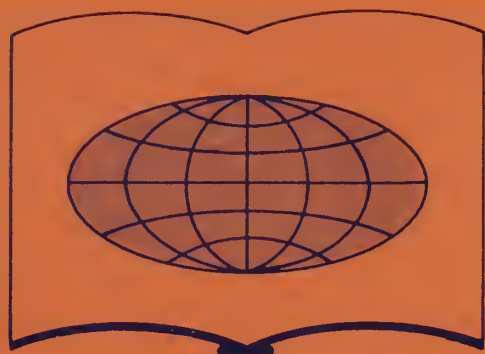


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# Pesticides DOCUMENTATION BULLETIN

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Volume 5  
July 18, 1969

Number 15



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U.S. DEPARTMENT OF AGRICULTURE

# PESTICIDES DOCUMENTATION BULLETIN

Volume 5  
July 18, 1969  
Number 15

A Bi-Weekly Publication of U.S. Department of Agriculture

## OBJECTIVES AND SCOPE

The *Pesticides Documentation Bulletin* is compiled by the National Agricultural Library's Pesticides Information Center to facilitate national research efforts in all aspects of pest control. This bi-weekly index to the literature includes coverage of diseases, insects, nematodes, parasites, weeds and other pests affecting plants, animals, man, our natural resources and other values in man's environment. Special emphasis is given to the literature on toxicological, physiological and epidemiological aspects of pests and their control by chemical biological and integrated methods.

For broader coverage of literature on agriculture and related subjects, please consult the *Bibliography of Agriculture*, a monthly publication of the National Agricultural Library.

## FORMAT

The *Bulletin* is a categorized bibliography, with citations arranged alphabetically by author under the following major subjects:

- 10 Entomology
- 20 Crop Protection
- 30 Livestock Protection
- 40 Commodity Protection
- 50 Environmental Contamination
- 55 Residues
- 60 Toxicology
- 65 Plant Physiology & Biochemistry
- 70 Chemistry
- 80 Engineering
- 90 Industry

*Citations:* Each citation consists of an accession number assigned serially with the last two digits representing the Bulletin's issue year, i.e. 3286-67. The citation number (minus the year) is used in all indices. Following the accession number is the full title of the article; all personal authors; an abbreviated journal title; volume, issue and inclusive page numbers; date of publication; language abbreviation, if other than English; and the National Agricultural Library's call number. Subject descriptors, patent or grant numbers, bibliographer's notes, and abstracts or extracts may follow each citation when appropriate.

*Subject Index:* Subject descriptors appear in the index followed by title arranged numerically by accession number. The Agricultural/Biological Vocabulary developed by the National Agricultural Library is used as a basic thesaurus of descriptors.

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The INTREDIS Register is a computer data bank in the field of forest pathology. It contains title and author references to abstracted articles including subject, country, host plant genus or species, organisms causing the diseases, abstracting journal and year of publication. The computer search uses boolean parameters in any combination of elements listed.

The Herbicides Data File consists of reports on field tests conducted by the Crops Protection Research Branch, Crop Research Division, Agriculture Research Service. Each test record contains the following items of information:

- Compound Tested
- Company furnishing the compound
- Author or Investigator
- Test Sponsor
- Date
- Location
- Mode of Application
- Rates of Application
- Soil Types
- Carriers
- Crops or Weeds tested with phytotoxicity ratings
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## ACKNOWLEDGMENT

The Pesticides Information Center, National Agricultural Library, gratefully acknowledges the cooperation and assistance of the Department of Defense; Health, Education, and Welfare; and Interior; the Federal Committee on Pest Control, and state and industrial organizations in the development of the Center and preparation of this Bulletin. Special thanks are expressed to the Federal Committee on Pest Control for its suggestions and support. We hope the Bulletin will serve as an example of the effectiveness of interdepartmental cooperation and the speed with which effective services can be developed through a coordinated and cooperative interdepartmental effort.

Use of funds for printing this publication approved by the Director of the Bureau of the Budget (May 23, 1968).

PLEASE GIVE COMPLETE BIBLIOGRAPHIC INFORMATION AS IT APPEARS IN THIS PUBLICATION FOR EACH ITEM REQUESTED.

This publication reports research involving pesticides. It does not contain recommendations for their use, nor does it imply that the uses discussed here have been registered. All uses of pesticides must be registered by appropriate State and/or Federal agencies before they can be recommended.

**CAUTION:** Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife—if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.

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## ENTOMOLOGY

## SYSTEMATICS

- 8616-69**  
DESCRIPTION OF NEW ARCTIIDAE FROM MADAGASCAR. (LEP.) (15TH NOTE). (FR)  
H de Toulgoët  
*Soc Entomol France Bull* 73(3/4,MAR-APR):74-76  
1968 420 F84B  
Arctiidae, Insect identification, Insect taxonomy, Zoogeography.
- 8617-69**  
NASAL ACARINA OF BIRDS AND MAMMALS OF BRAZIL. I. RHINONYSSIDAE OF THE BELEM REGION (NORTH BRAZIL). (FL)  
T H G Aitken A Fain  
*Inst Roy Sci Natur Belg Bull* 44(41):1-28 REF  
15 Nov 1968 504 B835B  
Acarina, Birds, Insect taxonomy, Mammals, Parasitic insects.
- 8618-69**  
PROPOSED FAUNAL AFFINITIES OF UTAH DYTISCIDAE WITH THE EMPHASIS ON THE GENUS HYGROTUS STEPHENS.  
R D Anderson  
*Utah Acad Sci Arts Lett Proc* 44(1):358-365 MAP  
1967 500 UT1  
Dytiscidae, Insect ecology, Zoogeography.
- 8619-69**  
FOURTEEN NEW CHRYSOMELID BEETLES FROM JAMAICA.  
D H Blake  
*Entomol Soc Wash Proc* 71(2):161-174  
Jun 1969 420 W27  
Chrysomelidae, Coleoptera, Insect morphology, Insect taxonomy, Zoogeography.  
The new species described are in the following nine genera: *Lactica*, *Crysilus*, *Chaetocnema*, *Longitarus*, *Hermacophaga*, *Sidfaya*, *Apraca*, *Megistops*, and *Heikertingerella*.
- 8620-69**  
CRYPTURGUS HISPIDULUS ALSO IN BADEN (COL., SCOLYTIDAE) (CONTRIBUTION TO THE SOUTHWESTERN GERMAN COLEOPTERAN FAUNA). (GE)  
S Claditsch  
*Entomol Z* 79(3):27-28  
01 Feb 1969 421 EN85  
Insect taxonomy, Scolytidae, Zoogeography.
- 8621-69**  
STUDIES OF QUEENSLAND TETRANYCHIDAE. 7. RECORDS OF THE GENUS EOTETRANYCHUS (ACARINA: TETRANYCHIDAE).  
J J Davis  
*Entomol Soc Australia (nsw) J* 7(2):127-129  
31 Dec 1968 423.92 EN84  
Eotetranychus, Insect taxonomy, Tetranychus.
- 8622-69**  
OLIGONYCHUS ARANEUM SP. N. AND OLIGONYCHUS DIGITATUS DAVIS (ACARINA: TETRANYCHIDAE) AS PESTS OF GRASSES IN EASTERN AUSTRALIA.  
J J Davis  
*Entomol Soc Australia (nsw) J* 7(2):123-126  
31 Dec 1968 423.92 EN84  
Insect taxonomy, Oligonychus, Pastures, Tetranychidae.
- 8623-69**  
TAXONOMY OF NEW ZEALAND PSEUDOCOCCIDAE, PART 1 (HOMOPTERA: COCCOIDEA).  
J A De Boer  
*New Zealand J Sci* 10(1):138-141  
Mar 1967 514 N482  
Insect taxonomy, Pseudococcidae.  
One new species of the genus *Chorizococcus* McKenzie is described. *Trionymus zealandicus* Brittin is transferred to the genus *Spilococcus* Ferris and the lectotype designated.
- 8624-69**  
THREE NEW SPECIES OF THE GENUS TRIPTEROIDES, SUBGENUS TRIPTEROIDES GILES (DIPTERA: CULICIDAE).  
M D Delfinado E R Hodges  
*Entomol Soc Wash Proc* 70(4):361-375  
Dec 1968 420 W27  
Culicidae, Insect taxonomy, Tripteroides denticulatus, Tripteroides malayi, Tripteroides tarsalis, Zoogeography.
- 8625-69**  
THE BARIS LEPIDIUM GROUP. (GE)  
L Dicckmann  
*Entomol Bl* 64(1):47-50  
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Baris, Curculionidae, Insect taxonomy, Zoogeography.
- 8626-69**  
SOME AUSTRALIAN PARTHENOGENETIC CHIRONOMIDAE (DIPTERA).  
D H D Edward D H Colless  
*Entomol Soc Australia (nsw) J* 7(2):158-162  
31 Dec 1968 423.92 EN84  
Chironomidae, Insect biology, Insect morphology, Insect taxonomy, Parthenogenesis.  
Parthenogenesis has hitherto been reported in only a single species of Australian chironomid: *Lundstroemia parthenogenetica* Freeman. It is here described in two further species: *Limnophycs vestitus* (Skuse) and another that cannot so far be distinguished from the Palearctic *Corynoneura scutellata* Winnertz, the latter being a new record for this country. Notes on biology and adult, pupal and larval morphology are given for both species.
- 8627-69**  
THE HUNT OF THE WASPS AT JACKSON HOLE.  
H E Evans  
*Natur Hist* 77(2):38-39  
Feb 1968 500 N483J  
Food habits, Philanthus, Predaceous insects, Surveys.
- 8628-69**  
CARPHURINAE OR CARPHURIDAE 43. CONTRIBUTION TO THE KNOWLEDGE OF THE MALACHIIDAE. (GE)  
A M J Evers  
*Entomol Bl* 64(1):17-27, REF  
15 Jul 1968 421 EN833  
Carphuridae, Coleoptera, Insect taxonomy, Meloidae.
- 8629-69**  
THREE NEW SPECIES OF BRACHYHESMA (APOIDEA: COLLETIDAE).  
E M Exley  
*Entomol Soc Australia (nsw) J* 7(2):135-141  
31 Dec 1968 423.92 EN84  
Colletidae, Insect taxonomy.
- 8630-69**  
TWO NEW GENERA AND FIVE NEW SPECIES OF ARGAREMINI FROM NEW ZEALAND, WITH A KEY TO THE GENERA OF TARGAREMINI (HETEROPTERA: LYGAEIDAE).  
A C Eyles  
*New Zealand J Sci* 10(2):407-423  
Jun 1967 514 N482  
Insect taxonomy, Lygaeidae, Zoogeography.  
*Millerocoris ductus* n. gen. and sp., *Eminocoris conus* n. gen. and sp. and three new species of *Netagerra* White, *M. distincta*, *M. angusta*, and *M. kaikourica* are described. A key to the species of *Netagerra* is given. The genus *Lachnophoroides* Distant is transferred from the subfamily Oxycareninae. A key to the genera of Targaremini is given, and the zoogeography of the tribe is presented.
- 8631-69**  
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G Fagel  
*Inst Roy Sci Natur Belg Bull* 44(24):1-14  
30 Sep 1968 504 B835B  
Insect taxonomy, Quedius, Staphylinidae, Zoogeography.
- 8632-69**  
THE DISTRIBUTION OF THE FURNITURE BEETLE, ANOBIUM PUNCTATUM (DE GEER) (COLEOPTERA: ANOBIIDAE), IN NEW SOUTH WALES.  
J R J French  
*Entomol Soc Australia (nsw) J* 7(2):115-122 MAP REF  
31 Dec 1968 423.92 EN84  
Anobium punctatum, Zoogeography.  
A survey was carried out to study the area of economic importance of *Anobium punctatum* (De Geer) in order to assess its potential threat to softwood utilization in New South Wales, particularly of *Pinus radiata* D. Don. The survey indicated that *Anobium* was confined to the more humid and cooler coastal plains, and to the eastern highlands of the Great Dividing Range. Infestations west of the Great Dividing Range were few, and were found to have been brought into the area in furniture and fittings from the coastal region.
- 8633-69**  
PYRGANUS A NEW GENUS (COLEOPTERA, ELATERIDAE). (SP)  
R Golbach  
*Acta Zool Lilloana* 22:197-199  
1967 410 AC82  
Elateridae, Insect taxonomy. German abstract.
- 8634-69**  
BRENTIIDAE OF PARAGUAY (COLEOPTERA). (SP)  
J A Haedo Rossi  
*Acta Zool Lilloana* 22:157-182  
1967 410 AC82  
Brentidae, Insect taxonomy. English abstract.
- 8635-69**  
STUDIES OF FRUITFLIES ASSOCIATED WITH MISTLETOE IN AUSTRALIA AND PAKISTAN WITH NOTES AND DESCRIPTIONS OF GENERA RELATED TO PERILAMPSIS BEZZI DIPTERA: TEPHTRITIDAE.  
D E Hardy  
*Beitr Entomol* 17(1-2):127-149  
1967 421 B392  
Insect taxonomy, Loranthaceae, Perilampus, Tephritidae.
- 8636-69**  
A NEW COPTOTERMES (ISOPTERA, RHINOTERMITIDAE) FROM GABON.  
W V Harris  
*Rev Zool Bot Afr* 77(3/4):236-238  
28 Jun 1968 410 R326  
*Coptotermes silvaticus*, Insect identification, Insect taxonomy, Rhinotermitidae, Termites, Zoogeography.
- 8637-69**  
TWO NEW SPECIES OF AUDRE (LEP. RHOP. RIODINIDAE). (SP)  
K J Hayward  
*Acta Zool Lilloana* 22:137-142  
1967 410 AC82  
Insect taxonomy, Riodinidae.
- 8638-69**  
NEW NAMES FOR TWO GENERA OF LEPIDOPTERA. (SP)  
K J Hayward  
*Acta Zool Lilloana* 22:135  
1967 410 AC82

**ENTOMOLOGY**

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Insect taxonomy, Lepidoptera, Nomenclature.

8639-69

**FOUR NEW SATYRIDES FROM ECUADOR. (SP)**

K J Hayward  
*Acta Zool Lilloana* 22:201-206  
1967 410 AC82  
Insect taxonomy, Satyridae.

8640-69

**TWO SPECIES OF APPLE-FEEDING GELECHIIDES NEW TO SCIENCE (LEPIDOPTERA).**

R W Hodges  
*Entomol Soc Wash Proc* 71(2):202-204  
Jun 1969 420 W27  
Apples, *Filatima epulatrix*, Gelechiidae, Insect ecology, Insect morphology, Insect taxonomy, *Pseudotelphusa incana*, Zoogeography.

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**A NEW STRATIOMYID PEST OF SUGAR CANE IN AUSTRALIA (DIPTERA: STRATIOMYIDAE).**

M T James  
*Entomol Soc Australia (nsw) J* 7(2):155-157  
31 Dec 1968 423.92 EN84  
Insect taxonomy, Stratiomyidae, Sugarcane.

8642-69

**ADDENDUM TO THE REVISION OF THE GENUS THORICTUS GERM. (GE)**

H John  
*Entomol Bl* 64(1):28-30  
15 Jul 1968 421 EN833  
Insect taxonomy, Thorictidae, Thorictus, Zoogeography.

8643-69

**THE BLACK BARK BEETLE, XYLOSANDRUS GERMANUS BLANDE, A NEWCOMER TO OUR DOMESTIC INSECT FAUNA. (GE)**

H J Kamp  
*Entomol Bl* 64(1):31-39, REF  
15 Jul 1968 421 EN833  
Insect biology, Insect taxonomy, *Xylosandrus germanus*, Zoogeography.

8644-69

**TAXONOMIC REMARKS ABOUT STAPHYLINIDAE. (GE)**

H Korge  
*Entomol Bl* 64(1):51-57  
15 Jul 1968 421 EN833  
Insect taxonomy, *Quedius*, Staphylinidae, Zoogeography.

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**PALEARCTIC SPECIES OF EGG PARASITES OF THE GENUS TELENOMUS HALIDAY (HYMENOPTERA, SCELIONIDAE, TELENOMINAE).**

M A Kozlov  
*Entomol Rev* 46(2 APR-JUN):215-224 REF  
1967 421 R322AE  
Hymenoptera, Insect biology, Insect eggs, Insect taxonomy, Palearctic Region, Parasites, Scelionidae, *Telenomus*, Zoogeography. Listing of 114 species. translated from Russian.

8646-69

**STUDIES OF THE MEXICAN DELTOCEPHALINAE II. SEVEN NEW SPECIES OF NORVELLINA (HOMOPTERA: CICADELLIDAE).**

J p Kramer D M DeLons  
*Ohio J Sci* 69(2):115-121  
Mar 1969 410 OH3  
Cicadellidae, Insect taxonomy, Surveys.

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**MORPHOLOGY AND RELATIONSHIPS OF THE PENTATOMOIDEA (HETEROPTERA). III. NATALICOLINAE AND SOME TESSARATOMIDAE OF UNCERTAIN POSITION.**

R Kumar  
*Entomol Soc Amer Ann* 62(4):681-695 REF  
Jul 1969 420 EN82  
Heteroptera, Insect names, Insect taxonomy.

**BIBLIOGRAPHY**

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**MICROCTONUS GLYPTOSCELI N. SP., A PARASITE OF GLYPTOSCELI PUBESCENS (F.) IN WISCONSIN (HYMENOPTERA: BRACONIDAE: EUPHORINAE AND COLEOPTERA: CHRYSOMELIDAE).**

C C Loan M G Klein H C Coppel  
*Entomol Soc Wash Proc* 71(2):230-233 REF  
Jun 1969 420 W27

Braconidae, Chrysomelidae, *Glyptoscelis pubescens*, Insect morphology, Insect physiology, Insect taxonomy, Larvae, *Microctonus glyptosceli*, Parasitic insects, Zoogeography.

8649-69

**NEOLAXTA MONTEITHI GEN. SP. N. FROM EASTERN AUSTRALIA (BLATTODEA: BLABERIDAE).**

M J Mackerras  
*Entomol Soc Australia (nsw) J* 7(2):143-146  
31 Dec 1968 423.92 EN84  
Blattidae, Insect taxonomy.

8650-69

**POLYPHAGIDAE (BLATTODEA) FROM EASTERN AUSTRALIA.**

M J Mackerras  
*Entomol Soc Australia (nsw) J* 7(2):147-154  
31 Dec 1968 423.92 EN84  
Blattidae, Insect taxonomy.

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**THE MAYFLY GENUS HEXAGENIA IN MEXICO (EPHEMEROPTERA: EPHEMERIDAE).**

W P McCafferty  
*Entomol Soc Wash Proc* 70(4):358-359  
Dec 1968 420 W27  
Ephemerae, *Hexagenia*, Insect taxonomy, Zoogeography.

8652-69

**NEW SOUTH AMERICAN GENERA AND SPECIES OF THE TRIBE BOTHYNOSTETHINI (HYMENOPTERA: SPHECIDAE; LARRINAE).**

A S Menke  
*Acta Zool Lilloana* 22:89-99  
1967 410 AC82  
Insect taxonomy, Sphecidae, Zoogeography.

8653-69

**THE GENERIC PLACEMENT OF ALLODAPE GRISFA ALFKEN (HYMENOPTERA: APOIDEA).**

C D Michener  
*Entomol Soc Australia (nsw) J* 7(2):142  
31 Dec 1968 423.92 EN84  
Apoidea, Insect taxonomy.

8654-69

**PHILONTHUS PARCUS SHARP (COLEOPTERA: STAPHYLINIDAE), A JAPANESE ROVE BEETLE ESTABLISHED IN AUSTRALIAN CAVES.**

B P Moore  
*Entomol Soc Australia (nsw) J* 7(2):163-164  
31 Dec 1968 423.92 EN84  
Cave fauna, Insect taxonomy, Staphylinidae.

8655-69

**NEW EXOPROSOPINAE FROM MEXICO AND CENTRAL AMERICA (DIPTERA: BOMBYLIIDAE).**

R H Painter E M Painter  
*Kans Entomol Soc J* 42(1):5-34  
Jan 1969 420 K13  
Bombyliidae, Insect taxonomy, Surveys.

8656-69

**THE ARADIDAE OF NEW ZEALAND (HEMIPTERA, HETEROPTERA). III. THE ARADINAE AND CALISHINAE.**

J G Pendergrast  
*Roy Soc New Zeal Trans Zool* 10(10):81-88 REF  
22 Jan 1968 514 W46TZ  
Aradidae, *Aradus australis*, *Calisia zealandicus*, Insect morphology, Insect taxonomy, Zoogeography.

*Aradus australis* Erichson is redescribed and the first New Zealand species of *Calisia* is described.

8657-69

**THE NATURAL FOCI OF HUMAN TRANSMISSIVE DISEASES.**

P A Petrishecheva  
*Entomol Rev* 47(2, APR-JUN):186-188  
Jun 1968 421 R322AE  
Human diseases, Insect evolution, Insect taxonomy, Insect vectors, Zoogeography. Russian journal-Entomologicheskoye Obozreniye, p. 317-321.

8658-69

**DESCRIPTIONS OF NEW NEOTROPICAL TABANIDAE AND NEW RECORDS FOR ARGENTINA.**

C B Philip  
*Acta Zool Lilloana* 22:105-132 REF  
1967 410 AC82  
Insect taxonomy, Tabanidae.

8659-69

**A REVISION OF THE GENUS CHLOROCNEMIS SELYS (ODONATA).**

E Pinhey  
*Southern Rhodes Nat Mus Occas Pap* 4(29B):209-260 REF  
10 Jan 1969 515 R342  
Insect ecology, Insect taxonomy, Odonata, Zoogeography.

8660-69

**THE TETTIGONIIDAE (ORTHOPTERA) OF OKLAHOMA.**

V N Powders W A Drew  
*Okla Acad Sci Proc* 47:87-98  
1968 500 OK42  
Insect taxonomy, Surveys, Tettigoniidae.

8661-69

**A NEW STENUS FROM SOUTHERN CHINA: STENUS (HYPOSTENUS) SHAOWUENSIS N. SP., INCLUDING SYNONYMY NOTES ON OTHER SPECIES (COLEOPTERA, STAPHYLINIDAE). 42. CONTRIBUTION TO THE KNOWLEDGE OF THE STENINAE. (GE)**

V Puthz  
*Entomol Bl* 64(1):43-46, REF  
15 Jul 1968 421 EN833  
Insect taxonomy, Staphylinidae, Steninae, *Stenus*, *Stenus shaowuensis*.

8662-69

**THE CAVERNICOLOUS STATUS OF SOME SPECIES OF MACROPATHINAE (ORTHOPTERA: RHAPHIDOPHORIDAE).**

A M Richards  
*Entomol Soc Australia (nsw) J* 7(2):87-89 REF  
31 Dec 1968 423.92 EN84  
Insect behavior, Insect taxonomy, Orthoptera.

The cavernicolous status of some of Macropathinae is discussed. All species studied so far are classified as troglaphiles. No troglonexic Macropathinae are known.

8663-69

**NEW RECORDS AND NEW SPECIES OF AUSTRALIAN MASARIDAE (HYMENOPTERA: VESPOIDEA).**

O W Richards  
*Entomol Soc Australia (nsw) J* 7(2):101-104  
31 Dec 1968 423.92 EN84  
Insect taxonomy, Vespidae.

8664-69

**A NEW FAMILY OF CADDIS-FLIES FROM AUSTRALIA (TRICHOPTERA: TASIMIIDAE).**

E F Rick  
*Entomol Soc Australia (nsw) J* 7(2):109-114  
31 Dec 1968 423.92 EN84  
Insect taxonomy, Trichoptera.

8665-69

**THE NEW GENUS FREGATIELLA (MALLOPHAGA: MENOPONIDAE) FOR MENOPON AURIFASCIATUM FROM THE FRIGATE-BIRD.**

S O Ryan R D Price



- Entomol Soc Amer Ann* 62(4):823-825  
Jul 1969 420 EN82  
Insect names, Insect taxonomy, Mallophaga, Menoponidae, Zoogeography.
- 8666-69**  
A REVIEW OF THE GENUS EIDMANNIELLA (MALLOPHAGA: MENOPONIDAE) FROM THE PELECANIFORMES.  
S O Ryan R D Price  
*Entomol Soc Amer Ann* 62(4):815-823 REF  
Jul 1969 420 EN82  
Birds, Insect names, Insect taxonomy, Mallophaga, Menoponidae.
- 8667-69**  
THE AQUATIC AND SEMIAQUATIC HEMIPTERA IN OKLAHOMA.  
K F Schaefer W A Drew  
*Okla Acad Sci Proc* 47:125-134  
1968 500 OK42  
Aquatic insects, Gerridae, Insect taxonomy, Nepidae, Notonectidae, Surveys.
- 8668-69**  
HEBRIDAE (HEMIPTERA) OF OKLAHOMA.  
K F Schaefer W A Drew  
*Southwest Natur* 12(4):487  
31 Dec 1967 409.6 SO8  
Hebridae, Insect taxonomy, Zoogeography.
- 8669-69**  
THE ASILINAE (DIPTERA, ASILIDAE) OF OKLAHOMA.  
K F Schaefer  
*Okla Acad Sci Proc* 47:114-124  
1968 500 OK42  
Asilidae, Insect taxonomy, Surveys.
- 8670-69**  
THE GENERA NEUROCYTA NAVAS AND PHRYGANOPSYCHE WIGGINS IN INDIA (TRICHOPTERA, PHRYGANEIDAE, AND PHRYGANOPSYCHIDAE). (FR)  
F Schmid  
*Natur Can* 95(3,MAY-JUN):723-726  
Jun 1968 410 N216  
Insect ecology, Insect taxonomy, Trichoptera. English abstract.
- 8671-69**  
OKLAHOMA LEAF BEETLES OF THE SUBFAMILIES DONACIINAE, CRIOCERINAE, CLYTRINAE, CHLAMISINAE, EUMOLPINAE, AND CHRYSOMELINAE (CHRYSOMELIDAE, COLEOPTERA).  
J H Shaddy W A Drew  
*Okla Acad Sci Proc* 47:139-153 REF  
1968 500 OK42  
Chrysomelidae, Insect taxonomy, Surveys.
- 8672-69**  
FURTHER STUDIES ON THE TARSONEMIDAE, II (ACARINA).  
R L Smiley  
*Entomol Soc Wash Proc* 71(2):218-229  
Jun 1969 420 W27  
Blueberries, Daidalotarsonemus jamesbakeri, Heterotarsonemus lindquisti, Insect ecology, Insect morphology, Insect taxonomy, Mites, Parasitic insects, Tarsonemidae, Tarsonemus adamsi, Tarsonemus confusus, Tarsonemus summersi.  
A new genus and four new species are described.
- 8673-69**  
THE GENUS CRATEROCERCUS ROHWER (HYMENOPTERA: TENTHREDINIDAE).  
D R Smith  
*Entomol Soc Wash Proc* 71(2):153-161 REF  
Jun 1969 420 W27  
Craterocercus, Insect ecology, Insect morphology, Insect taxonomy, Quercus, Tenthredinidae, Zoogeography.  
A new species, Craterocercus furcatus, is described.
- 8674-69**  
TWO NEW SPECIES OF IDAHO TRICHOPTERA WITH DISTRIBUTIONAL AND TAXONOMIC NOTES ON OTHER SPECIES.  
S D Smith  
*Kans Entomol Soc J* 42(1):46-53  
Jun 1969 420 K13  
Insect taxonomy, Trichoptera, Zoogeography.
- 8675-69**  
NOTES ON THE SYSTEMATICS AND DULOSIS OF SOME WESTERN SPECIES OF FORMICA, SUBGENUS RAPTIFORMICA (HYMENOPTERA: FORMICIDAE).  
R R Snelling  
*Entomol Soc Wash Proc* 71(2):194-197 REF  
Jun 1969 420 W27  
Formica, Hymenoptera, Insect ecology, Insect morphology, Insect taxonomy, Zoogeography.
- 8676-69**  
EPURAEA FUSSI REITTER EQUALS EPURAEA INTERJECTA SJOBERG SYN. NOV. (GE)  
K Spornraft  
*Entomol Bl* 64(1):40  
15 Jul 1968 421 EN833  
Epuraea angustula, Epuraea fussi, Insect taxonomy, Nitidulidae.
- 8677-69**  
CATALOG OF NEUROPTERA OF ARGENTINA AND URUGUAY. (SP)  
L A Stange  
*Acta Zool Lilloana* 22:5-87 REF  
1967 410 AC82  
Bibliography, Catalogs, Neuroptera, Zoogeography. English abstract.
- 8678-69**  
THE POSTABODOMEN OF CINDERELLA, WITH A NEW SPECIES FROM ARGENTINA (DIPTERA: HELEOMYZIDAE).  
G C Steyskal  
*Kans Entomol Soc J* 42(1):80-83  
Jan 1969 420 K13  
Heleomyzidae, Insect taxonomy, Zoogeography.
- 8679-69**  
SOME AFRICAN FULGOROIDEA IN THE UNITED STATES NATIONAL MUSEUM.  
H Synave  
*Entomol Soc Wash Proc* 71(2):174-190  
Jun 1969 420 W27  
Fulgoroidea, Homoptera, Insect morphology, Insect taxonomy, Zoogeography.  
Three new species are described: Capenopsis kramerii, Myndus liberianus, and Sabecoides ornatus.
- 8680-69**  
MALLOPHAGA FROM BIRDS OF THE ORIENTAL REGION. PART IX. STURNIDOECUS PHILIPPENSIS, N. SP. (ISCHNOCERA: PHILOPTERIDAE).  
B K Tandan P Kumar  
*Entomol Soc Wash Proc* 71(2):205-210 REF  
Jun 1969 420 W27  
Birds, Insect morphology, Insect taxonomy, Mallophaga, Parasitic insects, Philopteridae, Sturnidoecus philippensis, Zoogeography.
- 8681-69**  
OBSERVATIONS ON THE GENITAL STRUCTURES IN SEVERAL GENERA OF BRUCHIDAE (COLEOPTERA). (SP)  
A I Teran  
*Acta Zool Lilloana* 22:307-322  
1967 410 AC82  
Bruchidae, Insect taxonomy, Reproductive organs. English abstract.
- 8682-69**  
FIRST RECORD OF RHAGIO SCOLOPACEUS (LINNE) IN NORTH AMERICA (DIPTERA: RHAGIONIDAE).  
F C Thompson  
*Entomol Soc Wash Proc* 71(2):141-143  
Jun 1969 420 W27  
Diptera, Insect identification, Rhagio scolopaceus, Zoogeography.
- 8683-69**  
HISPINAE OF PERU, COLLECTED BY VON W. WEYRAUCH. (228. CONTRIBUTION TO THE KNOWLEDGE OF THE HISPINAE, COLEOPT., CHRYSOMELIDAE). (GE)  
E Uhmman  
*Acta Zool Lilloana* 22:101-104 REF  
1967 410 AC82  
Chrysomelidae, Hispinae, Insect taxonomy. Spanish abstract.
- 8684-69**  
PREVIOUSLY UNPUBLISHED NOCTURNALS OF MADAGASCAR. (LEP.). (FR)  
P Viette  
*Soc Entomol France Bull* 73(3/4,MAR-APR):77-83  
1968 420 F84B  
Amphipyridae, Insect identification, Insect taxonomy, Zoogeography. Descriptions of 1 new genus and 7 new species.
- 8685-69**  
SOME MIRIDS FROM CENTRAL SIBERIA (HETEROPTERA). (GE)  
E Wagner  
*Notulae Entomol* 49(1):31-36  
1969 421 N84  
Insect taxonomy, Miridae.
- 8686-69**  
SYSTEMATICS AND ACOUSTIC BEHAVIOR OF UNITED STATES CRICKETS OF THE GENUS OROCHARIS (ORTHOPTERA: GRYLIDAE).  
T J Walker  
*Entomol Soc Amer Ann* 62(4):752-762 MAP REF  
Jun 1969 420 EN82  
Gryllidae, Insect behavior, Insect taxonomy, Stridulation, Zoogeography.
- 8687-69**  
NEW SPECIES OF CHIRONOMIDS FROM COSTELLO LAKE, ONTARIO (DIPTERA: CHIRONOMIDAE).  
D W Webb  
*Kans Entomol Soc J* 42(1):91-108  
Jan 1969 420 K13  
Chironomidae, Insect taxonomy.
- 8688-69**  
NEW GENERA OF NEOTROPICAL EUMENIDAE (HYMENOPTERA). (SP)  
A Willink  
*Acta Zool Lilloana* 22:143-155  
1967 410 AC82  
Eumenidae, Insect taxonomy. English abstract.
- 8689-69**  
SEVEN NEW SPECIES AND RECORDS OF PHYTOSEID MITES FROM MISSOURI (ACARINA: PHYTOSEIIDAE).  
R E Zack  
*Kans Entomol Soc J* 42(1):68-80  
Jan 1969 420 K13  
Insect taxonomy, Phytoseiidae.
- 8690-69**  
TWO NEW CATOPIDAE GENERA FROM EUROPE (ANALYSIS OF THE NIGRITA GROUP IN THE GENUS CATOPS). (GE)  
P Zwick  
*Entomol Bl* 64(1):1-16, REF  
15 Jul 1968 421 EN833  
Apocatoxids, Catops, Fissoatoxids, Insect taxonomy, Leptodiridae.

## PHYSIOLOGY AND BIOCHEMISTRY

- 8691-69**  
WINTER CONTROL OF THE EUROPEAN RED MITE, PANONYCHUS ULMI, AND CERTAIN

**FRUIT INSECTS BY M-2060 (2-FLUOROETHYL(4-BIPHENYL)ACETATE) IN ITALY.**

P de Pietri-Tonelli V Corradini N Caracalli G Siddi

*J Econ Entomol* 62(1):107-112  
17 Feb 1969 421 J822

Aphis pomi, Aspidiotus perniciosus, Chemical control (insects), Climate, Dysaphis plantaginea, Fluoroethyl(4-biphenyl)acetate, 2-, Fruit, Insect eggs, Insect pests, Panonychus ulmi, Psylla piri.

**8692-69****MORTALITY, LONGEVITY, AND FECUNDITY OF SPIDER MITES ON COTTON TREATED WITH SYSTEMIC ACARICIDES.**

M K Abid R L Ridgway  
*J Econ Entomol* 62(1):13-16 REF  
17 Feb 1969 421 J822

Acaricides, Chemical control (pests), Cotton, Fertility, Longevity, Mortality, Seedlings, Tetranychus atlanticus, Tetranychus einnabarinus, Tetranychus tumidus, Tetranychus urticae.

**8693-69****RESPONSE OF FLYING BOLLWORM MOTHS AND OTHER TYMPANATE MOTHS TO PULSED ULTRASOUND.**

H F Agee  
*Entomol Soc Amer Ann* 62(4):801-807 REF  
Jul 1969 420 EN82

Heliothis zea, Insect behavior, Noctuidae, Ultrasonic waves.

**8694-69****THE NUCLEOPOLYHEDROSIS VIRUS OF HELIOTHIS: QUANTITATIVE IN VIVO ESTIMATES OF VIRULENCE.**

G E Allen C M Ignoffo  
*J Invertebrate Pathol* 13(3):378-381  
May 1969 421 J826

Biological assay, Deoxyribonucleic acid, Heliothis zea, Polyhedroses.

The LD-50 inclusion-body nucleopolyhedrosis virus dose for 8-day-old Heliothis zea larvae was 250 times that of 3-day old larvae. Less than a twofold difference was obtained when the dose was calculated as the number of inclusion bodies per milligram of body weight. An estimated 370-690 virions or 0.037-0.069 picograms (pg) of DNA per milligram of body weight were required to attain an LD-50 level.

**8695-69****ENTOMOPHTHORA AQUATICA SP. N. INFECTING LARVAE AND PUPAE OF FLOOD-WATER MOSQUITOES.**

J F Anderson S L Ringo  
*J Invertebrate Pathol* 13(3):386-393 REF  
May 1969 421 J826

Aedes canadensis, Biological control (insects), Culiceta morsitans, Entomogenous fungi, Entomophthora, Insect diseases, Larvae, Pupae.

**8696-69****PREDATORS PITTED AGAINST CEREAL LEAF BEETLE.**

Anonymous  
*Michigan Farmer* 251(2):4  
18 Jan 1969 6 M58

Biological control (insects), Chrysomelidae, Experimental insects, Insect control, Oulema melanopus, Predaceous insects.

**8697-69****SUPERFLIES BEAT DICHLORODIPHENYL-TRICHLOROETHANE.**

Anonymous  
*Sci News Lett* 94(21):520  
23 Nov 1968 470 SC124

Diptera, DDT, Insecticide resistant insects, Insecticides, Pest control, Research.

**8698-69****SCREWORM FLY UPSURGE.**

Anonymous  
*Sci News Lett* 94(21):520  
23 Nov 1968 470 SC124

Biological control (insects), Cattle, Cochliomyia hominivorax, Diptera, Injuries, Insect adaptation, Insect eggs, Sterility.

**8699-69****ALKALINE PHOSPHATASE IN THE DIGESTIVE SYSTEM OF THE DESERT LOCUST, SCHISTOCERCA GREGARIA (FORMSKAL).**

S H Ashrafi S N H Naqvi M A H Qadri  
*Ohio J Sci* 69(3):183-191 REF  
May 1969 410 OH3

Alkaline phosphatase, Enzymes, Gastrointestinal system, Insect biochemistry, Schistocerca gregaria.

**8700-69****NEUROMUSCULAR SYNAPSES IN THE COCKROACH EXTENSOR TIBIAE MUSCLE.**

H L Atwood T Smyth H S Johnston  
*J Insect Physiol* 15(4):529-535 REF  
Apr 1969 421 J825

Electrophysiology, Insect morphology, Insect physiology, Muscles, Nervous system, Periplaneta americana.

**8701-69****THE ASEXUAL CYCLE OF A FILARIAL (WORM), SAUROSIUS AGAMAE HAMONI N. SSP. (EUFILARIINAE) IN ANOPHELES STEPHENSI (FR)**

O Bain  
*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2439-2441 REF  
19 May 1969 505 P21

Anopheles stephensi, Asexual reproduction, Filariasis, Nematodes.

**8702-69****THE LEPIDOPTEROUS STALK BORERS OF RICE AND THEIR LIFE CYCLES IN THE TROPICS.**

S N Banerjee L M Pramanik  
*Baltimore, John Hopkins Press.* 103-124 REF  
1967 SB608.R559

Insect behavior, Insect pests, Larvae, Life cycle, Pupae, Pyralidae, Rice.

**8703-69****ANALYSIS OF THE STRUCTURE OF THE PORE DUCTS IN THE FAVORABLE CASE OFFERED BY THE TEGUMENT OF GALLERIA MELLONELLA NYMPHS. (FR)**

R Barbier  
*Acad Sci Compt Rend Ser D Sci Nat* 268(19, 1ST SEMESTER):2364-2367 REF  
12 May 1969 505 P21

Cuticle, Galleria mellonella, Insect morphology, Larvae.

**8704-69****THE ARTHROPOD CAVE FAUNA OF THE CARLSBAD CAVERNS REGION. NEW MEXICO.**

T C Barr J R Reddell  
*Southwest Natur* 12(3):253-274 MAP REF  
31 Oct 1967 409.6 SO8

Cave fauna, Ecology, Insect behavior.

All invertebrates thus far identified from Carlsbad Caverns and nearby caves, Eddy County, New Mexico, are arthropods. About 60 per cent of the species are apparently troglolithes two species are unquestionably troglolithic and 2 other species are possibly troglolithic. The caves are relatively dry and are situated in a semi-arid region, which probably accounts for the poor troglolithic fauna and high percentage of troglolithes. Many of the species are guanohites.

**8705-69****NUCLEIC ACID SYNTHESIS IN NURSE CELLS OF RHYNOSCIARA ANGELAE NONATO AND PAVAN, 1951.**

R Basile  
*Genet Soc Amer Rec* 61(1,PT 2,SUPPL):261-273 REF  
1969 442.9 G28

autoradiography, Development, Insect eggs, Nucleic acids, Rhynchosciara, Synthesis.

**8706-69****PRELIMINARY OBSERVATIONS OF ALPINE GRASSHOPPERS IN A HABITAT MODIFIED BY DEER AND CHAMOIS.**

C L Batcheler  
*New Zeal Ecol Soc Proc* (14):15-26 MAP REF  
Aug 1967 501 N48

Acerididae, Insect adaptation, Insect ecology, Population, Seasonal variation.

**8707-69****EFFECT OF SUBSTRATE TYPES ON AQUATIC INSECT DISTRIBUTION.**

H L Bell  
*Minn Acad Sci J* 35(2-3):79-81  
1969 500 M663

Aquatic insects, Population, Soil series, Streams, Zoogeography.

The substrate preferences of aquatic insects in the Lester River, Minn. were analyzed through regular measurement of the standing crop. Most insects preferred a rubble substrate, then coarse gravel, hydrock, and coarse sand respectively.

**8708-69****MIXTURES OF DICHLORVOS, PYRETHRINS AND DIMETHRIN IN AEROSOLS FOR CONTROLLING HOUSEFLIES.**

I V Bessonova F I Vashkov Y P Volkov Y B Zhuk V M Tsetlin  
*Int Pest Contr* 11(2,MAR-APR):16-18  
Mar 1969 79.8 P432

Dichlorvos, Dimethrin, Insect control, Insecticides, Insects, Musca domestica, Pyrethrum.

**8709-69****VARIATION IN BEHAVIOR AMONG OBLIGATE ACACIA-ANTS FROM THE SAME COLONY (PSEUDOMYRMEX NIGROCINCTA).**

M L Beulig D H Janzen  
*Kans Entomol Soc J* 42(1):58-67  
Jan 1969 420 K13

Acacia, Formicidae, Insect behavior, Population, Pseudomyrmex.

Movements of Pseudomyrmex nigrocincta were traced and compared on greenhouse plants of Acacia collinsii. Differences were noted among four ants in respect to total activity, area traveled, response to alarm, foraging, and frequency of encounters with other ants. Ant traffic was recorded over an 18-hour period past three points on the acacia trunk and found to vary in rate with time of day. Changes in ant density were recorded in one area over the same period.

**8710-69****OCCULT VIRUSES IN INSECTS. (ABSTRACT).**

F T Bird  
*Fed Amer Soc Exp Biol Fed Proc* 27(2):261  
Mar 1968 442.9 F31P

Insect diseases, Larvae, Metamorphosis, Viruses.

**8711-69****THE SUBCOXA OF THE APHID HIND LEG (HOMOPTERA: APHIDIDAE).**

T L Bissell  
*Entomol Soc Wash Proc* 71(2):133-140  
Jun 1969 420 W27

Aphididae, Homoptera, Insect anatomy, Insect morphology, Legs.

**8712-69****BIOLOGY AND PHENOLOGY OF THE GRASSHOPPER DOCIOSTAURUS CURVICER CUS IN ISRAEL.**

S A Blondheim A Shulov  
*Entomol Soc Amer Ann* 62(4):881-885  
Jul 1969 420 EN82

Acerididae, Insect biology, Insect ecology, Weather

**8713-69****NATURALLY OCCURRING LOW-MOLECULAR-WEIGHT PEPTIDES FROM THE BLOWFLY PHORMIA REGINA.**

R P Bodnaryk L Levenhook  
*Biochem J* 110(4):771-773 REF  
Dec 1968 382 B52

- Larvae, Molecular weight, Peptides, Phormia regina.
- 8714-69**  
**ASYNCHRONOUS OVARIAN DEVELOPMENT IN THE HOUSEFLY, MUSCA DOMESTICA L. (DIPTERA: MUSCIDAE), CAUSED BY DIETARY GAMMA-AMINOBUTYRIC ACID (GABA).**  
 R P Bodnaryk P E Morrison  
*Compar Biochem Physiol* 24(2):573-579 REF  
 Feb 1968 444.8 C73  
 Amino acids, Development, Insect nutrition, Insect physiology, Musca domestica, Ovaries, Stimulants.
- 8715-69**  
**FEEDING RESPONSES BY HYLURGOPINUS RUFIPES TO COMBINED CHEMICAL AND PHYSICAL STIMULI.**  
 T K Borg D. M. Norris  
*Entomol Soc Amer Ann* 62(4):730-733  
 Jul 1969 420 EN82  
 Attractants, Feeding, Hylurgopinus rufipes, Insect behavior, Insect nutrition, Stimuli.
- 8716-69**  
**A NEW RECORD FOR A PARASITE OF THE ALFALFA WEEVIL IN EASTERN UNITED STATES, ERIPLANUS MICATOR (GRAVENHORST) (HYMENOPTERA: ICHNEUMONIDAE).**  
 L W Boulanger  
*Entomol Soc Wash Proc* 71(2):149-150  
 Jun 1969 420 W27  
 Biological control (insects), Curculionidae, Eriplanus micator, Hypera postica, Ichneumonidae, Insect pests, Itoplectis conquisitor, Parasitic insects, Pupae, Zoogeography.
- 8717-69**  
**THE ADAPTATION OF AQUATIC LIFE OF THE LARVAE OF MUANSA CLYPEALIS (HOMOPTERA, CICADIDAE). (FR)**  
 M Boulard  
*Acad Sci Compt Rend Ser D Sci Nat* 268(21, 1ST SEMESTER):2602-2604  
 28 May 1969 505 P21  
 Aquatic insects, Cicadidae, Insect adaptation, Insect behavior, Insect respiration, Larvae.
- 8718-69**  
**FEEDING BEHAVIOR OF LARVAE OF THE WESTERN CORN ROOTWORM: NORMAL LARVAE AND LARVAE MAXILLECTOMIZED WITH LASER RADIATION.**  
 T.e Branson E E Ortmann  
*Entomol Soc Amer Ann* 62(4):808-812 REF  
 Jul 1969 420 EN82  
 Chemoreceptors, Diabrotica virgifera, Food habits, Insect behavior, Larvae, Mouth parts.
- 8719-69**  
**THE MATURATION OF THE OOCYTES IN THE ISOLATED ABDOMEN OF LEUCOPHAEA MADERAE.**  
 V J Brookes  
*J Insect Physiol* 15(4):621-631 REF  
 Apr 1969 421 J825  
 Corpora allata, Development, Leucophaea maderae, Oogenesis, Tissue culture, Tissue grafting.
- 8720-69**  
**CYCLOHEXIMIDE, AMINO ACID INCORPORATION AND LEARNING IN THE ISOLATED COCKROACH GANGLION.**  
 B M Brown E P Noble  
*Biochem Pharmacol* 17(11):2371-2374 REF  
 Nov 1968 396.8 B52  
 Amino acids, Blattidae, Cycloheximide, Ganglion cells, Periplaneta americana.
- 8721-69**  
**FIELD OBSERVATIONS ON THE PALES WEEVIL, HYLOBIUS PALES, IN THE SOUTH CAROLINA PIEDMONT.**  
 A T Bullard R C Fox  
*Entomol Soc Amer Ann* 62(4):722-723  
 Jul 1969 420 EN82  
 Hylobius pales, Insect biology, Insect migration.
- 8722-69**  
**AN APPRAISAL OF HIGH, MEDIUM AND LOW VOLUME METHODS OF SPRAY APPLICATION.**  
 J B Byass  
*Int Pest Contr* 11(2,MAR-APR):19-27  
 Mar 1969 79.8 P432  
 Chemical control (insects), Chemicals, Crop yields, Pesticide residues, Spraying.
- 8723-69**  
**STUDY OF DIFFERENT TYPES OF ACTIVITIES RECORDED WITH CAPILLARY MICROELECTRODES IN THE LAST ABDOMINAL GANGLION TO THE COCKROACH, PERIPLANETA AMERICANA L. (FR)**  
 J Callec J Boistel  
*Paris Soc Biol Compt Rend* 160(10):1943-1947 REF  
 20 Feb 1967 442.9 P21  
 Electrophysiology, Insect physiology, Nervous system, Periplaneta americana.
- 8724-69**  
**CYTOCHEMICAL STUDIES ON A COCCIDIAN, CHAGASELLA GANAPATHI FROM A TERMITE, ODONTOTERMES OBESUS (RAMBUR).**  
 P N Canapati C Kalavati  
*Arch Protisten Kunde* 111(1):82-86  
 1968 439.8 AR2  
 Carbohydrates, Chagasella ganapatii, Chemistry, Cytology, Lipids, Odontotermes obesus, Parasitism, Proteins, Research.
- 8725-69**  
**ENDOTOXINS FROM SEVERAL BACTERIAL SPECIES AS IMMUNIZING AGENTS AGAINST PSEUDOMONAS AERUGINOSA IN GALLERIA MELLONELLA.**  
 J S Chadwick E Vilik  
*J Invertebrate Pathol* 13(3):410-415 REF  
 May 1969 421 J826  
 Endotoxins, Entomogenous bacteria, Galleria mellonella, Immunization, Insect physiology, Pseudomonas aeruginosa.
- 8726-69**  
**INTEGUMENTAL ABSORPTION VERSUS ORAL INGESTION OF PHOSPHATE AND OTHER MATERIALS BY COMMON CATTLE GRUBS HELD IN VITRO.**  
 W F Chamberlain C C Barrett O Graham  
*Entomol Soc Amer Ann* 62(4):843-846  
 Jul 1969 420 EN82  
 Cuticle, Hypoderma lineatum, Insect physiology, Mouth, Phosphates, Radioactive isotopes.  
 The intake of P32-labeled phosphate differed markedly in the 3 instars of larvae of Hypoderma lineatum (de Villers) (Diptera: Oestridae) during in vitro laboratory tests. Apparently the 1st-stage larvae absorbed all phosphate through the integument and the 2nd-stage larvae used both the percutaneous and oral routes, and the 3rd-stage larvae used the oral route exclusively.
- 8727-69**  
**A LIGHT MULL FOR STUDIES WITH THE MEXICAN FRUIT FLY.**  
 D L Chambers T B O'Connell  
*Entomol Soc Amer Ann* 62(4):917-920  
 Jul 1969 420 EN82  
 Anastrepha ludens, Flight activity, Insect flight, Insect rearing equipment, Sex behavior.
- 8728-69**  
**THE DEVELOPMENT AND LARVAL BEHAVIOR OF STIGMELLA MALELLA STANTON. (LEP. STIGMELLIDAE). (FR)**  
 J-P Chambon  
*Soc Entomol France Bull* 73(3/4,MAR-APR):51-58  
 1968 420 F84B  
 Apples, Insect behavior, Insect eggs, Insect morphology, Insect pests, Larvae, Plant hosts, Stigmella malella, Stigmellidae.
- 8729-69**  
**FREE AND PEPTIDE-BOUND AMINO ACIDS DURING THE LARVAL AND PUPAL STAGES OF THE YELLOW-FEVER MOSQUITO, Aedes Aegypti.**  
 R L Chaput J N Liles  
*Entomol Soc Amer Ann* 62(4):742-747 REF  
 Jul 1969 420 EN82  
 Aedes aegypti, Amino acids, Insect biochemistry, Larvae, Pupae.
- 8730-69**  
**THE PRODUCTION OF CUTICLE WAX BY ENGORGED FEMALES OF THE CATTLE TICK, BOOPHILUS MICROPLUS (CANESTRINI).**  
 I. M Cherry  
*J Exp Biol* 50(3):705-709 REF  
 Jun 1969 442.8 B77  
 Boophilus microplus, Cuticle, Insect physiology, Oogenesis, Oviposition.
- 8731-69**  
**RESISTANCE TO TELODRIN IN THE GERMAN COCKROACH, BLATTELLA GERMANICA.**  
 D G Cochran M H Ross  
*J Sci Food Agr* 15(12):II-294-2  
 Dec 1964 382 SO12  
 Blattella germanica, Chlordane, Dieldrin, DDT, Insecticide resistant insects, Telodrin.
- 8732-69**  
**CORN STUNT VECTOR LEAFHOPPER ATTRACTANCY TO AND OVIPOSITION PREFERENCE FOR HYBRID DENT CORN. I. DALBULUS MAIDIS.**  
 H L Collins H N Pitre  
*Entomol Soc Amer Ann* 62(4):770-772 REF  
 Jul 1969 420 EN82  
 Corn, Crop varieties, Dalbulus maidis, Insect vectors, Oviposition, Plant disease resistance, Stunt, Virus diseases (plants).  
 Results from a series of attractancy and oviposition tests conducted in a field cage in which Dalbulus maidis (DeLong Wolcott) (Homoptera: Cicadellidae) was given free choice of corn hybrids indicated that this predator of corn stunt virus apparently does not prefer corn-stunt-susceptible hybrids over hybrids exhibiting resistance.
- 8733-69**  
**ESTERASES AND PHOSPHATASES IN THE GASTRIC SECRETION OF THE COCKROACH, PERIPLANETA AMERICANA.**  
 B J Cook D R Nelson P Hipps  
*J Insect Physiol* 15(4):581-589 REF  
 Apr 1969 421 J825  
 Electrophoresis, Esterases, Gastrointestinal system, Insect biochemistry, Insect physiology, Periplaneta americana, Phosphatases.
- 8734-69**  
**NERVE-BLOCKING EFFECT OF BACILLUS THURINGIENSIS PROTEIN TOXIN.**  
 K E Cooksey C Donninger J R Norris D Shankland  
*J Invertebrate Pathol* 13(3):461-462  
 May 1969 421 J826  
 Bacillus thuringiensis, Insect physiology, Nervous system, Proteins, Toxicology, Toxins.
- 8735-69**  
**LIVING DOORS.**  
 W S Creighton  
*Natur Hist* 76(10):71-73  
 Dec 1967 500 N483J  
 Blattidae, Camponotus, Cryptocerus, Insect behavior, Insect biology, Insect protective devices.
- 8736-69**  
**ANOMALOUS DIMORPHISM IN Aedes VEXANS.**  
 E W Cupp H W Fowler  
*Entomol Soc Amer Ann* 62(4):914-917 REF  
 Jul 1969 420 EN82  
 Aedes vexans, Insect genetics, Insect morphology, Polymorphism, Temperature.

8737-69

8737-69

WETANEMA HULA N. GEN. ET SP., A NEMATODE FROM THE WETA HEMIIDEINA THORACICA (WHITE).

P S Dale

*New Zealand J Sci* 10(2):402-406

Jun 1967 514 N482

Insect diseases, Nematodes, Orthoptera, Taxonomy.

The new genus *Wetanema* is erected within the Thelastomatidae to accommodate a new species of nematode *W. hula*, from the intestine of the large-headed weta, *Hemideina thoracica* (Orthoptera; Stenopelmaticidae). *W. hula* is the first thelastomatid nematode to be recorded of the superfamily Tettgonoidea. It is sometimes accompanied, within the host, by male nematodes of the genus *Cephalobelus*.

8738-69

BIOLOGY OF MELICHARES TARSALIS IN ASSOCIATION WITH PLODIA INTERPUNCTELLA.

P H Darst E W King

*Entomol Soc Amer Ann* 62(4):747-749

Jul 1969 420 EN82

Insect behavior, Insect biology, Melichares, Oviposition, *Plodia interpunctella*, Sex behavior.

8739-69

MARKING ADULT BOLL WEEVILS WITH DYES FED IN A COTTONSEED OIL BAIT.

R J Daum R T Gast T B Davich

*J Econ Entomol* 62(4):943-944

15 Aug 1969 421 J822

*Anthonomus grandis*, Baits, Cottonseed oil, Dyes, Imago, Insect biochemistry, Labeling.

8740-69

HOW DIFFERENT ARE THE EASTERN AND WESTERN FORMS OF THE ALFALFA WEEVIL.

D W Davis

*Utah Acad Sci Arts Lett Proc* 44(1):353-357

1967 500 UT1

*Hypera postica*, Insect adaptation, Insect behavior, Insect taxonomy, Zoogeography.

8741-69

GLUTAMIC ACID REQUIREMENTS OF THE SAW-TOOTHED GRAIN BEETLE, *ORYZAEPHILUS SURINAMENSIS* (L.) (COLEOPTERA, SILVANIDAE).

G R F Davis

*Compar Biochem Physiol* 24(2):395-401 REF

Feh 1968 444.8 C73

Aspartic acid, Cytosine, Glutamic acid, Guanine, Insect nutrition, Insect physiology, *Oryzaephilus surinamensis*, Putrescine.

8742-69

HUMORAL AND NERVOUS PATHWAYS IN PHOTOPERIODIC INDUCTION OF DIAPAUSE IN LEPTINOTARSA DECEMLINEATA.

J De Wilde J A De Boer

*J Insect Physiol* 15(4):661-675 REF

Apr 1969 421 J825

Hemolymph, Insect physiology, *Leptinotarsa decemlineata*, Nervous system, Photoperiodism.

8743-69

EFFECT OF DDT ON INCORPORATION OF C14-LABELED GLUCOSE INTO PROTEIN AND SOLUBLE INTERMEDIATES OF NYMPHAL TRIATOMA INFESTANS.

E Del Villar D Mosnaim

*Exp Parasitol* 21(2):186-194 REF

Oct 1967 436.8 EX7

Amino acids, Carbon isotopes, DDT, Glucose, Insect metabolism, Insecticide resistant insects, Insecticides, Nymphs, Proline, Proteins, Radioactive tracers, *Triatoma infestans*, Tricarboxylic acid cycle.

Abstract: Third and fourth instar larvae differ in their tolerance to DDT, the latter being more resistant to the insecticide. The labeling pattern of

protein amino acids indicates the presence of an active Krebs cycle in these insects which is apparently inhibited by DDT only in third instar larvae.

8744-69

REARING PHRYXE CAUDATA ROND. (LARVAEVOGIRIDAE), A PARASITE OF THAUMETOPOAEA PYTOCAMPA SCHIFF, ON AN ALTERNATE HOST: GALLERIA MELLONELLA. (FR)

B Delobel P Laviolette

*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2436-2438

19 May 1969 505 P21

*Galleria mellonella*, Insect biology, Insect rearing, Parasitic insects, Tachinidae.

8745-69

NUCLEIC ACID IN INTACT NUCLEAR POLYHEDRAL BODIES ISOLATED FROM VIRUS-INFECTED FALL ARMYWORM, SPODOPTERA FRUGIPERDA.

E M Dougherty R M Faust

*J Invertebrate Pathol* 13(3):459-460

May 1969 421 J826

Biochemistry, Deoxyrihonoucleic acid, Polyhedroses, Rihonoucleic acid, Spodoptera frugiperda.

8746-69

THE EXISTENCE OF TWO OPTIONAL DIAPAUSES IN THE BIOLOGICAL CYCLE OF VILLA BRUNNEA BECK. (DIPT., BOMBYLIIDAE). (FR)

P Du Merle

*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2433-2435

19 May 1969 505 P21

Bombyliidae, Insect biology, Insect physiology, Life cycle, Metamorphosis, Villa.

8747-69

A NEW SPECIES OF THE GENUS PEGOSOMUM RATZ, 1903 (TREMATODA: ECHINOSTOMATIDAE).

M P Dwivedi

*Natur Appl Sci Bul* 20(3, JUL-SEP):259-265

Jul 1967 475 P532

Birds, Parasitism, Trematoda.

8748-69

CHARACTERS FOR DETERMINING SEX OF PUPAE OF THE OAKWORMS ANISOTA SENATORIA, A. STIGMA, AND A. VIRGINIENSIS, AND THE YELLOW-NECKED CATERPILLAR, DATANA MINISTRA.

F T Ehrlich R T Franklin R N Coulson

*Entomol Soc Amer Ann* 62(4):931-932

Jul 1969 420 EN82

Anisota, *Anisota senatoria*, *Datana ministra*, Insect identification, Insect morphology, Pupae.

8749-69

LIFE ON THE STICKY SUNDEW.

T Eisner

*Natur Hist* 76(6, JUN-JUL):32-35

Jul 1967 500 N483J

Insect behavior, Insect biology, Pterophoridae.

8750-69

FEMALE SPECIFIC PROTEIN: BIOSYNTHESIS CONTROLLED BY CORPUS ALLATUM IN LEUCOPHAEA MADERAE.

F Engelmann

*Science* 165(3891):407-409 REF

25 Jul 1969 470 SCI2

Insect eggs, *Leucophaea maderae*, Proteins, Reproduction.

8751-69

LANNATE - A NEW INSECTICIDE FOR THE CONTROL OF THE GIANT LOOPER AND OTHER PESTS.

D E Evans

*Planters Chron* 63(20):381-382

15 Oct 1968 22 P693

Accident prevention, Chemical control (insects), Coffee, Insect pests, Insecticides, Leaf miners, Methyl N-(methylcarbomyl)oxythioacetimidate, S-, Tingidae.

8752-69

THE NATURAL CONTROL OF THE APPLE-GRASS APHID, RHOPALOSIPHUM INSERTUM, WITH REMARKS ON THE CONTROL OF APPLE APHIDS IN THE NETHERLANDS IN GENERAL.

H H Evenhuis

*Neth J Plant Pathol* 74(4):106-117 REF

1968 464.8 T44

Aphididae, Apples, Biological control (insects), Hyperparasitism, Insect biology, Insect pests, Insect physiology, Monotonus, Parasitic insects, Population, Predaceous insects, *Rhopalosiphum insertum*, Weather, Zoogeography. Dutch summary.

8753-69

DISTRIBUTION AND EMERGENCE PATTERNS OF MAYFLIES EPHEMERA SIMULANS (EPHEMEROPTERA: EPHEMERIDAE).

C R Fremling G P Kloock

*Mim Acad Sci J* 35(2-3):102-103 MAP

1969 500 M663

*Ephemera simulans*, Insect emergence, Surveys, Zoogeography.

8754-69

THE FINE STRUCTURE OF BABESIA OVIS (PIROPLASMIDEA) IN RHIPICEPHALUS BURSA (IXODOIDEA): TRANSFORMATION OF SPHERICAL FORMS TO VERMICULES. (GE)

K Friedhoff E Scholtyscek

*Z Parasitenk* 30(4):347-359 REF

26 Jul 1968 442.8 Z33F

Animal physiology, *Bahesia ovis*, Biology, Insect vectors, Ixodidae, Ixodides, Morphology, Nematodes, Ovaries, Parasitism, Piroplasmosis, *Rhipicephalus bursa*. English summary.

8755-69

SEXUAL DIFFERENCE IN THE ACTIVITY OF PARS INTERCEREBRALIS-CORPUS CARDIACUM-CORPUS ALLATUM SYSTEM OF BOMBYX MORI. (FR)

S Fukuda S Takeuchi

*Paris Soc Biol Compt Rend* 161(5):1174-1177

25 Nov 1967 442.9 P21

*Bombyx mori*, Brain, Corpora allata, Corpora cardiaca, Endocrine glands, Insect physiology, Sex.

8756-69

THE ACTION OF ACTINOMYCIN D ON THE PIGMENTATION OF ALBINO MUTANTS OF THE LOCUST LOCUSTA MIGRATORIA CINERASCENS L. (ORTHOPTERA). (FR)

S Fuzeau-Braesch

*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2479-2482

19 May 1969 505 P21

Actinomycin D; Insect mutation, Insect physiology, *Locusta migratoria*, Pigments (insect).

8757-69

THE ACTION OF TEPA ON THE ADULTS OF DACUS OLEAE GMEL. (DIPTERA: TEPHRITIDAE) AS A FUNCTION OF THE QUANTITY OF THE CHEMOSTERILANT USED. (FR)

E Fytizas

*Inst Phyto Pathol Benaki Ann* 8(1):32-46 REF

1967 464.9 AT4

Biological control (insects), Chemical control (insects), Chemosterilants, *Cochliomyia hominivorax*, *Dacus oleae*, Dosage, Experimental insects, Insect genetics, Mortality, Tapa, Tephritidae, Toxicity.

8758-69

NODE OF ENTRY OF CONTACT INSECTICIDES.

P Gerolt

*J Insect Physiol* 15(4):563-580 REF

Apr 1969 421 J825

- Autoradiography, Cuticle, Dieldrin, Insect physiology, Insecticides, Nervous system, Toxicology, Trachea.
- 8759-69**  
**THE EXISTENCE OF LYSOSOMIC INCLUSIONS IN THE ADIPOSE CELLS OF PERIPLANETA AMERICANA (BLATTIDAE).** (FR)  
 I D Gharagozlu  
*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2455-2457 REF  
 19 May 1969 505 P21  
 Cytology, Fat body, Lysosomes, Periplaneta americana.
- 8760-69**  
**MORPHOLOGY AND DEVELOPMENT OF AN OCCULRED VIRUS FROM THE BLACK-SOIL SCARAB, OTHONIUS BATESI.**  
 R H Goodwin B K Filshic  
*J Invertebrate Pathol* 13(3):317-329 REF  
 May 1969 421 J826  
 Electron microscopy, Physiology, Scarabaeidae.  
 Particles of a virus occluded in spheroidal protein crystals, similar to those of Vagoivirus melolonthae of Melolontha melolontha, have been found in Othonius batesi (scarabaeidae: Melolonthinae) collected from Glenn Innes, New South Wales, Australia. Macroscopic and microscopic disease signs were noted. The structure of virus particles within protein crystals has been studied by electron microscopy. A developmental cycle for the virus is proposed, based on observations of thin sections of fat body taken from living diseased specimens. It is proposed that viruses of this type should be called pheroidosis virus.
- 8761-69**  
**AN ARTIFICIAL DIET FOR THE ADULT JAPANESE BEETLE.**  
 H F Goonewardene J E McKay  
*J Econ Entomol* 62(4):964  
 15 Aug 1969 421 J822  
 Imagos, Insect nutrition, Ovulation, Popillia japonica.
- 8762-69**  
**OCCURRENCE OF AN ALKALINE PHOSPHOMONDESTERASE ASSOCIATED WITH THE BROCHOSOMES IN THE MALPIGHIAN TUBULES OF CICADELLA VIRIDIS LIN. (HOMOPTERA).** (FR)  
 J Gouranton  
*Paris Soc Biol Compt Rend* 161(4):907-909  
 24 Oct 1967 442.9 P21  
 Cicadellidae, Insect biochemistry, Malpighian tubes, Phosphatases.
- 8763-69**  
**ON THE PRODUCTION OF LIPOPROTEIC CORPUSCULES BY THE MALPIGHIAN TUBES IN SOME INSECTS.** (FR)  
 J Gouranton P L Maillat  
*Paris Soc Biol Compt Rend* 160(8-9):1724-1726 REF  
 04 Feb 1967 442.9 P21  
 Cicadellidae, Electron microscopy, Insect physiology, Lipoproteins, Malpighian tubes, Membracidae.
- 8764-69**  
**TOXICITY OF OUABAIN (G-STROPHANTHIN) TO ADULT HOUSE FLIES.**  
 A Grasso G Majori  
*J Econ Entomol* 62(4):944-945  
 15 Aug 1969 421 J822  
 Glycosides, Imagos, Mortality, Musca domestica, Ouahain.
- 8765-69**  
**BIOASSAY, PRELIMINARY PURIFICATION, AND EFFECT OF AGE, CROWDING, AND MATING ON THE RELEASE OF SEX PHEROMONE BY FEMALE TENEBRIO MOLITOR.**  
 G M Happ J Wheeler  
*Entomol Soc Amer Ann* 62(4):846-851  
 Jul 1969 420 EN82  
 Aging, Biological assay, Insect behavior, Insect biochemistry, Insect physiology, Pheromones, Sex behavior, Tenebrio molitor.
- 8766-69**  
**DISPERSION OF RELEASED WHITE-PINE WEEVILS IN INTRASTAND GROWTH TYPES.**  
 D M Harman H M Kulman  
*Entomol Soc Amer Ann* 62(4):835-838  
 Jul 1969 420 EN82  
 Insect dissemination, Insect ecology, Pinus, Pisodes strobi, Soil-plant-animal relations.  
 Differences in rate of occurrence of released Pisodes strobi were manifest between bare soil, partial competition, and heavy shade cover types in a white pine plantation. Statistical analysis inferred that weevil occurrence was greatest in the partial competition cover type, followed in descending order by bare soil and heavy shade cover types.
- 8767-69**  
**SEED-CORN MAGGOT RESISTANCE TO ALDRIN IN ILLINOIS.**  
 C R Harris  
*J Econ Entomol* 62(4):957-958  
 15 Aug 1969 421 J822  
 Aldrin, Carhofuran, Chlordane, Chlorinated hydrocarbons, Diazinon, Dieldrin, Disulfoton, DDT, Hylemya platura, Insecticide resistant insects, Lindane, Organophosphorus compounds, Phorate, Several experimental organophosphorus insecticides were included in the tests.
- 8768-69**  
**USE OF A GENETICALLY MARKED STRAIN TO EVALUATE THE RETENTION OF MARKING DYES BY RELEASED SCREW-WORM FLIES.**  
 B G Hightower C C Dawkins  
*J Econ Entomol* 62(4):966-967  
 15 Aug 1969 421 J822  
 Cochliomyia hominivorax, Dyes, Fluorescent dyes, Insect genetics, Labeling.
- 8769-69**  
**STRIDULATORY FILES AS DIFFRACTION GRATINGS IN MUTILLID WASPS.**  
 H E Hinton D F Gibbs R Silberglied  
*J Insect Physiol* 15(4):549-552  
 Apr 1969 421 J825  
 Insect morphology, Insect physiology, Light, Mutillidae, Stridulation.
- 8770-69**  
**LABORATORY REARING OF SPALANGIA NIGROAENEA (HYMENOPTERA: PTEROMALIDAE).**  
 C E Hoelscher R L Combs  
*Fla Entomol* 55(2):103-105  
 May 1969 420 F662  
 Biological control (insects), Diptera, Insect rearing, Methodology, Pteromalidae.  
 A laboratory colony of Spalangia nigroaenea Curtis has been established to rear parasitoids in larger numbers than can be field collected. Sufficient parasitoids are being produced for various biological studies. This rearing procedure could be employed for studying other related species, or with modifications could be the basis for developing a biological control technique for various pest species of Diptera.
- 8771-69**  
**THE ACTION OF THE ENDOCRINE SYSTEM AND THE OVARY ON THE HEMOGRAM OF LOCUSTA MIGRATORIA L. (ORTHOPTERA).** (FR)  
 J A Hoffman M Perolini  
*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2469-2471  
 19 May 1969 505 P21  
 Endocrine glands, Glands (insects), Hemograms, Insect physiology, Locusta migratoria, Ovaries.
- 8772-69**  
**LIFE HISTORY OF THE BOLL WEEVIL IN FIELD CAGES.**  
 A R Hopkins H M Taft W James  
*J Econ Entomol* 62(4):964-965  
 15 Aug 1969 421 J822  
 Anthonomus grandis, Cotton, Hibernation, Insect behavior, Insect biology, Insect physiology.
- 8773-69**  
**CYTOPATHOLOGY OF A NUCLEOPOLYHEDROSIS OF THE BEET ARMYWORM, SPODOPTERA EXIGUA.**  
 D K Hunter I M Hall  
*J Invertebrate Pathol* 12(1):93-97  
 Oct 1968 421 J826  
 Cell nucleus, Cells, Cytopathology, Electron microscopy, Fat body, Larvae, Noctuidae, Nuclear polyhedrosis virus, Spodoptera exigua, Tissue culture, Virus diseases (insects).
- 8774-69**  
**PATHOGENICITY OF A NUCLEAR-POLYHEDROSIS VIRUS OF THE BEET ARMYWORM, SPODOPTERA EXIGUA.**  
 D K Hunter I M Hall  
*J Invertebrate Pathol* 12(1):83-85  
 Oct 1968 421 J826  
 Biochemistry, Biological assay, Diet, Dosage, Experimental insects, Larvae, Noctuidae, Nuclear polyhedrosis virus, Spodoptera exigua, Tables (data), Virus diseases (insects).
- 8775-69**  
**TIME REQUIRED FOR DEVELOPMENT OF VORIA RURALIS AND ITS HOST, THE CABBAGE LOOPER, AT DIFFERENT TEMPERATURES.**  
 C G Jackson G D Butler D E Bryan  
*J Econ Entomol* 62(1):69-70  
 17 Feb 1969 421 J822  
 Experimental insects, Insect morphology, Insect physiology, Temperature, Time, Trichoplusia ni, Vorina ruralis.
- 8776-69**  
**PHYTOPHAGOUS GROUND BEETLES.**  
 N E Johnson R S Cameron  
*Entomol Soc Amer Ann* 62(4):909-914 REF  
 Jul 1969 420 EN82  
 Carabidae, Food habits, Insect behavior, Phytophagous insects, Surveys.  
 This paper attempts to put in proper perspective the long-known but often overlooked phytophagous nature of many Carabidae (Coleoptera). More than 150 species are known to use vegetable matter as food in varying degrees, with some species using it almost exclusively. Included are laboratory and field observations on the feeding behavior of 14 species of carabids found on golf courses in New York State.
- 8777-69**  
**HYDROCARBON METABOLISM IN INSECTS: OXIDATION OF HEXADECANE-1-C14 IN THE BOLL WEEVIL AND THE HOUSE FLY.**  
 R L Joiner E N Lambremont  
*Entomol Soc Amer Ann* 62(4):891-894 REF  
 Jul 1969 420 EN82  
 Anthonomus grandis, Hydrocarbons, Insect biochemistry, Insect metabolism, Musca domestica, Radioactive tracers.
- 8778-69**  
**ETIELLA ZINCKENELLA TREIT-A POD BORER PEST OF CROTALARIA ANAGROIDES H.B.K.**  
 N N Kakoty  
*Tocklai Exp Sta Newslett* 15(2):75  
 Jun 1968 68.18 T93  
 Caterpillars, Crotalaria anagroides, Etiella zinckenella, Insect cultures, Insect morphology, Insect physiology, Plant injuries, Seed analysis, Tables (data).
- 8779-69**  
**THE ROLE OF GAMMA-AMINO BUTYRIC ACID IN MOSQUITO-HOST INTERACTIONS: A HYPOTHESIS.**  
 P Kashin  
*Entomol Soc Amer Ann* 62(4):695-702 REF  
 Jul 1969 420 EN82

Culicidae, Insect behavior, Insect metabolism, Mammals, Stimulants.

8780-69

LIFE HISTORY OF UPIS CERAMBOIDES AT FAIRBANKS, ALASKA.

T Kaufmann

*Entomol Soc Amer Ann* 62(4):922-923

Jul 1969 420 EN82

Hibernation, Insect biology, Life cycle, Temperature, Tenebrionidae.

8781-69

IMMUNOFLUORESCENCE STUDIES ON THE MULTIPLICATION OF CYTOPLASMIC-POLYHEDROSIS VIRUS OF THE SILKWORM, BOMBYX MORI.

S Kawhse S Miyajima

*J Invertebrate Pathol* 13(3):330-336 REF

May 1969 421 J826

Bombyx mori, Fluorescent antibody technic, Immunodiagnosis, Polyhedroses, Proteins.

8782-69

FIELD EVALUATION OF THREE GRANULAR SYSTEMIC INSECTICIDES FOR CONTROL OF THE APHIDS EULACHNUS AGILIS AND CINARA PINEA ON SCOTCH PINE.

W H Kearby M Bliss

*J Econ Entomol* 62(1):60-62

17 Feb 1969 421 J822

Chemical control (insects), Cinara pinea, Disulfoton, Eulachnus agilis, Insecticides, Pinus sylvestris.

8783-69

NOTES ON BIOLOGY OF CLERID BEETLES THAT ATTACK IPS SPP. IN UPPER SOUTH CAROLINA.

W E King R C Fox

*Entomol Soc Amer Ann* 62(4):924-925

Jul 1969 420 EN82

Cleridae, Insect biology, Ips, Predaceous insects.

8784-69

CONCERNING THE VALIDITY OF THE CAPTURE RESULTS OF INSECT TRAPS, TOGETHER WITH AN ATTITUDE TOWARD THE WORK OF H. PETERS, HEIDELBERG, ON SYNANTHROPIC FLIES. (GE)

E Kirchberg

*Deut Entomol Z* 16(1-3):131-139

01 May 1969 421 D48

Insect collecting equipment, Insect traps, Methodology, Statistics, Surveys.

8785-69

BIONOMIC NOTES ON THE SOLITARY EVYLAEUS OENOTHERAE (STEVENS) (HYMENOPTERA: HALICTINAE), A MATINAL SUMMER BEE VISITING CULTIVATED ONAGRACEAE.

G Knerer P MacKay

*Can J Zool* 47(3):289-294 REF

May 1969 470 C16D

Feeding, Halictidae, Hibernation, Insect behavior, Insect ecology, Insect nests, Lasioglossum oenotherae, Onagraceae.

8786-69

ACETYLCHOLINESTERASE POLYMORPHISM IN THE FACE FLY (DIPTERA: MUSCIDAE).

C O Knowles S K Arurkar

*Kans Entomol Soc J* 42(1):39-45 REF

Jan 1969 420 K13

Acetylcholinesterases, Electrophoresis, Insect biochemistry, Muscidae, Polymorphism.

Multiple forms of the face fly head acetylcholinesterase (AChE) were resolved electrophoretically in acrylamide gel. Three soluble zones were present; however, the major portion of the AChE was associated with various particulate centrifugal fractions and was extractable with the detergent Triton X-100.

8787-69

ON THE BIONOMICS OF THE CLEARWING CHAMAESPHECIA COLPIFORMIS (STAUDINGER, 1850) (LEPIDOPTERA, SESIIDAE). (GE)

M Kralieck

*Acta Ent Bohemoslov* 64(3):236-237

1967 420 C33

Aegeriidae, Insect behavior, Insect ecology, English and Czech abstracts.

8788-69

CHEMOSENSORY RELATIONSHIP BETWEEN EPILACHNA VIGINTIOCTO-PUNCTATA AND ITS HOST PLANT, LUFFA AEGYPTIACA.

S S Krishna A K Sinha

*Entomol Soc Amer Ann* 62(4):928-929

Jul 1969 420 EN82

Chemoreceptors, Cucurbitaceae, Epilachna, Food habits, Insect behavior.

8789-69

THE UNNATURAL HISTORY OF THE ANT LION.

J W Krutch

*Natur Hist* 77(3):14-16,18,20

Mar 1968 500 N483J

History, Literature, Myrmecotidae.

8790-69

ON THE SCHIZOPHYTA-LIKE APPEARANCE OF THE FLAGELLA OF TERMITE SYMBIANTS. (FR)

A Lavette

*Acad Sci Compt Rend Ser D Sci Nat* 268(21, 1ST SEMESTER):2585-2587

28 May 1969 505 P21

Bacteria, Flagella, Morphology, Symbiosis, Termites.

8791-69

SOME OBSERVATIONS ON THE MORPHOLOGY AND HISTOLOGY OF THE ALIMENTARY CANAL OF THE FRUIT-SUCKING MOTH SERRODES INARA CRAM. (LEPIDOPTERA: NOCTUIDAE).

D S Le Gricie

*S Afr J Agr Sci* 11(4):789-796

Dec 1968 24 SU3

Gastrointestinal system, Insect histology, Insect morphology, Serrodes.

8792-69

EGG MATURATION IN MOSQUITOES NOT REGULATED BY THE CORPORA ALLATA.

A O Lea

*J Insect Physiol* 15(4):537-541

Apr 1969 421 J825

Aedes aegypti, Corpora allata, Culex pipiens, Hormones, Oogenesis.

8793-69

DEVELOPMENTAL INHIBITION IN DROSOPHILA USING DIHYDROXYBENZOIC ACID ISOMERS.

W C Levensgood R Damrauer

*J Insect Physiol* 15(4):633-641 REF

Apr 1969 421 J825

Drosophila melanogaster, Hormones, Inhibitors, Insect biochemistry, Insect physiology, Isomers.

8794-69

ECOLOGICAL RESEARCH IN THE LAMTO SAVANNAH (IVORY COAST): PRELIMINARY DATA ON THE POPULATIONS OF TERRESTRIAL ANTS. (FR)

J Leveux

*Terre Vie* (3, JUL-SEP):278-296 REF

Sep 1967 410.9 P21

Formicidae, Insect ecology, Population, Surveys, English abstract.

8795-69

ASCORBIC ACID AND UNSATURATED FATTY ACIDS IN THE NUTRITION OF THE EGYPTIAN COTTON LEAFWORM, PRODENIA LITURA.

H Z Levinson A Navon

*J Insect Physiol* 15(4):591-595 REF

Apr 1969 421 J825

Ascorbic acid, Fatty acids, Insect nutrition, Insect physiology, Prodenia litura.

8796-69

THE MANDIBLES OF TWO SOUTH AMERICAN GRASSHOPPERS. (SP)

J Liebermann

*Argent Secretar Estad Agr Ganad Publ Tec*

5(5):53-6

Jul 1968 464.9 AR325

Insect anatomy, Insect behavior, Insect nutrition, Orthoptera, English summary.

8797-69

STUDIES ON LARVAL DEVELOPMENT IN CULICOIDES FURENS (POEY) (DIPTERA: CERATOPOGONIDAE). I. ESTABLISHMENT OF A STANDARD REARING TECHNIQUE.

J R Linley

*Entomol Soc Amer Ann* 62(4):702-711 REF

Jul 1969 420 EN82

Culicoides furens, Insect nutrition, Insect physiology, Insect rearing, Methodology.

8798-69

ALATE APHIDS TRAPPED OVER 8 YEARS AT TWO SITES IN CANTERBURY, NEW ZEALAND.

A D Lowe

*New Zeal J Agr Res* 11(4):829-848 REF

Nov 1968 23 N4892

Aphididae, Grain, Insect control, Insect pests, Insect traps, Population, Potatoes, Statistical distributions, Vegetables, Zoogeography.

8799-69

THE INCIDENCE OF PARASITISM AND DISEASE IN SOME POPULATIONS OF THE CABBAGE APHID, (BREVICORYNE BRASSICAE L.) IN NEW ZEALAND.

A D Lowe

*New Zeal J Agr Res* 11(4):821-828

Nov 1968 23 N4892

Aphididae, Brevicoryne brassicae, Cabbage, Entomogenous fungi, Entomophthora, Insect diseases, Insect ecology, Insect pests, Insect rearing, Parasitic insects, Population, Zoogeography.

8800-69

SIMULTANEOUS INFECTION WITH THE NUCLEOPOLYHEDROSIS AND GRANULOSIS VIRUSES OF TRICHOPLUSIA NI.

R E Lowe J D Paschke

*J Invertebrate Pathol* 12(1):86-92 REF

Oct 1968 421 J826

Dosage, Experimental insects, Granuloses, Larvae, Mortality, Nuclear polyhedrosis virus, Tables (data), Trichoplusia ni, Virus diseases (insects).

8801-69

HEAT EFFECTS ON THE INFECTIVITY OF THE NUCLEAR POLYHEDROSIS VIRUS OF HELIOTHIS SPP.

J J MacFarlane L L Keeley

*J Econ Entomol* 62(4):925-929 REF

15 Aug 1969 421 J822

Heat, Heliethis virescens, Heliethis zea, Polyhedroses, Temperature.

8802-69

SEXUAL CHARACTERS OF THE INSTARS OF BLABERUS DISCOIDALIS AND AN ANALYSIS OF GROWTH IN THIS COCKROACH.

T R Manley

*Entomol Soc Amer Ann* 62(4):734-737

Jul 1969 420 EN82

Blaberus discoidalis, Insect physiology, Metamorphosis, Sex.

8803-69

THE RAIDING BEHAVIOR OF POLYERGUS LUCIDUS LUCIDUS IN CENTRAL ILLINOIS (HYMENOPTERA: FORMICIDAE).

J C Marlin

*Kans Entomol Soc J* 42(1):108-115

Jan 1969 420 K13

Formicidae, Insect behavior.

- 8804-69**  
FLUCTUATIONS IN NATURAL POPULATIONS OF *DROSOPHILA* WITH SPECIAL ATTENTION TO SEX RATIO.  
J C Martin R Stevenson  
*W Va Acad Sci Proc* 39:279-286 MAP REF  
1967 500 W52  
Drosophilina, Environment, Population, Sex, Statistical analysis.
- 8805-69**  
HISTOPATHOLOGICAL DATA ON AMOEBIASIS IN ACRIDIDAE. (FR)  
R Martoja  
*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2442-2445 REF  
19 May 1969 505 P21  
Acrididae, Amebiasis, Insect diseases.
- 8806-69**  
STUDIES ON CHRYSANTHEMIC ACID. PART XVIII. A NEW BIOLOGICALLY ACTIVE ACID COMPONENT RELATED TO CHRYSANTHEMIC ACID.  
M Matsui T Kitahara  
*Agr Biol Chem* 31(10):1143-1150  
Oct 1967 385 AG8B  
Allethrin, Chemical structure, Culicidae, Insecticides, *Musca domestica*, Pyrethrum, Tetramethylcyclopropanecarboxylic acid, 2,2,3,3-.
- 8807-69**  
A DIFFERENTIAL STAINING TECHNIQUE FOR A MOSQUITO IRIDESCENT VIRUS.  
J F Matta R E Iowe  
*J Invertebrate Pathol* 13(3):457-458  
May 1969 421 J826  
*Aedes taeniorhynchus*, Histology, Methodology, Mosquito iridescent virus, Staining.
- 8808-69**  
CONTROL OF HAEMOLYMPH LIPID CONCENTRATION DURING LOCUST FLIGHT: AN ADIPOKINETIC HORMONE FROM THE *CORPORA CARDIACA*.  
R J Mayer D J Candy  
*J Insect Physiol* 15(4):611-620 REF  
Apr 1969 421 J825  
*Corpora allata*, Hemolymph, Insect biochemistry, Insect flight, Insect hormones, Lipids, *Schistocerca gregaria*.
- 8809-69**  
FATTY ACIDS, METHYL ESTERS AND INSECT GROWTH.  
J E McFarlane  
*Compar Biochem Physiol* 24(2):377-384 REF  
Feb 1968 444.8 C73  
Esters, Fatty acids, Growth factors, *Gryllobates sigillatus*, Insect physiology.
- 8810-69**  
TWO JUVENILE HORMONES IN *CECROPIA* SILK MOTH.  
A S Meyer H A Schneiderman E Hanzmann  
*Fed Amer Soc Exp Biol Fed Proc* 27(2):393  
Mar 1968 442.9 F31P  
Hormones, *Hyalophora cecropia*, Insect biochemistry, Insect physiology, Methionine, Mevalonate kinase, Spectroscopy.
- 8811-69**  
THE VARIED FARE OF THE HONEYBEE.  
R A Morse  
*Natur Hist* 78(6, JUN-JUL):58-65  
Jul 1969 500 N483J  
Apiculture, *Apis mellifera*, Food plants, Honey, Insect nutrition.
- 8812-69**  
TRAILS OF THE LEAFCUTTERS.  
J C Moser  
*Natur Hist* 76(1):33-35  
Jan 1967 500 N483J  
*Atta*, *Atta texana*, Insect ecology, Pheromones, Scent glands, Zoogeography.
- 8813-69**  
A RED, FLUORESCENT PROTEIN FROM SILKWORM.  
J Mukai J Inouye S Akune  
*Agr Biol Chem* 33(1):125-127  
Jan 1969 385 AG8B  
*Bombyx mori*, Larvae, Proteins, Rice.
- 8814-69**  
TRITHION-A NEW ACARICIDE.  
T D Mukerjee  
*Toeklai Exp Sta Newslett* 15(2):53-60  
Jun 1968 68.18 T93  
Acaricides, Carbofenothion, Chemical control (insects), Insect control, Insect pests, Insecticides, Manufacturing costs, Mites, Organophosphorus compounds, Pesticide residues, Phytotoxicity, Spraying, Tables (data), Tea, Tetranychidae.
- 8815-69**  
GEL ELECTROPHORESIS OF SOME DEHYDROGENASES FROM FLIGHT MUSCLES OF TSETSE FLIES (*GLOSSINA MORSITANS*) AND HOUSEFLIES (*MUSCA DOMESTICA*).  
J Muus  
*Compar Biochem Physiol* 24(2):527-536 REF  
Feb 1968 444.8 C73  
Dehydrogenases, Electrophoresis, Flight, *Glossina morsitans*, Insect biochemistry, *Musca domestica*, Muscles.
- 8816-69**  
DIFFERENTIATION OF PARASITIZED AND UNPARASITIZED PUPAE OF THE MELON FLY AND ORIENTAL AND MEDITERRANEAN FRUIT FLIES.  
S Nakagawa R T Cunningham G J Farias  
*J Econ Entomol* 62(4):970-971  
15 Aug 1969 421 J822  
Biological control, *Ceratitis capitata*, *Dacus cucurbitae*, *Dacus dorsalis*, Fruit, Melons, *Opius*, Parasitic insects, Pupae.
- 8817-69**  
OBSERVATIONS ON THE IMMATURE STAGES OF *CORDILURA* (*ACHAETELLA*) *DECEPTIVA* AND *C. (A.) VARIPES*.  
S E Neff J B Wallace  
*Entomol Soc Amer Ann* 62(4):775-785 REF  
Jul 1969 420 EN82  
Anthomyiidae, *Carex*, Food habits, Insect biology, Insect morphology, Insect taxonomy, Larvae, Pupae.
- 8818-69**  
THE METHOD AND ROLE OF VERTICAL TRANSMISSION OF A NUCLEOPOLYHEDROSIS VIRUS IN THE EUROPEAN SPRUCE FLY, *DIPRION HERCYNIAE*.  
M M Neilson D E Elgee  
*J Invertebrate Pathol* 12(1):132-139 REF  
Oct 1968 421 J826  
*Diprion hercyniae*, Disease transmission, Experimental insects, Foliage, Insect rearing, Plant contamination, Polyhedroses, Tables (data), Virus diseases (insects).
- 8819-69**  
SUSCEPTIBILITY OF *ANOPHELES* (*MYZOMYIA*) *STEPHENSII* TO *PLASMODIUM CATHEMERIUM*. (IT)  
I Neri M H T Ribeiro  
*Parassitologia* 10(2-3, OCT-DEC):151-153  
Dec 1968 436.8 P212  
*Anopheles stephensi*, Birds, Insect vectors, *Plasmodium*. English abstract.
- 8820-69**  
WATER BALANCE IN THE FIREBRAT, *THERMOBIA DOMESTICA* (PACKARD). EXCHANGES OF WATER WITH THE ATMOSPHERE.  
J Noble-Nesbitt  
*J Exp Biol* 50(3):745-769 REF  
Jun 1969 442.8 B77  
Humidity, Insect metabolism, *Thermobia domestica*, *Thysanura*, Water.
- 8821-69**  
MORPHOLOGY OF THE LARVAL AND ADULT BRAINS OF THE MONARCH BUTTERFLY, *DANAUS PLEXIPPUS PLEXIPPUS*, L. R H Nordlander J S Edwards  
*J Morphol* 126(1):67-93 REF  
Sep 1968 444.8 J826  
Brain, Danaidae, *Danaus plexippus*, Imagos, Insect morphology, Insect physiology, Larvae.
- 8822-69**  
EXPERIMENTS WITH *BEAUVERIA BASSIANA* (BALS) VUILL. AGAINST *BLASTOPHAGUS PINIPERDA* L. (COL., SCOLYTIIDAE). (GE)  
M Nuorteva M Salonen  
*Suomen Hyonteistieteellinen Aikakauskir Ann Entomol Fenn* 34(2):49-55 REF  
Jun 1968 421 SU7  
*Beauveria bassiana*, Biological control (insects), *Blastophagus piniperda*, Fungi, Insecticides, Mortality, Parasitism, Scolytidae, Spraying.
- 8823-69**  
THE INFESTATION OF TIMBER BY BARK BEETLES (COL., SCOLYTIIDAE) AND THEIR ENEMIES IN DIFFERENT ZONES OF THE FINNISH SOUTHWESTERN ARCHIPELAGO.  
M Nuorteva P Nuorteva  
*Suomen Hyonteistieteellinen Aikakauskir Ann Entomol Fenn* 34(2):56-65 MAP REF  
Jun 1968 421 SU7  
Biological control (insects), *Blastophagus piniperda*, Breeding, Parasitism, *Pityogenes chalcographus*, *Pityogenes quadridens*, *Rhopalicus guttatus*, Scolytidae, Timber.
- 8824-69**  
THE HASTATE SETAE OF CERTAIN DERMESTID LARVAE: AN ENTANGLING DEFENSE MECHANISM.  
W L Nutting H G Spangler  
*Entomol Soc Amer Ann* 62(4):763-769 REF  
Jul 1969 420 EN82  
Dermestidae, Hair, Insect behavior, Insect protective devices.
- 8825-69**  
A NATURAL HYBRID BUTTERFLY OF THE GENUS *VANESSA* IN NEW ZEALAND.  
R G Ordish  
*Wellington Dominion Mas Rec* 6(11):141-144  
29 Jan 1969 514 W462R  
Hybrids, Insect color, Insect morphology, Nymphalidae, Reproductive organs.
- 8826-69**  
DISCRIMINATION BETWEEN MOVEMENTS OF EYE AND OBJECT BY VISUAL INTERNEURONS OF CRICKETS.  
J Palka  
*J Exp Biol* 50(3):723-732 REF  
Jun 1969 442.8 B77  
*Acheta domesticus*, Eyes, Insect physiology, Nervous system, Vision.
- 8827-69**  
NON-HOMOGENEOUS CONDUCTION IN GIANT AXONS OF THE NERVE CORD OF *PERIPLANETA AMERICANA*.  
I Parnas M E Spira R Werman F Bergmann  
*J Exp Biol* 50(3):635-649 REF  
Jun 1969 442.8 B77  
Electrophysiology, Nervous system, Nicotine, *Periplaneta americana*.
- 8828-69**  
THE EFFECTS OF PERFUSION ON THE SYNTHESIS AND RELEASE OF BLOOD PROTEINS BY DIAPAUSING PUPAE OF THE *CECROPIA* SILKWORM.  
N G Patel H A Schneiderman  
*J Insect Physiol* 15(4):643-660 REF  
Apr 1969 421 J825  
Blood proteins, Hemolymph, *Hyalophora cecropia*, Insect physiology, Pupae.
- 8829-69**  
HAEMOGLOBIN OF ANISOPS NIVEUS (NOTONECTIDAE, HETEROPTERA).

S Patel B Patel  
*Cur Sci* 38(7):163-164  
05 Apr 1969 475 SCI23  
Anisops, Hemoglobin, Insect physiology, Notonectidae.

8830-69

COMPARATIVE TOXICITES OF CRYSTAL SEROTYPES OF *BACILLUS THURINGIENSIS* FOR LARVAE OF *PHILOSAMIA CYNTHIA* VAR. *RICINI*.

I R Pendleton

*J Invertebrate Pathol* 13(3):423-428 REF

May 1969 421 J826

*Bacillus thuringiensis*, Biological control (insects), Insect diseases, *Samia cynthia*, Toxicology.

8831-69

ECOLOGICAL SIGNIFICANCE OF ANTIBIOTICS OF SOME VARIETIES OF *BACILLUS THURINGIENSIS*.

I R Pendleton

*J Invertebrate Pathol* 13(2):235-240

Mar 1969 421 J826

Antibiotics, *Bacillus thuringiensis*, Ecology, Insect diseases, *Samia cynthia*, Surveys.

Antibiotic production and sensitivity in 80 strains of crystalliferous bacteria was investigated by a cross-streaking method. Antibiotic activity of a few strains was also determined against a variety of named bacteria and bacteria isolated from larvae of *Philosamia cynthia* var. *ricini*. Studies with infections in larvae due to a mixture of two strains of crystalliferous bacteria (*Bacillus thuringiensis*) demonstrated that antibiotic production, rather than pathogenicity, determined dominance of one strain.

8832-69

SPRING DISPERSAL OF SOME LEAFHOPPERS AND APHIDS.

A G Peterson J D Bates R S Saini

*Minn Acad Sci J* 35(2-3):98-102 MAP REF

1969 500 M663

Aphididae, Cicadellidae, Insect dissemination, Weather.

Two species of leafhoppers and four species of cereal aphids appear to be transported to Minnesota each spring on strong winds from the south or southwest. Weather conditions favorable for northward movement of these insects consist of a high pressure area over the eastern states, a low pressure area over the western plains, and the resulting strong, persistent, south wind which is often called a low-level jet.

8833-69

EFFECT OF BIOTIN ON THE FERTILITY OF THE YELLOW FEVER MOSQUITO, *Aedes AEGYPTI* (L.).

M K K Pillai B V R Madhukar

*Naturwissenschaften* 56(4):218-219

Apr 1969 474 N213

*Aedes aegypti*, Biotin, Fertility, Insect nutrition, Insect physiology, Reproduction.

8834-69

TANDEM LINKAGE IN DICHOPTIC AND OTHER ANISOPTERA (ODONATA).

E Pinhey

*Southern Rhodes Nat Mus Occas Pap* 4(28B):137-207 REF

10 Jan 1969 515 R342

Insect behavior, Insect physiology, Odonata.

8835-69

A NEW VIRUS OF *DROSOPHILA MELANOGASTER*, VIRUS PI. (FR)

N Plus J L Duthoit

*Acad Sci Compt Rend Ser D Sci Nat* 268(18, 1ST SEMESTER):2313-2315

05 May 1969 505 P21

*Drosophila melanogaster*, Electron microscopy, Insect diseases, Morphology.

8836-69

DESCRIPTION OF IMMATURE STAGES OF *NOCTUISEIUS TREATI* PRASAD (ACARINA: PHYTOSEIIDAE).

V Prasad

*Entomol Soc Wash Proc* 71(2):151-153

Jun 1969 420 W27

*Achaea janata*, Insect anatomy, Insect eggs, Insect morphology, Larvae, Mites, Moths, Noctuidae, *Nymphs*, Parasitic insects.

8837-69

AN ELECTRON MICROSCOPE STUDY OF NEBENKERN FORMATION AND DIFFERENTIATION IN SPERMATIDS OF *MURGANTIA HISTRIONICA* (HEMIPTERA, PENTATOMIDAE).

S A Pratt

*J Morphol* 126(1):31-65 REF

Sep 1968 444.8 J826

Electron microscopy, Insect morphology, Insect physiology, Mitochondria, *Murgantia histrionica*, Pentatomidae, Spermatoocytes, Spermatogenesis.

8838-69

BIOLOGY OF THE SPIDER MITE, *TETRANYCHUS EVANSI*.

A H Qureshi E R Oatman C A Fleschner

*Entomol Soc Amer Ann* 62(4):898-903

Jul 1969 420 EN82

Humidity, Insect biology, Oviposition, Tetranychus.

8839-69

COCKROACH CONTROL IN CHICAGO'S LINCOLN PARK ZOO.

S Raechsky

*Pest Contr* 37(6):10-14

Jun 1969 449.8 EX8

Blattidae, Chemical control (insects), Isopropoxyphenyl methylcarbamate, *o-*, Zoo animals.

8840-69

A TECHNIQUE FOR REARING LARVAE OF THE BOLLWORM AND TOBACCO BUDWORM IN LARGE NUMBERS.

J R Raulston P D Lingren

*J Econ Entomol* 62(4):959-961 REF

15 Aug 1969 421 J822

*Heliothis virescens*, *Heliothis zea*, Insect rearing, Insect rearing equipment, Larvae.

8841-69

COMPARATIVE PRODUCTION OF PHEROMONE BY THE CALIFORNIA RED SCALE REARED ON LEMONS AND POTATOES.

R E Rice D S Moreno

*J Econ Entomol* 62(4):958-959

15 Aug 1969 421 J822

*Aonidiella aurantii*, Biological assay, Hormones, Insect behavior, Insect biochemistry, Lemons, Pheromones, Potatoes, Sex behavior.

8842-69

EFFECT OF MALE ACCESSORY MATERIAL ON OVIPOSITION AND MATING BY FEMALE HOUSE FLIES.

J G Riemann B J Thorson

*Entomol Soc Amer Ann* 62(4):828-834 REF

Jul 1969 420 EN82

Attractants, Insect behavior, *Musca domestica*, Oviposition, Sex behavior.

8843-69

MIMICRY: THE DECEPTIVE WAY OF LIFE.

M Rothschild

*Natur Hist* 76(2):44-51

Feb 1967 500 N483J

Insect protective devices, Mimicry, Reviews.

8844-69

NEMATODES OF THE FAMILY TETRADONEMATIDAE, PARASITIZING IN MEMBERS OF THE FAMILY SIMULIIDAE (DIPTERA). (RUS)

I A Ruhcov

*Helminthologia* 7(1/4):165-198 REF

1966 436.8 H36

Diagnosis, Diptera, Nematodes, Parasitism, Simuliidae, Taxonomy. English and German summaries.

8845-69

SELECTIVE TOXICITY OF SYSTEMIC INSECTICIDES.

T Saito

*Residue Rev* 25:175-186 REF

1969 389.9 R314

Insect physiology, Systemic insecticides, Toxicity, Trichlorfon.

8846-69

RESPIRATION OF BLASTOSPORES OF THE FUNGUS *BEAUVERIA BASSIANA* DURING SUBMERSED CULTIVATION IN THE PRESENCE OF CERTAIN SUGARS.

A Samsinakova E Hrabetova

*J Invertebrate Pathol* 13(3):382-385

May 1969 421 J826

*Beauveria bassiana*, Biochemistry, *Galleria mellonella*, Respiration, Sugars.

8847-69

THE GROUP EFFECT IN THE TESTS ON INSECTICIDE RESISTANCE IN *Aedes AEGYPTI*. (FR)

J Sautet J Aldigheri M Quilici

*World Health Organ Bull* 38(6):967-970

1968 449.9 W892B

*Aedes aegypti*, Chemical control (insects), DDT, Dosage, Experimental insects, Insecticide resistant insects, Mortality. English summary

8848-69

MIGRATION OF AN ANHOLOCYCLIC STRAIN OF THE SPOTTED ALFALFA APHID INTO NEBRASKA.

J M Schalk G R Manglitz

*J Econ Entomol* 62(4):946-947

15 Aug 1969 421 J822

Aphididae, Insect migration, *Therioaphis maculata*.

8849-69

ANTIRESTANT DDT CONTINUES TO OFFER SUPERIOR FLY CONTROL.

G E Schmolesky P H Derse

*Agr Chem* 18(3):24-25,111

Mar 1963 381 AG8

Chemical control (insects), DDT, Insecticide resistant insects, *Musca domestica*.

8850-69

CONTROL OF MITES AND APHIDS ON AND IN BULBS.

J C Schread

*Conn Agr Exp Sta Bull* (699):3-11

Apr 1969 100 C76ST (1)

*Acyrtosiphon solani*, Aphididae, Bacterial diseases (plants), Bulbs, Carbon disulfide, Demeton, *Dysaphis tulipae*, Insect control, Malathion, Mites, Nicotine, Paradichlorobenzene, *Rhizoglyphus echinopus*, Tetradifon.

8851-69

ESTERS OF BENZIMIDAZOLECARBAMIC ACID AS MITE OVICIDES. PATENT 3,427,388.

J K Scoggin

*Us Patent Office Offic Gaz* 859(2):608

11 Feb 1969 156.65 OF2

Benzimidazole compounds, Chemical control (insects), Esters, Mites, Ovicides, Patents.

8852-69

SIGMA VIRUS MULTIPLICATION IN WHOLE-ANIMAL CULTURE OF *DROSOPHILA*.

R L Seccof

*Virology* 38(1):134-139 REF

May 1969 448.8 V81

Culture media, Diptera, *Drosophila melanogaster*, Insect diseases, Larvae, Virology.

8853-69

BURSICON MEDIATION OF TYROSINE HYDROXYLATION DURING TANNING OF THE ADULT CUTICLE OF THE FLY, *SARCOPHAGA BULLATA*.

M Seligman S Friedman G Fraenkel

*J Insect Physiol* 15(4):553-562 REF



- Apr 1969 421 J825  
Chemical reactions, Cuticle, Dopa, Insect biochemistry, Insect physiology, Sarcophaga bulbata, Tyrosine.
- Alpha MDH, a potent decarboxylase inhibitor, prevents hardening and darkening of the cuticle of adult flies when injected soon after eclosion. This effect is accompanied by an accumulation of DOPA. If the release of bursicon from the CNS is blocked no DOPA accumulates. It would appear, therefore, that one of the actions of bursicon in the regulation of adult tanning is involved with the control of the activation of tyrosine hydroxylation.
- 8854-69**  
**LACK OF MULTIPLICATION OF SIMIAN VIRUS 40 (SV40) IN EXPERIMENTALLY INFECTED MOSQUITOES.**  
K V Shah R Behin I F Rozecboom  
*Soc Exp Biol Med Proc* 126(1):277-279  
Oct 1967 442.9 SO1  
Culicidae, Disease transmission, Insect diseases, Insect vectors, Simian adenoviruses.
- 8855-69**  
**A NEW TECHNIQUE TO OBSERVE THE ACTIVITY OF CAMBIUM MINERS.**  
J M Skelly W H Kearby  
*Entomol Soc Amer Ann* 62(4):932-933  
Jul 1969 420 EN82  
Agromyzidae, Autoclaves, Food habits, Insect behavior, Methodology.
- 8856-69**  
**SENSE ORGANS ON THE ANTENNAL FLAGELLUM OF A GIANT COCKROACH, GROMPHADORHINA PORTENTOSA, AND A COMPARISON WITH THOSE OF SEVERAL OTHER SPECIES (DICTYOPTERA, BLATTARIA).**  
E H Slifer  
*J Morphol* 126(1):19-29 REF  
Sep 1968 444.8 J826  
Antennae, Blattidae, Chemoreceptors, Flagella, Gromphadorhina portentosa, Insect biochemistry, Insect morphology, Sense organs.
- 8857-69**  
**A LABORATORY TESTING PROGRAMME FOR ASSESSING FIELD PERFORMANCE OF ACARICIDES AGAINST TETRANYCHUS URticae (Koch).**  
A G Smith  
*New Zeal J Agr Res* 11(4):863-873  
Nov 1968 23 N4892  
Acaricides, Butyl-4,6-dinitrophenyl isopropyl carbonate, 2-sec-, Carbophenothion, Chemical control (insects), Insect pests, Insecticide resistant insects, Insecticide susceptible insects, Insecticide trials, Insecticides, Larvae, Lepidoptera, Methyl demeton, Mites, Nitrate phenols, Tetranychus urticae.
- 8858-69**  
**A METHOD OF REARING THE PEACH TREE BORER ON ARTIFICIAL DIET.**  
H R Smith E G Richardson C E Yonce S W Jacklin  
*J Econ Entomol* 62(4):961-962  
15 Aug 1969 421 J822  
Insect nutrition, Insect rearing, Sanninoidea exitiosa.
- 8859-69**  
**THE PCO MARKET IN TICK CONTROL.**  
R Snetsinger  
*Pest Contr* 37(6):16-20  
Jun 1969 449.8 EX8  
Dogs, Insect control, Ixodidae, Pest control operators.
- 8860-69**  
**MATING PROPENSITY, CHROMOSOMAL POLYMORPHISM, AND DEPENDENT CONDITIONS IN DROSOPHILA PERSIMILIS. II. FACTORS BETWEEN LARVAE AND BETWEEN ADULTS.**  
E B Spiess L D Spiess  
*Evolution* 23(2):225-236 REF  
Jun 1969 443.8 EV62  
Aging, Chromosomes, Drosophila, Insect behavior, Larvae, Polymorphism, Population.
- 8861-69**  
**ORGANIZATION OF THE GIANT AXONS OF THE COCKROACH PERIPLANETA AMERICANA.**  
M E Spira I Parnas F Bergmann  
*J Exp Biol* 50(3):615-627 REF  
Jun 1969 442.8 B77  
Electrophysiology, Insect physiology, Nervous system, Nicotine, Periplaneta americana.
- 8862-69**  
**HISTOLOGICAL AND ELECTROPHYSIOLOGICAL STUDIES ON THE GIANT AXONS OF THE COCKROACH PERIPLANETA AMERICANA.**  
M E Spira I Parnas F Bergmann  
*J Exp Biol* 50(3):629-634  
Jun 1969 442.8 B77  
Electrophysiology, Insect histology, Nervous system, Periplaneta americana.
- 8863-69**  
**HUMIDITY PREFERENCE OF THE ALFALFA WEEVIL, HYPERA POSTICA, AS AFFECTED BY MICROENVIRONMENTAL AND PHYSIOLOGICAL CONDITIONS.**  
S D Springer R L Picnikowski  
*Entomol Soc Amer Ann* 62(4):904-909 REF  
Jul 1969 420 EN82  
Aging, Humidity, Hypera postica, Insect behavior, Light, Starvation, Temperature.
- 8864-69**  
**PRELIMINARY STUDIES OF THE RELEASE IN 1965 ON THE ISLAND OF CHALKI, OF OPIUS CONCOLOR SZEPL. (HYMEN, BRACONIDAE) A PARASITE OF DACUS OLEAE GMEL. (DIPT. TRYPETIDAE). (FR)**  
H Stavrakis-Pavlopoulou  
*Inst Phyto Pathol Benaki Ann* 8(1):23-31 MAP REF  
1967 464.9 AT4  
Biological control (insects), Braconidae, Dacus oleae, Hibernation, Insect dissemination, Olives, Opium concolor, Parasitism, Tables (data), Trypetidae.
- 8865-69**  
**A CONTRIBUTION TO THE STUDY OF THE GREEK SPECIES INJURIOUS TO CORN, OF THE GENUS SESAMIA (LEPIDOPTERA-NOC-TUIDAE). (FR)**  
G Stavrakis  
*Inst Phyto Pathol Benaki Ann* 8(1):19-22  
1967 464.9 AT4  
Corn, Heliothis armigera, Insect biology, Insect identification, Insect pests, Noctuidae, Ostrinia nubilalis, Sesamia nonagrioides.
- 8866-69**  
**TERATOLOGY OF THE BEETLE TENEBRIO MOLITOR. IV. ULTRASTRUCTURE OF THE NECROTIC FAT BODY AND FOREGUT ASSOCIATED WITH THE PUPAL-WINGED ADULT.**  
E A Steinhaus R P Zeikus  
*J Invertebrate Pathol* 13(3):337-344  
May 1969 421 J826  
Electron microscopy, Fat body, Gastrointestinal system, Insect morphology, Tenebrio molitor.
- 8867-69**  
**A CASE OF PARTIALLY REDUPLICATED ANTENNA IN MINETTIA OBSCURA (LOEW) (DIPTERA: LAUXANIIDAE).**  
G C Steyskal  
*Entomol Soc Wash Proc* 70(4):360  
Dec 1968 420 W27  
Abnormalities, Antennae, Insect anatomy, Lauxaniidae, Minettia obscura.
- 8868-69**  
**HYPNODUS RIPARIUS (FABRICIUS), A POSSIBLE AGRICULTURAL PEST FROM EUROPE (COLEOPTERA: ELATERIDAE).**  
J N L Stibick  
*Entomol Soc Wash Proc* 71(2):191-193 REF  
Jun 1969 420 W27  
Elateridae, Grain, Grasses, Hypnoidus riparius, Insect ecology, Insect migration, Insect morphology, Insect pests, Larvae, Vegetables, Zoogeography.
- 8869-69**  
**NEW SYMPHORIONT INTRANSTYLUM - SPECIES (PERITRICHIA, CLTIATA) ON LARVAE OF CHIRONOMOUS PLUMOSUS. (GE)**  
J Stiller  
*Arch Protisten Kunde* 111(1):24-30 REF  
1968 439.8 AR2  
Chironomidae, Chironomus plumosus, Larvae, Parasitism, Taxonomy.
- 8870-69**  
**SEASONAL HISTORY OF A UNISEXUAL POPULATION OF THE PINE NEEDLE SCALE, PHENACASPIS PINIFOLIAE.**  
M W Stimmann  
*Entomol Soc Amer Ann* 62(4):930-931  
Jul 1969 420 EN82  
Insect biology, Insect physiology, Phenacaspis pinifoliae, Sex behavior.
- 8871-69**  
**THE ADULT CERVICOTHORACIC MUSCULATURE OF THE COCKROACH, NAUPHOETA CINEREA (OLIVIER).**  
R H Storch  
*J Morphol* 126(1):107-122  
Sep 1968 444.8 J826  
Blattidae, Imagos, Insect morphology, Insect physiology, Muscles, Nauphoeta cinerea, Nymphs, Periplaneta americana, Thorax.
- 8872-69**  
**THE LIMNOLOGY OF PLAYA LAKES ON THE LLANO ESTACADO, NEW MEXICO AND TEXAS.**  
J E Sublette M S Sublette  
*Southwest Natur* 12(4):369-406 MAP REF  
31 Dec 1967 409.6 SO8  
Aquatic insects, Aquatic plants, Insect ecology, Limnology, Surveys, Water analysis.  
The seasonal ecology of three Playa Lakes of Class IV of Reeves (Jour. Geol., 1966) has been studied in Eastern New Mexico. A limnological survey of an additional 20 lakes was made, largely from the high plains of Texas. A total of 62 taxa of macroscopic animals was collected. An obligated lentic fauna, chiefly phyllopod crustaceans, is numerically dominant during the early phases of lake filling; this is followed by a facultative fauna dominated by insects. Some variation was noted among the lakes surveyed with chironomids, oligochaetes or both occurring as a restricted fauna in several lakes.
- 8873-69**  
**FACTORS AFFECTING THE SEX RATIO OF APHYTIS PROCLIA WLK. (HYMENOPTERA, APHELINIDAE), EXTERNAL PARASITE ON THE SAN JOSE SCALE.**  
A F Sumaroka  
*Entomol Rev* 46(2 APR-JUN):179-185 REF  
1967 421 R322AE  
Aphytis proclia, Aspidiotus perniciosus, Eulophidae, Growth factors, Parasitism, Reproduction, Sex determination, Sex ratios, Tables (data), Zoogeography. Translated from Russian.
- 8874-69**  
**PHYSICO-CHEMICAL STUDIES ON THE ABSORPTION OF PESTICIDES BY THE INSECT CUTICLE AND PENETRATION TO THE INSECT BODY.**  
M Suwanai  
*Residue Rev* 25:341-353  
1969 389.9 R314  
Callosobruchus chinensis, Cuticle, Gases, Insect physiology, Insecticides, Toxicology.
- 8875-69**  
**METHOD OF KILLING PESTS BY APPLICATION OF A PHOSPHORO DERIVATIVE OF ALPHA-(METHYLTHIO) CRESOL. PATENT 3,427,384.**

K Szahó J G Brady  
*Us Patent Office Offic Gaz* 859(2):607  
 11 Feb 1969 156.65 OF2  
 Chemical control (pests), Insect pests, Methodology, Methylthio)eresol, alpha-, Mites, Organophosphorus compounds, Patents, Phosphorus compounds.

8876-69  
 DISTRIBUTION OF WHEAT STREAK MOSAIC VIRUS-LIKE PARTICLES IN ACERIA TULIPAE.

Y Takahashi G B Orlof  
*Virology* 38(2):230-240 REF  
 Jun 1969 448.8 V81  
 Aceria tulipae, Mosaic, Streak, Tissues, Viruses, Wheat. English summary.

8877-69  
 STUDY OF THE CORPUS ALLATUM IN LIVING LARVAE OF THE BLOW FLY CALLIPHORA ERYTHROCEPHALA MG. (DIP-TERA, CALLIPHORIDAE).

N A Tamarina  
*Entomol Rev* 46(2 APR-JUN):168-173 REF  
 1967 421 R322AE  
 Calliphora vicina, Calliphoridae, Corpora allata, Cytology, Growth factors, Insect anatomy, Insect cultures, Insect histology, Insect hormones, Larvae, Microscopy, Weismann's ring. Translated from Russian.

8878-69  
 ISOLATION OF FUMARIC ACID FROM SILK-WORM PUPAS AS A CAUSATIVE AGENT TO RELEASE REDUCING SUGARS IN EMBRYO-LESS RICE ENDOSPERMS.

S Tamura A Suzuki M Yamauchi Y Ogawa S Imamura  
*Agr Biol Chem* 31(10):1248-1250  
 Oct 1967 385 AG8B  
 Bombyx mori, Fumaric acid, Rice.

8879-69  
 LOW-COST LARVAL REARING MEDIUM FOR MASS PRODUCTION OF ORIENTAL AND MEDITERRANEAN FRUIT FLIES.

N Tanaka L F Steiner R Ohinata R Okamoto  
*J Econ Entomol* 62(4):967-968  
 15 Aug 1969 421 J822  
 Ceratitis capitata, Dacus dorsalis, Insect nutrition, Insect rearing, Larvae, Tephritidae.

8880-69  
 THE FORMATION OF TUMORLIKE LESIONS IN THE COCKROACH LEUCOPHAEA MADERAE AFTER ANAL BLOCKAGE.

R L Taylor W C Freckleton  
*J Invertebrate Pathol* 13(3):416-422 REF  
 May 1969 421 J826  
 Anus, Gastrointestinal system, Insect physiology, Leucophaea maderae, Neoplasms, Nervous system, Toxins.

8881-69  
 CHRONOLOGICAL STUDY OF THE FUNCTION OF THE OVARY IN THE HYPOGASTRURIDAE. CAVERN-LIVING AND EPIGEOUS COLLEMBOLA: TYPHLOGASTRURA BALAZUCI DELAMARE AND CERATOPHYSELLA ENGADINEUSIS GISIN. (FR)

J M Thibaud  
*Acad Sci Compt Rend Ser D Sci Nat* 268(20, 1ST SEMESTER):2483-2484  
 19 May 1969 505 P21  
 Collembola, Habitats, Insect physiology, Ovaries.

8882-69  
 FEEDING HABITS OF LARVAE OF SEVEN RHYACOPHILA (TRICHOPTERA: RHYACOPHILIDAE) SPECIES WITH NOTES ON OTHER LIFE-HISTORY FEATURES.

R N Thut  
*Entomol Soc Amer Ann* 62(4):894-898  
 Jul 1969 420 EN82  
 Food habits, Insect behavior, Insect biology, Insect nutrition, Larvae, Trichoptera.

8883-69  
 PURIFICATION AND SOME PROPERTIES OF CHILO IRIDESCENT VIRUS.

S Tojo T Kodama  
*J Invertebrate Pathol* 12(1):66-72 REF  
 Oct 1968 421 J826  
 Centrifugation, Chilo suppressalis, Chromatography, Galleria mellonella, Iridescent virus, Larvae, Tipula iridescent virus, Virology, Virus diseases (insects).

8884-69  
 MODE OF ACTION OF INSECTICIDES ON THE RICE STEM BORER AND DEVELOPMENT OF RESISTANCE.

C Tomizawa  
*Baltimore, John Hopkins Press.* 291-304 MAP REF  
 1967 SB608.R5S9  
 Chlorinated hydrocarbons, Insect pests, Insecticide residual activity, Insecticide resistant insects, Insecticides, Larvae, Organophosphorus compounds, Rice.

8885-69  
 THE PART QUEENS PLAY IN THE MAKING AND ADVENT OF GYNES IN THE COLONIES OF THE ANT DOLICHODERUS QUADRIPUNCTATUS.

C Torossian  
*Paris Soc Biol Compt Rend* 161(6):1455-1458  
 05 Jan 1968 442.9 P21  
 Formicidae, Gynandromorphism, Insect behavior, Queen ant, Social insects.

8886-69  
 BRAHMAN BREEDING AS A FACTOR AFFECTING THE ATTRACTIVENESS OR REPELLENCY OF CATTLE TO THE HORN FLY.

P Tugwell E C Burns J W Turner  
*J Econ Entomol* 62(1):56-57  
 17 Feb 1969 421 J822  
 Attractants, Breeding, Cattle, Color, Haematobia irritans, Insect behavior, Insect repellents.

8887-69  
 ECOLOGICAL STUDIES OF THE FIELD CRICKET, GRYLLUS CAMPESTRIS L..

F J Tureck  
*Biologia (bratislava)* 22(11):808-816  
 1967 442.8 B5265  
 Gryllus campestris, Insect biology, Insect ecology, Insect physiology.

8888-69  
 HOMOGRAFT OF THE TARSUS INTO THE PLACE OF THE EYE IN THE PHASMID SIPYLOIDEA SIPYLUS W. (FR)

J Urvoy  
*Acad Sci Compt Rend Ser D Sci Nat* 268(18, 1ST SEMESTER):2260-2261  
 05 May 1969 505 P21  
 Development, Eyes, Insect physiology, Legs, Phasmatidae, Tissue grafting.

8889-69  
 THE INFLUENCE OF INFECTIONS OF NUCLEAR-POLYHEDROSIS VIRUS ON ADULT CABBAGE LOOPERS AND THEIR PROGENY.

P V Vail I M Hall  
*J Invertebrate Pathol* 13(3):358-370 REF  
 May 1969 421 J826  
 Insect behavior, Insect eggs, Insect histology, Polyhedroses, Sex, Trichoplusia ni.

8890-69  
 SOME EFFECTS OF SUBLETHAL HEAT ON SPORES OF NOSEMA APIS.

J W Vandermeer T A Gochnauer  
*J Invertebrate Pathol* 13(3):442-446  
 May 1969 421 J826  
 Amino acids, Apis mellifera, Biochemistry, Chromatography, Glucitol, Insect diseases, Microsporidia, Nosema apis, Spores, Temperature.

8891-69  
 LIFE HISTORY AND SOME FACTORS AFFECTING THE POPULATION OF ARZAMA DENSA IN LOUISIANA.

E Vogel A D Oliver  
*Entomol Soc Amer Ann* 62(4):749-752  
 Jul 1969 420 EN82  
 Insect biology, Life cycle, Longevity, Noctuidae, Population.

8892-69  
 ON THE TETRAPYRROLIC PIGMENTS OF LEPIDOPTERA., (FR)

M Vuillaume M Barbier  
*Acad Sci Compt Rend Ser D Sci Nat* 268(18, 1ST SEMESTER):2286-2289  
 05 May 1969 505 P21  
 Insect biochemistry, Lepidoptera, Pigments (insect).

8893-69  
 INSECTICIDE STUDIES OF THE MAIZE STALK BORER, BUSSEOLA FUSCA (FULLER), IN EAST AFRICA.

P T Walker  
*Bull Entomol Res* 51(2):321-351  
 Jul 1960 421 B87  
 Busseola fusca, Chemical control (insects), Corn, East africa, Endrin, Insecticides, Isodrin.

8894-69  
 NITROGENOUS COMPOUNDS IN THE HAEMOLYMPH OF THE CRICKET, ACHETA DOMESTICUS.

C M Wang R L Patton  
*J Insect Physiol* 15(4):543-548 REF  
 Apr 1969 421 J825  
 Acheta domesticus, Hemolymph, Insect biochemistry, Nitrogen compounds.

8895-69  
 RATE OF OXYGEN UPTAKE OF HEALTHY AND DISEASED LARVAE OF THE JAPANESE BEETLE.

B A Weiner G St. Julian W F Kwolek  
*J Invertebrate Pathol* 13(2):250-255  
 Mar 1969 421 J826  
 Bacillus popilliae, Insect diseases, Insect physiology, Larvae, Oxygen, Popillia japonica.

8896-69  
 IRIDESCENT VIRUS FROM BLACKFLY SIMULIUM ORNATUM MEIGEN IN CZECHOSLOVAKIA.

J Weiser  
*J Invertebrate Pathol* 12(1):36-39  
 Oct 1968 421 J826  
 Cells, Insect histology, Iridescent virus, Larvae, Melusina ornata, Simuliidae, Virus diseases (insects), Zoogeography.

8897-69  
 HYALOMYODES TRIANGULIFER PARASITIZING THE CEREAL LEAF BEETLE, OULEMA MELANOPUS.

S G Wellso R P Hoxic  
*Entomol Soc Amer Ann* 62(4):923-924  
 Jul 1969 420 EN82  
 Insect biology, Oulema melanopus, Parasitic insects, Tachinidae.

8898-69  
 AN INEXPENSIVE HOUSE FLY PUPAE SEPARATOR.

H H Willecox  
*J Econ Entomol* 62(4):949-950  
 15 Aug 1969 421 J822  
 Insect rearing equipment, Musca domestica, Pupae.

8899-69  
 OXYGEN CONSUMPTION OF THE WESTERN HORSE LUBBER GRASSHOPPER.

M W Williams C S Williams B F Gunning J C Towne  
*Entomol Soc Amer Ann* 62(4):927  
 Jul 1969 420 EN82  
 Acrididae, Insect metabolism, Oxygen, Temperature.

8900-69  
 ADD WATER-- INSTANT CULICOIDES. R W Williams

*Entomol Soc Amer Ann* 62(4):929-930  
Jul 1969 420 EN82

Culicoides, Insect physiology, Insect rearing, Water.

**8901-69**

A GENERAL METHOD FOR ESTIMATING THRESHOLD CONCENTRATIONS OF ODORANT MOLECULES.

E O Wilson W H Bossert F E Regnier  
*J Insect Physiol* 15(4):597-610 REF

Apr 1969 421 J825

Chemoreceptors, Insect behavior, Insect physiology, Nerves, Odors.

A description is given of a modification of the diffusion model technique that permits relatively rapid estimation of the behavioral threshold concentrations of odorant molecules. The method has been employed in studies of alarm behavior in ants and is applicable to a wide variety of laboratory and semi-natural conditions.

**8902-69**

AN ACTIVE REDUCTION OF WATER LEVEL IN INSECT CUTICLE.

P W Winston J W L Beament  
*J Exp Biol* 50(3):541-546 REF

Jun 1969 442.8 B77

Cuticle, Insect physiology, *Locusta migratoria*, *Periplaneta americana*, Water.

**8903-69**

FIELD IDENTIFICATION AND SEX DETERMINATION OF APHIDECTA OBLITERATA, AN INTRODUCED PREDATOR OF ADELGES PICEAE.

J A Witter G D Amman

*Entomol Soc Amer Ann* 62(4):718-721 REF

Jul 1969 420 EN82

*Adelges piceae*, *Aphidecta oblitterata*, Insect ecology, Insect identification, Insect morphology, Sex.

**8904-69**

MONITORING FOR AUDIBLE AND ULTRASONIC SOUND PRODUCTION BY STORED-PRODUCT INSECTS DURING MATING.

D P Wojcik

*J Econ Entomol* 62(4):937

15 Aug 1969 421 J822

Colcoptera, Insect behavior, Sex behavior, Sound waves, Stored products.

**8905-69**

INTERNAL DAMAGE IN AN AQUATIC BEETLE EXPOSED TO SUBLETHAL CONCENTRATIONS OF INORGANIC IONS.

C R Wooldridge D P Wooldridge

*Entomol Soc Amer Ann* 62(4):921-922

Jul 1969 420 EN82

Hydrophilidae, Inorganic compounds, Insect physiology, Ions, Water pollution.

**8906-69**

MODE OF ACTION OF NATURAL INSECTICIDES.

I Yamamoto

*Residue Rev* 25:161-174 REF

1969 389.9 R314

Insect physiology, Insecticides, Nicotine, Pyrethrum, Rotenone.

**8907-69**

ELECTROPHYSIOLOGICAL STUDY OF CONTACT CHEMORECEPTORS IN BLOOD-SUCKING DIPTERA.

Yu A Yelizarov Ye Kh Zolotarev Yc Yc Sinitsyna

*Entomol Rev* 46(2 APR-JUN):162-167 REF

1967 421 R322AE

Chemoreceptors, Diptera, Electrophysiology, Glucose, Hair, Insect behavior, Insect physiology, Sodium chloride, Stimuli, *Stomoxys calcitrans*, *Tabanus bromius*. Translated from Russian.

**8908-69**

FIELD NOTES ON A FEEDING SWARM OF CHEIROPLATYS CLUNALIS.

R M Young

*Entomol Soc Amer Ann* 62(4):927-928

Jul 1969 420 EN82

Food habits, Insect behavior, Insect nutrition, Scarabaeidae.

## GENETICS

**8909-69**

THE SALIVARY GLAND CHROMOSOMES OF ANOPHELES PULCHERRIMUS THEOBALD.

R H Baker A S Nasir M Aslamkhan

*Parasitologia* 10(2-3,OCT-DEC):167-177 REF

Dec 1968 436.8 P212

*Anopheles pulcherrimus*, Chromosomes, Insect genetics, Salivary glands (insects).

**8910-69**

MOSAICISM IN HABROBRACON JUGLANDIS ASSOCIATED WITH THE EBONY LOCUS.

A M Clark A B Gould M F Potts

*Genetics* 58(2):415-422

Mar 1968 442.8 G28

*Bracon hebetor*, Cell nucleus, *Drosophila melanogaster*, Insect genetics, Mutation.

**8911-69**

STUDIES ON CYTOLOGY AND DIFFERENTIATION IN SCIARIDAE. II. DNA REDUNDANCY IN SALIVARY GLAND CELLS OF HYBOSCIARA FRAGILIS (DIPTERA, SCIARIDAE).

A B Da Cunha C Pavan J S Morgante M C Garrido

*Genet Soc Amer Rec* 61(1,PT 2,SUPPL):335-349 REF

1969 442.9 G28

Chromosomes, Cytogenetics, Deoxyribonucleic acid, *Hybosciara fragilis*, Insect genetics, Salivary glands (insects), *Sciaridae*.

**8912-69**

A TEMPERATURE EFFECT ON NONDISJUNCTION OF THE X CHROMOSOMES AMONG EGGS FROM AGED DROSOPHILA FEMALES.

P E Hildreth P C Ulrichs

*Genetica* 40(2):191-197

1969 442.8 G282

Aging, Chromosomes, *Drosophila melanogaster*, Insect eggs, Insect genetics, Sex, Temperature.

**8913-69**

SEX CHROMOSOMES AND SEX DETERMINING MECHANISMS IN ODONATA, WITH A REVIEW OF THE CYTOLOGICAL CONDITIONS IN THE FAMILY GOMPHIDAE, AND REFERENCES TO THE KARYOTYPIC EVOLUTION IN THE ORDER.

B Kiauta

*Genetica* 40(2):127-157 REF

1969 442.8 G282

Cytogenetics, Insect evolution, Insect genetics, Odonata, Sex.

**8914-69**

CHEMOSTERILANT STUDIES ON BRACON SPERM. II. STUDIES OF SELECTED COMPOUNDS FOR INDUCTION OF DOMINANT LETHAL MUTATIONS OR SPERM INACTIVATION.

L E Latchance A P Leverich

*Entomol Soc Amer Ann* 62(4):790-796 REF

Jul 1969 420 EN82

*Bracon*, Chemosterilants, Insect genetics, Insect mutation, Spermatozoa.

**8915-69**

SPERMIOGENESIS WITHOUT CHROMOSOMES IN *DROSOPHILA MELANOGASTER*.

D L Lindsley E H Grell

*Genet Soc Amer Rec* 61(1,PT 2,SUPPL):69-78 REF

1969 442.9 G28

Chromosomes, *Drosophila melanogaster*, Insect genetics, Meiosis, Spermatogenesis.

**8916-69**

GENETIC LOADS AND COLD TEMPERATURE RESISTANCE IN *DROSOPHILA PSEUDOOSCURA*.

D Marinkovic D W Crumpacker V M Salceda

*Amer Natur* 103(931,MAY-JUN):235-246 REF

30 Jun 1969 470 AM36

Chromosomes, *Drosophila pseudoobscura*, Insect adaptation, Insect genetics, Population, Temperature.

**8917-69**

EXPERIMENTAL STUDIES ON SPERMIOGENESIS IN *DROSOPHILA*.

G F Meycr

*Genet Soc Amer Rec* 61(1,PT 2,SUPPL):79-92 REF

1969 442.9 G28

Chromosomes, *Drosophila melanogaster*, Insect genetics, Spermatogenesis.

**8918-69**

RECESSIVE MUTANTS IN A WILD *DROSOPHILA MELANOGASTER* POPULATION.

J N Thompson

*Okla Acad Sci Proc* 47:153-158

1968 500 OK42

*Drosophila melanogaster*, Insect genetics, Insect mutation, Population.

## MEDICAL ENTOMOLOGY

**8919-69**

THE SIMULIUM CONTROL SCHEME AT ABUJA, NORTHERN NIGERIA, AND ITS EFFECT ON THE PREVALENCE OF ONCHOCERCIASIS IN THE AREA.

J B Davies

*World Health Organ Bull* 39(2):187-207 MAP REF

1968 449.9 W892B

Blindness, Chemical control (insects), DDT, Human diseases, Insect vectors, Larvicides, Onchocerciasis, *Simulium damnosum*, Streams, French summary.

**8920-69**

BREATH LURES BLOODSUCKING BUGS.

*Agr Res* 17(11):14

May 1969 1.98 AG84

Attractants, Humans, Insect behavior, Insect control, Insect pests, Reduviidae, South american trypanosomiasis.

**8921-69**

ERADICATION OF MALARIA AND MOSQUITO CONTROL IN ITALY.

F Galbiati F Lucchi

*Agr Vet Chem* 8(2):33-36

Mar 1967 382 AG82

Culicidae, DDT, Insect vectors, Malaria, Malaria control.

Abstract: Adulticide was found to be the most effective eradication treatment.

## CROP PROTECTION

**8922-69**

ORGANISING AN ERADICATION PROGRAMME FOR *AEDES AEGYPTI* IN THE USA.

Anonymous

*Inu Pest Contr* 10(6,NOV-DEC):25-26

1968 79.8 P432

*Aedes aegypti*, Chemical control (insects), Chromosomes, DDT, Eradication, Insecticide resistant insects, Organizations.

**8923-69**

SOIL WATER MEASURED.

Anonymous

*Michigan Farmer* 251(2):5

18 Jan 1969 6 M58

Drainage, Evaporation, Lysimeters, Soil moisture, Water storage.

8924-69

**BANANA DISEASES IN THE PACIFIC AREA.**

I W Buddenhagen

*China Plant Protect Bull* 16(2):17-31 REF

Apr 1968 464.9 C47

Bacterial wilt, Bananas, Bunchy top, Cercospora, Deficiency diseases, Plant diseases, Radopholus similis, Sigatoka leaf-spot disease, Surveys, Virus diseases (plants), Zoogeography.

8925-69

**IRRIGATED SUGAR-CANE IN RHODESIA.**

P B Cormack

*Rhodesia Agr J* 65(6,NOV-DEC):130-137 REF

Nov 1968 24 R34

Crop rotation, Crop yields, Fertilizers, Fungus diseases (plants), Irrigation, Nematodes, Smut, Soils, Sugarcane, Virus diseases (plants).

8926-69

**TEAM ALFALFA SCORES HIGH.**

Agr Res 17(11):8-9

May 1969 1.98 AG84

Alfalfa, Crop varieties, Insect pests, Plant disease resistance, Plant diseases, Plant pest resistance.

8927-69

**UTILITY OF ARECANUT HUSK IN HORTICULTURE.**

S N S Kumar G V B Naidu M Sannamarappa

*Lal-Baugh* 12(4,OCT-DEC):5-7

1967 80 L15

Betel nuts, By-products, Chemical treatment, Fruit, Horticulture, Paper materials, Soil conservation, Waste utilization.

8928-69

**SHOULD MICHIGAN FORGET ABOUT PEACHES.**

R L chert

*Michigan Farmer* 251(2):14-16

18 Jan 1969 6 M58

Agricultural industries, Cherries, Crop varieties, Fumigation, Marketing, Nurseries, Peaches, Weed control.

8929-69

**THE OCCURRENCE OF PIPTOCEPHALIS IN SOILS AND ITS ISOLATION.**

J van der Spek T Ruinen

*Neth J Plant Pathol* 74(4):118-119

1968 464.8 T44

Mucorales, Parasitism, Piptocephalis, Shrimps, Skeleton, Soil fungi. Dutch summary.

8930-69

**CHARACTER EXPRESSIONS AND CASUAL GENES OF SOME MUTANTS IN RICE PLANT. GENETICAL STUDIES ON RICE PLANT, XXX-III.**

M Takahashi T Kinoshita K Takeda

*Hokkaido Univ Fac Agr J* 55(PT 4):496-512

May 1968 107.6 J273J

Crop varieties, Plant abnormalities, Plant genetics, Plant morphology, Plant physiology, Rice.

8931-69

**STUDIES IN POLYPLOID VARIETIES OF SUGAR BEETS. X. CHROMOSOMAL VARIATION IN PROGENY OF CROSSES INVOLVING DIPLOID, TRIPLOID AND TETRAPLOID PLANTS.**

M Takahashi T Kinoshita S Ando

*Hokkaido Univ Fac Agr J* 55(PT 4):382-401

May 1968 107.6 J273J

Chromosomes, Crop varieties, Plant breeding, Plant genetics, Polyploidy, Seedlings, Sugar beets.

8932-69

**PROBLEMS OF THE MONTH. (FR)**

G Vanwetswinkel

*Fruit Belg* 36(324):305-308

Aug 1968 80 F9493

Aphididae, Carposapsa, Chemical control (insects), Fruit, Fungus diseases (plants), Gloeosporium, Insect pests, Ring spot, Tenthredinidae, Tetranychidae, Tortricidae.

**DISEASES**

8933-69

**SENSITIVITY OF RHIZOBIUM SPECIES TO CERTAIN FUNGICIDES.**

N M Afifi A A Moharram Y A Hamdi Y Abd-el-Malek

*Arch Mikrobiol* 66(2):121-128

14 May 1969 442.8 AR26

Chloranil, Dichlone, Fungicides, Legumes, Orthocide, Phenylmercuric acetate, Plant growth inhibitors, Rhizohium, Thiram, Toxicology.

Thirty-three strains of different species of rhizobia were seeded into medium 79 agar. Dises impregnated with 3, 0.3, 0.03 and 0.003 percent, corresponding to 10, 1, 0.1 and 0.01 the recommended rate of application, of fungicides TMTD, Rhizoctole, Phygon, Ceresan, and Orthocide 75 were place on the seeded agar. After 120 hours, zones of inhibition were measured. The 3, 0.3 and 0.03 percent concentrations of the five fungicides were inhibitory to most rhizobia tested in different degrees. The 0.003 percent level of these fungicides while toxic to certain strains, was not so for others.

8934-69

**CONTROL OF GLADIOLUS CORM DISEASES IN FIELD AND STORAGE.**

W A A Ashour I F G El-Din

*An Agr Sci* 10(2):209-226 REF

Dec 1965 24 AN72

Corms, Fungicides, Fungus diseases (plants), Fusarium oxysporum gladioli, Gladiolus, Storage.

8935-69

**INFECTION OF COTTON BY ASPERGILLUS FLAVUS: TIME OF INFECTION AND THE INFLUENCE OF FIBER MOISTURE.**

L J Ashworth J L McMeans C M Brown

*Phytopathology* 59(3):383-385 REF

Mar 1969 464.8 P56

Aspergillus flavus, Cotton holls, Fungus diseases (plants).

8936-69

**STUDIES ON THE MODE OF ACTION OF INORGANIC NITROGENOUS AMENDMENTS ON SCLEROTIUM ROLFSSII IN SOIL.**

Z Avizohar-Hershenzon P Shacked

*Phytopathology* 59(3):288-292 REF

Mar 1969 464.8 P56

Chemical control (plant diseases), Fungus diseases (plants), Quaternary ammonium compounds, Sclerotium rolfsii, Sodium nitrate, Soils, Stem rot.

8937-69

**THE SURFACE LOCALIZATION OF POLYGALACTURONASE IN SPORES OF GEOTRICHUM CANDIDUM.**

I Barash L Klein

*Phytopathology* 59(3):319-324

Mar 1969 464.8 P56

Fungus diseases (plants), Geotrichum candidum, Pectinase, Spores.

8938-69

**PEA ENATION MOSAIC VIRUS: GLUCOSE CATABOLISM IN LEAVES AND PODS OF INFECTED PEAS.**

R F Bozarth

*Phytopathology* 59(3):389-390

Mar 1969 464.8 P56

Enation mosaic (peas), Glucose, Leaves, Metabolism, Peas.

8939-69

**PHYTOPHTHORA LEAF FALL AND POD ROT OF HEVEA BRASILIENSIS IN THAILAND.**

K H Chee J M F Greenwood

*China Plant Protect Bull* 16(1):1-5 MAP

Feb 1968 464.9 C47

Fungus diseases (plants), Hevea brasiliensis, Phytophthora palmivora, Pod rot, Zoogeography.

8940-69

**AN HYPOTHESIS FOR SELECTION OF STRAINS OF POTATO LEAF ROLL VIRUS BY PASSAGE THROUGH PHYSLIS FLORIDANA.**

A W Chiko J W Guthrie

*Amer Potato J* 46(5):155-167 REF

May 1969 75.8 P842

Culture media, Insect vectors, Leaf roll (potatoes), Plant dwarfing, Potatoes, Virus diseases (plants).

8941-69

**THE OCCURRENCE AND SOME PROPERTIES OF BLACK RASPBERRY LATENT VIRUS.**

R H Converse R M Lister

*Phytopathology* 59(3):325-333 REF

Mar 1969 464.8 P56

Amphorophora agathonica, Chenopodium quinoa, Latent virus (black raspberries), Raspberries, Virus diseases (plants).

8942-69

**GENETIC STUDIES OF PEA LEAF-ROLL (TOP-YELLOWS) VIRUS RESISTANCE IN PISUM SATIVUM.**

M J Crampton L E Watts

*New Zeal J Agr Res* 11(4):771-783 REF

Nov 1968 23 N4892

Hybrids, Leaf roll, Peas, Pisum sativum, Plant disease resistance, Plant diseases, Plant genetics, Virus diseases (plants).

8943-69

**FACTORS INVOLVED IN THE DEVELOPMENT OF PEACH SEEDLING CANKERS INDUCED BY CHILLING.**

J R Davis H English

*Phytopathology* 59(3):305-313 REF

Mar 1969 464.8 P56

Canker (peaches), Chemical control (plant diseases), Peaches, Seedlings.

8944-69

**THE DEVELOPMENT OF RESISTANCE IN CLADOSPORIUM CUCUMERINUM AGAINST 6-AZAUACIL, A CHEMOTHERAPEUTANT OF CUCUMBER SCAB, AND ITS RELATION TO BIOSYNTHESIS OF RNA-PRECURSORS.**

J Dekker

*Wageningen Landbouw Lab Fytopathol Med*

243:127-136 REF

1968 464.04 W12

Azauridine, 6-, Biosynthesis, Cladosporium cucumerinum, Cucumbers, Drug therapy, Enzymes, Fungus diseases (plants), Growth factors, Plant disease resistance, Rihonucleic acid, Scab, Tahles (data), Triazine-3,5(2H,4H)-dione,6-as-. German summary.

8945-69

**THE OCCURRENCE OF INCLUSION BODIES IN LEAF EPIDERMIS CELLS OF SANDAL AFFECTED WITH SPIKE DISEASE.**

J Dijkstra

*Neth J Plant Pathol* 74(4):101-105

1968 464.8 T44

Cells, Diagnosis, Inclusion bodies, Leaves, Santalum album, Spike disease, Virus diseases (plants). Dutch summary.

8946-69

**WOUND DRESSINGS FOR THE PREVENTION OF SILVER-LEAF IN FRUITTREES CAUSED BY STEREM PURPUREUM (PERS.) FR.**

M H Dye P J Wheeler

*New Zeal J Agr Res* 11(4):874-882 REF

Nov 1968 23 N4892

Bitumens, Fruit, Fungicides, Fungus diseases (plants), Plant injuries, Plant physiology, Plant protection, Polyvinyl acetate, Silver leaf, Stereum purpureum, Thiocarbamates, Thiram, Trees.

8947-69

**EFFECT OF STORAGE TREATMENTS AND FUNGICIDES ON SPROUTING, FLOWERING AND GLADIOLUS CORM PRODUCTION.**

- A M El-Gamassy I G El-Din  
*An Agr Sci* 10(2):333-340 REF  
 Dec 1965 24 AN72  
 Comms, Fungicides, Fungus diseases (plants), *Fusarium oxysporum gladioli*, *Gladiolus*, Methoxyethyl mercuric chloride, Storage, Temperature, Zineb.
- 8948-69**  
**THE PITCH OF TOBACCO MOSAIC VIRUS.**  
 J T Finch  
*Virology* 38(1):182-185 REF  
 May 1969 448.8 V81  
 Electron microscopy, Mosaic, Pitch, Tobacco mosaic virus, Virology, Virus diseases (plants).
- 8949-69**  
**EFFECTS OF SLOPING LAND DRAINAGE ON ALFALFA CROWN ROT.**  
 K D Fisher G R Benoit J Bornstein  
*Phytopathology* 59(3):386-388 REF  
 Mar 1969 464.8 P56  
 Alfalfa, Crown rot (alfalfa), Drainage, Fungus diseases (plants), Soils.
- 8950-69**  
**CHARACTERIZATION OF A STRAIN OF XANTHOMONAS VESICATORIA (DODGE) ISOLATED FROM A COMMERCIAL FIELD OF GREENPEPPER (CAPSICUM ANNUUM L.) IN CAMPINAS, SAO PAULO. (POR)**  
 A A Frenhani  
*Biologico* 35(2):36-40 REF  
 Feb 1969 442.8 B529  
 Bacterial diseases (plants), Redpeppers (vegetable), *Xanthomonas vesicatoria*. English and Portuguese abstract
- 8951-69**  
**STUDIES ON THE NUTRITION AND DEVELOPMENT OF GAEUOMANNOMYCES GRAMINIS (SACC.) VON ARX ET OLIVIER, THE CAUSAL ORGANISM OF THE TAKE-ALL DISEASE OF CEREALS. (FR)**  
 D Gindrat  
*Schweiz Landwirt Forsch* 7(2):197-214 REF  
 1968 17 SCH99  
 Fungus diseases (plants), Grain, Mycology, *Ophiobolus graminis*, Plant morphology, Plant nutrition, Plant physiology, Take-all. English and German summaries.
- 8952-69**  
**EFFECT OF 2-DEOXY-D-GLUCOSE ON THE RESPIRATION OF TROPICAL ANTHRACNOSE FUNGI.**  
 G L Greene  
*Physiol Plant* 20(3):580-586 REF  
 1967 450 P564 (1)  
 Anthracnose, Biochemistry, Carbohydrates, Colletotrichum gloeosporioides, Fungi, Gloeosporium musarum, Metabolism.
- 8953-69**  
**EXCLUSIVE HYPOVIRULENCE, AN ORIGINAL PHENOMENON IN VEGETABLE PATHOLOGY. (FR)**  
 J Grente S Sauret  
*Acad Sci Compt Rend Ser D Sci Nat* 268(19, 1ST SEMESTER):2347-2350  
 12 May 1969 505 P21  
 Endothia parasitica, Fungus diseases (plants), Phytopathology, Plant diseases, Vegetables, Virulence.
- 8954-69**  
**CHEMICAL CONTROL OF PEA ROOT ROT BY SOIL-INCORPORATION AND IN-FURROW TREATMENTS WITH 1-CHLORO-2-NITROPROPANE.**  
 W A Haglund  
*Plant Dis Rep* 52(1):72-75  
 Jan 1968 1.9 P69P  
 Chemical control (plant diseases), Chloro-2-nitropropane, 1-, Dosage, Fungicides, Fungus diseases (plants), *Fusarium oxysporum pisi*, *Fusarium solani pisi*, Greenhouse culture, Peas, Pythium, Root rot, Soil fumigation, Toxicology.
- 8955-69**  
**THE MEXICAN SPECIES OF UROMYCES (UREDINALES).**  
 J F Hennen G B Cummins  
*Southwest Natur* 12(2):146-155  
 04 Aug 1967 409.6 SO8  
 Surveys, Uromyces, Zoogeography.  
 There are 59 species, excluding those on Gramineae, reported, including two new to continental North America, *Uromyces eicicris arietinus* and *U. corallocarpi*, and 13 others newly reported from Mexico. A new species, *U. sonorensis*, is described on *Merremia palmeri*, from near Navojoa, Sowdra.
- 8956-69**  
**EFFECT OF TMV MULTIPLICATION ON RNA AND PROTEIN SYNTHESIS IN TOBACCO CHLOROPLASTS.**  
 A Hirai S G Wildman  
*Virology* 38(1):73-82 REF  
 May 1969 448.8 V81  
 Amino acids, Centrifugation, Chloroplasts, Leaves, Mosaic, Nucleoproteins, Plant diseases, Protein synthesis, Ribonucleic acid, Ribosomes, Tobacco, Tobacco mosaic virus, Virology, Virus diseases (plants).
- 8957-69**  
**INFECTION OF MERION BLUEGRASS, POA PRATENSIS, BY STRIPE SMUT, USTILAGO STRIFORMIS.**  
 C F Hodges M P Britton  
*Phytopathology* 59(3):301-304 REF  
 Mar 1969 464.8 P56  
 Fungus diseases (plants), *Poa pratensis*, Stripe smut (*Poa pratensis*), *Ustilago striiformis*.
- 8958-69**  
**PURIFICATION OF SOYBEAN MOSAIC VIRUS.**  
 W G Horn H J Walters  
*Ark Acad Sci Proc* 22:72-75 REF  
 1968 500 AR42  
 Mosaic, Plant diseases, Soybeans, Virology, Virus diseases (plants).
- 8959-69**  
**THE STRATEGY OF FINDING FUNGICIDES.**  
 J G Horsfall R J Lukens  
*Residue Rev* 25:81-91 REF  
 1969 389.9 R314  
 Antisporulation, Biological assay, Fungicides, Phenoxycetic acids.
- 8960-69**  
**PENTACHLOROBENZYL ALCOHOL, A RICE BLAST CONTROL AGENT.**  
 M Ishida H Sumi H Oku  
*Residue Rev* 25:139-147 REF  
 1969 389.9 R314  
 Antisporulation, Blast, Fungicides, Metabolism, Pentachlorobenzyl alcohol, Physiology, Rice.
- 8961-69**  
**ON THE FUNGICIDAL ACTION OF PHENYL-MERCURIC COMPOUNDS.**  
 T Ishiyama  
*Residue Rev* 25:123-131 REF  
 1969 389.9 R314  
 Biological assay, Fungicides, Phenylmercuric compounds, Physiology.
- 8962-69**  
**OCCURRENCE OF VIRUS PARTICLES IN THE PHLOEM TISSUE OF BYDV-INFECTED BARLEY.**  
 S G Jensen  
*Virology* 38(1):83-91 REF  
 May 1969 448.8 V81  
 Aphididae, Barley, Electron microscopy, Insect vectors, Leaves, Phloem, Plant disease transmission, Plant diseases, Roots, Virus diseases (plants), Yellow dwarf.
- 8963-69**  
**FUNGICIDAL ACTION OF ORGANOPHOSPHORUS COMPOUNDS.**  
 M Kado E Yoshinaga  
*Residue Rev* 25:133-138  
 1969 389.9 R314  
 Biological assay, Chemical structure, Fungicides, Organophosphorus compounds, Physiology, Rice.
- 8964-69**  
**REVERSIBLE DISSOCIATION OF CUCUMBER MOSAIC VIRUS (STRAIN S).**  
 J M Kaper  
*Virology* 37(1):134-139 REF  
 Jan 1969 448.8 V81  
 Cucumbers, Culture media, Mosaic, Sedimentation, Virology, Virus diseases (plants).
- 8965-69**  
**PATTERN OF CELL DEATH IN SORGHUM STALK TISSUE AS A MEASURE OF THE SUSCEPTIBILITY TO SPREAD OF COLLETOTRICHUM GRAMINICOLA IN FIFTY-FIVE SORGHUM VARIETIES.**  
 R A Katsanos A J Pappelis  
*Plant Dis Rep* 52(1):68-70  
 Jan 1968 1.9 P69P  
 Cells, *Colletotrichum graminicola*, Crop varieties, Fungus diseases (plants), Mortality, Plant disease resistance, Sorghum, Stalk rot, Tissues.
- 8966-69**  
**BEHAVIOR OF BELLADONNA MOTTLE VIRUS IN SEROLOGICAL TESTS IN THE PRESENCE OF ORGANIC MERCURY COMPOUNDS.**  
 R Koenig  
*Virology* 38(1):140-144 REF  
 May 1969 448.8 V81  
 Belladonna, Mercury compounds, Mottle, Organic compounds, Serological tests, Virology, Virus diseases (plants).
- 8967-69**  
**SPORULATION OF CEPHALOSPORIUM GREGATUM ON NATURALLY INFESTED SOYBEAN STRAW.**  
 P Y Lai J M Dunlavy  
*Phytopathology* 59(3):343-345  
 Mar 1969 464.8 P56  
 Brown stem rot (soybeans), *Cephalosporium gregatum*, Fungus diseases (plants), Soybeans.
- 8968-69**  
**THE DISASSOCIATION AND REASSOCIATION OF THE PROTEINS OF THE RNA IN THE LUCERNE MOSAIC VIRUS. (FR)**  
 G Lebeurier M Wurtz L Hirth  
*Acad Sci Compt Rend Ser D Sci Nat* 268(14, 1ST SEMESTER):1897-1899  
 09 Apr 1969 505 P21  
 Alfalfa, Biochemistry, Mosaic, Proteins, Ribonucleic acid, Virus diseases (plants).
- 8969-69**  
**A TECHNIQUE FOR STUDYING INHIBITION OF THE PARASITIC ACTIVITY OF OPHIOBOLUS GRAMINIS (SACC.) SACC. IN FIELD SOILS.**  
 E Lester P J Sipton  
*Plant Pathol* 16(3):121-123  
 Sep 1967 464.8 P692  
 Barley, Epidemiology, Fungus diseases (plants), Measurement, Methodology, *Ophiobolus graminis*, Parasitism, Soil microorganisms, Soils, Wheat.
- 8970-69**  
**THE PRODUCTION OF NEW TYPES OF SYMPTOMS BY MIXTURES OF DIFFERENT COMPONENTS OF TWO STRAINS OF ALFALFA MOSAIC VIRUS.**  
 G Majorana H L Paul  
*Virology* 38(1):145-151 REF  
 May 1969 448.8 V81  
 Alfalfa, Centrifugation, Mosaic, Plant diseases, Virology, Virus diseases (plants).
- 8971-69**  
**THE ROLE OF GLUCOSE IN STIMULATING GERMINATION OF FOMES IGNIARIUS VAR. POPULINUS BASIDIOSPORES.**  
 P D Manion D W French  
*Phytopathology* 59(3):293-296

Mar 1969 464.8 P56

Fomes igniarius, Fungus diseases (plants), Glucose, Populus tremuloides, Seed germination, Spores.

8972-69

**THE INFLUENCE OF NUTRITION ON SUSCEPTIBILITY OF PEACH FOILAGE TO WATER CONGESTION AND INFECTION BY XANTHOMONAS PRUNI.**

F N Matthee R H Daines  
*Phytopathology* 59(3):285-287 REF

Mar 1969 464.8 P56

Bacterial spot (peaches), Nitrogen, Peaches, Plant nutrition, Potassium, Xanthomonas pruni.

8973-69

**A SEROLOGICAL COMPARISON OF SIX HETEROHALLIC SPECIES OF PHYTOPHTHORA.**

W G Merz R G Burrell M E Gallegly  
*Phytopathology* 59(3):367-370

Mar 1969 464.8 P56

Fungus diseases (plants), Phytophthora, Phytophthora citrophthora.

8974-69

**SUGAR-CANE MOTH BORERS IN THE CARIBBEAN.**

J R Metcalfe  
*Int Pest Contr* 11(2,MAR-APR):12-15

Mar 1969 79.8 P432

Crop losses, Diatraea saccharalis, Insecticides, Moths, Pest control, Spraying, Sugarcane.

8975-69

**ROLE OF PYTHIUM IN DAMPING-OFF OF PEACH.**

S M Mircetich H W Fogle  
*Phytopathology* 59(3):356-358

Mar 1969 464.8 P56

Fungus diseases (plants), Peaches, Pythium, Seedlings.

8976-69

**FACTORS AFFECTING SEVERITY OF SEEDLING BLIGHT OF CORN IN THE UNITED ARAB REPUBLIC.**

H A Mohamed W E Ashour A R Sirry S M Fathi  
*Plant Dis Rep* 52(1):79-83

Jan 1968 1.9 P69P

Blight, Captan, Chlorinated hydrocarbons, Corn, Fungicides, Fungus diseases (plants), Fusarium moniliforme, Gibberella zeae, Greenhouse culture, Nigrospora oryzae, Penicillium oxalicum, Plant protection, Planting, Seed treatment, Seedlings, Temperature.

8977-69

**FUNGI CAUSING SEEDLING BLIGHT OF CORN IN THE UNITED ARAB REPUBLIC.**

H A Mohamed W E Ashour A R Sirry S M Fathi  
*Plant Dis Rep* 52(1):84-86

Jan 1968 1.9 P69P

Blight, Corn, Diagnosis, Fungus diseases (plants), Fusarium moniliforme, Gibberella zeae, Hydroponics, Nigrospora oryzae, Penicillium oxalicum, Rot, Seedlings, Seeds.

8978-69

**FIGHT STALK ROT WITH RIGHT FERTILITY.**

A Myer  
*Better Crops Plant Food* 43(1):26-29  
1969 6 B46

Corn, Diplodia, Fertility, Fungus diseases (plants), Gibberella, Hydroponics, Nitrogen, Ostrinia nubilalis, Phosphorus, Potassium, Stalk rot (corn).

8979-69

**EFFECTS OF THE FUNGUS ERYSPHE GRAMINIS F. SP. HORDEI MARCHAL ON THE TRANSPARATION OF BARLEY. (GE)**

S Prichraony C Paulch  
*Biologia (bratislava)* 24(4):261-272 REF  
1969 442.8 B5265

Barley, Erysiphe graminis hordei, Fungus diseases (plants), Plant physiology, Plant transpiration, Powdery mildew. Russian and Czech abstracts.

8980-69

**AGRICULTURAL MICROBIOLOGY.**

G Rangaswami  
*New York, Asia* 413 P  
1966 QR51.R3

Agriculture, Food contamination, Microbiology, Microscopy, Plant diseases, Soil microorganisms.

8981-69

**TEN YEARS OF OBSERVATIONS ON CITRUS CANKER. (POR)**

V Rossetti C C Lasca T Namekata  
*Biologico* 35(2):45-48  
Feb 1969 442.8 B529

Bacterial diseases (plants), Canker (citrus), Citrus, Surveys.

8982-69

**A LEAF DISORDER OF CACAO IN COSTA RICA.**

J A Salas A J Hansen  
*Phytopathology* 53(1):25  
Jan 1963 464.8 P56

Cacao, DDT, Leaves, Malathion, Plant diseases.

8983-69

**TEMPERATURE RESPONSE OF SEEDS DURING THE EARLY PHASES OF GERMINATION AND ITS RELATION TO INJURY BY RHIZOCTONIA SOLANI.**

F A Schulz D F Bateman  
*Phytopathology* 59(3):352-355 REF  
Mar 1969 464.8 P56

Beans, Corn, Cucumbers, Fungus diseases (plants), Peas, Rhizoctonia solani, Temperature.

8984-69

**TOBACCO ETCH VIRUS CYLINDRICAL INCLUSIONS: ANTIGENICALLY UNRELATED TO THE CAUSAL VIRUS.**

J F Shepard T A Shalla  
*Virology* 38(1):185-188 REF  
May 1969 448.8 V81

Antibodies, Antigens, Etch, Inclusion bodies, Tobacco, Virology, Virus diseases (plants).

8985-69

**NEW OR UNCOMMON PLANT DISEASES AND PESTS; SMUT (ENTYLOMA COMPOSITARUM) OF GAILLARDIA ARISTATA PURSH.**

P J Shipton  
*Plant Pathol* 16(3):143-144  
Sep 1967 464.8 P692

Fungus diseases (plants), Gaillardia, Mycology, Plant diseases, Plant taxonomy, Smut.

8986-69

**A FRUIT ROT OF STRAWBERRIES CAUSED BY ZYTHIA FRAGARIAE.**

P J Shipton  
*Plant Pathol* 16(3):123-125  
Sep 1967 464.8 P692

Fruit rot, Fungus diseases (plants), Strawberries, Symptomatology, Zythia fragariae.

8987-69

**THE DOWNY MILDEW AND STALK ROT DISEASES OF MAIZE.**

R S Singh  
*Pesticides* 1(10):15-17  
Jun 1968 SB951.P43

Cephalosporium, Corn, Downy mildew (corn), Erwinia carotovora, Fusarium moniliforme, Pseudomonas, Pythium butleri, Sclerophthora, Sclerospora, Stalk rot (corn).

8988-69

**AGROPYRON REPENS AND OTHER PERENNIAL GRASSES AS HOSTS OF BROMEGRASS MOSAIC VIRUS FROM THE U.S.S.R. AND THE UNITED STATES.**

J T Slykhuis  
*China Plant Protect Bull* 15(4):65-66 REF  
Aug 1967 464.9 C47

Agropyron repens, Host indexing (plants), Virus diseases (plants).

8989-69

**OCCURRENCE OF BROWN SPOT ON TOBACCO IN KENTUCKY IN 1966.**

J H Smiley R A Flowers C Y Yang  
*Plant Dis Rep* 52(1):71

Jan 1968 1.9 P69P

Alternaria longipes, Brown spot, Diagnosis, Epidemiology, Fungus diseases (plants), Tobacco.

8990-69

**CALONECTRIA FLORIDANA SP. NOV., THE PERFECT STAGE OF CYLINDROCLADIUM FLORIDANUM.**

E K Sobers  
*Phytopathology* 59(3):364-366  
Mar 1969 464.8 P56

Calonectria floridana, Cylindrocladium floridanum, Fungus diseases (plants), Peaches, Seedlings.

8991-69

**THE THERAPEUTIC EFFECT OF THIABENDAZOLE, 2-(4-THIAZOLYL) BENZIMIDAZOLE, AGAINST CERCOSPORA LEAF SPOT ON SUGAR BEETS WHEN APPLIED AS A SOIL DRENCH.**

G F Stallnecht G L Crane  
*Phytopathology* 59(3):393  
Mar 1969 464.8 P56

Cercospora beticola, Fungicides, Fungus diseases (plants), Leaf spot (sugar beets), Sugar beets, Thiazolyli-benzimidazole, 2-(4-).

8992-69

**TRANSMISSION OF APPLE VIRUSES BY LEAF TISSUE IMPLANTATION.**

R F Stouffer  
*Phytopathology* 59(3):274-278 REF  
Mar 1969 464.8 P56

Apples, Chenopodium, Chlorotic leafspot (apples), Decline (apples), Malus, Plant disease transmission, Spy 227, Virus diseases (plants).

8993-69

**PARTIAL RECONSTITUTION OF TOBACCO MOSAIC VIRUS.**

C Stussi G Lebeurier L Hirth  
*Virology* 38(1):16-25 REF  
May 1969 448.8 V81

Centrifugation, Electron microscopy, Mosaic, Nucleoproteins, Plant diseases, Ribonucleic acid, Tobacco, Tobacco mosaic virus, Virology, Virus diseases (plants).

8994-69

**VIRUS-LIKE PARTICLES IN GALLS ON SUGARCANE PLANTS AFFECTED BY FIJI DISEASE.**

D S Teakle D R L Steindl  
*Virology* 37(1):139-145 REF  
Jan 1969 448.8 V81

Diagnosis, Fiji disease, Microscopy, Plant galls, Ribonucleic acid, Sugarcane, Virology, Virus diseases (plants).

8995-69

**A PHOSPHATIDASE PRODUCED BY SCLEROTIUM ROLFESII.**

T Tseng D F Bateman  
*Phytopathology* 59(3):359-363 REF  
Mar 1969 464.8 P56

Beans, Fungus diseases (plants), Phospholipase, Sclerotium rolfsii.

8996-69

**THE RELATIVE EFFICIENCY OF EAR-TOROW AND CONVERGENT IMPROVEMENT IN INCREASING DISEASE RESISTANCE OF ZEA MAYS.**

V Ulrich R S Snell  
*W Va Acad Sci Proc* 39:235-242 REF  
1967 500 W52

Corn, Crop varieties, Plant breeding, Plant disease resistance.

8997-69

**INVASION OF PLANT TISSUE BY BACTERIA UNDER IN VITRO CONDITIONS.**

J G Valdovinos E W Henry

*Plant Physiol* 43(10):1730-1733 REF  
Oct 1968 450 P692

Assay, Bacterial diseases (plants), Electron microscopy, Enzymes, Indoleacetic acid, Pisum sativum, Plant physiology, Plant regulators, Plant tissues.

8998-69

**DARK GREEN EPINASTY OF CHENOPODIUM QUINOA, A SYNDROME INDUCED BY A VIRUS LATENT IN APPLE AND PEAR.**

H E Waterworth R M Gilmer

*Phytopathology* 59(3):334-338 REF  
Mar 1969 464.8 P56

Apples, Chenopodium quinoa, Epinasty, Latent virus (apples), Latent virus (pears), Pears, Virus diseases (plants).

8999-69

**CALCIUM NUTRITION AND BLACK SHANK OF TOBACCO.**

W H Wills L D Moore

*Phytopathology* 59(3):346-351 REF  
Mar 1969 464.8 P56

Black shank (tobacco), Calcium, Phytophthora parasitica nicotianae, Plant nutrition, Tobacco.

9000-69

**PRESENCE OF TWO TREE VASCULAR DISEASES CONFIRMED IN ARKANSAS.**

C L Wilson

*Plant Dis Rep* 52(1):79  
Jan 1969 1.9 P69P

Albizia julibrissin, Cephalosporium diospyri, Fungus diseases (plants), Fusarium oxysporum pernicioum, Mimosa, Persimmons, Tree diseases, Wilt.

9001-69

**CONTROL OF FAIRY RING DISEASE OF THE CULTIVATED CRANBERRY.**

B M Zuckerman K J Rochefort G B Rounsville

*Plant Dis Rep* 52(1):87-88  
Jan 1968 1.9 P69P

Chemical control (plant diseases), Cranberries, Dosage, Fairy rings, Ferbam, Fungicides, Fungus diseases (plants), Psilocybe agrariella vaccinii, Roots.

## ARTHROPODS

9002-69

**CHARACTERISTICS OF THE STOPPED AND SCARRED DAMAGES DUE TO THE CODLING MOTH (LASPEYRESIA POMONELLA L.) WITH A METHOD OF INTERPRETATION OF THE VARIOUS FORMS OF DAMAGES OBSERVED ON APPLES. (FR)**

M Baggolini H Grob

*Schweiz Landwirt Forsch* 7(2):187-196  
1968 17 SCH99

Apples, Crop losses, Insect pests, Laspeyresia pomonella, Methodology, Olethreutidae, Plant injuries. English and German summaries.

9003-69

**ON THE BIONOMICS OF LYCTOCORIS BENEFICUS (HIURA) AND XYLORORIS GALACTINUS (FIEBER) (ANTHOCORIDAE, HETEROPTERA).**

Y I Chu

*Kyushu Univ Fac Agr J* 15(1):1-136 REF  
Mar 1969 107.6 K995

Anthocoridae, Beneficial insects, Biological control (insects), Chilo suppressalis, Insect biology, Lyctocoris beneficus, Predaceous insects, Reviews, Xylororis galactinus.

9004-69

**AERIAL SPRAY TESTS AGAINST GYPSY MOTH, PORTHETRIA DISPAR IN NEW YORK.**

D P Connola R C Sweet

*J Econ Entomol* 54(2):315-316  
Apr 1961 421 J822

Aerial spraying, Carbaryl, DDT, New York, Porthetria.

9005-69

**FACTORS INFLUENCING EGG SURVIVAL OF SCOLYPOPA AUSTRALIS WALKER (HEMIPTERA-HOMOPTERA: RICANIIDAE) IN THE SYDNEY AREA (N. S. W. AUSTRALIA).**

R A Cumber

*New Zealand J Sci* 10(3):639-643  
Sep 1967 514 N482

Chrysopidae, Eulophidae, Insect eggs, Natural control (insects), Parasitic insects, Scelionidae, Scolytopa australis.

An analysis of oviposition materials of Scolytopa australis Walker, from the Sydney area, N. S. W., has been carried out to ascertain the factors influencing egg survival. This follows a similar assessment in New Zealand. Eggs have been classified under the categories: died during emergence; normal emergence; parasitized by the aphelinid Centrodora scolypodae Val; parasitized by undetermined scelionid; shrivelled through various causes; destroyed by chrysoptid.

9006-69

**INFESTATION OF PEACHES BY RHAGOLETIS SUAVIS.**

R W Dean

*J Econ Entomol* 62(4):940-941  
15 Aug 1969 421 J822

Peaches, Rhagoletis suavis, Tephritidae.

9007-69

**TRANSMISSION OF STRAWBERRY MOTTLE VIRUS BY JUICE AND APHIDS TO HERBACEOUS HOSTS.**

N W Frazier

*Plant Dis Rep* 52(1):64-67  
Jan 1968 1.9 P69P

Aphididae, Chaetosiphon jacobii, Insect vectors, Mottle, Plant disease transmission, Secretion, Strawberries, Virus diseases (plants).

9008-69

**CONTROL OF THE LESSER CORNSTALK BORER ATTACKING PEANUTS.**

J A Harding

*J Econ Entomol* 53(4):664-667, TABS.  
Aug 1960 421 J822

Chlordane, DDT, Elasmopalpus, Endrin, Parathion, Peanuts, SD-4402.

9009-69

**CURRENT STATUS OF BROWN SOFT SCALE IN CITRUS GROVES OF THE LOWER RIO GRANDE VALLEY.**

W G Hart S Ingle M Garza

*Entomol Soc Amer Ann* 62(4):855-858  
Jul 1969 420 EN82

Chemical control (insects), Citrus, Coccus hesperidum, Insecticides, Methyl parathion, Organophosphorus compounds, Population, Surveys.

Populations of brown soft scale, Coccus hesperidum L. (Homoptera: Coccidae), observed in 20 Rio Grande Valley citrus groves during 1966 showed a continued decrease in the general intensity of infestations. Population density of parasites and possible influence of ultra-low-volume applications of methyl parathion are discussed.

9010-69

**INTEGRATED CHEMICAL CONTROL OF INSECTS AND BIOLOGICAL CONTROL OF MITES ON APPLE IN WASHINGTON.**

S C Hoyt

*J Econ Entomol* 62(1):74-86 REF  
17 Feb 1969 421 J822

Aculus schlechtendali, Apples, Biological control (insects), Chemical control (insects), Insect pests, Integrated control (insects), Mites, Panonychus ulmi, Tables (data), Tetranychus medanieli, Typhlodromus occidentalis.

9011-69

**ECOLOGY OF UTAH APPLE MITES: A STATEMENT OF THE PROBLEM.**

C D Jorgensen

*Utah Acad Sci Arts Lett Proc* 44(1):265-274 REF  
1967 500 UT1

Acarina, Apples, Insect control, Insect ecology.

9012-69

**INSECT PARASITES IN THE NATURAL CONTROL OF SPECIES OF RICE STEM BORERS ON LUZON ISLAND, PHILIPPINES.**

M A Kamran E S Raros

*Entomol Soc Amer Ann* 62(4):797-801 REF  
Jul 1969 420 EN82

Apanteles, Chilo suppressalis, Natural control (insects), Parasitic insects, Rice, Surveys, Tetrastichus, Tryporyza incertulas.

9013-69

**INSECT VS MEN.**

S K Khanna

*Pesticides* 1(10):26  
Jun 1968 SB951.P43

Agricultural economics, Crop losses, Insect control.

9014-69

**OBSERVATIONS ON BIRD TANGLEFOOT TRAPS AS A DIRECT METHOD OF APPLE MAGGOT CONTROL.**

C W Maxwell

*J Econ Entomol* 62(4):945-946  
15 Aug 1969 421 J822

Adhesives, Apples, Insect traps, Plant pest control, Rhagoletis pomonella, Traps.

9015-69

**EFFECT OF INSECTICIDES ON ANT AND SPIDER POPULATIONS IN LOUISIANA SUGARCANE FIELDS.**

A A Negm S D Hensley

*J Econ Entomol* 62(4):948-949  
Aug 1969 421 J822

Azinphosmethyl, Beneficial insects, Chlorinated hydrocarbons, Diatraea saccharalis, Endrin, Formicidae, Heptachlor, Insecticides, Natural control (insects), Organophosphorus compounds, Predaceous insects, Solenopsis saevissima richteri, Spiders, Sugarcane.

9016-69

**CHEMICAL CONTROL OF THE JUNIPER WEBWORM ON IRISH JUNIPER.**

G L Nordin J E Appleby

*J Econ Entomol* 62(1):23-24  
17 Feb 1969 421 J822

Chemical control (insects), Dichomeris marginella, Insect pests, Insecticide application, Insecticides, Juniperus communis, Plant injuries, Spraying.

9017-69

**CORN EARWORM INFESTATION IN RIPE STRAWBERRIES.**

E R Oatman

*J Econ Entomol* 62(4):947-948  
15 Aug 1969 421 J822

Heliothis zea, Insect pests, Larvae, Strawberries, Tomatoes.

9018-69

**THE LEAF SNOUT WEEVIL OF THE AVOCADO. (SP)**

R C Padilla M M Villa

*Fitofilo* 21(57:JAN-MAR):43-48  
Mar 1968 421 F55

Avocados, Chemical control (insects), Curculionidae, Insect biology, Insect control, Malathion, Parathion.

9019-69

**A REVIEW OF LEPIDOPTEROUS PESTS OF CONIFEROUS FORESTS IN THE BAYKAL REGION.**

I A Raygorodskaya

*Entomol Rev* 46(2 APR-JUN):186-190 REF  
1967 421 R322AE

Coniferae, Demography, Environment, Forest insects, Insect nutrition, Larix, Lepidoptera, Picea, Pinus, Tables (data), Tree injuries. Translated from Russian. listing of many species

9020-69

**ROLE OF WINTER CRESS, BARBAREA VULGARIS, AS A TEMPORAL HOST IN THE SEASONAL DEVELOPMENT OF THE CRUCIFER FAUNA.**

9021-69

R B Root J O Tahvanainen  
*Entomol Soc Amer Ann* 62(4):852-855  
Jul 1969 420 EN82

*Barbara vulgaris*, Chrysomelidae, Cruciferae,  
Food habits, Insect behavior, Surveys.

9021-69

EXPERIMENTS ON THE CONTROL OF ROOT  
PESTS OF BRASSICAE.

T Rosborough  
*Plant Pathol* 16(3):110  
Sep 1967 464.8 P692

Brassicac, Bromophos, Cabbage, *Ceutorhynchus*  
*pleurostigma*, Chemical control (insects), Chlor-  
fenvinphos, Diazinon, Insect pests, Mecarbam,  
Plant injuries, Plant protection, Roots.

9022-69

SOME ECOLOGICAL OBSERVATIONS AND  
RESULTS OF THE CONTROL OF AR-  
GYRESTHIA FUNDELLA F. R. (SE)

I Spaic  
*Sumarski List* 92(5/6 MAY-JUN):165-188 REF  
1968 99.8 SU6

Aerial spraying, *Argyresthia fundella*, Biological  
control (insects), Chemical control (insects),  
Chlorinated hydrocarbons, Dieladocerus, DDT,  
Eulophidae, Gelis, Ichneumonidae, Insect biology,  
Insect ecology, Insecticides, Parasitic insects, Pine  
needles, Tetrastichus, Yponomeutidae, Zoogeog-  
raphy. German summary.

9023-69

HOUSE SPARROWS AND A FIELD INFESTA-  
TION OF TOBACCO HORNWORM LARVAE.

P A Stewart  
*J Econ Entomol* 62(4):956-957  
15 Aug 1969 421 J822

Birds, *Manduca sexta*, Natural control (insects),  
Sparrows, Tobacco.

9024-69

ADDITIONAL EVIDENCE OF MULTIPLICA-  
TION OF THE SOWTHISTLE YELLOW VEIN  
VIRUS IN AN APHID VECTOR-SERIAL  
PASSAGE.

E S Sylvester J Richardson  
*Virology* 37(1):26-31 REF  
Jan 1969 448.8 V81

Aphididae, Insect vectors, Mortality, Plant disease  
transmission, *Sonchus*, Virology, Virus diseases  
(plants), Yellow vein.

## NEMATODES

9025-69

EELWORMS-A PROGRESS REPORT ON A  
FEW MORE GROUPS FOUND IN NORTH-EAST  
INDIAN TEA SOILS.

S D Basu  
*Tocklai Exp Sta Newslett* 15(2):70-71  
Jun 1968 68.18 T93

Animal adaptation, Animal morphology,  
*Aphelenchus*, Economics, Macroposthonia, Me-  
loidodera, *Mononchus*, Nematodes, *Pratylenchus*,  
Soil microorganisms, Surveys, Tea, *Trichodorus*.

9026-69

THE DISTRIBUTION OF THE FAMILY  
HETERODERIDAE (FILIPJEV, 1934) IN  
SOUTH AFRICA AND SOME HOST RECORDS  
OF MELOIDOGYNE SPECIES.

V Coetzee  
*S Afr J Agr Sci* 11(4):775-788 MAP REF  
Dec 1968 24 SU3

Cotton, Grasses, Heterodinae, Meloidogyne, Plant  
nematodes, Zoogeography.

9027-69

ON THE KNOWLEDGE OF THE SEASONAL  
DYNAMICS OF HETERODEROSIS IN SUGAR  
BEETS IN EAST-SLOVAKIA (CSSR). (GE)

J Curi  
*Helminthologia* 7(1/4):329-336 REF  
1966 436.8 H36

Climate, *Heterodera schachtii*, Plant nematodes,  
Sugar beets, Temperature, Weather. English and  
Russian summaries.

9028-69

THE RELATION OF CLIMATIC FACTORS TO  
THE DURATION OF THE DEVELOPMENT OF  
HETERODERA SCHACHTII IN SLOVAKIA  
(CSSR). (GE)

J Curi I Zmoray  
*Helminthologia* 7(1/4):49-63 REF  
1966 436.8 H36

Climate, Helminthology, *Heterodera schachtii*, Hu-  
midity, Light, Morphology, Plant nematodes, Rain-  
fall, Soil temperature. English and Russian summa-  
ries.

9029-69

XIPHINEMA AMERICANUM ASSOCIATED  
WITH MAPLE DECLINE IN MAS-  
SACHUSETTS.

C P DiSanzo R A Rohde  
*Phytopathology* 59(3):279-284 REF  
Mar 1969 464.8 P56

*Acer saccharum*, Decline, Plant nematodes, Xi-  
phinema americanum.

9030-69

NUTRITIONAL REQUIREMENTS FOR  
REPRODUCTION OF A TEMPERATURE SEN-  
SITIVE NEMATODE, REARED IN AXENIC  
CULTURE.

H V Fatt  
*Soc Exp Biol Med Proc* 124(3):897-903  
Mar 1967 442.9 SO1

Methodology, Nutrition, Plant nematodes,  
Reproduction, Temperature, Tissue culture.

9031-69

A FOLIAR DISEASE OF TUBEROSE CAUSED  
BY APHELENCHOIDES BESSEYI.

O V Holtzmann  
*Plant Dis Rep* 52(1):56  
Jan 1968 1.9 P69P

*Aphelenchoides besseyi*, Chlorosis, Leaf spot, Or-  
namental plants, Plant diseases, Plant nematodes,  
*Polianthes tuberosa*, Taxonomy.

9032-69

SEASONAL HISTORY AND RESPONSE TO IN-  
SECTICIDES OF HELIOTHIS SPECIES ON  
COTTON.

R J Ledbetter  
*Diss Abstr Sect B* 28(8):3223B  
Feh 1968 Z5055.U49D53

Cotton, DDT, Endrin, Genetics, *Heliothis*, Larvae,  
Seasons.

9033-69

INVESTIGATIONS ON THE MIGRATORY  
ROOT NEMATODE PRATYLENCHUS  
NEGLECTUS ON FODDER GRASSES.

T Wetzel  
*Nematologica* 15(2):193-200 REF  
May 1969 436.8 N342

Beets, Chemical control (nematodes), Crop rota-  
tion, Cultural control (plant diseases), Grasses, Ne-  
matode control, Plant nematodes, *Pratylenchus*  
*neglectus*, Sodium N-methylthiocarbamate.

## WEEDS

9034-69

AERIAL SPRAYING OF FORESTS: NOTES FOR  
LANDOWNERS.

J R Aldhous  
*Quart J Forest* 63(2):152-155  
Apr 1969 99.8 Q2

Aerial spraying, Aircraft, Forests, Land, Spraying,  
Weed control.

9035-69

ARE HERBICIDES DOING THEIR JOB .

Anonymous  
*Amer Veg Grower* 17(1):22,38,40  
Jan 1969 80 C733

Chemical control (weeds), Chlorinated hydrocar-  
bons, Dacthal, Dalapon, Diallylate, Dinitroresol,  
Ethyl N,N-dipropylthiocarbamate, Herbicides,  
Linuron, Potatoes, Surveys, Weed control, Weeds.  
Many weeds and herbicides are mentioned

9036-69

CERTAIN 2-ALKANOYLAMINO-5-  
HALOTHIAZOLES. PATENT 3,427,318.

M S Barber D R Broad B J Heywood  
*Us Patent Office Offic Gaz* 859(2):595  
11 Feb 1969 156.65 OF2

Chemical control (weeds), Halogen compounds,  
Herbicides, Patents, Thiazole compounds.

9037-69

ALTERATION OF PLANT GROWTH HABIT AS  
A MEANS OF CONTROLLING RHIZOMATOUS  
SPECIES.

L E Bendixen  
*Weed Soc Amer Abstr* 1966 MEETING:68  
1966 241 W41

Annual plants, Chemical control (weeds), Grasses,  
Herbicides, Perennial plants, Plant physiology,  
Plant reproduction, Tissues.

9038-69

CHEMICAL MEDIATION OF GROWTH MOVE-  
MENTS IN DODDER.

L L Danielson W A Gentner  
*Weed Soc Amer Abstr* 1966 MEETING:67  
1966 241 W41

Chemical control (weeds), *Cuscuta indecora*,  
Dimethyl 2,3,5,6-tetrachloroterephthalate, In-  
frared rays, Plant physiology.

9039-69

EVALUATION OF HERBICIDES APPLIED TO  
THE SOIL FOR WEED CONTROL IN IR-  
RIGATED SUGAR BEETS.

J H Dawson  
*Wash Agr Exp Sta Sta Bull* (708):11P REF  
Jun 1969 100 W27E

Chemical control (weeds), Chloro-N-  
isopropylacetanilide, 2-, Cycloate, Ethyl N,N-  
dipropylthiocarbamate, Herbicides, Irrigation,  
*Pebulate*, Pyrazon, Soils, Sugar beets.

9040-69

IMINODIOXOLANES AS HERBICIDES.  
PATENT 3,427,147.

H J Dietrich G G King J V Karabinos  
*Us Patent Office Offic Gaz* 859(2):563  
11 Feb 1969 156.65 OF2

Chemical control (weeds), Dioxolane compounds,  
Grasses, Herbicides, Patents, Plant physiology.

9041-69

THE INFLUENCE OF ENVIRONMENT ON THE  
PHYTOTOXICITY OF DICAMBA, PICLORAM,  
BROMOXNYL AND 2,4-D ESTER.

H A Friesen D A Dew  
*Weed Soc Amer Abstr* 1966 MEETING:69-70  
1966 241 W41

Bromoxnyl, D, 2,4-, Dicamba, Environment,  
Esters, *Fagopyrum tataricum*, Herbicides, Humidi-  
ty, Light, Picloram, Plant ecology, Plants, Tem-  
perature, Wheat.

9042-69

HERBICIDAL ACTIVITY OF SOME  
PYRIDAZINE DERIVATES. PART III. 3-  
PHENOXYPYRIDAZINES AND RELATED  
COMPOUNDS.

T Jijima N Yoshimura T Takematsu S Tamura  
*Agr Biol Chem* 33(1):96-102  
Jan 1969 385 AG8B  
Grasses, Herbicides, Maleic hydrazide, Pyridazine  
compounds, Rice.

9043-69

SIMILARITY BETWEEN PHYTOKININS AND  
HERBICIDAL PHENYLURETHANES.

J D Mann K H Yung W B Storey M Pu J Conley  
*Plant Cell Physiol* 8(4):613-622 REF  
Dec 1967 450 P699  
Chromatin, Herbicides, Meiosis, Phenylurethane,  
Plant physiology, *Sesbania exaltata*.



9044-69

**BIOCHEMICAL ASPECTS OF PARASITISM BY THE ANGIOSPERM PARASITES: HOST-PARASITE INTERRELATIONSHIP IN PHOSPHATASE ACTIVITY.**

R L Mattoo P N Viswanathan P S Krishnan

*Physiol Plant* 22(2):638-647

05 Jun 1969 450 P564 (1)

Angiospermae, Cuscuta, Orobanchae, Parasitic plants, Phosphatases, Plant metabolism.

9045-69

**CHEMICAL WEED CONTROL IN COTTON: I. GROWTH AND YIELD RESPONSE OF COTTON PLANTS TO SOME HERBICIDES.**

M A Moursi A A Abd El-Gawad T S Ismail

*An Agr Sci* 10(2):237-249 REF

Dec 1965 24 AN72

Chemical control (weeds), Chloroprotham, Cotton, Crop yields, Dieryl, Diuron, Herbicides, Plant physiology, Simazine.

9046-69

**WEED CONTROL IN COTTON.**

P V M Richards H J A van Lindert

*Rhodesia Agr J* 65(6,NOV-DEC):138

Nov 1968 24 R34

Aniline, Chemical control (weeds), Chlorinated hydrocarbons, Cotton, Herbicides, Soils, Trifluralin.

9047-69

**PHENOXYPYRIDAZINES AS HERBICIDES. PATENT 3,427,146.**

S Tamura T Takematsu K Oyamada T Jojima

*Us Patent Office Offic Gaz* 859(2):563

11 Feb 1969 156.65 OF2

Chemical control (weeds), Herbicides, Patents, Plant growth inhibitors, Pyridazine compounds.

9048-69

**EFFECTS OF FIVE HERBICIDES ON THREE GREEN ALGAE.**

B D Vance D I. Smith

*Tex J Sci* 20(4):329-337 REF

25 Apr 1969 470 T31

Algae, Amitrole-T, Chemical control (weeds), D, 2,4-, Daethal, Herbicides, Simazine, T, 2,4,5-.

9049-69

**EVALUATION OF ARZAMA Densa AS AN AID IN THE CONTROL OF WATER HYACINTH IN LOUISIANA.**

E Vogel A D Oliver

*J Econ Entomol* 62(1):142-145

17 Feb 1969 421 J822

Aquatic weeds, Arzama densa, Beneficial insects, Biological control (weeds), Eicbhornia crassipes, Larvae.

9050-69

**RECORDS OF THE HIGHER FUNGI OF MINNESOTA.**

M G Weaver R I. Shaffer

*Minn Acad Sci J* 35(2-3):123-128

1969 500 M663

Dwarf mistletoe, Parasitic plants, Picea, Plant diseases, Zoogeography.

Known areas of dwarf mistletoe infections in Minnesota are compared with the distribution of white and black spruce. A summary of disease symptoms and identification of the parasite is included.

**OTHER PESTS**

9051-69

**CONTROL OF THAR (HEMITRAGUS JEM-LAHICUS): EVALUATION OF A POISONING TECHNIQUE.**

M H Douglas

*New Zealand J Sci* 10(2):511-526 MAP REF

Jun 1967 514 N482

Baits, Goats, Pest control, Poisons, Sodium ethylmercurithiosalicylate, Wildlife.

An attempt was made to evaluate a poisoning technique utilizing compound 1080 and carrots for the control of thar. Pre-poisoning and post-poisoning counts were undertaken in three Zones to define the effectiveness of the poison and pre-feeding. Zone I with no pre-feeds had an estimated kill of 11 per cent, Zone II with one pre-feed an estimated kill of 30 percent, Zone III with two pre-feeds an estimated kill of 51 per cent.

**LIVESTOCK PROTECTION**

9052-69

**MEADOW VOLE USED IN HAY RESEARCH.**

Anonymus

*Sci News Lett* 94(21):520

23 Nov 1968 470 SC124

Animal breeding, Digestion, Field mice, Forage plants, Hay, Intestines, Laboratory animals, Research, Rodents, Toxins.

9053-69

**HOUSE FLY PUPAE AS FOOD FOR POULTRY.**

C C Calvert R D Martin N O Morgan

*J Econ Entomol* 62(4):938-939

Aug 1969 421 J822

Chicks, Feed, Musca domestica, Proteins, Pupae.

9054-69

**CAUSE AND PREVENTION OF EPIZOOTIC BOVINE ABORTION.**

D G McKereber

*Amer Vet Med Ass J* 154(10):1192-1196 REF

15 May 1969 41.8 AM3

Abortion, Cattle.

9055-69

**VARIATIONS IN BODY TEMPERATURE ASSOCIATED WITH REPRODUCTIVE STATE IN THE FEMALE RABBIT.**

Y Tsutsumi M Takabashi N Oguri Y Hachinobe

*Hokkaido Univ Fac Agr J* 55(Pt 4):363-381 REF

May 1968 107.6 J273J

Animal temperature, Estrus, Pregnancy, Rabbits, Reproduction.

9056-69

**RED BLOOD CELL COUNT IN RELATION TO REPRODUCTIVE PHASES IN THE FEMALE RABBIT.**

Y Tsutsumi M Takahashi N Oguri Y Hachinobe

*Hokkaido Univ Fac Agr J* 55(Pt 4):402-420 REF

May 1968 107.6 J273J

Blood cells, Erythrocytes, Estrus, Pregnancy, Rabbits, Reproduction.

**DISEASES**

9057-69

**THE N-TERMINAL AMINO ACID OF AN AVIAN LEUKOSIS GROUP-SPECIFIC ANTIGEN FROM AVIAN MYELOBLASTOSIS VIRUS.**

D W Allen

*Virology* 38(1):32-41 REF

May 1969 448.8 V81

Amino acids, Antigens, Avian leukosis complex, Avian myeloblastosis, Birds, Chromatography, Electrophoresis, Molecular weight, Proteins, Virology, Virus diseases (animals).

9058-69

**VIRUSES OF VERTEBRATES, ED. 2.**

C H Andrews H G Pereira

*London, Bailliere, Tindall And Cassell* 432 P

1967 QR360.A5

Vertebrates, Viruses.

9059-69

**HOW BENEFICIAL ARE FEED ADDITIVES .**

W M Beeson

*Amer Vet Med Ass J* 154(10):1214-1219

15 May 1969 41.8 AM3

Antibiotics, Cattle, Chlortetracycline, Feed additives, Feedlots, Melengestrol acetate, Sulfamethazine.

9060-69

**STUDIES ON THE BIOSYNTHESIS AND DEGRADATION OF PHOSPHATIDYLBETAMETHYLCHOLINE BY HOUSEFLY LARVAE. (ABSTRACT).**

L L Bieber L G Sellers S S Kumar

*Fed Amer Soc Exp Biol Fed Proc* 27(2):457

Mar 1968 442.9 F31P

Calcium, Insect biochemistry, Larvae, Lecithins, Musca domestica, Phospholipase.

9061-69

**MYCOPLASMA INFECTIONS WITH EMPHASIS ON THE CONTROL OF M. GALLISEPTICUM.**

C H Bigland

*Can Vet J* 10(4):91-97 REF

Apr 1969 41.8 R3224

Antibiotics, Chronic respiratory disease, Infectious diseases, Livestock diseases, Mycoplasma gallisepticum, Poultry, Respiratory diseases, Sanitation, Sinusitis, Turkey. French summary.

9062-69

**MYCOTOXICOSIS ASSOCIATED WITH HEMORRHAGIC ENTEROCOLITIS AND ABORTION IN SWINE.**

D I Blevins M W Glenn A H Hamdy T F

Brodasky R A Evans

*Amer Vet Med Ass J* 154(9):1043-1050 REF

01 May 1969 41.8 AM3

Abortion, Diarrhea, Infectious diseases, Mycotoxicosis, Penicillium rubrum, Serum, Swine. English summary.

9063-69

**3-METHYLENE-ANDROSTAN-17BETA-OLS AND 17-ALKYL DERIVATIVES THEREOF. PATENT 3,427,386.**

A Bowers J Edwards J C Orr

*Us Patent Office Offic Gaz* 859(2):607-608

11 Feb 1969 156.65 OF2

Androstan-17beta-ol compounds, Animals, Chemicals, Metabolism, Patents.

9064-69

**EFFECT OF FOOD INTAKE ON GROWTH AND SURVIVAL OF SALMONELLAS AND ESCHERICHIA COLI IN THE BOVINE RUMEN.**

L E Brownlie F H Grau

*J Gen Microbiol* 46(1):125-134 REF

Jan 1967 448.3 J823

Cattle, Escherichia coli, Food consumption, Longevity, Rumen, Salmonella.

9065-69

**CONTROL OF EQUINE PIROPLASMOSIS IN FLORIDA.**

J E Bryant J B Anderson K H Willers

*Amer Vet Med Ass J* 154(9):1034-1036

01 May 1969 41.8 AM3

Babesia caballi, Dermacentor, Horses, Pesticides, Piroplasmosis, Serum. English summary.

9066-69

**THE STRUCTURE OF THE MAMMARY TUMOR VIRUS.**

J Calafat P Hageman

*Virology* 38(2):364-368 REF

Jun 1969 448.8 V81

Mammary glands, Mice, Neoplasms, Viruses.

9067-69

**ACTINOBACILLUS LIGNIERESII INFECTION IN A DOG.**

A V Carb S K Liu

*Amer Vet Med Ass J* 154(9):1062-1067 REF

01 May 1969 41.8 AM3

Dogs, Infectious diseases, Kidneys, Liver, Lymph nodes, Sodium iodide, Tissues. English summary.

9068-69

**A ROLE FOR PHOSPHOLIPID HYDROLYSIS IN THE LYSIS OF ESCHERICHIA COLI INFECTED WITH BACTERIOPHAGE T4.**

J E Cronan D I Wulff  
*Virology* 38(2):241-246 REF  
Jun 1969 448.8 V81  
Bacteriophages, Escherichia coli, Fatty acids, Phospholipids. English summary.

**9069-69**  
**SURVEY UNCOVERS PROMISING ANTI-BIOTIC.**

*Agr Res* 17(11):5  
May 1969 1.98 AG84  
Antibiotics, Biological assay, Molds, Yeasts.

**9070-69**  
**FAILURE OF CHICKEN ANTISERA AGAINST PORCINE ENTEROVIRUS STRAIN V13 TO NEUTRALIZE AT LOW DILUTIONS.**

J B Derbyshire R J Colwill  
*Res Vet Sci* 10(1):94-96  
Jan 1969 41.8 R312  
Chickens, Infectious diseases, Porcine enteroviruses. English summary.

**9071-69**  
**STUDY OF THE THERMOSENSITIVE MUTANTS OF THE VESICULAR STOMATITIS VIRUS. EVIDENCE FROM A COMPLEMENT TEST. (FR)**

A Flamand  
*Acad Sci Compt Rend Ser D Sci Nat* 268(18, 1ST SEMESTER):2305-2308  
05 May 1969 505 P21  
Biochemistry, Complement, Morphology, Mutations, Temperature, Vesicular stomatitis virus.

**9072-69**  
**ISOLATION OF TOXOPLASMA GONDII FROM NATURALLY INFECTED CHICKENS.**

B G Foster R G Forrest J F Blanco  
*Tex J Sci* 20(4):323-328 REF  
25 Apr 1969 470 T31  
Chickens, Parasitism, Toxoplasma gondii, Toxoplasmosis.

**9073-69**  
**X-RAY DIFFRACTION AND INFRARED STUDY OF THE SULPHUR GRANULES OF ACTINOMYCES BOVIS.**

P O Frazier B O Fowler  
*J Gen Microbiol* 46(3):445-450 REF  
Mar 1967 448.3 J823  
Actinomycosis, Biochemistry, Infrared rays, Sulfur, X-ray diffraction.

**9074-69**  
**THE EFFECTS OF ICI 33828 AND OXYTOCIN ON MILK EJECTION AND MILK PRODUCTION IN THE LACTATING SOW.**

D L Garbers N I First  
*J Reprod Fertil* 17(3):551-553  
Dec 1968 442.8 J8222  
Methallihure, Milk, Milk analysis, Milk production, Oxytocin, Swine.

**9075-69**  
**THE EFFECT OF VITAMIN A DEPLETION ON THE VASA DEFERENTIA OF YOUNG BULLS.**

S Ghannam O Shehata S Dech H Al-Alily  
*Res Vet Sci* 10(1):79-82 REF  
Jan 1969 41.8 R312  
Blood vessels, Bulls, Vitamin A. English summary.

**9076-69**  
**COLITIS X (EXHAUSTION SHOCK) IN A PREGNANT MARE.**

W N Harries C W Strother  
*Can Vet J* 10(2):48-50  
Feb 1969 41.8 R3224  
Colitis, Diarrhea, Enteritis, Exposure, Horses, Livestock diseases, Pastures, Pregnancy, Shock. French summary.

**9077-69**  
**THE PATHOGENESIS OF THE GLOMERULOPATHY IN ALEUTIAN DISEASE. (ABSTRACT).**

J B Henson  
*Fed Amer Soc Exp Biol Fed Proc* 27(2):245

Mar 1968 442.9 F31P  
Aleutian disease, Electron microscopes, Fluorescence microscopes, Glomerulitis, Livestock diseases, Milk, Minks.

**9078-69**  
**STIMULATION OF PORCINE SPLENIC CULTURES BY A RADIATION-INDUCED LYMPHOID LEUKEMIA FILTRATE: A PRELIMINARY REPORT.**

E B Howard C C Jannke W J Clarke  
*Amer J Vet Res* 30(3):423-428 REF  
Mar 1969 41.8 AM3A  
Filters, Growth factors, Isotopes, Leukemia, Livestock diseases, Lymphocytes, Radiation, Spleen, Strontium, Swine.

**9079-69**  
**THE INHIBITION OF LISTERIA MONOCYTOGENES BY AN ORGANISM, RESEMBLING BACILLUS MYCOIDES, PRESENT IN NORMAL SILAGE.**

A D Irvin  
*Res Vet Sci* 10(1):106-108 REF  
Jan 1969 41.8 R312  
Animal diseases, Bacillus, Listeria monocytogenes, Livestock, Silage. English summary.

**9080-69**  
**SEQUENCE IN THE ABORTIVE AND TERATOGENIC EFFECTS OF LOCOWEED FED TO SHEEP.**

L F James R F Keeler W Binns  
*Amer J Vet Res* 30(3):377-380 REF  
Mar 1969 41.8 AM3A  
Abnormalities, Abortion, Astragalus, Lambs, Livestock diseases, Poisonous plants, Pregnancy, Sheep.

**9081-69**  
**MORPHOLOGY, PHYSIOLOGY, AND SEROLOGY OF A PASTEURELLA SPECIES PATHOGENIC FOR WHITE PERCH (ROCCUS AMERICANUS).**

W A Janssen M J Surgalla  
*J Bacteriol* 96(5):1606-1610 REF  
Nov 1968 448.3 J82  
Animal diseases, Fish, Morphology, Pasteurella, Physiology, Serological tests.

**9082-69**  
**GROWTH OF RIFT VALLEY FEVER VIRUS IN HUMAN DIPLOID (WI-38) CELLS.**

R W Johnson M D Orlando W C Patrick  
*Amer J Vet Res* 30(3):365-367 REF  
Mar 1969 41.8 AM3A  
Cytology, Human diseases, Rift Valley fever virus, Tissue culture, Virology, Virus diseases (animals).

**9083-69**  
**PROTEINS OF VESICULAR STOMATITIS VIRUS. I. POLYACRYLAMIDE GEL ANALYSIS OF VIRAL ANTIGENS.**

C Y Kang L Prevec  
*J Virology* 3(4):404-413 REF  
Apr 1969 QR360.J6  
Antigens, Chemical analysis, Polyacrylamide, Proteins, Vesicular stomatitis virus.

**9084-69**  
**SYNERGISM IN THE CHEMOTHERAPY OF FASCIOLIASIS.**

S B Kendall M A Peirce  
*Brit Vet J* 125(2):82-85  
Feb 1969 41.8 V643  
Drug therapy, Fasciola hepatica, Infectious diseases, Liver, Methylenebis(3,4,6-trichlorophenol), 2,2', Nitrophenol, Sheep, Synergists. French, German, and Spanish summaries.

**9085-69**  
**SERUM ENZYME AND SERUM ELECTROLYTE VALUES OF LAMBS FED A MAGNESIUM-DEFICIENT RATION.**

G K Kiesel H D Alexander G Brooks  
*Amer J Vet Res* 30(3):381-391 REF  
Mar 1969 41.8 AM3A

Animal nutrition, Deficiency diseases, Electrolytes, Enzymes, Lambs, Livestock diseases, Magnesium, Potassium, Serum.

**9086-69**  
**ETIOLOGIC FACTORS OF GASTRIC ULCERS IN SWINE.**

T Kowalczyk  
*Amer J Vet Res* 30(3):393-400 REF  
Mar 1969 41.8 AM3A  
Gastrointestinal system, Hydrogen-ion concentration, Livestock diseases, Swine, Ulcers.

**9087-69**  
**EQUINE RINGWORM CAUSED BY TRICHOPHYTON TONSURANS VAR SULFUREUM.**

V B Kulkarni P G Choudhary M P Kulkarni M S Sasane  
*Indian Vet J* 46(3):215-218 REF  
Mar 1969 41.8 IN2  
Culture media, Horses, Host specificity, Infectious diseases, Microsporum canis, Microsporum gypseum, Ringworm, Skin diseases, Trichophyton verrucosum, Veterinarians.

**9088-69**  
**A STUDY OF THE THERMOSENSITIVE MUTANTS OF THE VESICULAR STOMATITIS VIRUS (VSV). THE CLASSIFICATION OF SEVERAL MUTANTS BY THE CRITERIA OF FUNCTION. (FR)**

F Lafay  
*Acad Sci Compt Rend Ser D Sci Nat* 268(19, 1ST SEMESTER):2385-2388  
12 May 1969 505 P21  
Classification, Mutations, Physiology, Temperature, Vesicular stomatitis virus, Virology.

**9089-69**  
**BALANCE COWS' MINERALS TO DEFEAT MILK FEVER.**

R Lehnert  
*Michigan Farmer* 251(2):10-11  
18 Jan 1969 6 M58  
Alfalfa, Cattle, Corn, Deficiency diseases, Drug therapy, Feed additives, Grasses, Livestock diseases, Milk fever, Silage, Sodium phosphate, Vitamin D.

**9090-69**  
**POLIOENCEPHALOMALACIA (CEREBROCORTICAL NECROSIS).**

F M Loew O M Radostits R H Dunlop  
*Can Vet J* 10(2):54-56 REF  
Feb 1969 41.8 R3224  
Animal nutrition, Cattle, Drug therapy, Haemonchus contortus, Livestock diseases, Nervous system diseases, Polioencephalomalacia, Sheep, Thiamine. French summary.

**9091-69**  
**NEUTRALIZATION OF CANINE HERPESVIRUS BY DOG AND HUMAN SERUMS: A SURVEY.**

D L Lundgren W E Clapper  
*Amer J Vet Res* 30(3):479-482 REF  
Mar 1969 41.8 AM3A  
Antibodies, Blood, Canine herpesvirus, Dogs, Herpesviruses, Humans, Serum, Virology, Virus diseases (animals).

**9092-69**  
**ON THE MERIT OF SIMPLE PRICKING WITH R2B (MUKTESWAR STRAIN) FOR EFFECTIVE VACCINATION AGAINST NEW CASTLE (RANIKHET) DISEASE.**

B B Mallick S K Chattopadhyay S B V Rao  
*Indian Poultry Gaz* 52(2):12-16  
Jul 1968 47.8 IN22  
Chicks, Drug therapy, Immunization, Laboratory animals, Newcastle disease, Poultry diseases, Tables (data), Vaccines, Virus diseases (animals).

**9093-69**  
**CYTOLOGY OF EQUINE NASAL SECRETIONS.**

R A Mansmann J A Mansmann

- Amer Vet Med Ass J* 154(9):1037-1042  
01 May 1969 41.8 AM3  
Animal diseases, Horses, Respiratory diseases. English summary
- 9094-69**  
**RELATIONSHIP OF VIRUSES TO REPRODUCTIVE PROBLEMS.**  
D G McKecher  
*Amer Vet Med Ass J* 154(10):1184-1191 REF  
15 May 1969 41.8 AM3  
Abortion, Bluetongue virus, Cattle, Metritis, Myxoviruses, Reproduction, Vaccines, Viruses. English summary.
- 9095-69**  
**INTOXICATION OF SWINE WITH NOXIOUS GASES.**  
O P Miniati R A Willoughby J G Norrish  
*Can Vet J* 10(2):51-53 REF  
Feb 1969 41.8 R3224  
Barns, Excreta, Gas poisoning, Livestock diseases, Poisonous gases, Swine. French summary.
- 9096-69**  
**ARSENIC POISONING OF CATTLE AND OTHER DOMESTIC ANIMALS.**  
J W Moxham M R Coup  
*New Zeal Vet J* 16(10-11,OCT-NOV):161-165 REF  
Oct 1968 41.8 N483  
Animals, Arsenic, Arsenic trioxide, Cattle, Kidneys, Liver diseases, Poisoning, Toxicology, Urine.
- 9097-69**  
**THE PRESENCE OF DIAMINOPIMELIC ACID IN THE RICKETTSIAE.**  
W F Myers R A Ormshee J V Osterman C L Wissemann  
*Soc Exp Biol Med Proc* 125(2):459-462  
Jun 1967 442.9 SO1  
Amino acids, Biological assay, Chemical analysis, Histochemistry, Rickettsia.
- 9098-69**  
**BOVINE HORN CANCER: THERAPEUTIC EXPERIMENTS WITH AUTOGENOUS VACCINE.**  
S P Pachauri R C Pathak  
*Amer J Vet Res* 30(3):475-477 REF  
Mar 1969 41.8 AM3A  
Cancer, Cattle, Horns, Livestock diseases, Therapeutics, Vaccines.
- 9099-69**  
**ALEUTIAN DISEASE OF MINK: INFECTIOUS VIRUS-ANTIBODY COMPLEXES IN THE SERUM.**  
D D Porter A E Larsen  
*Soc Exp Biol Med Proc* 126(3):680-682 REF  
Dec 1967 442.9 SO1  
Aleutian disease, Antibodies, Minks, Serological tests, Virus diseases (animals).
- 9100-69**  
**SURVEY OBSERVATIONS ON OVINE MASTITIS IN NEW ZEALAND STUD ROMNEY FLOCKS. 2. THE BACTERIOLOGY OF OVINE MASTITIS.**  
T D Quinlivan  
*New Zeal Vet J* 16(10-11,OCT-NOV):153-160 REF  
Oct 1968 41.8 N483  
*Corynebacterium pyogenes*, *Escherichia coli*, Infectious diseases, Mastitis, *Pasteurella*, Sheep, *Streptococcus*.
- 9101-69**  
**SURVEY OBSERVATIONS ON OVINE MASTITIS IN NEW ZEALAND STUD ROMNEY FLOCKS. 1. THE INCIDENCE OF OVINE MASTITIS.**  
T D Quinlivan  
*New Zeal Vet J* 16(10-11,OCT-NOV):149-153  
Oct 1968 41.8 N483  
Mastitis, Sheep, Surveys.
- 9102-69**  
**THE USE OF FERROMYN (FERROUS SUCCINATE) IN IRON DEFICIENCY ANEMIA.**  
R S Raghavan N A Khan V Sudbir C Reddy  
*Indian Vet J* 46(3):253-256  
Mar 1969 41.8 IN2  
Anemia, Animals, Deficiency diseases, Dogs, Drugs, Iron, Iron oxides, Iron sulfates, Organic compounds.
- 9103-69**  
**CONTROL OF CHRONIC RESPIRATORY DISEASE BY SPIRAMYCIN ANTIBIOTIC THERAPY.**  
S B V Rao K N Kapoor  
*Indian Poultry Gaz* 52(2):10-11  
Jul 1968 47.8 IN22  
Antibiotics, Chickens, Dosage, Laboratory animals, Poultry diseases, Respiratory diseases, Serological tests, Spiramycin.
- 9104-69**  
**THE TREND IN THE EVOLUTION OF THE POULTRY VACCINES AND THE CHANNELS OF ADMINISTRATION.**  
S B V Rao  
*Indian Poultry Gaz* 52(2):7-9  
Jul 1968 47.8 IN22  
Bacterial diseases (animals), Bacterial vaccines, Chickens, Laboratory animals, Newcastle disease, Poultry, Poultry diseases, Poultry farm management, Vaccines.
- 9105-69**  
**(R2B) THE MUKTESWAR VIRUS VACCINE AND ITS CHARACTERS.**  
S B V Rao  
*Indian Poultry Gaz* 52(2):36-38  
Jul 1968 47.8 IN22  
Chicks, Immunity, Microorganisms, Newcastle disease, Poultry diseases, Respiratory diseases, Vaccines, Virus diseases (animals).
- 9106-69**  
**EVALUATION OF TECHNIQUES USED IN STUDIES ON EFFICACY OF ANTICOCCIDIAL DRUGS IN CHICKENS.**  
W M Reid R N Brewer J Johnson E M Taylor K S Hegde  
*Amer J Vet Res* 30(3):447-459 REF  
Mar 1969 41.8 AM3A  
Barns, Chickens, Coccidiosis, Drug therapy, Poultry diseases.
- 9107-69**  
**CULICIDAE AND TABANIDAE AS POTENTIAL VECTORS OF ANAPLASMOSIS IN MISSISSIPPI.**  
R H Roberts W A Pund H F McCrory J W Scales J C Collins  
*Entomol Soc Amer Ann* 62(4):863-868 REF  
Jul 1969 420 EN82  
Anaplasmosis, Cattle, Culicidae, Insect vectors, Protozoa, Tabanidae.
- 9108-69**  
**EXPERIMENTAL INFECTIONS OF CALVES WITH TRICHOSTRONGYLUS AXEI INVESTIGATIONS USING ABOMASAL CANNULAE.**  
J G Ross D A Purcell J R Todd  
*Res Vet Sci* 10(1):46-56  
Jan 1969 41.8 R312  
Ahomasum, Calves, Infectious diseases, Trichostrongylus axei. English summary.
- 9109-69**  
**MULTIPLE ANTIGENIC COMPONENTS OF THE GROUP-SPECIFIC ANTIGEN OF THE AVIAN LEUKOSIS-SARCOMA VIRUSES.**  
F K Roth R M Dougherty  
*Virology* 38(2):278-284 REF  
Jun 1969 448.8 V81  
Antigens, Avian leukosis complex, Chicks, Embryology, Hamsters, Sarcoma, Tissues. English summary.
- 9110-69**  
**A SEROLOGICAL COMPARISON OF SEVEN STRAINS OF BOVINE HERPES MAMMILLITIS VIRUS.**  
M M Rweyemamu R H Johnson  
*Res Vet Sci* 10(1):102-104  
Jan 1969 41.8 R312  
Cattle, Herpesviruses, Infectious diseases. English summary.
- 9111-69**  
**AVIAN NEPHROSIS ASSOCIATED WITH HIGH DIETARY CALCIUM. (ABSTRACT).**  
S M Shane R J Young I Lutwak  
*Fed Amer Soc Exp Biol Fed Proc* 27(2):312  
Mar 1968 442.9 F31P  
Animal nutrition, Biochemistry, Calcium, Chickens, Feed, Gumboro disease.
- 9112-69**  
**STUDIES ON HAEMATOLOGICAL RESPONSE IN FOWL TO PASTEURELLA SEPTICA (AVIAN). I. RESPONSE TO INOCULATION OF VIRULENT CULTURE.**  
R N Sharma N P Bhalla  
*Indian Vet J* 46(3):195-202 REF  
Mar 1969 41.8 IN2  
Culture media, Erythrocytes, Fowl cholera, Hematology, Immunization, Infectious diseases.
- 9113-69**  
**CUTANEOUS STREPTOTHRICOSIS IN A BULL.**  
E B Shotts D E Tyler J E Christy  
*Amer Vet Med Ass J* 154(11):1450-1454 REF  
01 Jun 1969 41.8 AM3  
Cattle, *Dermatophilus congolensis*, Dihydrostreptomycin, Dosage, Mycosis, Procaine penicillin, Streptotrichosis.  
Cutaneous streptothricosis was diagnosed in a yearling Shorthorn bull originating near Athens, Ga., and *Dermatophilus congolensis* was isolated from typical hyperkeratotic lesions. Although several medications were employed, lesions did not clear until dihydrostreptomycin and procaine penicillin were given intramuscularly at the rate of 70 mg. and 56,000 IU, respectively, per kilogram of body weight, every other day, for a total of 5 treatments.
- 9114-69**  
**RIBONUCLEIC ACID SYNTHESIS IN CHICK EMBRYO CELLS INFECTED WITH FOWL-PLAGUE VIRUS.**  
J J Skehel D C Burke  
*J Virology* 3(4):429-438 REF  
Apr 1969 QR360.J6  
Chicks, Fowl plague virus, Ribonucleic acid, Tissue culture.  
Increases in RNA polymerase activity were detected in both the nuclear and ribosomal fractions of chick embryo cells infected with fowl-plague virus. These were observed only in the presence of all four nucleoside triphosphates and were not affected by actinomycin D. The RNA polymerase activity of the ribosomal fraction was shown to be associated with a component of infected cells of sedimentation coefficient approximately 70S. This component also contained infected cell-specific RNA and protein molecules.
- 9115-69**  
**ELECTRON MICROSCOPICAL OBSERVATIONS ON MYCOBACTERIUM JOHNEI.**  
K Smith  
*Res Vet Sci* 10(1):1-3 REF  
Jan 1969 41.8 R312  
Electron microscopy, Intestines, Mice, Mycobacterium, Plasma membrane, Tissues. English summary.
- 9116-69**  
**SEROLOGICAL INVESTIGATION INTO PORCINE BRUCELLOSIS.**  
J L Soni P N Pathak  
*Indian Vet J* 46(3):191-195 REF  
Mar 1969 41.8 IN2  
Antihodies, Baby pigs, *Brucella suis*, Brucellosis, Infectious diseases, Serological tests.
- 9117-69**  
**BUSHBUSH, IERI, AND LUKUNI VIRUSES, THREE UNRELATED NEW AGENTS ISO-**

## LATED FROM TRINIDADIAN FOREST MOSQUITOES.

L. Spence C R Anderson T H Aitken W G Downs  
*Soc Exp Biol Med Proc* 125(1):45-50 REF  
May 1967 442.9 S01

Culex, Disease transmission, Serological tests, Virus diseases (animals).

Seven virus strains, all isolated from forest mosquitoes in eastern Trinidad between 1955 and 1959, have been shown to represent 3 unrelated new viruses, Bushhush, Ieri and Lukuni. Neutralizing antibody to Lukuni virus has been demonstrated in human serum. No relationship has been found between Bushhush or Ieri virus and recognized arboviruses hut Lukuni virus has been found to be serologically related to Anopheles A virus.

## 9118-69

## THE FINE STRUCTURE OF NOSEMA SP. SPRAGUE, 1965 (MICROSPORIDA, NOSEMATIDAE) WITH PARTICULAR REFERENCE TO STAGES IN SPOROGONY.

V Sprague S H Vernick B J Lloyd  
*J Invertebrate Pathol* 12(1):105-117 REF  
Oct 1968 421 J826

Animal physiology, Crabs, Electron microscopy, Fungus diseases (animals), Illustrations, Laboratory animals, Muscles, Nosema, Spores.

## 9119-69

## VESICULAR STOMATITIS VIRUS INFECTIONS IN PANAMANIAN PRIMATES AND OTHER VERTEBRATES.

S Srihongse  
*Amer J Epidemiol* 90(1):69-76 REF  
Jul 1969 449.8 AM3

Antihodics, Monkeys, Panama, Vertebrates, Vesicular stomatitis virus, Viruses.

## 9120-69

## A COMMON SOURCE EPIZOOTIC OF BOVINE SALMONELLOSIS IN MANITOBA.

A A Van Dreumel B R Boycott R A Boroski  
*Can Vet J* 10(2):33-44 REF  
Feb 1969 41.8 R3224

Bonemeal, Cattle, Epizootic diseases, Feed contamination, Infectious diseases, Livestock diseases, Microorganisms, Salmonella, Salmonellosis. French summary.

## 9121-69

## TENOSYNOVITIS IN THE HORSE.

R W Van Pelt  
*Amer Vet Med Ass J* 154(9):1022-1033 REF  
01 May 1969 41.8 AM3

Horses, Inflammation, Tenosynovitis. English summary.

## 9122-69

## INTERFERENCE BETWEEN VACCINAL VIRUS AND RABIES VIRUS. (FR)

J Vieuchange M A Chabaud C Vialat  
*Paris Soc Biol Compt Rend* 160(12):2278-2282  
08 Jun 1967 442.9 P21

Interference phenomenon, Rabies virus, Tissue culture, Vaccinia virus.

## 9123-69

## STRUCTURAL PROTEINS OF VESICULAR STOMATITIS VIRUSES.

R R Wagner T A Schnaitman R M Snyder  
*J Virology* 3(4):395-403 REF  
Apr 1969 QR360.J6

Chemical analysis, Electrophoresis, Proteins, Vesicular stomatitis virus.

## 9124-69

## TRICHINIASIS IN WILDLIFE OF IOWA.

W J Zimmermann E D Huhhard  
*Amer J Epidemiol* 90(1):84-92 REF  
Jul 1969 449.8 AM3

Trichinella spiralis, Trichinosis, Wildlife.

## 9125-69

## A TOOL FOR COMBATING TRICHINOSIS.

W J Zimmermann J A Wallize  
*Iowa Farn Sci* 23(11):3-6

May 1969 275.28 IO94

Swine, Trichinosis.

## ARTHROPODS

## 9126-69

## FURTHER EVALUATION OF ANIMAL SYSTEMIC INSECTICIDES, 1968.

R O Drummond W J Gladney  
*J Econ Entomol* 62(4):934-936 REF  
15 Aug 1969 421 J822

Amhlyomma americanum, Carbamates, Cattle, Chemical control (insects), Cochlomyia macellaria, Guinea pigs, Hypoderma, Insecticides, Organophosphorus compounds, Phormia regina, Stomoxys calcitrans, Toxicology. Some cattle died as result of treatment.

## 9127-69

## INFECTION EXPERIMENTS WITH THE COTTON RAT FILARIA LITOMOSOIDES CARINII IN MASTOMYS NATALENSIS (SMITH, 1834). (GE)

G Laemmler E Saupe H Herzog  
*Z Parasitenk* 30(4):281-290 REF  
26 Jul 1968 442.8 Z33F

Animal diseases, Blood, Drug therapy, Filariasis, Immunology, Insect vectors, Laboratory animals, Litomosoides carinii, Mice, Mites, Ornithonyssus hacoti, Rodents. English summary.

## 9128-69

## SOME ECTOPARASITES FROM WEST VIRGINIA MAMMALS. II.

J P Shoemaker S J Joy  
*W Va Acad Sci Proc* 39:78-80  
1967 500 W52

Acarina, Anoplura, Diptera, Ectoparasites, Mammals, Surveys.

## 9129-69

## AFRICAN RED TICK ERADICATION WITH DDT. FINAL REPORT ON ERADICATION OF RED TICK FROM AFRICA, AND USA.

*Amer Vet Med Ass J* 141(4):461  
15 Aug 1962 41.8 AM3

Chemical control (pests), DDT.

## PARASITES

## 9130-69

## FINE STRUCTURE OF THE INTESTINE OF THE NEMATODES, ANCYLOSTOMA CANINUM AND PHOCANEMA DECIPIENS.

J Andreassen  
*Z Parasitenk* 30(4):318-336 REF  
26 Jul 1968 442.8 Z33F

Ancylostoma caninum, Animal anatomy, Animal physiology, Biology, Dogs, Intestines, Nematodes. German summary.

A. caninum is described and compared with P. decipiens from the harbor seal (Phoca vitulina).

## 9131-69

## HOST-PARASITE RELATIONSHIPS OF FASCIOLA HEPATICA IN THE WHITE MOUSE. III. WORM TRANSFER.

B Z Lang  
*Okla Acad Sci Proc* 47:81-84  
1968 500 OK42

Animal disease transmission, Animal physiology, Fasciola hepatica, Immunization, Mice, Trematodiasis.

## 9132-69

## POSTMORTEM PULMONARY ARTERIOGRAPHY IN CANINE DIROFILARIASIS.

S K Liu D A Yarns R J Tashjian  
*Amer J Vet Res* 30(3):319-329 REF  
Mar 1969 41.8 AM3A

Arteries, Arteriography, Autopsies, Dirofilaria immitis, Dirofilariasis, Dogs, Parasitism.

## 9133-69

## UTILIZATION OF TRICARBOXYLIC ACID CYCLE INTERMEDIATES BY HAEMONCHUS CONTORTUS LARVAE.

K E Moon P J Schofield  
*Compar Biochem Physiol* 24(2):581-590 REF  
Feb 1968 444.8 C73

Haemonchus contortus, Insect metabolism, Larvae, Radioactive tracers, Tricarboxylic acid cycle.

## 9134-69

## THE INHIBITORY EFFECT OF A DITHIOSEMICARBAZONE ON ACUTE INFECTIONS OF ANAPLASMA MARGINALE.

T O Roby T E Amerault L A Spindler  
*Res Vet Sci* 9(6):494-499  
Nov 1968 41.8 R312

Anaplasma marginale, Anaplasmosis, Calves, Cattle, Dithiosemicarbazones, Parasitism.

## 9135-69

## FURTHER EXPERIMENTS WITH LOW-LEVEL FEEDING OF THIABENDAZOLE TO LAMBS.

D B Ross  
*Res Vet Sci* 9(6):515-520  
Nov 1968 41.8 R312

Haemonchus contortus, Lambs, Larvae, Nematodirus battus, Ostertagia, Parasitism, Thiazolyl-henzimidazole, 2-(4-, Trichostrongylus colubriformis.

## 9136-69

## POSSIBLE EFFECTS OF THE HARBOUR SEAL BOUNTY ON CODWORM INFESTATIONS OF ATLANTIC COD IN THE GULF OF ST. LAWRENCE, THE STRAIT OF BELLE ISLE, AND THE LABRADOR SEA.

M Wiles  
*Can Fish Res Board J* 25(12):2749-2753 MAP  
Dec 1968 442.9 C16J

Nematodes, Parasitism, Porrocaecum, Seals (animals), Wildlife diseases.

## COMMODITY PROTECTION

## 9137-69

## DISTRIBUTION AND STABILITY OF DDE, DDD, AND DDT IN MONTEREY AND CHEDDAR CHEESE DURING MANUFACTURE AND STORAGE.

J E Montoure P J Muldoon  
*J Dairy Sci* 51(6):858-862  
Jun 1968 44.8 J822

Cheese, Dichloro-2,2-his(p-chlorophenyl) ethylene, 1,1-, DDT, Food processing, Food storage.

## 9138-69

## THE UTILIZATION OF THE CALCIUM SENSITIVITY TEST IN THE INVESTIGATION OF THE RENNET ACTIVITY. (GE)

R Niki K Chang S Arima  
*Hokkaido Univ Fac Agr J* 55(PT 4):421-428  
May 1968 107.6 J273J

Calcium, Casein, Ions, Milk, Nitrogen, Proteins.

## 9139-69

## THE PRESERVATION OF FRUIT. (FR)

J P Raskin M Herrregods  
*Fruit Belg* 36(324):285-304  
Aug 1968 80 F9493

Apples, Canning, Dairy equipment, Fruit, Industry, Methodology, Pears, Plant diseases.

## STORAGE DISEASES

## 9140-69

## EXPERIMENTS ON THE CONTROL OF GLOEOSPORIUM FRUIT ROTTS BY FIELD SPRAYS, WITH AN ADDENDUM ON: HARVEST RESIDUES OF DICHLORFLUANID.

R T Burchill K L Edney R P Tew J M Lewis  
*East Malling Res Sta Annu Rep (A51):135-137*

1968 103 EA7

Apples, Captan, Chlorinated hydrocarbons, Fluorine compounds, Fruit, Fungicides, Fungus diseases (plants), Rot, Storage diseases.

## ARTHROPODS

9141-69

REPORT ON ANALYTICAL ENTOMOLOGY OF FOOD AND DRUGS.

P M Brickey

*Ass Offic Anal Chem J* 52(2):279

Mar 1969 381 AS7

Biological assay, Chemical analysis, Drugs, Food contamination, Insects, Methodology.

9142-69

COMPARISON OF WHITE GASOLINE AND N-HEPTANE FOR RECOVERY OF INSECT FRAGMENTS AND RODENT HAIRS FROM FOOD PRODUCTS.

J J Thrasher P M Brickey

*Ass Offic Anal Chem J* 52(3):465-467

May 1969 381 AS7

Food sanitation, Hair, Heptane, Insects, Petroleum, Rodents.

## ENVIRONMENTAL CONTAMINATION

9143-69

NOTE ON THE DETERMINATION OF SOME CHLOROPHENOXY HERBICIDES AND THEIR ESTERS IN WATER.

J M Devine G Zweig

*Ass Offic Anal Chem J* 52(1):187-189

Jan 1969 381 AS7

D, 2,4-, Dicamba, Esters, Herbicides, Methyl-4-chlorophenoxyacetic acid, 2-, Silvex, T, 2,4,5-, Water.

9144-69

STUDIES ON EFFECTS OF FOREST SPRAYINGS WITH INSECTICIDES, 1952-63, ON FISH AND AQUATIC INVERTEBRATES IN NEW BRUNSWICK STREAMS: INTRODUCTION AND SUMMARY.

G J Kerswill

*J Fish Res Board Can* 24(4):701-708, MAP REF

Apr 1967 442.9 C16J

Aquatic insects, Choristoneura, DDT, Fish, Forests, Losses, Petroleum, Spraying, Streams, Water pollution.

Abstract included.

9145-69

DDT RESIDUES IN A EAST COAST ESTUARY, A CASE OF BIOLOGICAL CONCENTRATION OF A PERSISTENT INSECTICIDE.

G M Woodwell C F Wurster P A Isaacson

*Science* 156(3776):821-824 REF

12 May 1967 470 SC12

Birds, DDT, Fish, Marine biology, Metabolites, Plankton, Water pollution.

Abstract

## RESIDUES

9146-69

CHARCOAL DIET FOR CATTLE.

Anonymus

*Sci News Lett* 94(21):520

23 Nov 1968 470 SC124

Cattle, Charcoal, Dieldrin, Diet, Food consumption, Food contamination, Food nutritive value, Livestock, Pesticide residues, Pesticides.

9147-69

THE GAS CHROMATOGRAPHIC EXAMINATION OF ORGANOPHOSPHORUS PESTICIDES. IV. THE EFFECT OF COOKING ON ORGANOPHOSPHORUS PESTICIDE RESIDUES.

J Askew T H Mitchell J Thomson B B Wheals

*J Chromatography* 32(2):417-418

23 Jan 1968 475 J824

Chemical analysis, Chromatography, Heat, Organophosphorus compounds, Pesticide residues.

9148-69

RECOVERY OF 65 ORGANOPHOSPHORUS PESTICIDES FROM FLORISIL WITH A NEW SOLVENT ELUTION SYSTEM.

H Beckman D Garber

*Ass Offic Anal Chem J* 52(2):286-293

Mar 1969 381 AS7

Chemical analysis, Chromatography, Florisil, Organophosphorus compounds, Pesticide residues, Survveys.

9149-69

CHLORINATED INSECTICIDES IN THE BODY FAT OF PEOPLE IN THE UNITED STATES.

W E Dale G E Quinby

*Science* 142(3592):593-595, REF.

01 Nov 1963 470 SC12

Benzene hexachloride, Chlorinated hydrocarbons, Chromatography, Dieldrin, DDT, Humans, Insecticide residues, Metabolites.

9150-69

NOTICE OF FILING OF PETITION REGARDING PESTICIDE CHEMICALS.

R E Duggan

*Fed Regist* 34(17):1273

25 Jan 1969 L1.451

Chemicals, Corn, Diethyl O-(p-methylsulfinyl)phenylphosphorothioate, O,O-, Insecticides, Pesticide residues, Potatoes, Tomatoes.

9151-69

NOTICE OF FILING OF PETITION REGARDING PESTICIDE CHEMICALS.

R E Duggan

*Fed Regist* 34(17):1274

25 Jan 1969 L1.451

Cattle, Chemicals, Chromatography, Dichlorvos, Horses, Insecticides, Meat, Pesticide residues, Sheep, Swine.

9152-69

RESPONSE OF ROBINS TO DDT AND METHOXYCHLOR.

L B Hunt R L Sacho

*J Wildlife Manage* 33(2):336-345 REF

Apr 1969 410 J827

Birds, DDT, Insecticide residues, Methoxychlor, Mortality.

9153-69

STUDIES ON THE EFFECT OF SULFURIC-FUMING NITRIC ACID TREATMENT ON THE ANALYTICAL CHARACTERISTICS OF TOXAPHENE.

Y Kawano A Bevenue H Beckman F Erro

*Ass Offic Anal Chem J* 52(1):167-172 REF

Jan 1969 381 AS7

Chemical analysis, Chromatography, DDT, Insecticide residues, Nitric acid, Sulfuric acid, Toxaphene.

9154-69

MODIFICATION OF THE CARBON DISULFIDE EVOLUTION METHOD FOR DITHIOCARBAMATE RESIDUES.

G E Keppel

*Ass Offic Anal Chem J* 52(1):162-167 REF

Jan 1969 381 AS7

Carbon disulfide, Chemical analysis, Dithiocarbamates, Fungicides, Pesticide residues.

9155-69

TOLERANCES AND EXEMPTIONS FROM TOLERANCES FOR PESTICIDE CHEMICALS

IN OR ON RAW AGRICULTURAL COMMODITIES. P-CHLOROPHENYL-2,4,5-TRICHLOROPHENYL SULFIDE.

J K Kirk

*Fed Regist* 34(19):1378

29 Jan 1969 L1.451

Agricultural products, Apples, Chemicals, Insecticides, Pesticide residues, Tetrasul.

9156-69

ALKALINE PRE-COLUMN FOR USE IN GAS CHROMATOGRAPHIC PESTICIDE RESIDUE ANALYSIS.

G A Miller C E Wells

*Ass Offic Anal Chem J* 52(3):548-553

May 1969 381 AS7

Chemical analysis, Chromatography, Laboratory equipment, Pesticide residues.

9157-69

RESIDUE ANALYSIS IN THE DAIRY INDUSTRY. IN ZWIG, ANALYTICAL METHODS FOR PESTICIDES, PLANT GROWTH REGULATORS, AND FOOD ADDITIVES. VOL. 1. PRINCIPLES, METHODS, AND GENERAL APPLICATION. 395 Z9.

R A Moffitt

*P.545-570 REF*

1963

Benzene hexachloride, Carbamates, Chromatography, Dairy industry, Dairy products, DDT, Food contamination, Methoxychlor, Organophosphorus compounds, Pesticide residues, Spectrophotometry, Sulfur compounds.

9158-69

ACETONITRILE EXTRACTION AND DETERMINATION OF CARBARYL IN FRUITS AND VEGETABLES.

M L Porter R Gajan J A Burke

*Ass Offic Anal Chem J* 52(1):177-181 REF

Jan 1969 381 AS7

Acetonitrile, Carharyl, Chemical analysis, Fruit, Pesticide residues, Polarography, Vegetables.

9159-69

INDOXYL ACETATE SPRAY REAGENT FOR FLUOROGENIC DETECTION OF CHOLINESTERASE INHIBITORS IN ENVIRONMENTAL SAMPLES.

R L Schutzmam W F Barthel

*Ass Offic Anal Chem J* 52(1):151-156 REF

Jan 1969 381 AS7

Chemical analysis, Chromatography, Enzymes, Pesticide residues, Phosphorus compounds.

A cholinesterase inhibition method to detect thionophosphates (P0S compounds) and their oxygen analogs (POO) by two-dimensional thin layer chromatography is described. Environmental samples are cleaned up on Florex columns and spotted on silica gel thin layer plates. Plates are developed in solvent mixtures of opposite polarity, then sprayed with an enzyme solution and indoxyl acetate. Submicrogram sensitivity is achieved by fluorogenic and chromogenic reaction. Some compounds give characteristic colored reaction products.

9160-69

RESIDUES OF THIMET ON GREEN AND ON FIELD-DRIED ALFALFA.

F R Shaw D E Miller M C Miller C P S Yadava

*J Econ Entomol* 62(4):952-953

15 Aug 1969 421 J822

Alfalfa, Feed, Food contamination, Insecticide residues, Organophosphorus compounds, Phorate.

9161-69

IMPROVED GAS CHROMATOGRAPHIC SYSTEMS FOR DETERMINING ORGANOCHELORINE PESTICIDE RESIDUES IN WILDLIFE.

J H Simmons J O Tatton

*J Chromatography* 27(1):253-255

Mar 1967 475 J824

Chemical analysis, Chlorinated hydrocarbons, Chromatography, Insecticide residues, Insecticides, Methodology, Wildlife.

9162-69

9162-69

**GAS CHROMATOGRAPHIC DETERMINATION OF RESIDUES OF DIMETHOATE AND ITS OXYGEN ANALOG IN FIELD-SPRAYED KALE.**R W Storherr R R Watts  
*Ass Offic Anal Chem J 52(3):511-513*  
May 1969 381 AS7

Chemical analysis, Chromatography, Dimethoate, Kale, Pesticide residues.

9163-69

**CHARCOAL COLUMN CLEANUP METHOD FOR MANY ORGANOPHOSPHORUS PESTICIDE RESIDUES IN CROP EXTRACTS.**R R Watts R W Storherr J R Pardue T Osgood  
*Ass Offic Anal Chem J 52(3):522-526 REF*  
May 1969 381 AS7

Charcoal, Chemical analysis, Organophosphorus compounds, Pesticide residues, Plant extracts.

9164-69

**COMPARISON OF FOUR EXTRACTION AND CLEANUP PROCEDURES FOR CHLORINATED PESTICIDE RESIDUES IN EGGS.**J R Wessel  
*Ass Offic Anal Chem J 52(1):172-175*  
Jan 1969 381 AS7

Chemical analysis, Chlorinated hydrocarbons, Dieldrin, DDT, Eggs, Endrin, Heptachlor epoxide, Pesticide residues.

9165-69

**RESPIRATORY EXPOSURE OF DAIRY ANIMALS TO PESTICIDES.**J M Witt F M Whiting W H Brown  
*Advances Chem Ser 60:99-109*  
1966 381 AD93

Cattle, Dieldrin-2,2-bis(p-chlorophenyl) ethylene, 1,1-, DDT, Pesticide residues, Respiratory system.

9166-69

**DDT RESIDUES AND DECLINING REPRODUCTION IN BERMUDA PETREL.**C F Wurster D B Wingate  
*Science 159(3818):979-981 REF*  
01 Mar 1968 470 SC12

Animal physiology, Birds, DDT, Pesticide residues, Reproduction.

## TOXICOLOGY

9167-69

**SURVIVAL OF FISH IN 164 HERBICIDES, INSECTICIDES, FUNGICIDES, WETTING AGENTS AND MISCELLANEOUS SUBSTANCES.**J S Alahaster  
*Int Pest Contr 11(2,MAR-APR):29-35*  
Mar 1969 79.8 P432

DDT, Fish, Fungicides, Herbicides, Insecticides, Water.

9168-69

**COMPARATIVE TOXICITIES OF INSECTICIDES TO HOUSE FLY LARVAE AND MACROCHELES MUSCAEDOMESTICA, A MITE PREDATOR OF THE HOUSE FLY.**R C Axtell  
*J Econ Entomol 59(5):1128-1130*  
Oct 1966 421 J822

Chlorinated hydrocarbons, Insecticides, Larvae, Lindane, Macrocheles muscaedomesticae, Mites, Musca domestica, Naled, Predaceous insects, Ronnel, Toxicity, Trichlorfon.

9169-69

**RADIOTRACER STUDIES ON METABOLISM, DEGRADATION, AND MODE OF ACTION OF INSECTICIDE CHEMICALS.**J E Casida  
*Residue Rev 25:149-160*  
1969 389.9 R314

Biochemistry, Degradation, Insecticides, Metabolism, Radioactive tracers.

9170-69

**PESTICIDE RESIDUES IN FOODS IN RELATION TO HUMAN HEALTH.**W F Durham  
*Residue Rev 4:33-81, 192 REFS.*  
1963 389.9 R314

Amitrole, Arsenic, Carcinogens, Demeton, Dieldrin, DDT, Endrin, Epn, Food additives, Malathion, Parathion, Pesticide residues, Sebradan.

9171-69

**THIN-LAYER CHROMATOGRAPHY OF RAT BILE AND URINE FOLLOWING INTRAVENOUS ADMINISTRATION OF PESTICIDAL SYNERGISTS.**L Fishbein J Fawkes H L Falk S Thompson  
*J Chromatography 27(1):153-166 REF*  
Mar 1967 475 J824

Animal metabolism, Bile, Butoxyethoxyjetbanol, 2-(2-, Chromatography, Insecticide synergists, Piperonal bis(2-(2-butoxyethoxy)ethyl) acetal, Piperonyl butoxide, Rats, Urine.

Chromatographic differences in rat bile and urine samples resulting from single intravenous administration of piperonyl butoxide, tropital and butyl carbitol were elaborated utilizing four solvent systems, viz. toluene-acetic acid-water (10:10:1), ethyl acetate-acetic acid-methanol (70:10:20), ethyl acetate-acetic acid (96:4), and butanol-acetic acid-water (10:1:1). Detection was accomplished with concentrated sulfuric acid-n-butanol (15:85) and fuming iodine as well as 2537 A and 3660 A ultraviolet sources.

9172-69

**ACUTE CUTANEOUS TOXICITY OF CERTAIN ORGANOPHOSPHOROUS INSECTICIDES. I. LEBAYCID. (FR)**R Fytizas-Danielidou  
*Inst Phyto Pathol Benaki Ann 8(1):1-18 REF*  
1967 464.9 AT4

Blood plasma, Cholinesterases, Dosage, Enzymes, Fentbion, Insecticides, Organophosphorus compounds, Rats, Toxicity.

9173-69

**TYLAN VERY EFFECTIVE IN TREATING PIGEONS.**J Hawkins  
*Amer Pigeon J 58(5):237*  
May 1969 47.8 AM35

Drug therapy, Pigeons, Respiratory diseases, Tylan.

9174-69

**SUSCEPTIBILITY OF MALE AND FEMALE MICE TO THE NEPHROTOXIC AND HEPATOTOXIC PROPERTIES OF CHLORINATED HYDROCARBONS.**C D Klaassen G L Plaa  
*Soc Exp Biol Med Proc 124(4):1163-1166 REF*  
Apr 1967 442.9 SO1

Chlorinated hydrocarbons, Insecticides, Kidneys, Liver, Mice.

9175-69

**MORTALITY OF THE EARTHWORM LUMBRICUS TERRESTRIS L. FOLLOWING SOIL APPLICATIONS OF INSECTICIDES TO A TOBACCO FIELD.**J B Kring  
*J Econ Entomol 62(4):963*  
15 Aug 1969 421 J822

Carbamates, Carbofuran, Diazinon, Disulfoton, Earthworms, Insecticides, Mortality, Organophosphorus compounds, Soil sanitation, Tobacco. Detrimental effects, and possible use to control pest species are included.

9176-69

**COMPARATIVE MECHANISMS OF INSECTICIDE BINDING WITH NERVE COMPONENTS OF INSECTS AND MAMMALS.**F Matsumura M Hayashi  
*Residue Rev 25:265-273*  
1969 389.9 R314

Insecticides, Insects, Mammals, Nervous system, Physiology, Toxicology.

9177-69

**MECHANISMS OF PESTICIDE INTERACTIONS IN VERTEBRATES.**S D Murphy  
*Residue Rev 25:201-221 REF*  
1969 389.9 R314

Animal physiology, Metabolism, Organophosphorus compounds, Pesticides, Toxicity, Vertebrates.

9178-69

**MODE OF ACTION OF DDT AND ALLETHRIN ON NERVE: CELLULAR AND MOLECULAR MECHANISMS.**T Narahashi  
*Residue Rev 25:275-288 REF*  
1969 389.9 R314

Allethrin, Animal physiology, DDT, Electrophysiology, Nerves, Toxicology.

9179-69

**STUDIES OF WARFARIN RESISTANCE IN THE RAT. (ABSTRACT).**J G Pool R A O'Reilly L J Schneiderman M Alexander  
*Fed Amer Soc Exp Biol Fed Proc 27(2):435*  
Mar 1968 442.9 F31P

Animal genetics, Blood plasma, Liver, Rats, Rodenticides, Toxicology, Warfarin.

9180-69

**BIOLOGICAL ACTIVITY OF A PHYTOTOXIC GLYCOPEPTIDE PRODUCED BY CORYNEBACTERIUM SEPEDONICUM.**G A Strobel W M Hess  
*Plant Physiol 43(10):1673-1688 REF*  
Oct 1968 450 P692

Autoradiography, Corynebacterium insidiosum, Corynebacterium sepedonicum, Dextran, Electron microscopy, Glycopeptides, Illustrations, Phytotoxicity, Plant injuries, Plant physiology, Toxins.

9181-69

**PHARMACOLOGIC ACTION OF PURE VENOM FRACTIONS OF NAJA NIGRICOLLIS AND LIBERATION OF CALCIUM IN THE STRIATED MUSCLES. (FR)**F Tazieff-Depierre M Czajka C Lowagie  
*Acad Sci Compt Rend Ser D Sci Nat 268(20, 1ST SEMESTER):2511-2514 REF*  
19 May 1969 505 P21

Animal physiology, Calcium, Cats, Muscles, Snake venom.

9182-69

**AN EVALUATION OF CERTAIN COMPOUNDS AS FEEDING DETERRENTS AGAINST THE SMALLER EUROPEAN ELM BARK BEETLE, SCOLYTUS MULTISTRIATUS.**J G Toubey D F Bray  
*J Econ Entomol 54(2):293-296*  
Apr 1961 421 J822

Decanoic acid, Dieback (ulmus), Diethoxybenzaldehyde, 3,4-, Diethyl-m-tolamide, N,N-, Dimethyl pbthalate, DDT, Scolytus, Scolytus multistriatus.

9183-69

**HEMATOPOIESIS AND EPIPHYSEAL GROWTH ZONES IN RABBITS WITH MOLYBDENOSIS.**V E O Valli A McCarter B J McSherry G A Robinson  
*Amer J Vet Res 30(3):435-445 REF*  
Mar 1969 41.8 AM3A

Blood, Epiphysis, Hematopoiesis, Molybdenum poisoning, Rabbits, Toxicology.

9184-69

**THE METABOLISM OF BAYER 9017 IN CALVES.**S Y Young R S Berger  
*J Econ Entomol 62(4):929-933 REF*  
15 Aug 1969 421 J822

Animal metabolism, Calves, Diethyl O-(4-(methylthio)-3-xylyl) phosphorothioate, O,O-, Feces, Insecticide application, Metabolites, Organophosphorus compounds, Radioactive tracers, Sulfur isotopes, Urine.

## PLANT PHYSIOLOGY & BIOCHEMISTRY

- 9185-69**  
**PREDICTING MAIZE SEED VIABILITY USING 2,3,5-TRIPHENYLTETRAZOLIUM CHLORIDE.**  
 M A Adansi  
*Ghana J Agr Sci (1,PT 1):5-11 REF*  
 Jun 1968 S19.G5  
 Corn, Seed germination, Seeds, Triphenyltetrazolium chloride, 2,3,5-.
- 9186-69**  
**CREEPING CHARLIE USES AQUALIN TO KILL AQUATIC WEEDS.**  
 Anonymous  
*Weeds Trees Turf 8(5):18-20*  
 May 1969 79.8 W413  
 Aqualin, Aquatic weeds, Chemical control (weeds), Herbicides, Spraying equipment.
- 9187-69**  
**EFFECTS OF LIGHT AND 2,4-DICHLOROPHENOXYACETIC ACID ON THE GLUTATHIONE REDUCTASE AND OTHER NADP-UTILIZING ENZYMES OF EXCISED COTTON COTYLEDONS.**  
 E Basler G D Wills  
*Okla Acad Sci Proc 47:1-7 REF*  
 1968 500 OK42  
 Cotton, D, 2,4-, Enzymes, Glutathione reductase, Photochemistry, Plant biochemistry.
- 9188-69**  
**CELL-WALL DEPOSITION AND THE DISTRIBUTION OF CYTOPLASMIC ELEMENTS AFTER TREATMENT OF PEA INTERNODES WITH THE AUXIN ANALOG 2,3,5-TRIHOBOENZOIC ACID.**  
 G B Bouck A W Galston  
*N Y Acad Sci Ann 144(1):34-48 REF*  
 09 Aug 1967 500 N484  
 Cell wall, Peas, Plant cytology, Plant hormones, Plant physiology, Triiodobenzoic acid, 2,3,5-.
- 9189-69**  
**OCCURRENCE OF PLANT GROWTH INHIBITORS IN TROPICAL AND SUBTROPICAL VEGETATION.**  
 R W Bovey J D Diaz-Colon  
*Physiol Plant 22(2):253-259*  
 04 Apr 1969 450 P564 (1)  
 Cucumbers, Guavas, Ilex vomitoria, Plant extracts, Plant growth inhibitors, Prosopis, Sorghum, Tropical plants.
- 9190-69**  
**AUXIN CONTROL OF LEAF ABSCISSION. I. EXPERIMENTS WITH ERVATAMIA DIVARICATA BURKILL., VAR. FLORE-PLENO.**  
 M A Choudhuri S K Chatterjee  
*Indian J Plant Physiol 10(1):62-72 REF*  
 1967 450 IN23  
 Abscission, Plant growth inhibitors, Plant physiology, Plant regulators.
- 9191-69**  
**THE METABOLISM OF RADIOSTRONTIUM BY PLANTS. (ABSTRACT).**  
 C R Cregger W S Allen J R Couch  
*Fed Amer Soc Exp Biol Fed Proc 27(2):424*  
 Mar 1968 442.9 F31P  
 Calcium, Chemurgy, Plant metabolism, Plant translocation, Seeds, Sorghum, Strontium isotopes.
- 9192-69**  
**PYRETHIN II AND RELATED ESTERS OBTAINED BY RECONSTITUTION.**  
 M Elliott N F Janes  
*Chem Indus 9:270-271 REF*  
 01 Mar 1969 382 M31C  
 Chemical structure, Chromatography, Isomers, Pyrethrum.
- 9193-69**  
**THE EFFECT OF SOIL FUMIGATION ON THE GROWTH OF SUGAR BEET.**  
 D N Greet  
*Plant Pathol 16(3):111-116*  
 Sep 1967 464.8 P692  
 Biochemistry, Chloropicrin, Crop yields, Dichloropropane dichloropropene mixture, Longidorus attenuatus, Plant nematodes, Plant physiology, Soil fumigation, Sugar beets, Trichodorus.
- 9194-69**  
**ROLE OF RNA METABOLISM IN THE ACTION OF AUXIN-HERBICIDES.**  
 J B Hanson F W Slife  
*Residue Rev 25:59-68- REF*  
 1969 389.9 R314  
 D, 2,4-, Herbicides, Plant metabolism, Plant physiology, Plant regulators, Ribonucleic acid.
- 9195-69**  
**PROPARGYL 2-BROMODECANOATE. PATENT 3,427,333.**  
 R L Holmes J P Moreau A F Novak  
*Us Patent Office Offic Gaz 859(2):598*  
 11 Feb 1969 156.65 OF2  
 Bromodecanoic acid, 2-, Chemical control (plant diseases), Esters, Molds, Patents, Plant growth inhibitors, Propargyl 2-bromodecanoate, Propyn-1-ol, 2-.
- 9196-69**  
**THE EFFECTS OF COMBINATIONS OF PREEMERGENCE HERBICIDES AND SYSTEMIC INSECTICIDES ON COTTON STANDS AND YIELDS.**  
 H W Ivy T R Pfrimmer  
*Miss Agr Exp Sta Bull (765):6P*  
 Jul 1968 100 M69  
 Aldicarb, Carbamates, Chemical control (pests), Cotton, Crop yields, Disulfoton, Diuron, Herbicides, Insecticides, Nitratin, Organophosphorus compounds, Phorate, Plant biochemistry, Plant physiology, Preemergence, Systemic insecticides, Trifluoromethylphenyl-1,1-dimethylurea, 3-(m-, Trifluralin.
- 9197-69**  
**COMPARISON OF THE MOVEMENT AND VASCULAR DIFFERENTIATION EFFECTS OF THE ENDOGENOUS AUXIN AND OF PHENOXYACETIC WEEDKILLERS IN STEMS AND PETIOLES OF COLENS AND PHASEOLUS.**  
 W P Jacobs  
*N Y Acad Sci Ann 144(1):102-117 REF*  
 09 Aug 1967 500 N484  
 Beans, Coleus, Herbicides, Phenoxyacetic acid compounds, Plant histology, Plant physiology, Plant regulators.
- 9198-69**  
**YEAST SPORULATION AND RNA AS AFFECTED BY GIBBERELIC ACID.**  
 S Kamisaka Y Masuda N Yanagisbima  
*Plant Cell Physiol 8(1):121-127 REF*  
 Mar 1967 450 P699  
 Extracts, Gibberellic acid, Plant physiology, Ribonucleic acid, Saccharomyces, Sporulation, Yeasts.
- 9199-69**  
**SOME FEATURES OF THE PHYSIOLOGY OF DORMANCY IN BLACK CURRANT PLANTS IN CONNECTION WITH THE EFFECT OF GIBBERELLIN.**  
 I A Karabanov  
*Fiziol Rast 15(6,NOV-DEC):988-992 REF*  
 1968 450 F58  
 Biochemistry, Carbohydrates, Currants, Fertilizers, Gibberellins, Lipids, Plant dormancy, Plant physiology, Spraying, Starches, Sugar. Summary in English.
- 9200-69**  
**ON THE MODE OF ACTION OF CARBAMATE HERBICIDES.**  
 G W Keitt  
*Physiol Plant 20(4):1076-1082 REF*  
 1967 450 P564 (1)  
 Carbamates, Herbicides, Plant physiology, Toxicology.
- The hypothesis of Mann et al. that carbamate herbicides act as anti-derepressor substances was tested in two systems: cell enlargement and proliferation in cultured tobacco pith, and auxin-induced Avena first internode extension. IPC and CIPC both severely inhibited kinetin-induced cell proliferation in tobacco pith. Auxin-induced tobacco cell enlargement was inhibited to the same degree. Avena internode extension was insensitive to these compounds at lesser concentrations.
- 9201-69**  
**LIPID METABOLISM IN THE FRUIT OF PERSEA AMERICANA MILL. I. STUDIES ON THE CHEMICAL COMPOSITION OF LIPIDS AND THEIR CHANGES DURING FRUIT DEVELOPMENT AND STORAGE.**  
 Y Kikuta  
*Hokkaido Univ Fac Agr J 55(PT 4):469-495 REF*  
 May 1968 107.6 J273J  
 Avocados, Chromatography, Fatty acids, Lipids, Plant biochemistry, Plant metabolism, Plant physiology, Spectroscopy.
- 9202-69**  
**ON THE PRIMARY STAGES OF ORTHOPHOSPHATE ABSORPTION BY MYCELIUM OF PENICILLIUM CHRYSOGENUM. (RUS)**  
 I S Kulaev L A Okorokov  
*Biokhimiya 32(4):695-704 REF*  
 1967 385 B523  
 Absorption, Chromatography, Extraction, Fungi, Mycelium, Penicillium chrysogenum, Phosphates, Radioactivity.
- 9203-69**  
**CHEMICAL GROWTH RETARDANTS FOR BEDDING PLANTS.**  
 R G Maire R M Sachs  
*Calif Agr 21(8):14*  
 Aug 1967 100 C12CAG  
 Chemicals, Horticulture, Plant biochemistry, Plant physiology, Plant regulators, Succinic acid, 2,2-dimethylhydrazide, Zinnia elegans.
- 9204-69**  
**OXIDATIVE ENZYMES OF CERATOCYSTIS FIMBRIATA ISOLATES DIFFERING IN HOST SPECIFICITY.**  
 R B Meagher J E DeVay T Kusube  
*Physiol Plant 20(3):726-732 REF*  
 1967 450 P564 (1)  
 Ceratocystis fimbriata, Enzymes, Fungus diseases (plants), Oxidation, Plant biochemistry.
- 9205-69**  
**THE METABOLISM OF CARBON-14 SPECIFICALLY LABELLED GLUCOSE IN LEAVES SHOWING TOBACCO MOSAIC VIRUS INDUCED LOCAL NECROTIC LESIONS.**  
 M J Merrett D W Snerdland  
*Physiol Plant 20(3):593-599 REF*  
 1967 450 P564 (1)  
 Glucose, Leaves, Metabolism, Plant biochemistry, Radioactive tracers, Tobacco mosaic virus, Virus diseases (plants).
- 9206-69**  
**FINE STRUCTURE OF HEALTHY AND TMV-INFECTED TOBACCO CELLS GROWN IN TISSUE CULTURE.**  
 K Nakata A C Hildebrandt  
*Physiol Plant 20(4):999-1013 REF*  
 1967 450 P564 (1)  
 Cells, Plant physiology, Tissue culture, Tobacco, Tobacco mosaic virus.
- 9207-69**  
**EFFECT OF SUCROSE AND INDOLE-3-ACETIC ACID ON EXTENSION GROWTH OF WHEAT COLEOPTILE SEGMENTS.**  
 K K Nanda P Kaur  
*Indian J Plant Physiol 10(1):1-10 REF*  
 1967 450 IN23  
 Biological assay, Crop varieties, Indoleacetic acid, Plant physiology, Plant regulators, Seedlings, Sucrose, Triticum aestivum, Wheat.

**9208-69**  
**PROGRESS IN THE KNOWLEDGE OF NATURAL PLANT GROWTH REGULATORS.**

J P Nitsch  
*N Y Acad Sci Ann 144(1):279-294 REF*  
 09 Aug 1967 500 N484  
 Histochemistry, Plant growth regulator, Plant hormones, Plant physiology.

**9209-69**  
**EFFECT OF SIMAZINE ON PHOTOSYNTHETIC PIGMENTS OF GREEN ALGAE.**

I. N Paromenskaya G N Lyalin  
*Soviet Plant Physiol 15(6,NOV-DEC):842-846 REF*  
 Dec 1968 450 F58AE  
 Algae, Chlorophylls, Photosynthesis, Pigments, Plant physiology, Simazine. Russian journal-Fiziologiya Rastenii, 15(6):1002-1007, Nov-Dec, 1968.

**9210-69**  
**TOXICITY OF TALL FESCUE TO RAPE AND BIRDFOOT TREFOIL SEEDS AND SEEDLINGS.**

E J Peters  
*Crop Sci 8(6,NOV-DEC):650-653*  
 1968 64.8 C883  
 Birdsfoot trefoil, Brassica nigra, Extracts, Festuca arundinacea, Nutrient solutions (plants), Plant growth inhibitors, Plant regulators, Rape, Seed germination, Seedlings, Seeds, Toxicity.

**9211-69**  
**GROWTH RESPONSE OF TURFGRASSES TO SEVERAL HERBICIDES.**

J A Simmons R Huey  
*Weed Soc Amer Abstr 1966 MEETING:73*  
 1966 241 W41  
 Chlordane, Grasses, Herbicides, Pesticides, Plant biochemistry, Plant physiology, Poa pratensis, Turf.

**9212-69**  
**EFFECT OF HERBICIDES ON THE VALUATIONS OF MADE TEA.**

H Singh K N Sharma R Choudhury  
*Toeklai Exp Sta Newslett 15(2):72-74*  
 Jun 1968 68.18 T93  
 Appraisal, Atrazine, Chemical control (weeds), Chlorinated hydrocarbons, Dalapon, Dichlorohenzonitrile, 2,6-, Dosage, Herbicides, Paraquat, Plant pest control, Propazine, Statistical analysis, Swep, Tahles (data), Tea.

**9213-69**  
**2,3,6-TRICHLOROBENZOIC AND 2,6-DICHLOROBENZOIC ACID INTERFERENCE WITH PHOTOTROPIC AND GEOTROPIC RESPONSES OF SEEDLINGS.**

L C Vander Beck  
*N Y Acad Sci Ann 144(1):379-382 REF*  
 09 Aug 1967 500 N484  
 Dichlorobenzoic acid, 2,6-, Geotropism, Phototropism, Plant regulators, Plants, Seedlings, Trichlorobenzoic acid, 2,3,6-.

**9214-69**  
**PRODUCTION OF YEAST VARIANTS BY AUXIN AND EFFECTS OF PLANT GROWTH REGULATORS ON THESE VARIANTS.**

N Yanagishima C Shimoda  
*Plant Cell Physiol 8(1):109-119 REF*  
 Mar 1967 450 P699  
 D, 2,4-, Indoleacetic acid, Naphthaleneacetic acid, Plant genetics, Plant hormones, Plant mutation, Plant regulators, Yeasts.

**9215-69**  
**MODE-OF-ACTION OF PHOTOSYNTHESIS INHIBITOR HERBICIDES.**

G Zucig  
*Residue Rev 25:69-79 REF*  
 1969 389.9 R314  
 Chemical reactions, Herbicides, Inhibitors, Photosynthesis, Plant physiology.

## CHEMISTRY

**9216-69**  
**GAS CHROMATOGRAPHIC DETERMINATION OF ETHYL O,O-DIMETHYLDITHIOPHOSPHORYL-L-PHENYL ACETATE IN TECHNICAL GRADE CIDLAL AND ITS 50 PERCENT LIQUID FORMULATION.**

B Bazzi L Abbruzzese G Galluzzi  
*Ass Offic Anal Chem J 52(1):52-55*  
 Jan 1969 381 AS7  
 Chemical analysis, Chromatography, Insecticides, Penthioate, Toluene.

A gas chromatographic method has been developed for analysis of ethyl O,O-dimethyldithiophosphoryl-l-phenyl acetate. The insecticide or a convenient amount of an insecticidal preparation is dissolved in toluene, together with a suitable internal standard, and analyzed by gas chromatography, using a thermal conductivity detector. The precision (PO 0.05) of the method is plus or minus 1.5 per cent of the concentration found.

**9217-69**  
**REPORT ON CARBAMATE PESTICIDES.**

W R Benson  
*Ass Offic Anal Chem J 52(2):266-269 REF*  
 Mar 1969 381 AS7  
 Carbamates, Chemical analysis, Pesticide residues, Pesticides, Polarography.

**9218-69**  
**ANTIBACTERIAL COMPOSITION CONTAINING 5-NITRO-2-FURYL-1,2,4-TRIAZOLES. PATENT 3,427,387.**

H A Burch  
*Us Patent Office Offic Gaz 859(2):608*  
 11 Feb 1969 156.65 OF2  
 Bactericides, Chemicals, Patents, Pharmacology, Triazole compounds.

**9219-69**  
**REPORT ON CHLORINATED INSECTICIDES.**

J A Burke  
*Ass Offic Anal Chem J 52(2):270-271*  
 Mar 1969 381 AS7  
 Chemical analysis, Chlorinated hydrocarbons, Insecticides.

**9220-69**  
**REPORT ON PESTICIDE FORMULATIONS.**

R L Caswell  
*Ass Offic Anal Chem J 52(2):220-221*  
 Mar 1969 381 AS7  
 Chemical analysis, Formulations, Pesticide monitoring program, Pesticides.

**9221-69**  
**EXPERIMENTAL APPROACHES TO PESTICIDE PHOTODECOMPOSITION.**

D G Crosby  
*Residue Rev 25:1-12 REF*  
 1969 389.9 R314  
 Chemical structure, Degradation, Pesticides, Photochemistry, Radioactive tracers.

**9222-69**  
**RUBIDIUM SULFATE FLAME DETECTOR: EFFECT OF DESIGN OF ALKALI SOURCE AND ANODE ON SENSITIVITY AND STABILITY.**

H K DeLoach D D Hemphill  
*Ass Offic Anal Chem J 52(3):533-541*  
 May 1969 381 AS7  
 Chemical analysis, Flame ionization detector, Pesticides, Rubidium, Sulfates.

**9223-69**  
**ON A SPRAY REAGENT FOR THIN-LAYER CHROMATOGRAPHIC DETECTION OF A CHOLINESTERASE INHIBITING INSECTICIDE. (GE)**

W Ehing  
*J Chromatography 42(1):140-144*  
 03 Jun 1969 475 J824  
 Chemical analysis, Cholinesterases, Chromatography, Insecticides, Methodology.

**9224-69**  
**IUPAC COMMISSION ON THE DEVELOPMENT, IMPROVEMENT, AND STANDARDIZATION OF METHODS OF PESTICIDE RESIDUE ANALYSIS.**

H Egan  
*Ass Offic Anal Chem J 52(2):306-309*  
 Mar 1969 381 AS7  
 Chemical analysis, Chlorinated hydrocarbons, Chromatography, Dichlorvos, Fumigants, Fungicides, Pesticide residues, Spectroscopy.

**9225-69**  
**CHEMICAL INDUSTRY PRODUCES INSECTICIDES AS AID TO GROWERS IN MEETING DEMANDS OF CONSUMERS, DR. FERGUSON POINTS OUT.**

G R Ferguson  
*Better Fruit 63(4):11,14,15*  
 Feb 1969 80 B46  
 Chemicals, Chemistry, Industry, Insecticides.

**9226-69**  
**GAS CHROMATOGRAPHY OF 3,4-METHYLENEDIOXYPHENYL CARBAMATES.**

L Fishbein W L Zielinski  
*J Chromatography 27(1):255-258 REF*  
 Mar 1967 475 J824  
 Carbamates, Chemical analysis, Chromatography.

**9227-69**  
**MICROCOULOMETRIC GAS CHROMATOGRAPHY: IMPROVEMENTS IN INSTRUMENTATION.**

L Giuffrida N F Ives  
*Ass Offic Anal Chem J 52(3):541-545*  
 May 1969 381 AS7  
 Chlorine, Chromatography, Laboratory equipment, Sulfur.

**9228-69**  
**DETERMINATION OF ZINC PHOSPHIDE AND ITS STABILITY IN RODENT BAITS.**

G O Guerrant J W Miles  
*Ass Offic Anal Chem J 52(3):662-666 REF*  
 May 1969 381 AS7  
 Baits, Chemical analysis, Rodenticides, Zinc phosphide.

**9229-69**  
**FLUOROMETRIC DETERMINATION OF PESTICIDES.**

G G Guilbault M H Sadar  
*Anal Chem 41(2):366-368*  
 Feb 1969 381 J825A  
 Carbamates, Chlorinated hydrocarbons, Fluorometry, Pesticide analysis, Pesticides.

**9230-69**  
**THE FLUORESCENT PARTICLE SPRAY DROPLET TRACER METHOD.**

C M Himel  
*J Econ Entomol 62(4):912-916*  
 15 Aug 1969 421 J822  
 Aerial spraying, Dairy equipment, Fluorescent substances, Formulations, Insect preservation, Insects, Invertebrates, Labeling, Leaves, Particle size determination, Pesticide application, Spraying, Velocity.

**9231-69**  
**THE OPTIMUM SIZE FOR INSECTICIDE SPRAY DROPLETS.**

C M Himel  
*J Econ Entomol 62(4):919-925 REF*  
 15 Aug 1969 421 J822  
 Aedes aegypti, Air pollution, Anthonomus grandis, Chemical control (insects), Chlorinated hydrocarbons, DDT, Ecology, Fluorescent substances, Heliothis zea, Insecticides, Methyl parathion, Organophosphorus compounds, Particle size determination, Soil contamination, Spraying, Velocity.

**9232-69**  
**LONG-CHAIN BISPHENOL ESTERS. PATENT 3,427,345.**

R E Holmen  
*Us Patent Office Offic Gaz 859(2):601*



11 Feb 1969 156.65 OF2

Bactericides, Chemicals, Esters, Fungicides, Patents, Phenols.

9233-69

REPORT ON MULTIPLE RESIDUE METHODS.

I. Y Johnson

*Ass Offic Anal Chem J 52(2):275*

Mar 1969 381 AS7

Chemical analysis, Chromatography, Methodology, Pesticide residues.

9234-69

DO ANTICOAGULANT CONCENTRATES CONTAIN EXCESSIVE AMOUNTS OF INERT INGREDIENTS.

R E Marsh

*Pest Contr 37(6):28-30*

Jun 1969 449.8 EX8

Baits, Formulations, Rodents, Warfarin.

9235-69

ACTIVATION AND INACTIVATION OF HERBICIDES BY HIGHER PLANTS.

S Matsunaka

*Residue Rev 25:45-58 REF*

1969 389.9 R314

Chemical activation, Chemical reactions, Herbicides, Photochemistry, Plant physiology, Propanil.

9236-69

REPORT ON PHOSPHATED PESTICIDES.

K A McCully

*Ass Offic Anal Chem J 52(2):276-278 REF*

Mar 1969 381 AS7

Chemical analysis, Chromatography, Pesticides, Phosphates.

9237-69

PHOTOCHEMICAL DEGRADATION PRODUCTS OF PENTACHLOROPHENOL.

K Munakata M Kuwahara

*Residue Rev 25:13-24*

1969 389.9 R314

Chemical structure, Degradation, Pentachlorophenol, Pesticides, Photochemistry.

9238-69

ON THE STRUCTURE OF THE GLYCEROL TEICHOIC ACID FROM THE CELL WALL OF ACTINOMYCES ANTIBIOTICUS-39. ZARETSKAJA, M S. (RUS)

I B Naumova Z A Shaharova

*Biokhimiya 32(4):796-802 REF*

1967 385 B523

Actinomyces, Biochemistry, Cell wall, Fungi, Hydrolysis, Polymers, Teichoic acid compounds. English summary.

9239-69

ANALYSIS OF A SINGLE CROP EXTRACT FOR SUBSTITUTED UREA HERBICIDES AND METABOLITES, CHLORINATED INSECTICIDES, AND AMITROLE.

J E Onley G Yip

*Ass Offic Anal Chem J 52(3):526-532 REF*

May 1969 381 AS7

Amitrole, Chemical analysis, Chlorinated hydrocarbons, Chromatography, Insecticides, Plant extracts, Urea herbicides.

9240-69

BRATTON-MARSHALL REAGENT FOR THE DETECTION OF SUBSTITUTED UREA HERBICIDES AND METABOLITES ON TLC PLATES.

J H Onley G Yip

*Ass Offic Anal Chem J 52(3):545-547*

May 1969 381 AS7

Chemical analysis, Chemicals, Chromatography, Pesticide residues, Urea herbicides.

9241-69

A NOTE ON PAPER DISK METHOD FOR LABORATORY FUNGICIDAL BIOASSAY.

M L Sahn B N Bagehi R P Gingh

*Pesticides 1(10):28*

Jun 1968 SB951.P43

Alternaria solani, Chemical control (pests), Fungicides, Macrophomina phaseoli.

9242-69

IT'S TOUGH TO PINPOINT RESIDUE CONTENT.

*Can Chem Proc 53(6):89-93*

Jun 1969 381 C16

Chromatography, Pesticide analysis, Pesticide residues, Spectrophotometry.

9243-69

REPORT ON FUNGICIDES, FUMIGANTS, AND MISCELLANEOUS.

R W Storherr

*Ass Offic Anal Chem J 52(2):271*

Mar 1969 381 AS7

Biphenyl, Captan, Chemical analysis, Fumigants, Fungicides.

9244-69

GAS CHROMATOGRAPHY OF ORGANOPHOSPHORUS PESTICIDES: RETEN-

TION TIMES AND RESPONSE DATA ON THREE COLUMNS.

R R Watts R W Storherr

*Ass Offic Anal Chem J 52(3):513-521*

May 1969 381 AS7

Chemical analysis, Chromatography, Organophosphorus compounds, Pesticides.

9245-69

REPORT ON HERBICIDES AND PLANT GROWTH REGULATORS.

G Yip

*Ass Offic Anal Chem J 52(2):272-274 REF*

Mar 1969 381 AS7

Chemical analysis, Chromatography, Herbicides, Methodology, Plant growth regulator.

## ENGINEERING

9246-69

AN EXPERIMENTAL PESTICIDE DUST-METERING UNIT.

W W Hare E A Harrell H D Bowen

*J Econ Entomol 62(4):969-970*

15 Aug 1969 421 J822

Dairy equipment, Dusting, Pesticides.

## INDUSTRY

## EDUCATION

9247-69

ELM RESEARCH INSTITUTE.

Anonymous

*Weeds Trees Turf 8(5):14-17*

May 1969 79.8 W413

Agricultural research, Diehack (ulmus), Ulmus.

9248-69

GIVING CROPS FIELD-TO-TABLE PROTECTION.

H Tristram

*Pesticides 1(10):19-21*

Jun 1968 SB951.P43

Agricultural schools, Crops, Education, Grain, Storage diseases.



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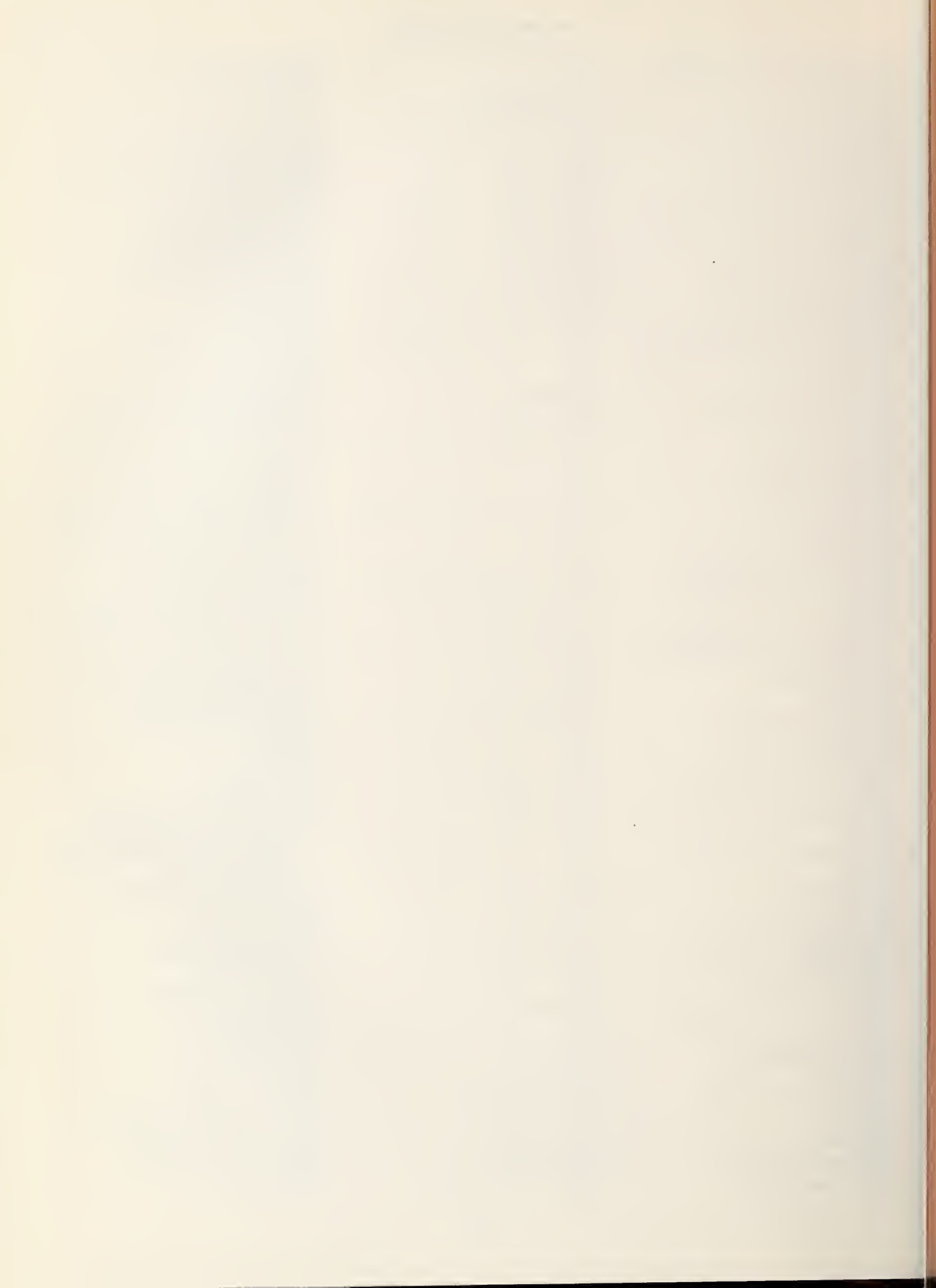
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