



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

HILGARDIA

*A Journal of Agricultural Science Published by
the California Agricultural Experiment Station*

VOLUME 30

JUNE, 1960

NUMBER 1

**Supplement To
AN ANNOTATED LIST AND
BIBLIOGRAPHY OF INSECTS
REPORTED TO HAVE VIRUS
DISEASES**

**MAURO E. MARTIGNONI
and
ROBERT L. LANGSTON**

UNIVERSITY OF CALIFORNIA · BERKELEY, CALIFORNIA

H I L G A R D I A

*A Journal of Agricultural Science Published by
the California Agricultural Experiment Station*

VOL. 30

JUNE, 1960

No. 1

Supplement to AN ANNOTATED LIST AND BIBLIOGRAPHY OF INSECTS REPORTED TO HAVE VIRUS DISEASES¹

MAURO E. MARTIGNONI² and ROBERT L. LANGSTON³

IN 1957 HUGHES (166) laid the basis for the "Annotated List and Bibliography" by cataloguing a series of 259 papers dealing with virus infections of insects. While Hughes' list contains most of the important papers published on insect viruses and virus diseases, it does not include many reports which, even if not dealing primarily with virology or pathology, nonetheless contain valuable information for the insect pathologist. This first supplement adds 473 new references to the 259 already published in Hughes' list. Almost all these papers have been seen in the original or, in a few cases, in photostatic copy of the original (as we are quite adverse to the not uncommon practice of quoting from quotations, thus perpetuating errors). Where the linguistic knowledge of the authors was lacking, translators were consulted; in some cases complete translations were available with the original publication.

The present supplement, as in the list by Hughes, includes only a small proportion of the many papers in Japanese or Russian: those included were available in translation or contained a summary complete enough to derive sufficient information on the type of disease concerned. It is gratifying to know that a similar bibliographical survey is being completed at present in the U.S.S.R. (S. Gershenson, personal communication, 1958).

Titles of Japanese and Russian papers appear in translation only, the translation being that given in the summary of the original publication. Papers in English, French, German, and Italian are entered with their original titles and without translations. Translations and original titles appear for papers in Czech, Polish, and Croatian.

As in Hughes' list, an attempt was made to distinguish between nuclear polyhedrosis and cytoplasmic polyhedrosis whenever the information available permitted such a distinction. Those cases in which a polyhedrosis was involved, but without evidence to indicate the type of polyhedrosis, were recorded simply as "polyhedrosis."

¹ Contribution from the Laboratory of Insect Pathology, Department of Biological Control, University of California, Berkeley. Originally submitted for publication July 27, 1959.

² Lecturer in Insect Pathology and Assistant Insect Pathologist in the Experiment Station, Berkeley.

³ Laboratory Technician in the Experiment Station, Berkeley.

The sources for scientific and common names are the same as in Hughes' list. The only addition is the work "The North American sawflies of the genera *Acantholyda*, *Cephalcia*, and *Neurotoma* (Hymenoptera, Pamphiliidae)" by W. W. Middlekauff (Univ. Calif. Publ. Ent. **14**:51-173; 1957), on which basis the generic name *Cephalcia* was adopted in place of *Cephaleia*.

The families are arranged alphabetically within the orders. Subgeneric names, where necessary, are in parentheses, after the generic name. In addition to the host list, a general list of references is included in this supplement. Abbreviations of periodicals are those of the "World List of Scientific Periodicals Published in the Years 1900-1950" edited by W. A. Smith, F. L. Kent, and G. B. Stratton (3d ed., Butterworths Scientific Publications, London, xvii-1058 pp.; 1952).

ACKNOWLEDGMENTS

We are very grateful to Dr. E. A. Steinhaus for having permitted the use of his large reprint collection; to Dr. F. Baldassini and Mr. J. E. Milstead for their generous help in phases of this work; and to the library of the University of California, an invaluable instrument of research.

HOST LIST

ARACHNIDA

ACARINA

"Seta-suppressor substance" (72)

TETRANYCHIDAE

Tetranychus cinnabarinus (Bdv.)

INSECTA

LEPIDOPTERA

AGROTIDAE

(See PHALAENIDAE)

ANTHELIDAE

Pterolocera amplicornis Wlk.

Nuclear polyhedrosis (93, 327)

ANTHROCERIDAE

(See ZYGAENIDAE)

ARCTIIDAE

Apantesis virgo (L.)

Polyhedrosis (137)

Arctia caja (L.), great tiger moth

Nuclear polyhedrosis (324, 336)

Cytoplasmic polyhedrosis (124, 329, 336, 383)

Polyhedrosis (412)

Arctia villica (L.), cream-spot tiger moth

Cytoplasmic polyhedrosis (47, 48, 124, 327, 336)

- Ardices glatignyi* (Le Guill.), woolly bear
Nuclear polyhedrosis (364)
- Cyenia mendica* (Clerck), muslin moth
Nuclear polyhedrosis (336)
- Diacrisia purpurata* (L.)
Cytoplasmic polyhedrosis (336)
- Estigmene acrea* (Drury), salt-marsh caterpillar
Granulosis (47, 74)
- Euplagia quadripunctaria* (Poda), Jersey tiger moth
Cytoplasmic polyhedrosis (336)
- Hyphantria cunea* (Drury), fall webworm
Nuclear polyhedrosis (212, 234, 235, 350)
Cytoplasmic polyhedrosis (389)
Polyhedrosis (194, 231)
Granulosis (196, 314)
- Hypocrita jacobaeae* (L.), cinnabar moth
Nuclear polyhedrosis (336)
- Panaxia dominula* (L.), scarlet tiger moth
Nuclear polyhedrosis (323, 327, 336, 411, 414)
- Phragmatobia fuliginosa* (L.), ruby tiger moth
Cytoplasmic polyhedrosis (336)

BOMBYCIDAE

Bombyx mori (L.), silkworm

- Nuclear polyhedrosis (3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 30, 32, 33, 34, 35, 38, 43, 45, 47, 48, 50, 51, 52, 57, 70, 71, 74, 77, 80, 83, 90, 91, 94, 95, 99, 100, 104, 105, 107, 108, 111, 112, 113, 116, 133, 134, 135, 137, 139, 144, 145, 146, 147, 155, 162, 163, 165, 169, 171, 173, 175, 176, 177, 179, 185, 187, 197, 198, 199, 202, 203, 208, 213, 215, 217, 219, 220, 222, 229, 232, 233, 236, 237, 242, 243, 244, 245, 246, 247, 248, 249, 253, 256, 263, 264, 266, 267, 268, 271, 273, 276, 278, 280, 283, 284, 285, 286, 287, 288, 293, 296, 297, 302, 303, 305, 306, 308, 316, 317, 324, 326, 327, 338, 339, 354, 355, 356, 360, 361, 362, 363, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 387, 393, 396, 398, 401, 402, 403, 408, 410, 414, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473) [Papers 424 and 473 refer to hybrids of *Theophila mandarina* and *Bombyx mori*]

Cytoplasmic polyhedrosis (21, 32, 33, 34, 35, 36, 37, 171, 172, 173, 327, 336)

A poorly defined group of diseases, including those known as flacherie and gattine, believed by Paillot to result from infection by a virus and a bacterium (100, 242, 244, 269, 270, 271, 272, 274, 275, 276, 277, 278, 279, 280, 282, 376)

Theophila mandarina Moore, mulberry wild silkworm

Nuclear polyhedrosis (32, 424, 462, 473) [Papers 424 and 473 refer to hybrids of *Theophila mandarina* and *Bombyx mori*]

Cytoplasmic polyhedrosis (32)

DIOPTIDAE

Phryganidia californica Pack., California oakworm

Nuclear polyhedrosis (47, 74, 137, 159, 170, 341)

DREPANIDAE

Drepana lacertinaria (L.)

Cytoplasmic polyhedrosis (329)

GALLERIIDAE

Galleria mellonella (L.), greater wax moth

Nuclear polyhedrosis (383)

"*Galleria*-adapted silkworm jaundice virus" (21)

GELECHIIDAE

Recurvaria milleri Busck, Lodgepole needle miner

Granulosis (347)

GEOMETRIDAE

Abraxas grossulariata (L.), currant moth

Nuclear polyhedrosis (323, 324, 327, 414)

Cytoplasmic polyhedrosis (327)

Alsophila pometaria (Harr.), fall cankerworm

Cytoplasmic polyhedrosis (255)

Bupalus piniarius (L.)

Cytoplasmic polyhedrosis (325, 328)

Polyhedrosis (109, 181)

Unidentified particles in blood resembling virus inclusion bodies (327)

Crocallis elinguaris (L.)

Cytoplasmic polyhedrosis (336)

Ennomos quercinaria (Hfn.)

Nuclear polyhedrosis (168)

Eulype hastata (L.), spear-marked black moth

Granulosis (343)

Hibernia defoliaria (L.)

Nuclear polyhedrosis (124, 205, 207)

Lambdina fiscellaria fiscellaria (Guen.), hemlock looper

Polyhedrosis (301)

Lambdina fiscellaria lugubrosa (Hulst), western hemlock looper

Nuclear polyhedrosis (291, 310)

Operophtera brumata (L.), winter moth

Nuclear polyhedrosis (330)

Cytoplasmic polyhedrosis (255, 325, 328, 330)

Oporinia autumnata (Borkh.), larch looper

Nuclear polyhedrosis (124)

- Ourapteryx sambucaria* (L.), swallow tailed moth
 Cytoplasmic polyhedrosis (336)
Sabulodes caberata Guen., omnivorous looper
 Granulosis (47, 327)

LASIOCAMPIDAE

- Dendrolimus pini* L.
 Polyhedrosis (135)
Malacosoma americanum (F.), eastern tent caterpillar
 Nuclear polyhedrosis (86, 136, 215, 402, 408)
 Polyhedrosis (137)
Malacosoma californicum (Pack.), California tent caterpillar
 Nuclear polyhedrosis (86, 218)
Malacosoma constrictum (Stretch)
 Nuclear polyhedrosis (86, 218)
Malacosoma disstria Hbn., forest tent caterpillar
 Nuclear polyhedrosis (51, 80, 86, 215, 291, 340, 365, 402)
 Polyhedrosis (137, 320)
Malacosoma fragile (Stretch), Great Basin tent caterpillar
 Nuclear polyhedrosis (86, 340)
Malacosoma neustria (L.)
 Nuclear polyhedrosis (59, 124, 195)
 Polyhedrosis (135, 152, 161, 193, 194)
Malacosoma pluviale (Dyar), western tent caterpillar
 Nuclear polyhedrosis (309)

LIMACODIDAE

- Natada nararia* (Moore), nettle grub of tea
 Granulosis (167, 325, 326, 327, 328)

LYCAENIDAE

- Lycaena phlaeas* (L.), small copper butterfly
 Cytoplasmic polyhedrosis (336)

LYMANTRIIDAE

- Dasychira pudibunda* (L.)
 Cytoplasmic polyhedrosis (124, 206, 208, 214, 317)
 Polyhedrosis (110)
Euproctis chrysorrhoea (L.), brown-tail moth
 Nuclear polyhedrosis (124, 205)
 Polyhedrosis (114, 151, 193, 194)
Euproctis flava (Bremer)
 Nuclear polyhedrosis (20)
Euproctis pseudoconspersa (Strand)
 Nuclear polyhedrosis (20)
Hemerocampa leucostigma (J. E. Smith), white-marked tussock moth
 Nuclear polyhedrosis (142, 143)
 Polyhedrosis (137)

Hemerocampa pseudotsugata McD., Douglas-fir tussock moth

Polyhedrosis (291, 311)

Ivela auripes (Butler), yellow-legged tussock moth

Nuclear polyhedrosis (32)

Lymantria monacha (L.), nun moth

Nuclear polyhedrosis (47, 57, 74, 76, 77, 103, 124, 137, 160, 182, 184, 185, 186, 189, 192, 242, 263, 280, 303, 304, 306, 312, 316, 327, 336, 414)

Cytoplasmic polyhedrosis (164)

Polyhedrosis (45, 106, 107, 108, 114, 132, 138, 141, 161, 191, 257, 292, 295, 298, 307, 366, 367, 394, 395)

Virus disease, not further identified (160)

Porthetria dispar (L.), gypsy moth

Nuclear polyhedrosis (47, 48, 51, 57, 74, 77, 124, 136, 137, 139, 183, 185, 215, 229, 242, 250, 263, 280, 306, 316, 317, 322, 325, 327, 336, 365, 378, 383, 390, 391, 397, 401, 402, 408, 414)

Cytoplasmic polyhedrosis (336, 392)

Polyhedrosis (22, 44, 45, 106, 107, 108, 114, 135, 138, 187, 193, 194, 195, 196, 298, 299, 313, 338)

Stilpnotia salicis (L.) satin moth

Nuclear polyhedrosis (124, 401)

NOCTUIDAE

(See PHALAENIDAE)

NOTODONTIDAE

Cerura hermelina (Goeze)

Nuclear polyhedrosis (276)

Cerura vinula (L.), puss moth

Cytoplasmic polyhedrosis (336)

Phalera bucephala (L.), buff tip moth

Nuclear polyhedrosis (336)

Cytoplasmic polyhedrosis (329, 336)

NYMPHALIDAE

Aglais urticae (L.), small tortoiseshell butterfly

Nuclear polyhedrosis (74, 336)

Cytoplasmic polyhedrosis (325)

Polyhedrosis (135)

Junonia coenia Hbn., buckeye

Nuclear polyhedrosis (339)

Granulosis (47, 74, 339, 341)

Nymphalis io (L.), peacock butterfly

Nuclear polyhedrosis (336)

Polyhedrosis (135)

Vanessa atalanta (L.), red-admiral

Polyhedrosis (135)

Vanessa cardui (L.), painted lady butterfly

Nuclear polyhedrosis (41, 256, 325, 328, 330, 336)

Cytoplasmic polyhedrosis (41, 256, 325, 328, 330, 336)

Polyhedrosis (135, 328)

OLETHREUTIDAE

Eucosma griseana (Hbn.), gray larch tortrix, larch bud moth

Polyhedrosis; viral nature of polyhedra not yet established (174, 176, 179, 180, 203)

Granulosis (42, 68, 73, 124, 180, 239, 241)

PAPILIONIDAE

Papilio machaon L.

Cytoplasmic polyhedrosis (329)

PHALAEENIDAE

Agrotis segetum (Schiff.), turnipmoth or cutworm

Nuclear polyhedrosis (74, 281)

Cytoplasmic polyhedrosis (330)

Granulosis (74)

Diataraxia oleracea (L.), tomato moth

Cytoplasmic polyhedrosis (330)

Euxoa ochrogaster (Guen.), red-backed cutworm

Granulosis (343)

Heliothis virescens (F.), tobacco budworm

Nuclear polyhedrosis (84)

Heliothis zea (Boddie), corn earworm, bollworm, tomato fruitworm

Nuclear polyhedrosis (56, 334)

Lampra fimbriata (von Schreber), broad-bordered yellow underwing

Cytoplasmic polyhedrosis (336)

Melanchra persicariae (L.), dot moth

Granulosis (329, 330)

Panolis flammea Schiff., pine moth

Polyhedrosis (109)

Peridroma margaritosa (Haw.), variegated cutworm

Nuclear polyhedrosis (339)

Granulosis (47, 74, 167, 327, 337, 339, 341)

Phlogophora meticulosa (L.), angleshades moth

Nuclear polyhedrosis (336, 414)

Cytoplasmic polyhedrosis (325, 326, 327, 336)

Plusia gamma (L.)

Nuclear polyhedrosis (59, 386)

Prodenia "litosia" [This is probably *Prodenia litura* (F.)]

Polyhedrosis (108)

Prodenia litura (F.), cotton leafworm

Nuclear polyhedrosis (2, 54)

Prodenia praefica Grote, western yellow-striped armyworm

Nuclear polyhedrosis (1, 2, 47, 74, 229)

Pseudaletia unipuncta (Haw.), armyworm

Nuclear polyhedrosis (25, 75, 115, 137, 238)

Noninclusion virus disease (327, 330)

- Spaelotis clandestina* (Harr.), W-marked cutworm
Polyhedrosis (137)
Spodoptera mauritia (Bdv.), lawn armyworm
Nuclear polyhedrosis (58, 353)
Trichoplusia ni (Hbn.), cabbage looper
Nuclear polyhedrosis (137, 157, 230, 318)
Triphaena pronuba (L.), yellow underwing
Cytoplasmic polyhedrosis (330)

PHALONIIDAE

- Clysiana ambiguella* (Hbn.)
Polyhedrosis (108)

PHYCITIDAE

- Ephestia cautella* (Wlk.), almond moth
Nuclear polyhedrosis (414)

PIERIDAE

- Aporia crataegi* (L.), black-veined white butterfly
Nuclear polyhedrosis (124, 206, 208, 209, 211, 212, 317)
Polyhedrosis (135, 346)
Colias philodice eurytheme Bdv., alfalfa caterpillar
Nuclear polyhedrosis (1, 25, 47, 74, 80, 85, 87, 88, 154, 215, 294, 325, 340,
341, 342, 344, 345, 348, 358, 359, 402, 408, 409)
Colias philodice philodice Latr., clouded sulphur butterfly
Polyhedrosis (137)
Pieris brassicae (L.), European cabbage butterfly
Granulosis (60, 74, 148, 212, 242, 276, 280, 330, 340)
Possible virus disease with formation of polymorphic inclusion bodies
(74, 242, 265, 276, 280, 287)
Pieris napi (L.), mustard white
Granulosis (330)
Pieris rapae (L.), imported cabbageworm
Polyhedrosis (137)
Granulosis (68, 327, 330, 340, 351)
Virus disease, not further identified (300)

PSYCHIDAE

- Cryptothelea junodi* (Heylaerts), wattle bagworm
Nuclear polyhedrosis (258, 259, 260, 261, 262, 321)

SATURNIIDAE

- Antheraea paphia mylitta* (Drury)
Cytoplasmic polyhedrosis (331)
Antheraea pernyi Guér.-Men., Chinese oak silkworm
Polyhedrosis (135, 293)
Antheraea polyphemus (Cram.), polyphemus moth
Nuclear polyhedrosis (323, 324, 336)
Hemileuca maia (Drury), buck moth
Polyhedrosis (137)

Samia cynthia (Drury), Cynthia moth

Nuclear polyhedrosis (325, 336)

Cytoplasmic polyhedrosis (336)

Polyhedrosis (293)

Samia ricini (Bdv.), Arrindy silkorm

Nuclear polyhedrosis (32, 188, 336)

Saturnia pyri (Schiff.)

Nuclear polyhedrosis (276)

SATYRIDAE

Dira megera (L.), wall butterfly

Cytoplasmic polyhedrosis (336)

Pararge aegeria (L.), speckled wood butterfly

Cytoplasmic polyhedrosis (336)

SELIDOSEMIDAE

(See GEOMETRIDAE)

SPHINGIDAE

Celerio euphorbiae (L.), spurge hawk moth

Polyhedrosis (412)

Laothoe populi (L.), poplar hawk moth

Nuclear polyhedrosis (336)

Cytoplasmic polyhedrosis (317, 415)

Smerinthus ocellata atlanticus Austaut

Polyhedrosis (108)

Sphinx ligustri L., privet hawk moth

Nuclear polyhedrosis (336)

Cytoplasmic polyhedrosis (331, 336)

THAUMETOPOEIDAE

Thaumetopoea pityocampa Schiff.

Nuclear polyhedrosis (59, 61, 149, 376, 388)

Cytoplasmic polyhedrosis (61, 317, 385, 415)

TINEIDAE

Tinea pellionella (L.), casemaking clothes moth

Nuclear polyhedrosis (325, 336)

Cytoplasmic polyhedrosis (325, 336)

Tineola bisselliella (Hum.), webbing clothes moth

Nuclear polyhedrosis (323, 325, 383)

Cytoplasmic polyhedrosis (323, 325)

Polyhedrosis (27, 403)

TORTRICIDAE

(See also OLETHREUTIDAE and PHALONIIDAE)

Acleris variana (Fern.), black-headed budworm

Nuclear polyhedrosis (291)

Argyrotaenia velutinana (Wlk.), red-banded leaf roller

Granulosis (47, 140, 315, 319, 327)

Cacoecia murinana (Hbn.), fir shoot roller

Nuclear polyhedrosis (82, 216)

Granulosis (47, 48, 74, 79, 82, 124, 215, 229, 306, 316, 327, 402, 407, 408)

Choristoneura fumiferana (Clem.), spruce budworm

Nuclear polyhedrosis (47, 48, 62, 80, 215, 229, 252, 291, 402)

Cytoplasmic polyhedrosis (254)

Granulosis (48, 68, 81, 215, 229, 252)

ZYGAENIDAE

Harrisina brillians B. & McD., western grape leaf skeletonizer

Granulosis (88, 156)

COLEOPTERA

SCARABAEIDAE

Melolontha hippocastani L.

Virus disease, not further identified (160)

Melolontha melolontha L.

Virus disease, not further identified (160)

HYMENOPTERA

APIDAE

Apis mellifera L., honey bee

"Paralysis," a noninclusion virus disease (251, 330)

Sacbrood, a noninclusion virus disease (74, 131, 137, 242, 330)

Pathogenic drone brood, a possible virus disease of the queen bee, with inclusion bodies (127, 128, 129, 130)

Diprion (Gilpinia) hercyniae (Hartig), European spruce sawfly

Nuclear polyhedrosis (39, 40, 41, 52, 64, 65, 66, 69, 81, 96, 117, 120, 124, 291, 327, 340, 348, 357)

Neodiprion lecontei (Fitch) red-headed pine sawfly

Nuclear polyhedrosis (66, 291)

Neodiprion pratti banksianae Roh., jack-pine sawfly

Nuclear polyhedrosis (66, 67, 291, 340)

Neodiprion pratti pratti (Dyar)

Polyhedrosis (44, 97)

Neodiprion sertifer (Geoff.), European pine sawfly

Nuclear polyhedrosis (25, 39, 41, 44, 63, 64, 66, 81, 97, 98, 117, 118, 119, 120, 121, 123, 124, 125, 126, 200, 201, 204, 208, 210, 291, 294, 325, 327, 340, 348, 357, 402, 408)

Polyhedrosis (107, 108, 110)

PAMPHILIIDAE

Acantholyda (Itycorsia) nemoralis C. G. Thomson

Virus disease, not further identified (160)

Cephalcia (Cephalcia) abietis L.

Polyhedrosis; viral nature of polyhedra not yet established (175, 176, 203, 207)

TENTHREDINIDAE

Nematus olfaciens Benson, black currant sawfly
Nuclear polyhedrosis (325)

DIPTERA

CHIRONOMIDAE

(See TENDIPEDIDAE)

CULICIDAE

Anopheles subpictus Grassi
A possible virus disease with inclusion bodies (92)

DROSOPHILIDAE

Drosophila melanogaster Meig.
Virus "σ" (78, 101, 102, 150, 221, 223, 224, 225, 226, 227, 228, 289, 290)

TENDIPEDIDAE

Chironomus tentans F.
A possible virus disease with inclusion bodies (158, 399)

TIPULIDAE

Tipula (Tipula) paludosa Meig., leatherjacket
Nuclear polyhedrosis (31, 325, 326, 327, 328, 329, 330, 335)
Tipula iridescent virus (31, 190, 317, 325, 327, 328, 329, 330, 331, 332, 333, 335, 405, 406)

SUBJECT LIST

Included in this section are reviews on insect viruses as well as papers concerned primarily with the biological, biophysical, and biochemical properties of insect viruses as a group. A large number of these papers are listed also with certain hosts, if the information seems of interest for a particular virus-host system. Since reviews on insect viruses (*e.g.*, 53) usually mention a large number of hosts from the literature, without adding new information, they have not been listed in the host catalogue.

VIRUSES, INCLUDING THOSE OF INSECTS (Reviews)

24, 229, 306, 316, 317, 326, 328

INSECT VIRUSES ONLY (Reviews)

46, 51, 53, 137, 178, 242, 276, 280, 292

TAXONOMY AND NOMENCLATURE

23, 47, 74, 400

MORPHOLOGY AND DEVELOPMENT

48, 49, 306, 326, 327, 404, 413

ETIOLOGY

52, 324, 339, 341, 383, 421

MICROBIAL CONTROL

25, 28, 29, 80, 87, 88, 109, 153, 193, 330, 340, 342, 349, 352

METHODS AND TECHNIQUES

26, 55, 76, 203, 212, 216, 217, 239, 240, 371, 375, 381

BIBLIOGRAPHIES

53, 89, 122, 166, 242

BIBLIOGRAPHY

1. ABUL-NASR, S.
1954. The formation of polyhedra in the gut epithelial cells of virus-infected insects. Bull. Soc. Fouad Ent. 38:383-95.
2. ABUL-NASR, S.
1956. Polyhedrosis-virus disease on cotton leaf-worm, *Prodenia litura* F. Bull. Soc. ent. Égypte 40:321-32.
3. ACQUA, C.
1918. Ricerche sulla malattia del giallume nel baco da seta. R.C. Ist. bacol. Portici 3:243-56.
4. ACQUA, C.
1936. Ricerche eseguite alla R. Stazione di Gelsibachicoltura di Ascoli Piceno. Ric. sci., Ser. 2, 1:54-55.
5. AIZAWA, K.
1952. On the virus amount in the fractions of the polyhedral bodies of the silkworm jaundice in the isoelectric precipitation. Jap. J. appl. Zool. 17:56-60.
6. AIZAWA, K.
1952. Some immunological characters on the blood, jaundice-diseased blood and polyhedral bodies in *Bombyx mori* L. Sanshi-kenkyu 1:49-53.
7. AIZAWA, K.
1952. Turbidity-time curve of the infected blood in the silkworm jaundice. Sanshi-kenkyu 2:78-80.
8. AIZAWA, K.
1953. On the dissolving curve of the polyhedral bodies of the silkworm jaundice in Na_2CO_3 solution. Jap. J. appl. Zool. 17:145-54.
9. AIZAWA, K.
1953. On the inactivation of the silkworm jaundice virus. Jap. J. appl. Zool. 17:183-90.
10. AIZAWA, K.
1953. Silkworm jaundice virus in the excrements of the infected larvae. Jap. J. appl. Zool. 18:143-44.
11. AIZAWA, K.
1953. Some methods of keeping the virus activity of the silkworm jaundice. Sanshi-kenkyu 3:75-77.
12. AIZAWA, K.
1953. Multiplication mode of the silkworm jaundice virus. I. On the multiplication mode in connection with the latent period and LD 50 - time curve. Bull. serie. Exp. Sta. Japan 14:201-28.
13. AIZAWA, K.
1954. Dissolving curve and the virus activity of the polyhedral bodies of *Bombyx mori* L., obtained 37 years ago. Sanshi-kenkyu 8:52-54.
14. AIZAWA, K.
1954. Immunological studies of the silkworm jaundice virus. (1) Neutralization and absorption test of the silkworm jaundice virus. Virus [Japan] 4:238-40.
15. AIZAWA, K.
1954. Immunological studies of the silkworm jaundice virus. (2) Agglutination reaction of the polyhedral bodies. Virus [Japan] 4:241-44.
16. AIZAWA, K.
1954. Immunological studies of the silkworm jaundice virus. (3) Experiments on the defence of infection in the silkworm jaundice. Virus [Japan] 4:245-48.
17. AIZAWA, K.
1954. Neutralization of silkworm jaundice virus by human serum. Nature 174:748-49.
18. AIZAWA, K.
1955. A preliminary note on the tetragonal polyhedra in the silkworm, *Bombyx mori*. Sanshi-kenkyu No. 14-4:11-13.

19. AIZAWA, K.
1955. Inactivation of the silkworm jaundice virus by the ultraviolet irradiation. J. serie. Sci. [Tokyo] **24**:398-99.
20. AIZAWA, K., S. ASAHINA, and H. FUKUMI
1957. Demonstration of the polyhedral diseases of *Euproctis flava* and *Euproctis pseudoconspersa* (Lepidoptera, Lymantriidae). Japan. J. med. Sci. Biol. **10**:61-64.
21. AIZAWA, K., and S. MURAI
1957. Electrophoresis of the blood of the silkworm, *Bombyx mori* on filter paper (2nd report). Biological Physics and Chemistry [Japan] **4**(1/2):23-26.
22. ALLEN, H. W.
1916. Notes on the relation of insects to the spread of the wilt disease. J. econ Ent. **9**:233-35.
23. ANDREWES, C. H., Chairman
1953 (1955). Report of the subcommittee on viruses. Act. 6^{me} Congr. int. Microbiol., Rome, 7 (Appendix) : 109-11.
24. ANDREWES, C. H.
1957. Factors in virus evolution. Advanc. Virus Res. **4**:1-24.
25. ANONYMOUS
1954. Diseases can destroy insects. Agric. Res., U. S. Dep. Agric. **2**(12):18.
26. ANONYMOUS
1955. Entomology Laboratory, biological control investigations, Belleville, Canada. Agric. Inst. Rev. **10**(6):19-24.
27. ANONYMOUS
1956. Virus to control clothes moths? Pest Control **24**(4) :60.
28. ANONYMOUS
1956. Virus vs. insect. J. agric. Food Chem. **4**:195-96.
29. ANONYMOUS
1957. They're mounting biological war on bugs. Chem. Week **78**:80-82, 84, 86.
30. AOKI, K., and Y. CHIGASAKI
1921. Immunisatorische Studien über die Polyederkörperchen bei Gelbsucht von Seidenraupen (Zelleinschluss). Zbl. Bakt., Abt. I, **86**:481-85.
31. ARMSTRONG, J. A., and JANET S. F. NIVEN
1957. Histochemical observations on cellular and virus nucleic acids. Nature **180**:1335-36.
32. ARUGA, H.
1957. Polyhedral diseases in the silkworm, *Bombyx mori* L. Rev. Ver à Soie **9**:37-41.
33. ARUGA, H.
1957. Mechanism of resistance to virus diseases in the silkworm, *Bombyx mori*. II. On the relation between the nuclear polyhedrosis and the cytoplasmic polyhedrosis. J. serie. Sci. [Tokyo] **26**:279-83.
34. ARUGA, H.
1958. Mechanism of resistance to virus diseases in the silkworm, *Bombyx mori*. IV. On the relation between the polyhedral diseases and environmental factors. J. serie. Sci. [Tokyo] **27**:5-9.
35. ARUGA, H.
1958. Mechanism of resistance to virus diseases in the silkworm, *Bombyx mori*. V. On the induction of the polyhedral virus by nitrogen mustard. J. serie. Sci. [Tokyo] **27**:10-13.
36. ARUGA, H.
1958. Mechanism of resistance to virus diseases in the silkworm, *Bombyx mori*. VI. On the relation between the rearing season and the cytoplasmic polyhedrosis. J. serie. Sci. [Tokyo] **27**:14-17.
37. ARUGA, H.
1958. Cytoplasmic polyhedrosis in the silkworm, *Bombyx mori* L. Mimeo. 3 pp.
38. ARUGA, H., H. WATANABE, T. FUKUHARA, and Y. IWASHITA
1957. Mechanism of the virus resistance in the silkworm, *Bombyx mori*. I. On the formation of the polyhedral body in the nucleus of the silk-gland cell. J. serie. Sci. [Tokyo] **26**:1-8.

39. BAIRD, A. B.
1956 (1958). Biological control of insect and plant pests in Canada. Proc. 10th int. Congr. Ent., Montreal, 4:483-85.
40. BALCH, R. E.
1945. The spruce sawfly disease. For. Insect Invest. [Ottawa] 1(2):1.
41. BALCH, R. E.
1958. Control of forest insects. Annu. Rev. Ent. 3:449-68.
42. BALTENSWELLER, W.
1958. Zur Kenntnis der Parasiten des grauen Lärchenwicklers (*Zeiraphera griseana* Hübner) im Oberengadin. Mitt. schweiz. Anst. forstl. Versuchsw. 34:399-478.
43. BASSI, A.
1835. Del mal del segno calcinaccio o moscardino malattia che affligge i bachi da seta e sul modo di liberarne le bigattaje anche le più infestate. Tipografia Orcesi, Lodi. First part, xi-67 pp.; second part, xiv-60 pp. Facsimile edition: Istituto Geografico De Agostini, Novara, 1956.
44. BEAL, J. A.
1956 (1958). Status and trends in forest insect research. Proc. 10th int. Congr. Ent., Montreal, 4:323-30.
45. BERGOLD, G. H.
1942. Polyederfreie Insektenzuchten. Naturwissenschaften 30:422-33.
46. BERGOLD, G. H.
1950. Insect Virus. In Viruses 1950. Delbruck, M., ed. California Institute of Technology, Pasadena. 147 pp. (pp. 40-43).
47. BERGOLD, G. H.
1953. On the nomenclature and classification of insect viruses. Ann. N. Y. Acad. Sci. 56:495-516.
48. BERGOLD, G. H.
1953. The multiplication of insect viruses. In The nature of virus multiplication. Second Symposium of the Society for General Microbiology, Oxford, April 1952. Cambridge University Press, xi-320 pp. (pp. 276-83).
49. BERGOLD, G. H.
1953 (1955). Viruses as organisms, with particular reference to insect viruses. Act. 6^{me} Congr. int. Microbiol., Rome, 3:7-10.
50. BERGOLD, G. H.
1954. Radioactive experiments with silkworms. For. Insect Invest. [Ottawa] 10(3)2.
51. BERGOLD, G. H.
1957. Über Insektenviren. Nova Acta Leop. Carol. New Ser. 19:109-19.
52. BERGOLD, G. H.
1958. Factors of host cell and environment contributing to masking and latency. Panel discussion (F. C. Bawden, Moderator). In Walker, D. L., R. P. Hanson, and A. S. Evans, eds. 1958. Symposium on latency and masking in viral and rickettsial infections. Burgess Publishing Company, Minneapolis. xi-202 pp.
53. BERGOLD, G. H.
1958. Viruses of insects. In Hallauer, C., and K. F. Meyer, eds. 1958. Handbuch der Virusforschung, 4 (III Ergänzungsband). Springer Verlag, Wien. xv-688 pp. (pp. 60-142).
54. BERGOLD, G. H., and B. FLASCHENTRÄGER
1957. The polyhedral virus of *Prodenia litura* (Fabr.) (Lepidoptera: Noctuidae). Nature [Lond.] 180:1046-47.
55. BERGOLD, G. H., and L. PISTER
1948. Zur quantitativen Mikrobestimmung von Desoxy- und Ribonucleinsäure. Z. Naturf. 3b:406-10.
56. BERGOLD, G. H., and W. E. RIPPER
1957. The polyhedral virus of *Heliothis armigera* (Hbn.) (Lepidoptera: Noctuidae). Nature [Lond.] 180:764-65.
57. BERGOLD, G., and G. SCHRAMM
1942. Biochemische Charakterisierung von Insektenviren. Biol. Zbl. 62:105-18.

58. BIANCHI, F. A.
1957. Notes and exhibitions. Proc. Hawaii. ent. Soc. 16:184.
59. BILIOTTI, E.
1955. Survie des larves endophages de tachinaires à une mort prématurée de leur hôte par maladie. C.R. Acad. Sci. [Paris] 240:1021-23.
60. BILIOTTI, E., P. GRISON, and D. MARTOURET
1956. L'utilisation d'une maladie à virus comme méthode de lutte biologique contre *Pieris brassicae* L. Entomophaga 1:35-44.
61. BILIOTTI, E., P. GRISON, and C. VAGO
1956. Essai d'utilisation des polyèdres isolés de la processionnaire du pin, comme méthode de lutte biologique contre cet insecte. C.R. Acad. Sci. [Paris] 243: 206-8.
62. BIRD, F. T.
1949. Histopathology and epidemiology of the polyhedral disease of the spruce budworm, *Choristoneura fumiferana* Clem. For. Insect Invest. [Ottawa] 5(3):2-3.
63. BIRD, F. T.
1950. The dissemination and propagation of a virus disease affecting the European pine sawfly, *Neodiprion sertifer* (Geoff.). For. Insect Invest. [Ottawa] 6(5): 2-3.
64. BIRD, F. T.
1954. The use of virus diseases against sawflies. Rep. 6th Commonw. ent. Conf., 1954, pp. 122-125.
65. BIRD, F. T.
1954. The use of a virus disease in the biological control of the European spruce sawfly, *Diprion hercyniae* (Htg.). For. Insect Invest. [Ottawa] 10(1):2-3.
66. BIRD, F. T.
1956 (1958). The use of viruses in the biological control of some forest insects. Proc. 10th int. Congr. Ent., Montreal, 4:687.
67. BIRD, F. T.
1957. On the development of insect viruses. Virology 3:237-42.
68. BIRD, F. T.
1958. Histopathology of granulosis in insects. Canad. J. Microbiol. 4:267-72.
69. BIRD, F. T., and D. E. ELGEE
1957. A virus disease and introduced parasites as factors controlling the European spruce sawfly, *Diprion hercyniae* (Htg.), in Central New Brunswick. Canad. Ent. 89:371-78.
70. BOLLE, J.
1898. Il giallume o il mal del grasso del baco da seta, una malattia parasitaria. *Appendix of La bachicoltura nel Giappone*. Giov. Paternolli, Gorizia, 87-129. [This paper was reprinted from a series of articles which appeared in 1897 and 1898 in the Atti Soc. agr. Gorizia. It appeared simultaneously in German (A. Hartleben's Verlag, Wien, 1898, pp. 94-141), as well as in Slovenian and Hungarian translations.]
71. BOLLE, J.
1899. Bericht über die Thätigkeit der k. k. landwirtschaftlich-chemischen Versuchsstation in Görz im Jahre 1898. Z. landw. VersWes. Öst. (4). 21 pp.
72. BOUDREAUX, H. B.
1956. Evidence for a "Virus" affecting morphology in spider mites. Ent. Soc. Am., 4th annu. Meeting, New York. Mimeo. 6 pp.
73. BOVEY, P.
1956 (1958). Le problème de la tordeuse grise du mélèze *Eucosma griseana* (Hübner) (Lepidoptera: Tortricidae) dans les forêts alpines. Proc. 10th int. Congr. Ent., Montreal, 4:123-31.
74. BREED, R. S., and A. PETRAITIS
1954. Some Russian contributions to taxonomy and nomenclature of the viruses: A review. Int. Bull. bact. Nom. Taxonomy 4:189-214.

75. BREELAND, S. G.
1958. Biological studies on the armyworm, *Pseudaletia unipuncta* (Haworth), in Tennessee (Lepidoptera: Noctuidae). *J. Tenn. Acad. Sci.* **33**:263-347.
76. BREINDL, V.
1926. Über neue Färbungsmethoden. *Zbl. Bakt., Abt. II*, **67**:370-71.
77. BREINDL, V.
1938. Ergänzende Studie über die Polyedrie der Nonne (*L. monacha*) und des Schwammspinners (*L. dispar*). *Mem. Soc. zool. tchécosl.* **5**:94-116.
78. BRUN, G., and A. SIGOT
1955. Étude de la sensibilité héréditaire au gaz carbonique chez la drosophile. II. Installation du virus dans la lignée germinale à la suite d'une inoculation. *Ann. Inst. Pasteur [Paris]* **88**:488-512.
79. BUCHER, G. E.
1953. Biotic factors of control of the European fir budworm, *Choristoneura murinana* (Hbn.) (n. comb.), in Europe. *Canad. J. agric. Sci.* **33**:448-69.
80. BUCHER, G. E.
1956 (1958). General summary and review of utilization of disease to control insects. *Proc. 10th int. Congr. Ent., Montreal*, **4**:695-701.
81. CAMERON, J. W. MACBAIN
1952. A survey of investigations on the diseases of insects. *Annu. Rep. ent. Soc. [Ontario]* **82**:7-13.
82. ČAPEK, M., R. OBRTEL, and J. WEISER
1958. Choroby, paraziti a epiziti judlového obaleče *Choristoneura (Cacoecia) murinana* Hb. v kalamitní oblasti středního pohroní. (Krankheiten, Parasiten und Epiziten des Tannentriebwicklers *Choristoneura murinana* Hb. im Mittelslowakischen Tannengebiet.) *Lesn. Časopis* **4**:46-70.
83. CARBONE, D., and E. FORTUNA
1931. La vaccinazione dei bachi da seta. II^a nota preventiva. *Boll. Ist. sieroter. Milano* **10**:92-102.
84. CHAMBERLIN, F. S., and S. R. DUTKY
1958. Tests of pathogens for the control of tobacco insects. *J. econ. Ent.* **51**:560.
85. CLARK, E. C.
1954. Biological control of the alfalfa caterpillar. *Rep. Alfalfa Improvement Conf.* **14**:22-3.
86. CLARK, E. C.
1958. Ecology of the polyhedroses of tent caterpillars. *Ecology* **39**:132-39.
87. CLAUSEN, C. P.
1954. Biological antagonists in the future of insect control. *Agric. Food Chem.* **2**:12-8.
88. CLAUSEN, C. P.
1956 (1958). The biological control of insect pests in the continental United States. *Proc. 10th int. Congr. Ent., Montreal* **4**:443-47.
89. COMEL, A.
1950. L'Istituto chimico-agrario sperimentale di Gorizia. 80 anni di sperimentazione agraria. *Nuovi Ann. Ist. chim. agr. sper. Gorizia* **1**:1-250.
90. CONTE, A., and D. LEVRAT
1906. Grasserie des vers à soie. *C.R. Ass. franç. Av. Sci.* **35** (part 2):529-33.
91. CORNALLIA, E.
1856. Monografia del bombee del gelso (*Bombyx mori* Linneo). *Mem. Ist. lombardo* **6**:3-387.
92. DASGUPTA, B., and H. N. RAY
1957. The intranuclear inclusions in the mid-gut of the larva of *Anopheles subpictus*. *Parasitology* **47**:194-95.
93. DAY, M. F., J. L. FARRANT, and CORALIE POTTER
1955. Stages in the development of a polyhedral virus disease. *J. appl. Phys.* **26**:1396.

94. DE, M. N.
1911. Grasserie in silk-worms. Agric. J. India 6:292-95.
95. DIKASOVA, E. T.
1949. Investigation of mulberry silkworm egg mass obtained from the moths affected with yellow disease. Microbiology [Moscow] 18:356-60.
96. DIRKS, C. O.
1944. Population studies of the European spruce sawfly in Maine as affected by natural enemies. J. econ. Ent. 37:238-42.
97. DOWDEN, P. B.
1957. Biological control of forest insects in the United States and Canada. J. For. 55:723-26.
98. DOWDEN, P. B., and H. B. GIRTH
1953. Use of a virus disease to control the European spruce sawfly. J. econ Ent. 46:525-26.
99. DRILHON, A.
1951. Identification chromatographique et chimique d'une substance fluorescente du sang et du tube de Malpighi de la larve *Bombyx mori* atteinte de grasserie. C.R. Acad. Sci. [Paris] 232:1876-78.
100. DRILHON, A., C. VAGO, and R.-G. BUSNEL
1952. Essai de diagnostic précoce de la grasserie et de la flacherie par l'analyse chromatographique du sang de *Bombyx mori*. C.R. Soc. Biol. [Paris] 146: 11-12.
101. DUHAMEL, COLETTE
1954. Étude de la sensibilité héréditaire à l'anhydride carbonique chez la drosophile. Description de quelques variants du virus. C.R. Acad. Sci. [Paris] 239: 1157-9.
102. DUHAMEL, COLETTE, and NADINE PLUS
1956. Phénomène d'interférence entre deux variants du virus de la drosophile. C.R. Acad. Sci. [Paris] 242: 1540-3.
103. DUSPIVA, F., and G. H. BERGOLD
1942. über Peptidase- und Phosphatasebestimmungen im Nonnen-Polyedervirus. Naturwissenschaften 30:604-5.
104. ERTOGROUL, T.
1928. Emploi de la lumière de Wood dans le diagnostic précoce de la grasserie des vers à soie. C.R. Acad. Sci. [Paris] 186:1865-7.
105. ERTOGROUL, T.
1928. Influence favorisante de l'alimentation aux feuilles de murier noir (*Morus nigra*) sur le développement de la grasserie du ver à soie. C.R. Soc. Biol. [Paris] 99:831-2.
106. ESCHERICH, K.
1912. Nonnenprobleme. Naturw. Z. Forst- u. Landw. 10:65-85.
107. ESCHERICH, K.
1913. Neues über Polyederkrankheiten. Referierendes und Kritisches. Naturw. Z. Forst- u. Landw. 11:86-97.
108. ESCHERICH, K.
1914. Polyederkrankheiten. In Die Forstinsekten Mitteleuropas. Parey, Berlin. 1: 299-303.
109. ESCHERICH, K.
1931. In Die Forstinsekten Mitteleuropas. Parey, Berlin. 3:78-82, 537, 717.
110. ESCHERICH, K.
1942. In Die Forstinsekten Mitteleuropas. Parey, Berlin. 5:98, 345.
111. ETO, M.
1956. Dissolution of polyhedral protein in alcohol by trichloroacetic acid. Sci. Bull. Fac. Agric. Kyushu Univ. 15:465-71.
112. ETO, M.
1956. Behaviour of polyhedral bodies and host cells of silkworms in alcohol. J. Fac. Agric. Kyushu Univ. 10:373-84.
113. FAULKNER, P., and G. H. BERGOLD
1957. Deoxyribonuclease content of an insect virus. Virology 3:603-5.

114. FISCHER, E.
1910. Über die reiffischen Flacherie-Versuche mit der "gipsy moth" (*Liparis dispar* L.). Ent. Z. [Stuttgart] 24:47-8.
115. FORBES, S. A.
1898. Note on a new disease of the army worm (*Leucania unipuncta* Haworth). 20th Rep. St. Ent., Illinois:106-9.
116. FRANCKE-GROSMANN, H.
1938 (1939). Ein Schimmelpilz als Gelegenheitsparasit der Seidenraupe. Proc. 7th int. Congr. Ent., Berlin, 3:1762-71.
117. FRANZ, J.
1951. Erfolgreiche Verbreitung von Viruskrankheiten zur Forstschädlingsbekämpfung. Bericht über neuere kanadische Arbeiten. Z. PflKrankh. 58:185-7.
118. FRANZ, J.
1954. Erfolgreiche Verbreitung einer Viruseuche zur biologischen Bekämpfung der roten Kiefernbuschhornblattwespe. Gesunde Pflanzen 6:173-5.
119. FRANZ, J.
1955. Neue Wege der biologischen Schädlingsbekämpfung. Umschau 55:209-11.
120. FRANZ, J.
1956. Die künstliche Verbreitung von Viroseu einer Blattwespen (*Diprionidae*) innerhalb und ausserhalb ihres Endemiegebietes. Zool. Anz. Suppl. 19:407-12.
121. FRANZ, J.
1956 (1958). Biological control in Germany. Proc. 10th int. Congr. Ent., Montreal 4:461-4.
122. FRANZ, J.
1957. Bibliographie über biologische Bekämpfung. II. Entomophaga 2:293-311.
123. FRANZ, J.
1958. Viruskrankheiten zur Bekämpfung schädlicher Blattwespen. (Ein Aufruf). Allg. Forstz. No. 15:215.
124. FRANZ, J., and A. KRIEG
1957. Viroseu europäischer Forstinsekten. Z. PflKrankh. 64:1-9.
125. FRANZ, J., A. KRIEG, and R. LANGENBUCH
1955. Untersuchungen über den Einfluss der Passage durch den Darm von Raubinsekten und Vögeln auf die Infektiosität insektenpathogener Viren. Z. PflKrankh. 62:721-6.
126. FRANZ, J., and O. F. NIKLAS
1954. Feldversuche zur Bekämpfung der roten Kiefernbuschhornblattwespe *Neodiprion sertifer* (Geoffr.) durch künstliche Verbreitung einer Viruseuche. NachrBl. dtsh. PflSchDienst [Stuttgart] 6:131-4.
127. FYG, W.
1948. Ueber die krankhafte Drohnenbrütigkeit der Bienenkönigin und ihre Ursache. Schweiz. Bienenztg 71:520-9.
128. FYG, W.
1951. On the various causes of sterility in the queen honeybee. Act. 14th Congr. int. Apic., Leamington. Mimeo. 6 pp.
129. FYG, W.
1955. Sind die Drohnen die Überträger der krankhaften Drohnenbrütigkeit der Bienenkönigin? Schweiz. Bienenztg 78:201-4.
130. FYG, W.
1957. Über die verschiedenen Ursachen der Drohnenbrütigkeit. Schweiz. Bienenztg 80:154-7, 187-92.
131. FYG, W.
1958. Über die normale und abnorme Entwicklung der Honigbiene. Schweiz. Bienenztg 81:147-54, 194-200, 345-55, 387-98. (English translation in Bee World 40:57-66, 85-96; 1959.)
132. GÄBLER, H.
1958. Nonnenmassenvermehrung und -bekämpfung im Gebiet Marienbad (Marianske Lazne)-Karlsbad (Karlovy Vary) in den Jahren 1940 und 1941. Arch. Forstw. 7:729-35.

133. GARGIULO, F.
1930-31. Nuove ricerche sul giallume del baco da seta. Trattamenti immunizzanti. Boll. Lab. Zool. agr. Bachic. Milano 3:34-52.
134. GARGIULO, F.
1931-32. Ulteriori ricerche sul giallume del baco da seta. Trattamenti immunizzanti. Boll. Lab. Zool. agr. Bachic. Milano 4:103-12.
135. GERSHENSON, S.
1955. The nature of intranuclear inclusions of polyhedral diseases of insects. C.R. Acad. Sci. U.R.S.S. 104:925-28.
136. GLASER, R. W.
1917. The growth of insect blood cells in vitro. Psyche [Camb., Mass.] 24:1-7.
137. GLASER, R. W.
1928. Virus diseases of insects. Part I. Sacbrood of honey bees. Part II. The polyhedral diseases. In Rivers, T.M. Filterable Viruses. Williams and Wilkins Co., Baltimore. Pp. 277-331.
138. GLASER, R. W., and J. W. CHAPMAN
1912. Studies on the wilt disease or "flacherie" of the gypsy moth. Science 36:219-24.
139. GLASER, R. W. and E. V. COWDRY
1928. Experiments on the visibility of the polyhedral viruses. J. exp. Med. 47:829-34.
140. GLASS, E. H.
1958. Laboratory and field tests with the granulosis of the red-banded leaf roller. J. econ. Ent. 51:454-57.
141. GÖSSWALD, K.
1934. Zur Biologie und Ökologie von *Parasetigena segregata* Rond. und *Sarcophaga Schützei* Kram. (Dipt.) nebst Bemerkungen über die forstliche Bedeutung der beiden Arten. Z. angew. Ent. 21:1-23.
142. GRACE, T. D. C.
1958. Induction of polyhedral bodies in ovarian tissues of the tussock moth in vitro. Science 128:249-50.
143. GRACE, T. D. C.
1959. Tissue culture for arthropod viruses. Trans. N. Y. Acad. Sci., Ser. 2, 21:237-41.
144. GRATIA, A., R. JEENER, and J. BRACHET
1945. Teneur en acides nucléiques des granules extraits par ultracentrifugation des tissus de vers à soie normaux et de vers à soie atteints de la "grasserie." C.R. Soc. Biol. [Paris] 139:76-77.
145. GRATIA, A., and A. PAILLOT
1938. Caractère antigénique du virus de la grasserie des vers à soie. Ann. Inst. Pasteur [Paris] 61:856-57.
146. GRATIA, A., and A. PAILLOT
1938. Étude sérologique du virus de la grasserie des vers à soie. C.R. Soc. Biol. [Paris] 129:507-9.
147. GRATIA, A., and A. PAILLOT
1939. Étude sérologique du virus de la grasserie des vers à soie isolé par ultracentrifugation. Arch. ges. Virusforsch. 1:130-39.
148. GRISON, P.
1956 (1958). Organisation de la lutte biologique en France et résultats obtenus dans l'utilisation des agents pathogènes. Proc. 10th int. Congr. Ent., Montreal, 4:675-79.
149. GRISON, P., and C. VAGO
1953. La régulation des infestations de chenilles processionnaires du pin par les maladies à virus. C.R. Acad. Agric. Fr. 39:485-87.
150. GUILLEMAIN, ANNIE
1953. Découverte et localisation d'un gène empêchant la multiplication du virus de la sensibilité héréditaire au CO₂ chez *Drosophila melanogaster*. C.R. Acad. Sci. [Paris] 236:1085-86.

151. GÜNTHER, S.
1956. Zur Infektion des Goldafters (*Euproctis chrysorrhoea* L.) mit *Plistophora schubergi* Zwölfer (Microsporidia). Z. angew. Zool. 43:397-405.
152. GÜNTHER, S.
1958. Eine bisher unbekannte Mikrosporidie aus dem Ringelspinner (*Malacosoma neustria* L.; Lasiocampidae). Z. PflKrankh. 65:534-35.
153. GÜNTHER, S.
1958. Forschungsarbeiten über Infektionskrankheiten bei Forstinsekten als Ergänzung zu gradologischen Untersuchungen. Forst und Jagd 8:208.
154. GYRISCO, G. G.
1958. Forage insects and their control. Annu. Rev. Ent. 3:421-41.
155. HABERLANDT, F.
1872. Il giallume. Seric. austriaca [Gorizia] 4:49-52.
156. HALL, I. M.
1955. The use of *Bacillus thuringiensis* Berliner to control the western grapeleaf skeletonizer. J. econ. Ent. 48:675-77.
157. HALL, I. M.
1957. Use of a polyhedrosis virus to control cabbage looper on lettuce in California. J. econ. Ent. 50:551-53.
158. HARNISCH, O.
1949. Beobachtungen an virus-kranken Larven von *Chironomus (Camptochironomus) tentans* Fabr. Experientia 5:205-6.
159. HARVILLE, J. P.
1955. Ecology and population dynamics of the California oak moth, *Phryganidia californica* Packard (Lepidoptera: Diptidae). Microentomology 20:83-166.
160. HEIDENREICH, E.
1938 (1939). Untersuchungen an Viruskrankheiten einiger Forstinsekten. Proc. 7th int. Congr. Ent., Berlin, 3:1963-73.
161. HENZE, O.
1935. Über die Wirkung strömender Luft auf die Entwicklung von Lepidopteren. Z. angew. Ent. 21:385-405.
162. HOLOWAY, C. F., and G. H. BERGOLD
1953. Iron content of an insect virus. Science 117:251-52.
163. HOLOWAY, C. F., and G. H. BERGOLD
1955. Determination of magnesium in an insect virus. Science 122:1266-67.
164. HUGER, A., and A. KRIEG
1958. Über eine Cytoplasma-Polyedrose der Nonnenraupe (*Lymantria monacha* L.). Naturwissenschaften 45:170-71.
165. HUGHES, K. M.
1953. Conservation of the generic name *Borrelina* and designation of the type species. Int. Bull. bact. Nom. Taxonomy 3:134-37.
166. HUGHES, K. M.
1957. An annotated list and bibliography of insects reported to have virus diseases. Hilgardia 26(14):597-629.
167. HUGHES, K. M.
1958. The question of plurality of virus particles in insect-virus capsules and an attempt at clarification of insect virus terminology. Trans. Amer. micr. Soc. 77:22-30.
168. HUSSON, R.
1956 (1958). Les ennemis naturels de l'*Ennomos quercinaria* (Hufn.) lors de sa recente pullulation on Sarre. Proc. 10th int. Congr. Ent., Montreal, 4:437-40.
169. IKEDA, H.
1951. Biochemical studies on the polyhedra of the silkworm (*Bombyx mori* L.) grasserie. I. Elementary analyses and ultraviolet absorption spectra of the polyhedra. J. sci. Res. Inst. [Tokyo] 45:217-25.
170. IRWIN, MARGARET C.
1947. The California oak moth. Santa Barbara Museum of Natural History, Special Bull. 2:1-7.

171. ISHIMORI, N.
1934. Contribution à l'étude de la grasserie du ver à soie (*Bombyx mori*). C.R. Soc. Biol. [Paris] 116:1169-70.
172. ISHIMORI, N.
1935. Silkworm jaundice in relation to the midgut epithelium and cellular destruction. Bot. & Zool. [Tokyo] 3:10-14.
173. IWASHITA, Y., and H. ARUGA
1957. Mechanism of resistance to virus diseases in the silkworm, *Bombyx mori*. III. Histological studies on the polyhedroses in the silkworm. J. seric. Sci. [Tokyo] 26:323-28.
174. JAHN, ELSE
1949. Die Polyederkrankheit des grauen Lärchenwicklers. PflSchBer. 3:33-41.
175. JAHN, ELSE
1954. Weitere Beobachtungen zur Natur von Insektenviren an Hand von elektronenmikroskopischen Untersuchungen. Anz. Schädlingsk. 27:17-25.
176. JAHN, ELSE
1956. Stellungnahme zur Arbeit von A. Krieg (1955): "Zur Differentialdiagnose von Viruskrankheiten bei Insekten" (Bemerkungen zu Arbeiten von E. Jahn). Mikroskopie 11:233-34.
177. JAHN, ELSE
1958. Geregelt Anordnung von Polyederviren in Insektenpolyedern im Zusammenhang mit deren Umbildung zu bandförmigen Formen. Anz. Schädlingsk. 31:1-4.
178. JAHN, ELSE
1958. Insektenviren. Probleme der Bioklimatologie, Vol. 4. Akademische Verlagsgesellschaft Geest und Portig K.-G., Leipzig. xii-200 pp.
179. JAHN, ELSE
1958. Probleme zu festgestellten Veränderungen von Polyederkörpern bei Insektenviruserkrankungen. Mikroskopie 12:301-4.
180. JAHN, ELSE
1958. Zusammenfassender Bericht über das Massenauftreten des Grauen Lärchenwicklers in den Jahren 1954-1957 (mit genauen Untersuchungsgrundlagen). Zbl. ges. Forstw. 75:77-105.
181. JAHN, ELSE, and A. SINREICH
1957. Zum Auftreten des Kiefernspanners, *Bupalus piniarius* L. im Burgenland in den Jahren 1952-1956. Z. angew. Ent. 41:184-95.
182. JANISCH, E.
1936. Physiologische Grundlagen der Nonnenprognose. Anz. Schädlingsk. 12:77-82.
183. JANISCH, E.
1941. Über die Bewertung der Mortalitätsfaktoren beim Massenwechsel von Schadinsekten. Z. angew. Ent. 28:241-53.
184. JANISCH, E.
1942. Mischinfektionen bei Nonnenraupen. Arb. physiol. angew. Ent. Berl. 9:185-202.
185. JANISCH, E.
1958. Nachträge zum Problem des Polyedervirus bei Insektenkrankheiten. Z. angew. Ent. 42:292-306.
186. JANISCH, E.
1958. Populationsanalyse bei Schadinsekten. Z. angew. Ent. 43:371-86.
187. JONES, H. N.
1910. Further studies on the nature of the wilt disease of the gypsy moth larvae. 7th Annu. Rep. St. For., Massachusetts, No. 73:101-5.
188. JUCCI, C.
1942. Ricerche sul bombee del ricino *Phyosamia ricini*. Ann. Afr. ital. 2:447-67.
189. KARAMAN, Z.
1958. Beobachtungen zum Auftreten der Nonne (*Lymantria monacha* L.) 1955/56 in den Buchenwälder Westmazendoniens, Jugoslawien. Z. angew. Ent. 42:236-38.

190. KLUG, A., ROSALIND E. FRANKLIN, and S. P. F. HUMPHREYS-OWEN
1959. The crystal structure of *Tipula iridescent virus* as determined by Bragg reflection of visible light. *Biochim. biophys. Acta* **32**:203-19.
191. KNOCHE, E.
1912. Nonnenstudien. *Naturw. Z. Forst -u. Landw.* **10**:85-138.
192. KOMÁREK, J.
1921. Kalamita minisková a polyedrická nemoc. (The polyhedral disease of nun-moth caterpillars.) *Acta Soc. ent. Bohem. (Csl.)* **18**:6-10.
193. KOVAČEVIĆ, Ž.
1954. Značaj poliedrije za masovnu pojavu nekih insekata (The importance of the polyhedry for the mass appearance of some insects.) *Zasht. Bilja No.* **23**:3-20.
194. KOVAČEVIĆ, Ž.
1956. Die Nahrungswahl und das Auftreten der Pflanzenschädlinge. *Anz. Schädlingsk.* **29**:97-101.
195. KOVAČEVIĆ, Ž.
1957. Nahrungswahl und Vermehrungspotential einiger schädlichen Schmetterlingsarten. Symposium "Insect and Foodplant", Wageningen, 1957, pp. 117-18.
196. KOVAČEVIĆ, Ž.
1958. Pathogene Mikroorganismen als Begleiter und Mortalitätsfaktoren des Schwammspinners *Lymantria dispar* L. und des amerikanischen Webebären *Hyphantria cunea* Drury. *Anz. Schädlingsk.* **31**:148-50.
197. KRASSILSCHTSCHIK, J.-M.
1896. Sur une nouvelle propriété du corpuscule (*Microsporidium*) de la pébrine. *C.R. Acad. Sci. [Paris]* **123**:358-59.
198. KRASSILSCHTSCHIK, J.-M.
1896. Sur les microbes de la flacherie et de la grasserie des vers à soie. *C.R. Acad. Sci. [Paris]* **123**:427-29.
199. KRASSILSCHTSCHIK, J.-M.
1896. Sur les parasites des vers à soie sains et malades. Contribution à l'étude de la flacherie, de la grasserie et de la pébrine. *Mém. Soc. zool. Fr.* **9**:513-22.
200. KRIEG, A.
1955. Die Virus-Seuche der roten Kiefernbuschhornblattwespe, *Neodiprion sertifer* Geoffr. *Mitt. biol. ZentAnst. Berl. No.* **83**:92-95.
201. KRIEG, A.
1955. Untersuchungen über die Polyedrose von *Neodiprion sertifer* (Geoffr.). *Arch. ges. Virusforsch.* **6**:163-74.
202. KRIEG, A.
1955. Zur Frage einer "künstlichen Virus-Erzeugung" in *Bombyx mori* L. *Naturwissenschaften* **42**:589-90.
203. KRIEG, A.
1955. Zur Differentialdiagnose von Viruskrankheiten bei Insekten. *Mikroskopie* **10**:258-62.
204. KRIEG, A.
1956. "Endogene Virusentstehung" und Latenz-problem bei Insektenviren. Untersuchungen zer Polyedrose von *Neodiprion sertifer* (Geoffr.). II. Mitteilung. *Arch. ges. Virusforsch.* **6**:472-81.
205. KRIEG, A.
1956. Virus-Isolierung aus kranken Larven von *Hibernia defoliaria* L. und *Euproctis chrysorrhoea* L. *Naturwissenschaften* **43**:260-61.
206. KRIEG, A.
1956. Über die Nucleinsäuren der Polyeder-Viren. *Naturwissenschaften* **43**:537.
207. KRIEG, A.
1956. Erwiderung auf eine Stellungnahme von E. Jahn (1956). *Mikroskopie* **11**:235-36.
208. KRIEG, A.
1956 (1958). Latente und akute Infektionen mit Insekten-Viren. *Proc. 10th int. Congr. Ent., Montreal*, **4**:737-40.

209. KRIEG, A.
1957. Eine Polyedrose von *Aporia crataegi* L. (Lepidoptera). (Zugleich ein Beitrag über den atypischen Verlauf von Insekten-Virosen.) II. Mitteilung. Z. PflKrankh. 64:657-62.
210. KRIEG, A.
1957. "Toleranzphänomen" und Latenzproblem. III. Mitteilung: Untersuchungen über die Polyedrose von *Neodiprion sertifer* (Geoffr.). Arch. ges. Virusforsch. 7:212-19.
211. KRIEG, A.
1957. Über Aufbau und Vermehrungsmöglichkeiten von stäbchenförmigen Insekten-Viren. Z. Naturf. 12b:120-21.
212. KRIEG, A.
1957. Zur Differentialdiagnose von Viruskrankheiten bei Insekten. II. Mitteilung. Mikroskopie 12:110-17.
213. KRIEG, A.
1958. Verlauf des Infektionstiter bei stäbchenförmigen Insekten-Viren. Z. Naturf. 13b:27-29.
214. KRIEG, A., and R. LANGENBUCH
1956. Über eine Polyedrose von *Dasychira pudibunda* L. (Lepidoptera, Lymantriidae). Arch. ges. Virusforsch. 7:18-27.
215. KRYWIENCZYK, J., D. R. MACGREGOR, and G. H. BERGOLD
1958. Serological relationships of viruses from some lepidopterous insects. Virology 5:476-80.
216. LANGENBUCH, R.
1957. Beitrag zur Differentialdiagnose von Viruseinschlusskörpern (Polyedern) in Schnittpräparaten. Z. PflKrankh. 64:443-44.
217. LANGENBUCH, R.
1957. Beitrag zur Färbung von Einschlusskörpern (Polyedern) in Blut- und Gewebeausstrichen viruskranker Insekten. Mikroskopie 12:267-68.
218. LANGSTON, R. L.
1957. A synopsis of hymenopterous parasites of *Malacosoma* in California (Lepidoptera, Lasiocampidae). Univ. Calif. Publ. Ent. 14:1-50.
219. LAUFFER, M. A.
1943. Ultracentrifugation studies on the blood of normal and jaundice-diseased silkworms. Proc. Soc. exp. Biol. [N.Y.] 52:330-32.
220. LEGENDRE, A.-F.
1913. L'élevage des vers à soie dans la haute vallée du Yalong (Kientchang). Ann. Éc. Agric. Montpellier 13:71-112.
221. DE LESTRANGE, MARIE-THÉRÈSE
1954. Action de la température sur le virus responsable de la sensibilité à l'anhydride carbonique chez la drosophile. C.R. Acad. Sci [Paris] 239:1159-62.
222. LETJE, W.
1938 (1939). Mitteilungen zur Ätiologie und Pathologie der Gelbsucht der Seidenraupen. Proc. 7th int. Congr. Ent., Berlin, 3:1830-44.
223. L'HÉRITIER, P.
1948. Sensitivity to CO₂ in *Drosophila*—a review. Heredity 2:325-48.
224. L'HÉRITIER, P.
1951. The CO₂ sensitivity problem in *Drosophila*. Cold Spr. Harb. Symp. quant. Biol. 16:99-112.
225. L'HÉRITIER, P.
1955. Les virus intégrés et l'unité cellulaire. Ann. Biol. [Paris] 31:481-96.
226. L'HÉRITIER, P.
1958. The hereditary virus of *Drosophila*. Advanc. Virus Res. 5:195-245.
227. L'HÉRITIER, P., and NADINE PLUS
1950. Inactivation par les rayons X du virus responsable de la sensibilité au CO₂ chez la drosophile. C.R. Acad. Sci. [Paris] 231:192-94.
228. L'HÉRITIER, P., and G. TEISSIER
1937. Une anomalie physiologique héréditaire chez la drosophile. C.R. Acad. Sci. [Paris] 205:1099-1101.

229. LURIA, S. E.
1953. General virology. Wiley and Sons, Inc., New York. xiv+427 pp.
230. McEWEN, F. L., and G. E. R. HERVEY
1958. Control of the cabbage looper with a virus disease. J. econ. Ent. 51:626-31.
231. MACHAY, L.
1956. Az amerikai fehér szövőlepké irtása vírussal. Agrártudomány 8:349-50.
232. MACHAY, L., and B. LOVAS
1954. Electron microscopic studies on the alkalie dissolution of polyhedral inclusion bodies. Acta vet. hung. 4:253-58.
233. MACHAY, L., and B. LOVAS
1955. Polyeder zárványtestek oldódásának elektronmikroszkópos vizsgálata. (Electron microscopic study of polyhedral inclusion bodies during dissolution.) Biol. Közlemények 3:59-65.
234. MACHAY, L., and B. LOVAS
1955. Der Erreger der Viruskrankheit von *Hyphantria cunea* Drury. Acta microbiol. Acad. Sci. Hung. 3:117-24.
235. MACHAY, L., and B. LOVAS
1957. Az amerikai fehér szövőlepké, *Hyphantria cunea* Drury magyarországi vírusáról és e vírussal folytatott fertőzési kísérletek eredményeiről. (Histological, electronmicroscopic and epizootical studies on a virus isolated from the larvae of the *Hyphantria cunea* Drury.) Biol. Közlemények 5:7-18.
236. MAESTRI, A.
1856. Frammenti anatomici, fisiologici e patologici sul baco da seta (*Bombyx mori* Linn.). Fratelli Fusi, Pavia. 172 pp.
237. MANUNTA, C.
1940. Saggi preliminari sui corpuscoli poliedrici del giallume dei bachi da seta. R. C. Ist. lombardo 73 (Ser. 3, 4): 443-450.
238. MARCOVITCH, S.
1958. Some climatic relations of armyworm outbreaks. J. Tenn. Acad. Sci. 33:348-50.
239. MARTIGNONI, M. E.
1955. Microinjector needle for determination of *per os-LD 50* of insect viruses. Science 122:764.
240. MARTIGNONI, M. E.
1958. Exploring new methods for mass production of insect viruses. Pest Contr. Rev., Univ. Calif. Agricultural Extension Service, July 1958. P. 8.
241. MARTIGNONI, M. E., and C. AUER
1957. Bekämpfungsversuch gegen *Eucosma griseana* (Hübner) (Lepidoptera, Tortricidae) mit einem Granulosis-Virus. Mitt. schweiz. Anst. forstl. Versuchsw. 33:73-93.
242. MASERA, E.
1936. Le malattie infettive degli insetti e loro indice bibliografico. Licinio Cappelli, Bologna. 343 pp.
243. MASERA, E.
1937. I germogli di gelso in relazione alla poliedria del baco da seta. Annu. Staz. bacol. sper. Padova 49:240-45.
244. MASERA, E.
1948. Le malattie del baco da seta in Italia. Sulle malattie del *Bombyx mori* L. Act. 7me Congr. int. Seric., Alès, 521-34. (Complete French translation: 535-49.)
245. MASERA, E.
1952. Ricerche sulla poliedria del *Bombyx mori* L. Rev. Ver à Soie 4:37-46.
246. MASERA, E.
1957. Effetti dell'arricchimento dell'alimento del baco da seta con il latte. Terra friulana, Nos. 1 and 2, 15 pp.
247. MASERA, E.
1957. Patologia del baco da seta. In Schemi delle lezioni di aggiornamento in bachicoltura per ispettori agrari. Borghero, Padova. Pp. 57-65.
248. MÉNÉGAUX, A.
1899. Sur la grasserie du ver à soie d'après le travail de Bolle. Bull. sci. Fr. Belg. 32:201-19.

249. MEYER, G.
1955. Die "Gelbsucht" der Seidenraupen. *Mikrokosmos* 44:250-54.
250. MORGAN, C., G. H. BERGOLD, and H. M. ROSE
1956. Use of serial sections to delineate the structure of *Porthetria dispar* virus in the electron microscope. *J. biophys. biochem. Cytol.* 2:23-28.
251. MORISON, G. D.
1938 (1939). Bee paralysis of the honey-bee (*Apis mellifica* L.). *Proc. 7th int. Congr. Ent.*, Berlin, 3:1851-56.
252. MORRIS, R. F., C. A. MILLER, D. O. GREENBANK, and D. G. MOTT
1956 (1958). The population dynamics of the spruce budworm in eastern Canada. *Proc. 10th int. Congr. Ent.*, Montreal, 4:137-49.
253. MURAI, S., and K. AIZAWA
1957. Dehydrogenase activity in the jaundice-diseased silkworm, *Bombyx mori*. *Sanshi-kenkyu* 19:12-14.
254. NEILSON, M. M.
1956. Disease in spruce budworm adults. *For. Insect Invest.* [Ottawa] 12(6):1-2.
255. NEILSON, M. M.
1959. Trials of an introduced polyhedral virus against the European winter moth (*Operophtera brumata* Linn.) and the fall cankerworm (*Alsophila pometaria* Harr.)—a preliminary report. *Inter. Rep. 1957-10*, *For. Biol. Lab.*, Fredericton, Can. Dept. Agric. 19 pp.
256. NEILSON, M. M., and D. B. MARKS
1956. Laboratory trials of an introduced polyhedral disease from larvae of the painted lady butterfly (*Vanessa cardui* L.) against larvae of the European winter moth (*Operophtera brumata* L.) and the fall cankerworm (*Alsophila pometaria* Harr.). *Inter. Rep. 1955-3*, *For. Biol. Lab.*, Fredericton, Can. Dept. Agric. 11 pp.
257. NIKLAS, O.-F.
1942. Zum Massenwechsel der Tachine *Parasetigena segregata* Rond. in der Rominter Heide. *Monogr. angew. Ent.* No. 15:319-58.
258. OSSOWSKI, L. L. J.
1957. The biological control of the wattle bagworm (*Kotochalia junodi* Heyl.) by a virus disease. *Ann. appl. Biol.* 45:81-89.
259. OSSOWSKI, L. L. J.
1957. Notes on wattle insects observed during the period 1956-1957. *Wattle Res. Inst. Rep.*, 1956-1957:29-32.
260. OSSOWSKI, L. L. J.
1957. Über *Kotochalia junodi* (Heyl.)—Psychidae—einen Grossschädling in Schwarzakazienwäldern von Südafrika. *Z. angew. Ent.* 41:139-52.
261. OSSOWSKI, L. L. J.
1958. On the virus causing polyhedral wilt disease of the wattle bagworm, *Kotochalia junodi* (Heyl.). *S. Afr. J. Sci.* 54:75-76.
262. OSSOWSKI, L. L. J.
1958. Occurrence of strains of the nuclear polyhedral virus of the wattle bagworm. *Nature* 181:648.
263. PAILLOT, A.
1916. Les microorganismes parasites des insectes. Leur emploi en agriculture. *Ann. Épiphyt.* 2:188-232.
264. PAILLOT, A.
1925. La grasserie chez les papillons du ver à soie. *C.R. Acad. Agric. Fr.* 11:858-60.
265. PAILLOT, A.
1925. Sur les altérations cytologiques au cours de l'évolution de la maladie du noyau des chenilles de *Pieris brassicae* L. *C.R. Acad. Sci.* [Paris] 180:1797-99.
266. PAILLOT, A.
1925. Sur les altérations cytoplasmiques et nucléaires au cours de l'évolution de la grasserie du ver à soie. *C.R. Acad. Sci.* [Paris] 180:1139-42.
267. PAILLOT, A.
1925. Sur la grasserie du ver à soie. *C.R. Acad. Sci.* [Paris] 181:306-8.

268. PAILLOT, A.
1926. Existence de la grasserie chez les papillons du ver à soie. C.R. Acad. Agric. Fr. 12:57-63.
269. PAILLOT, A.
1926. Sur la flacherie du ver à soie et ses causes. C.R. Acad. Sci. [Paris] 183:402-4.
270. PAILLOT, A.
1926. Sur la flacherie du ver à soie. C.R. Soc. Biol. [Paris] 95:1370-72.
271. PAILLOT, A.
1927. Étude sur la grasserie (polyédrie) et les maladies du tube intestinal du Bombyx du mûrier. Congr. europ. Soie, Milan. 18 pp.
272. PAILLOT, A.
1927. Sur la gattine expérimentale du ver à soie. C.R. Acad. Sci. [Paris] 184:705-7.
273. PAILLOT, A.
1927. Sur l'anatomo-pathologie de la grasserie du ver à soie. C.R. Soc. Biol. [Paris] 96:550-51.
274. PAILLOT, A.
1927. Sur l'épidémiologie de la gattine du ver à soie et de la flacherie vraie ou flacherie de Pasteur. C.R. Soc. Biol. [Paris] 97:766-68.
275. PAILLOT, A.
1927. Vue d'ensemble sur les affections du tube digestif du ver à soie. Méthodes pratiques pour les éviter. C.R. Acad. Agric. Fr. 13:150-55.
276. PAILLOT, A.
1928. Les maladies du ver à soie. Editions du Service Photographique de l'Université, Lyon. 328 pp.
277. PAILLOT, A.
1929. La gattine et la flacherie vraie ou flacherie de Pasteur, maladies infectieuses mixtes à ultra-microbe et bactéries. C.R. Acad. Sci. [Paris] 189:308-10.
278. PAILLOT, A.
1931. La grasserie et les dysenteries du Bombyx du mûrier. Rapp. Lab. Soie [Lyon] 17:105-23.
279. PAILLOT, A.
1931. Sur la gattine du ver à soie. C.R. Acad. Sci. [Paris] 193:211-13.
280. PAILLOT, A.
1933. L'infection chez les insectes. Immunité et symbiose. Imprimerie G. Patissier, Trévoux. 535 pp.
281. PAILLOT, A.
1936. Nouveau type de maladies à polyèdres ou polyédries observé chez les chenilles d'*Euxoa* (*Agrotis*) *segetum* Schiff. C.R. Acad. Sci. [Paris] 202:254-56.
282. PAILLOT, A.
1941. Sur les variations du cytotropisme des ultravirus. C.R. Acad. Agric. Fr. 27:476-78.
283. PAILLOT, A., and A. GRATIA
1938. Application de l'ultracentrifugation à l'isolement du virus de la grasserie des vers à soie. C.R. Soc. Biol. [Paris] 128:1178-80.
284. PAILLOT, A., and A. GRATIA
1938. Ultracentrifugation du virus de la grasserie des vers à soie. Ann. Inst. Pasteur [Paris] 61:857-58.
285. PANEBIANCO, R.
1895. Osservazioni sui granuli del giallume. Boll. Bachic. [Padova], Ser. 2, 12:145-60.
286. PANEBIANCO, R.
1903. Ancora sui cristalli di giallume. Riv. Min. ital. 29:90.
287. PARDI, L.
1939. I corpi grassi degli insetti. Redia 25:87-288.
288. PERRONCITO, E.
1902. Il coccidio jalino (*Coccidium jalinum* n. sp.) ed il microsporidio poliedrico (*Microsporidium polyedricum* Bolle) nell'uomo. G. Accad. Med. Torino 65:378.

289. PLUS, NADINE
1955. Étude de la sensibilité héréditaire au CO₂ chez la drosophile. I. Multiplication du virus σ et passage à la descendance après inoculation ou transmission héréditaire. Ann. Inst. Pasteur [Paris] 88:347-63.
290. PLUS, NADINE
1956 (1958). Le virus non pathogène de la drosophile, son intégration au système génétique de la mouche. Proc. 10th int. Congr. Ent., Montreal, 4:741-42.
291. PREBBLE, M. L.
1956. Virus and other diseases of forest insects in Canada. 12me Congr. Un. int. Rech. for., Oxford. Mimeo. 6 pp.
292. PRELL, H.
1925 (1926). Die Polyederkrankheiten der Insekten. Proc. 3rd int. Congr. Ent., Zürich, 2:145-68.
293. VON PROWAZEK, S.
1912. Untersuchungen über die Gelbsucht der Seidenraupen. Zbl. Bakt., Abt. I, 67:268-84.
294. RABB, R. L.
1958. Living insecticides. Res. & Fmg N.C. 17(1):8-9.
295. RASEK, J. M.
1930. Presidential address, discussion. J. econ. Ent. 23:37-38.
296. REBOUILLON, A.
1925. Sur la sélection macroscopique et microscopique des papillons de vers à soie du mûrier (*Sericaria mori*) atteints de la maladie de la "grasserie." C.R. Acad. Agric. Fr. 11:744-48.
297. REBOUILLON, A.
1926. À propos de l'existence de la grasserie chez les papillons de vers à soie. C.R. Acad. Agric. Fr. 12:201-4.
298. REIFF, W.
1911. The wilt disease, or flacherie, of the gypsy moth. Contr. ent. Lab. Bussey Inst. Harv. No. 36: 60 pp.
299. REIFF, W.
1913. Zur Escherich'schen Auslegung meiner Arbeit über die "Wilt disease" des Schwammspinners (*Liparis dispar* L.). Naturw. Z. Forst- u. Landw. 11:49-54.
300. RICHARDS, O. W.
1940. The biology of the small white butterfly (*Pieris rapae*) with special reference to the factors controlling its abundance. J. Anim. Ecol. 9:243-88.
301. RICHMOND, H. A.
1948. Hemlock looper disease studies. For. Insect Invest., Ottawa, 4 (4):4.
302. RILEY, C. V.
1886. The mulberry silk-worm; being a manual of instructions in silk-culture. U. S. Dept. Agric. Div. Ent. Bull. 9, 6th rev. ed., pp. 11-61.
303. ROEGNER-AUST, SOPHIA
1947. Der Infektionsweg bei der Polyederkrankheit der Nonne. Naturwissenschaften 34:158-59.
304. ROEGNER-AUST, SOPHIA
1949. Populationsanalytische Untersuchungen über die Sterblichkeit von Nonnenraupen. Z. angew. Ent. 31:181-207.
305. ROST, H.
1955. Untersuchungen und Beobachtungen über Infektionskrankheiten bei Seidenraupen. Arch. Geflügelz. Kleintierk. 4:241-55.
306. RUSKA, H.
1950. Die Elektronenmikroskopie in der Virusforschung. In Doerr, R., and C. Hal-lauer. 1950. Handbuch der Virusforschung, 3 (II. Ergänzungsband). Springer Verlag, Wien. viii-425 pp. (pp. 221-417).
307. RUŽIČKA, J.
1924. Die neuesten Erfahrungen über die Nonne in Böhmen. Zbl. ges. Forstw. 50:33-68.

308. SACCHI, R.
1933. Ricerche sulla vaccinazione del baco da seta nella lotta contro il "giallume." Boll. Ist. sieroter. Milano 12:679-84.
309. SAGER, S. M.
1955. Virus disease in Western tent caterpillar (*Malacosoma pluviale*). For. Insect Invest., Ottawa, 11(2):3.
310. SAGER, S. M.
1957. A virus disease of western hemlock looper, *Lambdina fuscicollis lugubrosa* (Hulst) (Lepidoptera: Geometridae). Canad. J. Microbiol. 3:799-802.
311. SAGER, S. M.
1958. Studies on the epizootiology of a virus disease in the douglas-fir tussock moth (*Hemerocampa pseudotsugata* McD.). Inter. Rep. 1955-6, For. Biol. Lab., Victoria, Can. Dep. Agric. 27 pp.
312. SCHEDL, K. E.
1949. Erfahrungen und Beobachtungen anlässlich der Nonnengradation in der Steiermark in den Jahren 1946 bis 1948. Verlag Ferd. Kleinmayr, Klagenfurt. 129 pp.
313. SCHMIDT, LEA
1956. Utjecaj hrane na razvoj gubara (*Lymantria dispar* L.). [The influence of food on the development of gipsy-moth (*Lymantria dispar* L.).] Ann. Exp. for. [Zagreb] 12:105-66.
314. SCHMIDT, LEA, and G. PHILIPS
1958. Granuloza—nova virusna bolest na dudovcu (*Hyphantria cunea* Drury). (Granulosis—a new virus disease of the fall webworm.) Fac. Agric. For., Inst. Ent. [Zagreb] No. 1. 27 pp.
315. SCHOENE, W. J., and NANNIE V. SIBOLD
1952. A virus disease of the red-banded leaf roller. J. econ. Ent. 45:1081.
316. SCHRAMM, G.
1954. Die Biochemie der Viren. Springer-Verlag, Berlin. viii-276 pp. (Insektenviren: pp. 184-95).
317. SCHRAMM, G.
1958. Biochemistry of viruses. Annu. Rev. Biochem. 27:101-36.
318. SEMEL, MAURIE
1956. Polyhedrosis wilt of cabbage looper on Long Island. J. econ. Ent. 49:420-21.
319. SIBOLD LONG, NANNIE
1953. Life history of the red-banded leaf roller. Tech. Bull. Va. agric. Exp. Sta. No. 120. 18 pp.
320. SIPPELL, W. L.
1952. Winter rearing of the forest tent caterpillar, *Malacosoma disstria* Hbn. For. Insect Invest. [Ottawa] 8(4):1-2.
321. SKAIFE, S. H.
1921. Some factors in the natural control of the wattle bagworm. S. Afr. J. Sci. 17:291-301.
322. SMITH, J. D., and G. R. WYATT
1951. The composition of some microbial deoxyribose nucleic acids. Biochem. J. 49:144-48.
323. SMITH, K. M.
1951. The polyhedral diseases of insects. Endeavour 10:194-99.
324. SMITH, K. M.
1952. Latency in viruses and the production of new virus diseases. Biol. Rev. 27:347-57.
325. SMITH, K. M.
1954. Viruses and the control of insect pests. Discovery 15:455-58.
326. SMITH, K. M.
1954. Viruses and the electron microscope. Roy. Coll. Sci., Sci. J., 24:66-70.
327. SMITH, K. M.
1955. Morphology and development of insect viruses. Advanc. Virus Res. 3:199-220.

328. SMITH, K. M.
1955. What is a virus? *Nature* [Lond.] 175:12-15.
329. SMITH, K. M.
1956. The structure of insect virus particles. *J. biophys. biochem. Cytol.* 2:301-11.
330. SMITH, K. M.
1956. Virus diseases of insects—their use in biological control. *Agriculture* 63:271-75.
331. SMITH, K. M.
1958. The morphology and crystallization of insect cytoplasmic viruses. *Virology* 5:168-71.
332. SMITH, K. M.
1958. Early stages of infection with the *Tipula* iridescent virus. *Nature* [Lond.] 181:966-67.
333. SMITH, K. M.
1958. A study of the early stages of infection with the *Tipula* iridescent virus. *Parasitology* 48:459-62.
334. SMITH, K. M., and C. F. RIVERS
1957. The polyhedral virus of *Heliothis armigera* (Hbn.). *Nature* [Lond.] 180:928.
335. SMITH, K. M., and R. C. WILLIAMS
1958. Insect viruses and their structure. *Endeavour* 17:12-21.
336. SMITH, K. M., and N. XEROS
1953 (1955). Cross-inoculation studies with polyhedral viruses. 6me Congr. int. Microbiol., Rome, 6th Symposium (Interaction of viruses and cells): 81-96; Symposia, summaries: 185-86.
337. SNYDER, K. D.
1951. The biology of the variegated cutworm *Peridroma saucia* Hübner with special reference to the effect of temperature and food on development. Ph.D. Thesis in Entomology, University of California, Berkeley. 92 pp.
338. SPEYER, W.
1925. Beitrag zur Wirkung von Arsenverbindungen auf Lepidopteren. *Z. angew. Ent.* 11:395-99.
339. STEINHAUS, E. A.
1956 (1958). Stress as a factor in insect disease. Proc. 10th int. Congr. Ent., Montreal, 4:725-30.
340. STEINHAUS, E. A.
1957. Microbial diseases of insects. *Annu. Rev. Microbiol.* 11:165-82.
341. STEINHAUS, E. A.
1958. Crowding as a possible stress factor in insect disease. *Ecology* 39:503-14.
342. STEINHAUS, E. A.
1959. Insect pathology and microbial control. *Pest. Contr. Rev., Univ. Calif. Agricultural Extension Service*, Feb. 1959:1-3.
343. STEINHAUS, E. A.
1959. Granuloses in two Alaskan insects. *J. econ. Ent.* 52:350-52.
344. STEINHAUS, E. A., and C. G. THOMPSON
1949. Alfalfa caterpillar tests (biological control by artificial spread of virus disease studied). *Calif. Agric.* 3(3):5-6.
345. STEINHAUS, E. A., and C. G. THOMPSON
1949. Preliminary field tests using a polyhedrosis virus to control the alfalfa caterpillar. *J. econ. Ent.* 42:301-5.
346. STELLWAAG, F.
1924. Der Baumweissling *Aporia crataegi* L. *Z. angew. Ent.* 10:273-312.
347. STRUBLE, G. R.
1956. Biology and control of the logepole needle miner. Progress report of 1955 studies. *Calif. For. & Range Exp. Sta., U. S. Dep. Agric., Berkeley*. Mimeo. 29 pp.
348. SWEETMAN, H. L.
1956 (1958). Successful biological control against animals. Proc. 10th int. Congr. Ent., Montreal, 4:449-59.

349. SWEETMAN, H. L.
1958. The principles of biological control. Interrelation of hosts and pests and utilization in regulation of animal and plant populations. Wm. C. Brown Co., Inc., Dubuque, Iowa. xii-560 pp.
350. SZIRMAI, J.
1957. Biologische Abwehr mittels Virus zur Bekämpfung der *Hyphantria cunea* Drury. Acta microbiol. Acad. Sci. Hung. 4:31-42.
351. TANADA, Y.
1956. Microbial control of imported cabbageworm. Hawaii Fm Sci. 4(3):6-7.
352. TANADA, Y.
1959. Microbial control of insect pests. Annu. Rev. Ent. 4:277-302.
353. TANADA, Y., and J. W. BEARDSLEY, JR.
1958. A biological study of the lawn armyworm, *Spodoptera mauritia* (Boisduval), in Hawaii (Lepidoptera: Phalaenidae). Proc. Hawaii. ent. Soc. 16:411-36.
354. TARASSEVICH, L. M.
1946. On the nucleic acids of the polyhedra of the mulberry silkworm. Microbiology [Moscow] 15:337-40.
355. TARASSEVICH, L. M.
1950. On rearing of mulberry silkworms free from jaundice. Microbiology [Moscow] 19:364-68.
356. TARASSEVICH, L. M.
1953. In regard to obtaining mulberry silkworm (*Bombyx mori*) larvae free from yellow disease. Microbiology [Moscow] 22:311-15.
357. THALENHORST, W.
1956. Biologischer Forstschutz: Therapie und Hygiene. Sammelreferat über die wichtigsten forstpathologischen Arbeiten der Jahre 1943-1954. V. Teil. Forstarchiv 27:217-26.
358. THOMPSON, C. G.
1956 (1958). The use of certain entomogenous microorganisms to control the alfalfa caterpillar. Proc. 10th int. Congr. Ent., Montreal, 4:693.
359. THOMPSON, C. G., and E. A. STEINHAUS
1950. Alfalfa caterpillar control (treatment of fields by airplane application of spray advances destruction of pest). Calif. Agric. 4(5):8, 16.
360. TIRELLI, M.
1931. Nota di tecnica sui granuli poliedrici. Annu. Staz. bacol. sper. Padova 46:431-36.
361. TIRELLI, M., and L. K. WONG
1931. Alterazioni istologiche nei testicoli delle larve di "Bombyx mori" malate di giallume. Annu. Staz. bacol. sper. Padova 46:401-408.
362. TOKYUASU, K.
1953. The structures and the development of silkworm polyhedra. Enzymologia 16:62-68.
363. TOKUYASU, K.
1956. Morphological study of inclusion body of silkworm jaundice. Kyushu J. med. Sci. 7:108-20.
364. TOMLIN, S. G., and J. MONRO
1955. The structure of a polyhedral virus from the larvae of *Ardisces glatignyi* Le Guil. (Lepidoptera: Arctiidae). Biochim. biophys. Acta 18:202-8.
365. TOTHILL, J. D.
1956 (1958). Some reflections on the causes of insect outbreaks. Proc. 10th int. Congr. Ent., Montreal, 4:525-31.
366. VON TUBEUF, C.
1892. Die Krankheiten der Nonne (*Liparis monacha*). Forstl.-naturw. Z. 1:34-47, 62-79.
367. VON TUBEUF, C.
1892. Weitere Beobachtungen über die Krankheiten der Nonne. Forstl.-naturw. Z. 1:277-79.
368. UMEYA, Y., K. AIZAWA, and K. NAKAMURA
1955. Injection experiments of the silkworm jaundice virus into the silkworm eggs

with some consideration on the multiplication and induction of the virus (A preliminary note). Sanshi-kenkyu No. 13-2:5-12.

369. VAGO, C.
1950. Diversité des symptômes extérieurs dans une même maladie à ultravirus d'insectes. C.R. Acad. Sci. [Paris] 231:1587-88.
370. VAGO, C.
1951. Mise en évidence des polyèdres de la grasserie par coloration de leurs contours en vue de l'établissement du diagnostic de la maladie. Bull. Microscop. appl. [Paris] 1:99-100.
371. VAGO, C.
1951. Mise en évidence des polyèdres par colorations negatives dans le diagnostic des maladies à ultravirus d'insectes. Mikroskopie 6:228-31.
372. VAGO, C.
1951. Les possibilités de diagnostic de la polyédrie dans les cadavres de *Bombyx mori* L. en voie de décomposition. Mikroskopie 6:291-94.
373. VAGO, C.
1951. Phénomènes de "Latentia" dans une maladie à ultravirus des insectes. Rev. canad. Biol. 10:299-308.
374. VAGO, C.
1951. Polyédrie du *Bombyx mori* L. aux symptômes atypiques. Bull. Soc. ent. Fr. 56:108-11.
375. VAGO, C.
1952. Emploi du bleu Victoria pour la mise en évidence des polyèdres dans les maladies à ultravirus d'insectes. Bull. Microscop. appl. [Paris] 2:21-22.
376. VAGO, C.
1952. Maladies latentes et tolerance symbiotique chez les invertébrés. 6me Congr. int. Path. comp., Madrid, 1:121-33.
377. VAGO, C.
1953. Essais d'élimination de la grasserie par activation de sa phase latente. Rev. Ver à Soie 5:73-81.
378. VAGO, C.
1953 (1955). Facteurs alimentaires et activation des viroses latentes chez les insectes. Act. 6me Congr. int. Microbiol., Rome, 5:556-64.
379. VAGO, C.
1953. Virose aiguë à polyèdres déclenchée par action du fluorure de sodium. Experientia 9:466-68.
380. VAGO, C.
1954. Action du permanganate de potassium comme désinfectant des oeufs d'insectes vis-à-vis des viroses. Bull. Soc. zool. Fr. 79:138-41.
381. VAGO, C.
1954. Différenciation des corps d'inclusion des viroses d'insectes au contraste de phase. Mikroskopie 9:364-66.
382. VAGO, C.
1954. Limites biologiques du traitement désinfectant sur oeufs d'insectes a l'hydroxyde de potassium contre les virus du groupe *Borrelina*. C.R. Soc. Biol. [Paris] 148:255-57.
383. VAGO, C.
1956. L'enchaînement des maladies chez les insectes. (Disease interaction in insects.) Rev. Ver à Soie 8:39-47.
384. VAGO, C.
1957. Multiplication du virus *Borrelina bombycis* sur chrysalides de vers à soie. C.R. Acad. Sci. [Paris] 245:2115-17.
385. VAGO, C.
1958. Virose intestinale chez la processionnaire du pin *Thaumetopoea pityocampa* Schiff. (Lepidoptera). Entomophaga 3:35-37.
386. VAGO, C., and C. R. CAYROL
1955. Une virose à polyèdres de la noctuelle gamma *Plusia gamma* L. (Lepidoptera.) Ann. épiphyt., Ser. C, 6:421-32.

387. VAGO, C., O. CROISSANT, and P. LÉPINE
1955. Démonstration au microscope électronique du développement intranucléaire du virus de la grasserie. Ann. Inst. Pasteur [Paris] 89:364-66.
388. VAGO, C., and P. HAUDUROY
1954. Resistance à la lyophilisation, du virus de la polyédrie de *Thaumetopoea pityocampa* Schiff. (Lepidoptera). Leeuwenhoek ned. Tijdschr. 20: 141-44.
389. VAGO, C., and L. VASILJEVIĆ
1958. Polyedrie cytoplasmique chez l'écaille fileuse (*Hyphantria cunea* Drury, Lep. Arctiidae). Entomophaga 3:197-98.
390. VASILJEVIĆ, L.
1957. Uticaj temperaturnih kolebanja u prirodi na razvoj poliedrije kod gubara. (Influence of the temperature oscillations in the nature upon the development of the polyhedry among gypsy moths.) Zash. Bilja No. 41-42: 57-66.
391. VASILJEVIĆ, L.
1957. Udeo poliedrije i ostalih obolenja kod nastale gradacije gubara 1957 godine u NR Srbiji. (Share of the polyhedry and other diseases in the reduction of the gypsy moth gradation which took place in the PR of Serbia in 1957.) Zash. Bilja No. 41-42:123-137.
392. VEBER, J.
1957. A cytoplasmic polyhedral disease of the gypsy moth (*Lymantria dispar* L.). Nature [Lond.] 179:1304-5.
393. VIDA, M. H.
1527. De bombyce. Translation by M. Bonafous. Le ver à soie, poème en deux chants, de Marc-Jérôme Vida, traduit en vers français, avec le texte latin en regard. Ed. 2. Bouchard-Huzard and Challamel, Paris, 1844. ix-152 pp.
394. WACHTL, F. A., and K. KORNAUTH
1893. Beiträge zur Kenntniss der Morphologie, Biologie und Pathologie der Nonne (*Psilura monacha* L.) und Versuchsergebnisse über den Gebrauchswert einiger Mittel zur Vertilgung der Raupe. Mitt. forstl. Versuchsw. Öst. No. 16. 38 pp.
395. WAHL, B.
1910. Über die Polyederkrankheit der Nonne (*Lymantria monacha* L.). Zbl. ges. Forstw. 36:193-212.
396. WALKER, P.
1891. The grasserie of the silk-worm. Insect Life [Washington] 3:445-51.
397. WALLIS, R. C.
1957. Incidence of polyhedrosis of gypsy-moth larvae and the influence of relative humidity. J. econ. Ent. 50:580-83.
398. WATANABE, S.
1951. Studies on the grasserie virus of the silkworm, *Bombyx mori*. IV. Physical and chemical effects upon the virus. Jap. J. exp. Med. 21:299-313.
399. WEISER, J.
1949. Deux nouvelles infections à virus des insectes. Ann. Parasit. hum. comp. 24: 259-64.
400. WEISER, J.
1958. Zur Taxonomie der Insektenviren. Čsl. Parasit. 5:203-11.
401. WEISER, J., and J. VEBER
1954. The possibilities of biological control of the fall webworm (*Hyphantria cunea* Drury). Folia zool. ent. 3:55-68.
402. WELLINGTON, E. F.
1954. The amino acid composition of some insect viruses and their characteristic inclusion-body proteins. Biochem. J. 57:334-38.
403. WHITE, G. F.
1929. Preliminary observations on the polyhedral diseases of insects. J. Parasit. 16:107.
404. WILLIAMS, R. C.
1954. Electron microscopy of viruses. Advanc. Virus Res. 2:183-239.
405. WILLIAMS, R. C., and K. M. SMITH
1957. A crystallizable insect virus. Nature [Lond.] 179:119-20.

406. WILLIAMS, R. C., and K. M. SMITH
1958. The polyhedral form of the *Tipula* iridescent virus. Biochim. biophys. Acta 28:464-69.
407. WITTIG, G., and J. FRANZ
1957. Zur Histopathologie der Granulose von *Choristoneura murinana* (Hbn.) (Lepidopt., Tortricidae). Naturwissenschaften 44:564-65.
408. WYATT, G. R.
1952. Specificity in the composition of nucleic acids. Exp. Cell Res. 2:201-17.
409. WYATT, G. R., and S. S. COHEN
1953. The bases of the nucleic acids of some bacterial and animal viruses: the occurrence of 5-hydroxymethylcytosine. Biochem. J. 55:774-82.
410. WYATT, S. S.
1956. Culture in vitro of tissue from the silkworm, *Bombyx mori* L. J. gen. Physiol. 39:841-52.
411. WYCKOFF, R. W. G.
1953 (1955). Electron microscopic evidence on virus proliferation. 6me Congr. int. Microbiol., Rome, 6th Symposium (Interaction of viruses and cells): 54-57; Symposia, summaries: 178.
412. WYNIGER, R.
1957. Beobachtungen über Raupenkrankheiten und Versuche zu deren Bekämpfung. Mitt. ent. Ges. Basel 7:61-76.
413. XEROS, N.
1953. Development of intranuclear inclusions in virus-diseased cells of lepidopterous larvae. Nature [Lond.] 172:309-10.
414. XEROS, N.
1953. Origin and fate of the virus bundles in nuclear polyhedroses. Nature [Lond.] 172:548-49.
415. XEROS, N.
1956. The virogenic stroma in nuclear and cytoplasmic polyhedroses. Nature [Lond.] 178:412-13.
416. YAMAFUJI, K.
1949. Ueber die experimentelle Produktion des Virus hauptsächlich nach Versuchen am Seidenwurm. Enzymologia 13:223-28.
417. YAMAFUJI, K.
1950. Conversion of nitrites into oximes in silkworms and its relation to the experimental production of virus disease. Nature [Lond.] 165:651-52.
418. YAMAFUJI, K.
1952. Effect of nitrite on the nuclear structure in the silkworm. Nature [Lond.] 170:126.
419. YAMAFUJI, K.
1952. Mechanism of artificial virus formation in silkworm tissues. Enzymologia 15:223-31.
420. YAMAFUJI, K.
1953. Metabolism abnormality and virus production. Rep. agric. Tech. Kyushu 10:1-2.
421. YAMAFUJI, K.
1955. Enzymology of virugeneses. Rep. agric. Biochem. Kyushu 15:1-6.
422. YAMAFUJI, K.
1955. Polyhedrosis virus and desoxyribonuclease controlling gene. Rep. agric. Biochem. Kyushu 15:7-12.
423. YAMAFUJI, K.
1956. Presence of desoxyribonuclease in silkworm polyhedral virus. Nature [Lond.] 178:89.
424. YAMAFUJI, K.
1956 (1958). Role of desoxyribonucleic acid and desoxyribonuclease in induction processes of polyhedrosis virus. Proc. 10th int. Congr. Ent., Montreal, 4: 731-36.
425. YAMAFUJI, K., and T. AKITA
1952. On transoximation. Enzymologia 15:313-18.

426. YAMAFUJI, K., T. AKITA, and M. INAOKA
1950. Experimental production of silkworm virus under sterile conditions. *Enzymologia* 14:164-69.
427. YAMAFUJI, K., T. AKITA, and I. NAMBA
1952. Relation between infectious ability of silkworm polyhedra and virus-producing substances. *Enzymologia* 15:215-18.
428. YAMAFUJI, K., T. AKITA, and H. SAKAMOTO
1951. Virus activity of silkworm polyhedra. *Enzymologia* 15:126-29.
429. YAMAFUJI, K., and M. AOKI
1956. Influence of chemical treatment on amylase and sucrase in silkworm bodies. *Enzymologia* 17:300-304.
430. YAMAFUJI, K., and T. CHO
1947. Weitere Studien zur Entstehung des Seidenraupenpolyedervirus ohne Virusinfektion. *Biochem. Z.* 318:95-100.
431. YAMAFUJI, K., M. ETO, M. AOKI, and J. MUKAI
1956. Function of the nucleus of silkworm virus in the eclipse period. *Enzymologia* 17:249-55.
432. YAMAFUJI, K., M. ETO, and F. YOSHIHARA
1954. Effect of nuclear preparations from infected silkworms on the development of polyhedrosis. *Enzymologia* 17:164-68.
433. YAMAFUJI, K., S. FUJII, and T. AKITA
1950. Ueber die chemischen Prozesse bei der künstlichen Virus-Erzeugung im lebendigen Körper. *Enzymologia* 14:24-29.
434. YAMAFUJI, K., K. HAYASHI, and M. SHIMAMURA
1954. Ultracentrifugal investigation of silkworm polyhedra. *Enzymologia* 17:155-56.
435. YAMAFUJI, K., and K. HIRAYAMA
1955. Contact method for inducing polyhedral disease. *Enzymologia* 17:229-36.
436. YAMAFUJI, K., and K. HIRAYAMA
1957. Nucleases and proteases in silkworms in the early stage of viral infection and chemical induction. *Enzymologia* 18:120-24.
437. YAMAFUJI, K., K. HIRAYAMA, and A. MIYATA
1956. Depolymerization of desoxyribonucleic acid by virus inducer and silkworm enzyme. *Enzymologia* 17:352-58.
438. YAMAFUJI, K., K. HIRAYAMA, and M. SATO
1957. Desoxyribonuclease in silkworms treated with virosis inductors. *Enzymologia* 18:22-27.
439. YAMAFUJI, K., I. IGAUE, and M. SATO
1952. Effect of chemicals upon the solubility of the polyhedrosis virus of silkworms. *Enzymologia* 15:219-22.
440. YAMAFUJI, K., T. KAWAKAMI, and K. SHINOHARA
1952. On an enzyme in silkworm which catalyzes the transformation of oximes into amino compounds. *Enzymologia* 15:199-203.
441. YAMAFUJI, K., and Y. KOSA
1944. Zum Chemismus der Virus-Entstehung. *Biochem. Z.* 317:81-86.
442. YAMAFUJI, K., Y. MATSUKURA, and M. ETO
1953. Electrophoresis of silkworm polyhedra. *Enzymologia* 15:327-28.
443. YAMAFUJI, K., J. MUKAI, and F. YOSHIHARA
1957. Polyhedral virus induction by desoxyribonuclease and trypsin. *Enzymologia* 18:28-32.
444. YAMAFUJI, K., and H. OMURA
1950. The formation of silkworm virus by acetoxime feeding. *Enzymologia* 14:120-23.
445. YAMAFUJI, K., and H. OMURA
1952. On the oximase. *Enzymologia* 15:296-302.
446. YAMAFUJI, K., and H. OMURA
1954. A study of polyhedral virus formation with radioactive phosphorus. *Enzymologia* 17:28-30.

447. YAMAFUJI, K., H. OMURA, and M. MIURA
1953. On the transoximase. *Enzymologia* 16:75-80.
448. YAMAFUJI, K., H. OMURA, and N. OTOMO
1958. An immunological investigation of viral polyhedrosis. *Enzymologia* 19:175-79.
449. YAMAFUJI, K., H. OMURA, and T. SAKAMOTO
1952. Variation of the activity of some enzymes in silkworm by chemical feeding. *Enzymologia* 15:210-14.
450. YAMAFUJI, K., H. OMURA, and M. SATO
1953. Polyhedron production in offspring of virus-infected silkworms. *Enzymologia* 15:362-65.
451. YAMAFUJI, K., H. OMURA, and M. SATO
1954. Injection method for inducing polyhedrosis in silkworm. *Enzymologia* 16:329-35.
452. YAMAFUJI, K., H. OMURA, and K. WATANABE
1958. Distribution and transmission of radioactive phosphorus during development of viral polyhedrosis. *Enzymologia* 19:157-62.
453. YAMAFUJI, K., H. SAKAMOTO, and T. AKITA
1952. Influence of chemical treatment on descendants in silkworm. *Enzymologia* 15:207-9.
454. YAMAFUJI, K., M. SATO, and J. KISHIKAWA
1958. Chemical virogenesis and remote infection in silkworm. *Enzymologia* 19:151-56.
455. YAMAFUJI, K., M. SATO, and I. NAGATA
1958. Chemical virogenesis and virogenic treatment in silkworm. *Enzymologia* 19:48-52.
456. YAMAFUJI, K., M. SHIMAMURA, and F. YOSHIHARA
1954. Behaviour of nucleic acids in formation processes of silkworm virus. *Enzymologia* 16:337-42.
457. YAMAFUJI, K., and Y. SHIROZU
1944. Die Abhängigkeit der Neubildung des Virusproteins von der Erniedrigung der Katalase. *Biochem. Z.* 317:94-98.
458. YAMAFUJI, K., K. SO, and K. SOO
1941. Die Wirkung des Seidenraupenpolyedervirus auf die Atmung und Katalase der Hefe. *Biochem. Z.* 311:203-8.
459. YAMAFUJI, K., K. WADA, and M. SATO
1951. Solubility of polyhedral bodies of silkworm. *Enzymologia* 15:130-33.
460. YAMAFUJI, K., and F. YOSHIHARA
1950. On the virus production and oxime formation in silkworms fed with nitrites. *Enzymologia* 14:124-27.
461. YAMAFUJI, K., and F. YOSHIHARA
1953. Embryonic development and virus formation in silkworm. *Enzymologia* 15:321-26.
462. YAMAFUJI, K., and F. YOSHIHARA
1953. Virus formation in interspecific hybrids of silkworms. *Enzymologia* 15:366-70.
463. YAMAFUJI, K., F. YOSHIHARA, and M. ETO
1952. Morphological changes of adipose cells in silkworms after administering nitrite or hydroxylamine. *Enzymologia* 15:204-6.
464. YAMAFUJI, K., F. YOSHIHARA, M. ETO, and H. OMURA
1955. Induction of polyhedrosis by injecting desoxyribonucleic acid fractions isolated from healthy silkworms. *Enzymologia* 17:237-44.
465. YAMAFUJI, K., F. YOSHIHARA, J. MUKAI, and M. SATO
1957. Virugenic action of silkworm desoxyribonucleate. *Enzymologia* 18:125-30.
466. YAMAFUJI, K., F. YOSHIHARA, and M. SATO
1954. Eclipse period of polyhedral disease. *Enzymologia* 17:152-54.
467. YAMAFUJI, K., F. YOSHIHARA, and M. SHIMAMURA
1956. Action of ribonuclease in relation to the formation of silkworm virus. *Enzymologia* 17:286-90.

468. YAMAFUJI, K., F. YOSHIHARA, and H. WADA
1950. Formation of oxime in silkworms after feeding with inorganic nitrogenous salts. *Enzymologia* 14:170-76.
469. YAMAFUJI, K., F. YOSHIHARA, and S. YOSHIMOTO
1953. Induction of polyhedrosis in progenies of chemically treated silkworms. *Enzymologia* 16:51-55.
470. YAMAFUJI, K., and T. YUKI
1947. Über die Vorbeugung gegen eine Viruskrankheit durch Fütterung mit Katalase beim Seidenspinner. *Biochem. Z.* 318:107-11.
471. YAMAFUJI, K., and T. YUKI
1950. Über den Mechanismus der Virusentstehung in der Zelle. *J. Fac. Agric. Kyushu Univ.* 9:317-23.
472. YOSHIHARA, F.
1956. Decomposition of pepton in polyhedra-diseased silkworms. *Sci. Bull. Fac. Agric. Kyushu* 15:473-77.
473. YOSHIHARA, F.
1956. Peptidase in virus-diseased silkworms. *Sci. Bull. Fac. Agric. Kyushu* 15:479-81.

INDEX TO GENERIC AND SPECIFIC NAMES OF HOST INSECTS

(Subgeneric names are in parentheses)

	PAGE		PAGE
abietis L.	10	crataegi (L.)	8
Abraxas	4	Crocallis	4
Acantholyda	10	Cryptothelea	8
Acleris	9	cunea (Drury)	3
aerea (Drury)	3	Cyenia	3
aegeria (L.)	9	cynthia (Drury)	9
Aglais	6		
Agrotis	7	Dasychira	5
Alsophila	4	defoliaria (L.)	4
ambiguella (Hbn.)	8	Dendrolimus	5
americanum (F.)	5	Diacrisia	3
amplicornis Wlk.	2	Diataraxia	7
Anopheles	11	Diprion	10
Antheraea	8	Dira	9
Apantesis	2	dispar (L.)	6
Apis	10	disstria Hbn.	5
Aporia	8	dominula (L.)	3
Arctia	2	Drepana	4
Ardices	3	Drosophila	11
Argyrotaenia	9		
atalanta (L.)	6	elinguaria (L.)	4
auripes (Butler)	6	Ennomos	4
autumnata (Borkh.)	4	Ephestia	8
		Estigmene	3
bisselliella (Hum.)	9	Eucosma	7
Bombyx	3, 4	Eulype	4
brassicae (L.)	8	euphorbiae (L.)	9
brillians B. & McD.	10	Euplagia	3
brumata (L.)	4	Euproctis	5
bucephala (L.)	6	Euxoa	7
Bupalus	4		
		fimbriata (von Schreber)	7
caberata Guen.	5	fuscicollis fuscicollis (Guen.)	4
Cacoecia	10	fuscicollis lugubrosa (Hulst)	4
caja (L.)	2	flammea Schiff.	7
californica Pack.	4	flava (Bremer)	5
californicum (Pack.)	5	fragile (Stretch)	5
cardui (L.)	6	fuliginosa (L.)	3
cautella (Wlk.)	8	fumiferana (Clem.)	10
Celerio	9		
Cephalcia	2, 10	Galleria	4
(Cephalcia)	10	gamma (L.)	7
Cerura	6	(Gilpinia)	10
Chironomus	11	glatignyi (Le Guill.)	3
Choristoneura	10	griseana (Hbn.)	7
chrysorrhoea (L.)	5	grossulariata (L.)	4
cinnabarinus (Bdv.)	2		
clandestina (Harr.)	8	Harrisina	10
Clysiana	8	hastata (L.)	4
coenia Hbn.	6	Heliothis	7
Colias	8	Hemerocampa	5, 6
constrictum (Stretch)	5	Hemileuca	8

	PAGE		PAGE
hereyniae (Hartig)	10	ochrogaster (Guen.)	7
hermelina (Goeze)	6	oleracea (L.)	7
Hibernia	4	olfacians Benson	11
hippocastani L.	10	Operophtera	4
Hyphantria	3	Oporinia	4
Hypocrita	3	Ourapteryx	5
io (L.)	6	paludosa Meig.	11
(Itycorsia)	10	Panaxia	3
Ivela	6	Panolis	7
jacobaeae (L.)	3	paphia mylitta (Drury)	8
junodi (Heylaerts)	8	Papilio	7
Junonia	6	Pararge	9
lacertinaria (L.)	4	pellionella (L.)	9
Lambdina	4	Peridroma	7
Lampra	7	pernyi Guér.-Men.	8
Laothoe	9	persicariae (L.)	7
lecontei (Fitch)	10	Phalera	6
leucostigma (J. E. Smith)	5	philodice eurytheme Bdv.	8
ligustri L.	9	philodice philodice Latr.	8
"litosia"	7	phlaeas (L.)	5
litura (F.)	7	Phlogophora	7
Lycaena	5	Phragmatobia	3
Lymantria	6	Phryganidia	4
machaon L.	7	Pieris	8
maia (Drury)	8	pini L.	5
Malacosoma	5	pinarius (L.)	4
mandarina Moore	3, 4	pityocampa Schiff.	9
margaritosa (Haw.)	7	Plusia	7
mauritia (Bdv.)	8	pluviale (Dyar)	5
megea (L.)	9	polyphemus (Cram.)	8
Melanchnra	7	pometaria (Harr.)	4
melanogaster Meig.	11	populi (L.)	9
mellifera L.	10	Porthetria	6
mellonella (L.)	4	praefica Grote	7
Melolontha	10	pratti banksianae Roh.	10
melolontha L.	10	pratti pratti (Dyar)	10
mendica (Clerck)	3	Prodenia	7
meticulosa (L.)	7	pronuba (L.)	8
milleri Busck	4	Pseudaletia	7
monacha (L.)	6	pseudoconspersa (Strand)	5
mori (L.)	3, 4	pseudotsugata McD.	6
murinana (Hbn.)	10	Pterolocera	2
napi (L.)	8	pudibunda (L.)	5
nararia (Moore)	5	purpurata (L.)	3
Natada	5	pyri (Schiff.)	9
Nematus	11	quadripunctaria (Poda)	3
nemoralis C. G. Thomson	10	quercinaria (Hfn.)	4
Neodiprion	10	rapae (L.)	8
neustria (L.)	5	Recurvaria	4
ni (Hbn.)	8	ricini (Bdv.)	9
Nymphalis	6	Sabulodes	5
ocellata atlanticus Austaut	9	salicis (L.)	6
		sambucaria (L.)	5

	PAGE
Samia	9
Saturnia	9
segetum (Schiff.)	7
sertifera (Geoff.)	10
Smerinthus	9
Spaelotis	8
Sphinx	9
Spodoptera	8
Stilpnotia	6
subpictus Grassi	11
tentans F.	11
Tetranychus	2
Thaumetopoea	9
Theophila	3, 4
Tinea	9
Tineola	9

	PAGE
Tipula	11
(Tipula)	11
Trichoplusia	8
Triphaena	8
unipuncta (Haw.)	7
urticae (L.)	6
Vanessa	6
variana (Fern.)	9
velutinana (Wlk.)	9
villica (L.)	2
vinula (L.)	6
virescens (F.)	7
virgo (L.)	2
zea (Boddie)	7

The journal *Hilgardia* is published at irregular intervals, in volumes of about 600 pages. The number of issues per volume varies.

Subscriptions are not sold. The periodical is sent as published only to libraries, or to institutions in foreign countries having publications to offer in exchange.

You may obtain a single copy of any issue free, as long as the supply lasts; please request by volume and issue number from:

Agricultural Publications
207 University Hall
2200 University Avenue
Berkeley 4, California

The limit to nonresidents of California is 10 separate issues on a single order. A list of the issues still available will be sent on request.