noctuidae Lepidoptera on synthetic diet. Curr. Sci. 38:569-570.
- Tsukuda, R., and M. Kiyoku. 1967. Improved totally synthetic media for rearing the tobacco cutworm, Prodenia litura Fabricius. (Ja) Okayama Univ. Fac. Agr. Sci. Rep. 30:1-11.
- Vanderzant, E.S., C.D. Richardson, and S.W. Fort, Jr. 1962. Rearing of the bollworm in artificial diet. J. econ. Ent. 55:140.
- Weismann, L., and D. Podmanicka. 1967. Artificial diets in the rearing of the larvae of Barathra brassicae L. (Ge) Biologia (Bratislava) 22:659-667.
- Weirauch, G. 1966. A successful rearing of Eugraphe subrosea (Lep., Noctuidae). (Ge) Ent. Z. 76:33-39.

Wylie, W.D., and C.E. Palm. 1940. A method for production of cutworms in greenhouses. J. econ. Ent. 33:462-463.

Nymphalidae

Drummond, B.A. III, G.L. Bush, and T.C. Emmel. 1970.

The biology and laboratory culture of Chlosyne lacinia Geyer (Nymphalidae). J. Lepid. Soc. 24:135-146.

Kuijken, W. 1967. Breeding Vanessa cardui L. (Lep. Nymphalidae). (Du) Ent. Ber., Amst. 27:224-225.

Newman, L.H. 1957. Rearing Nymphalis antiopa in captivity. Entomologist 90:106-108.

Robertson, T.S. 1970. Rearing the red admiral butterfly, Vanessa atalanta (Lep. Nymphalidae). Bull. amat. Ent. Soc. 29:7-8.

Turner, J.R.G., and J. Crane. 1962. The genetics of some polymorphic forms of the butterflies Heliconius melpomene Linnaeus and H. erato Linnaeus. I Major genes. Zoologica 47:141-152.

Olethreutidae

Bot, J. 1965. An aseptic artificial rearing medium for the false codling moth, Argyroplote leucotreta Meyr. S. Afr. J. agric Sci.8:1075-1078.

Brinton, F.E., M.D. Proverbs, and B.E. Carty. 1969. Artificial diet for mass production of the codling moth, Carpocapsa pomonella (Lepidoptera: Olethreutidae). Can. Ent. 101:577-584.

- Chawla, S.S., and R.F. Harwood. 1968. Artificial diets for the European pine shoot moth, Rhyacionia buoliona (Schiffermuller) (Lepidoptera: Olethreutidae). Wash. State Agr. Exp. Stn. 12p. Pullman. Tech. Bull. 57, 13p.
- Creswell, M.J., E.E. Sturgeon, and R.D. Eikenbary. 1971. Laboratory rearing of the Nantucket pine tip moth, Rhyacionia frustrana on artificial diets. Ann. ent. Soc. Am. 64:1159-1163.
- Daterman, G.E. 1970. An improved technique for mating European pine shoot moth, Rhyacionia buoliona (Lepidoptera: Olethreutidae) in the laboratory. Can. Ent. 102:541-545.
- Dickson, R.C., M.M. Barnes, and C.L. Turzan. 1952. Continuous rearing of the codling moth. J. econ. Ent. 45:66-68.
- Farrar, M.D., and W.P. Flint. 1930. Rearing codling moth larvae throughout the year (Carpocapsa pomonella). J. econ. Ent. 23:41-44.
- Hathaway, D.O., A.E. Clift, and B.A. Butt. 1971. Development and fecundity of codling moth reared on artificial diets or immature apples. J. econ. Ent. 64:1088-1090.
- Howell, J.F. 1967. Paraffin films to control dehydration of an artificial rearing medium for codling moth. J. econ. Ent. 60:289-290.

- Howell, J.F. 1970. Rearing the codling moth on an artificial diet. J. econ. Ent. 63:1148-1150.
- Howell, J.F. 1971. Problems involved in rearing the codling moth on diet in trays. J. econ. Ent. 64:631-636.
- Laing, D.R., and K.S. Hagen. 1970. A xenic, partially synthetic diet for the oriental fruit moth, Grapholitha molesta (Lepidoptera: Olethreutidae). Can. Ent. 102:250-252.
- Redfern, R.E. 1964. Concentrate medium for rearing the codling moth. J. econ. Ent. 57:607-608.
- Rock, G.C. 1967. Aseptic rearing of the codling moth (Carpocapsa pomonella) on synthetic diets: Ascorbic acid and fatty acid requirements. J. econ. Ent. 60:1002-1045.
- Ross, R.H. Jr., R.E. Monroe, and J.W. Butcher. 1971. Studies on techniques for xenic and aseptic rearing of the European pine shoot moth Rhyacionia buoliana (Lepidoptera: Olethreutidae). Can. Ent. 103:1449-1454.
- Ruth, D.S., and A.F. Hedlin. 1969. Rearing the Douglas fir cone moth Barbara colfaxiana (Kerfott) (Lep., Olethreutidae) on an artificial diet in the laboratory. J. ent. Soc. Brit. Columbia 66:22-25.

- Schroeder, W.J. 1970. Rearing the pecan bud moth on artificial diet. J. econ. Ent. 63:650-651.
- Schroeder, W.J., and M. Osburn. 1969. Rearing the hickory shuckworm, Laspeyresia carydna on artificial diet, with notes on biology. Ann. ent. Soc. Am. 62:1401-1403.
- Sender, C. 1969. Elevage permanent du Carpocapse des pommes Carpocapsa (=Laspeyresia) pomonella L. sur milieu artificiel simplifie. Ann. Zool. Ecol. Anim. 1:321-326.
- Taschenberg, E.F. 1969. Large-scale continuous rearing of the grape berry moth, Paralobesia viteana. Ann. ent. Soc. Am. 62:1374-1378.
- Tzanakakis, M.E., and J.H.H. Phillips. 1969. Artificial diets for larvae of the oriental fruit moth. J. econ. Ent. 62:879-882.

Papilionidae

- Gardiner, B.O.C. 1963. Notes on the breeding and biology of Papilio machaon (Lepidoptera: Papilionidae). Proc. R. ent. Soc. London (A) 38:206-211.
- Gray, P.N.H. 1951. Results of humidity tests with Papilio pupae. Lepidopterists' News 5:67-68.
- Kamano, S. 1965. Rearing of Papilio xuthus larvae on artificial diets. (Ja) Jap. J. appl. Ent. Zool. 9:133-135.

Nakayama, I., S. Nagasawa, and H. Shimizu. 1969.

Rearing of larvae of Papilio xuthus L. (Lep., Papilionidae) on artificial diets without leaf powder. Jap. J. appl. Ent. Zool. 13:86-89.

Wielgus, R.S. 1970. Observations and notes on the rearing of Papilio indra Kaibabensis (Papilionidae). J. Res. Lepid. 8:177-181.

Pieridae

Bowden, S.R. 1961. Pieris napi L. ab. sulphurea Schöyen: experiments with a "new" pale yellow form. (Lep., Pieridae). Entomologist 94:221-226.

Bowden, S.R. 1964. The maintenance for experimental purposes of form "sulphurea" of Pieris napi (Pieridae). J. Lepid. Soc. 18:91-100.

David, W.A.L., and B.O.C. Gardiner. 1965. Rearing Pieris brassicae L. larvae on a semi-synthetic diet. Nature, Lond. 207(4999):882-883.

David, W.A.L., and B.O.C. Gardiner. 1966. Breeding Pieris brassicae apparently free from granulosis virus. J. Invertebrate Pathol. 8:325-333.

David, W.A.L., B.O.C. Gardiner, and S.E. Clothier. 1968. Laboratory breeding of Pieris brassicae transmitting a granulosis virus. J. Invertebrate Pathol. 12:238-244.

Dusaussoy, G., and A. Delplanque. 1964. Rearing Pieris brassicae in all seasons; mating and oviposition

under artificial conditions. (Fr) Revue Path.
veg. Ent. agric. Fr. 43:119-134.

Gardiner, B.O.C. 1962. An albino form of Pieris
brassicae Linnaeus (Lep., Pieridae). Entomologists'
Gaz. 13:97-100.

Gardiner, B.O.C. 1963. Genetic and environmental
variation in Pieris brassicae. J. Res. Lepid.
2:127-136.

Kono, Y. 1968. Rearing Pieris rapae crucivora Boisduval
(Lepidoptera: Pieridae) on artificial diets.
Appl. Entomol. Zool. 3:96-98.

Laigo, F.M., H.L. Hansen, and J.D. Paschke. 1967.
Continuous laboratory rearing of the imported
cabbage worm. J. econ. Ent. 60:1184-1185.

Plutellidae

Biever, K.D., and P.E. Boldt. 1971. Continuous laboratory
rearing of the diamondback moth and related
biological data. Ann. ent. Soc. Am. 64:651-655.

Pyralidae

Abbas, H.M., and M.S. Anwar. 1963. Breeding of Corcyra
cephalonica Stn. for the mass production of
Trichogramma minutum Riley. Agr. Pakistan
14:209-214.

Achan, P.D. 1968. Preliminary observations on the de-
velopment of an artificial diet for Hypsipyla

robusta Moore. Tech. Bull. Commonw. Inst.
biol. Control No. 10:23-26.

Bare, C.O., J.N. Tenhet, and R.W. Brubaker. 1955.
Improved techniques for mass rearing of the
cigarette beetle (Lasioderma serricorne) and
the tobacco moth (Ephestia elutella). U.S. Agr.
Mktg. Serv. Ams - 33, 11p.

Beck, S.D., G.M. Chippendale, and D.E. Swinton. 1968.
Nutrition of the European corn borer, Ostrinia
nubilalis. VI. A larval rearing medium without
crude plant fractions. Ann. ent. Soc. Am.
61:459-462.

Beck, S.D., J.H. Lilly, and J.F. Stauffer. 1949.
Nutrition of the European corn borer Pyraustra
nubilalis (Hbn.). I. Development of a satisfactory
purified diet for larval growth. Ann. ent. Soc.
Am. 42:483-496.

Beck, S.D., and J.F. Stauffer. 1950. An aseptic method
for rearing European corn borer larvae. J.
econ. Ent. 43:4-6.

Becton, A.J., and B.W. George. 1962. Methology for
continuous laboratory rearing of the European
corn borer (Ostrinia nubilalis). Ent. Soc. Amer.
No. Cent. Br. Proc. 17:29-31.

- Becton, A.J., B.W. George, and T.A. Brindley. 1962.
Continuous rearing of European corn borer
larvae on artificial medium. Iowa St. Coll.,
J. Sci. 37:163-172.
- Bottger, G.T. 1942. Development of synthetic food media
for use in nutrition studies of the European
corn borer. J. agric. Res. 65:493-500.
- Bowling, C.C. 1967. Rearing of two lepidopterous pests
of rice on a common artificial diet. Ann. ent.
Soc. Am. 60:1215-1216.
- Ebel, B.H. 1959. Laboratory rearing of a pine cone
insect Dioryctria abietella (D. and S.). J.
econ. Ent. 52:561-564.
- Fatzinger, C.W. 1968. Rearing successive generations
of Dioryctria abietella (D. and S.) (Lepidoptera:
Phycitidae) on artificial media with aspects on
nutrition of the insect. Diss. Abstr., Sect.
B. 29:1395 B.
- Fatzinger, C.W. 1970. Rearing successive generation
of Dioryctria abietella (Lepidoptera: Pyralidae
(Phycitinae)) on artificial media. Ann. ent.
Soc. Am. 63:809-814.
- Fatzinger, C.W. 1970. Aseptic techniques for rearing
Dioryctria abietella (Lepidoptera: Pyralidae,
Phycitinae) on artificial medium. Ann. ent.
Soc. Am. 63:1716-1718.

- Finney, G.L., and D. Brinkmon. 1967. Rearing the navel orangeworm in the laboratory. J. econ. Ent. 60:1109-1111.
- Fukaya, M., and J. Mitsuhashi. 1961. Larval diapause in the rice stem borer with special reference to its hormonal mechanism. Bull. natn. Inst. agric. Sci., Tokyo (C) 13:1-32.
- Guthrie, W.D., and S.W. Carter. 1972. Backcrossing to increase survival of larvae of a laboratory culture of the European corn borer on field corn. Ann. ent. Soc. Am. 65:108-109.
- Guthrie, W.D., E.S. Raun, F.F. Dicke, G.R. Pesho, and S.W. Carter. 1965. Laboratory production of European corn borer egg masses. Iowa State J. Sci. 40:65-83.
- Hensley, S.D., and A.M. Hammond. 1968. Laboratory techniques for rearing the sugarcane borer on an artificial diet. J. econ. Ent. 61:1742-1743.
- Jacob, D., and G.M. Chippendale. 1971. Growth and development of the southwestern corn borer Diatraea grandiosella, on a meridic diet. Ann. ent. Soc. Am. 64:485-488.
- Jacob, A., N.M. Das, and M.R.G.K. Nair. 1966. Studies on the feeding media for the mass rearing of Corcyra cephalonica (Staint.). Res. J. Kerala 4:82-85.

- Kamano, S. 1964. On the successive rearing of rice stem borer (Chilo suppressalis) on the artificial diets requirement of larvae. (Ja). Jap. J. appl. Ent. Zool. 8:101-105.
- Keaster, A.J., and K. Harrendorf. 1965. Laboratory rearing of the southwestern corn borer, Zea diatraea grandiosella, on a wheat germ medium. J. econ. Ent. 58:923-924.
- Levinson, H.Z., and S. Gothilf. 1965. A semi-synthetic diet for axenic growth of the carob moth Ectomyelosis ceratoniae (Zell.). Riv. Parassit. 26:19-26.
- Lewis, L.C., and R.E. Lynch. 1969. Rearing the European corn borer, Ostrinia nubilalis (Hübner) on diets containing corn leaf and wheat germ. Iowa State J. Sci. 44:9-14.
- Lewis, L.C., R.E. Lynch, and W.D. Guthrie. 1971. Biology of European corn borers reared continuously on a diet containing Fumidil B. Ann. ent. Soc. Am. 64:1264-1269.
- Matsuzawa, H., and Y. Sasaki. 1964. A method of rearing the rice stem borer, Chilo suppressalis Walker, on germinated rice grains together with the results of feeding tests. Kagawa U. Facul. Agr. Tech. B. 16:50-53.

- Miskimen, G.W. 1965. Nonaseptic laboratory rearing of the sugarcane borer, Diatraea saccharalis. Ann. ent. Soc. Am. 58:820-823.
- Nagy, B. 1970. Rearing of the European corn borer (Ostrinia nubilalis Hbn) on a simplified artificial diet. Acta Phytopathol. Acad. Sci. Hung. 5:73-79.
- Navarro, S., and M. Gonen. 1970. Some techniques for laboratory rearing and experimentation with Ephestia cautella (Wlk) (Lepidoptera, Phycitidae). J. Stored Prod. Res. 6:187-189.
- Pan, Y.-S., and W.H. Long. 1961. Diets for rearing the sugarcane borer. J. econ. Ent. 54:257-261.
- Raun, E.S. 1961. Elimination of microsporidiosis in laboratory-reared European corn borers by use of heat. J. Insect. Path. 3:446-448.
- Salama, H. 1970. Rearing the corn borer, Ostrinia nubilalis (Hubn.), on a semi-artificial diet (Lep., Pyralidae). Z. angew. Ent. 65:216-218.
- Salama, H.S., and R.A. Tolba. 1967. A simple artificial diet for rearing corn borers (Chilo suppressalis: Lep. Crambidae). Bull. Soc. ent. Egypte 51:151-152.
- Sato, Y. 1964. A simple technique for mass rearing of the rice stem borer (Chilo suppressalis) on rice

seedlings. (Ja) Jap. J. appl. Ent. Zool.

8:6-10.

Surany, P. 1957. Continuous mass rearing of the European corn borer (Pyrausta nubilalis) in the laboratory.

Ill. Nat. Hist. Survey. Div. Biol. Notes 37, 11p.

Van Dither, J.B. 1970. Rearing of Diatraea saccharalis

on diets in surinam. Entomologia exp. appl.

13:320-326.

Walker, D.W., A. Alemany, V. Quintana, F. Padovani, and

K.S. Hagen. 1966. Improved xenic diets for

rearing the sugarcane borer in Puerto Rico. J.

econ. Ent. 59:1-4.

Wongsiri, T., and N.M. Randolph. 1962. A comparison of

the biology of the sugarcane borer on artificial

and natural diets. J. econ. Ent. 55:472-473.

Wressel, H.B. 1956. Rearing the European corn borer,

Pyrausta nubilalis (Hbn.) (Lepidoptera:

Pyralidae), on an artificial diet. Annual

Report of the Entomological Society of Ontario.

86:10-13.

Saturniidae

Gardiner, B.O.C. 1967. Rearing the larvae of Lonomia

cynira (Saturniidae). J. Lepid. Soc. 21:138-140.

Gardiner, B.O.C. 1967. Rearing Euleucophaleus

rubridorsa and E. lex (Saturniidae). J. Res.

Lepid. 6:53-58.

- Gillet, N. 1966. Rapid rearing of Leopa katinka
Westw. (Fr) Lambillionea 65(3/4):19-21.
- Levengood, W.C. 1968. Rearing a giant silkworm moth,
Hyalophora cecropia, on an artificial culture
medium. Ann. ent. Soc. Am. 61:1594-1596.
- Luquet, G. 1967. Rearing Eudia pavonia (Attacidae).
(Fr) Alexanor 5:2-7.
- Mason, G., F. Wittwer, R. Ziegler, and D. Bucklin.
1963. Artificial diet for Hyalophora cecropia.
Amer. Zool. 3:531.
- Priddle, T.R. 1966. Techniques for reducing mortality
when rearing larvae of cecropia moth (Saturni-
idae). J. Lepid. Soc. 20:119-122.
- Riddiford, L.M. 1967. Antibiotics in the laboratory-
rearing of cecropia silkworms. Science
157:1451-1452.
- Riddiford, L.M. 1968. Artificial diet for cecropia and
other saturniid silkworms. Science 160:1461-1462.
- Taschenberg, E.F., and W.L. Roelofs. 1970. Large-scale
rearing of cecropia (Lepidoptera: Saturniidae).
Ann. ent. Soc. Am. 63:107-111.

Sphingidae

- Bartek, A. 1965. Rearing and breeding of Sphingidae.
(Cz) Ziva 13:220-221.

- Campbell, J.K. 1964. The establishment of a laboratory colony of the tomato hornworm Protoparce quinquemaculata Haw (Lepidoptera: Sphingidae). Proc. Ent. Soc. Ontario 95:143-146.
- Hoffman, J.D., and F.R. Lawson. 1964. Preliminary studies on mass rearing of the tobacco hornworm. J. econ. Ent. 57:354-355.
- Newman, L.H. 1965. Hawk-moths of Great Britain and Europe. London, Cassell 148 pp.
- Sparks, M.R. 1970. A surrogate leaf for oviposition by the tobacco hornworm (Manduca sexta: Lep., Sphingidae). J. econ. Ent. 63:537-540.
- Sparks, M.R., and J.S. Cheatham. 1970. Responses of a laboratory strain of the tobacco hornworm Manduca sexta, to artificial oviposition sites. Ann. ent. Soc. Am. 63:428-431.
- Svec, H.J. 1964. Laboratory rearing of the tomato hornworm, Protoparce quinquemaculata (Haworth). Can. J. Zool. 42:717.
- Tabary, R. 1965. Rearing Sphinx ocellata (Sphingidae). (Fr) Alexanor 4:71.
- Waldbauer, G.P., R.T. Yamamoto, and W.S. Bowers. 1964. Laboratory rearing of the tobacco hornworm, Protoparce sexta (Lepidoptera: Sphingidae). J. econ. Ent. 57:93-95.

- Yamamoto, R.T. 1969. Mass-rearing of the tobacco hornworm. II. Larval rearing and pupation. J. econ. Ent. 62:1427-1431.

Tineidae

- Mallis, A., A.C. Miller, and R.C. Hill. 1958. Feeding of four species of fabric pests on natural and synthetic textiles. J. econ. Ent. 51:248-249.
- Pence, R.J. 1958. A technique for rapid rearing of clothes moth eggs. J. econ. Ent. 51:919-921.

Tortricidae

- AliNiasee, M.T., E.M. Stafford, and C. Fukushima. 1971. Rearing of the omnivorous leaf roller in the laboratory on artificial diet. Ann. ent. Soc. Am. 64:1172-1173.
- Allen, D.C., F.B. Knight, and J.L. Foltz. 1958. A technique for rearing Choristoneura pinus on artificial diet. Ann. ent. Soc. Am. 61:362-364.
- Grisdale, D. 1970. An improved laboratory method for rearing large numbers of spruce budworm, Choristoneura fumiferana (Lepidoptera: Tortricidae). Can. Ent. 102:1111-1117.
- Guennelon, G., C. Sender, F. D'Archier, and H. Audemard. 1970. Mise au point d'un melieu artificiel pour l'élevage au laboratoire des larves de l'eudemis de la vigne, Lobesia botrana Den et Schiff (Lepidoptera, Tortricidae). Ann. Zool. Ecol. Anim. 2:57-77.

- Hedlin, A.F. 1965. Rearing cone insects in the laboratory on an artificial diet. Bi-mon. Prog. Rept. 21(3):4.
- Heron, R.J. 1961. A method for rearing jack pine and spruce budworm larvae. Bi-monthly Prog. Rept. 17(4):3-4.
- Hikichi, A., and H. Wagner. 1958. A technique for rearing the red-banded leaf roller Argyrotaenia velutinana (Wlkr.) (Lepidoptera: Tortricidae), during the winter. Can. Ent. 90:732.
- Karpel, M.A., and L.E. Hagmann. 1968. Medium and techniques for mass rearing the red-banded leaf roller. Argyrotaenia velutinana. J. econ. Ent. 61:1452-1454.
- Lyon, R.L., C.E. Richmond, J.L. Robertson, and B.A. Lucas. 1972. Rearing diapause and diapause-free western spruce budworm (Choristoneura occidentalis) (Lepidoptera: Tortricidae) on an artificial diet. Can. Ent. 104:417-426.
- McMorran, A. 1965. A synthetic diet for spruce budworm, Choristoneura fumiferana (Clem.) (Lepidoptera: Tortricidae). Can. Ent. 97:58-62.
- Redfern, R.E. 1964. An improved medium for rearing red-banded leaf roller. J. econ. Ent. 57:296-297.

- Rock, G.C. 1969. Sterol and water-soluble vitamin requirements for larvae of the red-banded leaf roller, Argyrotaenia velutinana. Ann. ent. Soc. Am. 62:611-613.
- Schwartz, J.L., and R.L. Lyon. 1970. Laboratory culture of orange tortrix, and its susceptibility to four insecticides. J. econ. Ent. 63:1788-1790.
- Stehr, G. 1954. A laboratory method for rearing the spruce budworm, Choristoneura fumiferana (Clem.), (Lepidoptera: Tortricidae). Can. Ent. 86:423-428.
- Tamaki, Y. 1961. Studies on nutrition and metabolism of the smaller tea tortrix, Adoxophyes orana (Fischer von Röslerstamm). II. An essential factor for adult emergence. III. Nature of an unknown dietary factor for larval growth. Jap. J. appl. Ent. Zool. 5:57-63, 203-206.
- Tamaki, Y. 1966. Rearing of Adoxophyes orana Fischer von Röslerstamm and Homona magnanima Diakonoff on simplified artificial food. (Ja) Jap. J. appl. Ent. Zool. 10:46-48.
- Tamaki, Y. 1966. Mass rearing of the smaller tea tortrix, Adoxophyes orana Fischer von Röslerstamm, on a simplified artificial diet of successive generations (Lepidoptera: Tortricidae). Appl. Ent. Zool. 1:120-124.

Thomas, W.P. 1968. An artificial diet for rearing the light brown apple moth Epiphyas postvittana (Walk.) (Lepidoptera: Tortricidae). New Ent., Ueda 4:31-32.

ORDER: COLEOPTERA

Anobiidae

Baker, J.M., and J.D. Bletchly. 1966. Prepared media for rearing the common furniture beetle Anobium punctatum (Deg.) (Col. Anobiidae). Inst. Wood Sci. J. 17:53-57.

Bare, C.O., J.N. Tenhet, and R.W. Brubaker. 1955. Improved techniques for mass rearing of the cigarette beetle (Lasioderma serricorne) and the tobacco moth (Ephestia elutella). U.S. Agr. Mktg. Serv. Ams--33, 11p.

Bostrichidae

Ayyappa, P.K. 1961. An artificial medium for breeding of large wood 'Ghoons' Sinoxylon Spp. (Coleoptera) Indian J. Ent. 23:241.

Strong, R.G., D.E. Sbur and G.J. Partida. 1967. Rearing stored-product insects for laboratory studies: lesser grain borer, granary weevil, rice weevil, Sitophilus zeamais, and Angoumois grain moth. J. econ. Ent. 60:1078-1082.

Bruchidae

Bottimer, L.J. 1961. New United States records in
Bruchidae, with notes on host plants and rearing
procedures (Coleoptera). Ann. ent. Soc. Am.
54:291-298.

Strong, R.G., G.T. Partida, and D.N. Warner. 1968.
Rearing stored-product insects for laboratory
studies: bean and cowpea weevils. J. econ.
Ent. 61:747-751.

Buprestidae

Beer, F.M. 1949. The rearing of Buprestidae and
delayed emergence of their larvae. Coleopt
Bull. 3:81-84.

Carabidae

McCullough, T. Bro. 1966. Feeding habits of Calosoma
scrutator in captivity (Coleoptera: Carabidae).
Ann. ent. Soc. Am. 59:864.

Raynaud, P. 1967. Tomocarbarus convexus pyrenaicus
Born (Coleoptera, Carabidae), its rearing and
larval stages. (Fr) Soc. Linn. Lyon. Bull. Mens.
36:304-308.

Raynaud, P. 1968. Rearing Carabus (Coleoptera, Carabidae)
(Fr) Entomologiste 24:61-65.

Raynaud, P. 1968. Rearing hybrids of Coleoptera
Carabidae. (Fr) Soc. Linn. Lyon. Bull. Mens.
37:34-42.

Thiele, H.U. 1961. Zuchtversuche an Carabiden, ein
Beitrag zu ihrer Ökologie. Zool. Anz. 167:431-442.

Cerambycidae

Gardiner, L.M. 1970. Rearing wood-boring beetles
(Cerambycidae) on artificial diet. Can. Ent.
102:113-117.

Harley, K.L.S., and B.W. Willson. 1968. Propagation
of a cerambycid borer (Plagiohammus spinipennis)
on a meridic diet. Can. J. Zool. 46:1265-1266.

Kudla, M. 1966. Ecology and rearing Obrium cantharinum
L. (Coleoptera, Cerambycidae). (Ge) Ent. Z.
76:21-26.

Paim, U., and W.E. Beckel. 1960. A practical method
for rearing Monochamus scutellatus (Say) and
M. notatus (Drury) (Coleoptera: Cerambycidae).
Can. Ent. 92:875-878.

Wollerman, E.H., C. Adams, and G.C. Heaton. 1969.
Continuous laboratory culture of the locust
borer, Megacyllene tobiniae. Ann. ent. Soc.
Am. 62:647-649.

Chrysomelidae

Chalfant, R.B., and E.R. Mitchell. 1968. Continuous
rearing and notes on biology in culture of
the southern corn rootworm Diabrotica undecim-
punctata howardi Barber (Coleoptera: Chrysomelidae).
Ga. Ent. Soc. J. 3:47-50.

- Connin, R.V., D.L. Cobb, M.S. Gomulinski, and J.C. Arnsman. 1966. Plaster of paris as an aid in rearing insects pupating in the soil. J. econ. Ent. 59:1530.
- Conrin, R.V. et al. Mass rearing of the cereal leaf (Oulema melanopus). U.S. Agr. Res. Serv. ARS-33-125 11pp.
- George, B.W., and E.E. Ortman. 1965. Rearing the western corn rootworm (Diabrotica virgifera) in the laboratory. J. econ. Ent. 58:375-377.
- Howe, W.L., and E. Zdarkova. 1971. A simple method for continuous rearing of the striped cucumber beetle. J. econ. Ent. 64:1337.
- Kogan, M., and R.D. Goeden. 1970. The biology of Lema trilineata daturaphila, (Coleoptera: Chrysomelidae) with notes on efficiency of food utilization by larvae. Ann. ent. Soc. Am. 63:537-546.
- Mandoza, C.E., and D.C. Peters. 1963. Mass rearing southern corn rootworms (Diabrotica undecimpunctata howardi). Ent. Soc. Amer. No. Cent. Br. Proc. 18:92-93.
- Renner, K. 1970. The rearing of Gastroidea viridula Deg (Col. Chrysomelidae) on leaves and leaf powder of substances of Rumex obtusifolius L. Z. angew. Ent. 65:131-146.

- Rimando, L.C., R.A. Corey, and Y.P. Sun. 1966. Mass rearing of western spotted cucumber beetle. J. econ. Ent. 59:230-231.
- Skelton, T.E., and P.E. Hunter. 1970. Laboratory rearing and reproduction of the spotted cucumber beetle (Diabrotica undecimpunctata howardi: Col. Chrysomelidae). J. econ. Ent. 63:948-950.
- Sutter, G.R., J.L. Krysan, and P.L. Guss. 1971. Rearing the southern corn rootworm on artificial diet. J. econ. Ent. 64:65-67.

Coccinellidae

- Iperti, G. 1970. Rearing and multiplication of the coccinellidae in the biological control against Parlatoria blanchardi. Ann. Zool. Ecol. Anim. Special No. pp. 103-110.
- Kogan, M. 1971. Feeding and nutrition of insects associated with soybeans: I. growth and development of the Mexican bean beetle, Epilachna varivestis on artificial medium. Ann. ent. Soc. Am. 64:1044-1050.
- Nadel, D.J., and S. Biron. 1964. Laboratory studies and controlled mass rearing of Chilocorus bipustulatus Linn., a citrus scale (Chrysomphalus aonidium) predator in Israel. Riv. Parassit. 25:195-206.

- Shands, W.A., R.L. Holmes, and G.W. Simpson. 1970.
Improved laboratory production of eggs of
Coccinella septempunctata (Col. Coccinellidae).
J. econ. Ent. 63:315-317.
- Shands, W.A., M.K. Shands, and G.W. Simpson. 1966.
Techniques for mass-producing Coccinella
septempunctata. J. econ. Ent. 59:1022-1023.
- Smirnoff, W.A. 1958. An artificial diet for rearing
coccinellid beetles. Can. Ent. 90:563-565.
- Smith, B.C. 1960. A technique for rearing coccinellid
beetles on dry foods, and influence of various
pollens on the development of Coleomegilla
maculata lengi Timb (Coleoptera: Coccinellidae).
Can. J. Zool. 38:1047-1049.
- Smith, B.C. 1965. Growth and development of coccinellid
larvae on dry foods (Coleoptera: Coccinellidae).
Can. Ent. 97:760-768.
- Sogoyan, L.N. 1969. Podbor iskusstuennoi pitatel'noi
sredy dlya vospitaniya lichinok Khishchnika
muchnistykh chervetsov Kriptolemusa. [Selection
of an artificial nutrient medium for raising
Cryptolaemus montrouzier larvae.] Byull. Vses.
Nauch. Issled Inst. Zashch. Rast. 3.11.87-90.
- Tanaka, M., and Y. Maeta. 1965. Rearing of some pre-
dacious coccinellid beetles by artificial diets.
(Ja) Kurume. Hort. Res. Sta. Bull. Ser. D,3:17-35.

Cryptophagidae

- Evans, M.E.G. 1961. The life history of Atomaria ruficornis (Marsh.) (Col., Cryptophagidae).
Trans. Soc. Brit. Ent. Lond. 14:207-222.

Curculionidae

- Bass, M.H., and E.E. Barnes. 1969. A laboratory rearing technique for white fringed beetle.
J. econ. Ent. 62:1512-1513.
- Betz, N.L. 1966. Improved laboratory methods for rearing the boll weevil. J. econ. Ent. 59:374-376.
- Broersma, D.B., and S.B. Hays. 1966. Improved methods for mass rearing plum curculio, Conotrachelus nenuphar. J. econ. Ent. 59:235-236.
- Cerezke, H.F. 1967. A method for rearing the root weevil Hylobius warreni (Coleoptera: Curculionidae). Can. Ent. 99:1087-1090.
- Cothran, W.R., and G.G. Gyrisco. 1966. A container for rearing phytophagous insects with potential application to controlled humidity experiments.
J. econ. Ent. 59:481-482.
- Earle, N.W., A.B. Walker, and M.L. Burks. 1966. An artificial diet for the boll weevil Anthonomus grandis (Coleoptera: Curculionidae), based on the analysis of amino acids in cotton squares.
Ann. ent. Soc. Am. 59:664-669.

- Gast, R.T. 1961. Some shortcuts in laboratory rearing of boll weevils. J. econ. Ent. 54:395-396.
- Gast, R.T. 1966. A spray technique for implanting boll weevil eggs on artificial diets. J. econ. Ent. 59:239-240.
- Gast, R.T., and H. Vardell. 1963. Mechanical devices to expedite boll weevil (Anthonomus grandis) rearing in the laboratory. U.S. Agr. Res. Ser. ARS-33-89 10pp.
- Hays, S.B., and J.H. Cochran. 1964. Modification of a laboratory rearing method for plum curculio, Conotrachelus nenuphar. J. econ. Ent. 57:408-419.
- Hower, A.A., Jr., and F.R. Ferrer. 1970. An artificial oviposition technique for the alfalfa weevil. J. econ. Ent. 63:761-764.
- Hertel, G.D. 1971. Rearing pales weevil on soil beds containing pine bolts. J. econ. Ent. 64:893-895.
- Kovitvadhi, K., and S.H. Kerr. 1968. Artificial diet for the zoysiagrass billbug, Sphenophorus venatus vestitus (Coleoptera: Curculionidae), and notes on its biology. Fla. Ent. 51:247-250.
- McLaughlin, R.E. 1966. Laboratory techniques for rearing disease-free insect colonies: elimination of Maltesia grandis McLaughlin, and Nosema sp. from colonies of boll weevils. J. econ. Ent. 59:401-404.

- Malphettes, C.B. 1968. First experimental rearing of Hylobius abietis larvae on a synthetic medium. (Fr) Ann. Sci. Forest. 25:189-192.
- Moore, E. 1966. A technique for rearing the pales weevil, Hylobius pales (Herbst.). S.E. Forest Exp. St. Forest Service Research Note SE-66 2pp.
- Moore, R.F., F.F. Whisnant, and H.M. Taft. 1967. A laboratory diet containing egg albumin for larval and adult boll weevils. J. econ. Ent. 60:237-241.
- Newton, R.C. 1958. Rearing Sitona hispedula larvae for various research uses. J. econ. Ent. 51:917-918.
- Smith, E.H. 1957. A method for rearing the plum curculio under laboratory conditions including some biological observations. J. econ. Ent. 50:187-190.
- Sterling, W.L., and P.L. Adkisson. 1966. An artificial diet for laboratory cultures of boll weevil larvae and adults. J. econ. Ent. 59:1074-1077.
- Strong, R.G., D.E. Sbur, and G.J. Partida. 1967. Rearing stored-product insects for laboratory studies: lesser grain borer, granary weevil, rice weevil, Sitophilus zeamais, and Angoumois grain moth. J. econ. Ent. 60:1078-1082.

- Thomas, H.A. 1969. A meridic diet and rearing technique for the pales weevil larva. J. econ. Ent. 62:1491-1494.
- Thomas, H. A. 1971. Development of pales weevil larvae on an emulsified synthetic diet. S.E. Forest Exp. Stn. Research Note S.E. 163 8 pp.
- Toba, H.H., A.N. Kishaba, R. Pangaldan, and S. Riggs. 1969. Laboratory rearing of pepper weevils on artificial diets. J. econ. Ent. 62:257-258.
- Vanderzant, E.S. 1965. Axenic rearing of the boll weevil on defined diets: amino acid, carbohydrate, and mineral requirements. J. Insect. Physiol. 11:659-670.
- Vanderzant, E.S. 1967. Wheat-germ diets for insects: rearing the boll weevil and the salt-marsh caterpillar. Ann. ent. Soc. Am. 60:1062-1066.
- Vanderzant, E.S., and T.B. Davich. 1958. Laboratory rearing of the boll weevil: 2 satisfactory larval diet and oviposition studies. J. econ. Ent. 51:288-291.
- Vanderzant, E.S., and T.B. Davich. 1961. Artificial diets for the adult boll weevil and techniques for obtaining eggs. J. econ. Ent. 54:923-928.
- Warren, G.L. 1960. Progress in the artificial rearing of Hylobius warreni Wood. Bi-Month. Prog. Rept. 16(6):2-3.
- Yonce, C.E., C.R. Gentry, and R.R. Pate. 1971. Artificial diets for rearing larvae of the plum curculio. J. econ. Ent. 64:1111-1112.

Ziener, W.H., and K.D. Cashin. 1964. Improved technique for rearing the alfalfa weevil Hypera postica (Gyllenhal), in the laboratory. J. econ. Ent. 57:161.

Dermestidae

Shiromany, P.A. 1961. A simple method of maintaining mass culture of Dermestes maculatus (De Geer) (Dermestidae: Coleoptera). Indian J. Ent. 23:62-65.

Sweetman, H.L. 1956. Rearing successful generations of the carpet beetle under controlled conditions. J. econ. Ent. 49:277-278.

Yinon, U. 1965. Simple technique for obtaining eggs of Trogoderma granarium (Col., Dermest.). Riv. Parassit. 26:143-145.

Elateridae

Cuthbert, F.P. 1962. A method of rearing southern potato wireworm (Conoderus falli). J. econ. Ent. 55:262-263.

Davis, G.R.F. 1959. A method for rearing larvae of Ctenicera aeripennis destructor (Brown) (Coleoptera: Elateridae) aseptically in test tubes. Ann. ent. Soc. Am. 52:173-175.

La France, J. 1963. New apparatus and rearing techniques for the study of wireworms (Coleoptera:

Elateridae) in organic soils of southwestern Quebec. Can. Ent. 95:1-6.

Lyctidae

Smith, R.H. 1956. The rearing of Lyctus planicollis and the preparation of wood for control of tests. J. econ. Ent. 49:127-129.

Melandryidae

Paviour-Smith, K. 1964. The life history of Tetratoma fungorum F. (Col., Tetratomidae) in relation to habitat requirements, with an account of eggs and larval stages. Entomologists' mon. Mag. 100:118-134.

Salpingidae

Burakowski, B. 1962. Biologisch-morphologische Beobachtungen über Pytho kolwensis C. Sahlb. (Coleoptera, Pythidae) in Polen. Fragm. faun. 10:173-204.

Scarabaeidae

Dodgshun, T.J. 1970. A semi synthetic maintenance diet suitable for Hepialid and Melolonthid larvae. N.Z. Ent. 4:78-79.

Goonewardene, H.F. and J.E. McKay. 1969. An artificial diet for the adult Japanese beetle. J. econ. Ent. 62:964.

- Goonewardene, H.F., and D.B. Zepp. 1970. Rearing the immature feeding stages of the Japanese beetle in pans. J. econ. Ent. 63:859-860.
- Howe, W., and W.V. Campbell. 1953. A simple method for rearing green June beetle (Cotinis nitida) larvae. USDA Bur. Ent. and plant Quar. ET-307, 2pp.
- Hurpin, B. 1965. Alimentation des larves de Melolontha melolontha L. (Col. Scarabaeidae) avec les organes aériens de végétaux. Anns. Soc. ent. Fr. 1:359-362.
- Hurpin, B., and M. Fresneau. 1964. Rearing two dynastids, Oryctes nasicornis L. and Phyllognathus silenus F. (Coleoptera, Scarabaeidae). Revue Path. veg. Ent. agric. Fr. 43:75-96.
- Schwartz, P.H., Jr., and J.P. Jurimas. 1970. Development and survival of Japanese beetle larvae on carrot and other foods. Ann. ent. Soc. Am. 63:1047-1048.
- Schwartz, P.H., Jr., J.P. Jurimas, and L.A. Hickey. 1970. Substrata for rearing the Japanese beetle in the laboratory. Ann. ent. Soc. Am. 63:1083-1085.

Scolytidae

- Anderson, N.H., and J.E. Bremer. 1967. An efficient laboratory technique for obtaining pine bark beetle eggs and young larvae. Fla. Ent. 50:71-73.

- Beanland, G.E. 1966. A laboratory-rearing method for observing adult bark beetles and their developing brood. *Can. Ent.* 98:412-414.
- Bedard, D. 1966. A ground phloem medium for rearing immature bark beetles (Scolytidae). *Ann. ent. Soc. Am.* 59:931-937.
- Clark, E.W. 1965. A simple rearing technique for obtaining eggs or young larvae of the southern pine beetle. *U.S. Forest Serv. Res. Note SE-44*, 2pp.
- Clark, E.W. 1965. An artificial diet for the southern pine beetle and other bark beetles. *U.S. Forest Serv. Res. Note SE-45*, 3pp.
- Clark, E.W., and E.A. Osgood, Jr. 1964. A simple laboratory technique for rearing Ips calligraphus. *U.S. Forest Serv. Res. Note SE-31*, 3pp.
- Clark, E.W., and E.A. Osgood, Jr. 1964. Mass rearing the southern pine beetle and the coarse writing engraver. *U.S. Forest Serv. Res. Note SE-30*, 4pp.
- Galford, J.R. 1967. A technique for rearing larvae of the smaller European elm bark beetle on an artificial media. *J. econ. Ent.* 60:1192.
- Galford, J.R. 1971. Improved techniques for rearing the smaller European elm bark beetle on artificial media. *J. econ. Ent.* 64:1327-1328.

- Germain, C.J., and N.D. Wygan. 1967. A cylindrical screen cage for rearing bark beetles. U.S. Forest Serv. Res. Note RM-87, 4pp.
- Hopping, G.R. 1961. Techniques for rearing Ips De Geer (Coleoptera: Scolytidae). Can. Ent. 93:1050-1053.
- Johnson, N.E. 1962. Rearing of Douglas-fir beetle broods in waxed slabs. Ann. ent. Soc. Am. 55:659-663.
- Jones, R.G., and W.A. Brindley. 1970. Tests of eight rearing media for the mountain pine beetle Dendroctonus ponderosae (Coleoptera: Scolytidae), from lodgepole pine. Ann. ent. Soc. Am. 63:313-316.
- Kabir, A.K.M.F., and R.L. Giese. 1966. The Columbian timber beetle, Corthylus columbianus (Coleoptera: Scolytidae). I. Biology of the beetle. Ann. ent. Soc. Am. 59:883-894.
- Kaneko, T. 1965. Biology of some scolytid ambrosia beetles attacking tea plants. I. Growth and development of two species of scolytid beetles reared on sterilized tea plants. Jap. J. appl. Ent. Zool. 9:211-216.
- Mizuno, K. 1963. The glass plate rearing of bark beetles Cryphalus piceae Ratzburg. (Ja) J. Jap. For. Soc. 45:272-277.

- Norris, D.M., and J.M. Baker. 1969. Nutrition of Xyleborus ferrungineus. I. Ethanol in diets as a tunneling (feeding) stimulant. Ann. ent. Soc. Am. 62:592-594.
- Norris, D.M., and H. Chu. 1970. Nutrition of Xyleborus ferrungineus. II. A holidic diet for the aposymbiotic insect. Ann. ent. Soc. Am. 63:1142-1145.
- Rexrode, C.O., and C.R. Krause. 1968. Rearing larvae of Pseudopityophthorus proinosus and P. minutissimus on ground phloem media. Ann. ent. Soc. Am. 61:814-816.
- Richter, D. 1967. Retrogression of a mass propagation of Ips typographus represented in forest reports. (Ge) Arch. Forstw. 16(6/9):821-825.
- Saunders, J.L., and J.K. Knobe. 1967. Diets for rearing the ambrosia beetle Xyleborus ferrungineus (Fabricius) in vitro. Science 157:460-461.
- Schmidt, F.H. 1966. Two artificial (oligiolic) media for the Douglas-fir beetle, Dendroctonus pseudotsugae Hopkins (Coleoptera: Scolytidae). Can. Ent. 98:1050-1055.
- Scott, B.A. Jr., and A.A. Berryman. 1971. Laboratory rearing techniques for Scolytus ventralis (Coleoptera: Scolytidae). Wash. Agric. Exp. Stn. Bull. 741, 9pp.

Yearian, W.C., and R.C. Wilkinson. 1963. An artificial rearing medium for Ips calligraphus Germ.

Fla. Ent. 46:319-320.

Yearian, W.C., and R.C. Wilkinson. 1965. Two larval rearing media for Ips bark beetles. Fla. Ent.

48:25-27.

Yearian, W.C., and R.C. Wilkinson. 1967. Development of three Ips bark beetles on a phloem-based

rearing medium. Fla. Ent. 50:43-45.

Silphidae

Špicarová, N. 1966. Orientierungs-Zuchtversuche der

Larven von einigen necrophilen und necrophagen

Kaferaten auf dem Blut-und-Fleisch-Pepton-Agar

(Col. Silphidae). Sb. Prací přír. Fak. palack.

Univ. Olomouci 22:171-174.

Staphylinidae

Adashkevich, B.P. 1970. Razvedenie Aleochara bilineata (Coleoptera, Staphylinidae) v laboratorii.

[Breeding Aleochara bilineata (Coleoptera,

Staphylinidae) in the laboratory.] Zool. Zh.

49:1081-1083.

Jones, C.M. 1966. Laboratory rearing and studies of

Aleochara tristis Gravenhorst, a parasite-predator

of the face fly. Ent. Soc. Amer. No. Cent.

Br. Proc. 21:80.

Tenebrionidae

- Hogan, G.R. 1972. Development of Tribolium castaneum (Coleoptera: Tenebrionidae) in media supplemented with pyrimidines and purines. Ann. ent. Soc. Am. 65:631-636.
- Koch, C. 1962. Our beetle insectarium. Bull. Transv. Mus. 8:6-8.
- Matteson, J.W. 1966. Colonization and mass production of the false wireworm Eleodes suturalis. J. econ. Ent. 59:26-27.
- Naton, E. 1961. Über die Entwicklung des schwarzbraunen Mehlkäfers, Tribolium destructor Uyttenb. Teil. III. Die Aufzucht in "syntetischen", carnitinunterdosierten Diäten und die darauf beruhenden Schädigungen. Z. angew. Ent. 48:58-74.

ORDER: HYMENOPTERA

GENERAL

- Buhr, H. 1941. Beobachtungen über Nahrungspflanzen, verbreitung und auftreten von minierenden blattwespen. Mitteil. munch. ent. Ges. 31:903-926.
- Lefebber, V. 1967. Rearing of Hymenoptera Aculeata, spring 1967. (Du) Ent. Ber., Amst. 28:94-95.

Valkeila, E. 1951. A method of rearing Hymenoptera.
Ann. ent. Fenn. 17:85-88.

Aphelinidae

Kamburov, S. 1970. Mass rearing, distribution and
colonization of Pteroptrix smithi (Compere) in
Israel. Entomophaga 15:413-418.

Apidae

Anderson, R.H. 1965. A method for controlled queen-
rearing in colonies of the cape honeybee
(Apis mellifera capensis). S. Afr. J. agric.
Sci. 8:1163-1164.

Jay, S.C. 1963. The longitudinal orientation of larval
honey bees (Apis mellifera) in their cells. Can.
J. Zool. 41:717-723.

Jay, S.C. 1965. Laboratory rearing studies of the
postcapping stages of the honey bee (Apis
mellifera L.) I. Rearing brood outside cells.
II. Rearing brood inside cells. Can. J. Zool.
43:541-552, 853-862.

Plowright, R.C., and S.C. Jay. 1966. Rearing bumble
bee colonies in captivity. J. apic. Res.
5:155-165.

Pouvreau, A. 1965. A method of rearing bumble bees
(Bombus Latr.) from queens captured in the
field. (Fr) Ann. Abeille 8:147-159.

- Robinson, F.A., and J.L. Nation. 1966. Artificial diets for honey bees, Apis mellifera. Fla. Ent. 49:175-184.
- Weaver, N. 1958. Rearing honeybee larvae in the laboratory. Proc. 10th int. Congr. 4:1031-1036.
- Woyke, J. 1963. Rearing and viability of diploid drone larvae. J. apic. Res. 2:77-84.
- Woyke, J. 1969. A method of rearing diploid drones in a honeybee colony. J. apic. Res. 8:65-74.
- Zapletal, F. 1966. Methods for artificially rearing bumble bees in hives and for overwintering bumblebee queens. (Cz) Bee World 47 (sup.): 167-171.

Braconidae

- Arambourg, V. 1970. Rearing technique and experimental tests for release of Chelonus eleaphilus a parasite of Prays oleae the olive kernel borer. Ann. Zool. Ecol. Anim. Special No. pp.57-61.
- Arambourg, Y. and J. Onillon. 1970. Elevage d'Opius longicaudatus Ash. taiensis Full., Hym. Braconidae parasite de Trypetidae. Ann. Zool. Ecol. Anim. 2:663-665.
- Bryan, D.E., C.G. Jackson, R. Patana, and E.G. Neeman. 1971. Field cage and laboratory studies with Bracon kirkpatricki, a parasite of the pink bollworm. J. econ. Ent. 64:1236-1241.

- Fox, P.M., B.C. Pass, and R. Thurston. 1967. Laboratory studies on the rearing of Aphidius smithi (Hymenoptera: Braconidae) and its parasitism of Acyrtosiphon pisum (Homoptera: Aphididae). Ann. ent. Soc. Am. 60:1083-1087.
- Kennedy, B.H., and J.R. Galford. 1972. Development of Dendrosoter protuberans (Hymenoptera: Braconidae) on larvae of the smaller European elm bark beetle being reared on an artificial medium. Ann. ent. Soc. Am. 65:757-759.
- Lewis, W.J., and R.L. Burton. 1970. Rearing Microplitis croceipes in the laboratory with Heliothis zea as hosts. J. econ. Ent. 63:656-658.
- Mathur, R.N. 1959. Breeding technique and utilization of Cedria paradoxa Wlk. (Hym. Braconidae) for biological control of teak defoliator. Entomologists' mon. Mag. 95:248-250.
- McFadden, M.W. 1969. Successful laboratory mating of Apanteles congregatus, a parasite of the tobacco hornworm, Manduca sexta. Ann. ent. Soc. Am. 62:342-344.
- Oatman, E.R., G.R. Platner, and P.D. Greany. 1972. The biology of Orgilus lepidus (Hymenoptera: Braconidae), a primary parasite of the potato tuberworm. Ann. ent. Soc. Am. 62:1407-1414.

Parker, F.D. 1970. Rearing the imported cabbageworm parasite Apanteles rubecula in the laboratory. J. econ. Ent. 63:1993-1994.

Stary, P. 1970. Methods of mass-rearing, collection and release of Aphidius smithi (Hymenoptera, Aphidiidae) in Czechoslovakia. Acta Ent. Bohemoslov 67:339-346.

Cephididae

Kasting, R., and A.J. McGinnis. 1958. Note on a method of artificially sustaining larvae of the wheat stem sawfly, Cephus cinctus Nort. (Hymenoptera: Cephididae). Can. Ent. 90:63-64.

McGinnis, A.J., and R. Kasting. 1962. A method of rearing larvae of the wheat stem sawfly, Cephus cinctus Nort. (Hymenoptera: Cephididae) under artificial conditions. Can. Ent. 94:573-574.

Cynipidae

Evenhuis, H.H. 1968. Some ecological facts about two Dutch Melanips species (Hymenoptera, Cynipidae). Ent. Ber., Amst. 28:175-176.

Diprionidae

Henson, W.R. 1965. Individual rearing of the larvae of Neodiprion sertifer (Geoffroy) (Hymenoptera: Diprionidae). Can. Ent. 97:773-779.

- McLeod, J.M. 1972. Mass rearing techniques for larvae of the swaine jack pine sawfly, Neodiprion swainei Middleton and effects on normal and prolonged diapause. Environment Canada, Laurentian Forest Research Centre, Quebec Region, Quebec. Information Report Q-X-26, 21pp.
- Niklas, O.F. 1962. Beobachtungen über Diapause und Virose an Laboratoriumzuchten der Fichtenblattwespen Gilpinia polytoma (Hartig) und G. hercyniae (Hartig) (Hymenoptera: Diprionidae). Z. angew. Zool. 49:111-122.
- Rollinson, W.D., H.B. Hubbard Jr., and F.B. Lewis. 1970. Mass rearing of the European pine sawfly (Neodiprion sertifer: (Hym. Diprionidae) for production of the nuclear polyhedrosis virus. J. econ. Ent. 63:343-344.

Encyrtidae

- Ambourg, Y., R. Pralavorio, and B. Chabot. 1970. Possibilités d'élevage d' Ageniaspis fuscicollis praysincola Silv. parasite de Prays oleae Bern. (Lep. Hyponomeutidae) sur un hôte de remplacement. Ann. Zool. Ecol. Anim. 2:657-658.

Eulophidae

Quednau, F.W. 1969. Laboratory propagation of the parasite Chrysocharis laricineilae (Hymenoptera: Eulophidae) and notes on interaction with its host, Coleophora laricella. Can. Ent. 101:100-106.

Syme, P.D. 1971. The life history and biology of Hyssopus thymus (Hymenoptera: Eulophidae), a parasite of the European pine shoot moth (Lepidoptera: Olethreutidae) in Ontario. Can. Ent. 103:1691-1696.

Eurytomidae

Sterling, J.D.E., and R.B. MacLaren. 1964. A greenhouse method of rearing the barley jointworm, Tetramesa hordei, with observations of the biology and host-plant relations of the insect. Can. J. Pl. Sci. 44:53-58.

Formicidae

Benedek, P. 1968. Rearing of alfalfa pollinator wild bees. II. (Hu) Magyar Mezőgazdaság 23:15-16.

Bhatkar, A., and W.H. Whitcomb. 1970. Artificial diet for rearing various species of ants. Fla. Entomol. 53:229-232.

Brian, M.V. 1951. Ant culture for laboratory experiment. Entomologists' mon. Mag. 87:134-136.

- Carney, W.P. 1970. Laboratory maintenance of carpenter ants. *Ann. ent. Soc. Am.* 63:332-334.
- Finnegan, R.J. 1968. Artificial nesting material used in propagating ants. *Bi-Monthly Res. Notes* 24:38-39.
- Gosswald, K. 1968. Die Blattschneiderameisen (Atta and Acromyrmex) als Laboratoriumstiere. [The leaf cutting ants (Atta and Acromyrmex) as laboratory animals.] *Insectes Sociaux* 15:205-212.
- Khan, A.R. 1967. Studies on the rearing, biology and control of the imported fire ant. *Diss. Abstr.*, Sect. B, 27(10):3716B-3717B.
- Khan, A.R., H.B. Green, and J.R. Brazzel. 1967. Laboratory rearing of the imported fire ant. *J. econ. Ent.* 60:915-917.
- Pontin, A.J. 1962. Some improved methods for keeping ant nests in the laboratory. *Entomologists' mon. Mag.* 98:64-65.
- Skaife, S.H. 1961. The black sugar ant Camponotus werthi Forel (Hymenopt: Formicidae). *J. ent. Soc. Sth. Afr.* 24:110-124.
- Soulie, J. 1961. Les nids et le comportement nidificateur des fourmis du genre Cremastogaster d'Europe, d'Afrique du nord et d'Asie du sud-est. *Insectes sociaux* 8:213-297.

Halictidae

May, D.G., and K.A. Stockhammer. 1968. A method of mass colonization of native bees in artificial substrate. J. Kans. ent. Soc. 41:339-341.

Ichneumonidae

Bronskill, J.F., and H.L. House. 1957. Notes on rearing a pupal endoparasite, Pimpla turionellae (L.) (Hymenoptera: Ichneumonidae), on unnatural food. Can. Ent. 89:483.

Bryan, D.E., C.G. Jackson, and A. Stoner. 1970. Rearing cotton insect parasites in the laboratory. USDA Prod. Res. Rep. 109:1-13.

Ceballos Jimenez, P. 1961. Ensayo de reproducción en cautividad de un icneumonido (Pimpla instigator F.). Boln. Serv. Plagas for. 4:97-101.

Salt, G. 1964. The ichneumonid parasite Nemeritis canescens (Gravenhorst) in relation to the wax moth Galleria mellonella (L.). Trans. R. ent. Soc. Lond. 116:1-14.

Shteinberg, D.M. 1961. Host parasite relations in entomophages. Possible development of larvae of certain parasitic Hymenoptera in new hosts. Dokl. Akad. Nauk SSSR, Moscow 138:1477-1480. [See also Dokl. Akad. Nauk SSSR, Transl. Biol. Soc., Washington 138:476-478.]

Spadbery, J.P. 1968. A technique for artificially culturing ichneumonid parasites of woodwasps (Hymenoptera: Siricidae). *Entomologia exp. appl.* 11:257-260.

Yazgan, S., and H.L. House. 1970. An hymenopterous insect, the parasitoid *Itoplectis conquisitor*, reared axenically on a chemically-defined synthetic diet. *Can. Ent.* 102:1304-1306.

Megachilidae

Waters, N.D. 1971. A technique for laboratory rearing immature alfalfa leafcutter bees (Hymenoptera: Megachilidae). *Ann. ent. Soc. Am.* 64:1183.

Pteromalidae

Burton, R.P., and E.C. Turner. 1968. Laboratory propagation of *Muscidifurax raptor* on face fly pupae. *J. econ. Ent.* 61:1380-1383.

Sphecidae

Thomas, R.T.S. 1966. A method of breeding *Philanthus triangulum* F. (Sphecidae, Hymenoptera). *Ent. Ber., Amst.* 26:114-116.

Tenthredinidae

Heimpel, A.M. 1957. Notes on methods for rearing two Canadian forest insects. Annual Report of the Entomological Society of Ontario. 88:42-43.

- Heron, R.J. 1951. Notes on the feeding of larvae of the larch sawfly, Pristiphora erichsonii (Htg.) (Hymenoptera: Tenthredinidae). Annual Report of the Entomological Society of Ontario. 82:67-70.
- Heron, R.J., and J.A. Drouin. 1969. Methods of collecting, rearing and handling the larch sawfly for experimental studies. Forest Research Laboratory Winnipeg, Manitoba. Information Report MS-X-15.
- Ives, W.G.H. 1962. Population and mortality assessment during the egg and larval stages of the larch sawfly, Pristiphora erichsonii (Htg.). Can. Ent. 94:256-268.
- Laurent, J.E. 1965. Permanent breeding of Athalia colibri (Christ) (Tenthredinidae) with the object of testing the soluble thermostable toxin of Bacillus thuringiensis. (Fr) Nancy Ecole Nat. Super. Agron. Bull. 7:79-91.
- Veronneau, G., and J. Juillet. 1967. Laboratory techniques for rearing Fenusa pusilla. Abstr. ACFAS. Ann. 1965/1966 33:71.
- Watson, N.W. 1953. A method of rearing sawflies (Nematus spp.) from willow galls. Bi-Monthly Prog. Rep. D.V. For. Biol. Dep. Agric. Can. 9(6):2.

Trichogrammatidae

- Ulrich, H. 1968. An improved cage for the mass breeding of Trichiogramma egg parasites (Hymenoptera, Chalcidoidea). (Ge) Entomophaga 13:233-236.

Xyelidae

- Ebel, B.H. 1966. Rearing and occurrence of xyelid sawflies on slash and long leaf pines in North Florida (Hymenoptera: Xyelidae). Ann. Ent. Soc. Am. 59:227-229.

ORDER: DIPTERA

GENERAL

- Davies, D.M., P.E. Morrison, G.C. Taylor, and T. Goodman. 1964. Larval nutrient stores, adult diets and reproduction in Diptera. XII International Congress of Entomology Proceedings and Transactions (1964):174.
- Griffiths, G.C.D. 1962. Breeding leaf-mining flies and their parasites. Ent. Rec., Bishop's Stortford 74:178-185.
- Griffiths, G.C.D. 1962. Breeding leaf-mining flies and their parasites. Entomologists' Rec. and J. Var. 74:202-206.
- Missonnier, J., and R. Rahn. 1964. Notes on the techniques of rearing phytophagous insects; case of

Diptera Muscoidea. (Fr) Phytoma 16:11-18,
39-46.

Polishchuk, V.D. 1967. A rearing cage for a large
number of flies. (Rus) Medskaya Parazit.
36:113-115.

Agromyzidae

Freeman, C.C., and F.E. Gyton. 1957. A method for
rearing leaf-mining Agromyzidae. J. econ.
Ent. 50:829-831.

Frick, K.E. 1951. A satisfactory technique for rearing
agromyzid flies from the leaf-mining larval
stage (Diptera: Agromyzidae). Pan-Pacif. Ent.
27:187-189.

Smith, F.F., R.E. Webb, A.L. Boswell, and G.F. Combs Jr.
1970. A circular rotating cage for obtaining
uniform oviposition by Liriomyza munda Frick
in exposed plants. J. econ. Ent. 63:655-656.

Webb, R.E., and F.F. Smith. 1970. Rearing a leaf miner
Liriomyza munda. J. econ. Ent. 63:2009-2010.

Anthomyiidae

Allen, W.R., and W.L. Askew. 1970. A simple technique
for mass rearing the onion maggot (Diptera:
Anthomyiidae) on an artificial diet. Can. Ent.
102:1554-1555.

- Harris, C.R., and H.J. Svec. 1966. Mass rearing of the cabbage maggot under controlled environmental conditions, with observations on the biology of cyclodiene-susceptible and resistant strains. J. econ. Ent. 59:569-573.
- Kilpatrick, J.W., R.W. Fay, and J.T. Baker. 1958. The rearing and radioactive tagging of Fannia canicularis (Abs.) Proc. Ass. Sth. agric. Wkrs. 55:114-115.
- La France, J., and J.P. Perron. 1955. Composite emergence cage for studies on the life-history of the onion maggot, Hylemya antiqua (Mg.) (Diptera: Anthomyiidae). Can. Ent. 87:358-362.
- McClanahan, R.J., and L.A. Miller. 1958. Laboratory rearing of the seed-corn maggot, Hylemya cilicrura (Lond.) (Diptera: Anthomyiidae). Can. Ent. 90:372-374.
- Matsumoto, Y., and A.J. Thorsteinson. 1967. A simple method for rearing the onion maggot, Hylemya antiqua meiger (Diptera: Anthomyiidae) in the laboratory. Appl. Ent. Zool. 2:58-59.
- Niemczyk, H.D. 1964. Mass rearing of the onion maggot, Hylemya antiqua, under laboratory conditions. J. econ. Ent. 57:57-60.
- Rawlins, W.A. 1953. A method for rearing the onion maggot in insectary cultures. J. econ. Ent. 46:1101.

- Read, D.C. 1960. Mass rearing of the cabbage maggot, Hylemya brassicae (Bouché) (Diptera: Anthomyiidae) in the greenhouse. Can. Ent. 92:574-576.
- Read, D.C. 1965. Rearing root maggots, chiefly Hylemya brassicae (Bouché) (Diptera: Anthomyiidae) for bioassay. Can. Ent. 97:136-141.
- Read, D.C. 1969. Rearing the cabbage maggot with and without diapause. Can. Ent. 101:725-737.
- Read, D.C. 1972. A refined method of handling root maggot larvae (Diptera: Anthomyiidae) for bioassay. Can. Ent. 104:597-601.
- Read, D.C., and H.E. Welch. 1962. Establishing and maintaining a culture of Hylemya brassicae (Bouché) (Diptera: Anthomyiidae) in the greenhouse or laboratory. Can. Ent. 94:458-460.
- Soto, P.E., and K. Laxminarayana. 1971. A method for rearing the sorghum shoot fly. J. econ. Ent. 64:553.
- Spicarová, N. 1966. Orientierungs-Zuchtversuche der Rübenfliege (Pegomya betae Curt.) auf sterilem Ruben-Agarboden. Sb. Prací přír. Fak. palack. Univ. Olomouci 22:167-169.
- Vereecke, A., and L. Hertveldt. 1971. Laboratory rearing of the cabbage maggot. J. econ. Ent. 64:670-673.

Bombyliidae

- Du Merle, P. 1966. Modèle de cage permettant d'obtenir la ponte d'un Diptère Bombyliidae, Villa quinquefasciata Wied. A.P. Meig. Entomophaga 11:325-330.

Calliphoridae

- Barlow, J.S., and S. Kollberg. 1971. An improved chemically defined diet for Lucilia sericata (Diptera: Calliphoridae). Can. Ent. 103:1341-1345.
- Berndt, K.P. 1969. Calliphoriden-Zucht ohne Geruchs-belaestigung. [Breeding Calliphora without unpleasant odors.] Angew. Parasit. 10:233-236.
- Chitnis, P.S. 1970. A method for the mass rearing of the blow fly Chrysomya rufifacies with notes on various factors involved. Indian Sci. Cong. Assoc. Proc. 57:398.
- Graham, A.J., and F.H. Dudley. 1958. Culture methods for mass rearing of screw-worm (Callitroya hominivorax) larvae. (Abs.) Proc. Ass. Sth. agric. Wkrs. 55:113.
- Gingrich, R.E. 1971. Media containing liquefied nutrients for mass-rearing larvae of the screw-worm. J. econ. Ent. 64:678-683.
- Matuo, K., and K. Uemoto. 1962. Studies on the life history of Aldrichina grahmi (Aldrich, 1930).

Part I. The rearing results of flies kept at various conditions of temperature. (Ja) Jap. J. sanit. Zool., 13:248-252.

Pospíšil, J. 1961. Influence of the cultivation media of larvae on the chemotaxis of adult flies. Zool. Listy 10:219-221.

Yahnke, W., and J.A. George. 1972. Rearing and immature stages of the cluster fly (Pollenia rudis) (Diptera: Calliphoridae) in Ontario. Can. Ent. 104:567-576.

Cecidomyiidae

Leuamsang, P., A. Bhandhufalck, and T. Wongsiri. 1968. Mass rearing technique of rice gall midge (Pachydiplosis oryzae Wood Mason) and notes on its biology. Int. Rice Commn. Newsl. 17:34-42.

Nikolei, E. 1961. Vergleichende Untersuchungen zur Fortpflanzung heterogener Gallmücken unter experimentellen Bedingungen. Z. Morph. Ökol. Tiere. 50:281-329.

Vallotton, R. 1969. Une technique originale d'élevage en laboratoire de la Cécidomyie des fluers du pois, Contarina pisi Winn. (Dipt. Cecidomyiidae). Mitt. schweiz. ent. Ges. 42:46-51.

Wyatt, I.J. 1961. Pupal paedogenesis in the Cecidomyiidae (Diptera). I. Proc. R. ent. Soc. London (A) 36:133-143.

Ceratopogonidae

- Hair, J.A., and E.C. Turner. 1966. Laboratory colonization and mass-production procedures for Culicoides guttipennis. Mosquito News 26:429-433.
- Linley, J.R. 1968. Colonization of Culicoides furens. Ann. ent. Soc. Am. 61:1486-1490.
- Linley, J.R. 1969. Studies on larval development in Culicoides furens (Poey) (Diptera: Ceratopogonidae). I. Establishment of a standard rearing technique. Ann. ent. Soc. Am. 62:702-711.

Chironomidae

- Biever, K.D. 1965. A rearing technique for the colonization of chironomid midges. Ann. ent. Soc. Am. 58:135-136.
- Darby, R.E. 1962. Midges associated with California rice fields, with special reference to their ecology (Diptera: Chironomidae). Hilgardia, Berkeley, Calif. 32:1-206.
- Konstantinor, A.S. 1968. Rearing chironomids in the laboratory. (Rus) Zool. Zh. 47:626-627.
- Strenzke, K. 1966. Empfohlene Methoden zur Aufzucht und Präparation terrestrischer Chironomiden. Gewäss. Abwäss. 41-42:163-168.
- Yount, J.L. 1966. A method for rearing large numbers of pond midge larvae, with estimates of productivity and standing crop. Am. Midl. Nat. 76:230-238.

Chloropidae

- Mulla, M.S. 1962. Mass rearing of three species of Hippelates eye gnats (Diptera: Chloropidae).
Ann. ent. Soc. Am. 55:253-258.
- Mulla, M.S., and M.M. Barnes. 1957. On laboratory colonization of the eye gnat, Hippelates collusor Townsend. J. econ. Ent. 50:813-816.

Culicidae

- Akov, S. 1962. A qualitative and quantitative study of the nutritional requirements of Aedes aegypti larvae. J. Insect. Physiol. 8:319-335.
- Alger, N.E. 1968. Individually humidified closed plastic cages for rearing anopheline mosquitoes. Mosquito News 28:121-122.
- Baerg, D.C. 1971. Colonization of Anopheles pseudopunctipennis in Panama. J. Med. Ent. 8:180-182.
- Bar-Zeev, M., and D. Ben-Tamar. 1971. A method for rearing the mosquito Culex pipiens molestus Forsk. Mosquito News 31:174-177.
- Behin, R. 1967. Artificial feeding apparatus for mosquitoes. Mosquito News 27:87-90.
- Belkin, J. 1962. The mosquitoes of the South Pacific (Diptera, Culicidae), Vols. I, II. Berkeley and Los Angeles, Univ. California Press xii + 608 pp.

- Blakeslee, T.E., P.T. Rigby, G. Paul, and G. Bomotti.
1966. Maintenance of a laboratory colony of
Aedes dorsalis Meigen by induced copulation.
Calif. Vector Views 13:39-40.
- Boorman, J. 1967. Aseptic rearing of Aedes aegypti Linn.
Nature, Lond. 213(5072):197-198.
- Brust, R.A., and K.S. Kalpage. 1967. A rearing method
for Aedes abserratus (F. and Y.). Mosquito
News. 27:117.
- Chapman, H.C. 1964. Laboratory rearing of Uranotaenia
anhydor Dyar (Diptera: Culicidae). Mosquito
News 24:58-59.
- Chew, R.M., and S.E. Gunstream. 1964. A new medium
for rearing the mosquito Psorophora confinnis.
Mosquito News 24:22-24.
- Craig, G.B., Jr., and R.C. Vandehey. 1962. Genetic
variability in Aedes aegypti (Diptera: Culicidae).
I. Mutations affecting color pattern. Ann. ent.
Soc. Am. 55:47-58.
- El-Gayar, F.H., A.A.A. Gahaad, and W.M. Watson. 1972.
Development of a standardized technique for
rearing larvae of Anopheles pharoensis Theo.
(Dipt., Culicidae) and preparation of dosage-
mortality curves for five larvicides. Z. angew.
Ent. 70:316-322.

- French, F.E. 1970. Maintaining mosquito colonies of Aedes atropalpus and Anopheles stephensi with less than 5 hours labor per month. (Dipt. Culicidae). Can. J. Zool. 48:393-394.
- Gerberg, E.J., J.W. Gentry, and L.H. Diven. 1968. Mass rearing of Anopheles stephensi Liston. Mosquito News. 28:342-346.
- Laarman, J.J., and J.L. Gerold. 1968. Mass rearing of mosquitoes for medical-entomological purposes. (Du) Ent. Ber., Amst. 28:86-87.
- Laarman, J.J., and J.L. Gerold. 1968. Mass breeding of mosquitoes for medical-entomological purposes. (Du) Acta Leidensia 36:149-150.
- Lindgren, J.E. 1966. Culture techniques for permanent colonization of Culiseta incidens (Thomson) (Diptera: Culicidae). Mosquito News 26:63-65.
- Lowrie, R.C., and D.J. Gubler. 1968. A time-saving method for the rearing of mosquitoes in the laboratory. Mosquito News 28:115-124.
- McKiel, J.A. 1957. A simplified method for large-scale laboratory rearing of Aedes aegypti (L.). Mosquito News 17:25-29.
- McLintock, J. 1960. Simplified method for maintaining Culex pipiens Linnaeus in the laboratory (Diptera: Culicidae). Mosquito News 20:27-29.

- Miura, T. 1970. A simple scum-free rearing technique for mosquito larvae. *Ann. ent. Soc. Am.* 63:1476-1477.
- Nayar, J.K. 1966. A method of rearing salt-marsh mosquito in a defined sterile medium. *Ann. ent. Soc. Am.* 59:1283-1285.
- Niles, W.J. 1961. Anopheles nigerrimus (hyrcanus group) as a laboratory vector of some filariae of man and animals. *Ann. trop. Med. Parasit.* 55:379-380.
- Porter, J.E., G. Kozuchi, and M.J. Kuck. 1961. Improved techniques for the laboratory rearing of Aedes aegypti (Linn.). *Mosquito News* 21:340-342.
- Provost, M.W., P.T.M. Lum, and L.M. Bourinot. 1965. Constant temperature mosquito-rearing apparatus. *Ann. ent. Soc. Am.* 58:937-938.
- Roman, E. 1960. Elevage en série du moustique citadin Culex pipiens autogenicus (Dipt., Culicidae). *Bull. Soc. ent. Fr.* 65:281-287.
- Takahashi, M. 1968. Laboratory rearing of Culex (Melanoconion) portesi Senevet and Abonnenc. *Mosquito News* 28:82-84.
- Wallis, R.C., and S.W. Lite. 1970. Axenic rearing of Culex salinarius. *Mosquito News* 30:427-429.

Wallis, R.C., and L. Whitman. 1968. Colonization of Culex salinarius in the laboratory. Mosquito News 28:366-368.

Dolichopodidae

McGhehey, J.H., and W.P. Nagel. 1966. A technique for rearing larvae of Medetera aldrichi (Diptera: Dolichopodidae). Ann. ent. Soc. Am. 59:290-292.

Drosophilidae

Anon. 1966. Battery rearing of fruit flies. Pestic Abstracts 12:262-263.

Bakker, K. 1961. An analysis of factors which determine success in competition for food among larvae of Drosophila melanogaster. Arch. néerl. Zool. 14:200-281.

Cora Garcia, P., and O.M. Suárez. 1962. Especies del genero Drosophila encontradas hasta ahora en Venezuela. Rev. venez. San. Asist. soc. 27:317-351.

Frydenberg, O. 1962. Estimation of some genetical and vital statistics parameters of Bennett populations of Drosophila melanogaster. Hereditas 48:83-104.

Gartner, B.A. 1967. Laboratory rearing of Drosophila melanogaster. (Hu) Buvar 12:169-172.

Gerolt, P. 1957. Method for breeding, handling, and sexing adults of Drosophila melanogaster Mg. as a test insect for bioassay. Bull. ent. Res. 48:311-315.

- Neunes, H.W. 1962. Controlling fluctuations of duration of developmental period in Drosophila. J. Kans. ent. Soc. 35:269-278.
- O'Brian, D.M. 1961. Effects of parental age on the life cycle of Drosophila melanogaster. Ann. ent. Soc. Am. 54:412-416.
- Pielou, D.P. 1962. Note on an escapeproof method for rearing and handling Drosophila melanogaster Meig. Can. J. Zool. 40:365-367.
- Sang, J.H., and R.C. King. 1961. Nutritional requirements of axenically cultured Drosophila melanogaster adults. J. exp. Biol. 38:793-809.
- Tomey, W.A. 1966. Care and breeding of Drosophila melanogaster, the fruitfly. (Du) Aquarium 36:159-162.

Muscidae

- Anderson, J.R., and J.H. Poorbaugh. 1964. A simplified technique for the laboratory rearing of Fannia canicularis. J. econ. Ent. 57:254-256.
- Azevedo, J.F., and R. da C. Pinhao. 1964. The maintenance in the laboratory of a colony of Glossina morsitans (Diptera) since 1959. World Health Organ. WHO/vector control 94, 13p.
- Azevedo, J.F., and R. da C. Pinhao. 1966. Rearing the tsetse fly in Lisbon; an accident due to

an insecticide. (Por) Inst. Med. Trop. An.
23(1/2):11-27.

Bhalla, S.C. 1965. Some measures of fitness in different genotypes of the housefly. J. Kans. ent. Soc. 37:202-207.

Burton, R.P., and E.C. Turner. 1968. Laboratory propagation of Muscidifurax raptor on face fly pupae. J. econ. Ent. 61:1380-1383.

Christinas, P.E. 1970. Laboratory rearing of the biting fly Stomoxys calcitrans. (Diptera, Muscidae). N.Z. Ent. 4:45-49.

Cummings, E.C., J.T. Hallett, and J.J. Menn. 1964. A cylindrical cage for fly rearing. J. econ. Ent. 57:177.

Depner, K.R. 1962. Continuous propagation of the horn fly, Haematobia irritans (L.) (Diptera: Muscidae). Can. Ent. 94:893-895.

Fisher, R.W., and F. Juric. 1958. Rearing houseflies and roaches for physiological research. Can. Ent. 90:1-7.

Hafez, M., and M.A. Attia. 1958. Rearing and culturing Misca sorbens Wied. in the laboratory. Bull. ent. Res. 49:633-635.

Harris, R.L., E.D. Frazer, and P.D. Grossman. 1967. Artificial media for rearing larvae of horn flies. J. econ. Ent. 60:891-892.

- Hays, S.B., and G.M. Amersen. 1967. New devices for rearing and handling house flies in the laboratory. J. econ. Ent. 59:1523-1524.
- Henry, S.M., and V.F. Cotty. 1957. The rearing of aseptic adult house flies for physiological studies. Boyce Thompson Inst. Contrib. 19:227-229.
- Jordan, A.M., T.A.M. Nash, and J.A. Boyle. 1966. The large scale rearing of Glossina austeni (Newst.) in the laboratory. 2. The use of claves as hosts on seven days of the week. Ann. trop. Med. Parasit. 60:461-468.
- Jordan, A.M., T.A.M. Nash, and J.A. Boyle. 1967. The rearing of Glossina austeni Newst. with lop-eared rabbits as hosts. I. Ann. trop. Med. Parasit. 61:182-188.
- Langley, P.A. 1971. Rearing of tsetse flies in the absence of a living host. Trans. R. Soc. trop. Med. Hyg. 65:220-221.
- McDonald, W.A. 1961. The laboratory rearing of Glossina morsitans submorsitans Newst. in northern Nigeria. Publ. int. Sci. Cmmttee Trypan., London no. 62:247-251.
- McDonald, W.A. 1962. A technique for rearing myiasis-producing fly larvae. J. ent. Soc. Sth. Afr. 25:149.

- Monroe, R.E. 1962. A method for rearing house fly larvae aseptically on a synthetic medium. *Ann. ent. Soc. Am.* 55:140.
- Moreland, C.R., and W.S. McLeod. 1957. Studies on rearing the house fly on a bran-alfalfa medium. *J. econ. Ent.* 50:146-150.
- Morgan, N.O. 1966. Laboratory propagation of the horn fly. *J. econ. Ent.* 59:1030.
- Nash, T.A.M., A.M. Jordan, and J.A. Boyle. 1966. A promising method for rearing Glossina austeni Newst. on a small scale, based on the use of rabbits' ears for feeding. *Trans. R. Soc. trop. Med. Hyg.* 60:183-188.
- Nash, T.A.M., A.M. Jordan, and J.A. Boyle. 1966. The large-scale rearing of Glossina austeni (Newst.) in the laboratory. 3. Confirmation of the value of pregnant goats as hosts. *Ann. trop. Med. Parasit.* 60:469-481.
- Nash, T.A.M., R.J. Kernaghan, and J.A. Boyle. 1966. The large-scale rearing of Glossina austeni (Newst.) in the laboratory. I--The use of pregnant and non-pregnant goats as hosts. *Ann. trop. Med. Parasit.* 60:39-47.
- Ozburn, G.W. 1964. A simplified technique for rearing and maintaining a colony of house flies. *Mich. Acad. Sci. Arts and Let. Papers* 49:203-206.

- Pospisil, J. 1961. Influence of the cultivation media of larvae on the chemotaxis of adult flies. Zool. Listy 10:219-221,222.
- Rogers, A. 1971. Preliminary observations on apparatus for the artificial feeding of tsetse flies. Ann. trop. Med. Parasit. 65:409-413.
- Rogoff, W.M. 1965. Mating of the house fly, Musca domestica L., in monitored darkness. J. Med. Ent. 2:54-56.
- Schmidt, C.D., R.L. Harris, and R.A. Hoffman. 1967. Mass rearing of the horn fly Haematobia irritans (Diptera: Muscidae), in the laboratory. Ann. ent. Soc. Am. 60:508-510.
- Schmidt, C.D., R.L. Harris, and R.A. Hoffman. 1968. New techniques for rearing horn flies at Kerrville, 1967. Ann. ent. Soc. Am. 61:1045-1046.
- Spiller, D. 1963. Procedure for rearing houseflies. Nature, Lond. 199:405.
- Tharumarajah, K., and E.S. Thevasagayam. 1961. A simple method for breeding the house-fly Musca domestica vicina Macquart, in the laboratory. Bull. ent. Res. 52:457-458.
- Tobe, S.S., and K.G. Davey. 1971. Some modifications for the laboratory rearing of Glossina austeni Newst. Can. J. Zool. 49:577-579.

Ward, R.A. 1970. Tsetse fly colonization (Diptera: Muscidae, Glossina spp.). Bull. ent. Soc. Am. 16:111-115.

Mycetophilidae

Chandler, P.J. 1966. Rearing of Rondaniella dimidata Mg. (Dipt., Mycetophilidae). Entomologists' mon. Mag. 102(1220/1222):72.

Oestridae

Chamberlain, W.F. 1970. In vitro culture of the common cattle grub for six weeks after hatching. Ann. ent. Soc. Am. 63:1465-1466.

Deiana, S., and E. Arru. 1960. Hypoderma bovis e Hypoderma lineatum. Localizzazione stagionale delle larvae. Parassitologia 2:141-144.

Weintraub, J. 1961. Inducing mating and oviposition of the warble flies Hypoderma bovis (L.) and H. lineatum (DeVill.) (Diptera: Oestridae) in captivity. Can. Ent. 93:149-156.

Phoridae

Blickle, R.L. 1964. Horsemeat as food for rearing Diptera (Phoridae and Tabanidae). Fla. Ent. 47:29-30.

Hussey, N.W., and B. Gruney. 1964. Rearing techniques for mushroom fly (Megaselia halterata). Plant Path. 13:38-39.

Psilidae

- McClanahan, R., and H. Niemczyk. 1963. Continuous rearing of the carrot rust fly (Psila rosae Fab.) Can. Ent. 95:827-830.
- Naton, E. 1966. Prerequisites for a laboratory rearing of the true carrot fly Psila rosae Fabr. (Ge) Anz. Schädlingesk. 39:85-89.
- Naton, E. 1971. The carrot fly (Psila rosae Fabr.): Its rearing and biology in the laboratory. Z. angew. Ent. 69:30-37.
- Stadler, E. 1971. An improved mass-rearing method of the carrot rust fly Psila rosae (Diptera: Psilidae). Can. Ent. 103:1033-1038.

Psychodidae

- Christensen, H.A. 1972. Colonization of Lutzomyia trinidadensis and L. vespertilionis (Diptera: Psychodidae). Ann. ent. Soc. Am. 65:683-686.
- Hertig, M., and P.T. Johnson. 1961. The rearing of Phlebotomus sandflies (Diptera: Psychodidae). I. Technique. Ann. ent. Soc. Am. 54:753-764.
- Johnson, P.T., and M. Hertig. 1961. The rearing of Phlebotomus sandflies (Diptera: Psychodidae). II. Development and behavior of Panamanian sandflies in laboratory culture. Ann. ent. Soc. Am. 54:764-776.

- Ribeiro, H., and C. Soares de Fontes e Sousa. 1962.
Données nouvelles sur l'élevage de Phlebotomus
perniciosus Newstead, 1911 (Diptera, Psychodidae)
au laboratoire. Ann. Parasit. hum. comp.
37:623-629.
- Sherlock, I.A. 1962. A note on natural breeding places
of "Phlebotomus" in Salvador, Bahia (Diptera,
Psychodidae). (Por) Rev. Bras. de Biol.
22:125-127.

Sarcophagidae

- Bodnaryk, R.P. 1971. A convenient method for rearing
blowflies and flesh flies. J. econ. Ent. 986-987.
- House, H.L. 1954. Nutritional studies with Pseudosar-
cophaga affinis (Fall.) a dipterous parasite of
the spruce budworm Choristoneura fumiferana
(Clem.). I. A chemically defined medium and
aseptic-culture technique. Can. J. Zool. 32:
331-341.
- House, H.L. 1971. Relations between dietary proportions
of nutrients, growth rate and choice of food in
the fly larva Agria affinis. J. Insect. Physiol.
17:1225-1238.
- House, H.L., and J.S. Barlow. 1957. New equipment for
rearing small numbers of Pseudosarcophaga

affinis (Fall.) Diptera: Sarcophagidae, for experimental purposes. Can. Ent. 89:145-150.

House, H.L., and M.G. Traer. 1948. An artificial food for rearing Pseudosarcophaga affinis (Fall.), a parasite of the spruce budworm Choristoneura fumiferana (Clem.). Annual Report of the Entomological Society of Ontario. 79:50-53.

Sciaridae

Mattingly, E., and S. Ogle. 1969. A new culture method for Rhynchosciara. Ann. ent. Soc. Am. 62:94-96.

Simuliidae

Field, G., R.J. Daplessis, and A.P. Breton. 1967. Progress report on laboratory rearing of black flies (Diptera: Simuliidae). J. Med. Ent. 4:304-305.

Fredeen, F.J.H. 1959. Rearing black flies in the laboratory (Diptera: Simuliidae). Can. Ent. 91:73-82.

Hall, R.E., and J.J. Harrod. 1963. A method of rearing Simulium ornatum var. nitidifrons (Diptera, Simuliidae) in the laboratory. Hydrobiologia 22(1/2):197-201.

Tarshis, I.B. 1967. Collecting and rearing black flies. Ann. ent. Soc. Am. 61:1072-1083.

Vulcano, M.A. 1962. Simulídeos da Serra da Bocaina: observações bionômicas, revalidação de Simulium

brevifurcatum Lutz e descrição de una espécie nova, S. ana-mariae (Diptera, Simuliidae).

Pap. Dep. Zool. Sec. Agric., São Paulo 15:239-272.

Wood, D.M., and D.M. Davies. 1964. Continuous culture of Simuliids (Dipt.) indoors for biological and taxonomic studies. Proc. 12th int. Congr. Ent. Lond. (1964):821-823.

Wood, D.M., and D.M. Davies. 1965. Some methods of rearing and collecting black flies (Diptera: Simuliidae). Proc. ent. Soc. Ont. 96:81-90.

Wright, F.N. 1957. Rearing of Simulium damnosum Theobald (Diptera: Simuliidae) in the laboratory. Nature, Lond. 180:1059.

Sphaeroceridae

Fredeen, F.J.H., and G.S. Glen. 1970. The survival and development of Leptocera caenosa (Diptera: Sphaeroceridae) in laboratory cultures. Can. Ent. 102:164-171.

Syrphidae

Clark, R.C., and N.R. Brown. 1959. A field cage for rearing syrphid larvae and other predators of the balsam woolly aphid, Adelges piceae (Ratz.) (Homoptera: Adelgidae). Can. Ent. 91:723-725.

Clark, R.C., and N.R. Brown. 1960. A laboratory method for rearing predators of the balsam woolly

aphid, Adelges piceae (Ratz.) (Homoptera:
Adelgidae). Can. Ent. 92:696-697.

Wilkening, K. 1961. Erfahrungen und Beobachtungen bei
der Laboratoriumszucht von Syrphus corollae
Fabr. Z. angew. Zool. 48:221-240.

Tabanidae

Blickle, R.L. 1964. Horsemeat as food for rearing
Diptera (Phoridae and Tabanidae). Fla. Ent.
47:29-30.

Roberts, R.H. 1966. A technique for rearing the immature
stages of Tabanidae (Diptera). Ent. News
77:79-82.

Williams, P. 1961. The bionomics of the tabanid fauna
of streams in the rain-forest of the southern
Cameroons. II--The species collected as larvae
of pupae at Kumba. Ann. trop. Med. Parasit.
55:452-462.

Tachinidae

Bryan, D.E., C.G. Jackson, and A. Stoner. 1970. Rearing
cottoninsect parasites in the laboratory.
USDA Prod. Res. Rep. 109:1-13.

Tephritidae

Cavalloro, R., and V. Girolami. 1969. Nuove tecniche di
allevamento in laboratorio del Dacus oleae
Gmel. I. adultri. [New technique of raising

Dacus oleae Gmel. in the laboratory. I.
Adults.] Redia 51:127-152.

Cavalloro, R. and V. Girolami. 1969. Migliormenti
nell'allevamento in massa di Ceratitis capitata
Wiedemann (Diptera, Trypetidae). [Improvements
in mass raising of Ceratitis capitata Wiedemann
(Diptera, Trypetidae).] Redia 51:315-327.

Economopoulos, A.P., and M.E. Tzanakakis. 1967. Egg
yolk and olive juice as supplements to the
yeast hydrolyzate-sucrose diet for adults of
Dacus oleae. Life Sci. 6(22 pt. 11):2409-2416.

Foott, W.H. 1967. Laboratory rearing of the pepper
maggot, Zonosemata electa (Say) (Diptera:
Tephritidae). Proc. Ent. Soc. Ontario 98:18-21.

Hagen, K.S., L. Santas, and A. Tsecouras. 1963. A
technique for culturing the olive fly, Dacus
oleae Gmel. on synthetic media under xenic
conditions. Symp. use Appl. Radioisotopes
Radiation Contr. Plant Anim. Insect Pests. Proc.
1963 Symp.:333-356.

International Atomic Energy Agency Proceedings Series.
1970. Sterile-male technique for control of
fruit flies. Symposium 175p. illus. Unipub.
Inc. New York. N.Y. U.S.A.

- Mitchell, S., N. Tanaka, and L.F. Steiner. 1965.
Methods of mass culturing melon flies and
Oriental and Mediterranean fruit flies. USDA,
ARS 33-104, 23pp.
- Neilson, W.T.A. 1969. Rearing larvae of the apple
maggot on an artificial medium (Rhagoletis
pomonella: Dipt. Trypetidae). J. econ. Ent.
62:1028-1031.
- Neilson, W.T.A., and J.W. McAllan. 1964. Artificial
diets for the apple maggot, Rhagoletis pomonella.
I. Mass rearing on certain diets. J. econ. Ent.
57:333-335.
- Neilson, W.T.A., and J.W. McAllan. 1964. Artificial
diets for the apple maggot, Rhagoletis pomonella.
II. Reproductive potential. J. econ. Ent.
57:904-905.
- Neilson, W.T.A., and J.W. McAllan. 1965. Artificial
diets for the apple maggot (Rhagoletis pomonella).
III. Improved, defined diets. J. econ. Ent.
58:542-543.
- Orphanidis, P.S., C.D. Soultanopoulos, and P.G. Patsakos.
1964. Contribution to the study of a method of
rearing Dacus oleae Gmel. on an artificial
substrate. (Sp) Boln Oleicult. int. 82:7-11.

- Pant, N.C., S. Ghal, and S.S. Chawla. 1959. A simple unfortified rice medium for mass rearing of the melon fruit fly, Dacus cucurbitae Coquillett under laboratory conditions. Cur. Sci. 28:288-289.
- Prokopy, R.J. 1967. Artificial diet for apple maggot (Rhagoletis pomonella) larvae. J. econ. Ent. 60:1161-1162.
- Rey, J.M. 1969. Desarrollo de una dieta larvaria para el cultivo de Dacus oleae Gmel. (Dipt. Tripetidae). [Development of a larval diet for the rearing of Dacus oleae Gmel. (Dipt. Tripetidae).] Graellsia Rev. Entomol. Iber. 24:253-259.
- Rey, J.M. 1970. Development of a diet for rearing olive fly larvae. Entomophaga 15:157-167.
- Rhode, R.H. 1957. A diet for Mexican fruit flies. J. econ. Ent. 50:215.
- Scherney, F., and A. Haisch. 1967. Mass breeding and sterilization of the Mediterranean fruit fly Ceratitidis capitata. (Ge) Bayer. Landw. Jb. 44:748-756.
- Schroeder, W.J., R. Miyabara, and D.L. Chambers. 1970. A reusable diet support for rearing the melon fly on fluid larval medium. J. econ. Ent. 63:2002.

Schroeder, W.J., R.Y. Miyabara, N. Tanaka, and D.L.

Chambers. 1971. A fluid larval medium for rearing the melon fly. J. econ. Ent. 64: 1221-1223.

Spishakoff, L.M. 1966. Laboratory rearing of Anastrepha serpentina. J. econ. Ent. 59:1010-1011.

Spishakoff, L.M., and J.G. Hernandez Davila. 1968.

Dried torula yeast as a substitute for brewer's yeast in the larval rearing medium for the Mexican fruit fly. J. econ. Ent. 61:859-860.

Tanaka, H., L.F. Steiner, K. Ohinata, and R. Okamoto.

1969. Low-cost larval rearing medium for mass-production of Oriental and Mediterranean fruit flies. J. econ. Ent. 62:967-968.

Tzanakakis, M.E., A.P. Economopoulos, and J.A. Tsitsipis.

1970. Rearing and nutrition of the olive fruit fly. I. Improved larval diet and simple containers. J. econ. Ent. 63:317-318.

Tipulidae

Laughlin, R. 1958. The rearing of crane flies (Tipulidae).

Entomologia exp. appl. 1:241-245.

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Pulicidae

Hudson, B.W., and F.M. Prince. 1958. A method for large-scale rearing of the cat flea, Ctenocephalides felis felis (Bouché). World Health Organ. B. 19:1126-1129.

Pausch, R.D., and G. Fraenkel. 1966. The nutrition of the larva of the oriental rat flea Xenopsylla cheopis (Rothschild.). Physiol. Zoöl. 39:202-222.

Ceratophyllidae

Johnson, D.E., D.D. Parker, and E.D. Vest. 1967. An artificial burrow for the laboratory rearing of Thrassis bacchi, a squirrel flea. Utah. Acad. Sci. Arts. Let. Proc. 44:587-589.

Kir'yakova, A.N. 1961. Laboratory methods of fleas (Aphaniptera) rearing. (Rus) Ent. Obozr. 40:443-447.

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